ARK MINES LTD.

ASX ANNOUNCEMENT

ASX: AHK

26 JULY 2023

ANALYSIS OF PHASE 1 DRILL RESULTS INDICATES RARE EARTH MINERALISATION IN ALL HOLES

- **144 drill holes completed with preliminary assay results using a pXRF of the panned concentrates produced on site.**
- **Rare Earth (REE) and Heavy Mineral (HM) mineralisation in every hole.**
- **Assay results are composites of the whole length of each hole. The air core holes averaged 10.5 metre depths with the deepest hole down to 18 metres.**
- **Drilling covers an area of 1.3 km^2 which is 1.2% of the peak radiometric reading on the lease.**
- **The full REE suite is yet to be assayed, but initial analysis included yttrium oxide grades up to .31% and cerium oxide grades up to 13.7%. Yttrium is classified as a Heavy Rare Earth metal and is listed as a critical mineral, while cerium is classified as a light rare earth metal. The HM concentrate shows a range between 0.4% to 13.8% zirconia and 0.1% to 15.3% titania.**
- **Ce_2O_3 concentration predicts REE grades in the Heavy Mineral concentrate up to 41% with an average of 12%. This is validated by the Yttrium proxy for TREO which predicts a peak 27% TREO with an average of 14%.**
- **Panned metre samples, composited per hole, had up to 2.8% Heavy Minerals. Heavy Minerals in sands are often associated with rare earth elements along with other valuable minerals, including zirconium and titanium.**
- **There are also phosphate grades up to 8.5% and significant quantities of garnet that will be incorporated into the final economic mineralisation suite.**
- **Completion of the initial drilling program and interim analysis provides early indications that the 140km^2 Sandy Mitchell tenement is highly prospective for further advancement.**
- **All 1m interval drilling samples have been sent to a third-party laboratory for assaying with results expected in the near-term.**
- **Assay results from this program, along with planned extensional drilling and ongoing test work will form the basis of a Maiden Mineral Resource Estimate (MRE) under the 2012 JORC code later this year.**
- **Sandy Mitchell's Rare Earths are amenable to panning a concentrate indicating low-cost, fast start up, straightforward beneficiation by gravity processing.**
- **All holes show sand at surface to the bottom of sand profile with no overburden or clay layers.**
- **Reconnaissance bulk samples and augur drilling will be undertaken while awaiting assays.**

Cautionary Statement: These results are based on hand panned samples composited per drill hole, on site, by Ark Mines personnel, with assays conducted by IHC Mining at their Brisbane facility using pXRF on the heavy liquid separated and pulverised composites. This is a low power low resolution XRF technique which is unable to fully resolve all rare earth elements into separately measurable peaks and is sensitive to the grainsize of the sample with respect to repeatability.

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Executive Chairman Roger Jackson said: *"While the pXRF results are preliminary to the actual assays, they are very encouraging and reaffirm our view that Sandy Mitchell has significant potential. The predictive values for REE and HM mineralisation based on the Ce2O3 technique and the Yttrium technique are particularly encouraging, and we look forward to providing further updates once drill sample assays have been returned from the lab. In the interim, these results provide further context around the project's development potential, following the successful completion of Ark's 144-hole drill program which indicated the average depth of the deposit is more than double the previous estimate based on historical works. Ahead of first assay results, Ark Mines will deploy funds from its recent share placement to carry out analysis of reconnaissance bulk samples and conduct augur drilling in readiness for more comprehensive exploration at Sandy Mitchell."*

Ark Mines Limited (ASX: AHK) is pleased to announce the successful completion of the Sandy Mitchell exploration drill program and the receipt of the initial assays for Rare Earths (REE) and Heavy Minerals at its 100% owned, 140km^2, 'Sandy Mitchell' project, located near Chillagoe, North Queensland (see Figure 2).

144 air core holes were drilled vertically up to 17.5m deep at an average of 10.3m. Spacing was 60m by 120m in the northern area, and opened up to 120m by 120m to the south (Figure 3). All holes were drilled in sand from top to bottom and all showed Heavy Mineral concentrations to varying degrees (see Appendix B). Logging by Ark Mines' geologists showed there are no layers of clay, topsoil, overburden, or rock in any of the holes. Holes were sampled per metre for the full length of hole to inform a maiden resource, as well as for density measurements and to provide samples for metallurgical test work. These individual metre assays have not yet been completed.

Panned concentrates were taken to yield a rapid guidance sample to inform exploration progression and assess the extent of mineralisation within the drilled area, based on recoverable REEs and HMs, in advance of the full assay return of the metre samples.

Assay results returned to date are of these panned concentrates (see Appendix B). It is important to note the attached assay results reflect panning of a weighed aliquot from the 1m sample intervals, followed by compositing of the resultant small concentrate sample on a per hole basis. Composite samples were then sent to IHC Mining for -1mm screening, heavy liquid separation, pulverisation and pXRF assay of the composited concentrate.

As a result of sample compositing, there is no cutoff grade or significant intercept zone within the section of each hole, and thus the resultant grade is diluted compared to what will be resolved by the 1m sample assays and would inform in any future resource. Given the hand panned nature of the primary interval samples, it is also likely that loss of very fine heavy mineral fractions occurred, and the composited concentrate underrepresents the total recoverable HM fraction.

The pXRF technique used by IHC Mining is rapid and requires minimal processing, but being a relatively low powered technique with relatively low resolution detection, it is unable to resolve all rare earth elements as separately measurable response peaks. There are two proxies that allow pXRF results to give approximations of rare earth element concentrations. The cerium oxide concentration, when multiplied by 3 approximates TREO, and the yttrium concentration (not as an oxide) also yields a proxy for TREO by regression (Figure 3). In the composited panned concentrates, the 3x Ce_2O_3 technique yields a minimum of 1%, a maximum of 41% and a mean of 12% approximate TREO prediction. The Yttrium technique yields a minimum of 3%, a maximum of 27% and a mean of 14% approximate TREO prediction.

The means of these two proxies are sufficiently close to be considered as validating each other and though not a reliable assay grade or a true estimation, they are considered to give a reasonable predictive value. This will be empirically tested by the metre assays which will also afford refinement that may enable rapid on-site grade prediction to aid mine production.

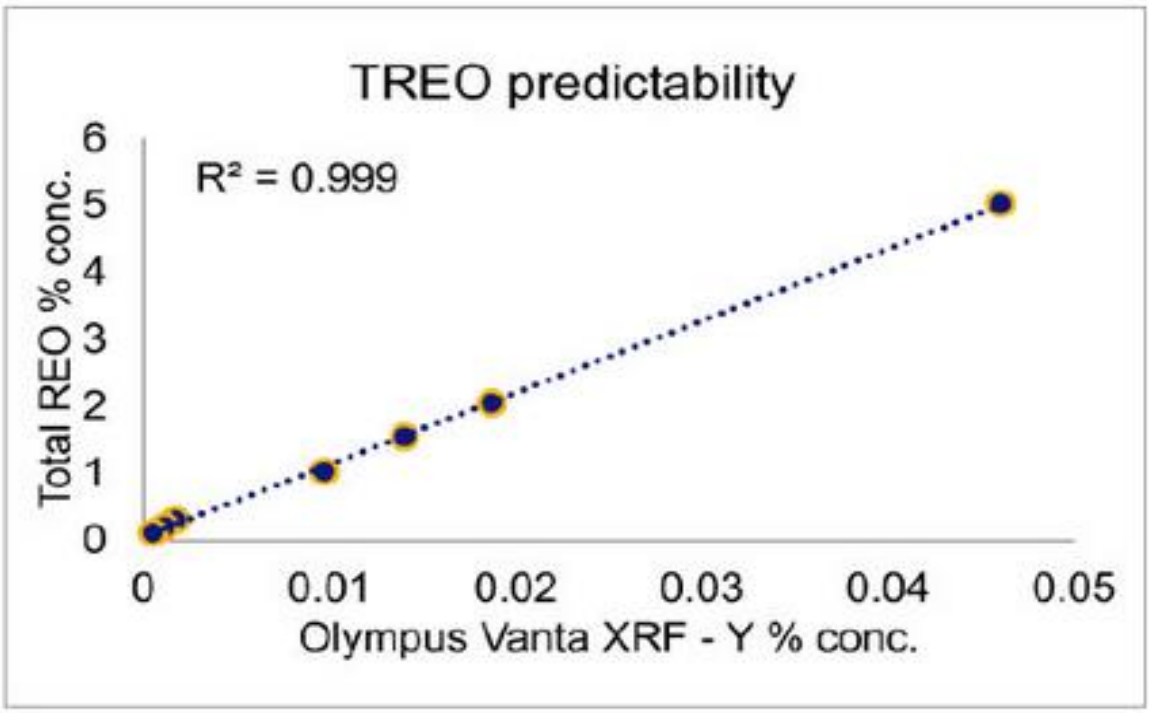


Figure 1: Vanta pXRF performance of assayed total rare-earth oxide predictability based on the yttrium concentration determined by the analyzer (from: *Litofsky, J. 2019. Portable XRF for Rare-Earth Element Identification and Exploration, Vanta. Olympus Industrial Resources*.

Sandy Mitchell is unique compared to other Rare Earths projects with material hosted in fine sands, known as a Fluvial Placer deposit, which are amenable to panning a concentrate demonstrating low-cost, fast start up, straightforward beneficiation by gravity processing. Hence, processing costs are anticipated to be significantly lower than hard rock and ionic clay hosted Rare Earths projects.

Sandy Mitchell will also benefit from having considerable scale based on the current 140 km^2 of tenements held and contiguous sub-blocks of over 138km^2 currently under application.

Ark is pleased to confirm that this first phase drill program has been completed safely with approximately 1,488m drilled in 144 holes with average depth of 10.3m (Figure 3). In some holes, sands were intersected down to 17.5m.

Hole depths averaged twice the depth that was first anticipated which is highly encouraging. The first stage drill programme has given the Company great confidence that the project is of much greater scale than first envisaged.

Drilling focused on the general area where in 2010, the Japan Organization for Metals and Energy Security (JOGMEC) focused its activities as well as in new areas to the south, not previously drilled, all of which are prospective for Rare Earths and Heavy Minerals.

Ark is pleased to have completed this important phase of works and now awaits assay results. The next phase of drilling will be planned around extension of the maiden resource generated from phase 1 results.

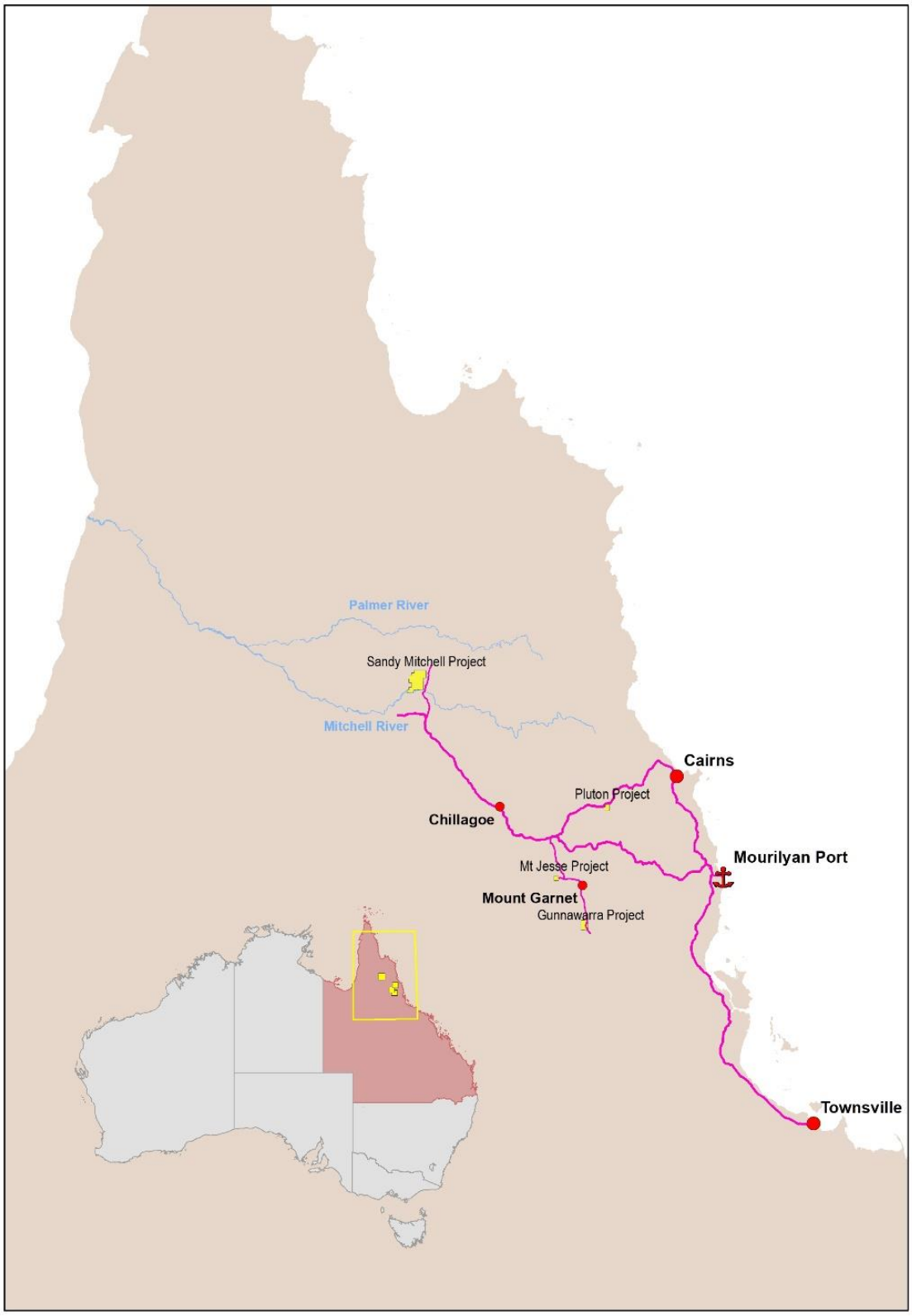
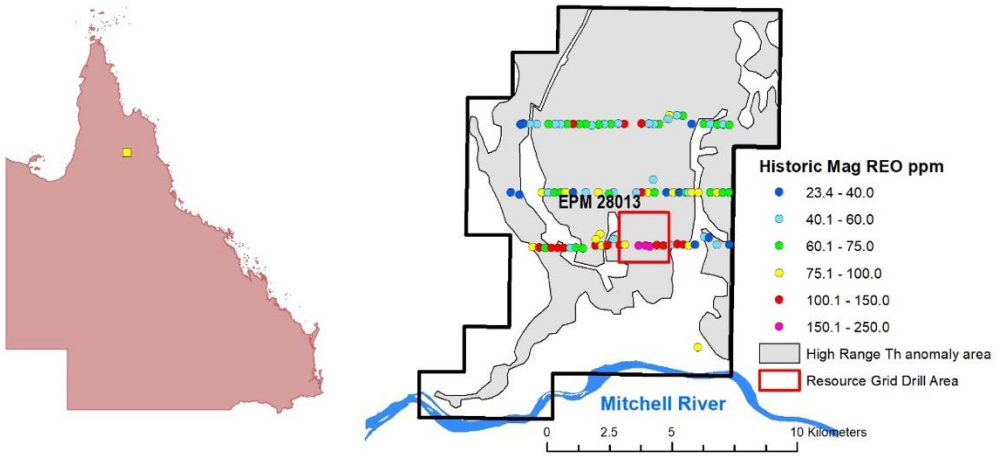


Figure 2: Location of the Sandy Mitchell Project, near Chillagoe, Nth QLD.



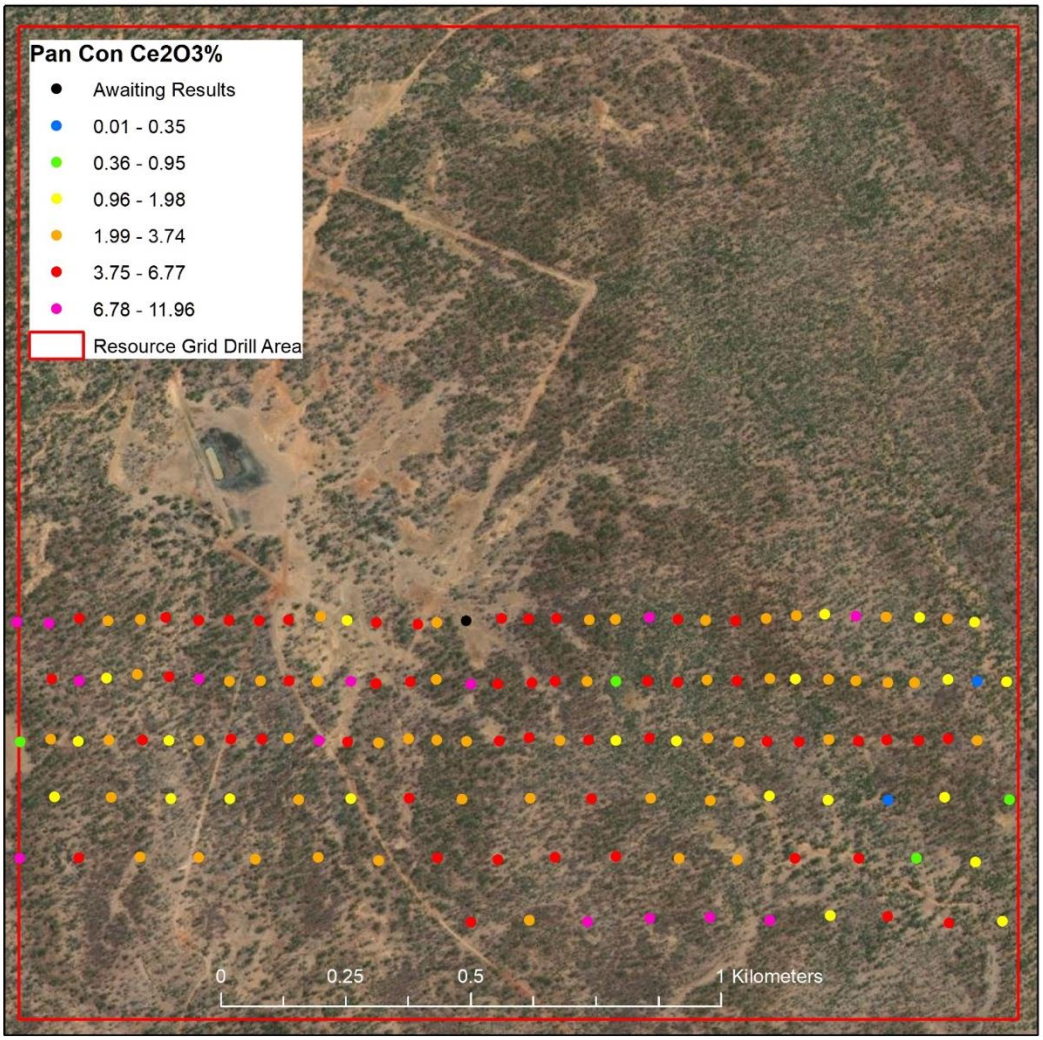


Figure 3: 144 completed drill collars at Ark's Sandy Mitchell Project, covering 1.3 km^2. Northern portion drilled at 60m x 120m and southern periphery drilled at 120m x 120m, to refusal for an average depth of 10.5m. Ce values represented in coloured dots (refer to table).

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About Ark Mines Limited

Ark Mines is an ASX listed Australian mineral exploration company focused on developing its 100% owned projects located in the prolific Mt Garnet and Greenvale mineral fields of Northern Queensland. The Company's exploration portfolio consists of three high quality projects covering 200km^2 of tenure that are prospective for copper, iron ore, nickel-cobalt and porphyry gold:

Sandy Mitchell Rare Earth and heavy Mineral Project

- Ark has recently Acquired the 147km^2 EPM 28013 *'Sandy Mitchell'* – an advanced Rare Earths Project in North Queensland with additional 138km^2 of sub blocks under application
- Project contains all critical Light Rare Earths as well as Heavy Rare Earths including dysprosium (Dy), terbium (Tb), holmium (Ho), erbium (Er), thulium (Tm) ytterbium (Yb), yttrium (Y) and excluding only Lutetium
- Up to 25% of the TREO is Nd and Pr (magnet metals)
- Rare Earths at *'Sandy Mitchell'* are amenable to panning a concentrate; Planned low-cost, fast start up, straightforward beneficiation by gravity processing

Gunnawarra Nickel-Cobalt Project

- Comprised of 11 sub-blocks covering 36km^2
- Borders Australian Mines Limited Sconi project - most advanced Co-Ni-Sc project in Australia
- Potential synergies with local processing facilities with export DSO Nickel/Cobalt partnership options

Mt Jesse Copper-Iron Project

- Project covers a tenure area of 12.4km^2 located ~25km west of Mt Garnet
- Centered on a copper rich magnetite skarn associated with porphyry style mineralization
- Three exposed historic iron formations
- Potential for near term production via toll treat and potential to direct ship

Pluton Porphyry Gold Project

- Located ~90km SW of Cairns near Mareeba, QLD covering 18km^2
- Prospective for gold and associated base metals (Ag, Cu, Mo)
- Porphyry outcrop discovered during initial field inspection coincides with regional scale geophysical interpretation

Reliance on historic data

All sample data reported in this release, as disclosed in the body of the release, in the tables in the Appendix and in the JORC table is based on data compiled by the Competent Person from other sources and quoted in their original context. These sources have been referenced in the text and the original Competent Persons statements may be found with the relevant documents. Some of this information is publicly available but has not been reported in accordance with the provisions of the JORC Code and a completed Table 1 of the JORC Code and Competent Persons statement is attached to this Release. Whilst every effort has been made to validate and check the data, these results should be considered in the context in which they appear and are subject to field verification by the Company

Competent Persons Statement

The Information in this report that relates to exploration results, mineral resources or ore reserves is based on information compiled by Mr Roger Jackson, who is a Fellow of the Australian Institute of Mining and Metallurgy and a Fellow of the Australasian Institute of Geoscientists. Mr Jackson is a shareholder and director of the Company. Mr Jackson has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the `Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves '(the JORC Code). Mr Jackson consents to the inclusion of this information in the form and context in which it appears in this report. Mr Jackson confirms information in this market announcement is an accurate representation of the available data for the exploration areas being acquired.

Forward Looking Statements and Important Notice

This report contains forecasts, projections and forward-looking information. Although the Company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions it can give no assurance that these will be achieved. Expectations and estimates and projections and information provided by the Company are not a guarantee of future performance and involve unknown risks and uncertainties, many of which are out of Vertex Minerals 'control.

Actual results and developments will almost certainly differ materially from those expressed or implied. Vertex Minerals has not audited or investigated the accuracy or completeness of the information, statements and opinions contained in this announcement. To the maximum extent permitted by applicable laws, Ark Mines makes no representation and can give no assurance, guarantee or warranty, express or implied, as to, and takes no responsibility and assumes no liability for the authenticity, validity, accuracy, suitability or completeness of, or any errors in or omission from, any information, statement or opinion contained in this report and without prejudice, to the generality of the foregoing, the achievement or accuracy of any forecasts, projections or other forward looking information contained or referred to in this report.

Investors should make and rely upon their own enquiries before deciding to acquire or deal in the Company's securities.

Appendix A: JORC Code, 2012 Edition – Table 1

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 (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.*	Ark Mines 2023 sampling techniques: • Samples are rock chips and accompanying bulk fines collected on 1m intervals by air core drill using 100mm bit. • Sample was passed through an 82.5: 12.5 riffle splitter to yield an aliquot of approx. 1.5 kg collected in prenumbered calico bag, and a reject retained in a numbered plastic bag, with recoveries volumetrically estimates. • Historic works by SGS (SGS Oretest Job No: S0580, 2010 for JOGMEC) shows mineralisation to have grainsize < 125µm (very fine sand) and thus the sample mass is adequate for representivity. • Sample for pan concentration was sub-sampled by spade channel through the reject to a mass of approx. 1kg per metre as determined by digital scales. These were then panned to a concentrate and the subsequent concentrates composited per hole. • Pan Con composite samples were sent to IHC Mining where samples were screened to -1mm, heavy minerals were further separated by heavy liquid separation with yields weighed at each stage. • The final heavy mineral concentrate was subject to Portable XRF analysis for a limited indicative assay.
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*	Ark Mines 2023 drilling: • Drill was by Comacchio track mounted air core rig using 100mm air core bit. • All holes were vertical and drilled to refusal or 17.5m, whichever came first.

Criteria	JORC Code explanation	Commentary
	type, whether core is oriented and if so, by what method, etc).	
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.*	Ark Mines 2023 drilling: • Recovery were assessed by volumetric estimation by the metre. • Sample was passed through a cyclone with a gated chute to allow fines to fall out of the air stream. The chute was kept closed until the end of each metre had been drilled, then opened to collect sample, and closed prior to recommencement of drilling. • No relationship between recovery and grade has yet been identified.
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.*	Ark Mines 2023 drilling: • Sample was logged by the metre for all drilling, by the site geology team for both qualitative and quantitative criteria. • Drill logs for 100% of drilling are available with overall length of 1488.3m. • Logging is sufficient to support resource estimation, mining and metallurgical studies.
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*	Ark Mines 2023 drilling: • All sample passed through the drill cyclone dry. • Sub-sampling for laboratory assay was by 87.5:12.5 riffle splitter: the bulk sample was passed evenly through the riffles with the assay aliquot collected in a pre-numbered calico bag, and the reject collected in a numbered plastic bag. • Field duplicates were taken at 1:40 by 50:50 riffle splitter. • Historic works by SGS (SGS Oretest Job No: S0580, 2010 for JOGMEC) shows mineralisation to have grainsize < 125µm (very fine sand) and thus the sample mass is representative. • Sample for pan concentration was sub-sampled by spade channel through the reject to a mass of approx. 1kg per metre as determined by digital scales.

Criteria	JORC Code explanation	Commentary
	for instance results for field duplicate/second-half sampling. • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	

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.*
		Ark Mines 2023 drilling:
		• Metre samples have not yet been assayed.
		• Field duplicates were taken at 1:40 by 50:50 riffle split of the assay aliquot.
		• For both assay and pan concentrate samples
		  • Laboratory repeats were requested at no less than 1 in 40.
		  • Standard insertion was requested of the laboratory at no less than 1 in 40.
		  • Assay of blank quartz flushes was requested at 1 in 40.
		• Total radiometric count was measured on all assay samples using a SAIC Exploranium GR-110G hand held scintillometer, hired from Terra Search Townsville, pre-calibrated.
		• Reading times were 10 second accumulations, which was the machine maximum, with 100x10 second background accumulations taken per day, per measuring station.
		• IHC Mining Laboratory procedures for pan concentrate composite samples was:
		  • Creation of duplicates by split at a rate of 1 in 24
		  • Screen to -1mm and weigh
		  • Heavy liquid separation and weigh
		  • Pulverization of the heavy mineral fines by extended grind
		  • Portable XRF analysis of the pulp
		• QAQC implemented is believed sufficient to establish accuracy and precision.

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.*	Ark Mines 2023 drilling: • Significant intersections have not yet been determined. • Hole SMDH 00014b is twinned by SMDH 00014bt for QAQC purposes. Further twinning is in planning. • Data was entered into MS excel then verified against hard copy data, followed by import into Datamine Studio RM for validation. • Primary data is stored as hard copy, electronic tables in CSV format and Datamine format. • Assay data yielding elemental concentrations for rare earths (REE) within the sample are converted to their stoichiometric oxides (REO) in a calculation performed using the conversion factors in the table below. • Rare Earth oxide is the industry accepted form for reporting rare earths. The following calculations have been used for reporting: • **TREO** = La2O3 + Ce02 = Pr6O11 + Nd2O3 + Sm2O3

Criteria	JORC Code explanation	Commentary
		+ Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Lu2O3+ Y2O3 • **CREO** = Nd2O3 + Eu2O3 + Tb4O7 + Dy2O3 + Yb2O3 • **LREO** = La2O3 + Ce02 = Pr6O11 • **HREO** = Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Lu2O3+ Y2O3 • ND/Pr = Nd2O3 + Pr6O11 • TREO – Ce = TREO – CeO2 • %NdPr + NdPr/TREO

Element Name	Element Oxide	Oxide Factor
Ce	CeO2	1.2284
Dy	Dy2O3	1.1477
Er	Er2O3	1.1435
Eu	Eu2O3	1.1579
Gd	Gd2O3	1.1526
Ho	Ho2O3	1.1455
La	La2O3	1.1728
Lu	Lu2O3	1.1371
Nd	Nd2O3	1.1664
Pr	Pr6O11	1.2081
Sc	Sc2O3	1.5338
Sm	Sm2O3	1.1596
Tb	Tb4O7	1.1762
Th	ThO2	1.1379
Tm	Tm2O3	1.1421
U	U3O8	1.1793
Y	Y2O3	1.2699
Yb	Yb2O3	1.1387

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.*	Ark Mines 2023 drilling: • An initial collar survey by hand held GPS was conducted as a failsafe, with expected accuracy of ±5000mm in x and y, and ±50000m in z. • Full survey by Twine Surveys was subsequently carried out using RTKdGPS with accuracy of ±20mm in x and y, and ±200mm in z • Twine's professional RTK survey was implemented between drill collars and used to generate a digital terrain model for high quality topographic control. • All survey data is recorded in MGA 2020 zone 54
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.*	Ark Mines 2023 drilling: • Data spacing for the northern 3 lines of drilling is 60m x 120m. • Data spacing for the southern 3 lines is 120m x 120m • No compositing has been applied to 1m samples for assay. • Pan concentrates were composited per drill hole.

Criteria	JORC Code explanation	Commentary
	• *Whether sample compositing has been applied.*	
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.*	Ark Mines 2023 drilling: • Deposit type is fluvial channel placer with channels believed oriented north to north-east and meso scale structure oriented sub-horizontal arcuate. The applied vertical sampling is the optimal orientation for the deposit type. • No bias by orientation or spatial relationships has been identified.
Sample security	• *The measures taken to ensure sample security.*	Ark Mines 2023 drilling: • Samples were collected after logging and transported at the end of each day to the company locked storage in Chillagoe. • Samples were boxed in closed pumpkin crates, wrapped in plastic for shipping by courier to the laboratory in Perth.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	Ark Mines 2023 drilling: • Full audit of sampling techniques and data available to date was carried out by geological consultants, Empirical Earth Science. • EES notes that the composited concentrate samples results in assay representing diluted material with no internal separation possible. • EES noted that the hand panning process of such fine material is prone to heavy mineral loss, with the possibility that concentrates underrepresent the total heavy mineral fraction. • ESS noted that the pXRF technique is not suited to yield full REE data, but that the results can inform approximate proxy calculations for the full REE suite.

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*	• EPM 28013, Sandy Mitchell, is 100% owned by Ark Mines Limited. It was purchased on the 23rd of February 2023. • This tenement was formally EPM18308 • There are no third party agreements • No known issues impeding on the security of the tenure of Ark Mines ability to operate in the area exist.

Criteria	JORC Code explanation	Commentary
	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.*	
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	A number of companies and individuals have explored the area for gold and base metals and for heavy minerals. The summaries presented below are from the IRTM source: • ATP 597M was granted to Laskan Minerals Pty Ltd in 1969 over the Reid Creek area, north of the Mitchell River. From assays of rock chip and stream sediment samples, it was concluded that there was little chance of economic mineralisation occurring in the Authority. Although good monazite grades were obtained, the samples were from creeks with little available wash. Good concentrations of monazite and ilmenite were present in large areas of sandy, alluvial sheet wash in the Reid's Creek area. It was believed that there was a potential for economic exploitation if the monazite concentrations occurred in a large enough volume of sandy material. No further work was reported. • In 1970, Altarama Search Pty Ltd was granted ATP 833M over the Mitchell River in the Reid Creek, Sandy Creek and Mount Mulgrave Homestead area. Four hundred stream sediment samples, at an average density of 1.25 samples/km^2, were collected for assay. Copper and lead contents were low. Half of the zinc results were considered to be possibly anomalous. A two population distribution was obtained for zinc, with a standard threshold of about 15 ppm. It was suggested that the two population distributions represented normal background ranges present in different strata. No other work was carried out. • ATP 2580M was granted to Tacam Pty Ltd over Sandy Creek and its tributaries. Stream sediment samples averaged 0.18% monazite (0.01 to 0.45%), 0.07% rutile (0.15% in terraces), and 0.06% zircon (0.14% in terraces). The area had low economic potential and the Authority was abandoned in August 1981. • The principals involved in Tacam Pty Ltd combined with Metcalfe Holdings Pty Ltd in 1986 to take up 4 Authorities to Prospect - 4400,4401,4402 and 4403 centred on Mt Mulgrave, Arkara Creek, Sandy Creek and the Kennedy River respectively. The investigations were for the possibility of locating large-scale heavy minerals in association with major drainages and lower slope eluvial deposits associated with Cretaceous

Criteria	JORC Code explanation	Commentary
		weathering as indicated in previous investigations. EPM 4400, 4401, 4402 and 4403 • Barron and O'Toole focused on Mt Mulgrave for Ilmenite, rutile, REE, Monzonite, Zircon, and Gold.Tenement EPM 4400 consisted of 96 sub-blocks centred on Mount Mulgrave (7665, 7765), EPM 4401 consisted of 97 sub-blocks centred on Arkara Creek (7665), EPM 4402 consisted of 100 sub- blocks centred on Sandy Creek (7665) and EPM 4403 consisted of 86 sub-blocks centred on Kennedy River (7666, 7766) were granted to P.T.C. Barron, A. O'Toole and Metcalfe Holdings Pty Ltd on 22 September 1986 to explore for heavy minerals and precious metals. After three years of exploration the EPMs were surrendered on 22 August 1989. • Tenement EPM 10185 consisted of 157 sub-blocks was granted to Palmer Gold Pty Ltd on 25 October 1994 for an initial 2 year period. The exploration permit was renewed for a further 3 years on 25 October 1996 and surrendered on 3 October 2001. The tenement was situated 200km west of Cooktown. Significant gold-silver, tin and base metal deposits are known from the Georgetown and southern Dargalong Inliers to the south of EPM 10185 (e.g. Etheridge, Croydon and Oaks goldfields), from the Hodgkinson Province to the east (e.g. Palmer, Hodgkinson, Russell River, Starcke, Jordon Ck, Mareeba and Mount Peter goldfields, and Herberton-Mt Garnet tinfield), and the Coen Inlier to the north (e.g. Alice River & Potallah goldfields). However, other than brief reference to sub-economic alluvial gold occurrences near the junction of the Palmer and Mitchell Rivers, and in the Staaten, Lynd and Walsh Rivers (Culpeper 1993), no precious or base metal deposits are known to occur within rocks of the Yambo Inlier Application for the area was made after structural interpretation of the region showed prospectivity for gold occurrence. Base metal anomalies delineated from previous exploration were also targeted for follow-up work. • In 2007 exploration activity was carried out by BHP Billiton Minerals Pty Ltd under an extremely large area (2,850 sub-blocks) of the Coen Yambo area from 2005 to 2007. EPM's 14438 and 14445 covered the majority of the Yambo Inlier. BHP targeted Ni sulphide and PGM and carried out AEM surveying, field mapping and sampling and drilling. The AEM targets were found to be related to sedimentary lithological units or obvious shear zones. • In 2007 - 2009 - MTY Resources Ltd undertook bulk sampling program along with a Panned Concentrate sampling program as reported in this report. • In 2012 Waverley Nominees undertook an Augur sampling program as set out in this report

Criteria	JORC Code explanation	Commentary
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The tenement covers portion of the southern extent of the Yambo Inlier, one of the several Proterozoic inliers to the west of the Palmerville Fault System. Rocks of the Yambo Inlier covered by the tenement comprise those of the middle Proterozoic Yambo Metamorphic Group of mainly amphibolites and gneisses ranging in age from ~1690 Ma to ~1585 Ma. These rocks have been intruded by Silurian-Devonian granites of the Lukinville Suite which form an integral part of the Cape York Batholith. Within the tenement they form a belt roughly 10 km wide trending NNW. • Extensive intrusions of Carboniferous-Permian dolerites occur throughout the Inlier, with only a few occurrences within the tenement. • The tenement is largely gold deficient except for the gold reporting to sediments within the Palmer River. Recent Governmental radiometric surveys have highlighted areas of anomalous radiometric emission within the Yambo Inlier. The project tenements cover the majority of the anomalous radiometric areas. • There are many stream systems within the Mulgrave/Sandy Mitchell tenements and they contain concentrations of rare earth minerals. These minerals have been derived from the now denuded remnant Jurassic-Cretaceous sandstone-pebble conglomerates and quartz sandstones, with the greater volumes being associated with the breakdown of the Mesoproterozoic basement rocks. Isolated areas of high garnet concentrations are derived from irregular zones of highly garnetiferous dolerites and schists

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*
	  ○ *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*
		Ark Mines 2023 drilling:
		• Refer to Appendix B

Criteria	JORC Code explanation	Commentary
	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 (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.*	Ark Mines 2023 drilling: • No cut off grade has yet been applied. No top cut grade has yet been applied. • No data aggregation or segregation has been applied. • REE Equivalent TREO (total REE oxides) is reported as the industry standard for presentation of REE data. Stoichiometric calculation of REE oxide equivalents were performed in units of ppm, with TREO, LREO (light REE oxides), HREO (heavy REE Oxides), CREO (critical REE oxides) and Mag REO (magnet production REE oxides), as per Table in section, "*Verification of sampling and assaying".*
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').*	• Mineralisation is sub-horizontal. Drilling is vertical. This results in the minimum intercept length for each mineralisation intercept.
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*	Ark Mines 2023 drilling: • See Figure 3

Criteria	JORC Code explanation	Commentary
	appropriate sectional views.	
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.*	Ark Mines 2023 drilling: • All exploration results are reported • See Appendix B
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.*	Ark Mines 2023 drilling: • All data material to this report, that has been collected to date, has been reported textually, graphically, or both.
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.*	• Ark Mines intends to undertake further resource extension drilling to the north of the current air core pattern. • Ark plans further beneficiation test work, pilot plant studies, resourcing and reserve studies.

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Appendix B: 2023 Ark Mines Panned Concentrate Table

Hole ID	MGA2020 East	MGA2020 North	MGA2020 RL	From	To	Composite Head Weight	Composite Con Weight	-1mm Screen Fraction	HLS Separation Yield	TiO_2	ZrO_2	Al_2O_3	Fe_2O_3	SiO_2	Cr_2O_3	MgO	MnO	P_2O_5	U
	m	*m*	*m*	*m*	*m*	g	g	g	g	%	%	%	%	%	%	%	%	%	%
SMDH 00013	813118.604	8193621.108	161.480	0	10.5	12169	17	13.8	6.6	0.000	2.879	12.572	6.894	11.408	1.092	0.511	0.253	8.483	0.009
SMDH 00012b	813174.992	8193619.922	161.570	0	14	15501	29.3	26	6.9	0.681	0.864	6.793	15.869	9.918	0.746	0.996	0.807	3.417	0.007
SMDH 00012	813240.530	8193620.151	161.435	0	10	10620	42.7	39.4	6.1	0.000	2.278	3.709	9.880	7.037	1.160	0.992	0.163	3.970	0.000
SMDH 00011b	813290.341	8193615.556	161.017	0	8	9547	30.8	27.3	5	0.000	1.456	5.752	14.367	9.354	1.035	1.006	0.848	2.923	0.000
SMDH 00011	813360.306	8193619.373	160.815	0	5	5501	46	41.3	4.9	2.254	4.984	5.713	5.904	8.507	1.245	0.524	0.114	3.151	0.002
SMDH 00010b	813411.116	8193623.602	161.851	0	7	8041	35.6	31.3	13.7	0.000	3.664	9.276	11.377	10.745	0.761	1.057	1.058	2.772	0.005
SMDH 00010	813480.815	8193615.123	162.980	0	8	10112	24.2	21.8	6.6	0.000	3.419	3.315	6.025	5.326	1.517	0.614	0.305	3.465	0.000
SMDH 00009b	813534.926	8193613.702	163.402	0	8	9717	80.8	71	15.8	0.212	5.611	11.002	6.014	11.847	0.898	0.000	0.251	3.437	0.000
SMDH 00009	813602.160	8193617.681	163.935	0	13	14578	91.6	80.1	16.8	0.000	3.555	7.303	8.205	10.591	1.043	0.760	0.398	2.969	0.000
SMDH 00008b	813649.912	8193620.484	164.278	0	10.5	11962	94.2	81.2	12.1	0.000	4.500	5.225	12.127	10.446	0.871	0.872	0.611	2.991	0.000
SMDH 00008	813714.067	8193620.827	166.085	0	7	7888	83.4	74.7	14.5	0.199	2.856	8.008	13.284	12.739	0.638	1.308	1.004	2.641	0.000
SMDH 00007b	813771.237	8193619.242	167.272	0	7	7397	209	176.4	103.7	3.269	0.352	6.679	22.196	20.425	0.137	1.487	0.696	1.738	0.000
SMDH 00007	813834.112	8193620.089	166.415	0	11	12923	120.2	97.6	9.8	0.000	4.257	4.576	13.946	9.214	1.057	1.060	0.365	2.663	0.002
SMDH 00006b	813894.852	8193619.343	166.090	0	11.5	14263	29.9	24.2	8.3	0.000	1.941	4.982	15.098	9.869	1.148	1.072	1.424	3.238	0.001
SMDH 00006	813955.924	8193624.486	167.640	0	10	13292	107.1	78.2	17.9	1.189	2.310	5.779	20.250	10.954	0.799	1.013	0.877	2.392	0.000
SMDH 00005b	814012.972	8193621.878	168.350	0	6	5827	76.8	69.3	10.1	2.632	4.786	6.883	11.619	11.494	0.881	0.000	0.450	2.789	0.000
SMDH 00005	814079.690	8193625.439	168.625	0	10	12472	30.9	24	16.6	0.385	4.187	8.420	14.014	11.595	0.924	0.770	0.945	3.814	0.000
SMDH 00004b	814131.704	8193625.054	168.150	0	8	10289	20.4	17.4	4.2	4.181	9.835	5.404	35.048	12.270	0.399	0.811	0.142	2.052	0.000
SMDH 00004	814196.838	8193624.740	167.250	0	8	10234	21	19	4.3	1.643	13.764	2.713	9.676	8.829	1.452	0.856	0.325	5.423	0.000
SMDH 00003b	814252.819	8193621.904	166.120	0	9	11882	72.6	65.4	12.3	0.667	5.993	4.278	16.783	10.271	0.707	1.082	1.372	4.216	0.000
SMDH 00003	814316.856	8193617.836	164.750	0	8.5	11450	32.5	27.3	11.9	0.138	3.294	4.965	18.556	11.505	0.674	1.243	1.728	2.780	0.000
SMDH 00002b	814371.089	8193619.732	163.500	0	7.5	10132	66.7	59.8	5.4	2.100	9.448	4.383	13.920	9.942	0.735	0.842	0.332	3.830	0.000
SMDH 00002	814435.988	8193623.763	162.460	0	14	16667	52.4	43.5	30.1	2.497	2.430	7.429	23.026	12.843	0.368	1.108	1.375	2.279	0.000
SMDH 00001b	814495.329	8193621.304	161.585	0	9.5	12057	175.2	153.7	56	15.340	0.638	9.645	28.686	28.011	0.083	2.120	1.009	1.036	0.000
SMDH 00001	814555.800	8193622.083	161.810	0	14	18042	49.2	46.2	26.2	5.894	2.096	10.486	28.368	22.692	0.384	2.555	0.758	2.457	0.001
SMDH 00205	814496.791	8193503.996	162.057	0	16	20128	18.6	17.7	8.6	1.465	5.105	4.150	16.030	10.521	0.722	0.981	0.879	2.912	0.000

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Hole ID	MGA2020 East	MGA2020 North	MGA2020 RL	From	To	Composite Head Weight	Composite Con Weight	-1mm Screen Fraction	HLS Separation Yield	TiO_2	ZrO_2	Al_2O_3	Fe_2O_3	SiO_2	Cr_2O_3	MgO	MnO	P_2O_5	U
	m	*m*	*m*	*m*	*m*	g	g	g	g	%	%	%	%	%	%	%	%	%	%
SMDH 00205b	814436.887	8193509.066	163.128	0	9.8	11913	17.4	16.7	4.2	0.541	2.915	4.014	16.513	9.231	0.893	1.320	0.880	3.259	0.000
SMDH 00206	814379.509	8193503.898	164.057	0	9	11180	20.3	18.9	9	0.000	1.709	4.080	16.706	9.042	0.930	1.379	0.984	2.845	0.000
SMDH 00206b	814313.980	8193504.370	164.587	0	12	15505	25	24.4	9.2	0.646	6.117	6.936	14.825	15.984	0.948	1.537	0.795	4.945	0.000
SMDH 00207	814258.685	8193503.455	165.112	0	10.5	14588	15.9	15.7	4	0.142	4.210	8.855	12.517	13.952	0.895	1.697	0.794	4.347	0.000
SMDH 00207b	814198.971	8193505.196	165.179	0	7	7658	16.4	16.3	9	2.172	2.618	8.943	17.831	20.657	0.636	1.610	0.429	2.676	0.001
SMDH 00208	814141.093	8193501.415	165.964	0	8.5	11454	11.1	10.9	5	1.479	5.350	7.506	14.378	16.875	0.940	1.320	0.992	4.601	0.000
SMDH 00208b	814076.156	8193501.800	166.660	0	7	8520	13.1	12.9	2.3	0.117	4.392	3.699	17.085	8.391	0.975	1.277	0.538	3.003	0.000
SMDH 00209	814018.798	8193501.816	166.511	0	17.5	20637	18.9	18.6	10.5	0.000	3.826	9.719	16.826	23.843	0.678	1.709	0.898	3.575	0.000
SMDH 00209b	813958.049	8193508.756	165.113	0	11.5	13218	19.5	19.1	8.7	0.000	3.049	9.360	18.315	20.074	0.795	1.746	1.114	4.146	0.000
SMDH 00210	813895.826	8193503.307	164.535	0	11	11666	25.7	25.2	13.1	0.000	2.306	12.841	22.793	28.790	0.452	1.634	2.043	2.863	0.000
SMDH 00210b	813840.163	8193509.142	165.787	0	14	16100	11.9	11.7	5.2	0.000	7.075	4.874	10.654	10.733	1.157	1.275	0.596	3.821	0.000
SMDH 00211	813774.192	8193503.898	167.050	0	11	13918	87.7	47.5	25.4	0.331	2.040	5.647	19.222	18.334	0.477	1.124	1.203	2.196	0.000
SMDH 00211b	813718.774	8193504.852	167.538	0	17.5	21710	57.2	46.3	19.3	0.000	2.687	9.425	14.881	20.063	1.028	1.880	1.210	4.073	0.004
SMDH 00212	813660.117	8193503.996	167.530	0	9	11054	36	31	17.8	4.321	1.369	9.482	21.467	19.071	0.719	1.597	1.464	2.972	0.003
SMDH 00212b	813598.874	8193511.307	167.179	0	8	9733	45.2	41.5	14.3	0.196	3.262	4.858	12.969	10.370	1.051	1.270	1.173	3.548	0.009
SMDH 00213	813538.170	8193501.639	166.059	0	10	12222	39.2	30	8.2	0.000	2.144	8.395	13.695	14.934	1.181	1.782	1.053	4.745	0.007
SMDH 00213b	813473.459	8193501.749	164.462	0	13	17217	49.8	40.7	12.7	0.405	2.639	10.038	16.136	18.683	1.033	1.760	1.467	4.682	0.009
SMDH 00214	813412.777	8193504.426	162.991	0	8	10568	43	30.5	1.57	5.508	3.135	4.800	11.312	10.398	0.945	0.875	0.703	3.048	0.003
SMDH 00214b	813356.948	8193507.190	162.399	0	8	9528	31.7	25.9	12	11.083	1.830	8.048	22.525	15.287	0.684	1.390	1.512	2.655	0.004
SMDH 00215	813296.925	8193499.782	162.764	0	8	9774	46.1	39.5	11	0.000	1.661	12.994	22.457	21.492	0.695	2.427	1.191	3.369	0.000
SMDH 00215b	813235.298	8193500.352	162.813	0	8	9867	25.9	20.6	2.9	0.000	1.559	6.561	15.349	11.958	1.303	1.881	0.460	3.881	0.009
SMDH 00216	813177.836	8193504.368	162.925	0	14	17450	19.5	18.8	7.8	0.423	2.415	3.323	10.771	6.204	1.514	0.690	0.363	3.740	0.009
SMDH 00216b	813117.010	8193509.404	163.466	0	14.5	17309	29.89	27.7	8.1	1.020	1.692	8.572	25.729	15.259	0.608	2.548	0.413	2.254	0.003
SMDH 00217	813064.691	8193506.736	165.599	0	8.5	10863	26.3	24.9	6.3	1.361	1.752	12.777	16.535	17.136	0.880	1.754	0.905	3.546	0.009
SMDH 00217b	813001.089	8193506.159	166.316	0	7.5	10112	25.3	23	2.6	1.909	1.669	3.257	11.003	10.594	0.981	1.669	0.277	3.316	0.015
SMDH 00218	812938.399	8193503.797	164.614	0	17.5	23814	59.9	56.9	44.1	0.476	0.982	11.100	22.652	22.916	0.587	2.077	1.237	4.048	0.005
SMDH 00218b	812878.814	8193503.675	163.872	0	9	11206	11.8	11.1	1.9	2.367	2.548	9.638	23.664	19.518	0.498	2.514	0.685	3.562	0.003
SMDH 00219	812824.367	8193504.833	163.921	0	7.5	9845	18	17.5	1.7	1.255	1.588	9.358	13.724	14.889	1.080	1.713	0.403	4.535	0.001
SMDH 00219b	812757.277	8193503.207	163.898	0	9	11439	82.2	80.9	40	2.434	0.662	13.632	19.205	10.881	0.686	0.947	0.536	2.805	0.004
SMDH 00220	812696.394	8193502.374	166.049	0	3	4105	15.2	14.9	13.7	3.035	1.640	4.876	19.277	25.530	0.422	4.165	0.490	1.874	0.004
SMDH 00220b	812641.834	8193506.368	164.045	0	9	11275	21.9	20.4	9.6	5.188	0.652	8.263	16.525	20.202	0.830	1.782	1.228	4.372	0.005

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Hole ID	MGA2020 East	MGA2020 North	MGA2020 RL	From	To	Composite Head Weight	Composite Con Weight	-1mm Screen Fraction	HLS Separation Yield	TiO_2	ZrO_2	Al_2O_3	Fe_2O_3	SiO_2	Cr_2O_3	MgO	MnO	P_2O_5	U
	m	*m*	*m*	*m*	*m*	g	g	g	g	%	%	%	%	%	%	%	%	%	%
SMDH 00221	812579.113	8193500.091	159.887	0	9	11365	117.7	114.1	90.1	0.522	3.381	10.267	27.803	21.866	0.272	2.897	0.452	1.790	0.000
SMDH 00017	812642.285	8193626.255	167.170	0	10	12561	19.4	19	14.5	1.134	3.515	4.952	14.763	12.598	0.771	1.047	0.605	3.341	0.000
SMDH 00016b	812697.513	8193623.194	165.710	0	13	15798	23	21.8	10.2	0.196	2.090	8.007	10.446	13.845	1.220	1.174	0.406	4.875	0.002
SMDH 00016	812753.654	8193628.934	163.707	0	9	10490	50.4	47.1	32.7	3.054	1.397	6.301	20.884	14.670	0.411	1.319	0.492	2.905	0.004
SMDH 00015b	812814.238	8193635.842	161.314	0	15	18653	25	24.9	10.3	0.382	1.679	4.917	17.991	11.271	0.802	1.329	1.101	3.141	0.003
SMDH 00015	812877.629	8193630.340	160.943	0	13	16212	17.6	17.5	10.7	0.083	0.813	9.357	18.269	16.458	0.956	1.307	0.556	4.114	0.006
SMDH 00014b	812936.174	8193626.350	162.256	0	11	13928	20.4	19.2	4.4	0.000	1.305	5.362	3.309	7.681	1.756	0.751	0.042	4.464	0.006
SMDH 0014bt	812938.053	8193626.350	162.313	0	11	14069	24.6	23.2	4.5	0.000	1.321	4.212	4.033	6.525	1.524	0.750	0.025	2.993	0.008
SMDH 00014	812998.934	8193622.461	164.085	0	9	11391	43.7	41.2	11.3	0.367	3.501	5.948	19.068	12.971	0.669	1.341	0.801	2.882	0.005
SMDH 00013b	813060.310	8193622.562	163.397	0	11	13944	28.3	26.2	8.7	3.198	3.997	4.839	18.918	11.035	0.686	1.116	1.056	4.404	0.004
SMDH 00034	812573.068	8193739.861	163.103	0	8	9315	31.4	25.2	4.2	0.000	1.462	2.451	10.580	5.517	1.457	0.916	0.137	2.649	0.000
SMDH 00033b	812636.880	8193737.427	163.735	0	13	14847	41.1	31.5	8.6	0.301	2.172	3.585	10.398	7.313	1.345	0.806	0.578	2.992	0.005
SMDH 00033	812698.546	8193748.052	162.509	0	9.5	12477	39.2	29.5	10.9	0.308	1.202	8.136	15.977	14.311	1.081	1.861	1.017	4.170	0.002
SMDH 00032b	812755.795	8193743.539	161.877	0	8	9638	66.9	65.8	8	1.532	1.351	4.650	19.741	10.065	0.788	1.485	0.995	2.773	0.000
SMDH 00032	812820.867	8193745.995	160.820	0	10	12396	71.9	49.4	2.2	1.036	2.989	3.664	15.745	8.739	1.044	0.884	0.568	3.101	0.000
SMDH 00031b	812872.168	8193749.346	160.195	0	10	11870	41.9	28.2	2	1.232	1.814	3.466	10.752	7.112	1.389	1.187	0.291	3.053	0.006
SMDH 00031	812936.363	8193743.849	160.408	0	11	12699	99.3	79.1	7.2	0.975	1.891	8.089	13.499	14.695	1.111	2.281	0.439	3.299	0.016
SMDH 00030b	812997.747	8193743.358	161.227	0	7.5	9700	33.9	25.1	3.6	0.403	1.320	4.387	19.601	10.496	0.889	1.525	0.461	2.388	0.002
SMDH 00030	813059.041	8193742.669	161.085	0	15.5	19328	76	57.6	10.1	0.971	3.324	4.423	17.660	8.749	0.890	1.450	0.598	2.754	0.004
SMDH 00029b	813118.021	8193744.644	160.161	0	13	16066	139.9	49.5	8.6	0.631	2.159	5.868	16.615	10.899	0.834	1.134	0.911	2.682	0.003
SMDH 00028b	813234.368	8193744.824	159.948	0	8.5	10834	88.1	59.5	12.8	2.476	1.482	5.659	20.619	15.840	0.399	1.398	1.110	1.918	0.001
SMDH 00028	813293.127	8193739.402	160.153	0	7	8790	102.3	70.3	7.2	3.941	3.307	3.852	18.575	8.847	0.892	1.120	0.799	2.844	0.000
SMDH 00027b	813377.301	8193734.684	160.581	0	6	7398	53.6	37.4	8.2	0.000	2.984	12.291	18.271	20.515	0.863	2.239	1.447	4.058	0.000
SMDH 00029	813181.303	8193750.919	160.171	0	12	14009	35.6	27	8.6	0.000	1.511	6.044	20.408	12.620	0.787	1.136	1.347	2.660	0.005
SMDH 00027	813413.830	8193738.641	160.430	0	9	10734	93.5	72.3	25.5	0.000	2.172	7.554	19.921	13.501	0.598	1.284	1.649	2.432	0.003
SMDH 00026b	813472.704	8193743.546	160.440	0	11.5	14059	53	41.4	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SMDH 00026	813544.036	8193747.521	160.981	0	12	14227	43.8	39.4	12.1	0.000	3.396	5.540	14.933	10.210	0.855	1.208	1.249	3.161	0.000
SMDH 00025b	813597.814	8193746.616	162.027	0	7.5	9395	42.1	31.3	9.7	0.000	2.899	4.475	12.225	8.112	1.112	1.084	0.825	2.882	0.000
SMDH 00025	813653.726	8193749.476	163.186	0	11.5	14171	39.6	30.7	10.1	0.000	3.072	3.956	13.729	8.449	1.171	0.875	0.804	3.274	0.003
SMDH 00024b	813718.827	8193745.155	165.149	0	15	17721	83.6	68.9	24.6	0.493	2.547	4.745	17.850	10.578	0.869	1.261	1.180	3.030	0.000
SMDH 00024	813771.956	8193745.933	166.968	0	9	11453	54.7	50.8	7.3	0.000	2.864	4.443	17.297	9.517	0.947	1.347	1.214	3.294	0.000

ARK MINES LTD.

ASX ANNOUNCEMENT

ASX: AHK

Hole ID	MGA2020 East	MGA2020 North	MGA2020 RL	From	To	Composite Head Weight	Composite Con Weight	-1mm Screen Fraction	HLS Separation Yield	TiO_2	ZrO_2	Al_2O_3	Fe_2O_3	SiO_2	Cr_2O_3	MgO	MnO	P_2O_5	U
	m	*m*	*m*	*m*	*m*	g	g	g	g	%	%	%	%	%	%	%	%	%	%
SMDH 00023b	813838.983	8193749.846	168.331	0	12	15785	48.4	41.7	8.9	0.000	3.466	3.632	10.545	8.102	1.288	0.973	0.361	2.974	0.000
SMDH 00023	813896.465	8193745.051	168.888	0	14	18981	36.2	34.6	6	0.988	3.806	7.878	21.817	15.578	0.764	1.528	0.756	2.903	0.000
SMDH 00022b	813953.785	8193744.076	169.446	0	10	12762	131.8	113.6	47.9	1.803	5.520	8.343	22.141	17.052	0.791	1.722	0.524	3.563	0.000
SMDH 00022	814011.461	8193744.403	169.825	0	7	8870	37.2	34.8	8.7	0.950	3.612	8.439	20.644	17.077	0.868	1.641	1.008	3.687	0.000
SMDH 00021b	814074.017	8193746.588	169.637	0	9.5	13159	39	31.6	5.1	2.391	9.440	4.698	22.165	10.735	0.807	1.135	0.217	2.837	0.000
SMDH 00021	814134.343	8193753.075	168.862	0	8	10623	88.4	80.7	10.6	1.231	4.314	5.493	20.541	13.002	0.533	1.332	1.165	2.568	0.000
SMDH 00020b	814191.033	8193755.353	167.850	0	6	8222	72.2	55.3	5.3	2.029	4.731	4.899	26.786	10.777	0.481	1.210	0.729	2.090	0.000
SMDH 00020	814253.856	8193751.090	166.641	0	8	10847	80.3	33.9	3.7	0.839	3.325	7.961	11.464	13.910	1.182	1.929	0.387	4.152	0.000
SMDH 00019b	814314.351	8193749.781	165.442	0	14	18052	46.2	41.4	15.9	0.675	2.850	5.501	19.545	13.587	0.639	1.471	1.029	2.900	0.000
SMDH 00019	814379.432	8193749.108	164.161	0	8.5	12221	46.5	33.3	13.5	0.787	2.300	12.280	24.158	22.611	0.491	2.708	1.247	2.995	0.000
SMDH 00018b	814436.457	8193745.865	162.757	0	13	16882	48.2	42.7	11.4	0.803	2.802	10.995	23.680	21.347	0.603	2.298	1.052	3.254	0.000
SMDH 00018	814488.700	8193739.794	162.296	0	9	11372	133.6	68.8	33.3	0.932	0.925	6.440	26.557	15.721	0.321	1.744	0.911	1.971	0.001
SMDH 00222	814559.667	8193381.401	161.505	0	9	11482	51.3	44.3	22.8	4.740	1.064	9.991	21.920	36.113	0.153	2.593	0.490	1.048	0.000
SMDH 00223	814430.153	8193385.809	163.334	0	9	10817	46.9	42.4	10.1	0.337	2.348	12.137	23.040	24.847	0.427	3.081	1.548	2.333	0.000
SMDH 00224	814315.911	8193379.830	163.454	0	10	12718	43.4	33	7.3	7.980	4.775	13.657	28.150	21.367	0.208	2.019	0.892	2.068	0.000
SMDH 00225	814195.499	8193380.411	162.536	0	12	14477	61.7	47.8	15.1	5.909	3.438	12.808	21.699	20.489	0.452	2.109	1.589	2.841	0.000
SMDH 00226	814078.973	8193389.548	162.940	0	13	15289	32.9	24.1	5.5	2.339	2.735	14.549	23.432	25.507	0.450	1.959	1.037	2.404	0.000
SMDH 00227	813960.115	8193380.408	163.807	0	10	12189	43	31.9	9	0.702	2.039	10.101	17.863	19.910	0.813	2.373	1.165	3.057	0.000
SMDH 00228	813841.197	8193385.804	165.289	0	6.5	9330	62.8	46.6	4.3	8.961	5.168	9.544	16.263	15.353	0.835	1.314	0.656	3.225	0.000
SMDH 00229	813721.689	8193384.139	168.112	0	16	20654	31.6	26.3	8	1.719	2.224	8.580	15.402	18.278	0.961	1.940	1.015	3.472	0.000
SMDH 00230	813599.551	8193384.929	169.997	0	17	22454	38.8	27.1	13.1	0.659	2.051	12.234	21.055	21.724	0.648	2.085	1.348	3.004	0.001
SMDH 00231	813465.209	8193383.831	166.607	0	13.5	16608	43.7	32.6	13.8	1.609	1.479	8.653	19.129	26.111	0.660	1.512	0.919	2.379	0.000
SMDH 00232	813356.748	8193384.275	163.950	0	13	16595	33.1	24.6	8.9	9.524	1.651	6.100	20.014	11.411	0.953	1.524	0.606	2.692	0.004
SMDH 00233	813241.109	8193383.886	165.195	0	18	20932	30.1	23	9.3	0.512	1.215	6.119	28.223	13.278	0.549	3.918	0.463	1.897	0.001
SMDH 00234	813136.285	8193381.235	164.459	0	15	17542	64.5	54.6	11.8	0.616	1.101	3.979	29.982	8.389	0.658	1.510	0.269	1.803	0.001
SMDH 00235	812997.643	8193382.922	166.720	0	8.5	10983	121.1	53.6	12.1	0.926	0.371	11.473	31.905	21.623	0.331	2.185	0.695	1.448	0.003
SMDH 00236	812880.448	8193384.335	168.148	0	7.5	10137	81	70.5	61.9	2.758	1.319	12.276	27.261	25.451	0.360	1.698	1.664	1.799	0.001
SMDH 00237	812761.777	8193386.721	167.289	0	15	18100	38.3	30.1	10.1	0.230	1.809	7.526	33.591	17.968	0.616	1.710	0.498	2.106	0.004
SMDH 00238	812648.758	8193388.584	165.741	0	9	11870	36.2	31.2	15.4	0.284	0.650	6.400	23.235	18.666	0.281	1.899	0.610	1.356	0.000
SMDH 00255	812578.846	8193264.433	165.584	0	7	9039	46.7	36.4	2.8	0.164	1.079	6.896	8.713	9.695	1.373	1.190	0.140	4.267	0.000
SMDH 00254	812695.891	8193265.603	172.395	0	8	10685	46.5	14.8	1.7	0.889	1.524	5.973	13.238	11.080	1.372	1.675	0.554	4.113	0.002

ARK MINES LTD.

ASX ANNOUNCEMENT

ASX: AHK

Hole ID	MGA2020 East	MGA2020 North	MGA2020 RL	From	To	Composite Head Weight	Composite Con Weight	-1mm Screen Fraction	HLS Separation Yield	TiO_2	ZrO_2	Al_2O_3	Fe_2O_3	SiO_2	Cr_2O_3	MgO	MnO	P_2O_5	U
	m	*m*	*m*	*m*	*m*	g	g	g	g	%	%	%	%	%	%	%	%	%	%
SMDH 00253	812818.693	8193266.983	167.857	0	6	8033	46	37.8	3.7	2.997	2.884	7.897	18.350	13.010	0.863	1.533	0.426	2.744	0.000
SMDH 00252	812936.897	8193265.538	170.760	0	6	8037	43.4	29	4.8	2.080	0.671	5.096	18.070	9.423	0.791	1.114	0.941	2.152	0.009
SMDH 00251	813050.394	8193262.450	167.555	0	15	18609	48.7	39.1	10.1	6.871	1.459	8.798	24.455	11.606	0.679	1.801	0.548	1.822	0.004
SMDH 00250	813176.839	8193269.579	166.439	0	12	14233	37.4	27.2	5.8	4.898	0.914	10.181	18.651	14.159	0.895	1.515	0.312	2.125	0.005
SMDH 00249	813297.462	8193262.117	167.208	0	5	6208	18.2	13.5	3.4	1.429	0.584	13.046	15.075	17.824	0.676	1.705	1.156	2.358	0.003
SMDH 00248	813414.628	8193265.711	167.176	0	12.5	16086	48.5	36.2	10.2	2.249	2.793	6.183	13.707	11.652	1.134	1.318	1.171	3.982	0.005
SMDH 00247	813534.508	8193262.874	170.162	0	15	18600	71.1	55.5	14.7	2.590	2.127	6.538	14.760	14.475	0.969	1.230	0.687	2.955	0.004
SMDH 00246	813650.401	8193267.443	169.221	0	7	8745	15.3	13.5	3.8	0.000	1.938	4.623	7.259	10.909	1.545	1.183	0.664	4.558	0.000
SMDH 00245	813771.460	8193268.921	166.079	0	13	15488	49.6	36.6	9.9	1.906	1.843	5.610	11.951	12.439	1.194	1.186	0.617	4.120	0.000
SMDH 00244	813899.346	8193264.497	166.255	0	14	16946	34.5	24.9	9.4	0.000	1.467	9.124	18.040	19.356	0.943	2.634	1.366	3.338	0.005
SMDH 00243	814016.174	8193261.870	163.491	0	9	10828	70.5	60.3	14.3	0.419	2.306	8.337	18.152	15.166	0.941	2.322	0.843	3.502	0.000
SMDH 00242	814130.921	8193264.000	161.639	0	6	7690	24.1	18.4	5	2.792	1.867	5.622	14.063	11.319	1.250	1.638	0.570	3.960	0.000
SMDH 00241	814258.830	8193264.744	161.087	0	10.5	14553	83.9	63.1	13.5	3.452	2.732	6.611	13.456	16.966	0.936	1.452	0.550	3.530	0.000
SMDH 00240	814374.983	8193263.402	160.705	0	8	10060	29.6	20.9	2.8	1.341	1.720	8.803	27.808	17.119	0.375	3.218	0.472	1.559	0.000
SMDH 00239	814493.798	8193257.144	159.950	0	13.5	17397	108.7	89	14.2	0.942	2.560	5.810	23.199	13.300	0.445	1.794	1.655	2.214	0.000
SMDH 00256	814545.488	8193139.670	159.680	0	12.5	14849	62.4	50	22.7	0.920	0.708	12.942	27.116	21.656	0.446	2.285	1.784	2.297	0.002
SMDH 00257	814439.665	8193135.642	160.143	0	11.5	14669	51.6	43.2	12.5	2.581	3.001	7.153	16.300	14.891	0.986	1.762	0.930	4.004	0.000
SMDH 00258	814316.905	8193146.808	161.263	0	11.5	14233	48.5	38.1	10.4	3.797	3.155	6.204	15.314	12.699	1.063	1.423	0.673	3.933	0.000
SMDH 00259	814202.025	8193149.312	162.435	0	8.5	9575	32.2	21.3	5.2	0.894	1.919	4.819	19.719	10.794	0.729	1.096	1.100	2.454	0.000
SMDH 00260	814080.814	8193141.469	163.240	0	7.5	9772	33.1	28.4	6.3	0.000	2.252	6.942	8.136	10.708	1.473	1.748	0.218	4.328	0.000
SMDH 00261	813960.983	8193147.256	164.860	0	8	8113	24.6	19.2	3.8	0.000	1.403	4.000	10.245	7.654	1.495	1.470	0.467	4.186	0.000
SMDH 00262	813839.758	8193144.687	168.020	0	12	15169	48.3	38.9	12	0.000	2.053	6.581	10.814	11.593	1.365	2.293	0.615	4.018	0.001
SMDH 00263	813715.553	8193139.280	168.602	0	11	13490	45.7	35.6	7.7	0.000	1.883	6.140	7.910	9.597	1.483	1.609	0.326	4.252	0.000
SMDH 00264	813599.215	8193142.018	169.882	0	11.5	16246	61.4	55	26.9	3.054	1.762	8.808	21.541	14.650	0.660	1.840	1.259	2.567	0.002
SMDH 00265	813483.563	8193137.287	171.515	0	11.5	15931	58.2	51	14.1	2.505	3.171	6.096	13.651	10.927	1.121	1.295	0.733	3.768	0.003

ARK MINES LTD.

ASX ANNOUNCEMENT

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	m	*m*	*m*	*m*	*m*	g	g	g	g	%	%	%	%	%	%	%	%	%	%
SMDH 00013	813118.604	8193621.108	161.480	0	10.5	12169	17	13.8	6.6	0.366	0.000	0.006	6.355	0.174	0.346	6.443	0.180	0.000	3.969
SMDH 00012b	813174.992	8193619.922	161.570	0	14	15501	29.3	26	6.9	0.279	0.000	0.000	2.744	0.393	0.891	3.555	0.122	0.000	2.111
SMDH 00012	813240.530	8193620.151	161.435	0	10	10620	42.7	39.4	6.1	0.411	0.000	0.000	2.894	0.106	1.016	6.954	0.202	0.000	4.221
SMDH 00011b	813290.341	8193615.556	161.017	0	8	9547	30.8	27.3	5	0.345	0.000	0.000	1.129	0.019	0.643	5.480	0.198	0.000	3.351
SMDH 00011	813360.306	8193619.373	160.815	0	5	5501	46	41.3	4.9	0.379	0.000	0.008	2.003	0.114	0.570	6.448	0.221	0.000	3.835
SMDH 00010b	813411.116	8193623.602	161.851	0	7	8041	35.6	31.3	13.7	0.330	0.069	0.000	1.071	0.000	0.522	2.733	0.237	0.004	1.585
SMDH 00010	813480.815	8193615.123	162.980	0	8	10112	24.2	21.8	6.6	0.521	0.000	0.003	0.811	0.110	0.321	7.464	0.251	0.000	4.284
SMDH 00009b	813534.926	8193613.702	163.402	0	8	9717	80.8	71	15.8	0.357	0.000	0.005	1.045	0.079	0.918	4.836	0.202	0.000	2.848
SMDH 00009	813602.160	8193617.681	163.935	0	13	14578	91.6	80.1	16.8	0.371	0.000	0.000	1.473	0.112	1.030	6.015	0.229	0.000	3.551
SMDH 00008b	813649.912	8193620.484	164.278	0	10.5	11962	94.2	81.2	12.1	0.349	0.000	0.002	1.591	0.095	1.246	4.554	0.185	0.000	2.670
SMDH 00008	813714.067	8193620.827	166.085	0	7	7888	83.4	74.7	14.5	0.294	0.000	0.000	0.898	0.000	1.508	3.108	0.192	0.003	1.808
SMDH 00007b	813771.237	8193619.242	167.272	0	7	7397	209	176.4	103.7	0.048	0.020	0.005	4.893	0.000	0.362	0.365	0.036	0.004	0.206
SMDH 00007	813834.112	8193620.089	166.415	0	11	12923	120.2	97.6	9.8	0.359	0.000	0.000	1.525	0.175	0.949	5.531	0.244	0.000	3.203
SMDH 00006b	813894.852	8193619.343	166.090	0	11.5	14263	29.9	24.2	8.3	0.339	0.000	0.000	0.870	0.221	0.467	4.442	0.229	0.003	2.615
SMDH 00006	813955.924	8193624.486	167.640	0	10	13292	107.1	78.2	17.9	0.292	0.000	0.000	1.117	0.136	0.510	2.920	0.135	0.003	1.615
SMDH 00005b	814012.972	8193621.878	168.350	0	6	5827	76.8	69.3	10.1	0.297	0.000	0.003	0.697	0.308	0.457	3.850	0.143	0.000	2.272
SMDH 00005	814079.690	8193625.439	168.625	0	10	12472	30.9	24	16.6	0.283	0.000	0.002	1.141	0.069	0.241	2.915	0.139	0.000	1.637
SMDH 00004b	814131.704	8193625.054	168.150	0	8	10289	20.4	17.4	4.2	0.126	0.028	0.010	0.483	0.105	0.727	1.496	0.120	0.000	0.859
SMDH 00004	814196.838	8193624.740	167.250	0	8	10234	21	19	4.3	0.400	0.000	0.014	1.259	0.371	0.283	2.710	0.144	0.000	1.520
SMDH 00003b	814252.819	8193621.904	166.120	0	9	11882	72.6	65.4	12.3	0.280	0.000	0.004	2.514	0.166	0.319	2.912	0.160	0.000	1.675
SMDH 00003	814316.856	8193617.836	164.750	0	8.5	11450	32.5	27.3	11.9	0.284	0.000	0.000	1.159	0.402	0.209	3.179	0.157	0.003	1.791
SMDH 00002b	814371.089	8193619.732	163.500	0	7.5	10132	66.7	59.8	5.4	0.309	0.000	0.010	1.875	0.478	0.546	3.505	0.087	0.000	1.999
SMDH 00002	814435.988	8193623.763	162.460	0	14	16667	52.4	43.5	30.1	0.148	0.000	0.008	1.301	0.354	0.232	1.549	0.091	0.000	0.874
SMDH 00001b	814495.329	8193621.304	161.585	0	9.5	12057	175.2	153.7	56	0.029	0.055	0.020	3.407	0.507	0.690	0.352	0.039	0.006	0.190
SMDH 00001	814555.800	8193622.083	161.810	0	14	18042	49.2	46.2	26.2	0.129	0.000	0.000	1.162	0.196	0.123	1.212	0.051	0.005	0.688
SMDH 00205	814496.791	8193503.996	162.057	0	16	20128	18.6	17.7	8.6	0.295	0.000	0.003	2.542	0.248	0.238	3.164	0.147	0.000	1.888
SMDH 00205b	814436.887	8193509.066	163.128	0	9.8	11913	17.4	16.7	4.2	0.352	0.000	0.004	1.700	0.162	0.502	3.831	0.143	0.000	2.269
SMDH 00206	814379.509	8193503.898	164.057	0	9	11180	20.3	18.9	9	0.360	0.000	0.000	1.010	0.081	0.281	4.736	0.142	0.003	2.834
SMDH 00206b	814313.980	8193504.370	164.587	0	12	15505	25	24.4	9.2	0.380	0.000	0.004	1.658	0.497	0.244	4.441	0.153	0.000	2.519
SMDH 00207	814258.685	8193503.455	165.112	0	10.5	14588	15.9	15.7	4	0.445	0.047	0.004	2.575	0.282	0.235	4.680	0.149	0.000	2.773
SMDH 00207b	814198.971	8193505.196	165.179	0	7	7658	16.4	16.3	9	0.316	0.030	0.000	2.471	0.119	0.285	3.311	0.104	0.008	1.977
SMDH 00208	814141.093	8193501.415	165.964	0	8.5	11454	11.1	10.9	5	0.357	0.000	0.004	1.783	0.500	0.265	5.327	0.177	0.003	3.068

ARK MINES LTD.

ASX ANNOUNCEMENT

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	m	*m*	*m*	*m*	*m*	g	g	g	g	%	%	%	%	%	%	%	%	%	%
SMDH 00208b	814076.156	8193501.800	166.660	0	7	8520	13.1	12.9	2.3	0.382	0.000	0.000	1.108	0.227	0.407	4.266	0.186	0.003	2.508
SMDH 00209	814018.798	8193501.816	166.511	0	17.5	20637	18.9	18.6	10.5	0.276	0.000	0.002	2.330	0.565	0.476	3.027	0.135	0.000	1.739
SMDH 00209b	813958.049	8193508.756	165.113	0	11.5	13218	19.5	19.1	8.7	0.301	0.000	0.000	1.518	0.372	0.346	3.396	0.151	0.000	1.923
SMDH 00210	813895.826	8193503.307	164.535	0	11	11666	25.7	25.2	13.1	0.170	0.000	0.000	1.865	0.197	0.361	1.674	0.150	0.004	0.948
SMDH 00210b	813840.163	8193509.142	165.787	0	14	16100	11.9	11.7	5.2	0.395	0.000	0.005	1.125	0.321	0.368	5.269	0.215	0.000	3.084
SMDH 00211	813774.192	8193503.898	167.050	0	11	13918	87.7	47.5	25.4	0.205	0.000	0.000	1.212	0.057	0.554	1.606	0.174	0.006	0.966
SMDH 00211b	813718.774	8193504.852	167.538	0	17.5	21710	57.2	46.3	19.3	0.343	0.000	0.000	1.080	0.073	0.683	4.483	0.227	0.000	2.640
SMDH 00212	813660.117	8193503.996	167.530	0	9	11054	36	31	17.8	0.252	0.000	0.000	1.248	0.215	0.331	2.651	0.201	0.004	1.505
SMDH 00212b	813598.874	8193511.307	167.179	0	8	9733	45.2	41.5	14.3	0.374	0.000	0.002	0.973	0.100	0.625	5.174	0.315	0.000	3.051
SMDH 00213	813538.170	8193501.639	166.059	0	10	12222	39.2	30	8.2	0.432	0.000	0.000	0.839	0.080	0.493	5.103	0.243	0.000	2.980
SMDH 00213b	813473.459	8193501.749	164.462	0	13	17217	49.8	40.7	12.7	0.364	0.000	0.000	1.191	0.066	0.611	2.755	0.304	0.000	1.617
SMDH 00214	813412.777	8193504.426	162.991	0	8	10568	43	30.5	1.57	0.343	0.000	0.007	1.479	0.000	0.503	3.558	0.247	0.000	2.090
SMDH 00214b	813356.948	8193507.190	162.399	0	8	9528	31.7	25.9	12	0.246	0.000	0.007	1.208	0.000	0.313	2.795	0.211	0.004	1.637
SMDH 00215	813296.925	8193499.782	162.764	0	8	9774	46.1	39.5	11	0.257	0.000	0.000	1.461	0.000	0.600	2.006	0.148	0.004	1.213
SMDH 00215b	813235.298	8193500.352	162.813	0	8	9867	25.9	20.6	2.9	0.445	0.000	0.000	0.674	0.228	0.672	6.075	0.242	0.000	3.638
SMDH 00216	813177.836	8193504.368	162.925	0	14	17450	19.5	18.8	7.8	0.452	0.000	0.000	0.885	0.142	0.257	7.235	0.217	0.005	4.413
SMDH 00216b	813117.010	8193509.404	163.466	0	14.5	17309	29.89	27.7	8.1	0.257	0.000	0.000	2.442	9.009	0.697	2.409	0.136	0.004	1.416
SMDH 00217	813064.691	8193506.736	165.599	0	8.5	10863	26.3	24.9	6.3	0.330	0.000	0.000	1.379	0.505	0.312	4.157	0.174	0.003	2.467
SMDH 00217b	813001.089	8193506.159	166.316	0	7.5	10112	25.3	23	2.6	0.401	0.000	0.003	4.174	0.000	0.342	4.310	0.176	0.000	2.564
SMDH 00218	812938.399	8193503.797	164.614	0	17.5	23814	59.9	56.9	44.1	0.213	0.000	0.000	3.202	0.078	0.324	2.015	0.121	0.003	1.213
SMDH 00218b	812878.814	8193503.675	163.872	0	9	11206	11.8	11.1	1.9	0.189	0.000	0.004	3.553	3.641	0.335	1.494	0.115	0.004	0.891
SMDH 00219	812824.367	8193504.833	163.921	0	7.5	9845	18	17.5	1.7	0.395	0.000	0.001	2.085	0.148	0.240	5.240	0.198	0.003	3.227
SMDH 00219b	812757.277	8193503.207	163.898	0	9	11439	82.2	80.9	40	0.291	0.000	0.004	1.746	0.057	0.202	3.302	0.158	0.007	1.972
SMDH 00220	812696.394	8193502.374	166.049	0	3	4105	15.2	14.9	13.7	0.206	0.000	0.000	5.771	0.000	0.481	1.343	0.116	0.003	0.792
SMDH 00220b	812641.834	8193506.368	164.045	0	9	11275	21.9	20.4	9.6	0.287	0.000	0.003	1.922	0.226	0.384	3.524	0.174	0.000	2.090
SMDH 00221	812579.113	8193500.091	159.887	0	9	11365	117.7	114.1	90.1	0.116	0.025	0.010	2.690	5.194	0.345	0.924	0.067	0.004	0.545
SMDH 00017	812642.285	8193626.255	167.170	0	10	12561	19.4	19	14.5	0.315	0.000	0.005	2.144	0.117	0.198	4.161	0.131	0.000	2.529
SMDH 00016b	812697.513	8193623.194	165.710	0	13	15798	23	21.8	10.2	0.421	0.000	0.003	1.930	0.057	0.294	7.468	0.135	0.004	4.611
SMDH 00016	812753.654	8193628.934	163.707	0	9	10490	50.4	47.1	32.7	0.179	0.000	0.004	3.258	0.000	0.164	1.822	0.113	0.005	1.068
SMDH 00015b	812814.238	8193635.842	161.314	0	15	18653	25	24.9	10.3	0.320	0.000	0.001	1.966	0.039	0.314	3.527	0.162	0.000	2.095
SMDH 00015	812877.629	8193630.340	160.943	0	13	16212	17.6	17.5	10.7	0.345	0.000	0.000	1.524	0.000	0.415	4.417	0.142	0.003	2.616
SMDH 00014b	812936.174	8193626.350	162.256	0	11	13928	20.4	19.2	4.4	0.520	0.000	0.000	0.417	0.082	0.251	13.710	0.168	0.000	8.575

ARK MINES LTD.

ASX ANNOUNCEMENT

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	m	*m*	*m*	*m*	*m*	g	g	g	g	%	%	%	%	%	%	%	%	%	%
SMDH 00014bt	812938.053	8193626.350	162.313	0	11	14069	24.6	23.2	4.5	0.498	0.000	0.000	0.712	0.028	0.301	11.961	0.167	0.000	7.674
SMDH 00014	812998.934	8193622.461	164.085	0	9	11391	43.7	41.2	11.3	0.249	0.000	0.003	1.832	0.112	1.012	2.813	0.139	0.003	1.660
SMDH 00013b	813060.310	8193622.562	163.397	0	11	13944	28.3	26.2	8.7	0.219	0.000	0.021	3.416	0.093	0.284	2.530	0.159	0.000	1.471
SMDH 00034	812573.068	8193739.861	163.103	0	8	9315	31.4	25.2	4.2	0.490	0.000	0.000	0.925	0.085	0.356	9.555	0.130	0.000	6.175
SMDH 00033b	812636.880	8193737.427	163.735	0	13	14847	41.1	31.5	8.6	0.434	0.000	0.000	0.701	0.158	0.585	7.109	0.164	0.006	4.366
SMDH 00033	812698.546	8193748.052	162.509	0	9.5	12477	39.2	29.5	10.9	0.358	0.000	0.000	1.822	0.154	0.507	4.960	0.143	0.004	2.992
SMDH 00032b	812755.795	8193743.539	161.877	0	8	9638	66.9	65.8	8	0.300	0.000	0.000	2.048	0.219	0.290	3.262	0.133	0.007	1.956
SMDH 00032	812820.867	8193745.995	160.820	0	10	12396	71.9	49.4	2.2	0.392	0.000	0.001	1.589	0.239	0.496	3.280	0.179	0.005	1.955
SMDH 00031b	812872.168	8193749.346	160.195	0	10	11870	41.9	28.2	2	0.476	0.000	0.000	0.789	0.253	0.431	6.711	0.175	0.013	4.110
SMDH 00031	812936.363	8193743.849	160.408	0	11	12699	99.3	79.1	7.2	0.391	0.000	0.001	1.047	0.325	1.140	6.475	0.166	0.004	3.802
SMDH 00030b	812997.747	8193743.358	161.227	0	7.5	9700	33.9	25.1	3.6	0.354	0.000	0.000	1.985	0.121	0.486	3.956	0.154	0.003	2.403
SMDH 00030	813059.041	8193742.669	161.085	0	15.5	19328	76	57.6	10.1	0.333	0.000	0.000	1.159	0.307	0.768	4.843	0.201	0.008	2.874
SMDH 00029b	813118.021	8193744.644	160.161	0	13	16066	139.9	49.5	8.6	0.312	0.000	0.001	0.925	0.116	0.746	4.363	0.184	0.003	2.592
SMDH 00028b	813234.368	8193744.824	159.948	0	8.5	10834	88.1	59.5	12.8	0.182	0.000	0.000	3.275	0.072	0.427	1.800	0.120	0.003	1.023
SMDH 00028	813293.127	8193739.402	160.153	0	7	8790	102.3	70.3	7.2	0.334	0.000	0.003	0.990	0.112	0.432	4.316	0.214	0.000	2.549
SMDH 00027b	813377.301	8193734.684	160.581	0	6	7398	53.6	37.4	8.2	0.280	0.000	0.000	1.036	0.098	1.103	3.850	0.221	0.000	2.247
SMDH 00029	813181.303	8193750.919	160.171	0	12	14009	35.6	27	8.6	0.250	0.000	0.000	1.328	0.129	0.683	2.768	0.161	0.003	1.605
SMDH 00027	813413.830	8193738.641	160.430	0	9	10734	93.5	72.3	25.5	0.227	0.000	0.000	0.938	0.000	0.611	2.045	0.210	0.004	1.168
SMDH 00026b	813472.704	8193743.546	160.440	0	11.5	14059	53	41.4	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SMDH 00026	813544.036	8193747.521	160.981	0	12	14227	43.8	39.4	12.1	0.378	0.067	0.001	0.859	0.078	0.602	3.905	0.243	0.003	2.257
SMDH 00025b	813597.814	8193746.616	162.027	0	7.5	9395	42.1	31.3	9.7	0.430	0.038	0.000	0.672	0.127	0.500	4.882	0.237	0.000	2.850
SMDH 00025	813653.726	8193749.476	163.186	0	11.5	14171	39.6	30.7	10.1	0.394	0.000	0.000	0.924	0.158	0.427	4.926	0.262	0.000	2.885
SMDH 00024b	813718.827	8193745.155	165.149	0	15	17721	83.6	68.9	24.6	0.318	0.000	0.002	0.885	0.139	0.387	3.651	0.162	0.003	2.133
SMDH 00024	813771.956	8193745.933	166.968	0	9	11453	54.7	50.8	7.3	0.354	0.000	0.000	1.362	0.104	0.240	3.687	0.183	0.000	2.173
SMDH 00023b	813838.983	8193749.846	168.331	0	12	15785	48.4	41.7	8.9	0.442	0.000	0.000	0.684	0.316	0.414	7.356	0.166	0.000	4.321
SMDH 00023	813896.465	8193745.051	168.888	0	14	18981	36.2	34.6	6	0.304	0.000	0.000	1.145	0.392	0.533	3.765	0.167	0.000	2.161
SMDH 00022b	813953.785	8193744.076	169.446	0	10	12762	131.8	113.6	47.9	0.259	0.000	0.003	1.116	0.460	0.599	3.041	0.154	0.004	1.693
SMDH 00022	814011.461	8193744.403	169.825	0	7	8870	37.2	34.8	8.7	0.315	0.000	0.002	1.096	0.098	0.348	4.129	0.166	0.000	2.392
SMDH 00021b	814074.017	8193746.588	169.637	0	9.5	13159	39	31.6	5.1	0.245	0.000	0.007	1.306	0.411	0.584	2.253	0.140	0.000	1.280
SMDH 00021	814134.343	8193753.075	168.862	0	8	10623	88.4	80.7	10.6	0.236	0.000	0.003	1.394	0.068	0.292	2.449	0.123	0.003	1.428
SMDH 00020b	814191.033	8193755.353	167.850	0	6	8222	72.2	55.3	5.3	0.205	0.000	0.002	1.272	0.329	0.297	1.577	0.103	0.000	0.895

ARK MINES LTD.

ASX ANNOUNCEMENT

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	m	*m*	*m*	*m*	*m*	g	g	g	g	%	%	%	%	%	%	%	%	%	%
SMDH 00020	814253.856	8193751.090	166.641	0	8	10847	80.3	33.9	3.7	0.403	0.000	0.000	1.375	0.477	0.564	6.871	0.129	0.002	4.093
SMDH 00019b	814314.351	8193749.781	165.442	0	14	18052	46.2	41.4	15.9	0.231	0.000	0.000	1.309	0.175	0.619	2.295	0.131	0.005	1.314
SMDH 00019	814379.432	8193749.108	164.161	0	8.5	12221	46.5	33.3	13.5	0.217	0.000	0.000	1.473	0.282	0.314	1.972	0.100	0.004	1.109
SMDH 00018b	814436.457	8193745.865	162.757	0	13	16882	48.2	42.7	11.4	0.218	0.000	0.000	1.758	0.118	0.253	2.452	0.118	0.005	1.402
SMDH 00018	814488.700	8193739.794	162.296	0	9	11372	133.6	68.8	33.3	0.128	0.000	0.000	1.661	0.000	0.188	0.986	0.083	0.004	0.566
SMDH 00222	814559.667	8193381.401	161.505	0	9	11482	51.3	44.3	22.8	0.081	0.024	0.000	6.457	0.000	0.460	0.520	0.036	0.003	0.305
SMDH 00223	814430.153	8193385.809	163.334	0	9	10817	46.9	42.4	10.1	0.233	0.000	0.000	2.163	0.000	0.228	1.816	0.126	0.003	1.050
SMDH 00224	814315.911	8193379.830	163.454	0	10	12718	43.4	33	7.3	0.040	0.035	0.013	2.900	0.053	0.193	0.264	0.072	0.004	0.159
SMDH 00225	814195.499	8193380.411	162.536	0	12	14477	61.7	47.8	15.1	0.204	0.000	0.008	1.730	0.278	0.338	1.812	0.112	0.003	1.030
SMDH 00226	814078.973	8193389.548	162.940	0	13	15289	32.9	24.1	5.5	0.173	0.000	0.002	2.676	0.000	0.320	1.316	0.125	0.000	0.749
SMDH 00227	813960.115	8193380.408	163.807	0	10	12189	43	31.9	9	0.314	0.000	0.000	1.262	0.507	0.625	2.991	0.146	0.004	1.708
SMDH 00228	813841.197	8193385.804	165.289	0	6.5	9330	62.8	46.6	4.3	0.287	0.000	0.033	1.392	0.345	0.311	3.561	0.200	0.005	2.077
SMDH 00229	813721.689	8193384.139	168.112	0	16	20654	31.6	26.3	8	0.356	0.000	0.000	1.000	0.377	0.446	4.538	0.166	0.000	2.637
SMDH 00230	813599.551	8193384.929	169.997	0	17	22454	38.8	27.1	13.1	0.271	0.000	0.000	1.265	0.032	0.513	2.575	0.150	0.004	1.488
SMDH 00231	813465.209	8193383.831	166.607	0	13.5	16608	43.7	32.6	13.8	0.279	0.000	0.000	1.140	0.200	0.626	3.146	0.155	0.004	1.811
SMDH 00232	813356.748	8193384.275	163.950	0	13	16595	33.1	24.6	8.9	0.362	0.000	0.006	0.635	0.069	0.545	5.082	0.196	0.004	2.952
SMDH 00233	813241.109	8193383.886	165.195	0	18	20932	30.1	23	9.3	0.227	0.000	0.000	3.526	17.295	0.515	1.964	0.109	0.004	1.174
SMDH 00234	813136.285	8193381.235	164.459	0	15	17542	64.5	54.6	11.8	0.296	0.000	0.000	2.164	1.227	0.428	2.309	0.116	0.003	1.404
SMDH 00235	812997.643	8193382.922	166.720	0	8.5	10983	121.1	53.6	12.1	0.136	0.000	0.000	1.420	0.896	0.439	1.040	0.115	0.006	0.610
SMDH 00236	812880.448	8193384.335	168.148	0	7.5	10137	81	70.5	61.9	0.131	0.000	0.000	1.385	0.064	0.697	1.184	0.135	0.003	0.682
SMDH 00237	812761.777	8193386.721	167.289	0	15	18100	38.3	30.1	10.1	0.243	0.000	0.000	0.886	0.288	0.612	2.395	0.107	0.005	1.423
SMDH 00238	812648.758	8193388.584	165.741	0	9	11870	36.2	31.2	15.4	0.146	0.000	0.000	1.806	0.036	0.381	1.070	0.059	0.004	0.654
SMDH 00255	812578.846	8193264.433	165.584	0	7	9039	46.7	36.4	2.8	0.476	0.000	0.000	1.713	0.209	0.371	9.239	0.117	0.005	5.797
SMDH 00254	812695.891	8193265.603	172.395	0	8	10685	46.5	14.8	1.7	0.461	0.000	0.000	0.902	0.222	0.383	5.308	0.203	0.004	3.254
SMDH 00253	812818.693	8193266.983	167.857	0	6	8033	46	37.8	3.7	0.358	0.000	0.003	1.711	0.461	0.425	3.672	0.152	0.018	2.191
SMDH 00252	812936.897	8193265.538	170.760	0	6	8037	43.4	29	4.8	0.319	0.000	0.003	1.500	0.000	0.205	2.982	0.143	0.003	1.821
SMDH 00251	813050.394	8193262.450	167.555	0	15	18609	48.7	39.1	10.1	0.276	0.000	0.009	1.232	0.105	0.383	3.477	0.108	0.003	2.097
SMDH 00250	813176.839	8193269.579	166.439	0	12	14233	37.4	27.2	5.8	0.339	0.000	0.009	1.798	0.000	0.257	3.246	0.114	0.003	1.997
SMDH 00249	813297.462	8193262.117	167.208	0	5	6208	18.2	13.5	3.4	0.353	0.000	0.000	2.201	0.000	0.213	2.546	0.203	0.000	1.490
SMDH 00248	813414.628	8193265.711	167.176	0	12.5	16086	48.5	36.2	10.2	0.392	0.000	0.002	0.651	0.115	0.399	6.390	0.268	0.000	3.780
SMDH 00247	813534.508	8193262.874	170.162	0	15	18600	71.1	55.5	14.7	0.385	0.000	0.002	0.964	0.101	0.456	4.510	0.214	0.000	2.682
SMDH 00246	813650.401	8193267.443	169.221	0	7	8745	15.3	13.5	3.8	0.517	0.000	0.000	0.674	0.298	0.345	6.681	0.288	0.000	4.035

ARK MINES LTD.

ASX ANNOUNCEMENT

ASX: AHK

Hole ID	MGA2020 East	MGA2020 North	MGA2020 RL	From	To	Composite Head Weight	Composite Con Weight	-1mm Screen Fraction	HLS Separation Yield	Th	V_2O_5	Nb_2O_5	CaO	SO_3	K_20	Ce_2O_3	Y_2O_3	SnO_2	La_2O_3
	m	*m*	*m*	*m*	*m*	g	g	g	g	%	%	%	%	%	%	%	%	%	%
SMDH 00245	813771.460	8193268.921	166.079	0	13	15488	49.6	36.6	9.9	0.455	0.000	0.000	0.816	0.386	0.333	6.561	0.190	0.000	3.894
SMDH 00244	813899.346	8193264.497	166.255	0	14	16946	34.5	24.9	9.4	0.335	0.000	0.000	1.056	0.032	0.714	3.738	0.223	0.000	2.183
SMDH 00243	814016.174	8193261.870	163.491	0	9	10828	70.5	60.3	14.3	0.351	0.000	0.000	1.717	1.289	0.442	3.033	0.160	0.003	1.766
SMDH 00242	814130.921	8193264.000	161.639	0	6	7690	24.1	18.4	5	0.460	0.000	0.000	0.601	0.144	0.351	4.633	0.194	0.008	2.730
SMDH 00241	814258.830	8193264.744	161.087	0	10.5	14553	83.9	63.1	13.5	0.381	0.000	0.000	1.361	0.703	0.369	5.747	0.156	0.003	3.425
SMDH 00240	814374.983	8193263.402	160.705	0	8	10060	29.6	20.9	2.8	0.152	0.000	0.000	3.642	3.464	0.346	0.724	0.091	0.000	0.431
SMDH 00239	814493.798	8193257.144	159.950	0	13.5	17397	108.7	89	14.2	0.221	0.000	0.000	1.133	0.069	0.320	1.763	0.161	0.004	0.990
SMDH 00256	814545.488	8193139.670	159.680	0	12.5	14849	62.4	50	22.7	0.192	0.000	0.000	1.543	0.161	0.179	1.368	0.116	0.005	0.800
SMDH 00257	814439.665	8193135.642	160.143	0	11.5	14669	51.6	43.2	12.5	0.376	0.000	0.002	1.153	0.218	0.372	4.708	0.184	0.000	2.765
SMDH 00258	814316.905	8193146.808	161.263	0	11.5	14233	48.5	38.1	10.4	0.407	0.000	0.002	0.864	0.178	0.355	5.680	0.182	0.000	3.326
SMDH 00259	814202.025	8193149.312	162.435	0	8.5	9575	32.2	21.3	5.2	0.270	0.000	0.000	1.107	0.047	0.331	1.280	0.128	0.000	0.777
SMDH 00260	814080.814	8193141.469	163.240	0	7.5	9772	33.1	28.4	6.3	0.462	0.000	0.000	1.284	0.129	0.679	9.683	0.147	0.004	5.985
SMDH 00261	813960.983	8193147.256	164.860	0	8	8113	24.6	19.2	3.8	0.461	0.000	0.000	0.682	0.527	0.296	10.362	0.177	0.000	6.249
SMDH 00262	813839.758	8193144.687	168.020	0	12	15169	48.3	38.9	12	0.427	0.000	0.000	0.691	0.290	0.971	8.558	0.215	0.000	5.098
SMDH 00263	813715.553	8193139.280	168.602	0	11	13490	45.7	35.6	7.7	0.477	0.000	0.000	1.035	0.195	0.608	10.201	0.199	0.000	6.233
SMDH 00264	813599.215	8193142.018	169.882	0	11.5	16246	61.4	55	26.9	0.321	0.000	0.000	0.730	0.000	0.192	3.331	0.133	0.000	1.922
SMDH 00265	813483.563	8193137.287	171.515	0	11.5	15931	58.2	51	14.1	0.440	0.033	0.002	0.696	0.306	0.411	6.244	0.286	0.000	3.657