

## Rio Tinto identifies new magnetic anomalies at Alderan's Frisco Project

### HIGHLIGHTS

- Rio Tinto subsidiary Kennecott Exploration Company identifies three new magnetic anomalies at Alderan's Frisco project in Utah, USA
- Drone magnetics improves anomaly resolution at Cactus Mine, Reciprocity and North Carbonate prospects.
- Kennecott planning field inspections and surface sampling in Q1, 2022 ahead of a decision on drilling.
- Kennecott can earn up to 70% interest in Frisco through US\$30 million exploration spend over 10 years under its farm-in agreement with Alderan.

Alderan Resources Limited (ASX:AL8) (**Alderan** or the **Company**) is pleased to announce a UAV (drone) magnetic survey completed by Rio Tinto subsidiary Kennecott Exploration Company (**KEX** or **Kennecott**) at Alderan's Frisco Project in Utah, USA has identified three new targets.

The survey aimed to identify new magnetic targets and provide better resolution of existing targets<sup>1</sup>. In addition to identifying the new magnetic low targets, it has better defined the Cactus Porphyry, Reciprocity and North Carbonate anomalies which have been the subject of previous exploration. KEX plans to undertake field inspections and surface sampling over the targets in Q1, 2022 ahead of a decision on drilling.

Frisco is located in western Utah, USA and is the subject of an option agreement between KEX and Alderan's 100% subsidiary Volantis Resources Corp.<sup>2</sup> KEX can earn up to a 70% interest in Frisco by spending US\$30 million in three stages over 10 years. Drilling completed by KEX at Frisco in 2020 returned results including:<sup>3</sup>

- SAWM0001: 41.0m @ 1.9% Cu, 0.62g/t Au, 7.1g/t Ag, 62.8ppm Mo
- SAWM0002: 12.0m @ 0.23g/t Au
- SAWM0004: 34.0m @ 0.99% Cu, 0.14g/t Au, 13.3g/t Ag
- SAWM0005: 16.7m @ 0.29% Cu, 1.6g/t Au

Alderan Managing Director Scott Caithness said:

*"Kennecott's drone magnetic survey aimed at gaining a better understanding of the geology and structure of the Frisco area has successfully identified new magnetic targets and improved the resolution on already known anomalies. Kennecott is planning to carry out sampling over the new target areas ahead of a decision on drilling in Q1, 2022."*

*"It is encouraging that Kennecott's exploration at Frisco continues to deliver results indicating potential for a Rio Tinto scale porphyry deposit."*

### Frisco Exploration Update

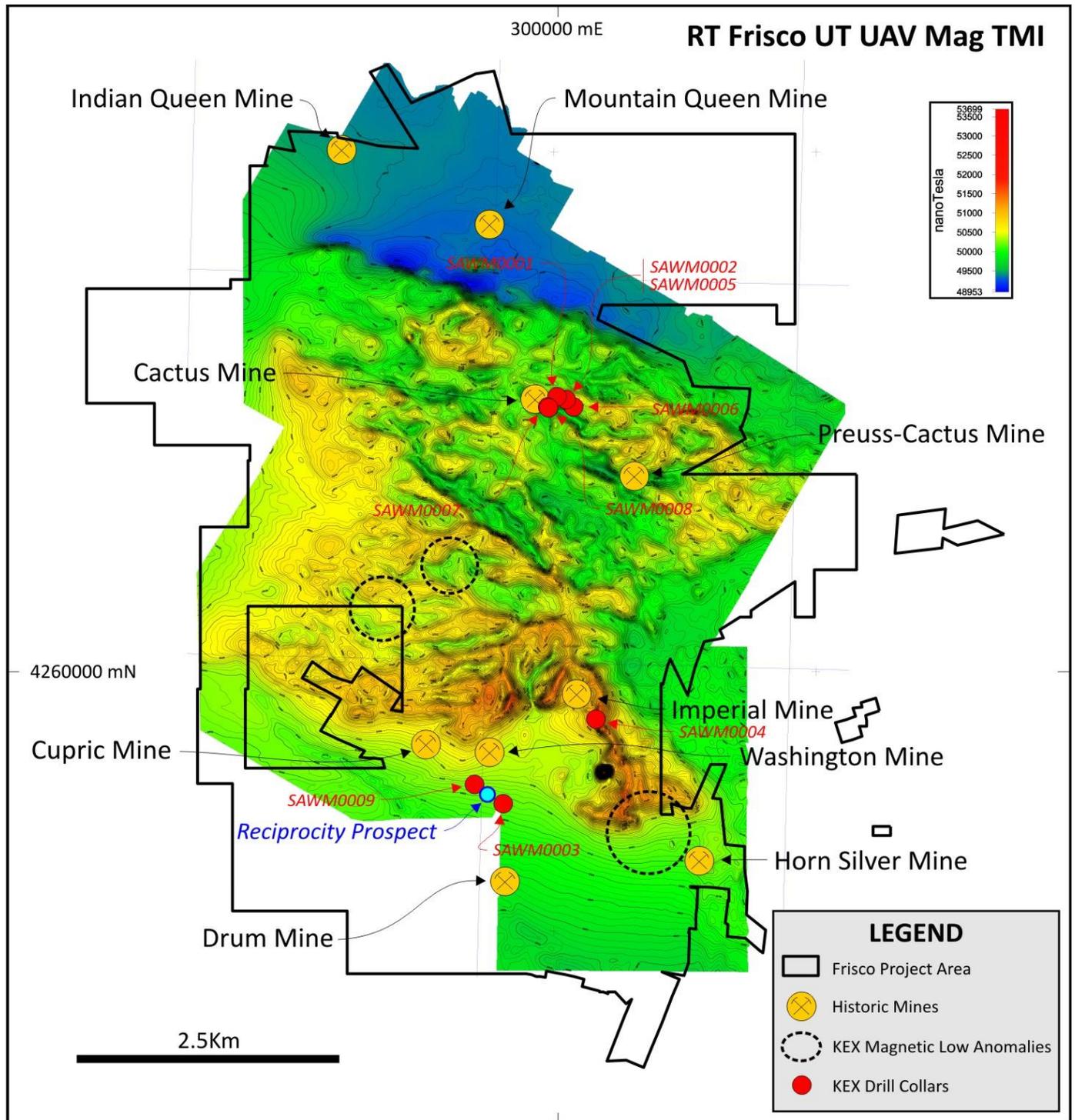
KEX completed UAV (drone) orthophoto and magnetic surveying over the Frisco project area in June 2021. The orthophoto survey enabled the development of a high quality digital elevation model which was used to enable safe low altitude flying of the magnetics survey in rugged terrain. The surveys were flown by MWH Geo-Surveys International Inc. and involved collecting 1,435 line kilometers of UAV magnetics data at a line spacing of 25m over an area of 34.4km<sup>2</sup> (survey specifications are included in the attached JORC table).

<sup>1</sup> Alderan ASX announcement dated 11 June 2021.

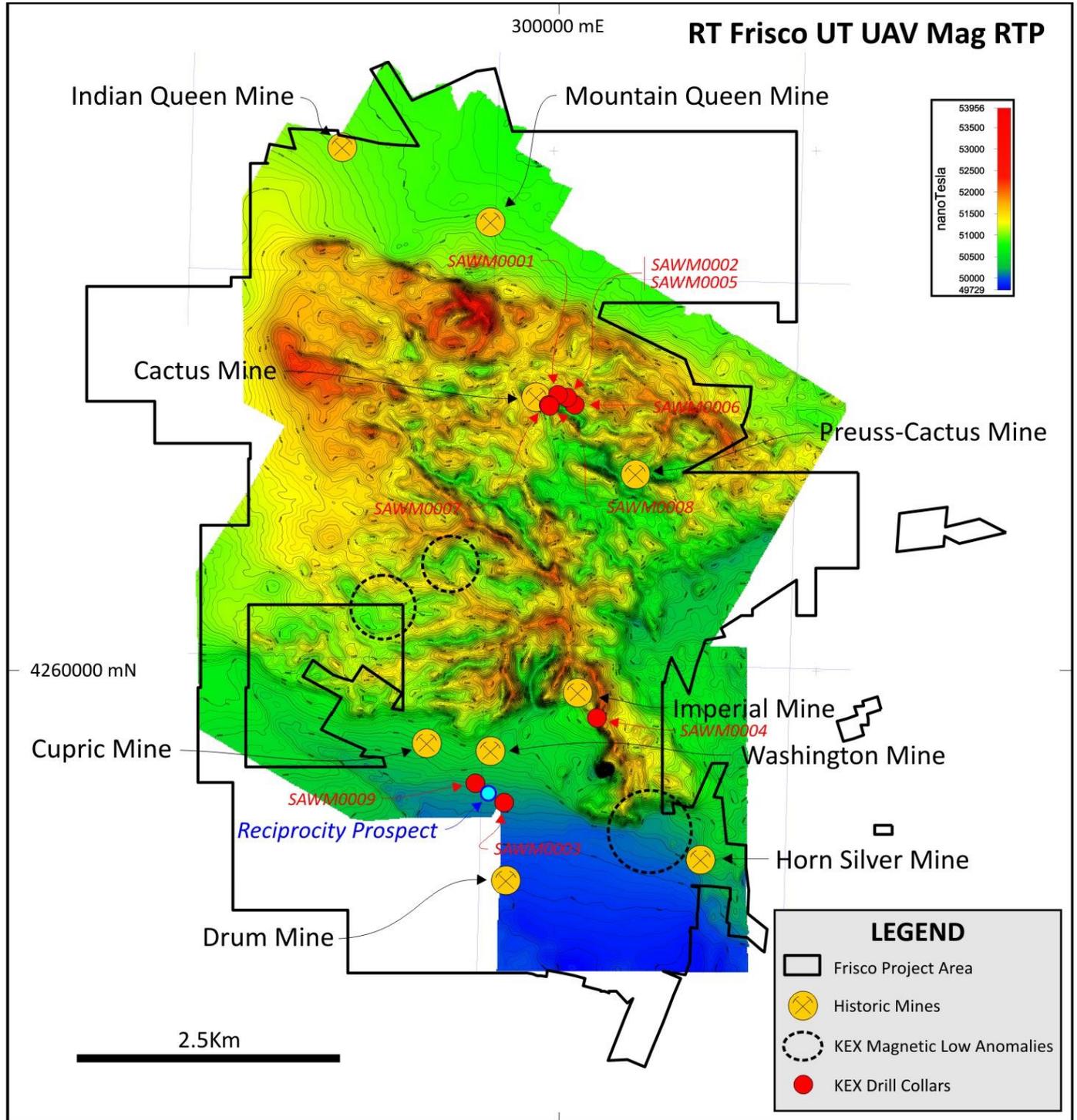
<sup>2</sup> Alderan ASX announcement dated 18 November 2019.

<sup>3</sup> Alderan ASX announcements dated 5 and 19 August 2020, 18 November 2020, 11 March 2021 and 11 June 2021.

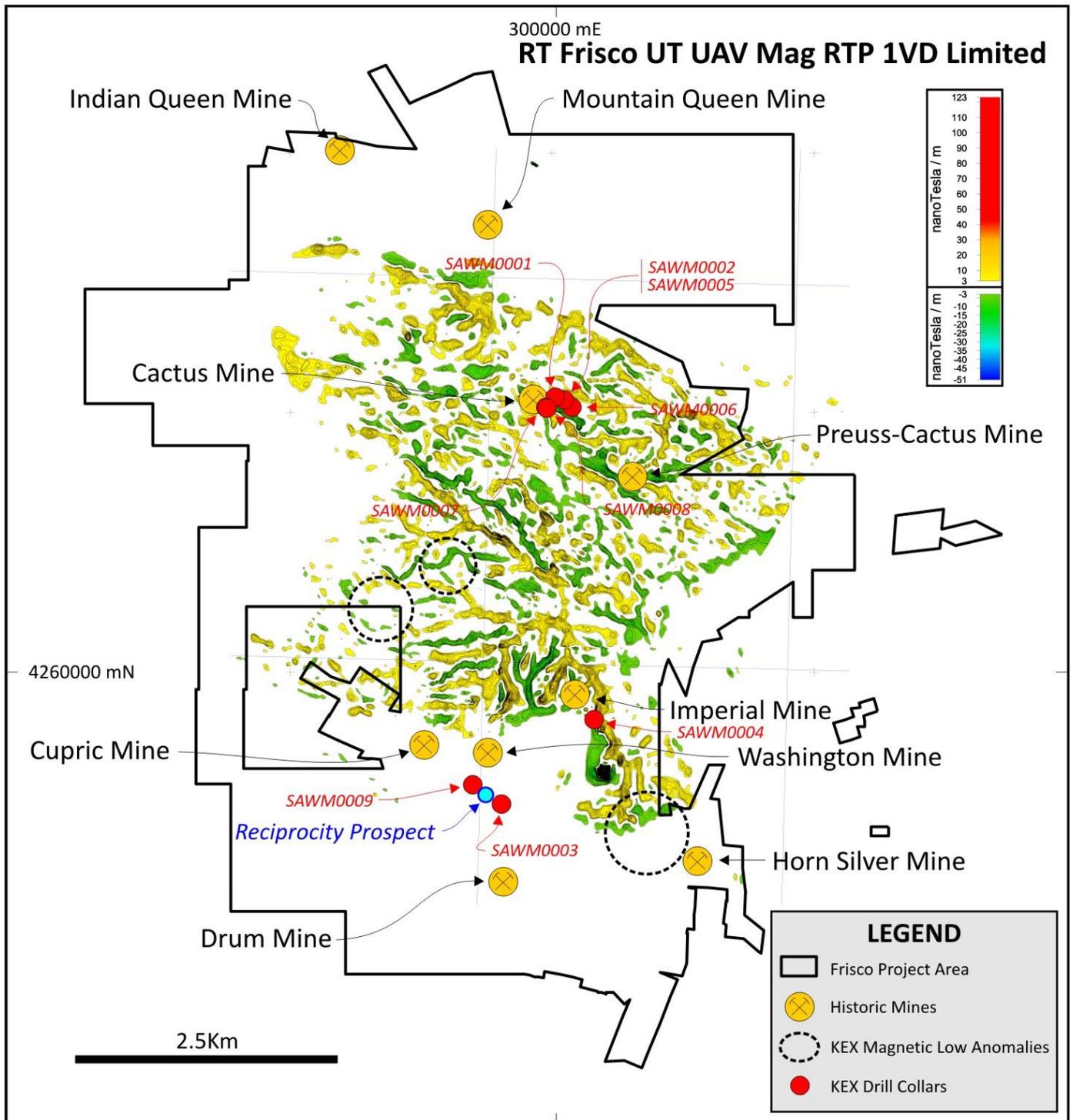
Processing of the magnetic data produced total magnetic intensity, reduction to pole and first vertical derivative of reduction to pole images (see Figures 1-3). Following modelling and interpretation, KEX identified three new magnetic low anomalies and better resolved known anomalies at the Cactus mine and Reciprocity prospects and east of the historical Mountain Queen mine in the Northern Carbonates zone.



**Figure 1:** Frisco drone magnetic survey area - total magnetic intensity image.



**Figure 2:** Frisco drone magnetic survey area - reduced to pole image.



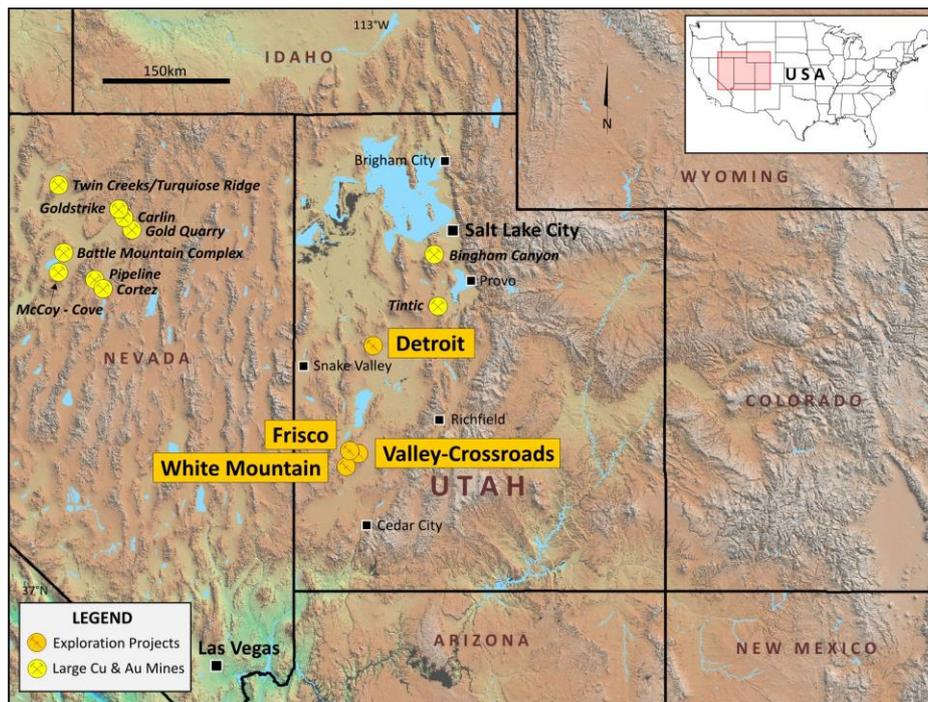
**Figure 3:** Frisco drone magnetic survey area - reduced to pole first vertical derivative image.

**Next Steps**

KEX is planning field inspections and surface sampling over the new anomalies during Q1, 2022 to determine their potential to host porphyry copper mineralisation. KEX will make a decision on drilling pending results of the surface exploration.

## Frisco Project

The Frisco Project lies approximately 300km southwest of Salt Lake City in Utah (Figure 4) and contains numerous historical copper-gold and lead-zinc-silver mines such as the Horn Silver mine and the Cactus and Imperial copper mines. Mineralisation at Frisco consists of skarn or carbonate replacement deposits containing copper and other base and precious metals at Accrington, plus breccia-hosted copper-gold-silver mineralisation such as at Cactus Mine. Historical exploration has also intersected copper-molybdenum mineralisation within several deeper holes in Upper Cactus Canyon.



**Figure 4:** Alderan Resources project locations in western Utah

Frisco was explored historically for copper and gold, including by Alderan, prior to signing an agreement with KEX in November 2019. Under the terms of the farm in agreement, KEX can earn up to a 70% interest in the project through spending US\$30 million on exploration in three stages over a total of 10 years. The first stage requires KEX to spend US\$6.0 million by November 2023 to earn a 55% interest.

KEX exploration targets at Frisco are:

- 1) Porphyry copper-gold-molybdenum deposits, and
- 2) High-grade copper deposits associated with known breccias such as Cactus.

KEX completed nine holes at Frisco with results for holes SAWM0001-0004 released by Alderan on 11 March 2021 and results for holes SAWM0005-0009 released on 11 June 2021.

**ENDS**

This announcement was authorised for release by the Board of Alderan Resources Limited.

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**Competent Persons Statement**

The information contained in this announcement that relates to new exploration results is based, and fairly reflects, information compiled by Dr Marat Abzalov, who is a Fellow of the Australian Institute of Mining and Metallurgy. Dr Abzalov is a consultant to Alderan and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Abzalov consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to historical exploration results were reported by the Company in accordance with listing rule 5.7 on 5 August 2020, 19 August 2020, 18 November 2020, 11 March 2021 and 11 June 2021. The Company confirms it is not aware of any new information or data that materially affects the information included in the previous announcement.

## JORC Code, 2012 Edition – Table 1 Report

### Section 1 - Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

<b>Criteria of JORC Code 2012</b>	<b>JORC Code (2012) explanation</b>	<b>Details of the Reported Project</b>
<i>Sampling techniques</i>	<i>Nature and quality of sampling (e.g., cut channels, random chips, or specific specialized industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>

	<p>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.</p>	<p>Not applicable. This announcement presents only the drone-magnetic survey results.</p>
<p>Drilling techniques</p>	<p>Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</p>	<p>Not applicable. This announcement presents only the drone-magnetic survey results.</p>
<p>Drill sample recovery</p>	<p>Method of recording and assessing core and chip sample recoveries and results assessed.</p>	<p>Not applicable. This announcement presents only the drone-magnetic survey results.</p>
	<p>Measures taken to maximise sample recovery and ensure representative nature of the samples.</p>	<p>Not applicable. This announcement presents only the drone-magnetic survey results.</p>
	<p>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.</p>	<p>Not applicable. This announcement presents only the drone-magnetic survey results.</p>

Logging	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>The total length and percentage of the relevant intersections logged.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
<i>Sub-sampling techniques and sample preparation</i>	<i>If core, whether cut or sawn and whether quarter, half or all core taken</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>

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.	Not applicable. This announcement presents only the drone-magnetic survey results.
	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.	<p>MWH Geo-Surveys International Inc. carried out UAV (drone) orthophoto and magnetic surveys west of Milford, UT at the request of Kennecott Exploration Company. Survey was undertaken from May 26 to June 19, 2021.</p> <p>A total of approximately 1,435-line kilometers of UAV (drone) magnetics were flown at a line spacing of 25m over an area of approximately 34.4 km. After final data edits, the survey consisted of 1,389 line-kilometers. Prior to the magnetic survey, the UAV orthophoto survey was flown and the resultant digital elevation model was utilized to guide the subsequent magnetic survey.</p> <p>The orthophoto survey was conducted with a Wingtra One PPK VTOL mapping drone.</p> <p>The UAV mag system uses a Geometrics MagArrow Cesium Magnetometer flown under a D-RTK DJI Matrice 600 Pro hexacopter. The MagArrow sensor takes 1,000 readings per second and is flown at a maximum speed of 12m/second. The sensor is suspended on a 2.5m lanyard to remove it from the electromagnetic noise of the UAV.</p> <p>The MagArrow readings are diurnally corrected via a Geometrics G858 base mag, cycling at 10 readings per second.</p> <p>Flight lines were flown as two adjoining datasets: a southern set bearing either east or west at an elevation of approximately 25 meters above ground level (AGL) and a northern set bearing either north-northeast or south-southwest also at 25 meters AGL.</p> <p>A portable generator was used to run the navigational planning and control software on a field PC and to charge the flight batteries.</p>
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Not applicable. This announcement presents only the drone-magnetic survey results.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Not applicable. This announcement presents only the drone-magnetic survey results.
	The use of twinned holes.	Not applicable. This announcement presents only the drone-magnetic survey results.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	<p>Images were processed in Pix4D software and resultant elevation models and orthophotos were produced and exported at various resolutions.</p> <p>Absolute accuracy is projected to be better than 5cm.</p>

	<i>Discuss any adjustment to assay data.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
<i>Location of data points</i>	<i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	<i>Ground control targets were laid out and the positions surveyed before the photo mapping. Prior to take off a static GNSS base station was recording data to enable precise post processing of the UAV camera location. The combination of PPK positioning of the camera and the surveyed positions of the ground targets yields a very high-resolution digital terrain model. Over 50,000 photos were collected using the 42 mega-pixel WingtraOne Sony RX1R II camera.</i>  <i>The data not used for Resource estimation.</i>
	<i>Specification of the grid system used.</i>	<i>All data are recorded in a UTM zone 12N (Datum WGS84) grid.</i>
	<i>Quality and adequacy of topographic control.</i>	<i>DTM file generated using the drone-based orthophoto survey.</i>  <i>Prior to take off a static GNSS base station was recording data to enable precise post processing of the UAV camera location.</i>  <i>The combination of PPK positioning of the camera and the surveyed positions of the ground targets yields a very high-resolution digital terrain model.</i>  <i>Over 50,000 photos were collected using the 42 mega-pixel WingtraOne Sony RX1R II camera.</i>
<i>Data spacing and distribution</i>	<i>Data spacing for reporting of Exploration Results.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>Whether sample compositing has been applied.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
<i>Orientation of data in relation to geological structure</i>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>

	<i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i>	<i>Not applicable. This announcement presents only the dron-magnetic survey results.</i>
<i>Sample security</i>	<i>The measures taken to ensure sample security</i>	<i>Data has been collected and processed by the company personnel following the guidelines and procedures of the Kennecott Exploration Company (Rio Tinto). Only authorised personnel have attended the data.</i>
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	<i>Internal review of the survey data and the results by the Kennecott Exploration Company (Rio Tinto) personnel is routinely used through the course of the project.</i>

**Section 2 – Reporting of Exploration Results**  
(Criteria in this section apply to all succeeding sections)

Criteria of JORC Code 2012	JORC Code (2012) explanation	Details of the Reported Project
<i>Mineral tenement and land tenure status</i>	<i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i>	<p><i>The Frisco Prospect comprises 275 patented and 252 unpatented claims, which are governed by the Horn, Cactus and Northern Carbonate lease agreements entered into with the private landowners, Horn Silver Mines Inc., Tank LC and the W. Hughes Brockbank Foundation.</i></p> <p><i>The Horn and Cactus lease agreements grant Alderan all rights to access the property and to explore for and mine minerals, subject to a retained royalty of 3% to the landholder. Alderan holds options to reduce the royalty to 1% and to purchase the 231 patented claims.</i></p> <p><i>The Northern Carbonate Lease grants Alderan with all rights to access the property and to explore for and mine minerals, subject to a retained royalty of 3% to the landholder. Alderan holds an option to reduce the royalty to 1%.</i></p> <p><i>On 18 November 2018, Alderan announced in had executed an Earn-in and Joint Venture Agreement with Kennecott Exploration Company, a member company of Rio Tinto Group, for its Frisco Project. The agreement provides Kennecott with the option, but not the obligation to spend up to US\$30 million to earn up to a 70% project-level interest over three stages.</i></p>
	<i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i>	<i>The project was in full compliance with the lease agreements and all claims were in good standing at the time of reporting.</i>
<i>Exploration done by other parties (2.2)</i>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	<i>A large amount of historical exploration has been carried out by numerous different parties dating back to the 1800's. Historical mining records including level plans and production records exist for the period between 1905 and 1915 when the vast majority of production occurred. Historical drilling has been carried out by multiple parties including Anaconda Company, Rosario Exploration Company, Amax Exploration and Western Utah Copper Corporation/ Palladon Ventures. Data has been acquired, digitized where indicated, and interpreted by Alderan.</i>
<i>Geology</i>	<i>Deposit type, geological setting and style of mineralisation.</i>	<p><i>Porphyry style mineralised district with several expressions of mineralisation at surface, such as breccia pipes, skarns, structurally hosted mineralisation, and manto style mineralised zones.</i></p> <p><i>Part of the larger Laramide mineralising event.</i></p> <p><i>Overprinted by Basin and Range tectonics.</i></p>

<i>Drill hole Information</i>	<i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>Easting and Northing of the drill hole collar. Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>Dip and azimuth of the hole.</i>	
	<i>Down hole length and interception depth and hole length.</i>	
	<i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.  The geophysical data is presented without exclusions.</i>
<i>Data aggregation methods</i>	<i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>

	<i>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	<i>Not applicable. Metal equivalent values are not reported.</i>
<i>Relationship between mineralisation widths and intercept lengths</i>	<i>These relationships are particularly important in the reporting of Exploration Results.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
	<i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</i>	<i>Not applicable. This announcement presents only the drone-magnetic survey results.</i>
<i>Diagrams</i>	<i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i>	<i>Maps and tables are presented in the text of the release.</i>
<i>Balanced reporting</i>	<i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	<i>All new results of the drone-based magnetic survey are presented in the release and summarised on the maps.</i>

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.

The current announcement presents the drone-based magnetic survey. Flight lines are shown on the map (Figure A1). Parameters of the survey were presented in the Section-1 of the JORC Table.



**Figure A1:** UAV Aeromagnetic data acquisition. Magenta points used for final mapping; Green points removed from survey dataset.

Mapping Parameters:

Full maps are in Adobe PDF format

Geotiff images are in GCP format

Grid files for the 3 maps are provided in Geosoft Binary format (grd) and in ASCII format: Row- Major (rmg) and projection information (prj)

Scale: 1:10,000

Projection: UTM zone 12N (EPSG 32612)

Datum: WGS84

Magnetic Field Units: nanoTesla or nanoTesla/meter

Distance Units: meters

Geographic Units: degrees north and east

Contour increment: 25.0 nanoTesla or 1.0 nT/m

Grid increment: 10 meters

		<i>Null value: 99999</i>
<i>Further work</i>	<i>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</i>	<p><i>The exploration program of Kennecott announced on 18 November 2020 (ASX 2020-11-18) will be continued systematically pursuing the identified targets.</i></p> <p><i>Several Cu-Au (+/- Zn, +/-Ag) opportunities present in the Frisco project area. These include:</i></p> <ol style="list-style-type: none"> <li><i>a. Accrington Cu-Zn (+/- Au, Ag) skarns, in particular the magnetite skarns</i></li> <li><i>b. Non exposed on the surface Cu-Au bearing breccia pipes of the Cactus Canyon</i></li> <li><i>c. Cu-Zn-Au mineralisation associated with silica-altered carbonates at the northern contact of the Cactus stock (Northern Carbonate prospect)</i></li> <li><i>d. Cu-porphyry type mineralisation</i></li> </ol>
	<i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	<p><i>Kennecott Exploration has confirmed ongoing commitment to Frisco exploration.</i></p> <p><i>KEX is planning field inspections and surface sampling over the new anomalies during Q1, 2022 to determine their potential to host porphyry copper mineralisation. A decision on drilling will be made pending the results of the surface exploration</i></p>