# Alderan's Induced Polarisation Geophysics Confirms Potential for Multiple Copper and Gold Targets at Detroit

**HIGHLIGHTS**

- **Alderan's induced polarisation geophysics at Detroit highlights multiple copper and gold targets.**
- **It strongly supports Alderan's earlier magnetics and highly anomalous rock samples.**
- **IP and magnetic modelling of the Basin Complex highlights potential for a 'classic' porphyry system.**
- **Three additional chargeability anomalies identified – Copperhead, Northern Extension and Southern Anomaly.**
- **Soil sampling completed and assaying underway.**

Alderan Resources Limited (ASX:AL8) (**Alderan** or the **Company**) is pleased to announce the results from an induced polarisation (**IP**) geophysical survey completed over the central portion of its Detroit Project, located in the Drum Mountains region of western Utah, USA. The survey strongly supports the previously released[1] ground magnetic results and enhances the potential of the area to host multiple gold and copper deposits.

Alderan has a consolidated exploration area at Detroit covering 24.7km$^2$ through a series of option agreements with tenement owners[2]. This provides the Company with the opportunity to conduct the first ever modern exploration over the entire mining district. Following consolidation, Alderan compiled past exploration data and completed stream sediment and rock sampling plus ground magnetics. This followed its earlier drill program of seven holes at the Mizpah prospect[3]. The results highlight potential for significant copper and gold mineralisation.

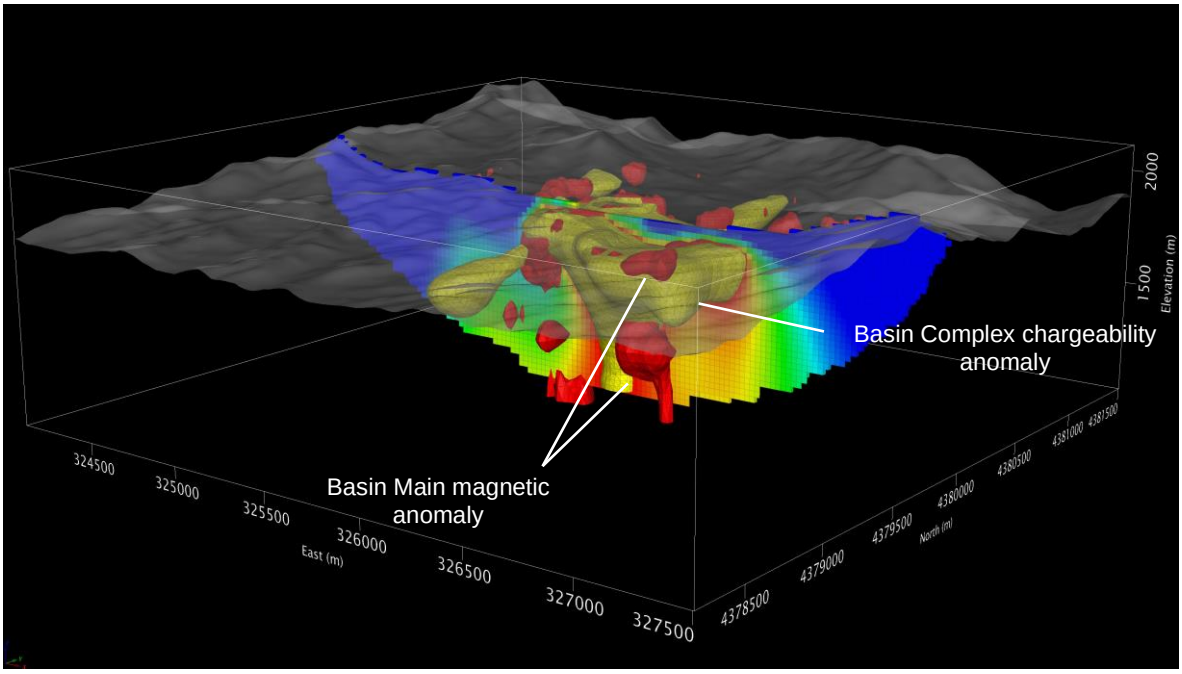


***Figure 1**: Detroit IP & magnetic models: showing chargeability anomalies (yellow isosurfaces) at >40 milliseconds wrapping around the magnetic anomalies (red isosurfaces) at >0.03 SI units. Looking northwest.*

[1] *Alderan ASX Announcement dated 11 May 2021.*
[2] *Alderan ASX Announcement dated 11 February 2021.*
[3] *Alderan ASX Announcement dated 22 February 2021.*

Commenting on the results, Alderan Managing Director Scott Caithness said:

*"Alderan's IP geophysics at Detroit strongly supports the earlier ground magnetics and rock sampling at the Basin Complex and has highlighted three additional IP targets. In particular, the results at the Basin Complex reinforce our view that the project has excellent potential for a buried copper, gold and molybdenum rich porphyry deposit due to its classic IP and magnetic signatures and associated geochemistry. All work done to date also suggests potential for additional copper and gold deposits related to intrusives, structures and stratigraphy peripheral to the Basin Complex."*

*"Portable XRF analysis of soil samples is underway which will assist in defining and prioritising targets ahead of drill testing during the third quarter."*

## Detroit Induced Polarisation (IP) Survey

Alderan completed an induced polarization geophysical survey over the central portion of the Detroit project area. The survey objective was to identify electrically chargeable and conductive bodies potentially caused by copper and gold mineralisation and altered host rocks. It was designed to cover the prospective area, including the Basin Complex and Copperhead prospects, identified from the ground magnetic survey completed in early May. The survey area and ground magnetics is shown in Figure 2.

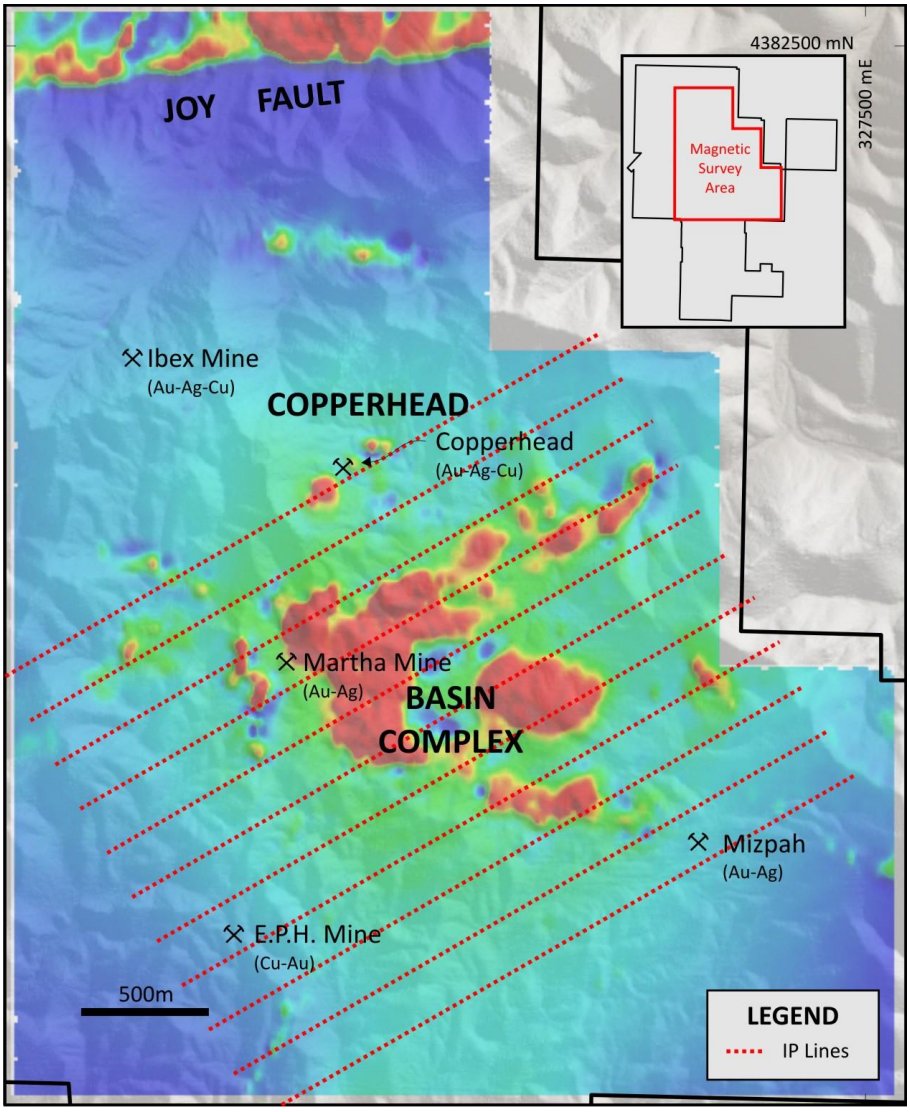


***Figure 2**: Induced polarization survey lines on reduced to pole magnetics.*

Contractor SJ Geophysics acquired a total of 29.2 line kilometers of Volterra 2-D distributed dipole-dipole array chargeability and resistivity data on 11 parallel lines spaced 200m apart and oriented N60E. Each line consists of 2,000m of receiver dipoles (d=100m) and incorporates three additional current injection dipoles beyond each line ends for added sensitivity at the edge of the survey. The data was provided to Bolin Geophysical Services for processing and 3-D IP inversion modelling using the RES3DINV software.

## Discussion of Results

*Basin Complex*

The chargeability and resistivity inversion models for the Basin Complex are consistent with a porphyry intrusive complex and strongly support the magnetic susceptibility model (Figure 1). The highest chargeability responses occur in an arcuate magnetic low surrounding the central Basin Main magnetic high. This is interpreted to be a halo of pyrite rich, magnetite destructive phyllic alteration extending outward from a potassic altered core containing magnetite. Modelling indicates that the highly chargeable (>40msec) zone is mushroom shaped, approximately 1km in diameter near surface, and narrows to a diameter of approximately 200m at 700m below surface (Figure 3).

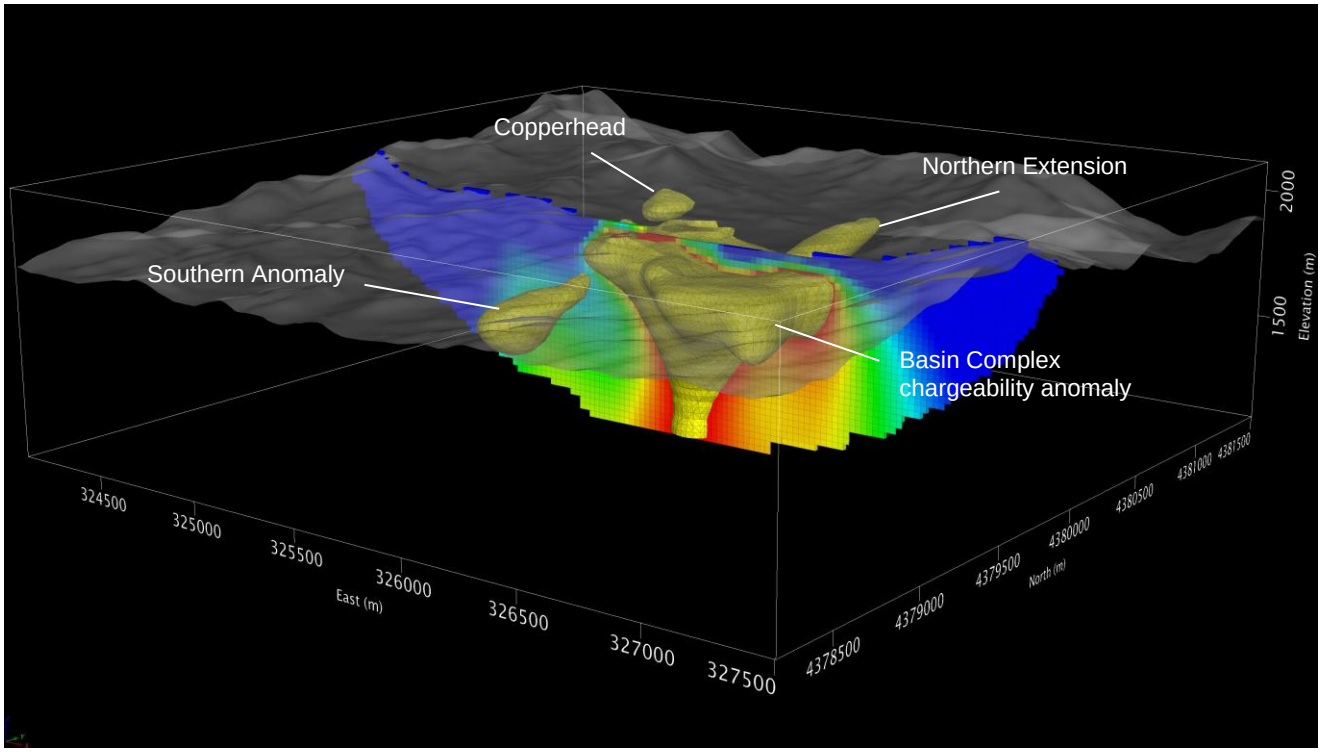


***Figure 3**: Chargeability inversion model (>40msec) showing the prominent Basin Complex anomaly plus the Copperhead, Northern Extension and Southern anomalies. Looking northwest.*

The Basin Main magnetic and chargeability anomalies sit within a broad resistivity low as seen in Figure 4. Electrically resistive unaltered sedimentary rocks occur on the eastern and western margins of the survey area.

Figure 5 shows the chargeability model at a series of increasing cutoffs that demonstrate the Basin Main magnetic anomaly is less chargeable than the non-magnetic arc which surrounds it. This suggests that the Basin Main magnetic anomaly may be associated with less chargeable but interconnected sulphide minerals such as copper rich chalcopyrite, chalcocite and bornite whereas the highly chargeable non-magnetic arc surrounding it is due to disseminated pyrite in phyllic alteration.

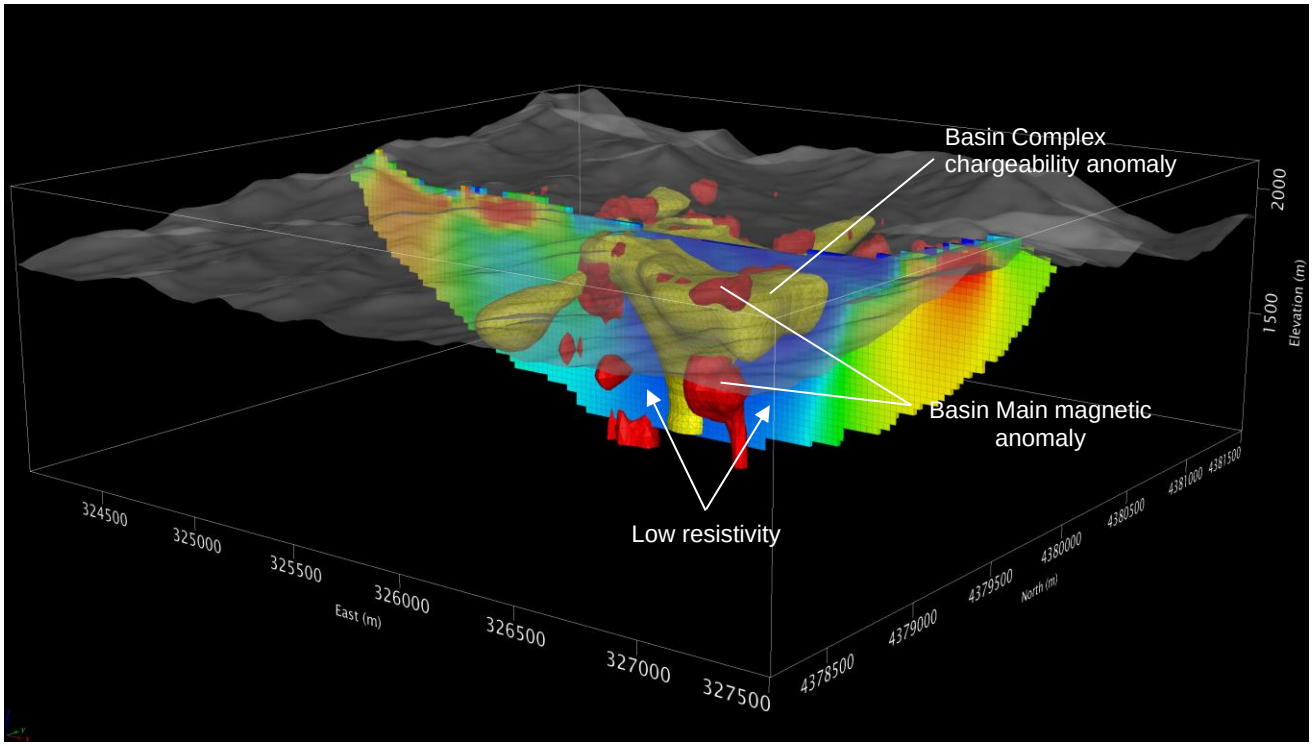


***Figure 4:*** *Resistivity cross section through the Basin Complex chargeability and magnetics inversion models (chargeability yellow isosurface; magnetics red isosurface). The blue zones surrounding the Basin Complex anomaly are resistivity lows interpreted to be caused by propylitic clay alteration defining the limits of the complex. More resistive zones (red) can be seen on the eastern and western margins of the section. Northwest view.*

***Figure 5:*** *Plan views showing the chargeability inversion model isosurface at increasing cutoffs of >40, >50 and >60 milliseconds overlain on a reduced to pole magnetics image. The series highlights that the Basin Main magnetic anomaly is a less intense chargeability anomaly than its surrounding magnetic low suggesting that it may be caused by interconnected copper sulphides such as chalcopyrite, chalcocite and bornite.*

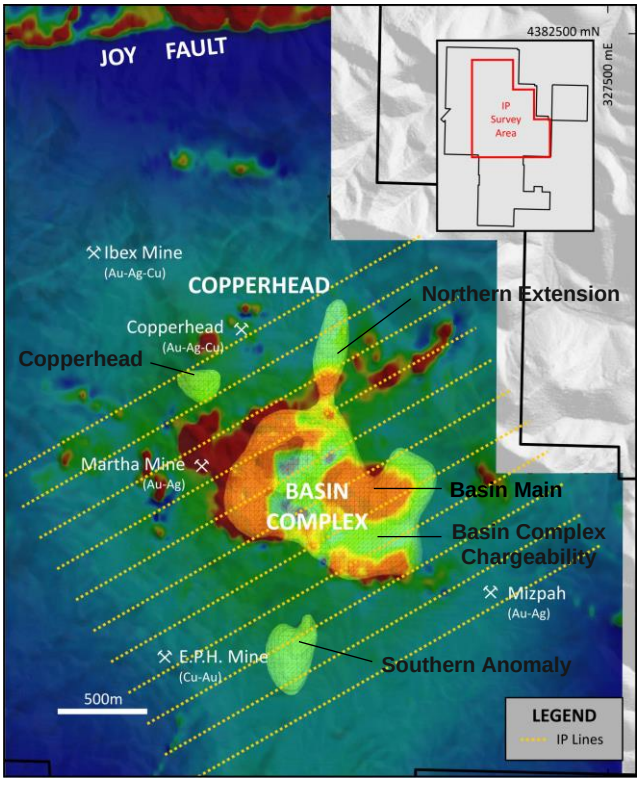


***Figure 5A:*** *Reduced to pole magnetics draped over chargeability inversion model at >40msec cutoff showing the embayment in chargeability immediately north of the Basin Main magnetic anomaly. Also note the chargeability anomalies at Copperhead, Northern Extension and Southern Anomaly.*

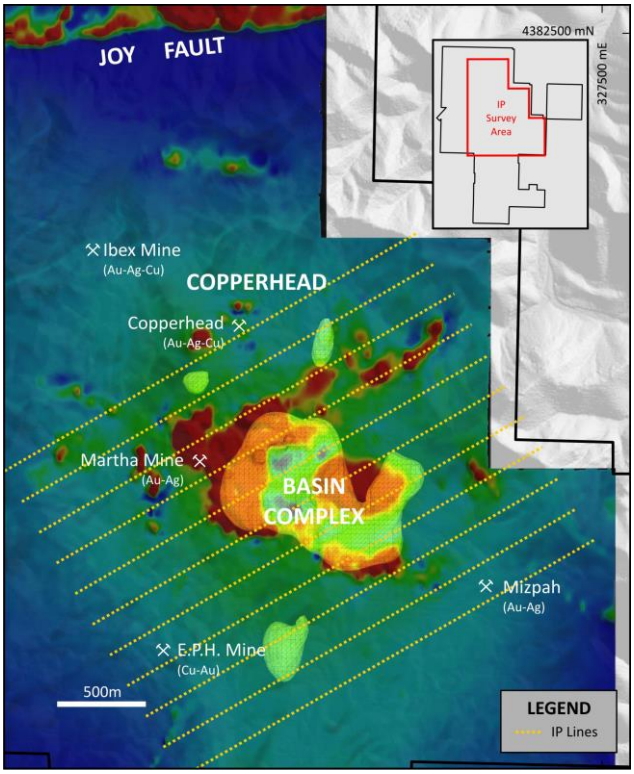


***Figure 5B**: Reduced to pole magnetics draped over chargeability inversion model at >50msec cutoff. Note the embayment in chargeability now extends into the Basin Main anomaly.*

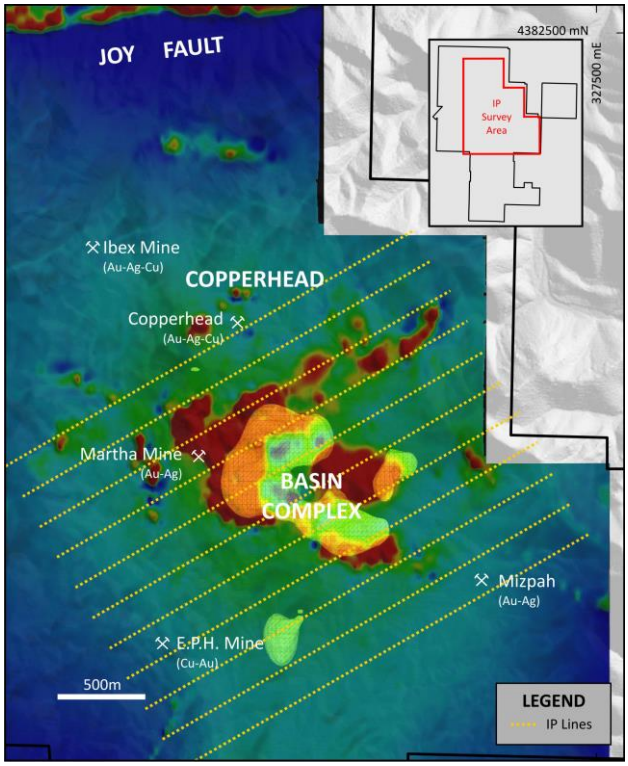


***Figure 5C:** Reduced to pole magnetics draped over chargeability inversion model at >60msec cutoff. The Basin Main anomaly is no longer chargeable however the chargeability anomaly continues to arc around it.*

*Copperhead*

A prominent chargeability anomaly (>40msec) lies approximately 300m to the south-southeast of the historical Copperhead mine and 200m to the south of the Copperhead magnetic anomaly highlighted by

Alderan's recently completed ground magnetic survey. The anomaly has dimensions of approximately 200m north-south and 250m east-west. It occurs on the most northerly line in the IP survey.

Alderan's exploration at Copperhead has now identified prominent magnetic and chargeability anomalies with associated high-grade gold and copper in rocks in and around this historical mine.

*Northern Extension*

The Northern Extension chargeability anomaly (>40msec) is a new target which extends for approximately 700m north of the Basin Complex. It is approximately 200m wide in its central portion and appears to be stratigraphically controlled along the contact zone between the highly prospective Tatow limestone member and the Pioche Formation. Alderan's drill hole to the south, DD20M-006, which intersected 83m grading 0.41g/t gold from 36m downhole lies in this stratigraphic position. Two rock samples collected from an east-west trending jasperoid in the hanging wall of the anomaly assayed 0.55g/t and 1.22g/t gold.

*Southern Anomaly*

The Southern Anomaly (>40msec) is also a new target which lies approximately 1km south of the Basin Main anomaly and 500m east of the historical EPH mine. Its dimensions are 500m north-south and 300m east-west at the >40msec cutoff used for anomaly identification. It is a large intense chargeability anomaly which is still clearly evident in the inversion model at the higher >60msec cutoff. The anomaly sits within the favourable Wheeler Shale unit which contains historic gold and copper mines developed on jasperoids along ENE faults.

## Next Steps

Grid soil sampling every 50m along lines 200m apart has been completed over the prospective stratigraphy and intrusives at Detroit with sample preparation for analysis underway. A total of 2,200 samples were collected. Assaying will initially be done using a portable XRF before samples are sent to a laboratory for final analysis. The soil assays will assist in prioritising drill targets.

The IP grid will be extended to the north and south to close off anomalies identified at Copperhead and Mizpah. One additional line will be acquired to the north of existing coverage at Copperhead and two additional lines to the south will provide context to the Mizpah occurrence where anomalous chargeability appears to follow favorable stratigraphy which is open to the south.

Alderan has locked in a diamond rig to commence drilling in September. Final hole locations will be determined following receipt of soil sample assays and integration of all geochemistry, geophysics and geology data.

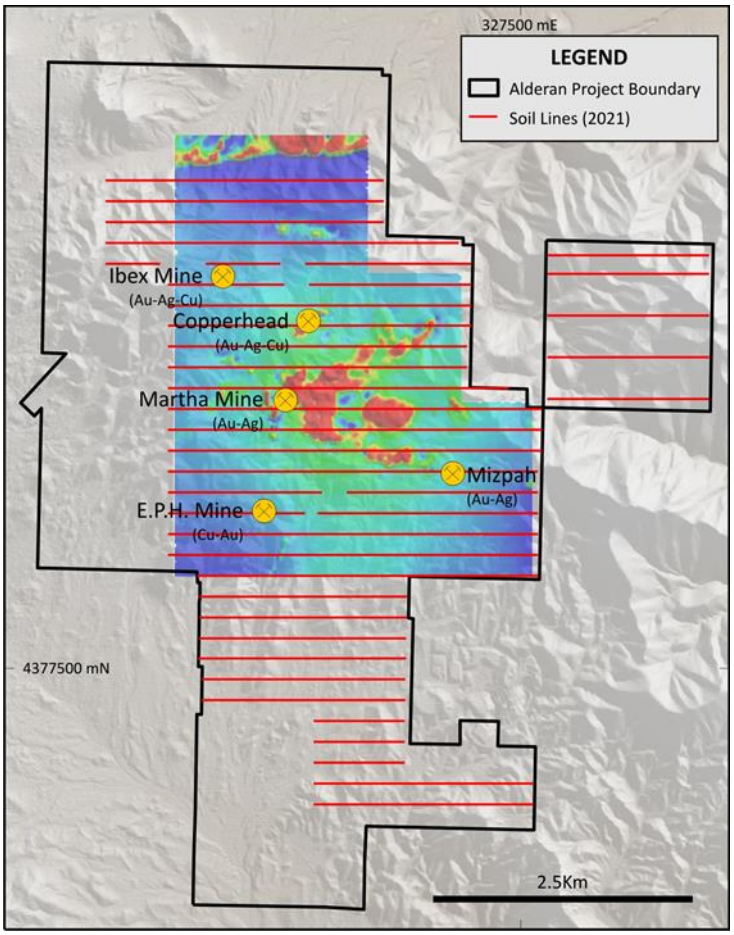


***Figure 6:*** *Detroit soil sampling grid*

## Detroit Project

The Detroit Project is one of four projects held by Alderan (Figure 7) in the state of Utah, USA. It lies within the Detroit Mining District, approximately 175km southwest of Salt Lake City, and contains numerous historical copper, gold and manganese mines. The district has been explored for copper and gold in the past by major mining companies such as Anaconda Copper, Kennecott, Newmont, BHP and Freeport-McMoRan but no one company was able to build a significant contiguous land position to enable district-wide modern exploration. The United States Geological Survey (**USGS**) has also explored the area, sampling extensive mineralised jasperoids.

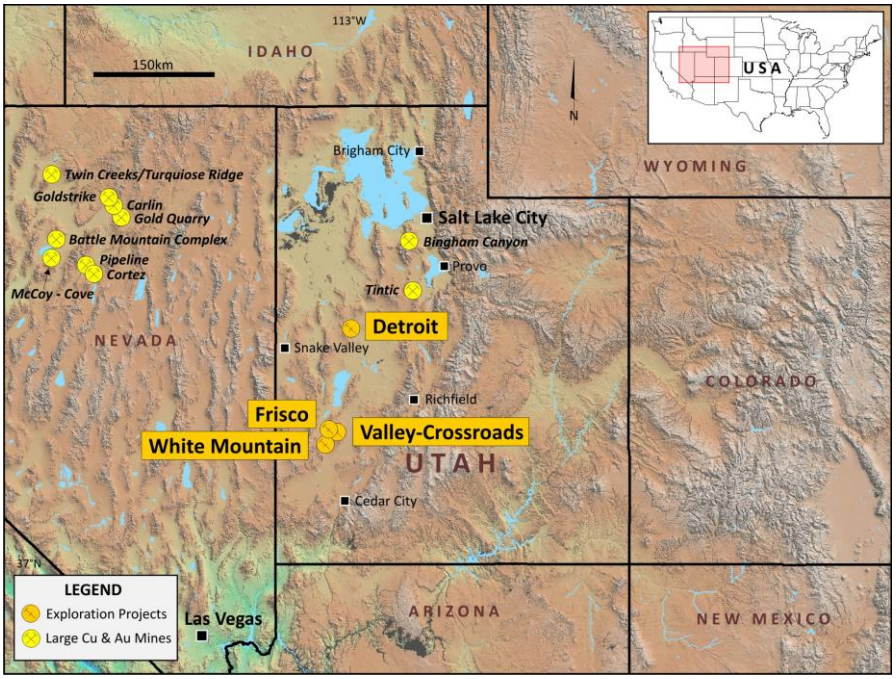


***Figure 7**: Alderan Resources project locations in western Utah.*

**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 11 May 2021 and 22 February 2021. The Company confirms it is not aware of any new information or data that materially affects the information included in the previous announcement.

The exploration results in this announcement are the result of an induced polarisation geophysical survey. No drilling was undertaken. Accordingly, this announcement does not include the information relating to material drill-holes required by listing rule 5.7.2.

## JORC Code, 2012 Edition – Table 1 Report

### Section 1 - Sampling Techniques and Data

### (Criterial in this section apply to all succeeding sections)

| ***Criteria of JORC Code 2012*** | ***JORC Code (2012) explanation*** | ***Details of the Reported Project*** |
|---|---|---|
| *Sampling techniques* | *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.* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements.* |
| | *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements.* |
| | *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* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements.*<br><br>*The used geophysical method is a standard work universally used in the industry at the early stages of exploration and prospecting. The obtained data are classified as exploration information, and cannot be used for quantitative evaluations of the mineral properties.* |

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| | *warrant disclosure of detailed information.* | |
| *Drilling techniques* | *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| *Drill sample recovery* | *Method of recording and assessing core and chip sample recoveries and results assessed.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *Measures taken to maximise sample recovery and ensure representative nature of the samples.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements.* |
| *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.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements.* |
| | *The total length and percentage of the relevant intersections logged.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements.* |
| *Sub-sampling techniques and sample preparation* | *If core, whether cut or sawn and whether quarter, half or all core taken* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements.* |

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| | *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements.* |
| | *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements.* |
| | *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.* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *Whether sample sizes are appropriate to the grain size of the material being sampled.* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements* |
| *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. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *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.* | *N/A – none used.* |

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| | *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. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| *Verification of sampling and assaying* | *The verification of significant intersections by either independent or alternative company personnel.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *The use of twinned holes.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *Discuss any adjustment to assay data.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| *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.* | *The hand-held GPS was used for locating the electrodes.* |
| | *Specification of the grid system used.* | *All data are recorded in a UTM zone 12 (North) NAD83 grid.* |
| | *Quality and adequacy of topographic control.* | *RL values obtained by GPS were routinely compared with the nominal elevation values that were deduced form the regional topographic datasets.* |
| *Data spacing and distribution* | *Data spacing for reporting of Exploration Results.* | *Distance between geophysical traverses and measuring points along the traverse are sufficient for identification and accurate delineation of the meaningful geophysical (IP) anomalies related to the porphyry style of mineralisation and their associated hydrothermal halos.* |
| | *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* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |

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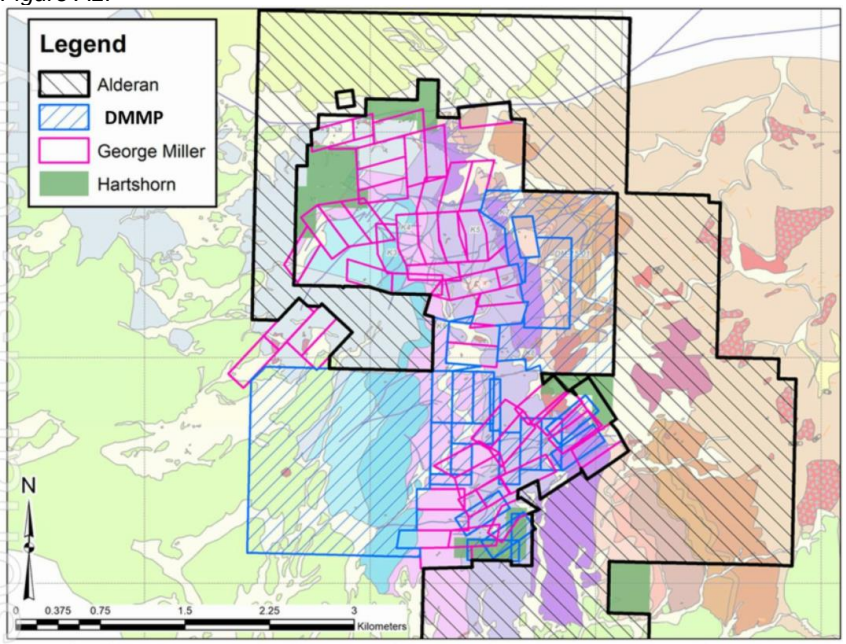
| | *procedure(s) and classifications applied.* | |
| | *Whether sample compositing has been applied.* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements.* |
| *Orientation 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.* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements.* |
| *Sample security* | *The measures taken to ensure sample security* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements.* |
| *Audits or reviews* | *The results of any audits or reviews of sampling techniques and data.* | *Geophysical procedures and results have been reviewed by the Alderan board, including highly experienced geophysicist (P Williams). Procedures and results were found of a good quality and appropriate for exploration and drill targets generation.* |

## Section 2 - Reporting of Exploration Results

(Criterial in this section apply to all succeeding sections)

| Criteria of JORC Code 2012 | JORC Code (2012) explanation | Details of the Reported Project |
|---|---|---|
| *Mineral tenement and land tenure status* | *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* | *Alderan has completed several strategic land deals as announced on the ASX on 11 February 2021 and now controls 24.7 km2 over the most prospective portion of the Drum Mountains. Location of the property claims is shown on the Figure A1.*<br>  <br><br>Figure A2: *Simplified geology map, showing Alderans ground (change from Volantis), and new ground acquisitions. Pink and purple areas are considered to be the reactive/prospective stratigraphy. Importantly, Alderan moves to tie up 6km strike length of the gently west dipping reactive stratigraphy.*<br><br>***Figure A1**: Location of property claims* |
| | *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.* | *All claims are active and in a good standing.* |
| *Exploration done by other parties (2.2)* | *Acknowledgment and appraisal of exploration by other parties.* | *The Drum Mountains of west central Utah have long been a subject of mining and exploration for gold, copper, and manganese, starting from 1800's and continued until early 1900's. This was followed by renewed interest in beryllium, gold, manganese, and uranium in the past 20 years.* |

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| | | *Gold and copper were discovered in the Drum Mountains in 1872, and from 1904 to 1917, gold, silver, and copper was produced from siliceous replacement fissure deposits in jasperoids, limestone and dolomite, for a total value of about $46,000.*<br><br>*Exploration for gold and base metals intermittently continued through the entire 20's century. In particular, since early 1960's, when jasperoids similar to that commonly found in highly productive gold mining districts have been identified in the Drum Mountains of Utah, the specialised studies of the jasperoids have been undertaken by USGS and the different mining companies. Sampling of these rocks commonly reveals anomalous concentrations of gold.* |
| *Geology* | *Deposit type, geological setting and style of mineralisation.* | *The focus of Alderan's exploration efforts at Detroit is to discover a Carlin-like gold deposit. Key feature of Carlin-like deposits include:*<br>*a) Favourable permeable reactive rocks (silty limestones and limey siltstones)*<br>*b) Favourable structures often coincident with mineral-related intrusive*<br>*c) Gold-bearing hydrothermal solutions*<br>*d) Micron-sized gold in fine-grained disseminated pyrite*<br>*e) Common geochemical indicators As, Sb, Ba, Te, Se, Hg*<br>*f) Common argillization and jasperoids; fairly common decalcification.* |
| *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:* | *N/A – no drilling completed.* |
| | *Easting and Northing of the drill hole collar. Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar.* | *N/A – no drilling completed.* |
| | *Dip and azimuth of the hole.* | *N/A – no drilling completed.* |
| | *Down hole length and interception depth* and *hole length.* | *N/A – no drilling completed.* |
| | *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.* | *N/A – no drilling completed.* |
| *Data aggregation methods* | *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are* | *Not applicable. Current release presents only the geophysical (IP) survey results.*<br>*Geochemical exploration data and drilling results have been released in the previous announcements.* |

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| | *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.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| *Relationship between mineralisation widths and intercept lengths* | *These relationships are particularly important in the reporting of Exploration Results.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| | *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').* | *Not applicable. Current release presents only the geophysical (IP) survey results. Geochemical exploration data and drilling results have been released in the previous announcements* |
| *Diagrams* | *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.* | *Maps and tables are presented in the text of the release.* |

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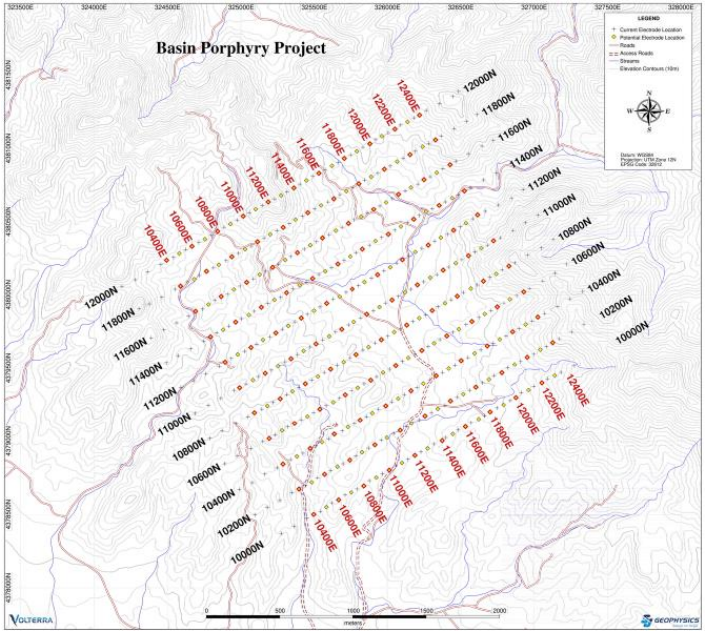
| *Balanced reporting* | *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.* | *The new data are summarised as maps and digrams presented in the text of the release. The methodology of survey, obtained results and interpretation are presented using a balanced reporting approach.* |
| *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.* | *Objective of the current release is to report results of the IP survey at the Drum/Detroit area that has identified several anomalies reported in this release. Methodology and parameters of the IP survey is explained in this section of the JORC Table 1.*<br><br>*Survey was aimed at acquiring the 2-D distributed dipole-dipole chargeability and resistivity data (Fig. A2) and was made by Vancouver-based SJ Geophysics. The geophysical company has used their proprietary Volterra system paired with a GDD TxII IP transmitter operated in slave/master configuration for 7200W max power output.*<br><br>*The following equipment and parameters have been used for the data acquisition:*<br><br>***Volterra Acquisition Unit (Dabtube 8200 Series)***<br>*Input impedance: 20 M Ω*<br>*Input overvoltage protection: 5.6 V*<br>*ADC bit resolution: 24-bit*<br>*Internal memory: Storage Capacity 64 GB*<br>*Number of inputs: 4*<br>*Synchronization: GPS*<br>*Selectable Sampling Rates*<br>*(samples/second):*<br>*128000, 64000, 32000, 16000, 8000, 4000, 2000, 1000*<br>*Common mode rejection: More than 80 dB (for Rs=0)*<br>*Voltage sensitivity: Range: -5.0 to +5.0 V (24 bit)*<br>*Features Programmable Gain, AC/DC coupling*<br><br>***Volterra Acquisition Unit (Dabtube 8000 Series)***<br>*Technical:*<br>*Input impedance: 100 M Ω*<br>*Input overvoltage protection: 5.6 V*<br>*ADC bit resolution: 24-bit*<br>*Internal memory: Storage Capacity 32 GB*<br>*Number of inputs: 4*<br>*Synchronization: GPS*<br>*Selectable Sampling Rates*<br>*(samples/second):*<br>*128000, 64000, 32000, 16000, 8000, 4000, 2000, 1000*<br>*Common mode rejection: More than 80 dB (for Rs=0)*<br>*Voltage sensitivity: Range: -5.0 to +5.0 V (24 bit)*<br>*Features Programmable Gain*<br><br>*General:* |

*Dimensions: Diameter: 43 mm, Length: 405 mm*
*Weight: 0.5 kg*
*Battery: 5.0 VDC nominal*
*Operating temperature range: -40 oC to 40 oC*

***GDD TxII IP Transmitter (2 units)***
*Input Voltage: 220-240 V / 50-60 Hz*
*Output Power: 3600 W*
*Output Voltage: 150 to 2400 V*
*Output Current: 0.03 A to 10 A*
*Time Base: 2 s ON+, 2s OFF, 2 s ON-*
*1, 2, 4, 8 seconds on/off cycle*
*Operating Temperature: -40oC to +65oC*
*Display: Digital LCD, read to 0.001 A resolution*
*Dimensions: 20 x 40 x 47 cm*
*Weight: 32 kg*

| ***SJ Geophysics: Volterra Acquisition Parameters*** | |
|---|---|
| ***IP Transmitter*** | *GDD TxII (SN #270 & 433)* |
| *Duty Cycle and Waveform* | *50%; Square* |
| *Cycle and Period* | *2 sec on / 2 sec off; 8 second* |
| ***IP Signal Recording*** | *Volterra Acquisition Unit (Dabtube 8200 & 8000 Series)* |
| *Reading Length* | *120 seconds* |
| ***IP Signal Processing*** | *CSProc (SJ Geophysics proprietary software)* |
| *Vp Delay, Vp Integration* | *1200 ms, 600 ms* |
| *Mx Delay, # of Windows* | *50 ms, 26* |
| *Width (Window Width)* | *26, 28, 30, 32, 34, 36, 39, 42, 45, 48, 52, 56, 60, 65, 70, 75, 81, 87, 94, 101, 109, 118, 128, 140, 154, 150 (50–1950 ms)* |
| *Properties Calculated* | *Vp, Mx, Sp, Apparent Resistivity and Chargeability* |

| | | | |
|---|---|---|---|
| | |  <br>***Figure A2:*** *Contractor map showing distribution of the transmitter and receiver electrodes arranged in 2-D configuration on 11 parallel lines (2000m of 100m dipoles) oriented N60E.* | *Acquired field data has been further processed using Geosoft Oasis Montaj software. The post-processing has included the following steps:*<br><br>1. *Georeferenced electrodes.*<br>2. *Identify and correct reversed polarity readings.*<br>3. *Create new windowed IP channel: 414-1950 ms (Volterra ch. 11-26).*<br>4. *Inspect and mask individual decays as necessary, especially at long offset.*<br>5. *Recalculate apparent resistivity as verification step.*<br>6. *Inspect chargeability/resistivity results for line-to-line consistency.*<br>7. *Write formatted input files (ASCII) for inversion.*<br>8. *Invert with RES3DINV software algorithm by M.H. Loke.*<br>9. *Convert model results to Geosoft VOXEL for interrogation and interpretation.* |
| *Further work* | *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* | *Grid soil sampling and an induced polarisation geophysical survey are currently in progress (Figure A3). The soils are collected every 50m on 200m spaced east-west lines. The results of this work are expected to refine individual prospect areas and optimise drill target selection with drilling planned to commence in the third quarter of 2021.* | |
| | *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | *Geological map, showing location of the follow up exploration that includes detailed IP survey and geochemical sampling. The IP grid will be extended to the north and south to close off anomalies identified at Copperhead and Mizpah. One additional line will be acquired to the north of existing coverage at Copperhead and two additional lines to the south will provide context to the Mizpah occurrence where anomalous chargeability appears to follow favorable stratigraphy which is open to the south.* | |

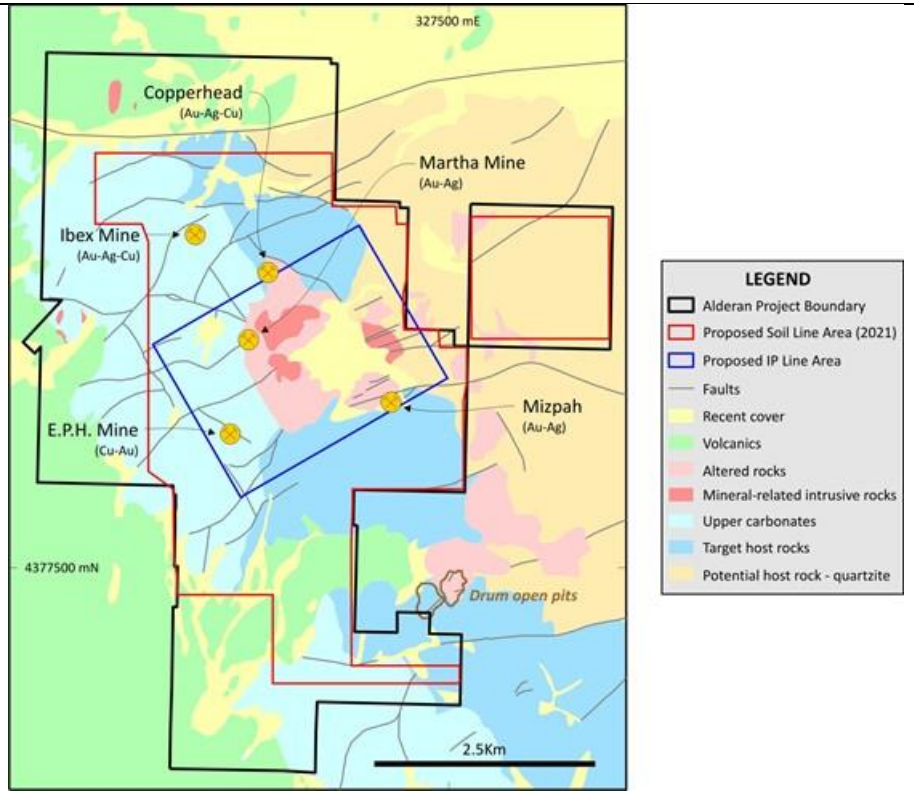



***Figure A3:*** *Map depicting the areas of the proposed detailed IP survey and the broader area proposed for the follow up geochemical exploration. The geochemical exploration has commenced after completion the ground magnetic survey and are currently in progress.*