Date: 22 February 2023

ASX Code: MAN

Capital Structure
Ordinary Shares: 552,499,920
Current Share Price: 5.3c
Market Capitalisation: $29.3M
Cash: $17.2M (Dec 2022)
EV: $12M
Debt: Nil

Directors

Lloyd Flint
Non-Executive Chairman
Company Secretary

James Allchurch
Managing Director

Roger Fitzhardinge
Non-Executive Director

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Mandrake Secures Large-Scale Lithium Project in the United States

Highlights

- **Mandrake has secured a large-scale lithium project in the prolific 'lithium four corners' Paradox Basin southeast Utah, USA.**
- **The Utah Lithium Project comprises a land position of over 56,000 acres (~226 km²) – includes a Binding Agreement with the Utah State Govt for over 34,000 acres.**
- **Staking is still underway; the Company will update shareholders with increases in project acreage.**
- **Compilation of geological and petrophysical data is well advanced to potentially generate a lithium Exploration Target in the short term and to guide exploration work toward a maiden Mineral Resource in the second half 2023.**
- **Located proximal to Anson Resources' (ASX: ASN) Paradox Lithium Project in the pro-mining jurisdiction of Utah with access to Tier 1 infrastructure including power and water.**
- **ASX-listed lithium developer Galan Lithium Limited (market cap: $344M) to provide technical support and invest $1.5M for a ~5% stake in Mandrake.**
- **US governmentt and industry aggressively promote domestic exploration/production of strategic/critical materials via myriad funding and grant schemes.**
- **Project generated internally – no payments to third parties.**
- **Mandrake fully funded - $19M cash post Galan placement.**

Managing Director James Allchurch commented:

"Mandrake has organically secured a potentially world-class lithium project in the heart of the US, at a time when the US federal government is actively funding and supporting domestic sources of strategic and critical materials such as lithium.

Utah is among the most mining and investment friendly jurisdictions in the US with the State Government heavily involved in aiding Utah-based projects play a role in the global energy transition from fossil fuels to renewable energy.

Our 100%-owned Utah Lithium Project comprises over 56,000 acres of prime lithium brine-prospective ground in the Paradox Basin in proximity, and incorporating, a multitude of

dormant oil and gas wells that can be relatively quickly and inexpensively accessed for the purposes of sampling and eventual production.

The Paradox Basin includes nearby operators such as lithium developer Anson Resources (ASX: ASN), who have a Mineral Resource of over 1MT of Lithium Carbonate Equivalent at an average grade of 124mg/L Li[1], as well as the biggest potash producer in the US, Intrepid Potash.

The opportunity presented by Mandrake's large-scale Utah Lithium Project is clearly recognised by ASX lithium developer Galan Lithium Limited (ASX: GLN; MC: $344M) who are investing $1.5 million for a 5% stake in Mandrake and will be involved in the project on an ongoing basis in a technical advisory capacity.

Mandrake will leverage the significant technical work already undertaken over the preceding months to move rapidly into exploration as we head towards the Company's maiden lithium Resource."

Utah Lithium Project

Mandrake Resources Limited (ASX: MAN) (Mandrake or the Company) has secured over 56,000 acres (approximately 226 km^2) of lithium brine prospective ground in the Paradox Basin. The lithium brine land tenure comprises:

1. 34,670 acres of leases pursuant to an Other Business Agreement (OBA) with the Utah School and Institutional Trust Lands Administration (SITLA), the organization which manages the Utah State Government's trust lands and mineral rights.
2. Over 1,000 claims have been acquired on Bureau of Land Management (BLM) land which totals over 21,383 acres. Claim staking has targeted the most prospective lithium brine areas in the Paradox Basin.

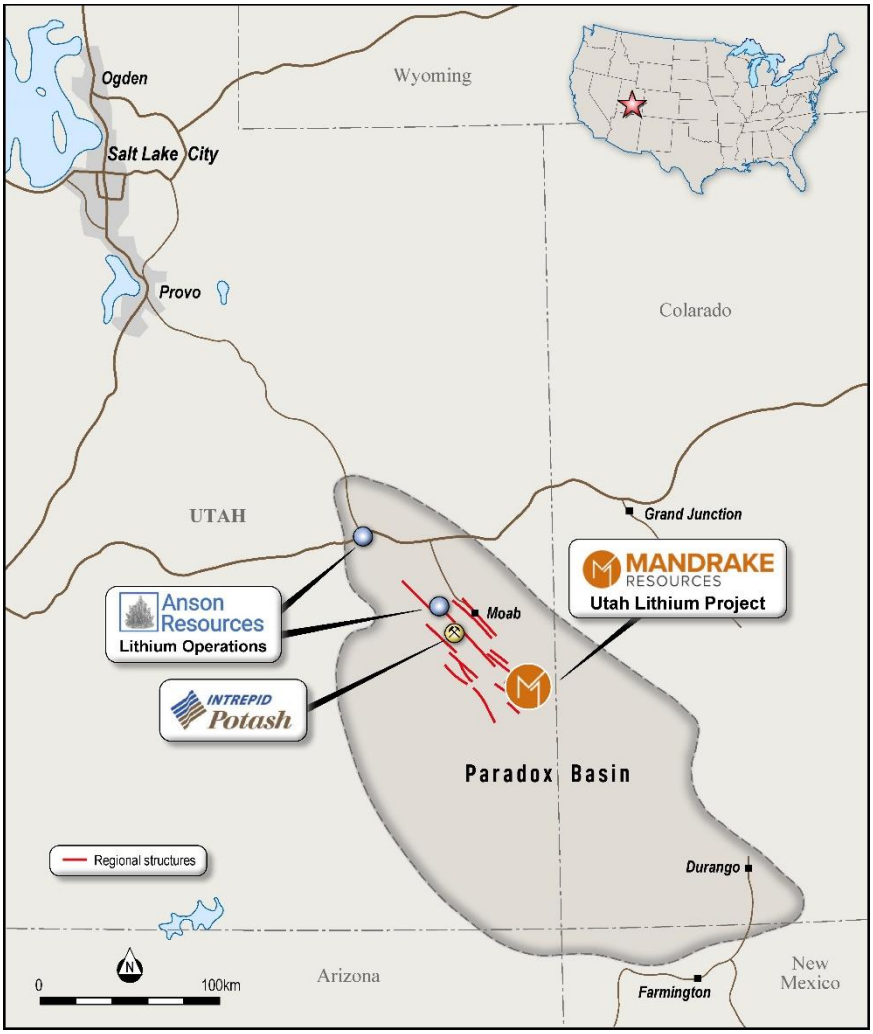
A global review undertaken by Mandrake of several lithium assets and numerous lithium hard-rock, clay and brine prospective areas throughout the world identified the Paradox Basin in the United States as the most attractive opportunity for the Company to successfully develop a world-class lithium project.

The Utah Lithium Project was generated by Mandrake internally meaning there is no vend or acquisition cost to reduce Mandrake's cash position or dilute its existing shareholders.

The Paradox Basin in the south-eastern Utah 'lithium four corners' area hosts hypersaline brine historically documented to contain significant concentrations of lithium, boron, potassium salts (potash) and other elements. The United States' biggest potash producer, Intrepid Potash (NYSE: IPI MC: US$427M) operates the Cane Creek potash mine which is located approximately 50km to the north west of the Utah Lithium Project whilst mid-tier ASX-listed lithium developer Anson Resources (ASX: ASN MC: AUD$224M) is located approximately 60km north west (Figure 1).

[1] ASN ASX release dated 2 November 2022

Figure 1: Location of the Utah Lithium Project



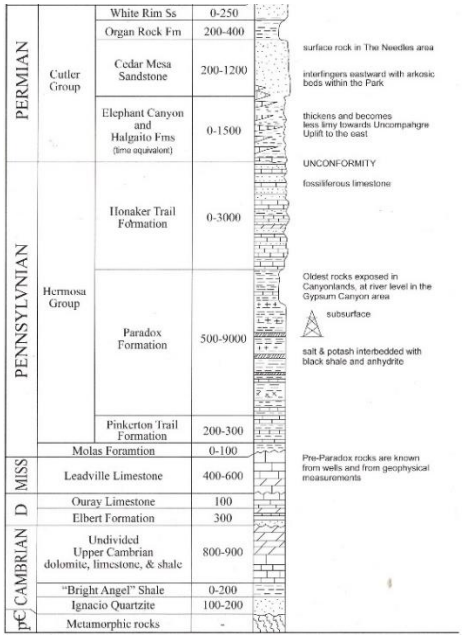
Project Geology and Lithium Brines

The Paradox Basin is composed of sedimentary rocks that overlie an Early Proterozoic basement of metamorphic gneiss and schist that is locally intruded by granite (Nuccio and Condon, 1996[2]; Tweto,1987[3]). The prospective reservoir brine occurs in deep-seated, confined Paleozoic sedimentary reservoirs, or aquifers, that are still being assessed and may vary in depth between 2,000 and 7,000 feet (610 and 2,134 metres) below surface.

The geological units of most interest to Mandrake currently include the Pennsylvanian age Paradox Member (within the Hermosa Formation) and the Mississippian Leadville-Ouray Limestone Formation (Leadville Limestone; Figure 2).

[2] Nuccio, V.F., and Condon, S.M., 1996, Burial and Thermal History of the Paradox Basin, Utah and Colorado, and Petroleum Potential of the Middle Pennsylvanian Paradox Formation: U.S. Geological Survey Bulletin 2000-O
[3] Tweto, Ogden, 1987, Rock units of the Precambrian basement in Colorado: U.S. Geological Survey Prof. Paper 1321-A,

Figure 2: Paradox Basin Precambrian to Permian Stratigraphy[4]



The Utah Lithium Project is in the northern Paradox Basin where numerous oil and gas companies operate wells which can be re-entered to collect brine for assaying and mineral processing test work. The brine is historically documented to be saturated with halite (salt), along with other minerals of interest including the potential for lithium, magnesium, boron, bromine, and potash.

Mandrake has conducted a compilation of historical brine analyses from oil and gas wells within the Utah Lithium Project (Table 1, Figure 3). Most of the historical lithium-brine analytical results are from geological units that are not of interest to Mandrake (i.e., Culter-Honaker Trail and McCracken formations). A lithium result of 75.0 mg/L Li is documented from brine collected from the Leadville Limestone Formation in the Lisbon B 815 well; this formation is a target geological unit of interest to Mandrake.

Cautionary Statement:
The historical lithium-brine values were reported by several oil and gas companies and have not been reported in accordance with the JORC Code 2012. A Competent Person has not done sufficient work to verify the historical exploration results in accordance with the JORC Code 2012.
It is possible that the confidence level of the historical exploration and geochemical results may be reduced upon Mandrake-conducted exploration work and when reported in accordance with the JORC Code 2012. The Company has not independently validated the historical exploration results and therefore Mandrake is not to be regarded as reporting, adopting, or endorsing the historical lithium-brine results.

[4] Hintze, L.F & Kowallis, B.J 1988, Geologic History of Utah: Department of Geology, Brigham Young University.

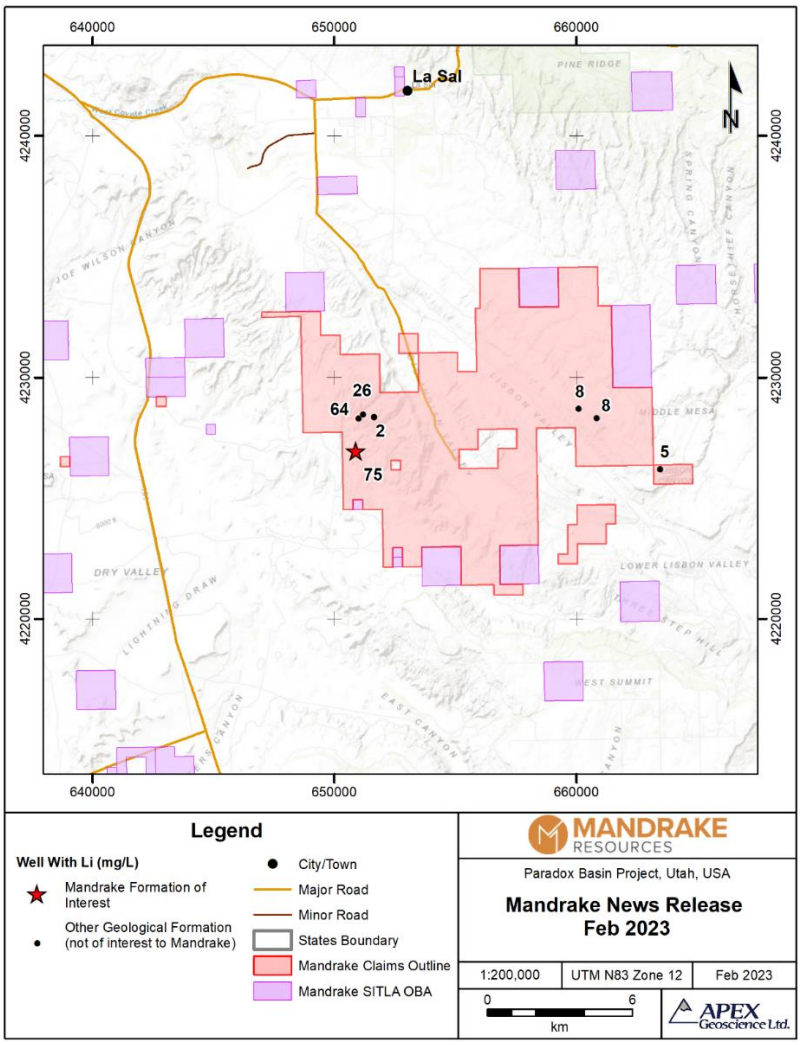
Table 1. Summary of historical lithium-brine analytical results (all stratigraphic horizons) at Mandrake's Utah Lithium Project. The yellow highlighted records represent wells that have penetrated and sampled brine from Mandrake's current stratigraphic units of interest.

Well name	Brine collection point	Depth: Upper (ft)	Depth: Lower (ft)	Date sampled	Period (as reported) [1]	Formation (as reported) [1]	Li (mg/L)
BH 10-42	Wellhead	3,576	n/a	26/Jul/18	Permian-Pennsylvanian	Culter - Honaker Trail	7.8
Middle Mesa 31-42	n/a	5,305	n/a	7/Mar/18	Pennsylvanian-Permian	Honaker Trail	n/a
Middle Mesa 31-31	Separator	4,993	n/a	19/Mar/20	Pennsylvanian-Permian	Honaker Trail	n/a
Middle Mesa 5-6	Separator	5,308	n/a	19/Mar/20	Pennsylvanian-Permian	Honaker Trail	n/a
Big Indian 24-31	n/a	3,107	n/a	7/Mar/18	Pennsylvanian-Permian	Honaker Trail	5.1
BH 10-31	Wellhead	3,885	n/a	26/Jul/18	Pennsylvanian-Permian	Honaker Trail	7.7
Lisbon 10-33	Tank	8,865	n/a	25/Jul/18	Devonian	McCracken	26.0
Lisbon B-810	n/a	8,563	n/a	7/Mar/18	Devonian	McCracken	64.3
Lisbon B 815	Production	8,600	n/a	18/Jan/65	Mississippian	Leadville Limestone	75.0
D-810	Separator Flow Line	8,244	8,357	n/a	Late Cretaceous	McCracken	2.0

[1] The Period and Formation name have yet to be validated by the Competent Person

n/a Not available

Figure 3. Historical lithium-brine results at Mandrake's Utah Lithium Project. The red star well(s) that have penetrated and sampled brine from Mandrake's current stratigraphic units of interest.



Mandrake is well advanced in the compilation and interpretation of publicly available geological and petrophysical data including the development of a historic well database and detailed structural and isopach mapping of target brine reservoirs.

Utah Lithium Forward Work Programme

Having compiled detailed datasets relating to historic well logs, petrophysics, stratigraphy and local geology, Mandrake is well placed to rapidly advance the Utah Lithium Project. Going forward, Mandrake will undertake the following:

- Further strategic expansion of land position.
- Consider development of lithium Exploration Target(s) in accordance with JORC 2012.
- Conduct exploration work toward development of a Mineral Resource in accordance with JORC 2012.
- Sampling of existing wells (and potential drilling of new well(s)) to obtain brine to verify historical lithium-brine geochemical results and conduct initial mineral processing test work to validate the potential extraction of lithium from Paradox Basin brine.
- The brine sampling program will enable Mandrake to formulate opinions on which reservoirs and/or areas have the greatest lithium-brine potential.
- Investigation of suitable Direct Lithium Extraction (DLE) and DLE/evaporative pond hybrid technologies with potential development partners.
- Assessment of grant/loan/support options available through US government and industry groups/programmes.

Strategic Alignment with Galan Lithium

In a strong vote of confidence for the Utah Lithium Project, ASX-listed Galan Lithium Limited (market capitalization of $344M) will invest $1.5M for an approximate 5% stake in Mandrake through the subscription of 30M ordinary shares at 5c, escrowed for 12 months. Galan Lithium also has the right to nominate strategic advisors who can subscribe for a further 14M shares in Mandrake at 5c ($700,000). Total amount raised is $2.2M.

Mandrake is excited to attract an advanced lithium developer of the ilk of Galan Lithium who are anticipated to provide invaluable assistance in a commercial and technical advisory capacity. Galan is a highly regarded lithium company with Resources of over 6.5Mt LCE (Lithium Carbonate Equivalent) across the Hombre Muerto salar in Argentina and are advancing rapidly towards production (refer Galan ASX announcement dated 24 October 2022).

On the strategic alignment with Mandrake, Galan Managing Director Juan Pablo Vargas de la Vega commented:

"The large-scale potential of Mandrake's Utah Lithium Project situated in an extremely attractive jurisdiction boasting power and water infrastructure in the lithium-hungry United States presented a compelling opportunity for Galan to gain early-stage exposure.

Galan looks forward to assisting Mandrake grow and develop the Utah Lithium Project utilising its deep commercial experience in the lithium sector and significant technical expertise".

Vert Capital will be issued 5M options with a strike price of 10c as a facilitation fee for the raising.

USA – An Outstanding Location for a Lithium Player

The US has recently introduced extensive measures to secure strategic and critical materials, particularly lithium, from what the US government terms 'non-adversarial' sources, that is, sourcing these materials domestically from the US and close allies.

This stated US strategy has culminated in the Inflation Reduction Act 2022 (IRA) which is the largest piece of US federal legislation ever to address climate change. It will invest US$391 billion in provisions relating to energy security and climate change.

Within the IRA framework is the Department of Energy's (DoE) American Battery Materials Initiative, a new effort to mobilize the entire US government in securing a reliable and sustainable supply of critical minerals used for power, electricity, and electric vehicles (EVs). President Biden has set an ambitious goal to make half of all new vehicles sold in 2030 electric.

Australian company Ioneer (ASX: INR) recently secured a US$700 million (AUD$1 billion) loan from the US DoE to develop its lithium-boron project at Rhyolite Ridge in Nevada[5] whilst Piedmont Lithium (ASX: PLL) secured a grant of US$141.7M from the DoE to assist building its lithium plant in Tennessee[6].

The US Department of Defense has also released a significant funding and grants package for critical materials under the Defense Production Act (DPA), with the DOD stating, *'U.S. adversaries have a demonstrated pattern of using their economic power in critical materials markets to harm the U.S. / allied industrial base, and the possible exertion of that strength against the defense industrial base and domestic critical infrastructure poses a risk to the United States'*.

As such, sustainable and responsible domestic mining, beneficiation, and valued-added processing of strategic and critical materials used in the production of large capacity batteries is critical to national defense and the preservation of domestic critical infrastructure".

US industry is also participating heavily in the quest to sharply increase US domestic sources of critical materials, illustrated by the investment by General Motors (GM) of US$650M in equity into Lithium America's Thacker Pass Lithium Project in Nevada[7].

Appointment of US-based Exploration Manager

Mandrake has appointed US-based Geochemist Jake Cammack as exploration manager for the Utah Lithium Project.

[5] INR ASX release dated 16 January 2023
[6] PLL ASX release dated 20 October 2022
[7] LAC NYSE release dated 31 January 2023

Jake Cammack has an MSc (Geochemistry) from the University of Wisconsin having graduated with a BSc from Fort Lewis College in Durango, Colorado.

Mr Cammack has worked as an underground ore control geologist at the Barrick Goldstrike mine in Nevada and the Kinross Buckhorn mine. Mr Cammack's MSc thesis in geochemistry centred on carbon/oxygen isotopes to study 3.4-billion-year-old fossilized stromatolites from north western Australia. Mr Cammack's BSc thesis focused on the Navajo Volcanic Field in Northwestern New Mexico and Northeastern Arizona. His BSc thesis used petrography, chlorine isotopes and fluorine trends to unravel the magma's gas and fluid origins.

Mr Cammack has been instrumental in developing a lithium brine geochemistry database by analyzing well brines and gathering existing data from private and public sources. He is currently using this database to further understand lithium resources in relation to the subsurface morphology, and the geologic history of the region.

Mandrake has agreed to issue the following incentive package to Jake Cammack.

	Milestone	**No of Perf Rights**
Peformance Rights A	Successful lodgement and registration of 26,000 acres of BLM claims	500,000
Peformance Rights B	Establishment of JORC-compliant Exploration Target	1,000,000
Peformance Rights C	Establishment of JORC-compliant Mineral Resource	3,000,000
Peformance Rights D	Commercial production of over 100t of lithium carbonate equivalent	5,000,000

Note - Each performance right shall be convertible into one ordinary fully paid Mandrake share

On achievement of a JORC-compliant Mineral Resource or sale of the Utah Lithium Project, Mr Cammack will receive the greater of 0.2% or 1/60th of the total overriding royalty interest (ORRI) issued on all State and private leases and a 0.4% ORRI on all BLM claims within the Utah Lithium Project. The incentive ORRIs issued to Mr Cammack will generate value only in the event of lithium production from the Utah Lithium Project or direct sale of any portion of the Utah Lithium Project.

Continued Exploration of Existing Projects

Although the primary focus of the Company will be on the Utah Lithium Project, Mandrake will continue to undertake exploration activities at its existing Berinka (gold/copper in NT) and Jimperding (PGE/Ni/Cu in WA) projects.

A drilling programme at Berinka, designed to follow up exciting results from the 2022 campaign, is planned for the 2023 dry season.

Mandrake will also continue to assess the remaining Newleyine Prospect target at Jimperding as well as opportunities to access the largely untested ultramafic bodies identified in the 2021 mapping programme.

Competent Persons Statement

The information related to the Utah Lithium Project land tenure and announcement of Jake Cammack as exploration manager has been compiled and assessed under the supervision of Mr James Allchurch, Managing Director of Mandrake Resources. Mr Allchurch is a Member of the Australian Institute of Geoscientists. He has sufficient experience that is relevant to the information under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Allchurch consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

Technical information in this release that relates to geological parameters and the historical exploration work conducted by oil and gas companies other than Mandrake has been prepared and reviewed by Mr. Roy Eccles P. Geol. of APEX Geoscience Ltd. Mr. Eccles is deemed to be a 'Competent Person'. Mr. Eccles has sufficient experience relevant to the style of mineralization, type of deposit under consideration, and to quantify the historical exploration information and results to qualify as a Competent Person as defined in the 2012 Edition of the Australian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). To the best of the Competent Person's knowledge, the information in the announcement is an accurate representation of the available data and studies. Mr. Eccles consents to the disclosure of the geological technical information in this announcement in the form and context in which it appears.

References

Nuccio, V.F., and Condon, S.M., 1996, Burial and Thermal History of the Paradox Basin, Utah and Colorado, and Petroleum Potential of the Middle Pennsylvanian Paradox Formation: U.S. Geological Survey Bulletin 2000-O
Tweto, Ogden, 1987, Rock units of the Precambrian basement in Colorado: U.S. Geological Survey Prof. Paper 1321-A,
Hintze, L.F & Kowallis, B.J 1988, Geologic History of Utah: Department of Geology, Brigham Young University.

JORC Code, 2012 Edition – Table 1 report template

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.	• Mandrake has yet to conduct exploration work at the Project. Mandrake has not yet drilled any wells and so is currently reliant on petroleum company wells to access brine. • Historical brine sampling has been conducted on oil and gas wells by oil and gas companies. including Paradox Resources. • The historical wells may not be optimally perforated to capture fluids associated with the highest lithium-brine units. In this case, it is possible that Mandrake's future brine sampling programs isolate stratigraphic zones of interest by introducing new packers and establish new perforation points to enhance the pumping of lithium-enriched brine to the surface. • The oil and gas company brine sample points included collection from the wellhead, test separator, separator flow lines, and tanks. • To the best of the Competent Person's knowledge, the only oil and gas company that reports a complete record of the historical sampling techniques is Paradox Resources (n=8 samples) – as documented as follows: o A mixture of oil and produced water was collected directly from the well head (where possible) or from the oil-brine separator tank (when oil to water cuts were high) into a 19 L Nalgene carboy filled to the top and capped. After the formation water had settled to the bottom of the carboys, the formation water was

Criteria	JORC Code explanation	Commentary
		removed through a spigot at the bottom of the carboy and filtered through a 1.6 µm glass fiber filter to remove any residual oil. All water samples were filtered through 0.45 µm nylon membrane filters into HDPE bottles. Sample were acidified by adding two drops of concentrated Optima-grade nitric acid into 30 mL pre-acid-washed HDPE sample bottles. All samples were kept on ice in the field and at ~4 °C in the refrigerator in the laboratory prior to analysis.
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	• Mandrake has yet to conduct exploration work at the Utah Lithium Project including the drilling of oil and gas-type wells. • The historical oil and gas company owned wells were drilled using conventional oil and gas drill rigs that drill vertical well bores.
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.	• Mandrake has yet to conduct exploration work at the Utah Lithium Project. • The historical collection of brines from the oil and gas wells is poorly documented. Based on the Competent Person's experience, brine sampling involves pumping the hydrocarbons and associated brine fluids from depth to the surface, treating the fluids to recover the hydrocarbons, and then pumping the brine back down into the reservoir. The brine is typically sampled at access points along the production cycle including the wellhead, test separator unit, and freewater knockout tanks.
Logging	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support	• Mandrake has yet to conduct exploration work at the Utah Lithium Project.

Criteria	JORC Code explanation	Commentary
	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.	• Petrophysical well logs associated with the historical wells include gamma-ray, neutron density, resistivity, sonic, mud logs. • The petrophysical logs provide information such that geologists can make stratigraphic formation picks to define the down-well lithology of each well. These interpreted lithological logs are used to prepare cross-sections to map the reservoir and to target future well locations.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• Mandrake has yet to conduct exploration work at the Utah Lithium Project. • To the best of the Competent Person's knowledge, specific sampling techniques, sample preparation of brine, and Quality Control-Quality Assurance procedures related to all historical wells are unknown.
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)	• Mandrake has yet to conduct exploration work at the Utah Lithium Project. • Reported analytes typically include, for example, cation and anion data along with a limited number of trace elements. • Precise analytical procedures are unknown. • Often the laboratory names are not reported, and hence there is no way to evaluate laboratory certificates or make statements on the independence and

Criteria	JORC Code explanation	Commentary
	and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	accreditation of the individual laboratories used in the historical brine analytical work.
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.	• Mandrake has yet to conduct exploration work at the Utah Lithium Project.
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.	• Mandrake has yet to conduct exploration work at the Utah Lithium Project. • Well locations are typically identifiable in the field; however, the Competent Person has yet to verify the location of individual oil and gas wells. • The longitude and latitude locations of the oil and gas wells provided by the oil and gas companies are recorded in government databases.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied.	• Mandrake has yet to conduct exploration work at the Utah Lithium Project. • At present, there is only one confirmed oil and gas well within the boundaries of the Project that has historically sampled brine from one of the target geological units being evaluated by Mandrake. • Data spacing and distribution is insufficient to establish the degree of geological and grade continuity appropriate for a potential future Mineral Resource or Ore Reserve. • No compositing applied to the historical brine data.
Orientation of data in relation to	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	• Mandrake has yet to conduct exploration work at the Utah Lithium Project.

Criteria	JORC Code explanation	Commentary
geological structure	• 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.	• At present, there is only one confirmed oil and gas well within the boundaries of the Project that has historically sampled brine from one of the target geological units being evaluated by Mandrake. • While Mandrake has yet to validate the historically interpreted well logs and/or brine analyses, to the best of the Competent Person's knowledge, there is no indication of bias based on the currently known orientation of geological structures within the Utah Lithium Project in the Paradox Basin. • Further work is required by Mandrake to evaluate geological structures.
Sample security	• The measures taken to ensure sample security.	• Sample security procedures (if any) as conducted by the historical oil and gas companies are unknown.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• No audits/reviews have been undertaken on the historical work conducted by oil and gas companies to date.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary

Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*
	• *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*
		• The Utah Lithium Project is located approx. 60km SSE of the City of Moab, in the State of Utah in the United States.
		• The total land position is 56,053 acres and includes:
		  ○ 34,670 acres within an Other Business Agreement (OBA) with the Utah State Government's School and Institutional Trust Lands Administration (SITLA).
		  ○ The remaining land position of approximately 21,383 acres is comprised of over 1,000 staked Bureau of Land Management (BLM) placer claims.
		• All the land tenure / staked BLM claims are 100% owned by Mandrake's US subsidiary (Mandrake Lithium USA Inc.)

Criteria	JORC Code explanation	Commentary
		or held in trust by Mandrake's commissioned landman, in which the deeds are awaiting transfer to Mandrake Lithium USA Inc.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Mandrake has yet to conduct exploration work at the Utah Lithium Project. • Currently, all exploration work reported in this announcement have been performed by oil and gas companies who have completed hydrocarbon-specific exploration and production activities over the last 80 years across the lease and claim areas. • Individual wells within oilfields continue to produce in the Paradox Basin and within the boundaries of the Utah Lithium Project.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Project is in the north-central portion of the Paradox Basin. • Structurally, Mandrake's Project occurs on the southern margin of the "Paradox fold and fault belt", which consists of a series of roughly parallel, northwest-trending faults, northwest striking diapiric salt-cored anticlines and synclines in the northern part of the Paradox Basin. • Currently, Mandrake's lithium-brine geological target units are defined by the Mississippian Leadville-Ouray Limestone Formation (Leadville Limestone) and the Pennsylvanian Paradox Member of the Hermosa Formation. • The Leadville Limestone comprises massive to thinly laminated, gray, buff, and yellow limestone that were deposited in intertidal to subtidal environments. • The Paradox Basin can be defined by the maximum extent of halite and potash salts in the Middle Pennsylvanian Paradox Formation and is composed of halite interbedded with gypsum, shale, sandstone, and

Criteria	JORC Code explanation	Commentary
		dolomite deposited intermittently in a closed marine depositional environment. • Aquifers associated with the Leadville Limestone and Paradox Member are defined as the Mississippian-Devonian carbonate aquifer unit and the Paradox unit, respectively. The aquifers are separated by the Lower Pennsylvanian Molas Formation confining unit, or aquitard.

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 detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*
		• Mandrake has yet to conduct exploration work at the Utah Lithium Project.
		• Refer to Table 1 for descriptions of the historic wells documented in this announcement. This information has been compiled by the Competent Person from historical oil and gas logs.
		• It is not always apparent whether the elevations are surface elevations or are measured at the Kelly Bushing.
		• The historical oil and gas wells were drilled vertically.
		• The down-well surveys are not known; however, vertical wells drilling to the depths documented in Table 1 will always have some level of deviation.

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.*	• The historical information has been sourced directly from oil and gas well logs as originally documented and presented by the oil and gas companies. • No length weighting or cut-off grades have been applied. • No metal equivalent values have been reported.

Criteria	JORC Code explanation	Commentary
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').*	• Mandrake has yet to conduct exploration work at the Utah Lithium Project. • The oil and gas fluids (hydrocarbons and brine) are produced from large, confined aquifer/reservoir deposits; hence, the brine samples – as fluid media – represent samples from a larger pool of fluids. Accordingly, it is accurate to state that brine data do not have common solid mineral deposit sample intervals or intercepts. Hence downhole lengths and true widths are not applicable to this type of deposit.
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.*	• Historical well collar locations and appropriate lithium-brine information are presented within the figures, tables, and text contents of this announcement.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All results are reported in Table 1. The dataset is too sparse to evaluate grade variations.
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.*	• Based on the Mandrake's current knowledge of the project, all meaningful information has been provided.
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.*	• Work has been initiated to review the potential to generate a JORC compliant Exploration Target. • Mandrake must access reservoir brines from wells owned by oil and gas operators, or by drilling its own oil and gas type wells.

Criteria	JORC Code explanation	Commentary
		• Once the brine is acquired, geochemical trace element work is required to assess the lithium content and to verify the historical lithium-brine analytical results at the Project. • Mandrake requires independently sampled brine to initiate mineral processing test work to verify that lithium can be extracted from deep-seated brine underlying the Utah Lithium Project. • Post exploration work – consider a lithium-brine Mineral Resource in accordance with JORC (2012).