

ASX Announcement ASX: HWK 30 April 2018

# HAWKSTONE MINING LIMITED QUARTERLY ACTIVITIES REPORT MARCH 2018

# HIGHLIGHTS

- Option agreement executed to acquire 100% of USA Lithium Limited
  - USA Lithium owns 100% of two highly prospective lithium projects:
    - Big Sandy Clay based lithium project located in Arizona
    - Lordsburg Lithium Brine project located in New Mexico
  - Both projects provide excellent exploration potential with immediate walk up drill targets based on previous successful exploration
  - Big Sandy: multi-kilometre, lithium mineralised lacustrine "green clay" horizon with high grade surface soil assay results from weathered zone
    - 17-hole diamond drilling programme lodged with the Bureau of Land Management - drilling to commence immediately after approval
  - Lordsburg: subject to no modern exploration (Clayton Valley look-alike) with encouraging surface sample assay results
  - Company exploration activities to be fully funded via a placement to Institutional and sophisticated investors to raise \$3M, with \$2.5M subject to shareholder approval
  - Klaus Eckhof and Paul Lloyd to be appointed directors of Hawkstone
- Aeromagnetic and radiometric survey successfully flown across Kangwane South Tenement
  - Magnetic and radiometric interpretations completed following recently flown survey
  - Interpretations confirm previous ground geophysical work in the delineation major dykes
  - Drill program commenced



# ACQUISITION OF USA LITHIUM LIMITED

Hawkstone Mining Limited (ASX:HWK) (Hawkstone or the Company) announced on 22 March 2018 that it had entered into an option agreement (**Option Agreement**) to acquire USA Lithium Limited (**USA Lithium**) which owns a 100% interest in the Big Sandy Lithium Clay project (**Big Sandy**) located in Arizona, USA and the Lordsburg Lithium Brine project (Lordsburg) located in New Mexico, USA.

The acquisition is subject to completion of due diligence, Hawkstone shareholder approval, minority USA Lithium vendors executing formal sale agreements and certain other conditions precedent. For full details of the acquisition and Option Agreement, see the Company's ASX announcement dated 22 March 2018.



Figure 1: Big Sandy and Lordsburg Lithium Projects

# **BIG SANDY LITHIUM CLAY PROJECT**

Big Sandy straddles Interstate 193 between Phoenix and Las Vegas and comprises 258 Bureau of Land Management (BLM) claims, covering approximately 20.9km<sup>2</sup>. Big Sandy is also of strategic relevance to the Tesla Gigafactory, located approximately 960km by sealed interstate highway to the north west. Tesla and their partners are committed to \$4-5 billion of investment in the Gigafactory until 2020.



### **Regional Geology**

The project lies within the Big Sandy Valley, a broad alluvial region with the Big Sandy River in the centre. The basin margins are marked by the Hualapai Ranges to the west and the Aquarius Ranges to the east. These ranges comprise granite gneiss and volcanic rocks and form steep and well-defined mountains either side of the large low-lying river valley.

The valley itself comprises a thick sequence of Miocene age lacustrine and alluvial sediments. The Big Sandy Valley is a typical block faulted graben lying between the Hualapai Mountains and the Aquarius Mountains. An extensive Miocene basalt flow covers older rock to the south, southeast, and northeast of the project area but is not present within the project area. Very minor remnants of basalt crop out beneath the Big Sandy valley as flow volcanic rocks seen in the lowermost eastern parts of the wash central to the project area and in the south of the project area.



Figure 2: Big Sandy – Claims Outline and Past Exploration Results



### Local Geology

Big Sandy is characterized largely by flat-lying basin sediments comprising predominantly clays with analcime and potassic alteration zones. The green lacustrine lithium bearing clay horizon is traceable for over 11km north to south and extends at least 2km to the east as a flat sheet at or near surface (see Figure 2 below). Faults underlying the lake may have served as channel ways for lithium-rich solutions to percolate into the lake basin and possibly alter and enrich the existing clays in lithium. Cofer Hot Springs is interpreted to lie on an East North East trending fault zone. Alternatively, the lithium may have been sourced from underlying/bounding acid volcanics and remobilised into the basin sequence. It's likely that both processes operated throughout the geological history of the area leading to the laterally extensive lithium mineralisation.

Lithium clay deposits, such as that found at Big Sandy, are generally large, flat lying, sedimentary deposits that have been enriched by the flow of lithium-rich solutions. Despite having a lower in-situ grade than their hard rock peers, clay style deposits are proving to be a low cost, economically viable source of lithium. Clay based deposits have favourable operating costs as they are characterised by the following:

- Traditional, large scale, open-pit mining methods.
- Free-dig material with no drill and blast costs.
- Simple flow-sheet with little requirement for crushing and grinding.

USA Lithium are excited by the recent sampling results at Big Sandy and looks forward to rapidly advancing the project with the help of its highly experienced board and management team.



Figure 2: Big Sandy - Green Lacustrine Lithium Bearing Clay Horizon (approximately 1.5km north of Cofer Hot Springs)



#### **Big Sandy - 2017 Exploration Results**

Two phases of exploration were completed in 2017, with both providing highly encouraging results that has accelerated contact with the BLM office located in Kingman Arizona and the filing of a Letter of Intent to complete 17 diamond drill holes to an estimated 100m depth across the project area. Approval for this programme is pending.

The focus for this initial work programme was to identify the possible nature and extent of lithium within the clays, and to identify any horizons of elevated lithium that may become a potential resource subject to further exploration. To assist this mapping of the broad lithological units was considered a priority to assist in understanding the geometry and relationship of the various lake sediments.

A total of 201 samples were collected in the first exploration programme returning positive results including:

Channel	Approximate Location	Estimated Channel Length (m)	Number of Samples (~3m / sample)	Average Grade Li ppm	Grade Range Li ppm	Sampled Horizon
C3	264677E 3843803N	18	6	1,023	850 - 1100	Green Clay (Main Zone)
C4	264575E 3843759N	12	4	987	840 - 1130	Green Clay (Main Zone)
C9	264255E 3843363N	42	14	1,066	640 - 2,280	Main Zone
C11	264327E 3843572N	24	8	1,154	760 - 1,910	Main Zone
C12	264354E 3843607N	18	6	1,067	800 - 1,400	Main Zone
C20	264544E 3841963N	15	5	2,701	1,130 - 2,930	Main Zone
C21	264196E 3841225N	3	1	1,190	point sample	Green Clays (Lower green zone)

#### Table 1 – Significant Sample Results from Phase 1 Exploration

A second round of mapping and sampling was completed in July 2017, where a total of 74 samples were collected including 8 auger holes up to 1m depth. Multi element analyses was completed by ALS Laboratories using a 4-acid digest for sample preparation.

Five channel samples in the weathered zone returned results exceeding 1,000 ppm up to 1,312 ppm lithium over widths of 12m - 24m.



#### Table 2 – Significant Sample Results from Phase II of Exploration

Channel	Approximate Location	Estimated Channel Length (m)	Number of Samples (~3m / sample)	Average Grade Li ppm	Grade Range Li ppm	Sampled Horizon
C33	265161E 3838844N	15m	5	1,042	910 - 1,170	Green clay (Main Zone)
C34	265954E 3836466N	24m	8	1,066	480 - 1,440	Green clay (Main Zone)
C35	265730E 3836561N	21m	7	1,313	1,140 - 1,830	Green clay (Main Zone)
C36	265905E 3836681N	12m	4	1,205	1,140 - 1,310	Green clay (Main Zone)
C37	266116E 3836913N	12m	4	1,180	1,030 - 1,410	Green clay (Main Zone)
C38	265853E 3843462N	30m	10	921	500 - 1,440	Green/brown clay
C39	266824E 3835508N	6m	2	865	810 - 920	Green clay

Of the 8 auger holes 7 returned results exceeding 900 ppm lithium and 3 returned results of 2,983, 3,370 and 3,150 ppm lithium, DH1 to DH3 respectively. These 3 holes are spaced at approximately 35m intervals from south to north testing the same "green clay" horizon (Figures 4 and 5).

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Sample Site	Approximate Location	Sample Numbers	Average Grade Li ppm	Comments
DH1	264555E 3841968N	BS17542 - BS17544	2,983	Samples top, mid and 1m depth.
DH2	264552E 3842005N	BS17545 - 17546	3,370	Samples top and 0.4m depth
DH3	264549E 3842041N	BS17547 - 17549	3,150	Samples top, mid and 0.75m depth
DH4	264346E 3843650N	BS17550 - 17551	1,010	Samples top and 0.5m depth
DH5	264586E 3843727N	17552 - 17553	915	Samples top and 0.5m depth
DH6	264522E 3843736N	17554 - 17555	915	Samples top and 0.25m depth
DH7	263163E 3844365N	17556-17558	817	Samples top, mid and 1 m depth
DH8	263259E 3844442N	17559 - 17561	1,020	Samples top, mid and depth 0.8m depth





Figure 4: Auger sampling at the high grade zone near Cofer Springs



Figure 5: Big Sandy- Exposure of Green Clays South of main claim block Sycamore Creek, 3km south of Cofer Spring





Figure 6: Big Sandy- Exposure of Green Clays



Figure 7: Big Sandy – Channel Sampling (April 2017)





Figure 8: Big Sandy Green Clay near Cofer Springs

# Extraction and Processing

USA Lithium is working with Membrane Development Specialists LLC (**MDS**) to investigate the amenability of Big Sandy's sediments to lithium extraction using new membrane processes. The preliminary findings show that the test materials were amenable to an acid leach, ultrafiltration, nanofiltration and reverse osmosis process to separate the lithium from the test material and remove a large portion of the magnesium and calcium with no rejection of lithium.

The project has similarities at this early stage of exploration with other lithium bearing clay deposits.

# • Bacanora Minerals Limited (TSX-V: BCN, AIM: BCN) Market Cap – C\$194M

Sonora Project in Mexico

Recently subject to a Feasibility Study. Existing 43-101 Compliant Mineral Resource of **291 million tonnes** (Measured & Indicated) at greater than 3,250 ppm (0.325%) Lithium, which equates to 5,038kt of lithium carbonate equivalent. (*Source Ausenco Services Pty Ltd, Technical Report on the Feasibility Study for the Sonora Lithium Project, Mexico, January 2018*).



# • Lithium Americas Corp's (TSX: LAC, NYSE: LAC) Market Cap – C\$702M

Lithium Nevada Project (formerly Kings Valley Project) in Nevada.

Currently subject to a Preliminary Feasibility Study due for completion by Q2 2018. Existing 43-101 Compliant Mineral Resource of over **300 million tonnes** (Measured & Indicated) at greater than 0.284% (2,840ppm) Lithium or greater than 1.5% lithium carbonate equivalent across two lenses of mineralisation. (*Source: SRK Independent Technical Report for the Lithium Nevada Property, Nevada, USA, June 2016*).

Further work with MDS is planned to determine the appropriate processing solution to optimise the extractability of lithium from the clays.

#### LORDSBURG LITHIUM BRINE PROJECT

Lordsburg comprises 208 BLM claims covering 16.8km2 plus a further 147 BLM claims covering a further 11.9km2 under application. Lordsburg is located in the southwest corner of the state of New Mexico and is easily accessed along the I10 Interstate between Tucson (Arizona) and La Cruces (New Mexico) close to the New Mexico, Arizona border (Figures 1 and 9). Rail lines pass to the north of the Claim Block and through the lake system to the south.

The Lordsburg Playa system is approximately 15km to the southwest of the town of Lordsburg and lies at an elevation of 1,200m above mean sea level.



Figure 9: Lordsburg Claims, Salt Well and Sampling



#### **General Geology**

Lordsburg project sits within the playa lake system at the northernmost end of the Animas Valley, southwest New Mexico (Figure 9). The basin is an elongated feature bounded to the west by the Peloncillo mountains and to the east by the Pyramid mountains. The basin comprises clays, silts and sands, similar to the lithological sequence in the Clayton Valley. Further there is anecdotal evidence that highly saline fluids were intersected in a historical stock water well located in the basin.



Figure 10: The Lordsburg Playa Lakes in New Mexico

The playa is within the main depression of the Animas Valley and is coincident with a broad gravity low suggesting a major basin may be present (Figure 11). Surrounded by tertiary volcanic rocks the valley mimics the Clayton Valley setting.

An historic US Geologic Survey map from 1954 shows a windmill that is labelled as a "salt well" in the gravity low that is associated with the playa system (Figure 12). The well head was located, and sampling was attempted, but it is blocked at 100 feet. The existence of the well is interpreted as evidence that the subsurface aquifer beneath the playa is salty (brine) and hence the total lack of water wells or any agricultural development near the playa.



Figure 11: Regional Gravity – Target Playa



Figure 12: Well Head at Southern - Referenced Bottom Corner of Figure 9



#### **Previous Sampling**

Surface sampling has been completed in the claim block. It demonstrated the presence of highly anomalous Li values up to 160ppm. Locations are shown in Figure 9 and results are shown in the following:

SAMPLE	EASTING	NORTHING	Li ppm	Mg %	К %
LPN 1	697997	3583949	93.2	1.22	3.04
LPN 2	698051	3583303	97.9	1.19	2.94
LPN 3	698039	3582662	133.5	1.73	2.79
LPN 4	698022	3582006	120	1.45	2.92
LPN 5	697492	3581683	135	1.69	2.69
LPN 6	696971	3581853	148.5	1.89	2.59
LPN 7	696513	3582323	140.5	1.83	2.63
LPN 8	697453	3582712	155.5	1.96	2.67
LBE1	700062	3580319	140	No Multi element analysis	
LBE2	699959	3580318	130	No Multi element analysis	
LBE3	699862	3580314	140	No Multi element analysis	
LBE4	699754	3580309	140	No Multi element analysis	
LBE5	699675	3580394	160	No Multi element analysis	
LBE6	699614	3580471	150	No Multi element analysis	
LBE7	699534	3580545	140	No Multi element analysis	

#### Table 4 – Sample Results LPN1 to LPN8 & LBE1 to LBE7

NOTE: Sample Locations UTM84 12S. Both sampling programmes were analysed by ALS Laboratories using a 4-acid digest. LPN1- LPN8 were analysed by ICP and ICP-MS, method ME-MS61. Samples LBE1-LBE7 were analysed with an ICP-AES finish, method Li- ICP61 (Li only analysis).

#### INITIAL WORK PLANNED

#### **Big Sandy Project**

Subject to the exercise of the Option, Hawkstone would re-analyse the historical data, geological mapping and auger drill results to optimise the exploration programme planned by USA Lithium.

Following this initial program, Hawkstone would move quickly to undertake detailed drilling within the main target area and commence initial metallurgical test-work, with the objective of progressing to resource definition and project scoping study as soon as possible thereafter.

#### **Lordsburg Lithium Project**

As with the Big Sandy Project, Hawkstone will review the exploration and data compiled to date. It will then undertake drill planning leading to drill testing of the lake system for the presence of Lithium bearing brines.



# KANGWANE SOUTH PROJECT

During the quarter, the Company the received the interpretation of the aeromagnetic and radiometric data from the survey completed at the end of 2017 which confirmed ground magnetometer surveys undertaken previously giving the Company increased confidence in the historical data regarding the Project. The survey interpretation has enhanced the Company's knowledge of the geological structure of the Project and has assisted with targeting of drill holes for the Company's current program. For further details of the interpretation of the aeromagnetic and radiometric survey, see the Company's announcement dated 30 January 2018.



Figure 13: Kangwane South Project, South Africa.

The Company has mobilised drill rigs to site with drilling commencing on a planned drill program to test an area known as North Block 2 within the Kangwane South Project that the aeromagnetic and radiometric survey, combined with historic drilling cross sections and geological interpretations, has identified as a favourable target area for underground mining.

The drilling will seek to confirm the historical washability characteristics of the different anthracite seams with new data from washabilities of the current drilling program. During the drilling, impact splitting tests will be conducted on the rock/sediments above and below the anthracite seams to characterise the potential underground mining conditions that will be encountered.

Delays have been encountered due to mechanical issues on site and the Company expects the drill program to be completed in the coming weeks.



#### **Competent Persons' Statements**

Information contained in this announcement that relates to Exploration Results for the Kangwane South Project were first reported by the Company on 30 January 2018. The Company confirms that it is not aware of any new information or data that materially affects these Exploration Results. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Information contained in this announcement that relates to Exploration Results for the Big Sandy and Lordsburg Lithium Projects were first reported by the Company on 22 March 2018. The Company confirms that it is not aware of any new information or data that materially affects these Exploration Results. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.



# Appendix 1 Tenement Listing

The following information is provided pursuant to Listing Rule 5.3.3 for the quarter ended 31 March 2018.

Project	Location	Interest
Kangwane South Project	Mpumulanga Province, South Africa	70%

No tenements were acquired or disposed of during the period.

The Company has entered into an option agreement with USA Lithium Limited to acquire the below tenements subject to shareholder approval:

	Project	Claim Number	Claimant/Proposed Holder	Number of Claims
1	Big Sandy	WIK-001 to WIK-112	Big Sandy Inc	112
2	Big Sandy	BSL-001 to BSL-146	Big Sandy Inc	146
3	Lordsburg	LLP-001 to LLP-208	Lordsburg Resource Inc	208
4	Lordsburg	LLP-209 to LLP-354	Lordsburg Resource Inc (Proposed Holder - subject to confirmation from BLM)	147