Olaroz Mineral Resource Update, and Stage 1 & 2 Operations Update

Allkem Limited (ASX|TSX: AKE) ("**Allkem**" or "**the Company**") is pleased to announce an update to the Olaroz lithium brine operation located in Jujuy Province in Argentina. Allkem has reviewed and updated the Mineral Resources and economics for the Olaroz Lithium Facility ("**Olaroz**") including Stage 1 and Stage 2. In April 2022, Allkem released a Technical Report updating key economic metrics for Olaroz Stage 2 and in March 2023, Allkem released a Technical Report (**"previous study"**) updating Mineral Resources.

HIGHLIGHTS

Stage 1 and 2 (42,500 lithium carbonate equivalent tonnes per annum)

Financial Metrics

- Pre-tax Net Present Value ("**NPV**") of US$7.01 billion at a 10% discount rate and a Post-tax NPV of US$4.56 billion
- Long term operating costs for the combined Stage 1 and Stage 2 operation are estimated at US$4,149 per tonne lithium carbonate equivalent ("**LCE**") over the life-of-mine considering operational synergies from the joint operation of Stage 1 and 2

Mineral Resource

- Total Mineral Resource Estimate of 22.63 million tonnes (**"Mt"**) LCE**,** a 10% increase from the previous estimate in March 2023 with a 52% increase in Measured Mineral Resources
- The Mineral Resource now comprises 11.54 Mt of LCE, as Measured, and 3.83 Mt as Indicated for a combined 15.38 Mt of Measured & Indicated Mineral Resource. There is an additional 7.25 Mt of Inferred Resources for a total resource of 22.6Mt (Measured, Indicated and Inferred)
- The improvement in Mineral Resource categorisation results from reclassification of Indicated Mineral Resources between 200 and 650 m depth as Measured Mineral Resources in the pumping field area, reflecting the greater amount of information available from pumping performance since installation of the Stage 2 wells and the addition of Maria Victoria tenements
- Olaroz's life of mine (**"LOM"**) production represents ~8.5% of the Measured and Indicated Mineral Resources, further confirming the Tier 1 status of the basin, and its potential to support additional expansions

Stage 2 (25,000 lithium carbonate equivalent tonnes per annum)

Schedule Update

- The expansion achieved the first wet lithium carbonate production in July 2023. Commissioning activities are ongoing and production is scheduled for H2 CY23, with ramp-up expected to take 1 year

Managing Director and Chief Executive Officer, Martin Perez de Solay commented:

"We have recently concluded a review of the company's resource base. The improvements in Mineral Resource classification for the project are built on our long-term commitment to understand the hydrology of the Olaroz-Cauchari basin to the best extent possible and to manage extraction from the basin in a responsible manner. This Mineral Resource base will support future studies focusing on maximising the productive capacity of this Tier 1 resource."

Allkem

PROJECT BACKGROUND

Allkem is the operator and majority owner of Olaroz, located in the Jujuy Province, in northwest Argentina (Figure 1).

Allkem Limited holds 66.5% of Olaroz through its local subsidiary Sales de Jujuy S.A. ("**SDJ**"), with the remaining project ownership held by Toyota Tsusho (25%) and the Jujuy Energía y Minería Sociedad del Estado (JEMSE) (8.5%). This Joint Venture holds mineral properties that cover the majority of the Salar de Olaroz, including tenements covering 47,615 hectares and two exploration properties ("cateos") consisting of 33 mining concessions.

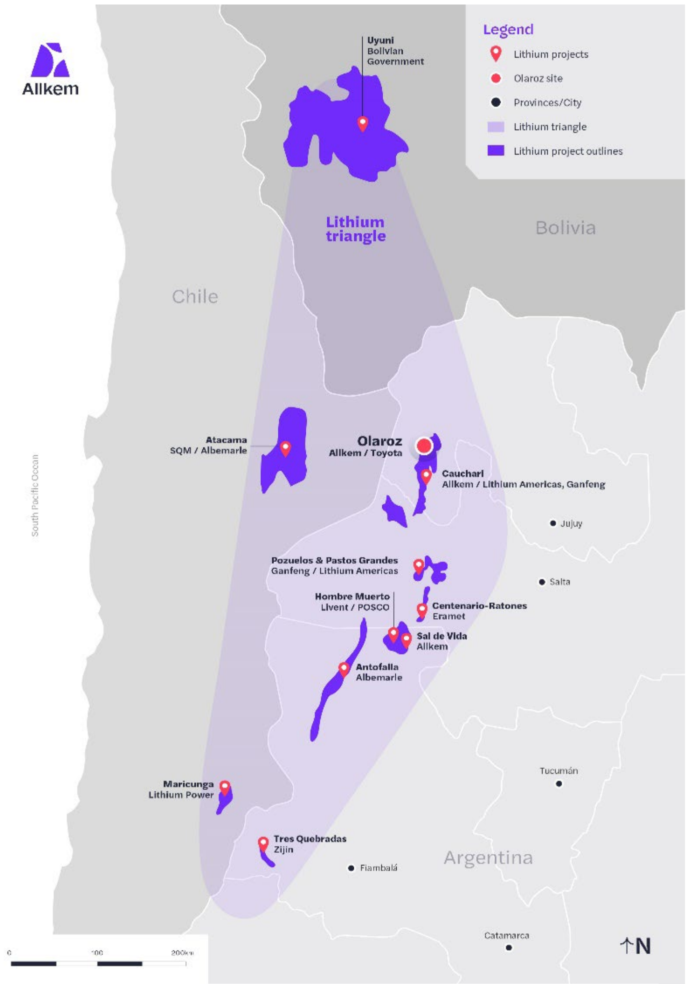

Figure 1: Olaroz Project Location

Olaroz is fully permitted by the provincial mining authorities and has provincial and federal permits, to allow operations for an initial 40 year mine life with renewable options to extend beyond 2053. Olaroz Stage 1 is the original project which commenced operation between 2013 and 2015 during the production ramp-up, with a maximum production capacity of 17,500 tpa of lithium carbonate.

The Olaroz Stage 2 expansion, targeting an additional 25,000 tpa of lithium carbonate, produced first wet concentrate in July 2023, and is scheduled to commence production in H2 CY2023. Olaroz Stage 1 and Stage 2's cumulative site lithium carbonate production capacity is 42,500 tpa.

GEOLOGY & MINERALISATION

The Olaroz salar is located in the elevated Altiplano-Puna plateau of the Central Andes. The Puna plateau of north-western Argentina comprises a series of dominantly NNW to NNE trending reverse fault-bounded ranges up to 5,000-6,000 m high, with intervening internally drained basins at an average elevation of 3,700 m. High evaporation rates, together with reduced precipitation, have led to the deposition of evaporites in many of the Puna basins since 15 Ma, with borate deposition occurring for the past 8 Myr. Precipitation of salts and evaporites has occurred in the centre of basins where evaporation is the only means of water escaping from the hydrological system.

Mineralization in the Olaroz salar consists of lithium dissolved in a hyper-saline brine, which is about eight times more concentrated than seawater. The lithium concentration is the product of the solar evaporation of brackish water which flows into the salar as groundwater and occasional surface water flows. The concentrated brine with lithium is distributed throughout the salar in pore spaces between grains of sediment. The brine also extends a considerable distance away from the salar, beneath alluvial gravel fans around the edges of the salar. These areas are largely unexplored by the company to date. In addition to lithium, there are other elements, such as sodium, magnesium, and boron, which constitute impurities that are removed in the ponds and processing plant.

MINERAL RESOURCE UPDATE

Olaroz wellfield update

Following installation of the Stage 1 production wellfield at Olaroz, several deeper wells were installed in 2014 below 200 m in depth and subsequently utilised for Stage 1 production. This deeper drilling intersected high porosity and permeability sand units, with flow rates of over 30 litres per second (l/s). This discovery initiated evaluation of the deeper resource potential of the basin.

Since 2011, material amounts of new information have been obtained from exploration and production activities at Olaroz. This included geological and production data from Stage 1 production and monitoring holes generally drilled to 200m, with some to 350m and 450 m; and the Stage 2 expansion production and monitoring holes to depths of between 450 and 650 metres. Additional information has also come from drilling in Cauchari, a 1,408 m deep exploration hole north of the production holes in Olaroz and geophysical surveys over the whole basin.

Olaroz Stage 2 involved an expansion of facilities and production capacity to reach a total production capacity of 42,500 tpa LCE. This involved the installation of additional wells for brine extraction and for industrial water extraction, pipelines for brine and fresh water, additional brine collection ponds, lime plants, significantly expanded evaporation ponds (adjacent to the existing ponds), a new plant facility, stores, power generation facilities, reverse osmosis plant, production plant and accommodation camp.

The last of the 15 new wells for Stage 2 production (Figures 2 and 4) was completed late in 2022. These production wells are now installed to depths between 450 m and 650 m (with one hole to 751 m), and most of the brine production comes from these deeper levels in the Salar on a 1 km grid spacing in the central to eastern area of the Salar, between the original Northern and Southern wellfields. In addition to the production wells, a number of diamond drill holes provide core and brine samples and allowed the installation of monitoring wells. The Stage 2 production wells are producing a combined flow of approximately 396 l/s, at an average per well of 28 l/s, since beginning operation. This is considerably higher than the Stage 1 wells, which have averaged 11 l/s per hole since the beginning of 2017.

Samples from the wells were sent to external and internal laboratories for chemical analysis. This information and downhole geophysics (from a borehole magnetic resonance tool, part of a broader suite of geophysical tools) were used to update the geological model.

The newly completed wells reached depths between 390 m and 751 m (E15). The lithium concentrations recorded an average lithium grade of 643 mg/L and varied from 544 mg/L to 789 mg/L. Further drilling information and analytical results are displayed in the Annexures.

Wellfield operation started August 2013 with the ramp-up of stage 1 wells and then in CY21 wellfield production increased again with the ramp-up of stage 2 wells as seen in Figure 2.

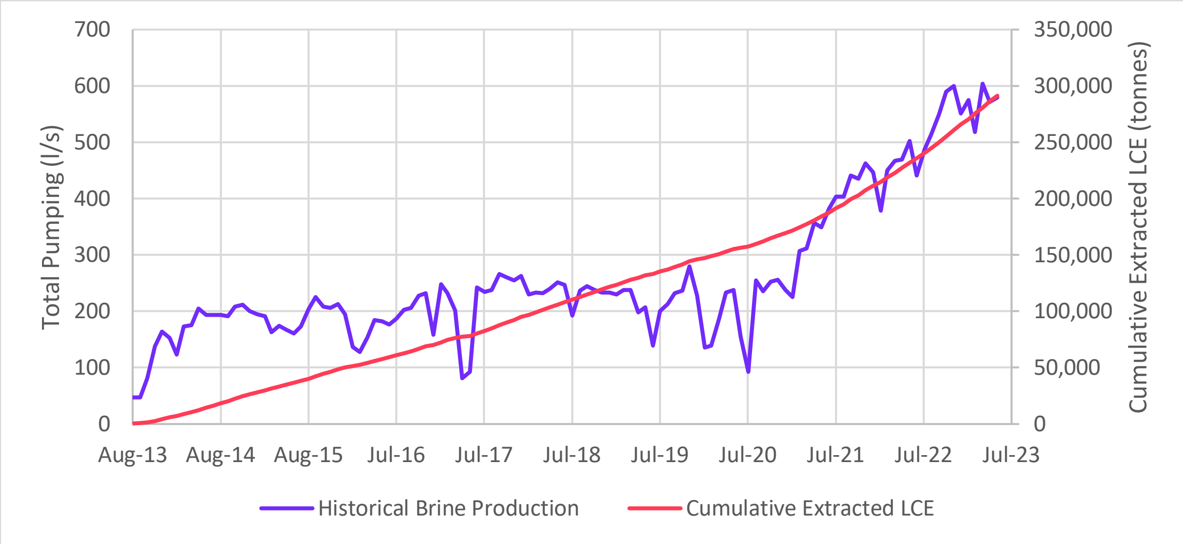

Figure 2: Production Wellfield Pumping and Extracted Lithium in Brine to ponds (August 2013 to June 2023)

The historical well production from start of wellfield operation to 30 June 30 2023, is ~291kt of LCE. 286kt thousand tonnes of LCE was depleted from measured resources and 5kt of LCE was depleted from indicated resource over this period.

Brine Mineral Resource Estimate

Hydrominex Geoscience was engaged to estimate the lithium Mineral Resources in brine for various areas within the Salar de Olaroz basin in accordance with the 2012 edition of the JORC code ("**JORC 2012**"). Although the JORC 2012 standards do not address lithium brines specifically in the guidance documents, the QP has taken into account the Australian Association of Mining and Exploration Companies (AMEC) brine guidelines and the NI 43-101 guidelines for lithium brines set forth by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM 2014). Hydrominex Geoscience considers these complies the intent of the JORC 2012 guidelines with respect to providing reliable and accurate information for the lithium brine deposit in the Salar de Olaroz.

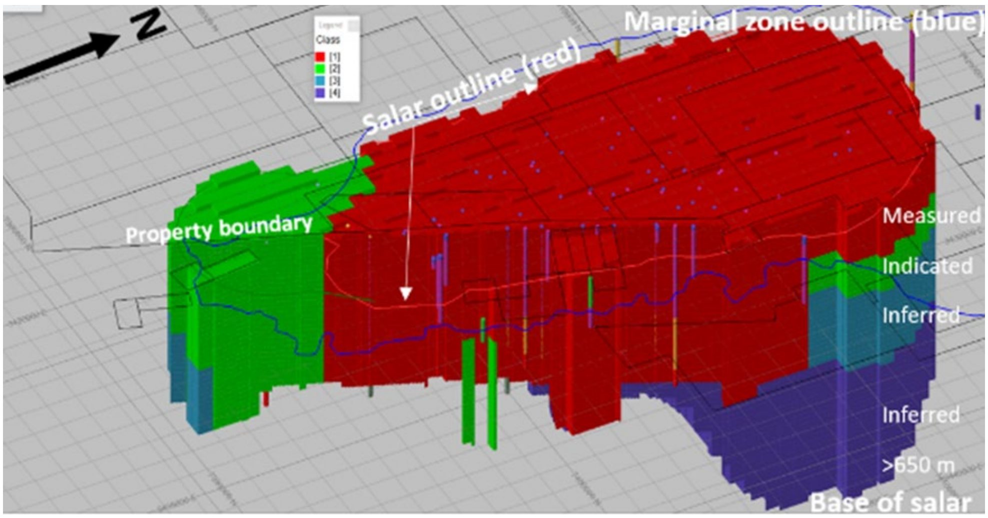

Figure 3: Location map of Measured, Indicated and Inferred Lithium Mineral Resources

The 2023 Mineral Resource estimate is outlined in the following Table 1 and 1a presenting the lithium and lithium carbonate tonnages. The previous estimate at March 2023 is also presented in Table 2.

A lithium cut-off grade of 300 mg/L was utilized based on a projected LCE price of US$20,000 per tonne over the entirety of the LOM. The total revised Mineral Resource estimate of 22.63 Mt LCE (detailed in Table 1) reflects a 10 % total increase to the prior Mineral Resource of 20.65 Mt LCE (detailed in Table 2).

Table 1: Olaroz Mineral Resource Estimate at August 2023[1]

Category	Brine volume	Average Li	In Situ Li	Li_2CO_3 Equivalent	Li_2CO_3 Variance to March 2023
	m^3	mg/l	tonnes	Tonnes	%
Measured	3.3×10^9	659	2,170,000	11,540,000	53%
Indicated	1.2×10^9	592	720,000	3,840,000	-46%
Measured & Indicated	4.5×10^9	641	2,890,000	**15,380,000**	5%
Inferred	2.2×10^9	609	1,360,000	7,250,000	21%
Total	**6.7×10^9**	**636**	**4,250,000**	**22,630,000**	10%

1. The Competent Person(s) for these Mineral Resources estimate is Hydrominex Geoscience for Olaroz
2. Comparison of values may not add up due to rounding or the use of averaging methods
3. Lithium is converted to lithium carbonate (Li_2CO_3) with a conversion factor of 5.323
4. The cut-off grade used to report Olaroz Mineral Resources is 300 mg/l
5. Mineral Resources that are not Ore Reserves do not have demonstrated economic viability, there is no certainty that any or all of the Mineral Resources can be converted into Ore Reserves after application of the modifying factors

Table 1a: Olaroz Mineral Resource Estimate at August 2023 by company

Category	Brine volume	Average Li	In Situ Li	Li_2CO_3 Equivalent	Li_2CO_3 Variance to March 2023
	m^3	mg/l	tonnes	Tonnes	%
Measured	3.3×10^9	659	2,170,000	11,540,000	53%
SDJ JV (66.5% AKE)	*2.7×10^9*	*664*	*1,796,000*	*9,561,000*	
Olaroz Lithium (100% AKE)	*2.0×10^8*	*700*	*142,000*	*756,000*	
La Frontera Minerals (100% AKE)	*3.8×10^8*	*595*	*229,000*	*1,219,000*	
Indicated	1.2×10^9	592	720,000	3,840,000	-46%
SDJ JV (66.5% AKE)	*1.1×10^9*	*591*	*659,000*	*3,508,000*	
Olaroz Lithium (100% AKE)	*4.2×10^7*	*645*	*27,000*	*144,000*	
La Frontera Minerals (100% AKE)	*5.9×10^7*	*573*	*34,000*	*181,000*	
Measured & Indicated	4.5×10^9	641	2,890,000	15,380,000	5%
SDJ JV (66.5% AKE)	*3.8×10^9*	*645*	*2,455,000*	*13,069,000*	
Olaroz Lithium (100% AKE)	*2.4×10^8*	*691*	*169,000*	*900,000*	
La Frontera Minerals (100% AKE)	*4.4×10^8*	*592*	*263,000*	*1,400,000*	
Inferred	2.2×10^9	609	1,360,000	7,250,000	21%
SDJ JV (66.5% AKE)	*1.2×10^9*	*623*	*764,000*	*4,067,000*	
Olaroz Lithium (100% AKE)	*2.4×10^8*	*650*	*154,000*	*820,000*	
La Frontera Minerals (100% AKE)	*7.3×10^8*	*608*	*443,000*	*2,358,000*	
Total	**6.7×10^9**	**636**	**4,250,000**	**22,630,000**	10%
SDJ JV (66.5% AKE)	*5.0×10^9*	*640*	*3,219,000*	*17,136,000*	
Olaroz Lithium (100% AKE)	*4.8×10^8*	*671*	*323,000*	*1,720,000*	
La Frontera Minerals (100% AKE)	*1.2×10^9*	*602*	*706,000*	*3,758,000*	

[1] Includes SDJ properties (AKE 66.5%) and other 100% AKE owned properties

Mineral Resource categories were assigned based on available data and confidence in the interpolation and extrapolation possible given reasonable assumptions of both geologic and hydrogeologic conditions.

Table 2: Olaroz Mineral Resource Estimate at March 2023

Category	Brine volume	Average Li	In Situ Li	Li_2CO_3 Equivalent
	m^3	*mg/l*	*tonnes*	*tonnes*
Measured	2.2 x 10^9	657	1,420,000	7,550,000
Indicated	2.2 x 10^9	612	1,340,000	7,130,000
Measured & Indicated	4.4 x 10^9	634	2,760,000	**14,680,000**
Inferred	1.8 x 10^9	606	1,120,000	5,970,000
Total	**6.2 x 10^9**	**625**	**3,880,000**	**20,650,000**

The reader is cautioned that Mineral Resources are not Ore Reserves and do not have demonstrated economic viability.

Additional information for the resource estimation can be found in the Annexures.

Olaroz basin geology

Exploration activities, since Allkem acquired the properties in 2008, have consisted of extensive geophysical programs and drilling over the Olaroz basin. Geophysical programs have included AMT (Audio-Magnetotellurics) electrical surveying, and vertical electrical soundings to define the lateral extents of the brine beneath alluvial sediments, around the margins of the salar. This is important in order to constrain the geological and hydrogeological models and assess areas for brine prospectivity off the salar. The northern SDJ and 100% Allkem properties have been subject to minimal exploration to date. However, electrical geophysics indicates prospectivity for brine beneath alluvial and deltaic sediments north of the Olaroz salar in the exploration mining right, Cateo 498, and other properties.

Additional geophysics has included an extensive gravity and magnetic survey across the basin, that provided information on the basin depth and corroborated the early geophysical interpretation which indicated the basin is more than 1 km deep.

Since the exploration drilling for the 2011 Mineral Resource estimation, conducted between 2008 to 2011, more extensive drilling undertaken for exploration and production well installation has provided information to depths of 751 m in Olaroz (generally 400 to 650 m) and better defined the basin geology. Additionally, one deep exploration hole has been drilled at the north end of the production area to a depth of over 1400 m, without intersecting basement rocks. This drilling led to development of a mixed salar basin model, with five separate geological and hydrogeological (hydrostratigraphic) units above the basement, defined by geological and geophysical logging of holes (refer to Figure 4 and 5).

- UH1 - Upper evaporite deposits, porous halite, clay, sand and silt
- UH2 - Alluvial fans on the western and eastern margins of the Salar, which contain brine beneath brackish water off the Salar (as defined by production well E26)
- UH3 - Mixed sediments with clay and sand intervals
- UH4 - Evaporite deposits, principally halite, with clay, silt and sand interbeds
- UH5 - Sand units, interbedded with clay and silt. Sandy material is sourced from the historical western margin of the basin and becomes progressively deeper in the east of the basin

Drilling has not intersected the basement rocks beneath the Salar and it is possible that additional units will be intersected in future deeper drilling. In the central eastern part of the salar unit UH4 is thicker, reflecting the nucleus of the Salar in this area.

The geological interpretation across Olaroz is also consistent with the independent interpretations on adjacent projects based on drilling conducted by Allkem and Advantage Lithium in Cauchari, and the work conducted by Minera Exar in Cauchari, being the southern continuation of the Olaroz structural basin.

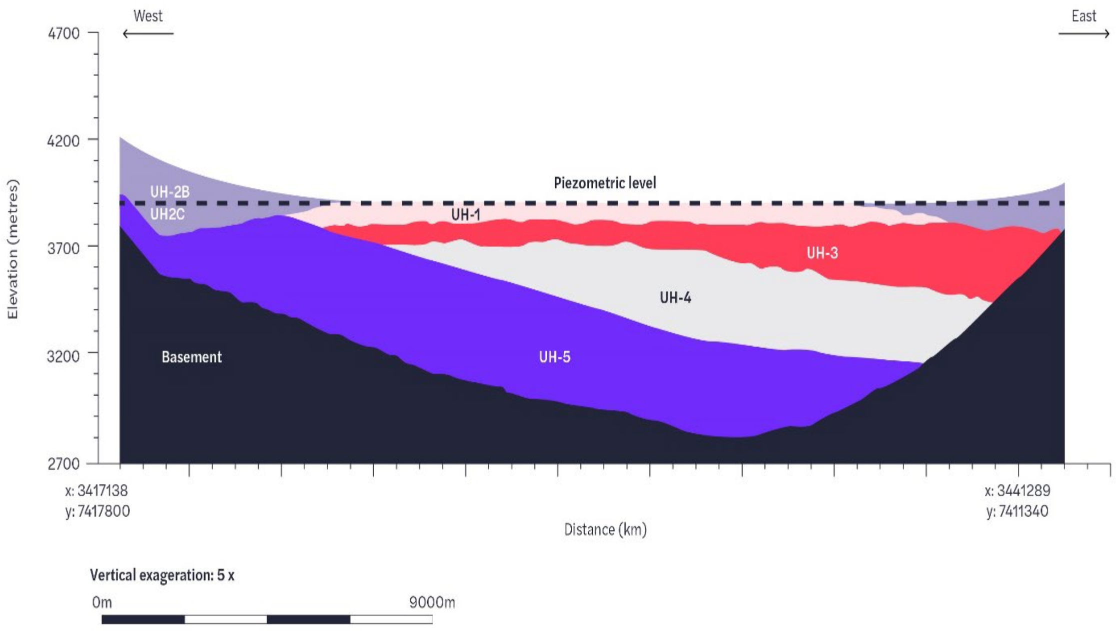

Figure 4: Geological model of the Olaroz salar looking north through the northern part of the basin

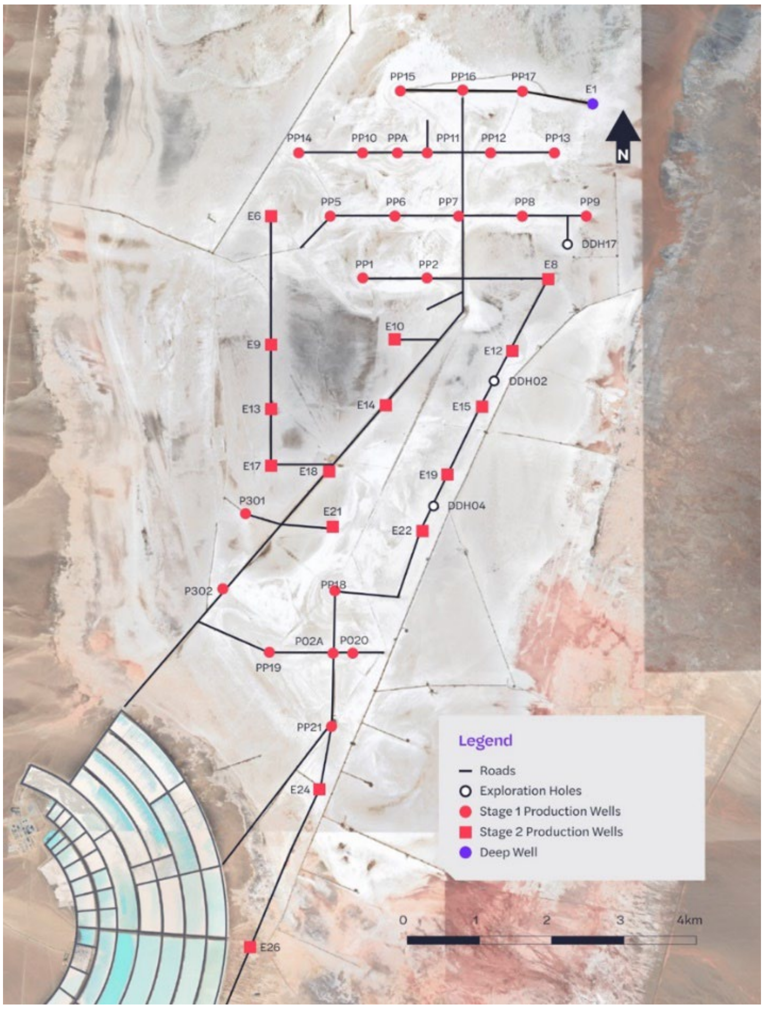

Figure 5 – Olaroz production well locations

Resource estimate data sources

Average production well brine chemistry values, from throughout pumping of the wells, have been used as inputs for the resource estimation, in addition to the interval samples historically collected in the upper 200 m. This is considered an acceptable approach in this situation, given the level of information available in the Olaroz salar, hydrogeological continuity between drill holes, comparison between historical interval samples and pumped brine concentrations and the history of pumping data available. Additional diamond drilling is recommended for future resource evaluations and to allow installation of additional deep monitoring wells.

Geophysical logging in the deeper holes has confirmed generally consistent drainable porosity and permeability characteristics throughout the clastic sediments with higher porosities and permeabilities associated with more sand dominated intervals.

Mineral resource estimation

Estimation of a brine resource requires definition of:

- The aquifer distribution (in this case restricted to the Salar outline, except around hole E26 in the south)

- The distribution of drainable porosity (specific yield) values
- The distribution of lithium and other elements in the brine defined by drilling
- The external limits (geological or property boundaries) of the resource area

The resource grade is a combination of the aquifer volume, the drainable porosity (portion of the aquifer volume that is filled by brine that can potentially be extracted) and the concentration of lithium in the brine.

The Olaroz aquifer system is not a conventional water supply style aquifer, based on a discrete geological unit, but rather a layered sequence of sediments that contributes brine flow to production wells. More permeable sand and gravel units provide relatively higher flows. The surface outline of the Salar is used to delimit the area of the resource estimate (except for the off-salar extension around E26). The 2023 resource covers 147.9 km^2, larger than the original 2011 Resource area (93 km^2).

The expanded area reflects inclusion of the Olaroz Lithium and la Frontera (Maria Victoria) properties, which were not part of the original property holdings. The resource has been further expanded by the drilling of hole E26 south of the Salar, allowing definition of resources beneath the alluvial gravels south of the Salar (Figure 5). Brine saturated sediments are known to extend beneath alluvial sediments surrounding the Salar and this was confirmed in drilling of hole E26 on the edge of the gravels beside the Salar, which continued to 510 m in sandy and gravel material.

The resource estimate is limited laterally by the boundaries (Figure 3) with adjacent property owner Exar, in the salar to the east and north of the properties owned by Allkem subsidiaries (Olaroz Lithium and La Frontera Minerals) and SDJ entities. The resource estimate is limited at depth by the sediment-basement contact interpreted from the gravity geophysical survey conducted over the basin. Drilling suggests this interpretation underestimates the basin depth.

Within the Salar the three-dimensional distribution of the different hydrostratigraphic units was defined using Leapfrog 3D software, with these units based on geological and geophysical logging observations. The resource is entirely within the Salar, except in the gravel area extending west from production hole E26. This is the only location where brackish water overlies brine within the resource estimate. Lower lithium concentration blocks have been excluded from the resource by the 300 mg/l cut-off grade. In all other areas within the resource brine begins from within several metres of the salar surface.

The porosity data set consisted of interval porosity samples analysed in an independent laboratory for the upper 200 m and the BMR downhole geophysics from 200 to 650 m. These were used to generate a block model across the salar area, applying ordinary kriging to the composited drainable porosity data.

The distribution of lithium and other elements was estimated from point sampling data from the upper 200 m of the model, where samples are typically spaced every 6 m in the 200 m holes and 3 m or less in the 54 m holes. Below the upper 200 m the resource was estimated based on the pumped samples from the production wells, with a single value per hole representing the average pumped lithium value, assigned to the areas with screens in the production wells.

The block model was constructed with 500 by 500 m blocks, with a 20 m vertical extent (Figure 6 and Figure 7). Only the portion of the block inside the salar outline is reported in the resource (with the exception of the area around E26). The resource estimate was undertaken using Datamine software, with variograms developed for the point samples from the upper 200 m. Estimation was undertaken using ordinary kriging. The ordinary kriging method is the most commonly used kriging method. In areas of sparse data around the model edges Nearest Neighbour estimation was used.

The Mineral Resource was estimated using four passes in the search strategy. The results of the first two passes are nominally equated to blocks classified as Measured and Indicated, with the latter two passes equating to blocks classified as Inferred. The resources were defined across the salar outline and extension around E26, defined over different depths, reflecting drilling density and confidence. Future drilling on the salar may bring additional Mineral Resources into the Indicated and Measured classification.

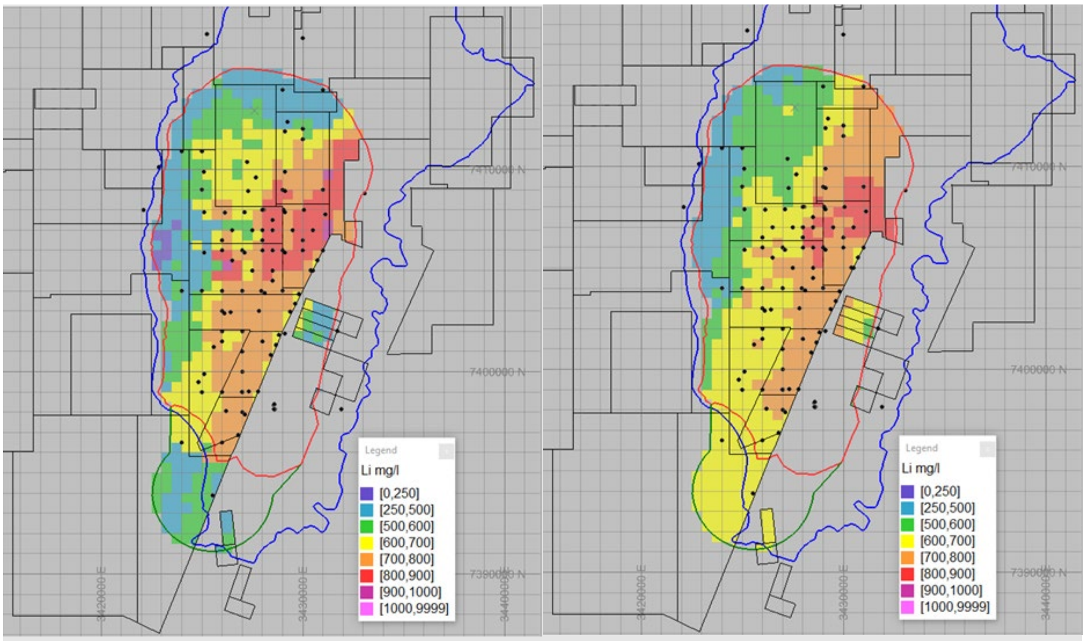

Figure 6: Lithium grades (mg/L) at 100 m (left) and 250 m below surface (right.)

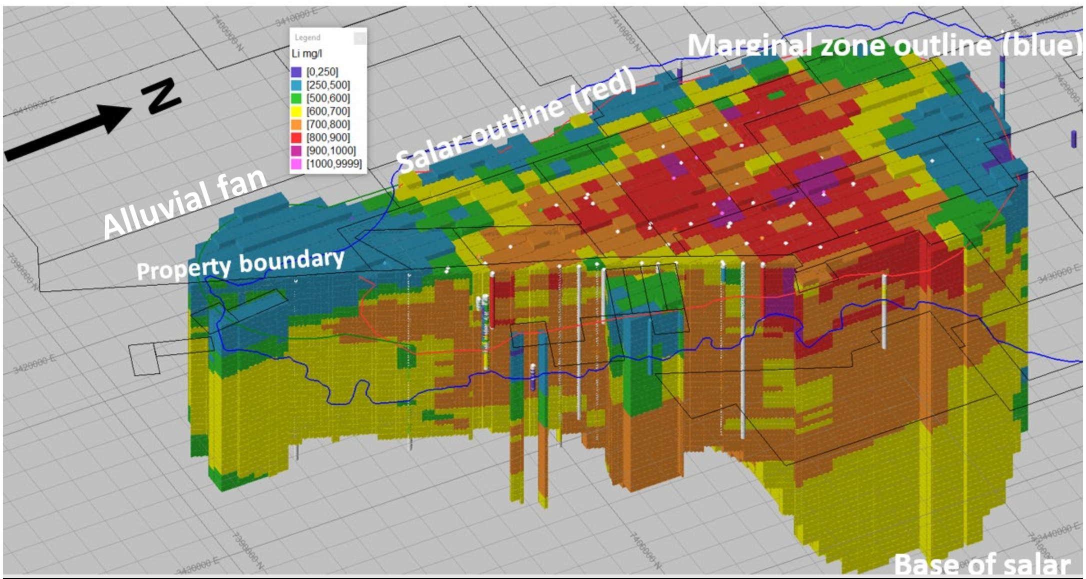

Figure 7: Resource blocks in lithium mg/l, showing the salar edge (red), alluvial zone (green) in the south and the muddy marginal zone outline (between red and blue outlines).

Mineral Resources classification

Measured Mineral Resources

The Measured classification is based on reliable geological correlation between drill holes, which show gradual changes in lithology laterally and with depth. Measured Resources were previously defined to cover the entire salar area to 200 m depth, as exploration drilling was previously conducted across the salar area to 54 m and 200 m depth. The deeper extension of the Measured Resource in this estimate is defined based on the drill hole depth in the pumping field, with the resource to 650 m depth in the east of the salar and 450 m deep in the west, where drill holes are shallower. Measured Resources are defined to 350 m depth around holes drilled in the Maria Victoria property, in the north of Olaroz, extending below the 200 m depth defined elsewhere in the north of the salar.

Classification is supported by ongoing extraction by pumping of brine from production wells installed to 200 m since 2013, 300 m since 2014 and 650 m since 2021, with 1 km spaced production wells and a drilling density of approximately 1 hole per 2 km2.

Indicated Mineral Resources

Geological continuity established by deeper drilling below 200 m, geophysical logging of holes, and gradual changes in lithium concentration provide the basis for classifying the brine below 200 and 350 metres below surface in the north of the salar (with lesser drilling density) and south of the salar around hole E26, to the base of the salar in that area as Indicated. Mineral Resources below this depth are defined as Inferred.

Laboratory porosity samples are relatively limited below 200 metres, however similar sediment intervals are present above 200 metres at Olaroz, where porosity characteristics have been established from hundreds of laboratory analyses. Extensive porosity samples from similar sediments are also available from the Allkem Cauchari properties. Ongoing extraction by pumping of brine from wells up to 450 metres deep since 2014 and from 650 metres depth for up to 3 years, provides confidence as to the extractability of brine from the resource to this depth.

BMR porosity data was collected below 200 metres depth, providing extensive porosity data in the Stage 2 holes. Future drilling below 200 metres provides the opportunity to upgrade Indicated Mineral Resources to Measured Mineral Resources status.

Inferred Mineral Resources

The Inferred Mineral Resource is defined between 200 or 350 metres and 650 metres in the north of the salar and below 650 metres to the base of the basin. The base of the basin is defined by the gravity geophysical survey, with areas significantly deeper than 650 m defined. There are currently 19 production wells installed to 350 metres or below, with production wells for Olaroz Stage 2 installed between 400 and 751 metres deep between the existing northern and southern wellfields. The deep hole drilled in the north of the salar confirms locally the salar sediments extend to below 1400 metres depth. Drilling has not intersected the base of the salar sediments, where the geophysical estimated basement depth has been reached, suggesting the basin may be deeper than estimated from the gravity survey. Limited brine samples were collected in this deep hole.

Taking account of the distribution of brine grade and porosity to date (as determined by BMR geophysics) there is a sufficient level of confidence to classify the Mineral Resources extending to the bottom of the basin as Inferred Mineral Resources. It is likely that additional drilling could convert these to a higher confidence Mineral Resource classification.

Mineral Resource classification table and cut-off grade

Since publication of the updated Mineral Resource on 27 March 2023, Allkem has undertaken a company-wide review of Mineral Resources. This has led to the reclassification of a large portion of the Olaroz Indicated Mineral Resources to Measured Mineral Resources.

The Olaroz brine project is a very large salar which hosts lithium dissolved in hypersaline brine present in pore spaces between sediment grains. The brine mineralisation in the resource covers an area of 147.9 km^2, within a larger area also known to contain lithium-mineralised brine.

The lithium concentration is highly homogeneous compared to most mineral deposits, as the lithium concentration process results in a relatively homogeneous brine concentration. The lithium concentration varies slowly laterally and vertically across the salar. There is no internal waste (uneconomic lithium concentrations) within the Mineral Resource. Stage 1 and Stage 2 of the project have been developed with conventional evaporation pond technology. Future additional developments may utilise direct extraction technologies.

The Mineral Resource was previously stated with no cut-off grade, considering its large homogeneous nature and location almost entirely on the Salar. As an outcome of internal peer review the Mineral Resource is now stated at a lithium cut-off grade of 300 mg/L, applied based on a breakeven cut-off grade for a projected LCE price of US$20,000 per tonne) over the entirety of the life of mine (there are no areas within the resource below this).

BRINE EXTRACTION AND PROCESSING

A groundwater model has been developed for Allkem by Napa consultants of Barcelona, Spain, covering the Olaroz and Cauchari basins. The model was developed in FeFlow groundwater modelling software, based on the exploration and production holes drilled to date and calibrated with the pre-production water levels and the results of production pumping.

The Steady State model was calibrated to 49 wells and the Transient model was calibrated to 32 wells with 12,921 data points from production pumping since 2013, providing extensive information on brine levels and response to pumping. Geochemical data was available from 107 monitoring points having 33,640 geochemical data points. The model was calibrated in a steady state configuration and also calibrated with the results of pumping from the period from 2013 to 2018 in a Transient mode. The effects of industrial water extraction from the existing water source in the Archibarca area, south of the plant, was also simulated in the evaluation.

The model was subsequently used for a number of model simulations of future production scenarios, including Stage 2 development, with coincident pumping and operation of the adjacent Exar project in Cauchari-Olaroz, to simulate the results of combined pumping and long term extraction of brine from the large brine body present in the salt lake.

The model will be used to evaluate different scenarios for the development of Stage 3 of the project, and will be updated to incorporate results from additional drilling in the Olaroz basin, particularly in the north of the Salar and south of the ponds and plant, where there is little current information available. With this information the model will be used to simulate future combined production in the basin and to develop an Ore Reserve estimation for the different stages of the project. Brine is extracted from the host sediments from wells at different depths, depending on the age of the wells.

There is no mining of the sediments. All extraction of lithium is via brine.

Audits and reviews

An independent assessment of the groundwater model that will be used to derive Ore Reserves has been undertaken and observations and recommendations are being reviewed and implemented.

Operations and Stage 2 Status

The Olaroz project was subject to an initial definitive feasibility study in 2011 with engineering company SKM which was the basis for Stage 1 project design and construction. A subsequent study was undertaken to support the development of Stage 2 of the project, the results of which were published in April 2022 in a JORC compliant announcement and NI 43-101 technical report. The Stage 2 project has now been constructed, achieved first wet production in July 2023, and is in the commissioning stage with operations ramp-up starting H2 CY23.

The Olaroz project borefield and ponds have been operating successfully from 2013 and site based lithium processing and sale of lithium carbonate product from 2015 as part of the Stage 1 project development. The Stage 2 development is designed with a substantial increase in the evaporation pond area with the addition of 9 km^2 of new ponds. A second processing plant has been built to increase annual production capacity to 42,500 ktpa LCE from the combined Stages 1 and 2. The new plant design is based upon the original Stage 1 plant but with improved equipment selection and processing strategy based on that experience.

Mining Factors

Mining is undertaken by the installation of large diameter (12 inch installed casing) wells into the salt lake sediments. Once installed and developed the wells are pumped to provide a continuous supply of brine to the project evaporation ponds. The wells provide an average lithium concentration that is derived from the sediments where production wells are installed.

Only a portion of the project resource can be extracted, due to the limitations of extraction by widely spaced wells. This amount was simulated in the groundwater model which will be the basis for the future project Ore Reserve, which will take account of salar's environmental factors during extraction. The extraction from wells was simulated using calibration data from actual pumping operations since 2013, providing an extensive dataset for model calibration and prediction.

Extraction using bores is the appropriate extraction choice in salars, as the lithium is dissolved in brine (fluid) and mining of unconsolidated sediments is not contemplated. There are no minimum mining widths, as brine mining is not a selective mining method.

Geotechnical parametres for brine extraction are different to hard rock mining, and consider issues such as compaction and settlement of sediments over time as brine is extracted.

Inferred Mineral Resources are present beneath and laterally to the volumes of Measured and Indicated Mineral Resources. The Inferred Mineral Resources are not included in current mining studies but are considered a possible source of future brine extraction, when further drilling is completed.

Brine mining requires the provision of electricity and pipelines to the sites of wells from which brine is extracted. The pipelines pump brine to centralised collection ponds, from where it is pumped to the evaporation pond network. The brine is subject to the addition of lime in the evaporation ponds.

Pumps are required to move brine between ponds and pump brine into the plant, where lithium carbonate product is produced. A gas pipeline provides the energy source for onsite electricity and heat generation.

Brine is liquid and flows in response to operation of pumps installed in wells, with pumping inducing radial flow towards the well and extraction of brine to evaporation ponds. The location of some of the Stage 2 production wells in proximity to the eastern boundary of the Olaroz SDJ properties will result in a portion of the brine from these wells being extracted from adjacent properties. This is a small portion of the overall brine extraction.

The lithium concentration in brine is forecast based on the groundwater flow and transport model. This predicts a minor decline in the lithium concentration over time, from 650 mg/L in 2023 to an overall concentration of approximately 570 mg/l in 2053.

Metallurgical factors

The metallurgical process utilised for the production of lithium carbonate is based on solar evaporation of brine prior to reacting lithium with soda ash in the plant to produce lithium carbonate. In this way much of the energy required for the process is provided naturally by the sun. Lithium remains soluble in the brine, and other elements precipitate in response to their increasing concentration and saturation in the brine. Lime is added to the ponds to facilitate the precipitation of magnesium from the brine. Although more recent direct extraction processing techniques are now more widely available pond evaporation provides a cost-effective and low risk processing method for Olaroz brine.

The metallurgical process is based on the well-established Silver Peak process, which was adapted for use at the Olaroz project. The project has been producing lithium using the Olaroz process since 2015, with optimisation of the process undertaken during this period.

Extensive test work was undertaken on the Olaroz brine prior to finalisation of the process and development of the project. Deleterious elements were characterised during the exploration of the project and evaluated extensively during the process development. Pilot scale testing was undertaken at the site in real environmental conditions. The actual processing plant has now been operating since 2015.

Lithium Carbonate is sold as both technical (>99.3% Li) and battery grade (>99.5% Li) product, depending on the concentration of impurities. The project produces both grades of product.

The Olaroz Stage 2 process plant has been designed primarily based on the experience gained from 5 years of operating development and data analysis from the Stage 1 process plant. Some equipment specific testing was also conducted, mostly on new solid liquid separation steps in the polishing area.

The Olaroz 2 plant is similar in its general process flowsheet and chemistry to the Stage 1 plant, however it has been designed to provide higher quality technical grade product and improved recovery in the primary carbonation circuit. This is achieved by: -

- Washing of solid precipitates in the polishing circuit to minimise lithium loss
- Inclusion of improved ultra-fine filtration technology in the polishing circuit which will contribute to product quality
- Removal of trace Ca and Mg by ion exchange ("**IX**") processing of carbonation reactor feed which will contribute to product quality and an anticipated improvement from technical to battery grade

- Improved control of washing and filtration of final product using air blown plate and frame filters, also contributing to improved quality by minimizing entrained impurities in the cake moisture
- Improved process control by enhanced instrumentation and increased process buffer storage

It should be notes that Stage 2 does not include a purification circuit as installed in Stage 1.

A gas fired rotary drying kiln has been used in the Olaroz Stage 2 drying plant, along with additional micronising capacity. A new soda ash bag storage area and mixing plant with the capability to convert to bulk delivery has been designed. Additional raw water wells in the Archibarca alluvial field and downstream reverse osmosis plant capacity are provided to meet the increased clean water requirements. Extended water supply rights have been obtained in the northern Rosario River alluvial sediments. The required increase in power generating capacity is provided by expansion of the stage 1 gas fired generators and additional boiler capacity for solution heating.

INFRASTRUCTURE

The project is well served by infrastructure, being located adjacent to a paved international highway between Argentina and Chile that leads to major import and export ports in Northern Chile.

The project is supplied by a spur line from a gas pipeline which passes to the north of the project. Electricity and heat are generated on site for the project process and camp.

Water for industrial processes is obtained from groundwater that is treated by reverse osmosis.

Accommodation is provided by purpose-built accommodation at the project, with additional accommodation provided in nearby villages and towns.

FINANCIAL PERFORMANCE

Olaroz Stage 2 reached substantial Mechanical Completion in June 2023 with first wet production achieved in July 2023.

Capital investment for Olaroz Project Stage 2, including equipment, materials, indirect costs, and contingencies and pre-commissioning activities during the construction period was estimated to be US$425 million, excluding VAT and working capital.

The operating costs estimate for Olaroz was updated by Allkem's management team. Most of the operating costs are based on labour and consumables which are currently in use at the operation.

Table 3 provides a summary of the estimated cost by category for a nominal year of operation.

Table 3: Stage 1 and 2 - Summary of Operating Cost

Operating Cost	Units	Total
Reagents	*US$/t LCE*	**2,280**
Labour	*US$/t LCE*	**816**
Energy	*US$/t LCE*	**98**
General and Administration	*US$/t LCE*	**687**
Consumables and Materials	*US$/t LCE*	**240**
Transport and Port	*US$/t LCE*	**28**
TOTAL OPERATING COST	***US$/ t LCE***	**4,149**

Minor discrepancies may occur due to rounding

Lithium carbonate price forecast

Lithium has diverse applications including ceramic glazes, enamels, lubricating greases, and as a catalyst. Demand in traditional sectors grew by approximately 4% CAGR from 2020 to 2022. Dominating lithium usage is in rechargeable batteries, which accounted for 80% in 2022, with 58% attributed to automotive applications. Industry consultant, Wood Mackenzie ("**Woodmac**") estimates growth in the lithium market of 11% CAGR between 2023-2033 for total lithium demand, 13% for automotive, and 7% for other applications.

Historical underinvestment and strong EV demand have created a supply deficit, influencing prices and investment in additional supply. Market balance remains uncertain due to project delays and cost overruns. The market is forecast to be in deficit in 2024, have a fragile surplus in 2025, and a sustained deficit from 2033.

Prices have fluctuated in 2022-2023, in response to EV sales, Chinese production, and supply chain destocking trends. Woodmac notes that battery grade carbonate prices are linked to demand growth for LFP cathode batteries and are expected to decline but rebound by 2031. Lithium Hydroxide's growth supports a strong demand outlook, with long-term prices between US$25,000 and US$35,000 per tonne (real US$ 2023 terms).

PROJECT ECONOMICS

An economic analysis was developed using the discounted cash flow method and was based on the data and assumptions for capital and operating costs detailed in this report for brine extraction, processing and associated infrastructure. The evaluation was undertaken on a 100% equity basis.

The lithium price used in the economic analysis is weighted on the basis of the proportion of the various products produced. The basis of forecast lithium carbonate pricing was provided by Woodmac who expect prices to settle between US$26,000/ t and US$31,000/ t (real US$ 2023 terms) over the longer term.

There is a 3 percent mine mouth (boca de mina) royalty on the value of production to the provincial Jujuy government, considered the value of the product after the deduction of the costs of extraction, processing and transportation. There is an export duty of 4.5% on the FOB price, as regulated by Argentinian Government Decree Nr. 1060/20.

Olaroz Stage 1 and 2 production is expected to reach nominal capacity of 42,500 metric tonnes per year of lithium carbonate for an estimated operational life of approximately 32 years. This would result in the production of approximately 543,030 dry metric tonnes ("**dmt**") of saleable lithium carbonate. When considering both Stage 1 and 2, the total saleable product is estimated to be 1,310,670 dmt of lithium carbonate for the LOM.

The saleable product for Stage 2 is expected to be of technical grade (>99.3% Li). However, it's important to note that Stage 1 includes both Technical and Battery Grade (>99.5% Li) lithium carbonate.

The key assumptions and results of the economic evaluation are displayed in Table 4 below.

Table 4: Key assumptions utilised in the project economics

Assumption	Units	Stage 1 and 2
Project Life Estimate	*Years*	32
Discount Rate (real)	*%*	10
Provincial Royalties [1,2]	*% of LOM net revenue*	3.0
Corporate Tax[2]	*%*	35
Annual Production[3]	*tonnes LCE*	42,500
CAPEX *(Olaroz Stage 2)*	*US$M*	425
Operating Cost	*US$/tonne LCE*	4,149
Average Selling Price[4]	*FOB US$/tonne LCE*	24,798

[1] Provincial royalty agreement at 3.0%, export duties, incentives and other taxes are not shown. JEMSE, the Jujuy provincial mining body, holds an 8.5% interest in SDJ

[2] There is a risk that the Argentina Government may, from time to time, adjust corporate tax rates, export duties and incentives that could impact the Project economics

[3] Based on 100% technical grade lithium carbonate coming out of Olaroz Stage 2

[4] Based on price forecast provided from Wood Mackenzie and targeted production grades stated in Footnote 3 above

The project economics of Olaroz Stage 1 and 2 demonstrates strong results, with substantial net present values and robust projected revenue and operating cash flow figures.

Pre-Tax NPV@10% is estimated to be US$7,012 million. Post-Tax NPV@10% is estimated to be US$4,562 million.

Sensitivity Analysis

As displayed in Table 4 above, the Olaroz operations update for Stage 1 and 2 demonstrates strong financial outcomes with a post-tax NPV at 10% discount rate of US$4,652 million. Figure 8 analyses the impact on post-tax NPV when pricing, operating cash costs and development CAPEX fluctuate between +/- 25 %.

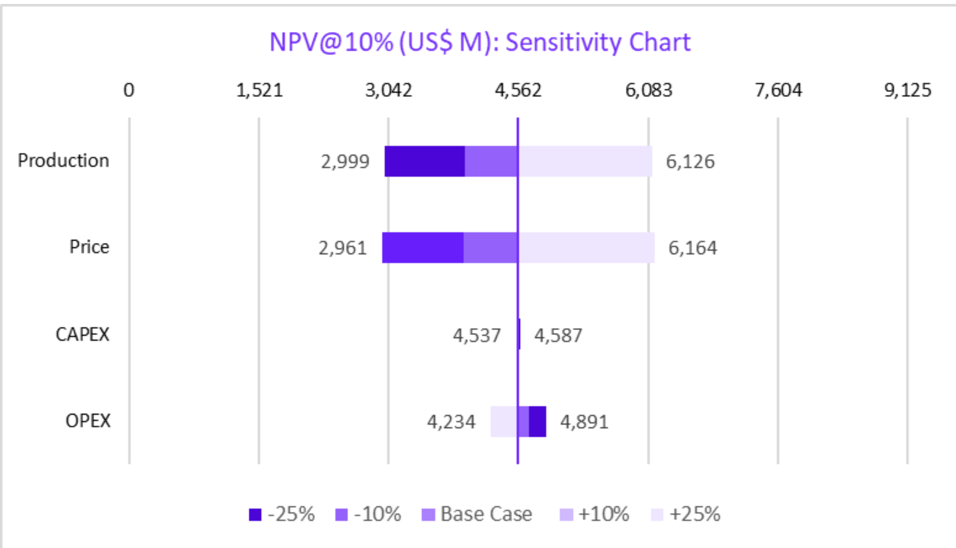

Figure 8: NPV Sensitivity Analysis

Environmental

The Environmental Monitoring and Follow-up Plan ("**PMSA**") of SDJ contains the procedures and methodologies to evaluate the environmental components of the project area and to measure and monitor their variations during operation. Olaroz Stage 2 is permitted under 2016 and 2018 authorisations, with additional authorisations from March 2021.

Environmental Monitoring aims to obtain data on periodic and seasonal environmental parametres, running quarterly campaigns, in the months of February, May, August and November. The objectives are to verify that environment conditions in the area of influence by the operation remain unchanged or that changes produced are within the approved permissible limits as part of the project operations.

This work includes extensive studies of flora, fauna, hydrogeology, hydrology, climate, air quality, noise, limnology, landscape characteristics and ecosystem characterisation. This is supported by social economic and cultural studies, surveys and support programs.

SDJ has received the relevant permissions from 2009 through 2021 for the Olaroz Project development and operating activities from provincial and federal agencies, such as the provincial Jujuy Mining Directorate and the UGAMP scientific committee of Jujuy (which reviews lithium project developments), provincial water resource authority and environmental authorities.

The project is located in the Olaroz Cauchari Fauna and Flora Reserve (La Reserva de Fauna y Flora Olaroz-Cauchari). The reserve was created in 1981, under provincial law 3820. The reserve is a multi-use area that allows for agricultural and mining activities and scientific investigation programs. The operation of the Olaroz project is consistent with the multi-use reserve status.

Social and Community Relations

SDJ has been very actively involved in community relations since the properties were acquired in 2008. Although there is minimal habitation in the area of the Salar, SDJ has consulted extensively with the local aboriginal communities.

SDJ has agreements with communities in the territory where the Olaroz brine operation is developed, which are the communities of Olaroz Chico and El Toro (the northern area around the Rosario River) and provides assistance to the local community, by providing services to community members and employing a significant number of people from the surrounding communities in the current operations.

As part of the SDJ community and social performance policy, SDJ has a commitment to six communities to provide an Internet connection and a commitment to nine communities so that every two years SDJ makes an investment in the construction of infrastructure for community use. Ten communities in the surrounding area are beneficiaries of the Community Relations Plan programs. Olaroz Stage 2 will provide new employment opportunities and investment in the region, which is expected to be positive. Currently, 40% of the project workforce is from surrounding towns and 75% is sourced from within the province of Jujuy.

ENDS

This release was authorised by Mr Martin Perez de Solay, CEO and Managing Director of Allkem Limited.

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Technical Information and Competent Persons' Statements

The information in this report that relates to Olaroz's Exploration Results and Mineral Resources is based on information compiled by Mr. Murray Brooker who is a Member of the Australian Institute of Geoscientists (AIG), a Registered Professional Geoscientist in Australia (RPGeo) and a member of the International Association of Hydrogeologists (IAH) and Michael Gunn, BAppSc. (Metallurgy)(Gunn Metallurgy) is a Chartered Professional Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM), both of whom are recognised as Competent Persons by a 'Recognised Professional Organisation' (RPO) included in a list posted on the ASX website from time to time. Murray Brooker an employee of Hydrominex Geoscience Pty Ltd and Michael Gunn an employee of Gunn Metallurgy have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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'. Murray Brooker and Michael Gunn consent to the inclusion in this announcement of the matters based on their information in the form and context in which it appears.

The scientific and technical information contained in this announcement has been reviewed and approved by, Murray Brooker (Hydrominex Geoscience Pty Ltd), as it relates to geology, modelling, and Mineral Resource estimates; Michael Gunn, BSc. Chemical Engineering (Gunn Metallurgy), as it relates to processing, facilities, infrastructure, project economics, capital and operating cost estimates. The scientific and technical information contained in this release will be supported by a technical report to be prepared in accordance with National Instrument 43-101 – Standards for Disclosure for Mineral Projects. The Technical Report will be filed within 45 days of this release and will be available for review under the Company's profile on SEDAR at www.sedar.com.

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Appendices

The following appendices provide a summary of drill hole coordinates and average lithium concentrations for Stage 2 production wells (E-series holes) and Stage 1 production wells (P and PP-series holes).The appendices also include the JORC Table 1 for the announcement.

APPENDIX A: DRILL HOLE COLLARS AND LITHIUM CONCENTRATION

Well	Easting GK3Posgar94	Northing GK3Posgar94	Azimuth& Dip	Well Depth m	Lithium Concentration (mg/L) *
E6	3426000	7406000	360/-90	630	657
E8	3430393	7405013	360/-90	640	789
E9	3425998	7403999	360/-90	452	590
E10	3427942	7403996	360/-90	467	749
E12	3429810	7403841	360/-90	651	775
E13	3426000	7403000	360/-90	450	618
E14	3427830	7403005	360/-90	651	574
E15	3429374	7402970	360/-90	751	
E17	3426003	7401998	360/-90	450	686
E18	3427000	7402000	360/-90	451	680
E19	3428819	7401821	360/-90	653	732
E21	3427000	7401000	360/-90	456	694
E22	3428413	7400830	360/-90	671	667
E24	3426794	7396871	360/-90	654	544
E26	3425534	7393885	360/-90	510	638
PP1	3427500	7405000	360/-90	350	696
PP2	3428500	7405000	360/-90	199	776
PP5	3427000	7406000	360/-90	200	594
PP6	3428000	7406000	360/-90	199	758
PP7	3429000	7406000	360/-90	348	781
PP8	3430000	7406000	360/-90	195	936
PP9	3431000	7406000	360/-90	199	878
PP10	3427500	7407000	360/-90	210	549
PP11	3428500	7407000	360/-90	205	635
PP12	3429500	7407000	360/-90	198	730
PP13	3430500	7407000	360/-90	197	981
PP14	3426500	7407000	360/-90	197	551
PP15	3428060	7407999	360/-90	198	542
PP16	3429060	7407999	360/-90	198	718
PP17	3430060	7407999	360/-90	199	803
PP18	3427000	7400000	360/-90	197	830
PP19	3426000	7399000	360/-90	198	746
PP21	3427000	7398000	360/-90	465	749
PPA	3428042	7406988	360/-90	195	850
PD02A	3427009	7399007	360/-90	450	655
P301	3425585	7401225	360/-90	290	728
P302	3424826	7399489	360/-90	310	632

*Average well flows from 12 January 2017 to 31 January 2023

APPENDIX B

JORC Table 1 – Section 1 Sampling Techniques and Data related to Olaroz Stage 2 expansion drilling (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.*	• Holes were drilled using the rotary drilling technique. Drill cuttings were collected to identify the sediment type and compare observations with downhole geophysical logs. Mud samples were taken during drilling to evaluate changes in properties such as fluid density, electrical conductivity and dissolved ions. • A comprehensive suite of down hole geophysical logs was run open hole, once holes reached total depth. These included conductivity tools to evaluate changes in temperature and brine conductivity, to evaluate whether there are intervals with pronounced flows and changes in thermal gradient; resistivity to evaluate changes in lithology, in particular the contacts of zones of halite, which show strong contrast in resitivity, due to low porosity and low contained fluid; borehole magnetic resonance for characterisation of changes in porosity, total porosity and free fluid, which is considered equivalent to specific yield; spectral gamma provides information on potassium, uranium and thorium, to assist correlation between holes. In some holes an acoustic televiewer has provided additional information on sediment texture. This provided additional information on the lithologies encountered during drilling. This included in the deep 1408 m hole. The downhole logging was undertaken by the company Zelandez, who have extensive experience with geophysical logging on salt lake projects. • Drill cuttings were described by experienced geoscientists, and the results compared with results from nearby holes and with the geophysical logs. • Samples were not collected for assay from the cuttings, as the primary objective of the holes was to confirm the geology to the depth of drilling and install production wells. Cuttings were used to describe the lithology. Samples for brine analysis were taken from the production wells when cleaned up and pumped. Qualitative changes in brine conditions were also evaluated during drilling. • Three diamond holes were drilled in this program, with core samples collected in polycarbonate (Lexan) tubes and selected intervals analysed for porosity laboratory in an independent lithology (Geosystems Analysis in the USA). • Extensive interval brine sampling was carried out in the upper 200 m of the sediments previously. This provided useful

Criteria	JORC Code explanation	Commentary
		information on variability of the brine concentrations laterally and vertically, showing the changes are gradual and defining the highest concentrations in the northeast of the salar. Drilling for the Stage 2 program consisted of rotary drill holes to install production wells. These were pumped, providing representative samples of the intervals where screens were installed. This information provided broadly similar lithium concentrations to the upper 200 m of the salar, with specific yield information provided by the borehole magnetic resonance tool.
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).*	• Rotary drilling with a tricone bit was used to drill the entire length of the production holes, reaching depths between 450 and 650 m (in one hole 751 m) and also used for the deep hole to 1408 m. Typical hole diameter was 17 inches and productive casing of 12 inches is installed up to approximately 200 metres and 10 inches below. • Brine from a surface trench (low lithium content) was used to mix drilling muds, to develop a thick wall cake in the rotary holes and maintain hole stability. • Three diamond holes were drilled in this program, with the purpose of collecting porosity information and brine samples.
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.*	• Drill cuttings were described by experienced geoscientists, and the observations compared with results from nearby holes and with the geophysical logs. • Sample recovery was aided by the use of appropriately prepared drilling mud to remove cuttings from the hole. • Cutting samples were not analysed chemically and descriptions were a qualitative evaluation of the lithologies encountered in the hole. There is no relationship between sample recovery and ion concentrations in the brine in this case. • Core sample recovery for the three recent diamond holes was between 86.1 and 88.6%, which is higher than historical diamond drilling conducted to 200 m depth. Core sampling is enhanced by use of polycarbonate (Lexan) triple tubes. Unconsolidated salt lake sediments have much lower core recoveries than hard rock deposits.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of*	• Drill cuttings were described by experienced geoscientists, and the observations compared with results from nearby holes and with the geophysical logs. This has provided a consistent stratigraphy, supporting resource estimation and mining studies. • Cutting logging is of a qualitative nature and results were compared with the quantitative geophysical logs to interpret the lithologies encountered in the hole. • All intersections with sample recovery were logged.

Criteria	JORC Code explanation	Commentary
	the relevant intersections logged.	
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.*	• Cuttings were only used to identify the lithology and were not used for chemical analysis, and were only sub-sampled to collect representative reference samples. • Wet mud samples were taken from the returned drilling muds and analysed for concentrations of lithium and other elements, which maintained elevated and similar concentrations through the drill hole. Due to the rotary mud nature of this drilling the mud samples are considered only qualitative and not quantitative. Consequently, the mud sample analytical results are not reported in this release and not used for resource estimation. • Brine samples from production wells are from production pumping or pumping tests of new wells, once wells were developed and cleaned or had been in production, in some cases for more than 5 years, with consistent lithium concentrations obtained from weekly brine samples taken from the production wells, taken over a period of years are considered representative of the sediments in which the wells are installed.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• The brine samples (from production wells and pumping tests conducted once wells were fully installed and cleaned) were analysed at the Olaroz site laboratory. • Quality control/Assurance samples were used by the Olaroz site laboratory, which is not a certified commercial laboratory. These standards were prepared in the laboratory and used for control purposes. Additional third-party standards were used for checking batches of samples sent to the internal and external laboratories. • Standards accompanying brine samples in the Olaroz laboratory have been analysed in commercial laboratories as part of a laboratory "round robin" analysis. • Check samples were analysed in the Alex Stuart independent commercial laboratory in Jujuy, Argentina. • Duplicate samples have been analysed in commercial laboratories as part of QA/QC procedures. Results were generally within acceptable limits. • Downhole geophysical tools were provided by geophysical contractor Zelandez. These are calibrated periodically to produce consistent results. BMR tools are calibrated yearly in Australia.
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*	• Brine analyses are from pump testing post installation of production wells, are quantitative analyses and were reviewed by different company personnel. • Samples are collected on a weekly basis and analysed in the Olaroz site laboratory operated by SDJ, providing an

Criteria	JORC Code explanation	Commentary
	verification, data storage (physical and electronic) protocols. • *Discuss any adjustment to assay data.*	extensive collection of data for cations and most anions (chloride is not regularly analysed). • Laboratory data (from spreadsheets) is loaded directly into the project database by company personnel. • Brine samples from production wells were analysed in the Olaroz site laboratory, with periodic additional samples analysed in the third-party independent Alex Start laboratory in Jujuy, Argentina, together with duplicates and independent laboratory standards. • The Olaroz site laboratory uses the atomic absorption method for determination of lithium, whereas the Alex Stuart laboratory uses ICP-OES for this. Both laboratories use this method for the analysis of most cations, with gravimetric analysis of sulphate, by Alex Stuart and ICP-OES by the Olaroz laboratory. Sulphate exhibits amongst the largest differences between labs for the analytes, •
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.*	• The holes were located initially with a hand-held GPS and are subsequently surveyed by a certified surveyor. Production wells and diamond holes are drilled with a general spacing of 1 km between holes. The Project location is in zone 3 of the Argentine Gauss Kruger coordinate system with the Argentine POSGAR 94 datum.
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.*	• Lithological data was collected throughout the drilling from cuttings and geophysical logging. Historical diamond drilling was conducted to 200 m depth, with three recent diamond drill holes to 650 m depth. • Due to the rotary drilling methodology samples for indicative brine chemistry, were not collected at regular intervals during drilling. Brine samples were collected from the pumping of wells, once wells were installed and cleaned (developed). • The samples taken during the pumping tests are composite samples, sourced from multiple well screens throughout the wells where screens are installed (through much of the hole). • Brine samples from historical diamond and sonic drilling were taken at a vertical spacing of 3 and 6 m to 54 m and nominally 6 m between 54 and 200 samples, with actual sampling irregular and depending on conditions. This information forms part of the resource estimate, along with more recent data.
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.*	• The salar deposits that host lithium-bearing brines consist of sub-horizontal beds and lenses of sand, silt, halite, clay and minor gravel, depending on the location within the salar. Drill holes are vertical and essentially perpendicular to these units

Criteria	JORC Code explanation	Commentary
	• *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.*	intersecting close to their true thickness. • Faults controlling basin development occur on the basin margins.
Sample security	• *The measures taken to ensure sample security.*	• Brine samples were moved from the drill site to secure storage at the camp on a daily basis. All brine sample bottles are marked with a unique label. • Samples were transported from the camp to the laboratory for chemical analysis in sealed rigid plastic bottles with sample numbers clearly identified.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits or reviews have been conducted at this point in time.

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 Olaroz properties (operated by Sales de Jujuy for the joint venture between Allkem 66.5%, Toyota Tsusho Corporation 25% and JEMSE 8.5%) are located in the province of Jujuy in northern Argentina at an elevation of approximately 3,900 meters above sea level (masl). Allkem also owns 100% of a number of other properties in the north of the Olaroz salar. The company has owned the majority of the properties for over 10 years. JEMSE (Jujuy Energia y Minera Sociedad del Estado) is the JEMSE is a public company tasked with promoting economic and social developement in the province of Jujuy. • The joint venture holds mineral properties that cover the majority of the Salar de Olaroz, covering 47,615 hectares, consisting of 33 mining tenements and 2 exploration properties ("cateos"). In addition to its stake in SDJ, Allkem also owns 100% of six properties immediately in the north of Olaroz, which contribute an additional 9,575 hectares, belonging to the subsidiary company Olaroz Lithium. In addition to those six properties, Allkem has also acquired the Maria Victoria property in the north of Olaroz, which contribute an additional 1,800 hectares, belonging to the subsidiary company La Frontera Minerals. • The project development was approved by the provincial

Criteria	JORC Code explanation	Commentary
		government UGAMP technical committee in 2012 and received other approvals for project development in this time period. • The project has an 8.5% participation by the provincial mining agency JEMSE, is subject to a royalty of 3% and an export tax of 4.5% of mine gate value. Toyota Tsusho and Allkem act as the joint marketing agent for lithium produced at the project. • The tenements/properties are believed to be in good standing, with payments made to relevant government departments. The company maintains good relationships with the local government and government agencies and communities as part of operations. Many local inhabitants work at the Olaroz operation. Several peripheral properties have not yet been fully granted, as this is an extended process for mining leases in Argentina. • Properties are within the Reserva Provincial de Fauna y Flora Olaroz-Cauchari (a regional flora and fauna reserve), as is the adjoining Exar project. This reserve allows for multiple uses, including agriculture and mining.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The properties were not subject to any exploration for lithium prior to Allkem (Orocobre) obtaining the properties. Significant exploration has been conducted immediately to the east and south of the Olaroz properties by Minera Exar SA, resulting in a large resource and related reserve and a brine pumping project is currently in construction. Further south in Cauchari Olaroz subsidiary, Advantage Lithium defined a 4.8 Mt LCE resource in Measured and Indicated categories and 1.5 Mt of Inferred resources (NI 43-101 report - Cauchari Pre-Feasibility Study of 2019]). These three projects are all developed on different parts of the same lithium brine body.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The project is a lithium salt lake deposit, located in a closed basin in the Andean mountain range in Northern Argentina. • The sediments within the salar consist of halite, clay, silt, sand and gravel which have accumulated in the salar from terrestrial sedimentation from the sides of the basin. Brine hosting dissolved lithium is present in pore spaces and fractures within unconsolidated sediments. • Evaporation of brines entering and within the salt lake generates the concentrated lithium that is extracted by pumping out the brine. • The sediments are interpreted to be essentially flat lying with unconfined aquifer conditions close to surface and semi-confined to confined conditions at depth. • Geology was recorded during drilling of the hole.

Criteria	JORC Code explanation	Commentary
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:* *1. easting and northing of the drill hole collar* *2. elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* *3. dip and azimuth of the hole* *4. down hole length and interception depth* *5. 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.*	• The holes are located in the mining properties covering the Olaroz salt lake, centred around approximately 7402000N/ 3427000E and approximately 3930 m elevation, in Zone 3 of the Argentine Gauss Kruger grid system, using the Posgar 94 datum. • The drill holes are all vertical, (dip -90, azimuth 0 degrees). Collar coordinates and depths are provided in a table following the announcement. On the salt lake brine is present from within ~1 m of surface to the base of drilling. • Lithological data was collected from the mud return cuttings as the hole was drilled and from the geophysical logging of holes. • Previous sonic and diamond drilling core samples were collected in polycarbonate Lexan tubes and described in detail, with laboratory analyses made of the sediment porosity in several international laboratories.
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.*	• Brine samples were taken from pumping wells at the completion of pumping tests. Samples were taken from the diversion valve installed at the well head, when these were installed and from the brine flow from the pumping line when wellheads had not been installed. Samples were collected in clean new plastic bottles, with the bottles rinsed with brine prior to brine collection. Bottles were capped and caps sealed and labelled with unique sample numbers for submission to the internal and external laboratories. Samples were collected as duplicates for submission to the internal Olaroz laboratory and the external Alex Stuart laboratory. Samples were submitted with field duplicate samples and with certified standards. Pumping rates varied depending on the hole, with flow rates typically in the order of 15 to 60 L/s. Samples were collected in 1 litre plastic bottles. For the QA/QC samples these were collected from the diversion valve during normal pumping operations at each site, with wells connected to pipelines. Results during the pumping tests were analysed and compared, to ensure results were repeatable. • The pumping well samples are composite samples that reflect inflows from different levels within the wells, which are screened at multiple levels throughout their depth. The lithium concentration in the pumped samples is an average of the concentration from different units with relatively higher and lower values than the average. More permeable units contribute a higher proportion of the brine in the pumped

Criteria	JORC Code explanation	Commentary
		samples. • The QA/QC pumped samples were compared to the results of weekly sampling over a period of months to years. The samples collected for QA/QC analysis in the on-site Olaroz laboratory and the independent Alex Stuart laboratory are considered to be directly comparable to the results and range of results from the weekly sampling. The results are considered to be comparable to the range and average of weekly samples and sufficiently representative of the brine contained in sediments where the holes are drilled. Results from pumping wells were also compared with the results of the nearest diamond drill holes to 200 m depth, which showed low vertical coefficients of variation (CV).
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').*	• The sediments hosting brine are interpreted to be essentially perpendicular to the vertical drill holes, representing true thicknesses in drilling. The entire thickness of sediments is believed to be mineralized with lithium brine, with the water table within approximately 1 metre of surface. Lithium is hosted in brine in pores within the different terrestrial sedimentary units in the salt lake sequence.
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.*	• Diagrams are provided in the text showing the location of the properties, the drill holes and cross section through the deposit, showing the correlation of geological units.
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.*	• Data regarding the drilling and sampling has been provided in the release. A table is provided with the results of the pumping wells, which have provided the basis for estimation below 200 m depth.
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;*	• The company has conducting rotary drilling to obtain geological information, brine samples, and hydraulic parameters for the installation of additional production wells. Future drilling will also support an update of the resource estimation. Future updates to the resource will be released when drilling is conducted peripheral to the salar in areas when little or no current drilling.

Criteria	JORC Code explanation	Commentary
	bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
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.*	• The company has recently completed installing 15 deep production wells for Stage 2 of the project, . Future drilling is planned to extend further north and south of the current resource area, to support definition of further resources in those areas (refer to the map with drill holes in the release). Comprehensive documentation outlining the resource drilling is planned for release when that future drilling is complete.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• Data was transferred directly from laboratory spreadsheets to the database. • Data was checked for transcription errors once in the database, to ensure coordinates, assay values and lithological codes were correct. • Data was plotted to check the spatial location and relationship to adjoining sample points. • Duplicates and Standards have been used in the assay process. • Brine assays and porosity test work have been analysed and compared with other publicly available information for reasonableness. • Comparisons of original and current datasets were made to ensure no lack of integrity.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The Competent Persons visited the site many times prior to the current drilling and sampling program and more recently Mr Brooker visited the site on 21st November 2022 to supervise the collection of brine samples for sending to the internal and external laboratories and to review drilling cuttings from production wells, comparing these to the drilling logs that had been produced for the project by Allkem personnel and to the downhole logging results. The sample bottles were subsequently sent for analysis and the observations of the drill cuttings corroborated observations from the down hole geohysical logging. • Competent Person Mr Brooker was responsible for previously planning the location of the new production

Criteria	JORC Code explanation	Commentary
		wells.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• There is a high level of confidence in the geological model for the Project. There are relatively distinct geological units in essentially flat lying, relatively uniform, clastic sediments and halite. • The drainable porosity data consists of extremely detailed data from geophysical logging, extensive historical porosity samples to 200 m deep and sparse porosity samples up to 650 m deep, supplemented by BMR geophysical data in production wells. Brine data below 200 m, consists of composite pumped samples from holes, which provide realistic information regarding brine concentrations. • Any alternative interpretations are restricted to smaller scale variations in sedimentology and porosity, related to changes in grain size and fine material in units, as porosity is the key influence on the resource estimate. • Geological units are identified in the geological and geophysical logging of holes and separated in the hydrostratigraphic model, where unit specific porosity characteristics are applied. • Data used in the interpretation includes sonic, rotary and diamond drilling. • Sedimentary processes affect the continuity of geology, whereas the concentration of lithium and potassium and other elements in the brine are related to water inflows, evaporation and brine evolution in the salt lake and are essentially independent of porosity.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The lateral extent of the resource has been defined by the boundary of the salar, except in the SE around E26, and in the east and north the boundary with adjacent properties . On the salar (and in the southern extension below alluvial gravels) the brine mineralisation covers 147.9 km^2. • The top of the model coincides with the topography obtained from the Shuttle Radar Topography Mission (SRTM). The original elevations were locally adjusted for each borehole collar with the most accurate drill hole collar coordinates available. • The base of the resource is the base of the basin, as interpreted from gravity geophysics. The depth of the basin is likely to exceed the depth interpreted from the geophysics, based on drilling to date. The basement rocks underlying the salt lake sediments have not yet been intersected in drilling.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s)*	• The Mineral Resource estimation for the Project was developed in Datamine© Software, with the geological model developed in Leapfrog software. The model is

Criteria	JORC Code explanation	Commentary
	applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	considered a reliable representation of the local lithology and will be refined as new information becomes available. Generation of histograms and box plots were conducted for the Exploratory Data Analysis for lithium. It should be noted the search radii are flattened ellipsoids with the shortest distance in the Z axis (related to the variogram distance). No outlier restrictions were applied, as distributions of the different elements do not show anomalously high values. • No grade cutting or capping was applied to the model. The coefficient of variation in the brine results is low, reflecting the relatively homogeneous distribution of brine grades across the salar. • Results from the primary porosity laboratory GSA are compared with results from check Core Laboratories. • Potassium is the most economically significant element dissolved in the brine after lithium. • Estimation of Lithium for each block used ordinary kriging. The presence of brine is not necessarily controlled by the lithologies and lithium and potassium concentrations are independent of lithology. Geological units had hard boundaries for estimation of porosity. • Estimation of resources used drainable porosity data from BMR geophysical logs. • The block size (500 x 500 x 20 m) reflects the thick and relatively homogeneous nature of the lithological units. • No assumptions were made regarding selective mining units and selective mining is generally not feasible in brine deposits, where brine flows in response to pumping. • No assumptions were made about correlation between variables. • The geological interpretation was used to define each geological unit and the salar boundary and property limit were used to enclose the reported Mineral Resources. • The Inferred Mineral Resource was estimated on the basis that it is within the salt lake or immediately adjacent and occupies the same or similar geological units to the Indicated and Measured Mineral Resource, although drilling in the Inferred Mineral Resource area is more limited around the margins of the salar. • Validation was performed using a series of checks including comparison of univariate statistics for global estimation bias, and visual inspection against samples on plans and sections. • Visual validation shows an acceptable agreement

Criteria	JORC Code explanation	Commentary
		between the samples and the Ordinary Kriging estimates.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Moisture content of the cores was Measured (porosity and density measurements were made), but as brine is extracted by pumping not mining the sediments moisture is not relevant for the resource estimation. • Tonnages are estimated as metallic lithium dissolved in brine, with lithium values converted to a lithium carbonate tonnage using a conversion factor of 5.323.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• A lithium cut-off grade of 300 mg/l was used based on a breakeven cut-off grade for a projected lithium carbonate equivalent price of US$20,000 per tonne over the entirety of the LOM.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• The resource has been quoted in terms of brine volume, concentration of dissolved elements, contained lithium and their product lithium carbonate. • No mining or recovery factors have been applied (although the use of the specific yield = drainable porosity is used to reflect the reasonable prospects for economic extraction with the proposed mining methodology). It should be noted that conversion of Mineral Resources to Ore Reserves for brine deposits is lower than that for hard rock deposits. • Dilution of brine concentrations may occur over time and typically there are lithium and potassium losses in both the ponds and processing plant in brine mining operations. However, potential dilution will be estimated in the groundwater model simulating brine extraction, to define a Ore Reserve. • The conceptual mining method is recovering brine from the salt lake via a network of wells, the established practice on existing lithium brine projects. • Detailed hydrologic studies of the lake have been undertaken (catchment and groundwater modelling) to evaluate the extractable Mineral Resources and potential extraction rates
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment*	• Lithium carbonate is currently produced on site via conventional brine processing techniques and evaporation ponds to concentrate the brine prior to processing. • Additional brine extracted for the Stage 2 expansion would be processed the same way, with refinements related to optimisation of the process, learnt from operation of Stage 1.

Criteria	JORC Code explanation	Commentary
	processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• Impacts of the lithium carbonate production operation at the Olaroz salar include; surface disturbance from the creation of extraction/processing facilities and associated infrastructure, accumulation of various salt tailings impoundments and extraction from brine and freshwater aquifers regionally. Precipitated salts are collected in ponds and later returned to the salar. • The project holds the necessary environmental permits for the Stage 1 and Stage 2 production.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk*	• Density measurements were taken as part of the drill core assessment. This included determining dry density and particle density as well as field measurements of brine density. Note that no mining of sediments is to be carried out, as brine is to be extracted by pumping and consequently sediments are not mined but the lithium and potassium is extracted by pumping. • No bulk density was applied to the estimates because Mineral Resources are defined by volume, rather than by tonnage. • The salt unit can contain fractures and possibly vugs which host brine and add to the drainable porosity. However, salt units below 50 m depth are generally quite compact.

Criteria	JORC Code explanation	Commentary
	density estimates used in the evaluation process of the different materials.	
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The Mineral Resource has been classified in Measured, Indicated and Inferred Mineral Resources categories based on the spatial distribution of data and confidence in the estimation. • Measured and Indicated Mineral Resource reflect higher confidence in the geological interpretation in the upper levels of the salar and the greater frequency of data, where there is current production. • The Inferred Mineral Resource underlies the Indicated and Measured Mineral Resource in the deeper part of the salar and around the edges of the salar, and reflects the limited drilling in these areas. • In the view of the Competent Person the resource classification is believed to adequately reflect the available data and takes into account and is consistent with the JORC code 2012 and the Australian Brine Guidelines.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• This Mineral Resource was estimated by independent consultancy H&S Consultants, with work supervised by the Competent Person Mr Brooker.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic*	• An assessment of the estimated blocks was made against the drill hole data on sections and found to be acceptable.

Criteria	JORC Code explanation	Commentary
	evaluation. Documentation should include assumptions made and the procedures used. • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	