

Emmerson Plc / Ticker: EML / Index: LSE / Sector: Mining

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**Emmerson Plc ("Emmerson" or the "Company")**

**72% Increase in Mineral Resource Estimate ("MRE") for Khemisset Potash Project to 537 Million Tonnes**

Emmerson Plc, the Moroccan focused potash development company, is pleased to announce an upgraded JORC compliant Mineral Resource Estimate ("MRE") for its 100% owned Khemisset Potash Project in Northern Morocco ("Khemisset" or "the Project"), delivering a 72% increase in total resource to 537 million tonnes ("Mt") of potash with an average grade of 9.24% K<sub>2</sub>O.

To view the press release with the illustrative diagrams please use the following link: [http://www.rns-pdf.londonstockexchange.com/rns/2426R\\_1-2019-10-27.pdf](http://www.rns-pdf.londonstockexchange.com/rns/2426R_1-2019-10-27.pdf)

Khemisset is a world class development stage potash project which, based on its Scoping Study (refer announcement from 20 November 2018), has a minimum mine life of 20 years, industry leading capital cost to production, bottom quartile delivered cost to customer, delivering average annual EBITDA of US\$236 million and a post-tax NPV<sub>10</sub> of US\$1.14 billion<sup>[1]</sup>.

**Highlights**

- **More than half a billion tonnes of JORC compliant potash resource** (537Mt at 9.24% K<sub>2</sub>O)
  - o Represents a **72% increase of resource tonnes** from maiden MRE (May 2018)
- **70% of resource upgraded to higher confidence Indicated category**
- In situ value of **contained potash within the MRE of approximately US\$30 billion**<sup>[2]</sup>
- **Significant resource upside remains**
  - o Basin remains open towards the northeast
  - o Economic (breakeven) cut-off grade is substantially below the cut-off used to define the updated MRE, which implies significant further upside potential to MRE and mine life
- **Project Development continues to progress exceptionally well**
  - o Feasibility on track for completion in H1 2020
  - o Examining the potential for a Phase 2 expansion to increase production by 50%, which would substantially improve economics
  - o Examining the potential to convert some Muriate of Potash ("MoP") to Sulphate of Potash ("SoP"), which could significantly enhanced economics for Emmerson

**Hayden Locke, CEO of Emmerson, commented:**

"Following a successful drilling campaign, it is pleasing to see the overall MRE tonnages increase by over 70%, to more than half a billion tonnes. The recalculation of the economic cut-off grade for Khemisset shows the Project can be profitable to a grade as low as 5.2% K<sub>2</sub>O and, as a result, we continue to believe there is strong potential to increase the mine life at Khemisset. The updated MRE is a further validation of the world class prospects for the Project."

"We continue to make exceptional progress on the Feasibility Study and remain confident it will be delivered within our target timeline of the first half of 2020. We expect to release Individual components of the Feasibility Study as they are completed over the coming months, which we believe will continue to support the view that Khemisset is among the lowest capital cost potash projects globally. "

"The significant proportion of the MRE within the higher confidence Indicated resource category will support our ongoing discussions with various potential debt financing institutions which included an indicative proposal for up to US\$230 million of project finance debt from a major European commercial bank."

"The updated MRE represents a significant milestone for the Company, and I would personally like to take this opportunity to thank our entire team, and especially our independent consultants, Golder Associates UK, for their professional approach to the work completed on the Khemisset Project."

<sup>1</sup> Based on industry expert Argus FMB price forecasts

<sup>2</sup> Based on a selling price of US\$360/tonne

|   | Million Tonnes<br>(potash seam) | K <sub>2</sub> O (%) |
|---|---------------------------------|----------------------|
| Indicated Category                      | 375.2                           | 9.36                 |
| Inferred Category                       | 161.8                           | 8.96                 |
| <b>Total (Indicated &amp; Inferred)</b> | <b>536.9</b>                    | <b>9.24</b>          |

**Table 1: Khemisset JORC Mineral Resource Estimate**

**Increased and Updated JORC Resource**

The Mineral Resource Estimate ("MRE") was completed by independent consultants Golder Associates (UK) Ltd ("Golder") at the request of Emmerson and includes data sets from all historical and recently completed (see RNS dated 02 September 2019) drilling and other field work at Khemisset.

A maiden MRE for the Project was completed in May 2018 and was based on historical exploration conducted across the Khemisset basin between 1955 and 1969, comprising approximately 86,500m of drilling, and three a confirmatory drill holes comprising 1,543m conducted by Emmerson in 2016.

A Scoping Study has since been conducted by Golder in 2018 and a new exploration campaign by Emmerson in 2019 comprising 9 infill drill holes totalling 6,485m provided new geological data in the area of the Oued Beht basin, which is considered the area most likely to be the target of initial mining operations.

**Figure 1. Plan View of the Mineral Resource Estimate Area showing Indicated Resources (Blue) and Inferred Resources (Red) - View PDF**

This information has been supplemented by 2D seismic surveying and interpretation commissioned by Emmerson in 2018, providing an increased level of geological understanding across the deposit. The new information has allowed Golder to further validate the historical dataset and 2018 interpretations to update the geological model which informs the updated MRE. The updated MRE will serve as the basis of the ongoing Feasibility Study, which the Company expects to release in the first half of 2020.

As part of the Feasibility Study, Golder conducted a site visit in February 2019 during the early stages of the drilling campaign, affording the opportunity to check the local geology through examination of drill cores, the core shed, wider logging and sample preparation facilities, and interacting with Emmerson's staff. It also enabled Golder to confirm drilling, sampling, and Quality Assurance/Quality Control ("QA/QC") best practice procedures were being implemented by Emmerson, in addition to making considerations for the wider Feasibility Study including multidisciplinary test work programmes.

Based on the new information, Golder has created a 3D geological stratigraphy model to update the MRE (see Figure 2).

**Figure 2. Oblique View of the Geological Model showing topography, drill traces, and the potash seam at depth - View PDF**

This is an advancement on previous model iterations for the Khemisset Project, and more accurately represents the potash horizon and overlying stratigraphy. The Khemisset MRE has been classified as Indicated and Inferred following consideration for data accuracy, reliability and geological continuity. Resources have been estimated by the application of a 'value' (grade x thickness) cut-off of 7.5 and absolute cut-offs of 7.5% K<sub>2</sub>O and 0.8m minimum thickness. The updated MRE is:

|   | Million Tonnes (potash seam) | K <sub>2</sub> O (%) |
|---|------------------------------|----------------------|
| Indicated Category                      | 375.2                        | 9.36                 |
| Inferred Category                       | 161.8                        | 8.96                 |
| <b>Total (Indicated &amp; Inferred)</b> | <b>536.9</b>                 | <b>9.24</b>          |

**Table 2: Khemisset JORC Mineral Resource**

This Resource Update has been prepared in accordance with the reporting standards required under the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, by the Australasian Joint Ore Reserves Committee (JORC Code, 2012)<sup>3</sup>. The Resource estimate presented here is the result of the audit, validation and interpretation of historic and recent exploration data by Golder and Emmerson and follows a maiden Resource estimate prepared in 2018.

<sup>3</sup> The JORC Code 2012 Edition, Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012, Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC)

### Economic Cut-off Grade Calculation

As part of the process to update the MRE, the economic cut-off grade for the Khemisset deposit was recalculated using the modifying parameters obtained from the Scoping Study released in November 2018.

The economic break-even grade for the Project is estimated to be approximately 5.2% K<sub>2</sub>O. This calculation is based on a conservative US\$300 / tonne CFR Brazil potash price and, unusually, includes allowances for capital payback.

At US\$360/tonne, with no capital payback allowance, the cut-off grade drops to 3.9% K<sub>2</sub>O. The economic cut-off grade is well below the cut-off grade assumed in the geological model, which is the limiting factor in the size of the resource, which suggests there remains significant resource upside which could be included in the mine plan at a later date.

#### Khemisset Potash Project - Economic Cut-off Grade Calculation

|                     |  |                  |  |
|---------------------|--|------------------|--|
| <b>Potash Price</b> | CFR Brazil Potash Price (Assumed)          | \$ 300.00        | Assumed low side price of Scoping Study<br>Emmerson Scoping Study<br>Emmerson Scoping Study                                    |
|                     | Freight (Brazil)                           | \$(15.00)        |  |
|                     | Logistics to Port                          | \$(10.00)        |  |
|                     | <b>Mine Gate Netback Price</b>             | <b>\$275.00</b>  |  |
| <b>Capex</b>        | Assumed Capex (incl financing costs)       | \$406,000,000    | Emmerson Scoping Study<br>Emmerson Scoping Study<br>Pay back capital over life of mine   |
|                     | Production Rate (tpa)                      | 800,000          |  |
|                     | Assumed Mine Life (years)                  | 20               |  |
|                     | Life-of-Mine Product Tonnes                | 16,000,000       |  |
|                     | <b>Capex per tonne of production (LoM)</b> | <b>\$(25.38)</b> |  |
| <b>Opex</b>         | U/G (t/ROM)                                | \$(5.50)         | Emmerson Scoping Study<br>Emmerson Scoping Study<br>Emmerson Scoping Study<br>Emmerson Scoping Study<br>Emmerson Scoping Study |
|                     | A/G (t/ROM)                                | \$(7.20)         |  |
|                     | Sustaining Capital (t/ROM)                 | \$(4.20)         |  |
|                     | Other Costs and Admin                      | \$(0.70)         |  |
|                     | G&A  | \$(0.40)         |  |
|                     | <b>Opex to Mine Gate (t/ROM)</b>           | <b>\$(18.00)</b> |  |
| <b>Processing</b>   | Product Purity                             | 95.0%            | Minimum requirement for saleable K60 MOP   |
|                     | Cut-off - Net Recovered Grade (%KCl)       | 6.85%            |  |
|                     | Process Recovery Rate                      | 83.00%           | Emmerson Scoping Study   |
|                     | Cut-off Grade (%KCl)                       | 8.25%            |  |
|                     | K <sub>2</sub> O:KCl Conversion Factor     | 0.6317           |  |
|                     |  |                  |  |
|                     | <b>Cut-off Grade (%K<sub>2</sub>O)</b>     | <b>5.21%</b>     |  |

**Table 2: Economic Cut-off Grade Calculation Based on Khemisset Scoping Study**

**Financing Planning**

The Company continues to assess various financing options for the capital investment required for Khemisset. Multiple options are being assessed at this stage, and Emmerson management believe that a number of different financing structures will be available to the Company at the point of final investment decision.

The most advanced discussions involve an existing formal indication of potential project finance debt of up to US\$230m from a major European commercial bank, assuming standard project finance terms and conditions. For further information on these discussions, see RNS dated 10 June 2019.

**\*\*ENDS\*\***

**For further information, please visit [www.emmersonplc.com](http://www.emmersonplc.com), follow us on Twitter (@emmerson\_plc), or contact:**

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**Notes to Editors**

Emmerson's primary focus is on developing the Khemisset Potash Project located in Northern Morocco. The project has a large JORC Resource Estimate (2012) of 537.2Mt @ 9.24% K<sub>2</sub>O and significant exploration potential with an accelerated development pathway targeting a low capex, high margin mine. A Scoping Study confirming technical feasibility and outstanding financial metrics was completed in late 2018, and a detailed Feasibility Study is expected to be finalised in the first half of 2020. Khemisset is perfectly located to capitalise on the expected growth of African fertiliser consumption whilst also being located on the doorstep of European markets. This unique positioning means the project will receive a premium netback price compared to existing potash producers. The need to feed the world's rapidly increasing population is driving demand for potash and Emmerson is well placed to benefit from the opportunities this presents.

*The information contained within this announcement is deemed by the Company to constitute inside information as stipulated under the Market Abuse Regulations (EU) No. 596/2014.*

**Appendix 1: Competent Person's Statement and Consent Form - View PDF**

**Appendix 2: JORC Table 1**

**Section 1 - Sampling Techniques and Data**

| Criteria                   | Commentary   |
|----------------------------|--|
| <b>Sampling techniques</b> | <ul style="list-style-type: none"> <li>· Samples were obtained by core sampling with all drilling of the potash unit fully cored.</li> <li>· The PKB drillholes obtained core samples by double tube core drilling or trepan drilling. Trepan drilling is a technique used for large diameter holes where a ring at the periphery of the hole is destructively drilled, leaving a solid core centre for sampling. The PZ drillholes and Emmerson drillholes cored the potash by diamond drilling, Emmerson by HQ double tube through the potash.</li> <li>· Geophysical logging was completed for natural gamma on the PKB drillholes and for density. The geophysical logs for these drillholes are unavailable and it is not stated if the PZ drillholes were also geophysically logged. Emmerson logged the full drillhole for natural gamma, and caliper. A smaller sub-section containing the potash unit was then logged in detail with the acoustic televiewer, and for resistivity and self-potential. The geophysical logging was conducted by International Geophysical Technology, S.L in 2016 (KMSL1 to KMSL3), and GeoAtlas of Morocco in 2019 (KMSL4 to KMSL12). Resistivity and self-potential was not completed on KMSL-3. The geophysical tools are calibrated off site apart from the caliper which was calibrated on site using the PQ drill rods. The consistencies of the geophysical outputs indicate no material bias and are seen to accurately characterise the individual potash unit and potash seam correlation.</li> <li>· Specific documentation of sampling and testing objectives and procedures for the PKB and PZ series (completed between 1955 and 1958 and 1962 and 1969 respectively) are unavailable. However, from analysis of the sample intervals and drillhole logs it can be deduced that the PKB drillholes were sampled to lithological boundaries and/or the natural gamma logs were used to guide the sample selection. The PZ series indicates that samples were taken above and below the main potash units in order to accurately define them.</li> <li>· All potash seams were fully sampled where they were intersected. In the PZ drilling, where the potash seam was partially intersected or the drillhole did not reach the appropriate depth, a wedge was used to drill a daughter hole in order to gain a full intersection.</li> <li>· The KMSL drillholes were sampled to lithological and mineralogical boundaries, with sample lengths varying between 0.01 m and 3.13 m. The PKB sample lengths vary between 0.1 m and 2.83 m, and PZ between 0.06 m and 3.58 m.</li> <li>· KMSL1 was point sampled for semi-quantitative XRD analysis. The sample locations were identified to represent all the different lithologies in, above and below the potash horizon.</li> </ul> |
| <b>Drilling techniques</b> | <ul style="list-style-type: none"> <li>· The PKB series were cased through the Miocene and alluvial sediments and open hole drilled by tricone with drill bits ranging from 15.88 cm to 21.59 cm in diameter. Salient intervals in this section were selectively cored by double tube diamond drilling</li> </ul>  |

|   |   |
|---|---|
| <b>Criteria</b>                                       | <p>or Trepan drilling in order to obtain intact rock samples of the units. Deviations were drilled to obtain full core samples of the potash unit where these were not intersected in the initial hole. The holes were drilled vertically.</p>  |
|   | <ul style="list-style-type: none"> <li>The PZ series were drilled vertically. There is no available information on the drilling methods of this series, but the potash unit is expected to be cored for the intervals where there is sampling and chemical analysis available.</li> <li>The KMSL series were drilled vertically. Mud rotary drilling was used to collar the hole through the Miocene and alluvial sediments which was then cased to between 20 m and 30 m depth. Mud rotary drilling with fresh water was used to drill to the Basalt Formation with selective use of PQ diamond drilling to obtain core from the different geological formations. The holes were then diamond drilled at HQ diameter using a CaCl<sub>2</sub> saturated mud (250-280 g of Cl/litre) to prevent dissolution of the salts and enable maximum recovery. Once retrieved from the core barrel the core was cut into 1 m pieces with a diamond saw using a saturated CaCl<sub>2</sub> brine for the salt units, photographed, then covered in plastic wrap to prevent exposure to moisture.</li> </ul>   |
| <b>Drill sample recovery</b>                          | <ul style="list-style-type: none"> <li>Core recovery is summarised in the PKB logs, by geological unit and drilling method, and is greater than 90% within the potash salt unit. There is no information in the PZ logs on core recovery, and it was not recorded for the KMSL holes.</li> <li>Golder reviewed the geological database provided by Emmerson for instances where core loss was recorded for evaluation against modelled horizons, with only a limited number of comments found. Historically, it has been common to only record core loss where it occurs, rather than confirming no core loss as with modern day best practice. Core loss comments were used to calculate the percentage recovery within modelled potash horizons.</li> <li>No core recovery information was available from KMSL1 to KMSL3, although it was reported to be high. Core recovery information from KMSL4 to KMSL12 was provided and reviewed by Golder and shown to average above 98% within the potash horizon, lowest in KMSL6 at 87%.</li> <li>PZ35 and PZ47 were reported to have low core recovery from the TMZ horizon; 18% and 5% respectively and were rejected as Points of Observation by Golder.</li> <li>Deviations were drilled in the historical holes to ensure the potash horizon was totally recovered where it was not cored in the original drilling.</li> </ul>  |
| <b>Logging</b>  | <ul style="list-style-type: none"> <li>The PKB drillholes have summary lithological logs of the major lithological units, any significant changes within these units and the boundaries of the potash horizon including description of the main potash minerals where they could be visually identified. General dip measurements are recorded for the lower salt unit. No drillhole logs are available for PKB-7, PKB-8 and PKB-9.</li> <li>The PZ drillholes have summary lithological logs recording the same information as the PKB series. No drillhole logs are available for PZ45 and PZ116, and there is incomplete information for drillholes PZ24, PZ50 and PZ121.</li> <li>The KMSL drillholes were photographed, and lithologically logged. The logs were depth corrected using the downhole geophysical information to ensure they were as accurate as possible.</li> <li>Within the total database including the drillholes outside of Emmerson's licences, approximately 98% of the sampled intersections have been logged. Only PZ116 of the 68 drillholes within the Emmerson licences does not have a lithological log of the sampled intersection, approximately 0.1% of the Emmerson sampled intersections (188.43 m). PZ116 lies at the northeastern edge of the deposit. Previous reports and maps by Touhami show that this drillhole was barren, however, a list of drillhole intercepts provided by ONHYM indicates there is a potash horizon of approximately 1.8 m at over 10% K<sub>2</sub>O. This conflicting information needs to be verified by future drilling.</li> </ul>  |
| <b>Sub-sampling techniques and sample preparation</b> | <ul style="list-style-type: none"> <li>All drillholes were orientated vertically to perpendicularly intersect the sub-horizontal potash horizon. This ensured that the samples represented close to the true thickness of the potash unit and are appropriate for characterising the grade and mineralogical variability within the horizon.</li> <li>No information on further sample preparation is available for the historical samples. In several instances samples were combined after initial analysis for %K<sub>2</sub>O. However, it is not stated if full core or split core was sent for analysis.</li> <li>The KMSL core was split in half by a diamond core saw using a saturated CaCl<sub>2</sub> brine. The sample intervals were then marked up on the core for further cutting, then weighed and vacuum packed in a plastic sample bag. The samples were sent for preparation at ALS in Seville, Spain. The whole sample was dried and crushed to 70% passing -2 mm then a 250 g fraction was pulverised to 85% passing -75 µm.</li> <li>Emmerson inserted three internal pulp duplicates, five external pulp duplicates, three blank samples and three standard samples into the sample stream for KMSL1 to KMSL3 to assess the quality control of the analytical laboratory.</li> <li>51 control samples were introduced into the 2019 exploration programme, including 11 duplicates, 11 blanks and 11 standard samples. 15 check samples were also performed, with nine being re-tested by the original SGS laboratory and six being tested at a second check laboratory, SRC. Golder reviewed all control sample results from the 2019 exploration programme and consider the results to demonstrate good reliability and repeatability between the primary SGS and secondary SRC check laboratory.</li> <li>Both ALS and SGS are internationally accredited and well-regarded laboratories.</li> <li>The sample techniques used in the KMSL exploration series are considered appropriate for the type of lithologies and mineralisation sampled. In addition, the quality control samples provide a duplicate check on 15% of the sample population with other control samples, over 25% which is considered good. These techniques have ensured samples representative of the potash mineralisation have been taken in the KMSL and historical drillholes.</li> </ul> |
| <b>Quality of assay data and laboratory tests</b>     | <ul style="list-style-type: none"> <li>The PKB drillholes obtained 19 samples from six holes which were analysed for %K<sub>2</sub>O at the M.Pellet BRPM laboratory. The analytical technique is not specified in the available historical information.</li> <li>The PZ drillholes analysed 522 samples for %K<sub>2</sub>O through an unspecified technique. 141 of these samples were also analysed for %Na<sup>+</sup>, %Ca<sup>2+</sup>, %Mg<sup>2+</sup>, %Cl<sup>-</sup>, and %SO<sub>4</sub><sup>2-</sup>.</li> <li>The Emmerson samples were analysed by XRF (for metals and other major constituents), ICP-OES (soluble elements) and gravimetric analysis (insoluble residue) at ALS in Loughrea, Ireland. SRC Geoanalytical laboratories in Canada were used as a control laboratory and analysed five pulp duplicate samples. The analysis methods were soluble and insoluble digestion and ICP-OES. Both laboratories are internationally accredited.</li> <li>10 Emmerson point samples were analysed by semi-quantitative XRD at the National Museum of Natural History, Madrid, Spain, (CSIC).</li> <li>51 control samples were introduced into the 2019 exploration programme, including 11 duplicates, 11 blanks and 11 standard samples. 15 check samples were also performed, with nine being re-tested by the original SGS laboratory and six being tested at a second check laboratory, SRC.</li> <li>The results of the quality control samples from the KMSL data (blanks, standards and duplicates) show good accuracy and repeatability in the analysis and preparation of the samples with no contamination being introduced in the process.</li> </ul>   |
| <b>Verification of sampling and assaying</b>          | <ul style="list-style-type: none"> <li>No historical core from the PKB or PZ series was available for sampling and assaying which meant verification of the majority of the data was difficult.</li> <li>Verification of the historical data and database, which constitutes 98% of the data used in the resource estimate, has been completed through Emmerson's recent twin drilling of five historical holes, resurveying of historical drillhole collars, and a check between the scanned BRPM summary logs and the digitised database for 10% of the data (14 drillholes) was performed by SRK.</li> <li>The Emmerson "twin" holes varied in distance from their nearest historical collars but were positioned to check drillholes in five strategic locations. KMSL1 is 300 m east of PZ88 in the, KMSL2 is 20 m southwest of PZ111 located in the central Khemisset sub-basin, KMS-3 is 90 m north of PZ3 in the north central Khemisset sub-basin, KMSL10 is 30m from HH4 in the northeast sub-basin and KMSL11 is 102m from PZ78 in the northeast sub-basin. Overall, the general position and thickness of the potash horizon in the five locations confirmed the historical information and the presence of potash. The downhole grade profiles can be easily correlated between the twin drillholes and in all instances and lithological logging is consistent. No assay data was available for HH4 and therefore in this instance the results could not be directly compared to KMSL11.</li> </ul>   |

|   |   |
|---|---|
| <p><b>Criteria</b></p>  | <p>· Golder conducted an audit of the stratigraphic and lithological data. Intersections were used for stratigraphic modelling and were used to confirm the existence of the potash-bearing horizon. All changes made to structural interpretations have been recorded by Golder. No changes to analytical data (results or intervals) were made as these represent the original data as analysed. Analytical data has been assigned (weighted) to represent the revised structural intervals.</p> <p>· In 2016 and subsequently in 2018 Emmerson resurveyed all the drill collars that could still be found over the Khemisset Basin. The results show that some of the drillholes were found up to 2,175.5 m from the original BRPM collar positions which gives low confidence to the historical collars that could not be found and resurveyed. However, 67 % of the historical collars were located and 73 % of the discrepancies were less than 30 m which is not considered significant compared to the average drillhole spacing across the Emmerson licences. There remain 45 of the original 137 drillholes that could not be resurveyed and therefore some uncertainty remains over the collar coordinates.</p> <p>· Previously, SRK randomly selected 14 drillholes to compare the original scanned information with the digital database. The collar co-ordinates, lithology data and analysis results were checked, and in all cases no discrepancies were found. This gives high confidence to the compilation of the historical database used for the resource estimate.</p> <p>· The data verification has led to increased confidence in the historical database upon which the Mineral Resource Estimate is based.</p>   |
| <p><b>Location of data points</b></p>                                 | <p>· There is no information in the PKB summary drill logs on how the drillhole collars were surveyed but these documents do describe the co-ordinates are given in the Merchich North Lambert Maroc system. The PKB drillhole collars have several sources of information collected from historical documents and through recent surveying. The first set of co-ordinates (BRPM-MDPA) are shown typed in the front of the scanned drillhole log where it is available. The second set of co-ordinates (ONHYM) were supplied to Emmerson from historical drilling reports held by ONHYM. The third set of co-ordinates are from handheld GPS surveys completed by Emmerson in 2016 of collars that could still be located. PKB-1, PKB-2, PKB-6 and PKB-8 were located and resurveyed by Emmerson, initially by handheld GPS, and then by differential GPS. These drillholes were located between 3 m and 547 m from their original BRPM-MDPA positions and between 3 m and 85 m from the ONHYM locations. Where drillholes could not be found, the ONHYM locations were used preferentially over the original BRPM-MDPA positions. Of the four PKB holes in the Emmerson licences, only PKB-2 and PKB-6 were located and resurveyed.</p> <p>· Similarly, there is no information in the PZ summary drill logs on how the drillhole collars were surveyed apart from a reference, in some cases, that the collar elevations were estimated from the Khemisset topographic map (1:50,000 scale). The co-ordinates are also given in the Merchich North Lambert Maroc co-ordinate system and the drill collars have various different co-ordinates from different sources. The sources for the co-ordinates are the three described for the PKB series.</p> <p>· Historical borehole coordinates and collar elevations have been compiled by Emmerson from several sources, including BRPM and ONHYM survey reports/borehole logs, and handheld GPS coordinates previously taken. In 2017 and 2018, Emmerson conducted re-surveying to validate collar coordinates by attempting to identify historical boreholes in the field resulting in corrections to 67% of original borehole coordinates; 92 of the previous 137 boreholes in the database. The remaining 45 boreholes could not be found and remain unchanged, with coordinates sourced from original BRPM reports. Golder has subsequently conducted a review of all available coordinate data and re-calculated the displacements between original and re-surveyed coordinates, which range from 0.10m to 2,175.51m, with 73% showing 30m or less, and 43% with 10m or less. The largest discrepancies were found within the Central and Southwest sub-basins or outside the Emmerson license areas.</p> <p>· The KMSL drillhole collars were surveyed by handheld GPS, then differential GPS in the Merchich North Lambert Maroc co-ordinate system.</p> <p>· The KMSL drillholes were also surveyed for downhole deviation. There is no information on the downhole survey of the historical drillholes, so they have been assumed vertical. The nature of deep drilling is such that holes over a depth of 300 m are likely to deviate significantly from the vertical. However, relative to the space of the drillholes, between 0.5 km and 4 km, this will insignificantly affect the location of the sample points.</p> <p>· No detailed topographic surveys have been undertaken across the Khemisset Basin. Therefore, publically available Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) data, year 2000, has been used as the source of the topography for the work completed to date.</p> <p>· After the coordinate corrections, boreholes showed discrepancies ranging from +13.0m to -37.8m compared to the topography data, dropping to +7.4m to -5.0m in the Northeast sub-basin. KMSL drillhole coordinates showed discrepancies of within 2m of the topography data which gives confidence in the reliability of the dataset. For geological modelling, all boreholes were registered to the topography surface.</p> |
| <p><b>Data spacing and distribution</b></p>                           | <p>· The combination of PKB and PZ drillholes are distributed across the Khemisset basin, and in particular the Emmerson licences, at an approximate grid spacing of 3 km. A closer grid spacing of 1,500 m covers the main potash body south of Khemisset town and the drilling is as close as 500 m within the north deposit under and around Khemisset town.</p> <p>· Following the infill drilling programme in 2019, spacings in the Northeast sub-basin has reduced to 1.0-1.5km.</p> <p>· The drill spacing has accurately defined the extents of the potash mineralisation which into four deposit areas, the central north Khemisset sub-basin, the central Khemisset sub-basin, the Souk Jmaâ (southwest) sub-basin and the Oued Beht (northeast) sub-basin.</p> <p>· The drilling has also defined areas of low and high grade within the basin, and several potash layers. These have not been correlated in the geological modelling due to a lack of available historical geophysical logging which could help map these distinct layers between drillholes. However, these layers can be observed within the KMSL drillholes with the use of downhole geophysical logs which are up to 10 km apart, suggesting the mineralisation is very consistent within and between the separate sub-basins.</p> <p>· Historical 2D seismic surveys completed across the central Khemisset sub-basin suggest that the drillhole spacing is not close enough at 3 km to constrain major faults.</p> <p>· In 2018, Emmerson commissioned Geocon Co. Ltd ("Geocon") to conduct a further 69km of 2D seismic surveying across the Khemisset deposit. The data comprises 10, 2D Mini-SOSIE lines that have been processed and interpreted by Velseis Processing (Pty) Ltd ("Velseis"). Seismic data was processed, including depth conversion from two-way time, and used for the interpretation of key stratigraphic horizon reflectors and structural features. The interpretations made by Velseis were subsequently reviewed and updated by Emmerson. Whilst the interpretations of reflector horizons have not been used in the geological model by Golder, they have been used to constrain a basin boundary fault in the south of the northeast sub-basin. The seismic data also provides additional information to support interpretations of basin formation, geological deposition and potential fault structures across the wider deposit.</p> <p>· The current data spacing across the deposit is considered to support the declaration of Indicated and Inferred Mineral Resources.</p>  |
| <p><b>Orientation of data in relation to geological structure</b></p> | <p>· The drilling was orientated vertically to intersect as close to the true thickness of the sub-horizontal potash unit.</p> <p>· There is one instance of known faulting intersecting KMSL2 which has displaced the top of the potash horizon and decreased the thickness. It is not clear if this has occurred in the historical drillholes as it has not been logged. However, local variations and faulting can have a big influence over the volume of mineralisation cases such as this where it is thin and extensive with wide spaced drilling. As KMSL2 is a twin, this will not expect to materially affect the thickness or extent of the potash mineralisation.</p>   |
| <p><b>Sample security</b></p>   | <p>· No information is available regarding sample handling, transport and security in the historical holes. As the exploration was conducted by the state organisation, Bureau de Recherches et de Participation Minières (BRPM), there is limited potential for disturbance or tampering of any kind.</p> <p>· The KMSL samples were stored in plastic drums in a safe container at the Emmerson field offices. There is 24-hour security on the site. The samples are couriered by DHL to the sample preparation laboratory (ALS) in Seville, Spain. The pulps are then also couriered to the analytical laboratories by DHL.</p>   |
| <p><b>Audits or</b></p>   | <p>· Golder reviewed the sampling and logging as part of the Resource Update. The procedures were set up initially by Enrique</p>   |

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| <b>reviews Criteria</b> | <p>Sanz, an Exploration Geologist from Geomnia in agreement with Christiano Santos Goncalves, Golder Competent Person.</p> <p><b>Commentary</b></p> <ul style="list-style-type: none"> <li>Golder has conducted an audit of the structural (geological), and analytical datasets provided by Emmerson to ensure interpretation and sampling methods were consistent and reliable.</li> <li>In consultation with Emmerson, specific changes were made to both datasets to ensure consistency across all boreholes and to maintain compatibility with geological modelling software.</li> </ul> |
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## Section 2 - Reporting of Exploration Results

| Criteria  | Commentary   |
|---|--|
| <b>Mineral tenement and land tenure status</b>        | <ul style="list-style-type: none"> <li>Golder did not perform any legal due diligence on the status of the tenements and relies on Emmerson information.</li> <li>Golder acknowledge there are small gaps and overlaps between some of the licenses with which should not present a material impact on the Resource Inventory and this should be further investigated for future studies.</li> <li>New license was request to the Moroccan government amalgamating part of the existing licenses and dismissing others at the south-east portion of the Khemisset basin.</li> <li>Exploration and mining licenses details are available at the Competent Person's Report.</li> </ul>   |
| <b>Exploration done by other parties</b>              | <ul style="list-style-type: none"> <li>The Khemisset basin was historically explored for potash from the 1950s by Bureau de Recherches et de Participation Minières (BRPM) in conjunction with Mines domaniales des potasse d'Alsace (MDPA) and then from the 1960s onwards by BRPM with assistance from UNDP. The exploration works included surface geophysical surveys, 2D seismic surveys and surface drilling.</li> <li>Geophysical surveys across the basin were conducted at a regional scale in the 1950s as part of a country wide study done by the Societe Cherifienne des Petroles Prérïdes. The survey was completed on a coarse grid of &gt;1 km spacing. The results of the survey indicate a slight negative anomaly in the Khemisset region, but the resolution of the survey was not high enough to define drilling targets. Further telleric and magnetic studies were also completed at the same regional scale, but the same resolution problem exists in using this data for further exploration.</li> <li>A 2D seismic campaign was performed by Bureau de Recherches et de Participation Minières (BRPM) jointly with Mines domaniales des potasse d'Alsace (MDPA). The seismic survey was approximately 100 km consisting of one longitudinal profile and three transverse profiles in the central area of the Khemisset basin and an additional transverse profile in the Oued Beht Valley. The length of the profiles totals approximately 17.3 km and taken from "Mine et Geologie Report, 1965" authored by the Royaume du Maroc Ministère de l'Industrie et des Mines. The key reflectors identified in this study were the base of the Miocene, the top of the upper salt, and the top of the basalt.</li> <li>There were two drilling campaigns completed across the basin before 2016. The first is the Potasses Khemisset Bataille (PKB) series drilled between 1955 and 1958, comprising 9 scout holes, drilled to between 560 m and 1302 m depth and totaling 7,525 m. Four drillholes in this series lie within Emmerson's licenses (PKB-2, PKB-3, PKB-6, PKB-9) of which two (PKB-2, PKB-3) intersected potash. Three other PKB drillholes intersected the prospective potash seam outside the Emmerson licenses, PKB-1, PKB-4 and PKB-5.</li> <li>The second drilling campaign, the Potasses Zemour (PZ) series was completed between 1962 and 1969. This comprised 124 drillholes totaling approximately 75,000 m. 61 of the drillholes lie in the Emmerson licenses comprising approximately 35,000 m. 35 of these drillholes successfully intersected the potash horizon. Another 44 drillholes intersected potash outside the Emmerson licenses. The PZ drilling has an average grid spacing of 3 km over the majority of the basin and Emmerson's licenses. In the central area, the basin has been infill drilled to approximately 1,500 m.</li> <li>The results of the historical drilling have been evaluated in conjunction with the recent drilling for the purposes of this evaluation.</li> </ul>   |
| <b>Geology</b>  | <ul style="list-style-type: none"> <li>The Khemisset potash basin is a half-graben bounded by Paleozoic uplifts of Moroccan Meseta, a highly deformed quartzite schist. The basin is approximately 60 km long and 20 km wide and bounded by mainly northeast-southwest oriented faults. The Late Triassic deposits only outcrop in the southwestern portion of the Khemisset Basin, dip gently (0-10 degrees) towards the northeast and are overlain by Early Jurassic marine dolostones and dolomitic limestones, or directly by Miocene marls and conglomerates. The entire sequence has a maximum thickness of 1,000 m in the axial part of the basin</li> <li>The Khemisset basin is split into three distinct sub-basins; Souk Jmaâ (southwest), Central Khemisset (central and north), and Oued Beht (northeast). They are separated by sterile areas where potash salts are absent or reduced to thin millimetre or centimetre horizons.</li> <li>The southwest deposit (Souk Jmaâ sub-basin) varies in thickness between 0.4 m and 5.4 m with an average thickness of 3.0 m from eight intersection. The %K<sub>2</sub>O varies between 7 % and 12 % with an average grade of 9.4%. It covers an area of approximately 25 km<sup>2</sup>. The potash horizon is generally flat-lying, dipping slightly to the northeast 1-3 degrees and occurs at between 500 m and 600 m below surface with no interpreted faulting. The potash minerals in this deposit are a central carnallite zone surrounded by sylvinite.</li> <li>The central deposit (Central Khemisset sub-basin) varies in thickness between 1.1 m and 9.4 m with an average thickness of 3.7 m from 20 intersections. The %K<sub>2</sub>O varies between 6% and 16% with an average grade of 9.5%. It covers an area of approximately 28 km<sup>2</sup>. The potash horizon dips gently to the northeast up to 8 degrees and occurs at between 430 m and 960 m below surface. The deposit contains a central carnallite zone that gradually changes towards the southwest and northwest to sylvinite. A mixture of sylvinite and carnallite is present in the intermediate zone.</li> <li>The north deposit (Central Khemisset sub-basin) varies in thickness between 0.3 m and 8.2 m with an average thickness of 3.0 m from 25 intersections. The %K<sub>2</sub>O varies between 5% and 17% with an average grade of 10%. It covers an area of approximately 3 km<sup>2</sup>. The potash horizon dips gently to the northeast up to 7 degrees and occurs at between 490 m and 800 m below surface mainly under Khemisset city. The main potash mineral in this deposit is sylvinite but at the southern edge it changes to a mixture of carnallite and sylvinite.</li> <li>The northeast deposit (Oued Beht sub-basin) varies in thickness between 0.2 m and 5.2 m with an average thickness of 1.7 m from 28 intersections. The %K<sub>2</sub>O varies between 4% and 15% with an average grade of 9%. It covers an area of approximately 53 km<sup>2</sup>. There is one fault interpreted and modelled within this area, although it is likely there is some faulting parallel to other structures (oriented northeast southwest) in this deposit. The potash horizon dips gently to the northeast up to 6 degrees and it occurs between 390 m and 1,170 m below surface. The distribution of potash minerals in this sub-basin is more complex than the others with a mixture of carnallite, rinneite and sylvite present. The central area of the deposit contains a mixture of carnallite and rinneite mineralization towards the west and sylvinite and rinneite towards the east. The northern area is characterized by a mixture of carnallite and rinneite and the south and southwest edges by zones of sylvinite and rinneite respectively.</li> <li>The main potash minerals in the Khemisset deposits are carnallite, sylvinite and rinneite. The relative concentrations of these within the potash horizon vary. The mineralisation is also characterised by a very low insoluble fraction, rarely above 5%.</li> </ul> |
| <b>Drill hole Information</b>                         | <ul style="list-style-type: none"> <li>This information is not applicable or included here as this report concerns the reporting of Mineral Resources and not only Exploration Results.</li> </ul>   |
| <b>Data aggregation methods</b>                       | <ul style="list-style-type: none"> <li>This information is not applicable or included here as this report concerns the reporting of Mineral Resources and not only Exploration Results.</li> </ul>   |
| <b>Relationship between mineralisation widths and</b> | <ul style="list-style-type: none"> <li>This information is not applicable or included here as this report concerns the reporting of Mineral Resources and not only Exploration Results.</li> </ul>   |

| <b>Intercept lengths</b>                  | <b>Commentary</b>   |
|---|---|
| <b>Diagrams</b>                           | <ul style="list-style-type: none"> <li>This is information is not applicable or included here as this report concerns the reporting of Mineral Resources and not only Exploration Results.</li> </ul> |
| <b>Balanced reporting</b>                 | <ul style="list-style-type: none"> <li>This is information is not applicable or included here as this report concerns the reporting of Mineral Resources and not only Exploration Results.</li> </ul> |
| <b>Other substantive exploration data</b> | <ul style="list-style-type: none"> <li>This is information is not applicable or included here as this report concerns the reporting of Mineral Resources and not only Exploration Results.</li> </ul> |
| <b>Further work</b>                       | <ul style="list-style-type: none"> <li>This is information is not applicable or included here as this report concerns the reporting of Mineral Resources and not only Exploration Results.</li> </ul> |

### Section 3 - Estimation and Reporting of Mineral Resources

| <b>Criteria</b>                            | <b>Commentary</b>   |
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| <b>Database integrity</b>                  | <ul style="list-style-type: none"> <li>The digital database was compiled by Enrique Sanz in 2017 and updated in 2019. There were two sources of historical information used to populate the database. The primary data is taken from pdf scans of the drillhole logs for the PKB and PZ series where they are available. No drillhole logs are available for PKB-6, PKB-7, PKB-8 and PKB-9 from the PKB series, and PZ45 and PZ116 from the PZ series. There is incomplete information on the drillhole logs for PZ24, PZ50 and PZ121. A table of the potash intercepts for the historical drillholes was also provided by ONHYM which gives the thickness, depth and average grade of the drillhole intercept. The intercepts states that PZ116 contains potash but that PZ45 is barren. A table of drillhole collar co-ordinates were also supplied by Emmerson.</li> <li>Further verification of the historical collar locations was done by Emmerson. Old collars were surveyed using a handheld GPS and this information was used as a priority over any other recorded information in the drillholes logs or the table supplied by ONHYM. Where the collars could not be found, the ONHYM co-ordinates were used in preference over the historical scanned drillhole logs as the resurveying of the drillholes found the verified locations agreed more closely with the ONHYM information.</li> <li>The twelve recent drillholes were also included into the database. This information was checked by Golder against other sources and no errors were found. Golder also surveyed with a handheld GPS the collar positions of the two new drillholes on site and the collars of three historical drillholes. The result of this verified the positions of all holes were the same as recorded in the database.</li> <li>All historical borehole records (geological logs and analytical results) were digitised by Emmerson and provided to Golder in spreadsheet format. Drilling reports were provided to Golder as scanned copies of the originals.</li> <li>For the 2016 and 2019 programmes, geological logs were recorded digitally in spreadsheet format and combined with historical data. Analytical results were provided from the respective laboratories as signed electronic certificate sheets in addition to spreadsheet format, allowing the traceability of data to be verified.</li> <li>Golder has conducted an audit of the structural (geological), and analytical datasets provided by Emmerson to ensure interpretation and sampling methods were consistent and reliable.</li> <li>In consultation with Emmerson, specific changes were made to both datasets to ensure consistency across all boreholes and to maintain compatibility with geological modelling software.</li> <li>Previously, SRK randomly selected 14 historical drillholes to compare the original scanned information with the digital database. The collar co-ordinates, lithology data and analysis results were checked, and in all cases no discrepancies were found.</li> </ul> |
| <b>Site visits</b>                         | <ul style="list-style-type: none"> <li>A site visit was undertaken by Mr Christiano Santos Goncalves, a Member of the Australian Institute of Geoscientists (6555) and Competent Person as defined by the JORC code and a full-time employee of Golder Associates UK from 11<sup>th</sup> to 14<sup>th</sup> of February 2019.</li> <li>Mr Santos inspected the core from the two drillholes completed in 2016 and visited their collar locations. Also, inspected two new drill holes completed in 2019. Three other historical collars were surveyed using a handheld. Discussions were held with geologists on the drilling, logging and sampling techniques used in 2019 and on the main geology of the basin and the mineralogy of the potash unit.</li> <li>Mr Santos also inspected the suspended salt operations near the decline entrance on the mining licence including the evaporating ponds and access.</li> <li>Discussions from the site visit confirmed that the three drillholes were logged and analysed in accordance with best practice and the samples and remaining core at the field offices is secure.</li> </ul>   |
| <b>Geological interpretation</b>           | <ul style="list-style-type: none"> <li>The complete potash-bearing horizon, referred to as H224, comprises an upper Salt Roof followed by the main Potash Cycle; the primary ore zone of the Khemisset deposit. Using geophysical logging the Potash Cycle itself can commonly be subdivided into an Upper and Lower Cycle separated by a barren Interburden, although this is not always possible and spatially inconsistent.</li> <li>Geophysical logs for all KMSL drillholes have been used by Emmerson to interpret geological horizons and correlate these between boreholes. Geological logs were subsequently depth corrected based on downhole logging.</li> <li>2D seismic surveys conducted both historically and by Emmerson have provided additional geological information which has been used to confirm and further develop interpretations of the Khemisset basin's formation and structural features.</li> <li>For geological modelling and Resource estimation Golder adopted an approach of defining a Target Mining Horizon (TMZ) within the stratigraphic interval of the Potash Cycle, with overlying and underlying intervals assigned to an Upper and Lower Barren Zone respectively. The purpose of defining a TMZ was to provide a greater level of in-seam resolution by modelling what the most likely mining horizon would be, and therefore the grade of Run-of-Mine material.</li> <li>The TMZ represents an interval of adequate thickness and grade to be considered viable for extraction. Whilst not adhering to stratigraphic intervals, the TMZ remains constrained within the Potash Cycle as defined by geological logging. The Upper and Lower Barren Zones, where present, also provide information on the likely dilution material that would be encountered.</li> <li>Golder built the 3D model in Vulcan<sup>TM</sup> utilising the Integrated Stratigraphic Modelling (ISM) tools.</li> <li>ISM comprises five principle phases that convert basic raw data (spatial and numerical) into a 3D geological Horizon Adaptive Rectangular Prism ("HARP") model - equivalent to a conventional block model but with additional flexibility on block shape.</li> <li>Within this modelling process, the mineralisation is assumed to continue across the entire basin, through the areas previously thought to be barren. The subsequent modelling of the grade and thickness has omitted these areas at a later stage in the process through the application of a minimum thickness and cut-off grade.</li> </ul>  |
| <b>Dimensions</b>                          | <ul style="list-style-type: none"> <li>The Mineral Resource comprises partially the Khemisset basin surrounding the license area following the NE trend for over 50km per 25km.</li> <li>The TMZ average thickness is 2.5m with 9.24% of K<sub>2</sub>O.</li> </ul>   |
| <b>Estimation and modelling techniques</b> | <ul style="list-style-type: none"> <li>Golder used the maiden Resource Estimate as the basis for the Scoping Study The basis for the reporting of historical estimates is unknown and are not relevant as the current Emmerson licences also do not cover all the mineralisation within the deposit.</li> </ul>   |

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| <p><b>Criteria</b></p>                             | <p><b>Commentary</b></p> <ul style="list-style-type: none"> <li>All the historical information was used for the estimation of the deposit. There were a number of sterile drillholes which were used to limit the extents of the model and also a number of incomplete drillholes that terminated above the prospective potash interval. In these instances, Golder allowed the model to interpolate horizon positions and thicknesses beneath the total depth of the borehole, although these were not used as Points of Observation for Resource classification purposes. In the case of PZ116, which has conflicting information on the presence of potash, it was assumed the interval provided by ONHYM that positively confirms the potash unit was correct.</li> <li>The historical information for sample analysis is limited to %K<sub>2</sub>O and only certain holes have complete analysis for all other salient elements used to calculate the mineral composition. As such only %K<sub>2</sub>O, thickness and density have been estimated into the block model.</li> <li>The potash samples were composited over the intercepts defined by the logging and initial geological modelling as described above in the Section - Geological Interpretation.</li> <li>Sample values were capped for the purposes of the estimation.</li> <li>The samples were used to generate thickness and %K<sub>2</sub>O variograms for the TMZ. The variograms have low nuggets, and long ranges, approximately 2500m and 1700 m across the width of the deposit.</li> <li>The block model has a parent cell size of 100x100 m with subblocks of 50x50 m. The average drillhole spacing is 1200 m.</li> <li>The thickness, grade and density were interpolated into a rotated HARP block model in Vulcan™ software</li> <li>Using an anisotropic search and two different methods; ordinary kriging and inverse distance squared to estimate the K<sub>2</sub>O grades. Both methods produced very similar results.</li> <li>Density was assigned as an average of the TMZ samples. The 2.11 g/t was adopted and applied to the final modelled volumes. Golder considered there to be insufficient data to model density within the block model.</li> <li>The search ellipse, block model and directional variograms are all orientated northeast southwest.</li> <li>Golder reviewed the block model estimates and visually validated the models against the composite data to check the appropriate level of smoothing was being introduced into the model. The model was also validated using swath plots and histograms to check the grade and thickness distribution of the final model compared to the composite data.</li> </ul>               |
| <p><b>Moisture</b></p>                             | <ul style="list-style-type: none"> <li>The density is determined by gas pycnometry and is presented on a dry basis. As such the tonnages here are also estimated and reported on a dry basis.</li> <li>The moisture content was not analysed as it is expected to be negligible, less than 1%. This is a typical approach for all salt Projects.</li> </ul>   |
| <p><b>Cut-off parameters</b></p>                   | <ul style="list-style-type: none"> <li>The Company has sourced technical and economic parameters from comparable Projects, benchmark figures and early stage estimates. The assumed parameters include processing recovery, mining and processing costs per tonne run of mine, and G&amp;A, logistics to port and freight costs per tonne MOP. A commodity price of USD 300/t MOP has been assumed, and mineral royalties have been considered. A cut-off grade has been calculated using these assumptions and rounded up to 6%.</li> <li>Golder has verified the input parameters and the cut-off grade calculation, alongside the technical reasoning behind the proposed production scenario. Golder has tested the sensitivity of the COG to operating costs and a contingency. Golder has considered what the resultant investment payback period would be; and what the number of years of production would be both for the Project as a whole and for the satellite areas that would need additional infrastructure to access. Given this, Golder is confident that the Mineral Resource as reported fulfils the requirement that it should have potential for economic extraction.</li> <li>Golder understands that the assumptions and technical and economic parameters will change as further technical work is undertaken, commencing with the results of further exploration drilling and the planned feasibility study.</li> <li>A final (grade x thickness) 'value' of 7.5 and absolute cut-offs of 7.5% K<sub>2</sub>O and 0.8m minimum thickness have been applied to the geological model to estimate the Resource.</li> </ul>   |
| <p><b>Mining factors or assumptions</b></p>        | <ul style="list-style-type: none"> <li>A minimum mining thickness of 1.0 m has been assumed on the basis of a conventional underground room and pillar operation.</li> <li>A number of high-level checks including a high-level financial model was developed to give comfort that the tonnages reported here could be independently mined and potentially warranted independent access or development.</li> </ul>  |
| <p><b>Metallurgical factors or assumptions</b></p> | <ul style="list-style-type: none"> <li>For the purposes of reporting mineral resources, it has been assumed that the potential rinneite mineralisation would be managed through blending and not through a separate processing route.</li> <li>Slvinite and carnallite can be beneficiated using flotation and or chemical decomposition or a combination of these techniques. The presence of rinneite in a potash plant feed has only been recorded at the historical Niedersachsen-Riedel and Werra plants in Germany, owned and operated by K+S Aktiengesellschaft, where it appears the potash was processed chemically, by selective decomposition and crystallisation. It is unclear whether the rinneite ore was amenable to flotation techniques. The impact of the presence of rinneite was to lower the pH. This impact was mitigated by pH control using alkali, by feed blending, or both of these approaches.</li> </ul>  |
| <p><b>Environmental factors or assumptions</b></p> | <ul style="list-style-type: none"> <li><u>Environmental liabilities associated with the existing salt mine</u> There are some existing mine workings within the perimeter of the mining licence, realised by Westmin S.A.R.L during its tenure of the licence. The workings include a decline which was uncompleted but reached the Upper Salt Formation which occurs above the Basalt Formation. The material, which was removed during the construction of this decline, including salts, remains in part at surface, covering an area of approximately eight hectares. Much of the salt has been consumed in the preparation of brines used as drilling fluids for the KMSL drilling campaign. The related environmental liabilities remain with Westmin, as these are not carried forward onto a new licence holder (as stated in the DLA Piper report). Emmerson has none the less requested three local consultants for quotations for the rehabilitation of the site. The consultants visited the site and assessed the work to be undertaken in early 2018. The cost estimate as of February 2018, is in the region of USD 100,000.</li> <li><u>Impacts on the Oued Beht River:</u> Due to the Project location, there is the potential for impacts from the future mine and associated surface facilities on the Oued Beht River that will need to be assessed and mitigated during the Project design and permitting process. Changes to water quality or quantity in this river will be of importance due to the reliance on this river for irrigation by downstream water users.</li> <li><u>Physical and economic resettlement:</u> Surface infrastructure associated with the future mine, such as underground portal, process plant and waste storage facilities, will require Emmerson to acquire land rights across a large surface area. Depending on the location of this infrastructure, there may be a need to relocate residential properties or compensate landowners for long-term loss of income, for example from agricultural land.</li> <li>In addition to the key issues highlighted above, other environmental and social issues that will have to be considered during the Project development and EIA process include: <ul style="list-style-type: none"> <li>o positive impacts in terms of job creation, contributions to the local economy and government revenue;</li> <li>o impacts on community health and safety, particularly from air and noise emissions and increasing transport on local roads;</li> <li>o impacts on community health</li> <li>o landscape and visual impacts;</li> <li>o impacts on biodiversity; and</li> <li>o impacts on archaeology and cultural heritage.</li> </ul> </li> </ul> |
| <p><b>Bulk density</b></p>                         | <ul style="list-style-type: none"> <li>Density samples were taken from the core of the KMSL drillholes. Sample intervals were compared to the modelled stratigraphic horizons, and an average density value for the TMZ derived. This value (2.11 g/cm<sup>3</sup>) has been applied to the</li> </ul>  |



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| <b>Criteria</b>                                    | <p>final modelled volumes.</p> <p><b>Commentary</b></p> <ul style="list-style-type: none"> <li>Historical density samples from BRPM and recent samples taken from the KMSL drillholes were used to calculate the numbers. The location of the BRPM samples are not known although the new density measurements validate the historical information.</li> <li>Golder considers the densities assigned are appropriate and reasonable for the mineralogy seen in the drillholes and the purity of the salts.</li> </ul>   |
| <b>Classification</b>                              | <ul style="list-style-type: none"> <li>Golder considers the Classification for this deposit of Indicated and Inferred appropriate with regards to the following areas:</li> <li><b>Quality of Data:</b> Golder considers the verification drilling and sampling has added significant confidence to the historical database and confirmed the presence of economic potash and the potash in the Khemisset basin. The resurveying of the historical collars had added confidence to the data across all Emmerson's licences. Additional checks show there are no transcription errors in the digitised historical data and the quality and capture of this information is good. There is limited information in some drillholes which lack analysis information or drillhole logs, but this constitutes an immaterial proportion of the final database.</li> <li><b>Quantity of Data:</b> The deposit has been drilled irregularly on a grid size of between 500 m and 4000 m. The north central part of the basin has been drilled to 500 m, the central part of the basin to 1500 m and the other parts of the basin to between 3000 m and 4000 m. The majority of historical drillholes were sampled and analysed for %K<sub>2</sub>O.</li> <li><b>Geological Knowledge and understanding /geological and grade continuity:</b> The geology of the potash horizon has shown to be complex within certain areas of the deposits where a few faults have been identified from historical seismic survey interpretations. Wide spaced drilling and a lack of seismic information in the east and southwest deposits does not preclude the presence of faulting within these areas. However, there is insufficient evidence to model major faults here at this time. The main potash horizon has shown variations in thickness, grade and dip which have been characterised by the current drilling. The distribution of the potash mineralogy is also variable.</li> <li><b>Quality of Geostatistics and Grade Interpolation:</b> The results of the geostatistical analysis produced reasonable variograms. The resultant block model validates well when visually and statistically compared to the input sample data. The global mean grade and thickness is considered to be representative of the deposit.</li> <li><b>Resource Extent:</b> The potash has been well constrained by the current drilling and inside the license.</li> </ul> |
| <b>Audits or reviews</b>                           | <ul style="list-style-type: none"> <li>At the moment there is no previous audit performed on this project.</li> <li>The final Mineral Resource Statement excludes areas that are not considered to have potential for eventual economic extraction.</li> </ul>  |
| <b>Discussion of relative accuracy/ confidence</b> | <ul style="list-style-type: none"> <li>The approach to the estimation of the Khemisset Potash Mineral Resource has taken into account the relative accuracy and quality of the data used and the quantity of data available as well as the interpolation parameters for the model.</li> <li>It is accepted that there is reasonable confidence in the local estimates corroborated with performed validations.</li> <li>The sensitivity of the potash material estimated has been demonstrated using two alternative cut-off scenarios, including a value cut-off of 8.0 with absolute cut-offs of 8.0% K<sub>2</sub>O and 0.8m minimum thickness, and a value cut-off of 8.5 with absolute cut-offs of 8.5% K<sub>2</sub>O and 0.8m minimum thickness. These scenarios resulted in a decrease in the overall tonnage estimate by 10% and 23% (482.9Mt &amp; 414.9 Mt) respectively. Grades for each scenario increased from 9.24% to 9.40% and 9.60% respectively.</li> <li>A maiden Resource estimate was prepared in 2018 by SRK for an Inferred Resource of 311.4Mt at 10.2% K<sub>2</sub>O. The estimate by Golder represents a 72% increase in the total Resource. Due to the additional geological data collected by Emmerson during the 2019 exploration programme, and the detailed audit and validation conducted by Golder and Emmerson, Golder has considered the data quantity and quality sufficient to classify a portion of the deposit as Indicated.</li> </ul>  |

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