Section 1 - Sampling Techniques and Data

## Criteria Commentary

## Sampling techniques

Samples were obtained by core sampling with all drilling of the potash unit fully cored.

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 MSL drillholes cored the potash by diamond drilling, MSL by HQ double tube through the potash.

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. MSL 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. 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.

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.

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.

The MSL drillholes were sampled to lithological and mineralogical boundaries, with sample lengths varying between 0.05 m and 0.93 m. The PKB sample lengths vary between 0.1 m and 2.83 m, and PZ between 0.06 m and 3.58 m.

KMSL-1 was point sampled for semi-quantative XRD analysis. The sample locations were identified to represent all the different lithologies in, above and below the potash horizon.

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Drilling techniques	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 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.
	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.
	The MSL series was 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.
Drill sample recovery	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 MSL holes. However, visual inspection of the MSL core by SRK during the completion of the re-admission Competent Persons' Report indicates the core
	recovery through the potash was between 95% and 100%.  Deviations were drilled in the historical holes to ensure the potash horizon was totally recovered where it was not cored in the original drilling.
Logging	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.
	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.  The MSL drillholes were photographed, and lithologically logged. The logs were depth corrected using the downhole geophysical
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Criteria	Commentary
	information to ensure they were as accurate as possible. Within the total database including the drillholes outside of MSL's licences, approximately 98% of the sampled intersections have been logged. Only PZ116 of the 68 drillholes within the MSL licences does not have a lithological log of the sampled intersection, approximately 0.1% of the MSL 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 oer 10% K <sub>2</sub> O. This conflicting information needs to be verified by future drilling.
Sub-sampling techniques and sample preparation	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.  No information on further sample preparation is available for the historical samples. In several instances samples were combined after initial analysis for $K_2O$ . However, it is not stated if full core or split core was sent for analysis.  The MSL 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.  MSL inserted three internal pulp duplicates, five external pulp duplicates, three blank samples and three standard samples into the sample stream to assess the quality control of the analytical laboratory.  The sample techniques used in the MSL exploration 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 MSL and historical drillholes.

Criteria	Commentary
Quality of assay data and laboratory tests	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.  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> .  The MSL 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.
	10 MSL point samples were analysed by semi-quantative XRD at the National Museum of Natural History, Madrid, Spain, (CSIC)  The results of the quality control samples from the MSL 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.
Verification of sampling and assaying	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.  Verification of the historical data and database, which constitutes 98% of the data used in the resource estimate, has been completed through MSL's recent twin drilling of three 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).  The MSL "twin" holes varied in distance from their nearest historical collars but were positioned to check drillholes in three strategic locations. KMSL-1 is 300 m east of PZ88 in the, KMSL-2 is 20 m southwest of PZ111 located in the central Khemisset subbasin, and KMSL-3 is 90 m north of PZ3 in the north central Khemisset sub-basin. Overall, the general position and thickness of the potash horizon in the three 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 the mineralogy and lithological logging is
	consistent. The only exception is in KMSL-1 where carnallite, in addition to sylvinite, was intercepted. SRK considers the verification drilling and sampling has added significant confidence to the historical database and confirmed the presence of economic potash

in the north deposit, central deposit and northeast deposit in the Khemisset basin.

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	In 2016 MSL resurveyed all the drill collars that could still be found over the Khemisset Basin. Details of the results of this survey
	are described in the following section. The results show that some of the drillholes were found up to 1,670 m from the original
	BRPM collar positions which gives low confidence to the historical collars that could not be found and resurveyed. However, 65 %
	of the historical collars were located and 84 % of the discrepancies were less than 300 m which is not considered significant
	compared to the average drillhole spacing across the MSL licences of approximately 3 km.
	During completion of the re-admission Competent Persons' Report, 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.
	The data verification has led to increased confidence in the historical database upon which the Mineral Resource Estimate is
	based.

Criteria Commentary

## Location of data points

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 MSL from historical drilling reports held by ONHYM. The third set of co-ordinates are from handheld GPS surveys completed by MSL in 2016 of collars that could still be located. PKB-1, PKB-2, PKB-6 and PKB-8 were located and resurveyed by MSL, 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 MSL licences, only PKB-2 and PKB-6 were located and resurveyed.

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. A total of 83 of the PZ drillhole collars were located and resurveyed. Of these, 41 are within the MSL licences, which leaves 20 PZ collars within MSL's licences that were not located. The discrepancies between the original positions and the resurveyed positions are between 1 m and 1,676 m and between 1 m and 1,363 m discrepancy with the ONHYM locations. The final co-ordinates for the drillholes were determined the same way as for the PKB series; where drillhole collars could not be found, the ONHYM locations were used preferentially over the original BRPM positions.

The MSL drillhole collars were surveyed by handheld GPS, then differential GPS in the Merchich North Lambert Maroc co-ordinate system.

The MSL 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

Criteria	Commentary
	insignificantly affect the location of the sample points.  No detailed topographic surveys have been undertaken across the Khemisset Basin. Therefore, publically available Advanced Spacebourne Thermal Emission and Refelection Radiometer (ASTER) data, year 2000, has been use as the source of the topography for the work completed to date.
Data spacing and distribution	The combination of PKB and PZ drillholes are distributed across the Khemisset basin, and in particular the MSL 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.  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.  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

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	layers between drillholes. However, these layers are seen in all three MSL drillholes which are up to 10 km apart, suggesting the mineralisation is very consistent within and between the separate sub-basins.  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. Therefore, in order to gain further information on the structure of the basin, additional close spaced drilling or seismic surveys are required.  The current data spacing across the deposit is considered to support the declaration of Inferred Mineral Resources.
Orientation of data in relation to geological structure	The drilling was orientated vertically to intersect as close to the true thickness of the sub-horizontal potash unit.  There is one instance of known faulting intersecting KMSL-2 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 KMSL-2 is a twin, this will not expect to materially affect the thickness or extent of the potash mineralisation.
Sample security	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.  The MSL samples were stored in plastic drums in a safe container at the MSL 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.
Audits or reviews	SRK reviewed the sampling and logging as part of the audit process for the re-admission Compentent Persons' Report. Adam Wheeler also reviewed the data collection in 2016. The procedures were set up initially by Enrique Sanz, an Exploration Geologist from Geomnia.

**Section 2 - Reporting of Exploration Results** 

Criteria	Commentary
Mineral tenement	The Khemisset Project is covered by a total of 54 research licences and one mining licence held by subsidiary or related companies
and land tenure	of MSL Minerals S.A.R.L and Mine de Centre S.A.R.L. The permits are defined by reference number, the position of the control
status	point and the centre of the 4kmx4km square for each permit.
	Some of the licences overlap, in which case the earliest existing permit has priority.
	There are no active mining operations relating to the salt mine located in the south of the mining licence.
	The renewal of research permits and the mining licence will be required to progress the Project through the stages of study
	(which is common to all exploration Projects) and the renewal of the mining licence is yet to be better understood, as the
	Company is engaged in exploration works rather than mining activities.
Exploration done by	The Khemisset basin was historically explored for potash from the 1950s by Bureau de Recherches et de Participation Minières
other parties	(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.
	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 Prérides. The survey was completed on a coarse grid of >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.
	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 total approximately 17.3 km and taken from "Mine et Geologie Report, 1965" authored by the Royaume
	du Maroc Ministere 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.
	There were two drilling campaigns completed across the basin before 2016. The first is the Potasses Khemisset Bataille (PKB)

Criteria	Commentary
	series drilled between 1955 and 1958, comprising 9 scout holes, drilled to between 560 m and 1302 m depth and totalling
	7,525 m. Four drillholes in this series lie within MSL's licences (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 MSL licences, PKB-1, PKB-4
	and PKB-5.
	The second drilling campaign, the Potasses Zemour (PZ) series was completed between 1962 and 1969. This comprised 124
	drillholes totalling approximately 75,000 m. 61 of the drillholes lie in the MSL licences comprising approximately 35,000 m. 35 of
	these drillholes successfully intersected the potash horizon. Another 44 drillholes intersected potash outside the MSL licences.
	The PZ drilling has an average grid spacing of 3 km over the majority of the basin and MSL's licences. In the central area, the basin
	has been infill drilled to approximately 1,500 m.
	The results of the historical drilling have been evaluated in conjunction with the recent drilling for the purposes of this evaluation.

Criteria	Commentary
Geology	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
	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.
	The southwest deposit (Souk Jmaâ sub-basin) varies in thickness between 0.5 m and 5.5 m with an average thickness of 2.5 m. The
	%K₂O varies between 7 % and 12 % with an average grade of 9%. It covers an area of approximately 25 km2. The potash horizon is
	generally flat-lying and occurs at between 500 m and 550 m below surface with no interpreted faulting. The potash minerals in
	this deposit are a central carnallite zone surrounded by sylvinite.
	The central deposit (Central Khemisset sub-basin) varies in thickness between 0.7 m and 9 m with an average thickness of 4.6 m.
	The %K <sub>2</sub> O varies between 4% and 14% with an average grade of 10%. It covers an area of approximately 28 km2. Several faults
	orientated northeast-southwest have been interpreted through the central deposit with vertical displacements of between 5 m
	and 25 m with one major fault showing displacement up to 80 m. The potash horizon dips gently to the northeast up to 10
	degrees and occur at between 680 m and 980 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.
	The north deposit (Central Khemisset sub-basin) varies in thickness between 0.7 m and 3.5 m with an average thickness of 2.2 m.
	The %K <sub>2</sub> O varies between 8% and 12% with an average grade of 11%. It covers an area of approximately 3 km2. There are two
	faults orientated northeast-southwest are interpreted with vertical displacement of up to 25 m. The potash horizon dips gently to
	the northeast up to 5 degrees and occur at between 470 m and 560 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.
	The northeast deposit (Oued Beht sub-basin) varies in thickness between 0.5 m and 5.5 m with an average thickness of 2.5 m. The

Criteria	Commentary
	%K <sub>2</sub> O varies between 4% and 18% with an average grade of 11%. It covers an area of approximately 53 km2. There are no faults interpreted in 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 10 degrees and it occurs between 520 m and 1,070 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.  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%.
Drill hole Information	This information is not applicable or included here as this report concerns the reporting of Exploration Targets and Mineral Resources and not only Exploration Results.
Data aggregation methods	This information is not applicable or included here as this report concerns the reporting of Exploration Targets and Mineral Resources and not only Exploration Results.

Criteria	Commentary
Relationship between mineralisation widths and intercept lengths	This information is not applicable or included here as this report concerns the reporting of Exploration Targets and Mineral Resources and not only Exploration Results.
Diagrams	This information is not applicable or included here as this report concerns the reporting of Exploration Targets and Mineral Resources and not only Exploration Results.
Balanced reporting	This information is not applicable or included here as this report concerns the reporting of Exploration Targets and Mineral Resources and not only Exploration Results.
Other substantive exploration data	This information is not applicable or included here as this report concerns the reporting of Exploration Targets and Mineral Resources and not only Exploration Results.
Further work	The proposed exploration programme to test the Exploration Targets will:  Acquire the historical SCP and ONAREP drilling and seismic surveys data within the EML permit areas  Integrate the historical data into a 3-D geological model incorporating the results of the recent seismic survey completed in the Oued Beht sub-basin  Drill initial 1 to 3 diamond drill hole programme to test the most prospective parts of the Exploration Target as determined by the review of the historical data. This is expected to occur as part of the second drilling programme at Khemisset, which would commence in the second half of 2019.