

# CONFIRMATION OF MINERAL RESOURCE FOR KOLA DEPOSIT

508 Mt Measured and Indicated Sylvinite Resource grading 35.4% KCl

Kore Potash Plc  
("Kore Potash" or the "Company")  
27 Feb 2025

This announcement is a restatement of the Mineral Resource estimate for the Kola deposit ("Kola" or the "Project"), located on the Company's 97%-owned Sintoukola Potash Project (SP), in the Republic of Congo ("RoC").

The Mineral Resource estimate was originally released by the Company's wholly-owned subsidiary, Kore Potash Limited, which was formerly listed on the ASX under the ticker "K2P".

The original announcement was entitled 'UPDATED MINERAL RESOURCE FOR THE HIGH GRADE KOLA DEPOSIT' dated 6 July 2017 (the "2017 Announcement").

This announcement contains additional information on pages 6 to 12 summarising the material information set out in Appendix 1 relating to the Kola Mineral Resource in accordance with ASX Listing Rule 5.8.1. No other material changes have been made to the original announcement.

This announcement has been released alongside the Company's Optimised Kola DFS, released today. The information in this document provides the basis for the information in the Optimised Kola DFS.

## Highlights

- More than half a billion tonnes of Sylvinite in the Measured and Indicated categories at a grade of 35.4% KCl, which is on par with the highest grade operating potash mines globally;
- Sylvinite of exceptional purity: less than 0.2% insoluble material (typically >5% in comparable deposits globally) and less than 0.2% magnesium. These qualities are highly desirable characteristics in potash ores, supporting lower processing costs;
- The deposit is very shallow at less than 300 m depth. The Sylvinite seams are extensive and have a thickness and continuity of grade that are likely to be amenable to a high-productivity, low-cost mining method; and,
- The Mineral Resource provides the basis for the Optimised DFS, announced today.

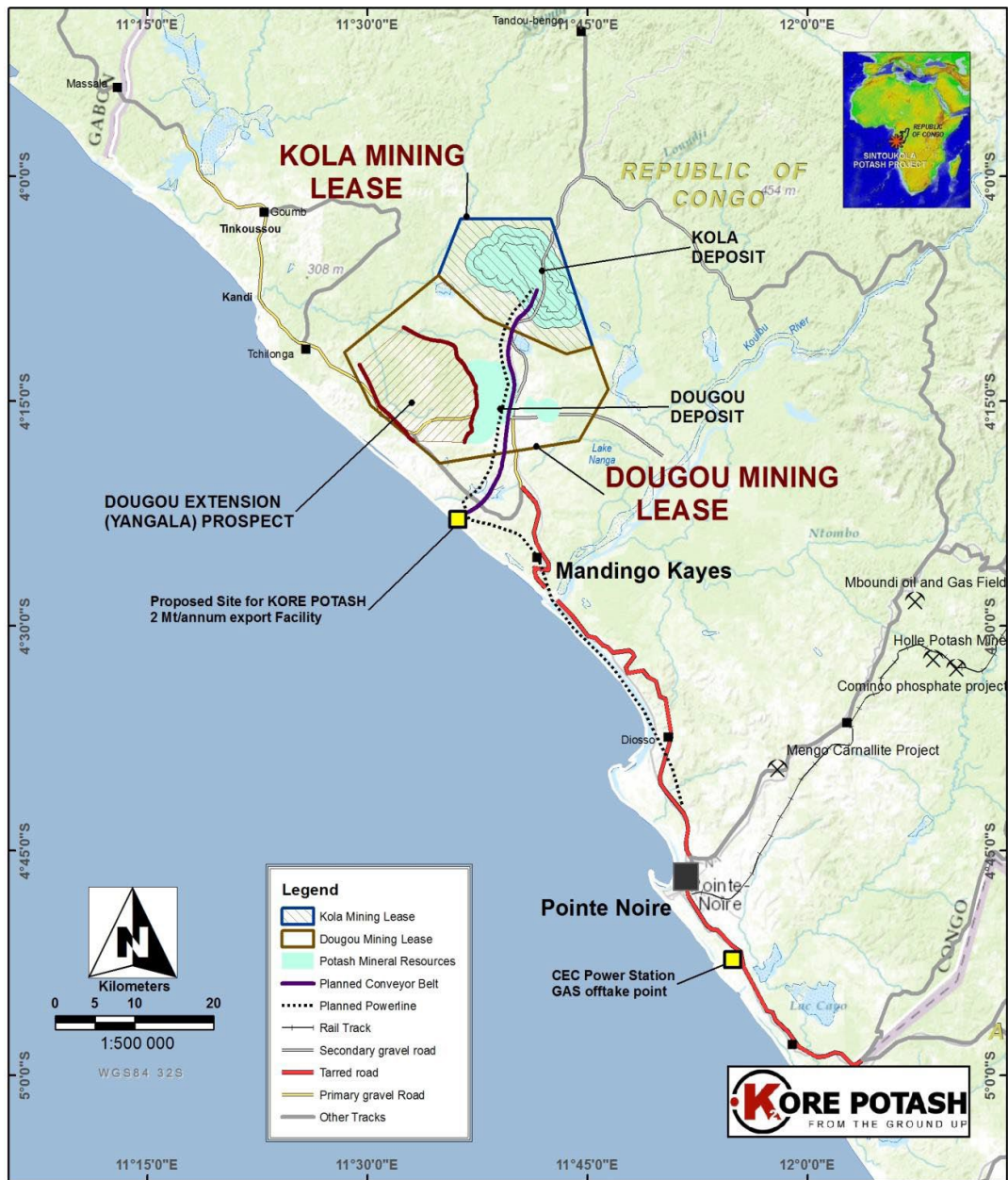


Figure 1. Map showing the location of the Kola and Dougou Mining Leases within the Republic of Congo

André Baya, CEO of Kore, commented:

*“From our 2017 MRE, we always knew that the Kola deposit is world-class. With this 2025 announcement, our Competent Person only reconfirms that our data is accurate, reliable and rightly used as the calculation basis for our Optimised DFS.*

*With more than half a billion tonnes of Sylvinitite, Kola should support a long life-of-mine and at a grade of over 35% KCl, the deposit remains on par with the world’s highest grading operating potash mines. We anticipate that this, coupled with the advantages offered by Kola’s location, shallow depth, seam thickness and continuity, could allow Kore to build one of the most profitable potash mines globally. Furthermore, the Kola deposit remains open laterally in most directions, creating further opportunity for resource expansion through further drilling during the production phase.”*

**Table 1. Sylvinitite Mineral Resource for the Kola deposit**

Prepared by independent mining industry consultants, the Met-Chem division of DRA Americas Inc., a subsidiary of the DRA Group, this table was first published in the 2017 Announcement and has not changed.

July 2017 - Kola Deposit Potash Mineral Resources - SYLVINITE					
		Million Tonnes	KCl	Mg	Insolubles
			%	%	%
Hangingwall Seam	Measured	–	–	–	–
	Indicated	29.6	58.5	0.05	0.16
	<b>Meas. + Ind.</b>	<b>29.6</b>	<b>58.5</b>	<b>0.05</b>	<b>0.16</b>
	Inferred	18.2	55.1	0.05	0.16
Upper Seam	Measured	153.7	36.7	0.04	0.14
	Indicated	169.9	34.6	0.04	0.14
	<b>Meas. + Ind.</b>	<b>323.6</b>	<b>35.6</b>	<b>0.04</b>	<b>0.14</b>
	Inferred	220.7	34.3	0.04	0.15
Lower Seam	Measured	62.0	30.7	0.19	0.12
	Indicated	92.5	30.5	0.13	0.13
	<b>Meas. + Ind.</b>	<b>154.5</b>	<b>30.6</b>	<b>0.15</b>	<b>0.13</b>
	Inferred	59.9	30.5	0.08	0.11
Footwall seam	Measured	–	–	–	–
	Indicated	–	–	–	–
	<b>Meas. + Ind.</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>
	Inferred	41.2	28.5	0.33	1.03
<b>Total Measured + Indicated Sylvinitite</b>		<b>507.7</b>	<b>35.4</b>	<b>0.07</b>	<b>0.14</b>
<b>Total Inferred Sylvinitite</b>		<b>340.0</b>	<b>34.0</b>	<b>0.08</b>	<b>0.25</b>

*Notes: The Mineral Resources are reported in accordance with The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the “JORC Code”, 2012 edition). Resources are reported at a cut-off grade of 10% KCl. Tonnes are rounded to the nearest 100 thousand. The average density of the Sylvinitite is 2.10 (g/cm<sup>3</sup>). Zones defined by structural anomalies have been excluded. Mineral Resources which are not Ore Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, marketing, or other relevant issues. Readers should refer to Appendix 1 for a more detailed description of the deposit and Mineral Resource estimate. The Mineral Resources are considered to have reasonable expectation for eventual economic extraction using underground mining methods.*

## Sylvinite resource is 'open' laterally

The Inferred Sylvinite Mineral Resource stands at 340 Mt grading 34.0% KCl, mostly hosted by the Upper and Lower Seam. Additional seismic data would be required to potentially upgrade this material into the Indicated category. Beyond this, the deposit is 'open' laterally to the east, southwest and south.

## The potash seams

The Measured and Indicated Mineral Resource is hosted by four seams which are flat to gently dipping (mostly less than 15 degrees). From uppermost these are: The Hangingwall Seam (HWS), Upper Seam (US) and Lower Seam (LS), as shown in Figure 2. The seams are hosted within a thick package of rock-salt. The lower Footwall Seam (FWS) is an Inferred resource restricted to relatively narrow zones and will not be considered for mining. Figures 24 to 27 of Appendix 1 show the distribution of the Sylvinite in plan-view. The bulk of the Measured and Indicated Mineral Resource is hosted by the Upper Seam (representing 64% of the contained potash) which is largely continuous across the deposit and has an average thickness of 4.0 metres. The Sylvinite HWS and LS have an average thickness of 3.3 and 3.7 metres, respectively. The Sylvinite is present in broad zones with a dominant northwest-southeast orientation.

If present, Carnallite occurs below the Sylvinite, within the seams. Contacts between the Sylvinite and Carnallite are always abrupt and the two rock types are not inter-mixed, supporting a clear distinction in the resource model and ultimately in the mine plan. A large Carnallite Mineral Resource estimate was also prepared (Table 9 in Appendix 1) but is not considered for extraction.

The increased data available for the resource update enabled inclusion of 30 Mt of HWS into the Measured and Indicated Mineral Resource. At more than 55% KCl, Sylvinite of the Hangingwall seam (HWS) is a candidate for the world's highest grading potash seam.

## Resource model and estimate

The Mineral Resource Estimate was prepared by independent resource industry consultants *Met-Chem division of DRA Americas Inc., a subsidiary of the DRA Group* - and reported in accordance with The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code", 2012 edition). Appendix 1 provides the required 'Checklist of Assessment and Reporting Criteria'. Kore undertook interpretation of the potash layers and other stratigraphic units and contacts in conjunction with the MSA Group of Johannesburg.

The deposit modelling took advantage of the high quality of seismic data, acquired by the Company in 2010 and 2011 and subsequently re-processed to a high standard in 2016 by DMT Petrologic GmbH of Germany. The new seam model and classification approach was driven by the drill-hole and re-processed seismic data.

The Sylvinite model was developed by quantitative analysis of seam position relative to the top of the Salt Member and to zones of relative salt disturbance (RDS). The resulting model is illustrated in Figure 2. The small (<5%) reduction in contained potash in the Measured and Indicated Mineral Resource versus the 2012 estimate is primarily a result of a reduction in the extent of the Indicated Mineral Resource envelope and by the application of a dip-correction to the seam model. Structurally anomalous areas have been removed from the resource. Further description of the resource model and estimate is provided in Appendix 1.

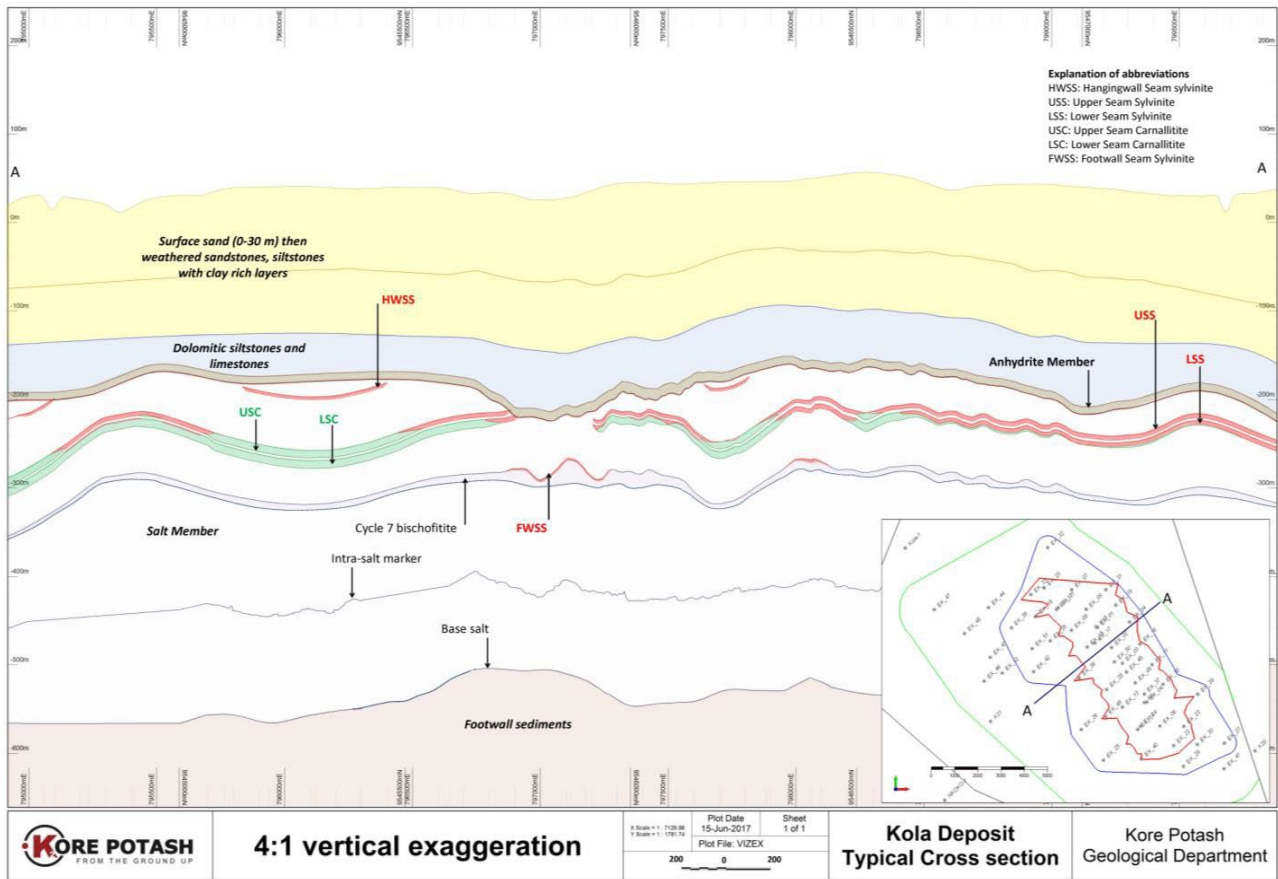


Figure 2. Typical Cross section through the Kola deposit showing the potash seams and main stratigraphic units. Note: the 'S' or 'C' after HWS, US, LS, FWS denotes Sylvinitite or Carnallitite.

The Mineral Resource is supported by a large number of cored drill-holes. In total, the Company has drilled 52 holes at Kola, of which 46 reached target depth, and 42 contained significant Sylvinitite mineralization, as listed in Table 6 of Appendix 1. Holes EK\_46 to EK\_52 were drilled after the effective date of the 2012 Mineral Resource estimate.

## ADDITIONAL INFORMATION – MATERIAL INFORMATION SUMMARY – LISTING RULE 5.8.1

### Geological Interpretation

Recognition and correlation of potash and other important layers or contacts between holes is straightforward and did not require assumptions to be made, due the continuity and unique characteristics of each of the evaporite layers; each being distinct when thickness, grade and grade distribution, and stratigraphic position relative to other layers is considered. Further support is provided by the reliable identification of 'marker' units within and at the base of the evaporite cycles. Correlation is further aided by the downhole geophysical data (Figure 18) clearly shows changes in mineralogy of the evaporite layers and is used to validate or adjust the core logged depths of the important contacts. The abrupt nature of the contacts, particularly between the Rock-salt, Sylvinite and Carnallitite contributes to above.

Between holes the seismic interpretation is the key control in the form and extent of the Sylvinite, in conjunction with the application of the geological model. The controls on the formation of the Sylvinite is well understood and the 'binary' nature of the potash mineralization allows an interpretation with a degree of confidence that relates to the support data spacing, which in turn is reflected in the classification. In this regard geology was relied upon to guide and control the model, as described in detail in Appendix 1, section 3.5. Alternative interpretations were tested as part of the modeling process but generated results that do not honor the drill-hole data as well as the adopted model.

The following features affect the continuity of the Sylvinite or Carnallitite seams, all of which are described further in Appendix 1, Section 3.5. By using the seismic data and the drill-hole data, the Mineral Resource model captures the discontinuities with a level of confidence reflected in the classification.

- where the seams are truncated by the anhydrite
- where the Sylvinite pinches out becoming Carnallitite or vice versa
- areas where the seams are leached within zones of subsidence

Outside of these features, grade continuity is high reflecting the small range in variation of grade of each seam, within each domain. Further description of grade variation is provided in Appendix 1.

### Sampling Techniques

Sampling was carried out according to a strict quality control protocol beginning at the drill rig. Holes were drilled to PQ size (85 mm core diameter) core, with a small number of holes drilled HQ size (63.5 mm core diameter). Sample intervals were between 0.1 and 2.0 metres and sampled to lithological boundaries. All were sampled as half-core except very recent holes (EK\_49 to EK\_51) which were sampled as quarter core. Core was cut using an Almonte© core cutter without water and blade and core holder cleaned down between samples. Sampling and preparation were carried out by trained geological and technical employees. Samples were individually bagged and sealed.

A small number of historic holes were used in the Mineral Resource model; K6, K18, K19, K20, K21. K6 and K18 were the original holes twinned by the Company in 2010. The grade data for these holes was not used for the Mineral Resource estimate but they were used to guide the seam model. The 2010 twin hole drilling exercise validated the reliability of the geological data for these holes (see Appendix 1, section 1.7).



## Sub-sampling techniques and sample preparation

Excluding QA-QC samples 2368 samples were analysed at two labs in 44 batches, each batch comprising between 20 and 250 samples. Samples were submitted in 46 batches and are from 41 of the 47 holes drilled at Kola. The other 6 drill-holes (EK03, EK\_21, EK\_25, EK\_30, EK\_34, EK\_37) were either stopped short of the evaporite rocks or did not intersect potash layers. Sample numbers were in sequence, starting with KO-DH-0001 to KO-DH-2650 (EK\_01 to EK\_44) then KO-DH-2741 to KO-DH-2845 (EK\_46 and EK\_47).

The initial 298 samples (EK\_01 to EK\_05) were analysed at K-UTEC in Sondershausen, Germany and thereon samples were sent to Intertek- Genalysis in Perth. Samples were crushed to nominal 2 mm then riffle split to derive a 100 g sample for analysis. K, Na, Ca, Mg, Li and S were determined by ICP-OES. Cl is determined volumetrically. Insolubles (INSOL) were determined by filtration of the residual solution and slurry on 0.45 micron membrane filter, washing to remove residual salts, drying and weighing. Loss on drying by Gravimetric Determination (LOD/GR) was also completed as a check on the mass balance. Density was measured (along with other methods described in section 3.11) using a gas displacement Pycnometer.

## Drilling Techniques

Holes were drilled by 12- and 8-inch diameter rotary Percussion through the 'cover sequence', stopping in the Anhydrite Member and cased and grouted to this depth. Holes were then advanced using diamond coring with the use of tri-salt (K, Na, Mg) mud to ensure excellent recovery. Coring was PQ (85 mm core diameter) as standard and HQ (64.5 mm core diameter) in a small number of the holes.

## Classification

Drill-hole and seismic data are relied upon in the geological modelling and grade estimation. Across the deposit the reliability of the geological and grade data is high. Grade continuity is less reliant on data spacing as within each domain grade variation is small reflecting the continuity of the depositional environment and 'all or nothing' style of Sylvinitic formation.

It is the data spacing that is the principal consideration as it determines the confidence in the interpretation of the seam continuity and therefore confidence and classification; the further away from seismic and drill-hole data the lower the confidence in the Mineral Resource classification, as summarized in Table 2. In the assigning confidence category, all relevant factors were considered, and the final assignment reflects the Competent Persons view of the deposit.

**Table 2. Description of requirements for the maximum extent of the Measured, Indicated and Inferred classifications**

	Drill-hole requirement	Seismic data requirement	Classification extent
<b>Measured</b>	Average of 1 km spacing	Within area of close spaced 2010/2011 seismic data (100-200 m spacing)	Not beyond the seismic requirement
<b>Indicated</b>	1.5 to 2 km spacing	1 to 2.5 km spaced 2010/2011 seismic data <b>and</b> 1 to 2 km spaced oil industry seismic data	Maximum of 1.5 km beyond the seismic data requirement <b>if</b> sufficient drill-hole support
<b>Inferred</b>	Few holes, none more than 2 km from another	1-3 km spaced oil industry seismic data	Seismic data requirement and maximum of 3.5 km from drill-holes

## Sample Analysis Method

### *Quality of Assay Data and Laboratory Tests*

For drill-holes EK\_01 to EK\_47, a total of 412 QAQC samples were inserted into the batches comprising 115 field duplicate samples, 84 blank samples and 213 certified reference material (CRM) samples. Duplicate samples are the other half of the core for the exact same interval as the original sample, after it is cut into two. CRMs were obtained from the Bureau of Reference (BCR), the reference material programme of the European Commission. Either river sand or later barren Rock-salt was used for blank samples. These QA-QC samples make up 17% of the total number of samples submitted which is in line with industry norms. Sample chain of custody was secure from point of sampling to point of reporting.

**Table 3 - Summary of QA-QC sample composition.**

QA-QC sample type	Description	K %	Mg %	Cl %	Na %
Blank (alluvium)	river sand	< 0.1	-	-	-
Blank (barren halite)	Elemental core	< 0.1	-	-	-
Field Duplicate	1/4 core	NA	-	-	-
Certified Standard BCR-113	Certified Reference Material	50.13	< 0.1	47.8	1.53
Certified Standard BCR-114	Certified Reference Material	41.76	< 0.1	1.85	1.10
Low K standard	In house standard	13.64	1.79	30.5	8.47

As confirmation of the accuracy of the API-derived KCl grades for EK\_49 to EK\_51, samples for the intervals that were not taken for geotechnical sampling, were sent to Intertek-Genalysis for analysis. The results are within 5% of the API-derived KCl and thickness, and so the latter was used.

### *Verification of Sampling and Assaying*

As described in Appendix 1, section 1.6, 40 samples of a variety of grades and drill-holes were sent for umpire analysis and as described, these support the validity of the original analysis. Other validation comes from the routine geophysical logging of the holes. Gamma data provides a very useful check on the geology and grade of the potash and for all holes a visual comparison is made in log form. API data for a selection of holes (EK\_05, EK\_13, EK\_14, EK\_24) were formally converted to KCl grades, an extract of which is shown in Figure 3. In all cases the API derived KCl supports the reported intersections.



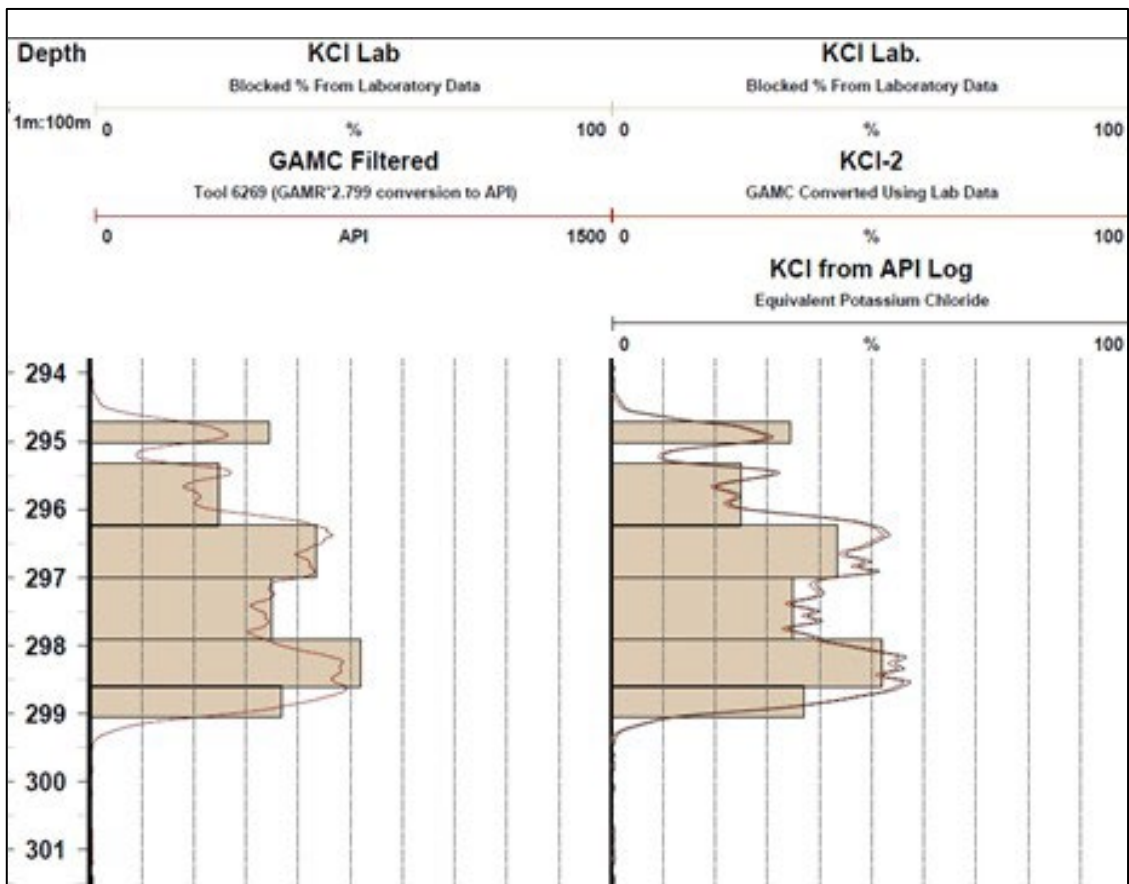


Figure 3. Example of KCl % from laboratory analysis (bars) compared with KCl grades from API data.

### Validation of historic drilling data

As mentioned above; K6, K18, K19, K20, K21 were used in the geological modelling but not for the grade estimate. K6 and K18 were twinned in 2010 and the comparison of the geological data is excellent, providing validation that the geological information for the aforementioned holes could be used with a high degree of confidence.

### Estimation and Modelling Techniques

Table 4 and Table 5 provide the Mineral Resource for Sylvinitite and Carnallitite at Kola. This Mineral Resource replaces that dated 21 August 2012, prepared by CSA Global Pty Ltd. This update incorporates reprocessed seismic data and additional drilling data. Table 10 and Table 11 provide the Sylvinitite and Carnallitite Mineral Resource from 2012. The updated Measured and Indicated Mineral Resource categories are not materially different from the 2012 estimate and is of slightly higher grade. The Inferred category has reduced due to the reduction in the FWSS tonnage, following the updated interpretation of it being present within relatively narrow lenses that are more constrained than in the previous interpretation. There is no current plan to consider the FWSS as a mining target and so the reduction in FWSS tonnage is of no consequence to the project's viability.

**Table 4. June 2017 Kola Mineral Resources for Sylvinite,**  
reported under JORC code 2012 edition, using a 10% KCl cut-off grade.

July 2017 - Kola Deposit Potash Mineral Resources - SYLVINITE					
		Million Tonnes	KCl	Mg	Insolubles
			%	%	%
Hangingwall Seam	Measured	–	–	–	–
	Indicated	29.6	58.5	0.05	0.16
	<b>Meas. + Ind.</b>	<b>29.6</b>	<b>58.5</b>	<b>0.05</b>	<b>0.16</b>
	Inferred	18.2	55.1	0.05	0.16
Upper Seam	Measured	153.7	36.7	0.04	0.14
	Indicated	169.9	34.6	0.04	0.14
	<b>Meas. + Ind.</b>	<b>323.6</b>	<b>35.6</b>	<b>0.04</b>	<b>0.14</b>
	Inferred	220.7	34.3	0.04	0.15
Lower Seam	Measured	62.0	30.7	0.19	0.12
	Indicated	92.5	30.5	0.13	0.13
	<b>Meas + Ind.</b>	<b>154.5</b>	<b>30.6</b>	<b>0.15</b>	<b>0.13</b>
	Inferred	59.9	30.5	0.08	0.11
Footwall seam	Measured	–	–	–	–
	Indicated	–	–	–	–
	<b>Meas + Ind.</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>
	Inferred	41.2	28.5	0.33	1.03
<b>Total Measured + Indicated Sylvinite</b>		<b>507.7</b>	<b>35.4</b>	<b>0.07</b>	<b>0.14</b>
<b>Total Inferred Sylvinite</b>		<b>340.0</b>	<b>34.0</b>	<b>0.08</b>	<b>0.25</b>

**Notes:** Tonnes are rounded to the nearest hundred thousand. The average density of the Sylvinite is 2.10. Structural anomaly zones have been excluded. Mineral Resources which are not Ore Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, marketing, or other relevant issues.

**Table 5. July 2017 Kola Mineral Resources for Carnallite,**  
reported under JORC code 2012 edition, using a 10% KCl cut-off grade.

July 2017 - Kola Deposit Potash Mineral Resources - CARNALLITITE					
		Million Tonnes	KCl	Mg	Insolubles
			%	%	%
Hangingwall Seam	Measured	–	–	–	–
	Indicated	26.6	24.6	7.13	0.11
	<b>Meas. + Ind.</b>	<b>26.6</b>	<b>24.6</b>	<b>7.13</b>	<b>0.11</b>
	Inferred	88.3	24.7	7.20	0.12
Upper Seam	Measured	73.6	19.4	6.19	0.20
	Indicated	109.6	20.7	6.47	0.20
	<b>Meas. + Ind.</b>	<b>183.2</b>	<b>20.2</b>	<b>6.36</b>	<b>0.20</b>
	Inferred	414.2	21.3	6.41	0.12
Lower Seam	Measured	267.7	16.9	5.37	0.16
	Indicated	305.3	17.5	5.52	0.16
	<b>Meas + Ind.</b>	<b>573.0</b>	<b>17.2</b>	<b>5.45</b>	<b>0.16</b>
	Inferred	763.9	16.6	5.20	0.12
<b>Total Measured + Indicated Carnallite</b>		<b>782.8</b>	<b>18.1</b>	<b>5.72</b>	<b>0.17</b>
<b>Total Inferred Carnallite</b>		<b>1,266.4</b>	<b>18.7</b>	<b>5.73</b>	<b>0.12</b>

**Notes:** Tonnes are rounded to the nearest hundred thousand. The average density of the Sylvinite is 1.73. Structural anomaly zones have been excluded. Mineral Resources which are not Ore Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, marketing, or other relevant issues.

## **Cut-off parameters**

For Sylvinitite, a cut-off grade (COG) of 10% was determined by an analysis of the Pre-feasibility and 'Phased Implementation study' operating costs analysis and a review of current potash pricing. The following operating costs were determined from previous studies per activity per tonne of MoP (95% KCl) produced from a 33% KCl ore, with a recovery of 89.5%:

- Mining US\$30/t
- Process US\$20/t
- Infrastructure US\$20/t
- Sustaining Capex US\$15/t
- Royalties US\$10/t
- Shipping US\$15/t

For the purpose of the COG calculation, it was assumed that infrastructure, sustaining capex, royalty and shipping do not change with grade (i.e. are fixed) and that mining and processing costs vary linearly with grade. Using these assumptions of fixed costs (US\$60/t) and variable costs at 33% (US\$50/t) and a potash price of US\$250/t, we can calculate a cut-off grade where the expected cost of operations equals the revenue. This is at a grade of 8.6% KCl. To allow some margin of safety, a COG of 10% is therefore proposed. For Carnallitite, reference was made to the Scoping Study for Dougou which determined similar operating costs for solution mining of Carnallitite and with the application of a US\$250/t potash price a COG of 10% KCl is determined.

## **Mining Factors and assumptions**

For the Kola MRE, it was assumed that all sylvinitite greater with grade above the cut-off grade except, for that within the delineated geological anomalies, has reasonable expectation of eventual economic extraction, by conventional underground mining. Geological anomalies were delineated from process 2D seismic data.

The Kola Project has been the subject of scoping and feasibility studies which found that economic extraction of 2 to 5m thick seams with conventional underground mining machines is viable and that mining thickness as low as 1.8m can be supported. Globally, potash is mined in similar deposits with seams of similar geometry and form. The majority of the deposit has seam thickness well above 1.8m; the average for the sylvinitite HWS, US, LS and FWS is 3.3, 4.0, 3.7 and 6.6m respectively.

For the Mineral Resource Estimate a cut-off grade of 10% KCl was used for sylvinitite. The average grade of the deposit is considered of similar grade or higher than the average grade of several operating potash mines. It is assumed that dilution of 20 cm or as much as 10-15% of the seam thickness would not impact the deposit viability significantly. The thin barren rock-salt layers within the seams were included in the estimate as internal dilution

## **Metallurgical Factors and assumptions**

The Kola Sylvinitite ore represents a simple mineralogy, containing only sylvite, halite and minor fragments of other insoluble materials. Sylvinitite of this nature is well understood globally and can be readily processed. Separation of the halite from sylvite by means of flotation has been proven in potash mining districts in Russia and Canada.

Furthermore, metallurgical testwork was performed on all Sylvinite seams (HWSS, USS, LSS and FWSS) at the Saskatchewan Research Council (SRC) which confirmed the viability of processing the Kola ore by conventional flotation.

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For further information, please visit [www.korepotash.com](http://www.korepotash.com) or contact:

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## Forward-Looking Statements

This news release contains statements that are "forward-looking". Generally, the words "expect," "potential", "intend," "estimate," "will" and similar expressions identify forward-looking statements. By their very nature and whilst there is a reasonable basis for making such statements regarding the proposed placement described herein; forward-looking statements are subject to known and unknown risks and uncertainties that may cause our actual results, performance or achievements, to differ materially from those expressed or implied in any of our forward-looking statements, which are not guarantees of future performance. Statements in this news release regarding the Company's business or proposed business, which are not historical facts, are "forward looking" statements that involve risks and uncertainties, such as resource estimates and statements that describe the Company's future plans, objectives or goals, including words to the effect that the Company or management expects a stated condition or result to occur. Since forward-looking statements address future events and conditions, by their very nature, they involve inherent risks and uncertainties. Actual results in each case could differ materially from those currently anticipated in such statements.

Investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date they are made.

## Competent Person Statement

The information in this announcement that relates to Mineral Resources is based on information compiled or reviewed by, Garth Kirkham, P.Geo., who has read and understood the requirements of the JORC Code, 2012 Edition. Mr. Kirkham is a Competent Person as defined by the JORC Code, 2012 Edition, having a minimum of five years of experience that is relevant to the style of mineralization and type of deposit described in this announcement, and to the activity for which he is accepting responsibility. Mr. Kirkham is member in good standing of Engineers and Geoscientists of British Columbia (Registration Number 30043) which is an ASX-Recognized Professional Organization (RPO). Mr. Kirkham is a consultant engaged by Kore Potash Plc to review the documentation for Kola Deposit, on which this announcement is based, for the period ended 29 October 2018. Mr. Kirkham has verified that this announcement is based on and fairly and accurately reflects in the form and context in which it appears, the information in the supporting documentation relating to preparation of the review of the Mineral Resources.

# APPENDIX 1 - JORC TABLE 1

## Section 1: Sampling Techniques and Data

### 1.1 Sampling Techniques

Sampling was carried out according to a strict quality control protocol beginning at the drill rig. Holes were drilled to PQ size (85 mm core diameter) core, with a small number of holes drilled HQ size (63.5 mm core diameter). Sample intervals were between 0.1 and 2.0 metres and sampled to lithological boundaries. All were sampled as half-core except very recent holes (EK\_49 to EK\_51) which were sampled as quarter core. Core was cut using an Almonte© core cutter without water and blade and core holder cleaned down between samples. Sampling and preparation were carried out by trained geological and technical employees. Samples were individually bagged and sealed.

A small number of historic holes were used in the Mineral Resource model; K6, K18, K19, K20, K21. K6 and K18 were the original holes twinned by the Company in 2010. The grade data for these holes was not used for the Mineral Resource estimate but they were used to guide the seam model. The 2010 twin hole drilling exercise validated the reliability of the geological data for these holes (section 1.7).

KCl data for EK\_49 to EK\_51 was based on the conversion on calibrated API data from downhole geophysical logging, as is discussed in Section 6. Subsequent laboratory assay results for EK\_49 and EK\_51 support the API derived grades.



Figure 1 - Whole PQ-sized core shortly after drilling, Sylvinite clearly visible as the orange-red rock type. The seam in this example is the Hangingwall Seam Sylvinite comprised between 50 and 60% *sylvite*. The easily identifiable and abrupt nature of the contacts is visible.

### 1.2 Drilling Techniques

Holes were drilled by 12 and 8 inch diameter rotary Percussion through the 'cover sequence', stopping in the Anhydrite Member and cased and grouted to this depth. Holes were then advanced



using diamond coring with the use of tri-salt (K, Na, Mg) mud to ensure excellent recovery. Coring was PQ (85 mm core diameter) as standard and HQ (64.5 mm core diameter) in a small number of the holes.

### 1.3 Drill sample recovery

Core recovery was recorded for all cored sections of the holes by recording the drilling advance against the length of core recovered. Recovery is between 95 and 100% for the evaporite and all potash intervals, except in EK\_50 for the Carnallite interval in that hole (as grade was determined using API data for that hole this is of no consequence). The use of tri-salt (Mg, Na, and K) chloride brine to maximize recovery was standard. A fulltime mud engineer was recruited to maintain drilling mud chemistry and physical properties. Core is wrapped in cellophane sheet soon after it is removed from the core barrel, to avoid dissolution in the atmosphere, and is then transported at the end of each shift to a de-humidified core storage room where it is stored permanently.

### 1.4 Logging

The entire length of each hole was logged, from rotary chips in the 'cover sequence' and core in the evaporite. Logging is qualitative and supported by quantitative downhole geophysical data including gamma, acoustic televiewer images, density and caliper data which correlates well with the geological logging. Figure 18 shows a typical example geophysical data plotted against lithology. Due to the conformable nature of the evaporite stratigraphy and the observed good continuity and abrupt contacts, recognition of the potash seams is straightforward and made with a high degree of confidence. Core was photographed to provide an additional reference for checking contacts at a later date.



Figure 2 Left: logging the core. Right: Labelling the cut core, one half for analysis the other retained as a record

### 1.5 Sub-sampling techniques and sample preparation

Excluding QA-QC samples 2368 samples were analysed at two labs in 44 batches, each batch comprising between 20 and 250 samples. Samples were submitted in 46 batches and are from 41 of the 47 holes drilled at Kola. The other 6 drill-holes (EK03, EK\_21, EK\_25, EK\_30, EK\_34, EK\_37) were either stopped short of the evaporite rocks or did not intersect potash layers. Sample numbers were in sequence, starting with KO-DH-0001 to KO-DH-2650 (EK\_01 to EK\_44) then KO-DH-2741 to KO-DH-2845 (EK\_46 and EK\_47).

The initial 298 samples (EK\_01 to EK\_05) were analysed at K-UTEC in Sondershausen, Germany



and thereon samples were sent to Intertek- Genalysis in Perth. Samples were crushed to nominal 2 mm then riffle split to derived a 100 g sample for analysis. K, Na, Ca, Mg, Li and S were determined by ICP-OES. Cl is determined volumetrically. Insolubles (INSOL) were determined by filtration of the residual solution and slurry on 0.45 micron membrane filter, washing to remove residual salts, drying and weighing. Loss on drying by Gravimetric Determination (LOD/GR) was also completed as a check on the mass balance. Density was measured (along with other methods described in section 3.11) using a gas displacement Pycnometer.

## 1.6 Quality of Assay Data and Laboratory Tests

For drill-holes EK\_01 to EK\_47, a total of 412 QAQC samples were inserted into the batches comprising 115 field duplicate samples, 84 blank samples and 213 certified reference material (CRM) samples. Duplicate samples are the other half of the core for the exact same interval as the original sample, after it is cut into two. CRMs were obtained from the Bureau of Reference (BCR), the reference material programme of the European Commission. Either river sand or later barren Rock-salt was used for blank samples. These QA-QC samples make up 17% of the total number of samples submitted which is in line with industry norms. Sample chain of custody was secure from point of sampling to point of reporting. Figure 3 to Figure 5 provide examples of QA-QC charts.

Table 1 Summary of QA-QC sample composition.

QA-QC sample type	Description	K %	Mg %	Cl %	Na %
Blank (alluvium)	river sand	< 0.1	-	-	-
Blank (barren halite)	Elemental core	< 0.1	-	-	-
Field Duplicate	1/4 core	NA	-	-	-
Certified Standard BCR-113	Certified Reference Material	50.13	< 0.1	47.8	1.53
Certified Standard BCR-114	Certified Reference Material	41.76	< 0.1	1.85	1.10
Low K standard	In house standard	13.64	1.79	30.5	8.47

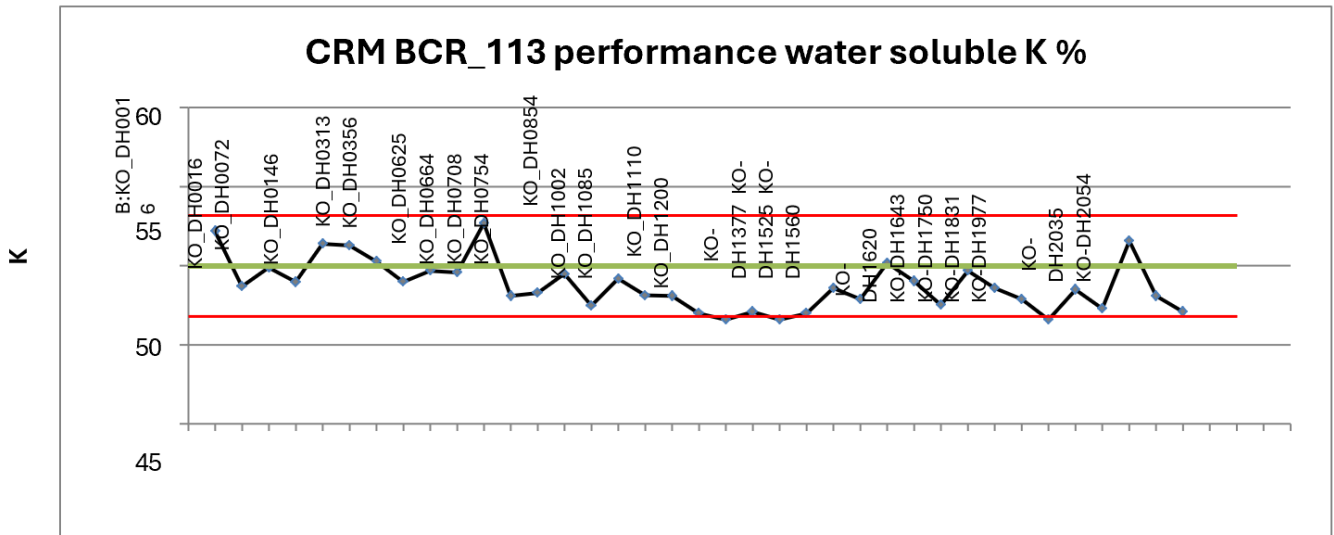


Figure 3. CRM\_113 performance. Plus 2 standard deviation and minus 2 standard deviation limits are shown (red lines) and the accepted value (50.013%) (green line) are shown

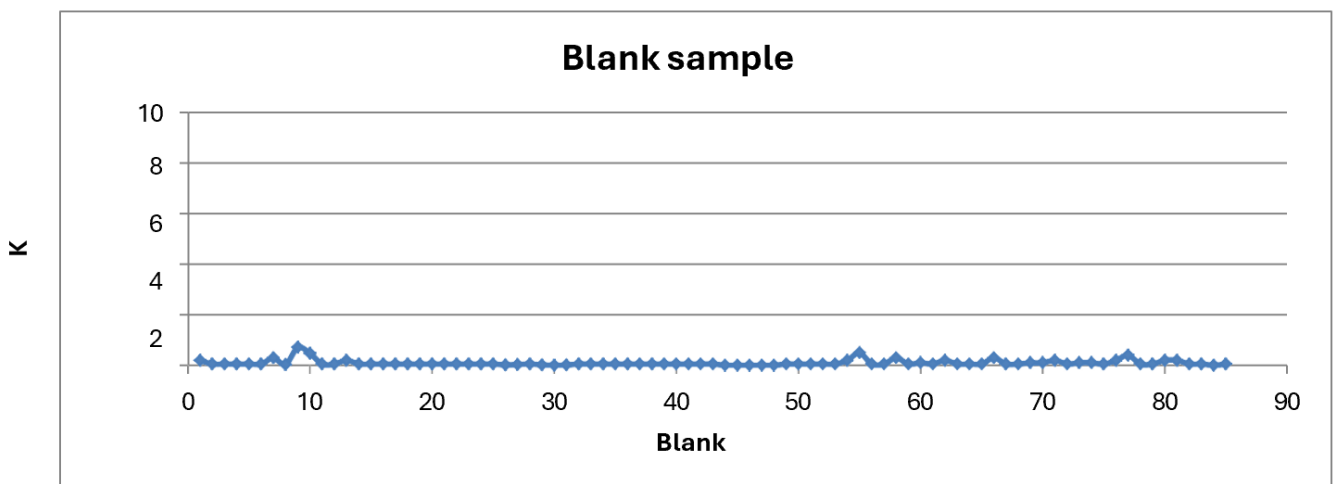


Figure 4. Blank sample results plotted in sequence

In addition, two batches of ‘umpire’ analyses were submitted to a second lab. The first batch comprised 17 samples initially analysed at K-UTEC sent to Intertek-Genalysis for umpire. The second umpire batch comprised 23 samples from Intertek-Genalysis sent to SRC laboratory in Saskatoon for umpire. The results are shown in Figure 5 below and demonstrate excellent validation of the primary laboratory analyses.

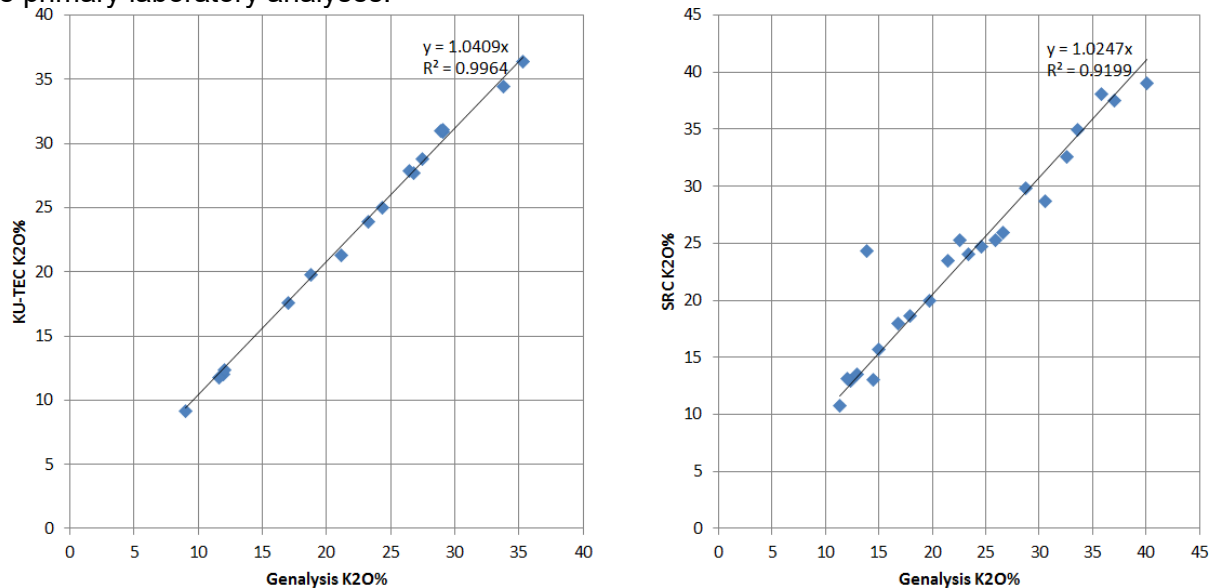


Figure 5. Left: K-UTEC K2O original vs Genalysis K2O umpire check. Right: Genalysis K2O original vs SRC K2O umpire check

### EK 49 to EK 51

Potash intersections for EK\_49 to EK\_51 were partially sampled for geotechnical test work and so were not available in full for chemical analysis. Gamma ray CPS data was converted to API units which were then converted to KCl % by the application of a conversion factor known, or K-factor. The geophysical logging was carried out by independent downhole geophysical logging company Wireline Workshop (WW) of South Africa, and data was processed by WW. Data collection, data processing and quality control and assurance followed a stringent operating procedure. API calibration of the tool was carried out at a test-well at WW’s base in South Africa to convert raw gamma ray CPS to API using a coefficient for sonde NGRS6569 of 2.799 given a standard condition of a diameter 150mm bore in fresh water (1.00gm/cc mud weight).

To provide a Kola-specific field-based K-factor, log data were converted via a K-factor derived from a comparison with laboratory data for drill- holes EK\_13, EK\_14 and EK\_24. In converting from API to KCl (%), a linear relationship is assumed (no dead time effects are present at the count rates being considered). In order to remove all depth and log resolution variables, an ‘area-under-the-curve’ method was used to derive the K factor. This overcomes the effect of narrow beds not being fully resolved as well as the shoulder effect at bed boundaries. For this, laboratory data was converted to a wireline log and all values between ore zones were assigned zero. A block was created (Figure 6) that covered all data and both wireline gamma ray log (GAMC) and laboratory data log were summed in terms of area under the curves. From this like-for –like comparison a K factor of 0.074 was calculated. In support of this factor, it compares well with the theoretical K-factor derived using Schlumberger API to KCl conversion charts which would be 0.0767 for this tool in hole of PQ diameter (125 mm from caliper data. As a check on instrument stability over time, EK\_24 is logged frequently. No drift in the gamma-ray data is observed (Figure 7).

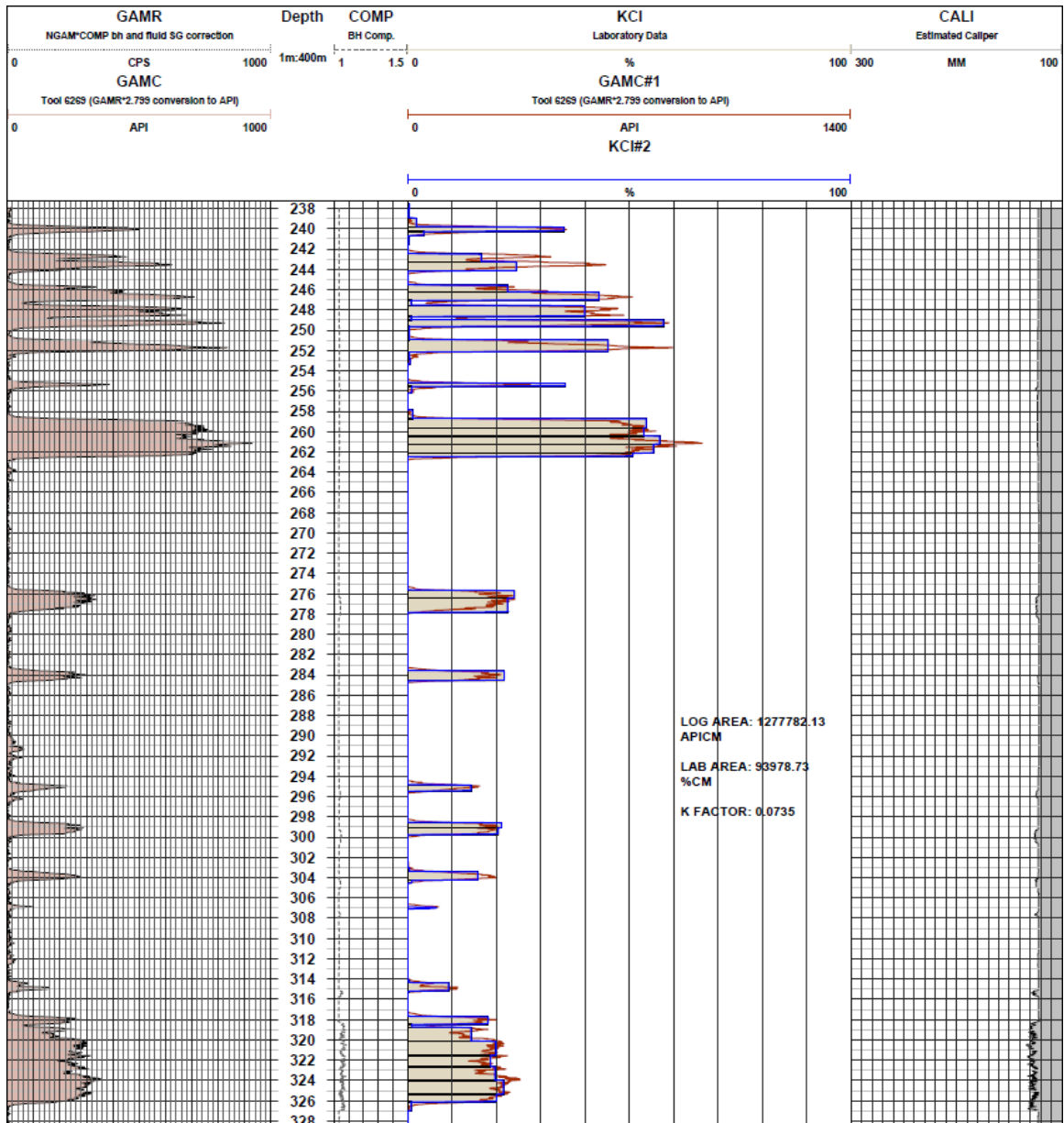


Figure 6. Extract from work by Wireline Workshop comparing assay KCI% (grey bars) with API data (brown line) and the resulting API-derived KCI% (blue outlined bars) for previous drill-holes. This work is for the determination of the K-factor for the conversion from API to KCI%, for drill-holes EK\_49 to EK\_51

As confirmation of the accuracy of the API-derived KCl grades for EK\_49 to EK\_51, samples for the intervals that were not taken for geotechnical sampling, were sent to Intertek-Genalysis for analysis. The results are within 5% of the API-derived KCl and thickness, and so the latter was used unreservedly for the Mineral Resource estimation.

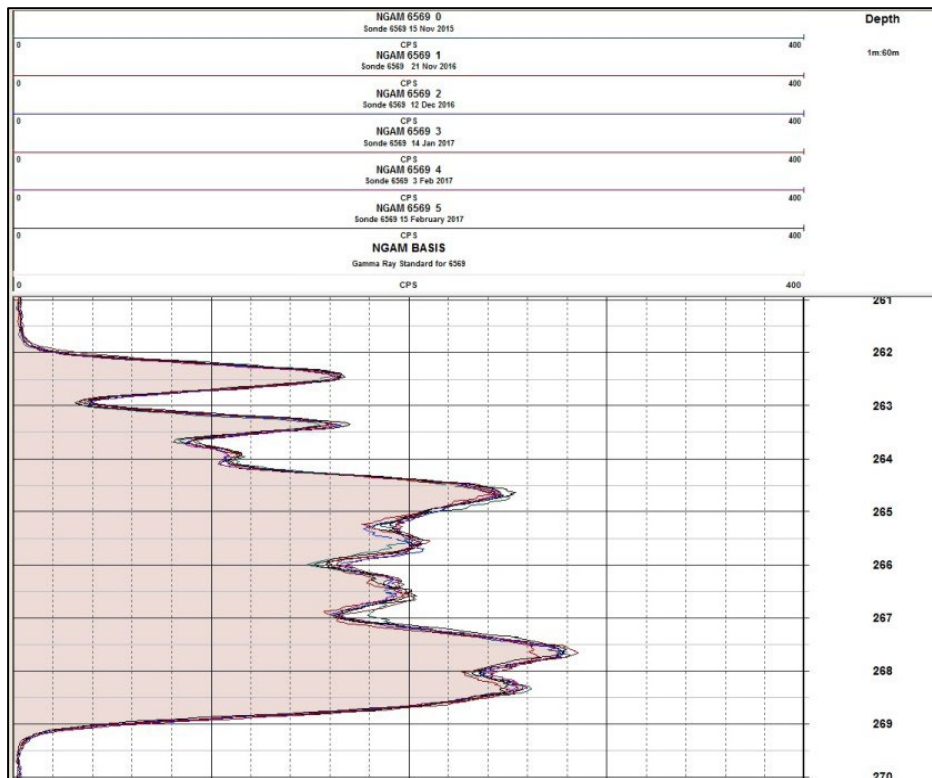


Figure 7. Gamma ray plots for 'check' hole EK\_24 over time plotted super-imposed on each other as a check of tool stability

### 1.7 Verification of Sampling and Assaying

As described in section 1.6, 40 samples of a variety of grades and drill-holes were sent for umpire analysis and as described, these support the validity of the original analysis. Other validation comes from the routine geophysical logging of the holes. Gamma data provides a very useful check on the geology and grade of the potash and for all holes a visual comparison is made in log form. API data for a selection of holes (EK\_05, EK\_13, EK\_14, EK\_24) were formally converted to KCl grades, an extract of which is shown in Figure 8. In all cases the API derived KCl supports the reported intersections.

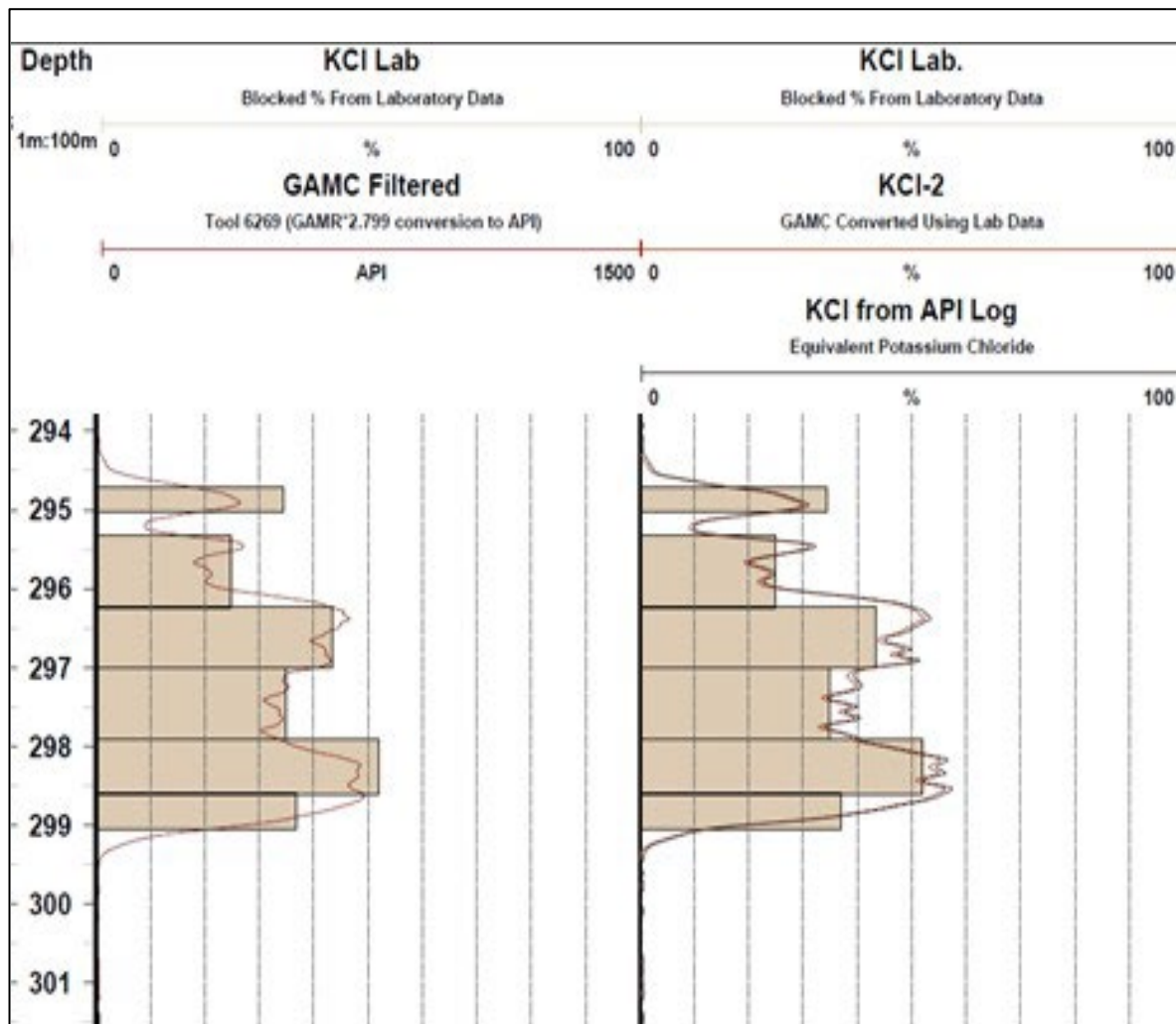


Figure 8. Example of KCl % from laboratory analysis (bars) compared with KCl grades from API data.

### Validation of historic drilling data

As mentioned above; K6, K18, K19, K20, K21 were used in the geological modelling but not for the grade estimate. K6 and K18 were twinned in 2010 and the comparison of the geological data is excellent, providing validation that the geological information for the aforementioned holes could be used with a high degree of confidence.

### 1.8 Location of Data Points

A total of 50 Resource related drill-holes have been drilled by the Company; EK\_01 to EK\_52. EK\_37 and EK\_48 were geotechnical holes. All of these holes are listed in Table 5. Table 6 provides details of Sylvinite intersections or absence of for all holes. Of the 50 Resource holes, 4 stopped short above the Salt Member due to drilling difficulties. Of the 46 Resource holes drilled into the Salt Member, all except 4 contained a significant Sylvinite intersection.

The collars of all drill-holes up to EK\_47 including historic holes were surveyed by a professional land surveyor using a DGPS. EK\_48 to EK\_52 were positioned with a handheld GPS initially (with elevation from the LIDAR data) and later with a DGPS. All data is in UTM zone 32 S using WGS 84 datum.



Topography for the bulk of the Mineral Resource area is provided by high resolution airborne LIDAR (Light Detection and Ranging) data collected in 2010, giving accuracy of the topography to <200 mm. Beyond this SRTM 90 satellite topographic data was used. Though of relatively low resolution, it is sufficient as the deposit is an underground mining project.

### 1.9 Data Spacing and Distribution

Figure 9 shows drill-hole and seismic data for Kola. Table 13 provides a description of the support data spacing. In most cases drill-holes are 1- 2 km apart. A small number of holes are much closer such as EK\_01 and K18, EK\_04 and K6, EK\_14 and EK\_24 which are between 50 and 200 m apart.

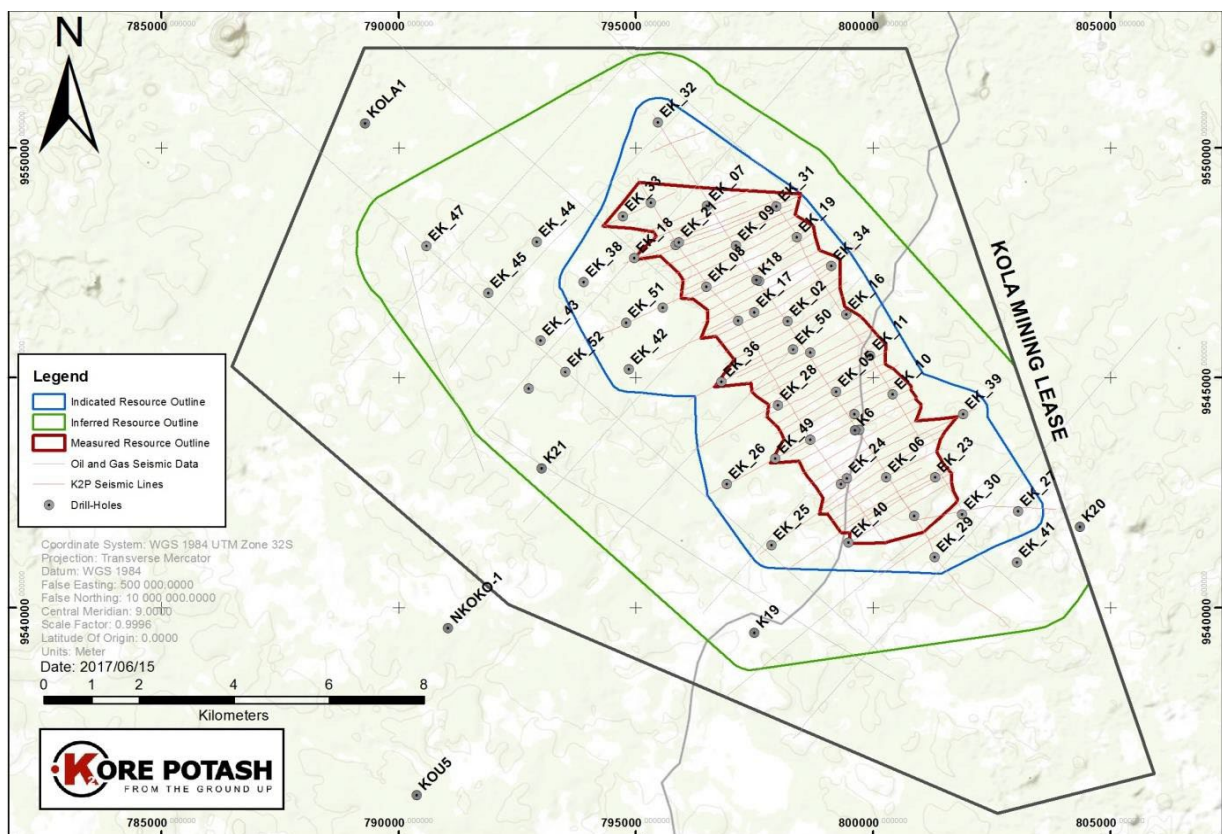


Figure 9. Map showing the Kola Mineral Resource classification ‘extents’ (for the US and LS), drill-holes and seismic lines

The drill-hole data is well supported by 186 km of high frequency closely spaced seismic data acquired by the Company in 2010 and 2011 that was processed to a higher standard in 2016. This data provides much guidance of the geometry and indirectly the mineralogy of the potash seams between and away from the holes, as well as allowing the delineation of discontinuities affecting the potash seams. The combination of drill-hole data and the seismic data supports geological modelling with a level of confidence appropriate for the classification assigned to the Measured, Indicated and Inferred sections of the deposit. The seismic data is described in greater detail below.

#### Seismic data and processing

Two sources of seismic data were used to support the Mineral Resource model:

- 1) Historical oil industry seismic data of various vintage and acquired by several companies, between 1989 and 2006. The data is of low frequency and as final SEG-Y files as PreStack Time Migrated (PreSTM) form. Data was converted to depth by applying a velocity to best tie the top-



of-salt reflector with drill-hole data. The data allows the modelling of the top of the Salt Member (base of the Anhydrite Member) and some guidance of the geometry of the layers within the Salt Member.

- 2) The Company acquired 55 lines totalling 185.5 km of data (excluding gaps on two lines) in 2010 and 2011. These surveys provide high frequency data specifically to provide quality images for the relatively shallow depths required (surface to approximately 800 m). Survey parameters are provided in Table 2. Data was acquired on strike (tie lines) and dip lines as shown in Figure 9. Within the Measured Mineral Resource area lines are between 100 and 200 m apart. Data was re-processed in 2016, for the 2017 Mineral Resource update, by DMT Petrologic GmbH (DMT) of Germany. DMT worked up the raw field data to poststack migration (PoSTM) and PreSTM format. By an iterative process of time interpretation of known reflectors (with reference to synthetic seismograms) the data was converted to Prestack depth migrated (PSDM) form. Finally, minor adjustments were made to tie the data exactly with the drill-hole data. Figure 10 provides an example of the final depth migrated data.

The Competent Person reviewed the seismic data and processing and visited DMT in Germany for meetings around the final delivery of the data to the Company.

*Table 2. 2010, 2011 Seismic Survey Parameters*

Source Type	IVI Minivibrator
Interval	8 m
Sweep Length 16000ms	16000ms
Receiver Interval	8 m
Recording System	SERCEL 408 (2010), 428XL (2011)
Record Length	1000ms
Sample Rate	0.5 ms
Channels	200
Geometry Type	Split Spread, roll on /off

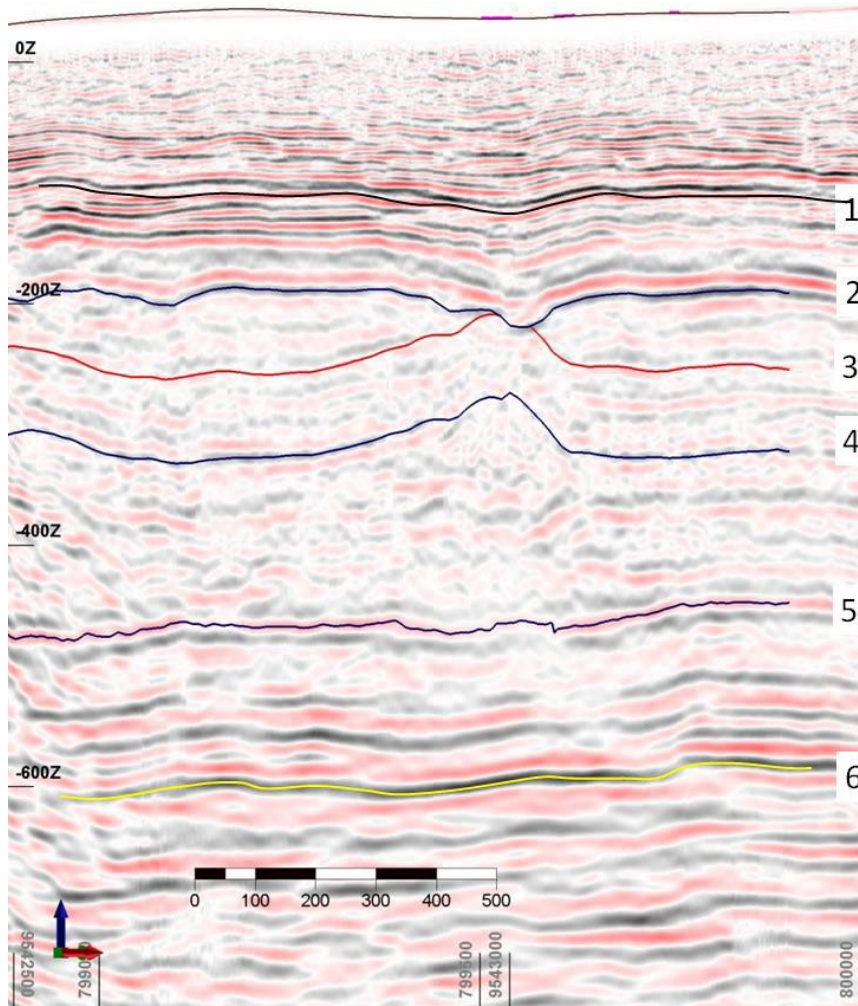


Figure 10. Example of final Pre-stack depth migrated (PSDM) data with key reflectors identified. 1: top of dolomite 2: Top of salt (base of anhydrite or SALT\_R) 3: position of roof of the Upper Seam roof (US\_R). 4: base of cycle 8 (BoC8) 5: 'intrasalt' marker 6: base of Salt Member

### 1.10 Orientation of Data In Relation To Geological Structure

All exploration drill-holes were drilled vertically and holes were surveyed to check for deviation. In almost all cases tilt was less than 1 degree (from vertical). Dip of the potash seam intersections ranges from 0 to 45 degrees with most dipping 20 degrees or less. All intersections with a dip of greater than 15 degrees were corrected to obtain the true thickness, which was used for the creation of the Mineral Resource model.

### 1.11. Sample Security

At the rig, the core is under full time care of a Company geologist and end of each drilling shift, the core is transported by Kore Potash staff to a secure site where it is stored within a locked room. Sampling is carried out under the fulltime watch of Company staff; packed samples are transported directly from the site by Company staff to DHL couriers in Pointe Noire 3 hours away. From here DHL airfreight all samples to the laboratory. All core remaining at site is stored is wrapped in plastic film and sealed tube bags, and within an air-conditioned room (17-18 degrees C) to minimize deterioration (Figure 11).



Figure 11. Kore Potash air-conditioned core shed in the Republic of Congo

### 1.12 Audits or Reviews

The Competent Person has visited site to review core and to observe sampling procedures. As part of the Mineral Resource estimation, the drill-hole data was thoroughly checked for errors including comparison of data with the original laboratory certificates; no errors were found.

## Section 2: Reporting of Exploration Results

Only criteria that are relevant are discussed and only if they are not discussed elsewhere in the report

### 2.1 Mineral Tenement and Land Tenure Status

The Kola deposit is within the Kola Mining Lease (Figure 12) which is held 100% under the local company Kola Mining SARL which is in turn held 100% by Sintoukola Potash SA RoC, of which Kore Potash holds a 97% share. The lease was issued August 2013 and is valid for 25 years. There are no impediments on the security of tenure.

### 2.2. Exploration Done By Other Parties

Potash exploration was carried out in the area in the 1960's by Mines de Potasse d' Alsace S.A in the 1960's. Holes K6, K18, K19, K20, K21 are in the general area. K6 and K18 are within the deposit itself and both intersected Sylvinites of the Upper and Lower Seam; it was the following up of these two holes by Kore Potash (then named Elemental Minerals) that led to the discovery of the deposit in 2012.

Oil exploration in the area has taken place intermittently from the 1950's onwards by different workers including British Petroleum, Chevron, Morel et Prom and others. Seismic data collected by some of these companies was used to guide the evaporite depth and geometry within the Inferred Mineral Resource area. Some oil wells have been drilled in the wider area such as Kola-1 and Nkoko-1 (Figure 9).

## 2.3 Geology

### Regional Geology and Stratigraphy

Figure 14 provides a stratigraphic column for the area. The potash seams are hosted by the 300-900 m thick Lower Cretaceous-aged (Aptian age) Loeme Evaporite formation. These sedimentary evaporite rocks belong to the Congo (Coastal) Basin which extends from the Cabinda enclave of Angola to the south well into Gabon to the north, and from approximately 50 km inland to some 200-300 km offshore. The evaporites were deposited between 125 and 112 million years ago, within a post-rift 'proto Atlantic' sub-sea level basin following the break-up of Gondwana forming the Africa and South America continents.



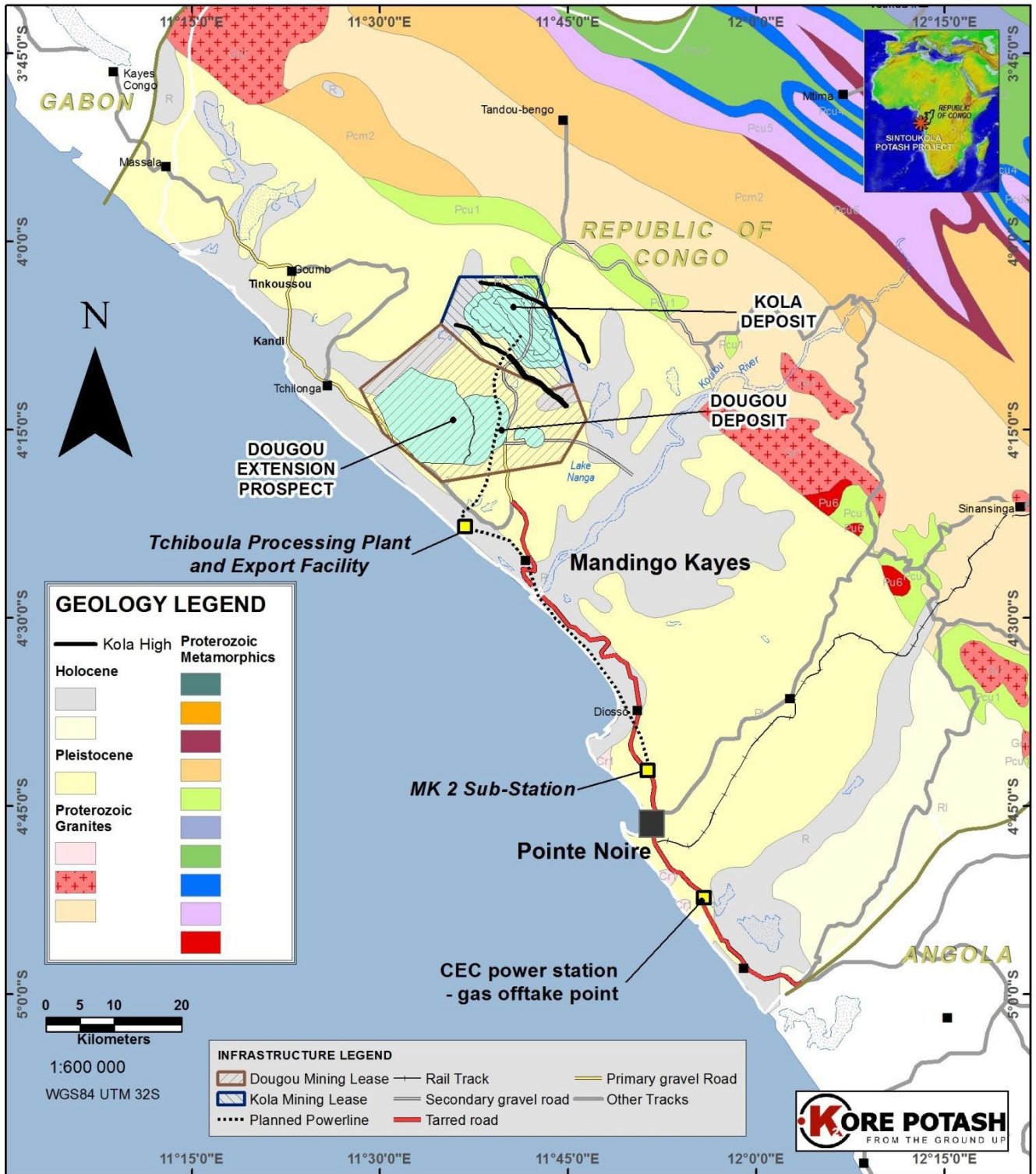


Figure 12. Simplified Geological Map of the Congo Basin showing the location of the Kola Deposit.

The evaporite is covered by a thick sequence of carbonate rocks and clastic sediments of Cretaceous age to recent (Albian to Miocene), referred to as the 'Cover Sequence', which is between 170 and 270 m thick over the Kola deposit. The lower portion of this Cover Sequence is comprised of dolomitic rocks of the Sendji Formation. At the top of the Loeme Formation, separating the Cover Sequence and the underlying Salt Member is a layer of anhydrite and clay typically between 5 and 15 m thick and referred to as the Anhydrite Member. At Kola, this layer rests un-conformably over the Salt-Member, as described in more detail below.

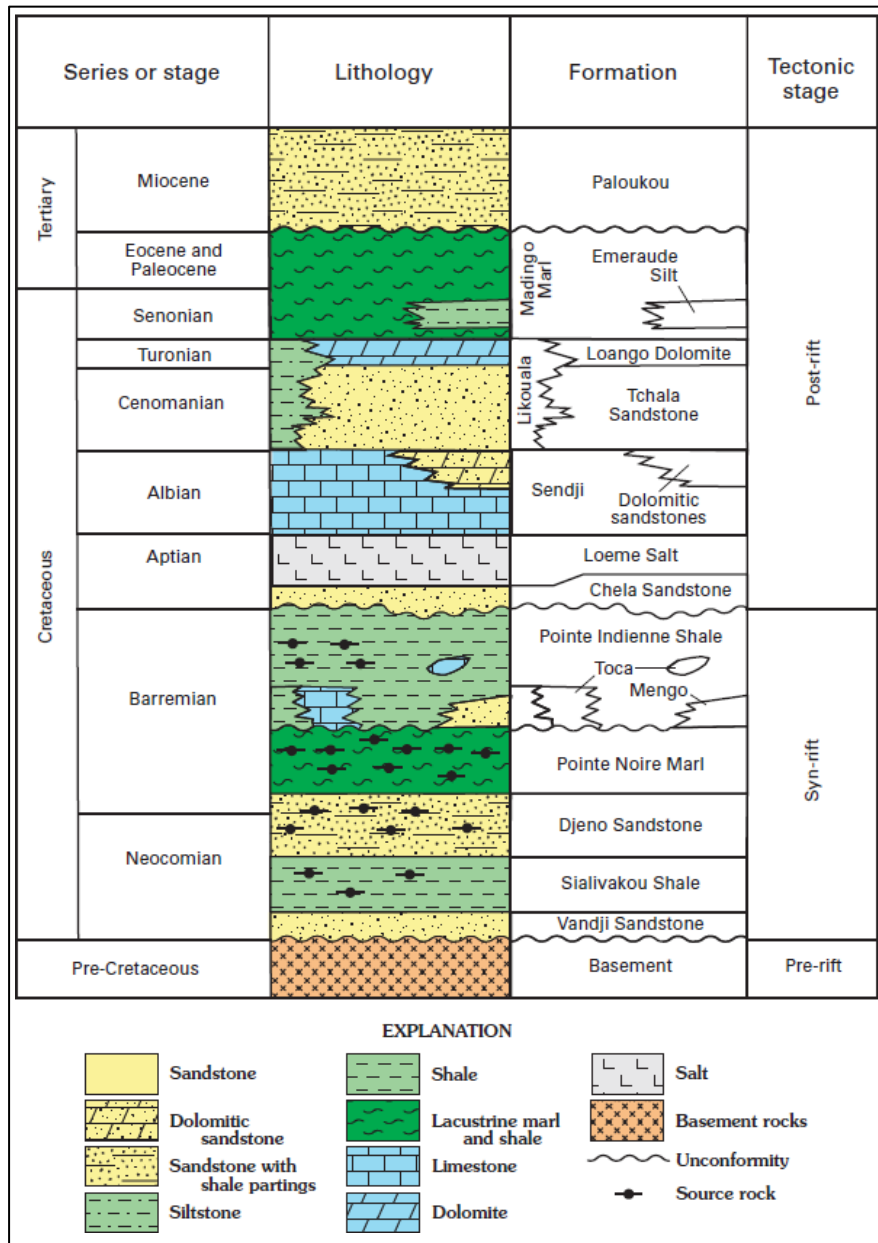


Figure 13. Generalised stratigraphy of the Congo Basin, showing the Loeme Evaporite Formation with the Lower Cretaceous post-rift sedimentary sequence. From Brownfield, M.E., and Charpentier, R.R., 2006, *Geology and total petroleum systems of the West-Central Coastal Province (7203), West Africa: U.S. Geological Survey Bulletin 2207-B*, 52 p. Figure modified from Baudouy and Legorjus (1991).

Figure 14 provides a more detailed stratigraphic column for the Kola area. Within the Salt Member, ten sedimentary-evaporative cycles (I to X) are recognized with a vertical arrangement of mineralogy consistent with classical brine-evolution models; potash being close to the top of cycles. The Salt Member and potash layers formed by the seepage of brines unusually rich in potassium and magnesium chlorides into an extensive sub sea-level basin. Evaporation resulted in precipitation of evaporite minerals over a long period of time, principally *halite* (NaCl), *carnallite* (KMgCl<sub>3</sub>·6H<sub>2</sub>O) and *bischofite* (MgCl<sub>2</sub>·6H<sub>2</sub>O), which account for over 90% of the evaporite rocks. Sylvinite formed by the replacement of Carnallite within certain areas. Small amounts of gypsum, anhydrite, dolomite and insoluble material (such as clay, quartz, organic material) is present, typically concentrated in relatively narrow layers at the base of the cycles (interlayered with Rock-salt), providing useful 'marker' layers. The layers making up the Salt Member are conformable and parallel or sub-parallel and of relatively uniform thickness across the basin, unless affected by some form of discontinuity.

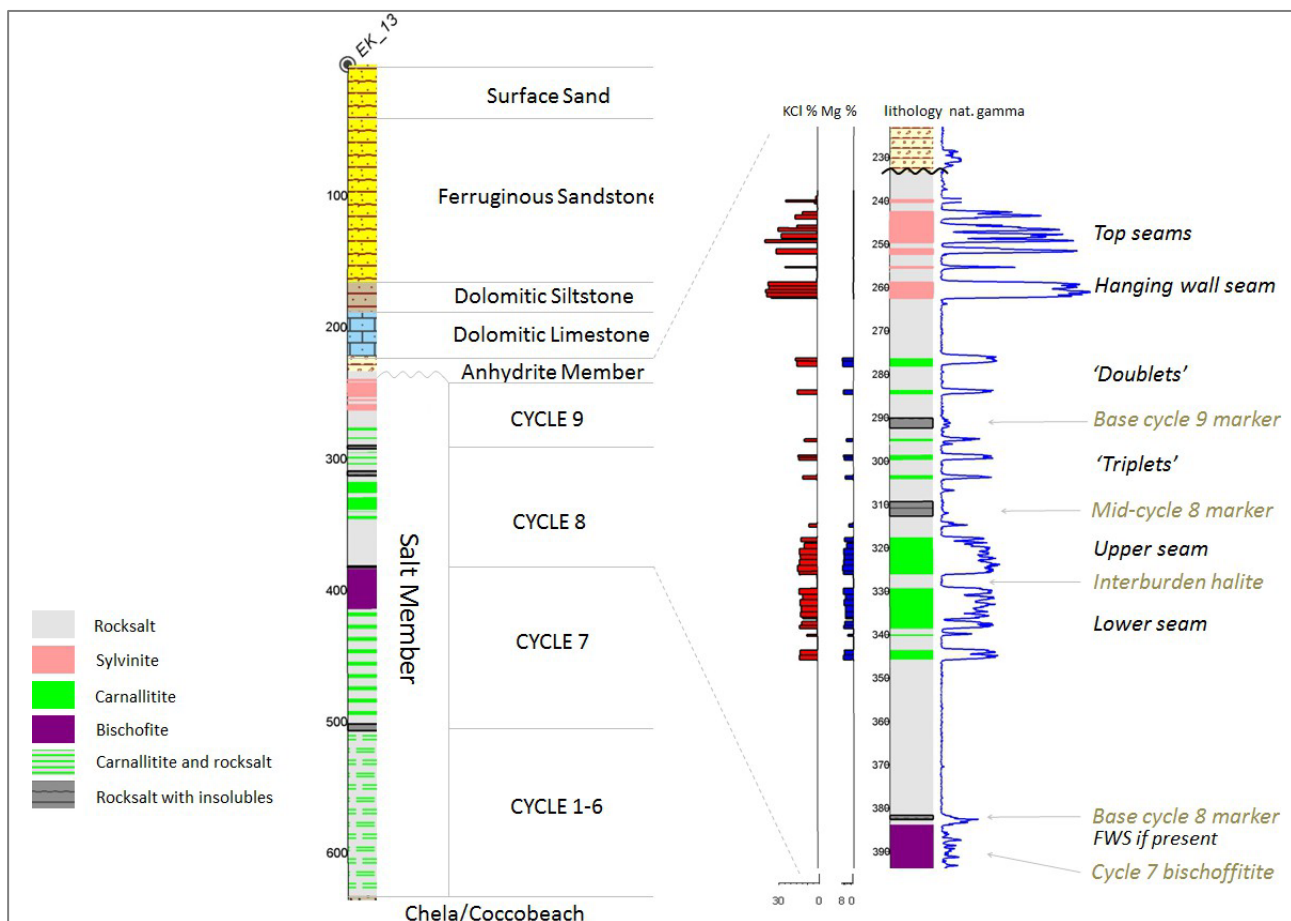


Figure 14. Lithological log for drill-hole EK\_13 illustrating the stratigraphy of the Kola deposit. In this hole the Hangingwall seam (and overlying seams referred to as the Top Seams) are preserved and are of Sylvinite. Ordinarily these seams are 'truncated' by the unconformity at the base of the Anhydrite Member, and the Upper and Lower Seams are Sylvinite.

### The potash layers

There are upwards of 100 potash layers within the Salt Member ranging from 0.1 m to over 10 m in thickness. The Kola deposit is hosted by 4 seams within cycles 7, 8 and 9 (Figure 14), from uppermost these are; Hangingwall Seam (HWS), Upper Seam (US), Lower Seam (LS), Footwall Seam (FWS). Seams are separated by Rock-salt.

Individual potash seams are stratiform layers that can be followed across the basin are of Carnallite except where replaced by Sylvinite, as is described below. The potash mineralogy is simple; no other potash rock types have been recognized and Carnallite and Sylvinite are not inter-mixed. The seams are consistent in their purity; all intersections of Sylvinite are comprised of over 97.5% euhedral or subhedral *halite* and *sylvite* of medium to very coarse grainsize (0.5 mm to  $\geq 5$  mm). Between 1.0 and 2.5% is comprised of anhydrite ( $\text{CaSO}_4$ ) and a lesser amount of insoluble material. At Kola the potash layers are flat or gently dipping and at depths of between 190 and 340 m below surface.



Table 3. Summary of grade and thickness of the potash layers.

	KCl %		Thickness m	
	Weighted Average	Range	Average	Range
Sylvinite Hangingwall Seam	54.8	48.5-59.9	3.3	2.5-4.1
Carnallite Hangingwall Seam	24.6	24.6-25.0	1.0	0.8-1.1
Sylvinite Upper Seam	35.5	23.8-41.6	4.0	1.0-8.1
Carnallite Upper Seam	20.4	18.2-26.1	6.5	1.4-9.5
Sylvinite Lower Seam	30.5	8.4-40.4	3.7	0.9-7.8
Carnallite Lower Seam	17.4	13.6-20.2	8.4	0.9-18.4
Sylvinite Footwall Seam	27.7	19.3-32.2	6.6	2.5-13.2

The contact between the *Anhydrite Member* and the underlying salt is an unconformity (Figure 14 and Figure 17) and due to the undulation of the layers within the Salt Member at Kola, the thickness of the salt member beneath this contact varies. This is the principal control on the extent and distribution of the seams at Kola and the reason why the uppermost seams such as the Hangingwall Seam are sometimes absent, and the lower seams such as the Upper and Lower Seam are preserved over most of the deposit.

The most widely distributed Sylvinite seams at Kola are the US and LS, hosted within cycle 8 of the Salt Member. These seams have an average grade of 35.5 and 30.5 % KCl respectively and average 3.7 and 4.0 m thick. The Sylvinite is thinned in proximity to leached zones or where they 'pinch out' against Carnallite (Figure 17). They are separated by 2.5-4.5 m thick Rock-salt layer referred to as the interburden *halite* (IBH). Sylvinite Hangingwall Seam is extremely high grade (55-60% KCl) but is not as widely preserved as the Upper and Lower Seam being truncated by the Anhydrite Member over most of the deposit. Where it does occur it is approximately 60 m above the Upper Seam and is typically 2.5 to 4.0 m thick. The Top Seams are a collection of narrow high-grade seams 10-15 m above the Hangingwall Seam but are not considered for extraction at Kola as they are absent (truncated by the Anhydrite Member) over almost all of the deposit.

The Footwall Seam occurs 45 to 50 m below the Lower Seam. The mode of occurrence is different to the other seams in that it is not a laterally extensive seam, but rather elongate lenses with a preferred orientation, formed not by the replacement of a seam, but by the 'accumulation' of potassium at a particular stratigraphic position. It forms as lenses of Sylvinite up to 15 m thick and always beneath areas where the Upper and Lower seam have been leached. It is considered a product of re-precipitation of the leached potassium, into pre-existing Carnallite- Bischofite unit at the top of cycle 7.

Figure 18 shows a typical intersection of US and LS along with downhole geophysical images and laboratory analyses for key components. The insoluble content of the seams and the Rock-salt immediately above and below them is uniformly low (<0.2%) except for the FWS which has an average insoluble content of 1%. Minor anhydrite is present throughout the Salt Member, as 0.5-3 mm thick laminations but comprise less than 2.5% of the rock mass of the potash layers.

Reflecting the quiescence of the original depositional environment, the Sylvinite seams exhibit low variation in terms of grade, insoluble content, magnesium content; individual sub-layers and mm thick laminations within the seams can be followed across the deposit. The grade profile of the seams is consistent across the deposit except for the FWS; the US is slightly higher grade at its base, the LS slightly higher grade at its top (Figure 18). The HWS is 50 to 60% *sylvite* (KCl) throughout (Figure 1). The FWS, forming by introduction of potassium and more variable mode of formation has a higher degree of grade variation and thickness.

### Sylvinite Formation

The original sedimentary layer and ‘precursor’ potash rock type is Carnallite and is preserved in an unaltered state in many holes drill-holes, especially of LS and in holes that are lateral to the deposit. It is comprised of the minerals *carnallite* ( $\text{KMgCl}_3 \cdot 6\text{H}_2\text{O}$ ), *halite* (NaCl) (these two minerals comprise 97.5% of the rock) and minor *anhydrite* and insolubles (<2.5%). The Carnallite is replaced by Sylvinite by a process of ‘outsalting’ whereby brine (rich in dissolved NaCl) resulted in the dissolution of *carnallite*, and the formation of new *halite* (in addition to that which may already be present) and leaving residual KCl precipitating as *sylvite*. This ‘outsalting’ process produced a chloride brine rich in Mg and Na, which presumably continued filtering down and laterally through the Salt Member. This process is illustrated in Figure 15.

The grade of the Sylvinite is proportional to the grade of the precursor Carnallite. For example, in the case of the HWS when Carnallite is 90 percent *carnallite* (and grades between 24 and 25 percent KCl), if all *carnallite* was replaced by *sylvite* the resulting Sylvinite would theoretically be 70.7 percent (by weight) *sylvite*. However, as described above the inflowing brine introduced new *halite* into the potash layer, reducing the grade so that the final grade of the Sylvinite of layer 3/IX is between 50 and 60 percent KCl (*sylvite*).

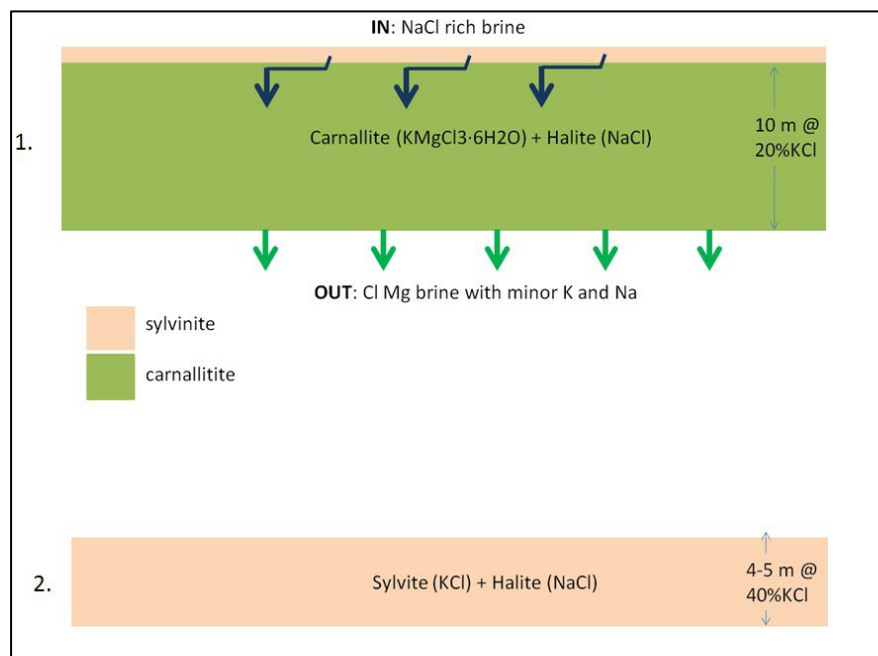


Figure 15. The formation of the Sylvinite seam (2) is by a gradual leaching of Cl, Mg (and minor K and Na) from the original Carnallite seam (1); causing a reduction in thickness, change in mineralogy and an increase in grade.



Figure 16. Photograph of (PQ size) core from an intersection of Upper Seam in drill-hole EK\_38. The seam is partially replaced; the upper part of the seam (a to b) is Sylvinitic (USS) and the lower part (between b and c) is Carnallitic (USC). Classified as 'type B' seam (as per Table 4 below). The easily identifiable and abrupt nature of the contacts is visible.

Importantly, the replacement of Carnallitite by Sylvinitic advanced laterally and always in a top-down sense within the seam. This Sylvinitic- Carnallitite transition (contact) is observed in core (Figure 16 and Figure 14) and is very abrupt. Above the contact the rock is completely replaced (Sylvinitic with no *carnallite*) and below the contact the rock is un-replaced (Carnallitite with no *sylvite*). In many instances the full thickness of the seam is replaced by Sylvinitic, in others the Sylvinitic replacement advanced only part-way down through the seam as in Figure 16. Carnallitite is reliably distinguished from Sylvinitic based on any one of the following:

- Visually: Carnallitite is orange, Sylvinitic is orange-red or pinkish-red in colour and less vibrant.
- Gamma data: Carnallitite < 350 API, Sylvinitic >350 API
- Magnesium data: Sylvinitic at Kola does not contain more than 0.1% Mg. Instances of up to 0.3% Mg within Sylvinitic explained by 1-2 cm of Carnallitite included in the lowermost sample where underlain by Carnallitite. Carnallitite contains upwards to 5% Mg.
- Acoustic televiwer and caliper data clearly identify Carnallitite from Sylvinitic (Figure 14).

Based on the 'stage' of replacement, 5 seam types are recognized (Table 4). The replacement process was extremely effective, no mixture of Carnallitite and Sylvinitic is observed, and within a seam, Carnallitite is not found above Sylvinitic.

*Table 4. Type of seam based upon the thickness extent of the replacement of the Carnallitite by Sylvinitite and then leaching of Sylvinitite.*

Type	Description
A	No replacement. Full Carnallitite seam.
B	Part replacement of the seam by Sylvinitite, underlain by remaining Carnallitite
C	Full thickness of the seam replaced by Sylvinitite, but no further volume loss
D	full replacement of the seam with continuation of out-salting and further volume and K loss, giving a thinned Sylvinitite seam
E	complete or near complete loss of potash, residual Fe discoloration may allow recognition of the original seam contacts, also referred to as a 'ghost' seam

It is thought that over geological time groundwater and/or water released by the dehydration of gypsum (during conversion to anhydrite in the Anhydrite Member) infiltrated the Salt Member under gravity, centred on areas of 'relatively disturbed stratigraphy' referred to as RDS zones (not to be confused with subsidence anomalies, see section 3.5). In these areas the salt appears to be gently undulating over broad zones, or forms more discrete strike extensive gentle antiformal features. There appears to be a correlation of these areas with small amounts undulation of the overlying strata and the Salt Member and thickening of the Bischofitite at the top of Cycle 7 (some 45-50 m below the LS). The cause of the undulation appears to be related to immature salt-pillowing and partial inversion in a 'thin-skinned' extensional setting.

Figure 17 is a cross-section through a portion of the Kola deposit and illustrates many of these features. The process appears to have been very gradual and non-destructive; where leached, the salt remains in-tact and layering is preserved. Brine or voids are not observed. Fractures within the Salt Member appear to be restricted to areas of localized subsidence, as observed in potash deposits mined elsewhere, and described in more detail in section 3.5.

Within and lateral to the RDS zones, brine moved downward then laterally, preferentially along the thicker higher porosity Carnallitite layers, replacing the *carnallite* with *sylvite* (as described in preceding text) 10s to 100's metres laterally and to a depth of 80-90 m below the Anhydrite Member. Beyond the zone affected by *sylvite* replacement, the potash is of unaltered primary Carnallitite. In the intermediate zone, the lower part of the layer may not be replaced supporting a lateral then 'top-down' replacement of the seams. For the most part the US is 'full' (fully replaced by Sylvinitite), and the LS more often than not is Carnallitite especially within synformal areas giving rise to pockets or troughs of Carnallitite (Figure 17). The HWS, being close to the anhydrite is only preserved in synformal areas where it is always Sylvinitite (being close to the top of the Salt Member), or lateral to the main deposit where it is likely to be Carnallitite, relating to the broader control on the zone of Sylvinitite formation discussed below.

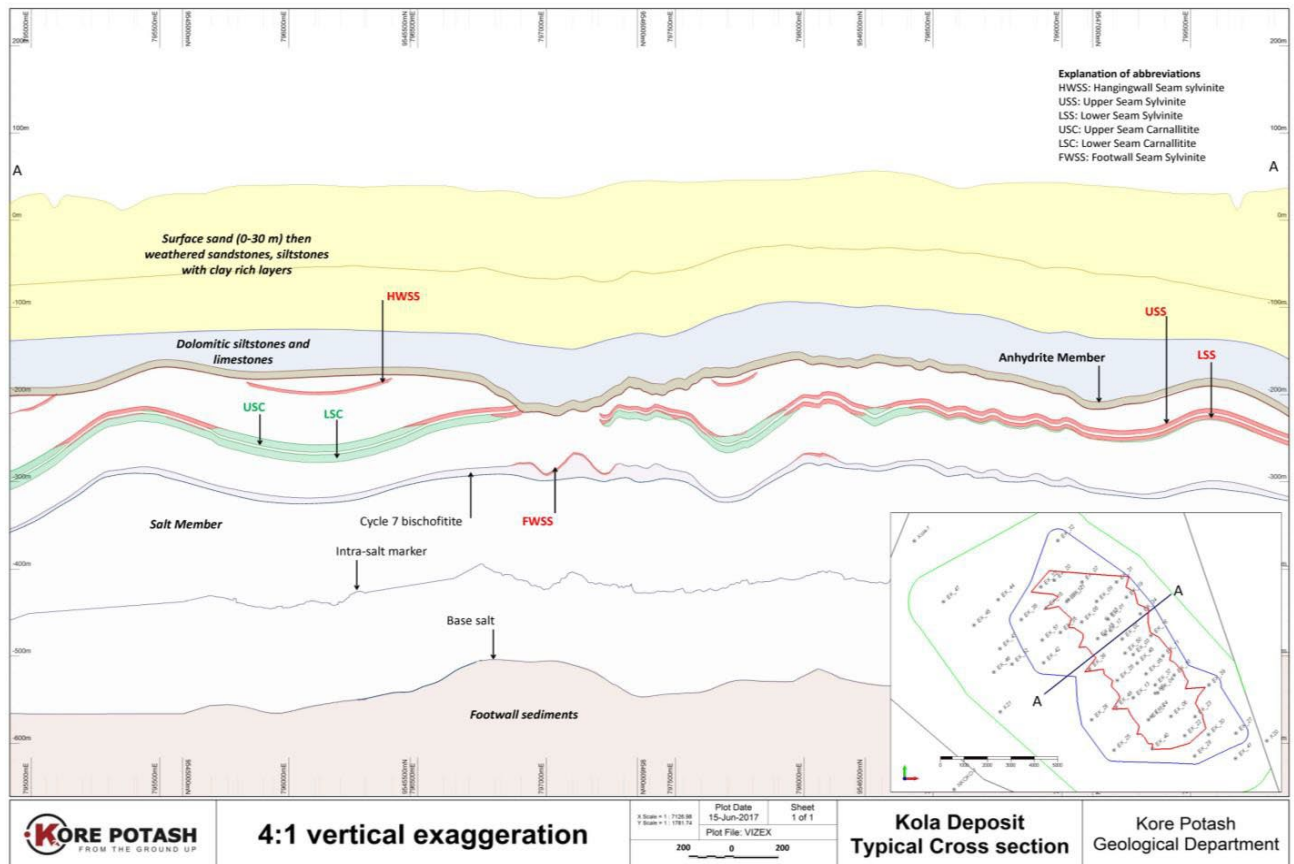


Figure 17. Typical Cross-section through the Kola deposit. The section shows the Mineral Resource model (I.e. it is not schematic) Note the 4 x vertical exaggeration. Sylvinites shown in pink. Carnallites in green. Explanation of the annotations: a) centre of an RDS zone of the discrete antiformal type with development of FWSS at the top of the cycle 7 Bischofite. Within it, the US and LS are leached. Subsidence of the overlying strata is apparent and in this case the zone is also recognized as subsidence anomaly excluded from the resource. b) broad pocket or trough where HWSS is preserved with lateral truncation of the seam against the Anhydrite Member. Beneath the HWSS the US and LS are Carnallites. c) broad RDS zone, within which USS and LSS are well developed. The LSS is underlain by a thin layer of Carnallite (LSC).

### Deposit-scale structural Control

Some of the longer seismic lines show that the relative disturbance of the salt over much of Kola relates to the 'elevation' of the stratigraphy due to the formation of a northwest-southeast orientated horst block, bound either side by half-graben. The horst block referred to as the 'Kola High' and is approximately 8 km wide and at least 20 km in length (Figure 12). Lateral to this 'high' Sylvinites is rarely found except immediately beneath (within 5-10 m of) the Anhydrite Member.



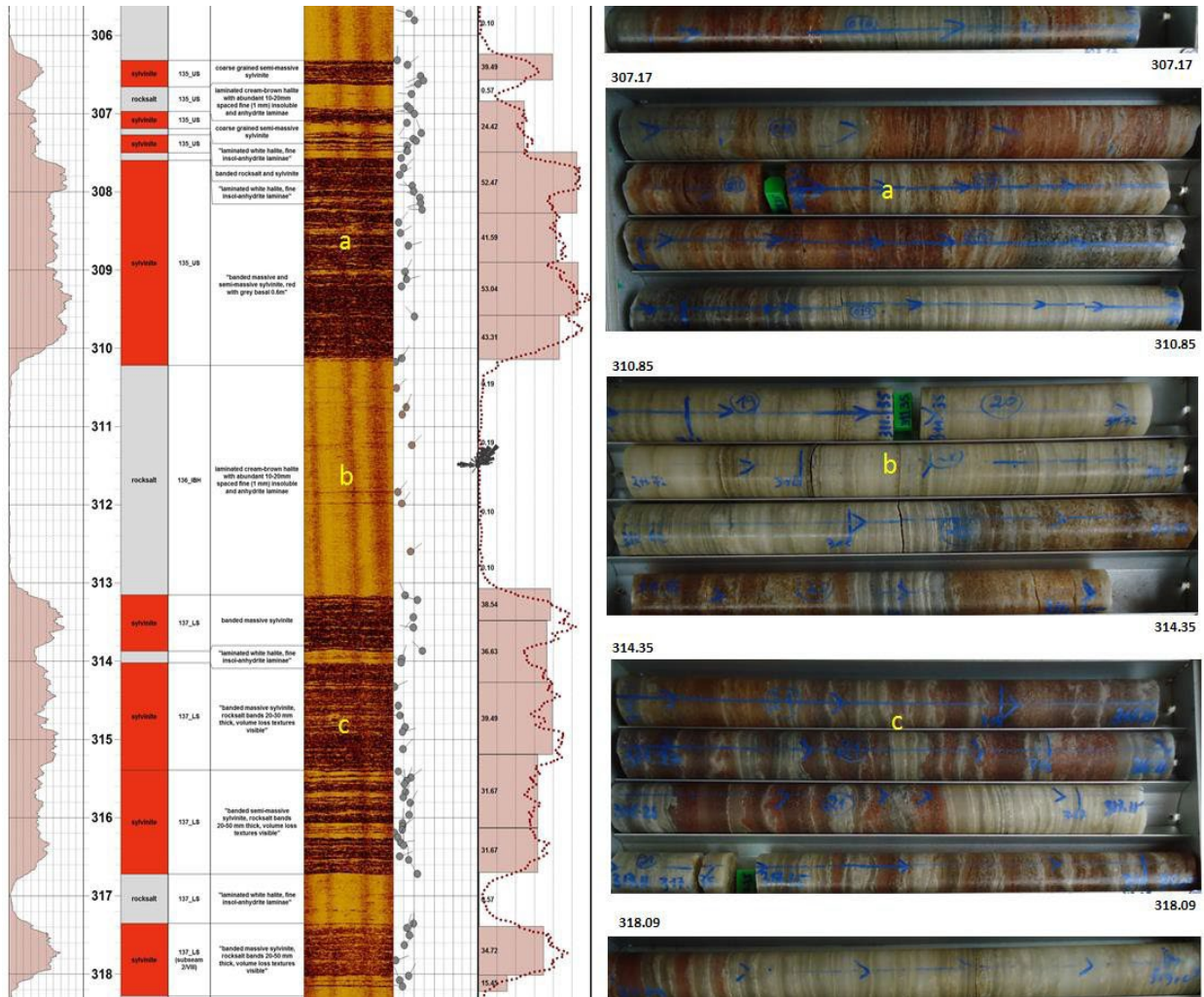


Figure 18. Extract from a typical geological log with downhole geophysical data (left: gamma data, centre: acoustic televiewer image). Grade (KCl %) bar chart on right with values. Photo cross-references: a) USS b) Rock-salt of the 'interburden halite' c) LSS. The red intervals in the geological column are Sylvinite and grey are Rock-salt.

## 2.4 Drill-Hole Information

All drill-hole collar information for holes relevant to the Mineral Resource estimate is provided in Table 6, including historic holes. Hydrological drill-holes are excluded as they were drilled to a shallow depth. All holes except one were drilled vertically and deflection from this angle was less than 3 degrees for almost all holes. Holes were surveyed with a gyroscope or magnetic deviation tool to obtain downhole survey data.

*Table 5. Collar positions for recent holes. Projection: UTM zone 32 S Datum: WGS 84. All holes were drilled vertically except for EK\_37 geotechnical hole.*

BH ID	Depth	East	North	elevation	Azimuth	Dip	Collar survey
EK_01	609.35	797604.55	9547098.68	41.43	-	-90	DGPS
EK_02	309	798211.65	9546225.64	53.99	-	-90	DGPS
EK_03	271.4	798686.74	9545549.28	24.66	-	-90	DGPS
EK_04	440.46	799721.78	9543865.33	34.45	-	-90	DGPS
EK_05	315.15	799235.09	9544693.43	38.32	-	-90	DGPS
EK_06	650.9	800284.11	9542829.85	49.4	-	-90	DGPS
EK_07	342.1	796505.2	9548735.45	26.09	-	-90	DGPS

EK_08	329.55	796493.94	9546975.9	30.42	-	-90	DGPS
EK_09	309.2	797116.04	9547873.21	29.91	-	-90	DGPS
EK_10	342.25	800424	9544635	45.1	-	-90	DGPS
EK_11	318.2	799950.1	9545480.55	29.01	-	-90	DGPS
EK_12	347.2	795852.49	9547881.26	19.64	-	-90	DGPS
EK_13	636	798683.02	9543651.32	47.39	-	-90	DGPS
EK_14	383.6	799337.27	9542686.57	43.83	-	-90	DGPS
EK_15	336.33	797168.26	9546244.66	34.12	-	-90	DGPS
EK_16	588	799441.27	9546375.17	24.53	-	-90	DGPS
EK_17	337.6	797507.23	9546423.04	45.84	-	-90	DGPS
EK_18	317.45	794976.62	9547596.23	17.33	-	-90	DGPS
EK_19	302.06	798396.48	9548055.22	38.47	-	-90	DGPS
EK_20	320.45	795322.6	9548799.75	25.12	-	-90	DGPS
EK_21	209.88	795928.17	9547951.21	18.14	-	-90	DGPS
EK_22	378.16	800876.83	9541992.75	31.92	-	-90	DGPS
EK_23	362.45	801320.4	9542828.09	35.14	-	-90	DGPS
EK_24	345.22	799462.12	9542814.67	38.77	-	-90	DGPS
EK_25	287.3	797864.56	9541351.31	36.31	-	-90	DGPS
EK_26	383.25	796908.88	9542686.81	37.31	-	-90	DGPS
EK_27	365.35	803063.39	9542099.4	34.08	-	-90	DGPS
EK_28	339.22	797998.95	9544406.69	37.17	-	-90	DGPS
EK_29	368.4	801309.48	9541101.01	27.44	-	-90	DGPS
EK_30	237.6	801888.23	9542032.48	14.91	-	-90	DGPS
EK_31	344.25	797969.27	9548724.19	35.17	-	-90	DGPS
EK_32	302.3	795475.7	9550547.55	18.2	-	-90	DGPS
EK_33	332.3	794740.62	9548509.08	27.15	-	-90	DGPS
EK_34	264.2	798987.28	9547333.75	53.08	-	-90	DGPS
EK_35	278.3	795573.12	9546521.7	23.46	-	-90	DGPS
EK_36	353.3	796814.83	9544913.12	34.2	-	-90	DGPS
EK_37	257.5	799616	9544212	34	243	-72	DGPS
EK_38	335.3	793905.57	9547076.1	17.21	-	-90	DGPS
EK_39	350.35	801914.25	9544206.86	42.46	-	-90	DGPS
EK_40	343.25	799497.66	9541413.9	44.69	-	-90	DGPS
EK_41	329.4	803046.56	9540983.55	11.4	-	-90	DGPS
EK_42	353.4	794865.16	9545182.98	34.89	-	-90	DGPS



EK_43	360.9	793004.43	9545808.29	20.11	-	-90	DGPS
EK_44	317.25	792925.71	9547953.53	20.36	-	-90	DGPS
EK_45	344.35	791897.51	9546839.83	25.72	-	-90	DGPS
EK_46	260.37	792742.42	9544772.3	14.35	-	-90	DGPS
EK_47	291.2	790593.2	9547860.11	26.08	-	-90	DGPS
EK_48	217.5	798852	9545167	51	-	-90	GPS and LIDAR
EK_49	349.7	797950	9543242	48.3	-	-90	GPS and LIDAR
EK_50	322.8	798331	9545613	27.16	-	-90	GPS and LIDAR
EK_51	326.5	794805	9546190	21.6	-	-90	GPS and LIDAR

**Table 6. Sylvinitic intersections in all drill-holes drilled at Kola to date, also identifying holes where the seam was absent or the hole stopped short of the target depth.**

Thicknesses have been corrected for dip where necessary so that they can be considered true thickness. For explanation of seam abbreviations refer to Table 7.

Drill-hole	Depth from m	Depth To m	True Thickness m	Seam	K2O %	KCl %	Mg %	Insol %
EK_01	273.53	277.7	4.17	US	26.28	41.62	0.05	0.08
EK_01	281.07	283.9	2.83	LS	24.08	38.14	0.27	0.07
EK_02	274.77	276.32	1.55	LS	5.30	8.39		
EK_03	hole stopped short of Salt Member							
EK_04	285.97	290.5	4.53	US	21.42	33.92	0.03	0.10
EK_04	293.58	294.45	0.87	LS	23.01	36.44	1.13	0.08
EK_05	274.65	279.08	4.43	US	23.49	37.19	0.07	0.08
EK_06	275	282	6.18	US	24.47	38.76	0.03	no data
EK_07	238.44	243.64	5.20	US	21.46	33.99	0.03	no data
EK_07	248.66	249.85	1.19	LS	17.83	28.24	0.03	no data
EK_08	246.7	247.7	1.00	US	20.48	32.43	0.05	no data
EK_08	257.56	258.92	1.36	LS	14.10	22.32	0.57	no data
EK_09	246.31	252.61	4.45	US	21.72	34.40	0.03	no data
EK_09	257	258.5	1.27	LS	21.32	33.77	1.34	no data
EK_10	275.06	279.25	3.88	US	26.48	41.93	0.02	no data
EK_10	282.25	288.16	5.71	LS	19.39	30.71	0.10	no data
EK_11	293	302.07	9.07	FWS	15.96	25.27	0.04	no data
EK_11	233.12	236.03	2.44	LS	15.76	24.95	0.03	no data
EK_12	247.2	251.71	4.51	US	24.86	39.37	0.01	no data
EK_12	255.74	260.65	4.91	LS	18.13	28.72	0.04	no data
EK_13	258.74	262.47	3.73	HWS	34.35	54.41	0.11	no data
EK_14	294.71	299.05	4.34	US	21.91	34.69	0.13	no data
EK_15	265.83	269.8	3.21	US	22.56	35.72	0.03	no data
EK_16	298.39	300.92	2.53	FWS	12.08	19.13	0.03	no data
EK_17	326.42	329.1	2.68	FWS	unsampled			
EK_17	256.85	261.03	3.20	US	22.65	35.87	0.02	0.17
EK_17	263.93	269.07	4.21	LS	19.79	31.34	0.01	0.10
EK_18	286.59	299.82	13.23	FWS	19.24	30.48	0.08	1.77
EK_19	278.22	282.76	4.54	US	21.59	34.19	0.02	0.09
EK_19	285.9	288.29	2.39	LS	20.96	33.20	0.03	0.07

EK_20	245.85	249.96	4.11	US	23.90	37.85	0.05	0.11
EK_21	hole stopped short of Salt Member							
EK_22	no Sylvinite seams							
EK_23	296.32	300.36	4.04	US	23.51	37.24	0.02	0.08
EK_24	261.22	267.48	6.05	US	24.85	39.36	0.03	0.11
EK_25	no Sylvinite seams							
EK_26	261.05	261.6	0.55	HWS	unsampled			
EK_26	311.25	313.68	2.39	US	17.93	28.40	0.04	0.15
EK_27	306.32	310.22	3.90	US	25.34	40.13	0.01	0.13
EK_27	313.15	318.09	4.94	LS	18.89	29.92	0.03	0.09
EK_28	241.68	249.82	6.75	US	22.17	35.11	0.02	0.12
EK_28	255.14	262.97	6.49	LS	20.03	31.72	0.03	0.11
EK_29	291.2	292.87	1.67	US	15.05	23.83	0.06	0.18
EK_30	hole stopped short of Salt Member							

EK_31	no Sylvinite seams							
EK_32	290.67	295.32	4.65	FWS	18.02	28.54	0.03	1.35
EK_33	214.9	217.79	2.89	HWS	33.61	53.22	0.02	0.14
EK_33	274	277.54	3.54	US	20.30	32.16	0.03	0.20
EK_34	hole stopped short of Salt Member							
EK_35	264.03	269.3	4.95	FWS	17.86	28.29	0.04	1.21
EK_36	281.1	285.75	4.65	US	19.17	30.37	0.02	0.14
EK_37	geotechnical hole (stopped above Salt Member)							
EK_38	209.6	212.06	1.77	HWS	30.60	48.46	0.03	0.17
EK_38	265.8	268.79	2.99	US	22.73	36.00	0.03	0.19
EK_39	342.08	344.92	2.84	FWS	13.10	20.74	0.33	1.36
EK_39	286.82	290.5	3.68	US	21.94	34.75	0.03	0.19
EK_39	293.49	298.63	5.14	LS	17.94	28.40	0.05	0.17
EK_40	279.14	286.11	6.97	LS	17.80	28.19	0.01	0.09
EK_41	319.85	325.8	5.95	FWS	20.30	32.15	0.03	1.43
EK_41	267.38	269.92	2.24	LS	14.42	22.84	0.02	0.11
EK_42	287.4	291.71	4.00	US	23.45	37.13	0.01	0.10
EK_42	294.96	298.37	3.16	LS	22.09	34.99	0.01	0.08
EK_43	222.58	225.69	3.11	HWS	37.82	59.89	0.04	0.14
EK_44	296	305.25	9.25	FWS	16.91	26.79	0.04	1.14
EK_44	231.65	235.5	3.46	LS	20.25	32.07	0.03	0.18
EK_45	196.48	200.23	3.75	HWS	34.22	54.19	0.04	no data
EK_46	218.95	220.03	1.08	US	16.90	26.76	0.03	0.16
EK_46	227	231.92	4.92	LS	23.60	37.38	0.02	0.09
EK_47	216.83	219.34	2.51	US	24.49	38.78	0.03	0.12
EK_47	224.33	226.26	1.93	LS	25.50	40.39	0.06	0.08
EK_48	geotechnical hole (stopped above Salt Member)							
EK_49	255.85	259.91	4.06	HWS	37.19	58.90	no data	no data
EK_49	318.3	319.57	1.27	US	16.23	25.70	no data	no data
EK_50	252.57	254.43	1.86	US	17.01	26.94	no data	no data
EK_51	267.45	272.35	4.72	US	23.26	36.84	no data	no data
EK_51	276.1	281.63	5.34	LS	17.83	28.23	no data	no data
EK_52	no Sylvinite seams							

## 2.5 Data Aggregation methods

For the reporting of seam grades and thickness, the standard 'length-weighted' averaging method was used to determine the grade of the full thickness of each drilling intersection: each sample grade is multiplied by its length (in metres) then the sum of these is divided by the combined thickness.

The top and base of the seam is abrupt visually and in terms of grade and so the determination of the interval from and to depth (and thus thickness) is straightforward.

Each seam is comprised of sub-layers that are either mineralised sylvinite (or carnallite) or rock-salt (halite). The sub-layers of high grade comprise over 70-80% of the seam being thicker than the narrow sub-layers of rock-salt. The high grade intervals are relatively consistent in grade and can be correlated hole-to-hole; there is no inappropriate inclusion of short high-grade material within reported intervals.

No capping of high or low grade material was carried out as it is not justified given the absence of anomalously high or low grade areas or intervals. The range of grades for each seam is relatively low and consistent.

No metal equivalents were calculated.

## 2.6 Relationship between mineralisation widths and intercept lengths

Generally the seams have a low angle of dip and no correction was deemed necessary for reporting of exploration results as the intersected length is not materially different from the true thickness. For the Mineral Resource Estimate, because of the large volume informed by each drillhole, as a conservative measure the few mineralised intersections where the dip of the seam is 15 degrees or greater were corrected to obtain true thickness. The dip corrected thickness was used in the Mineral Resource Estimate.

## 2.7 Diagrams

Maps, diagrams, cross-sections, and other images are provided in this document.

## 2.8 Balanced Reporting

Table 6 provides the intersections of the sylvinite seams for all drillholes.

## 2.9 Other Substantive exploration data

There has been a large amount of work completed to support the exploration results including downhole gamma-ray logging and acoustic televiewer logging, 2D seismic surveys, mineralogical work, process test work, bulk density work, hydrogeological test work, geotechnical test work, largely completed to support the Pre-Feasibility and the Definitive Feasibility Study.

## 2.10 Further Work

If further conversion of Indicated resources to Measured and Inferred to Indicated Mineral Resource is deemed important, additional seismic data would need to be acquired. Furthermore, the deposit is open laterally, in places to the west and east (though in the case of the latter is limited by the Mining Lease boundary) and probably to the greatest extent to the southeast, along the strike of the Kola High. Additional drilling and seismic data may allow the delineation of additional resources in these areas if results of the work are positive

## Section 3: Estimation and Reporting of Mineral Resources

### 3.1 Database Integrity

Geological data is collected in hardcopy then captured digitally by data entry. All entries are thoroughly checked. During import into Micromine© software, an error file is generated identifying any overlapping intervals, gaps and other forms of error. The data is then compared visually in the form of strip logs against geophysical data.

Laboratory data was imported into an Access database using an SQL driven software, to sort QA-QC samples and a check for errors is part of the import. Original laboratory result files are kept as a secure record. For the Mineral Resource model a 'stratigraphic file' was generated, as synthesis of key geological units, based on geological, geophysical and assay data. The stratigraphic file was

then used as a key input into the Mineral Resource model; every intersection and important contact was checked and re-checked, by visual comparison with the other data types in log format. Kore Potash is in the process of creating an updated database, to include the most recent geology and assay data.

For the process of setting up a Mineral Resource database, Met-Chem division of DRA Americas Inc., a subsidiary of the DRA Group underwent a rigorous exercise of checking the database, including a comparison with the original laboratory certificates. Once an explanation of the files had had been provided, no errors were found with the assay or stratigraphic data, or with the other data types imported (collar, survey, geophysics). The database is considered as having a high degree of integrity.

### 3.2 Site Visits

The Competent Person visited the project from the 5-7 November 2016 to view drill-hole sites, the core shed and sample preparation area. Explanation of all procedures were provided by the Company, and a procedural document for core logging, marking and sampling reviewed. Time was spent reviewing core and hard copy geological logs. All was found to meet or exceed the industry standards.

### 3.3 Geological Interpretation

Recognition and correlation of potash and other important layers or contacts between holes is straightforward and did not require assumptions to be made, due the continuity and unique characteristics of each of the evaporite layers; each being distinct when thickness, grade and grade distribution, and stratigraphic position relative to other layers is considered. Further support is provided by the reliable identification of 'marker' units within and at the base of the evaporite cycles. Correlation is further aided by the downhole geophysical data (Figure 18) clearly shows changes in mineralogy of the evaporite layers and is used to validate or adjust the core logged depths of the important contacts. The abrupt nature of the contacts, particularly between the Rock-salt, Sylvinite and Carnallite contributes to above.

Between holes the seismic interpretation is the key control in the form and extent of the Sylvinite, in conjunction with the application of the geological model. The controls on the formation of the Sylvinite is well understood and the 'binary' nature of the potash mineralization allows an interpretation with a degree of confidence that relates to the support data spacing, which in turn is reflected in the classification. In this regard geology was relied upon to guide and control the model, as described in detail section 3.5. Alternative interpretations were tested as part of the modeling process but generated results that do not honor the drill-hole data as well as the adopted model.

The following features affect the continuity of the Sylvinite or Carnallite seams, all of which are described further in Section 3.5 and are illustrated in Figure 17. By using the seismic data and the drill-hole data, the Mineral Resource model captures the discontinuities with a level of confidence reflected in the classification.

- where the seams are truncated by the anhydrite
- where the Sylvinite pinches out becoming Carnallite or vice versa
- areas where the seams are leached within zones of subsidence

Outside of these features, grade continuity is high reflecting the small range in variation of grade of each seam, within each domain. Further description of grade variation is provided in later in text.

*Table 7. An explanation of seam and lithological nomenclature and abbreviations*

<b>Potash seams</b>	Seam (where undifferentiated)	Where Sylvinit e	Where Carnallitite
Hangingwall Seam	HWS	HWSS	HWSC
Upper Seam	US	USS	USC
Lower Seam	LS	LSS	LSC
Footwall Seam	FWS	FWSS	FWSC

<b>Post-fix to identify roof or floor</b>			
Upper Seam (undifferentiated) roof	US_R		
Upper Seam (undifferentiated) floor	US_F		
Upper Seam Sylvinit e roof	USS_R		
Upper Seam Sylvinit e floor	USS_F		
Lower Seam roof	LS_R		
<i>And application of _R or _F to other seams</i>			

<b>Other stratigraphic units and surfaces</b>			
Salt Roof (base of Anhydrite Member)	SALT_R		
Base of cycle 8 marker	BoC8		
Cycle 7 Bischoffitite	Cy7B		
Interburden halite (Rock salt between the US and LS)	IBH		

seams that are not underlain by Carnallitite	full Sylvinit e		
seams that are not underlain by Sylvinit e	full Carnallitite		

### 3.4 Dimensions

In its entirety, the deposit is 14 km in length (deposit scale strike) and 9 km in width. The shallowest point of the upper most Sylvinit e (of the HWS) is approximately 190 metres below surface. The depth to the deepest Sylvinit e (of the FWS) is approximately 340 metres below surface. The thickness of the seams is summarized in Table 3 and the distribution of the seams in Figure 24 to Figure 27.

### 3.5 Estimation and Modelling Techniques

Table 8 and Table 9 provide the Mineral Mineral Resource for Sylvinit e and Carnallitite at Kola. This Mineral Mineral Resource replaces that dated 21 August 2012, prepared by CSA Global Pty Ltd. This update incorporates reprocessed seismic data and additional drilling data. Table 10 and Table 11 provide the Sylvinit e and Carnallitite Mineral Mineral Resource from 2012. The updated Measured and Indicated Mineral Mineral Resource categories are not materially different from the 2012 estimate and is of slightly higher grade. The Inferred category has reduced due to the reduction in the FWSS tonnage, following the updated interpretation of it being present within relatively narrow lenses that are more constrained than in the previous interpretation. There is no current plan to consider the FWSS as a mining target and so the reduction in FWSS tonnage is of no consequence to the project's viability.



Table 8. June 2017 Kola Mineral Resources for Sylvinite, reported under JORC code 2012 edition, using a 10% KCl cut-off grade.

July 2017 - Kola Deposit Potash Mineral Resources - SYLVINITE					
		Million Tonnes	KCl	Mg	Insolubles
			%	%	%
Hangingwall Seam	Measured	–	–	–	–
	Indicated	29.6	58.5	0.05	0.16
	<b>Meas. + Ind.</b>	<b>29.6</b>	<b>58.5</b>	<b>0.05</b>	<b>0.16</b>
	Inferred	18.2	55.1	0.05	0.16
Upper Seam	Measured	153.7	36.7	0.04	0.14
	Indicated	169.9	34.6	0.04	0.14
	<b>Meas. + Ind.</b>	<b>323.6</b>	<b>35.6</b>	<b>0.04</b>	<b>0.14</b>
	Inferred	220.7	34.3	0.04	0.15
Lower Seam	Measured	62.0	30.7	0.19	0.12
	Indicated	92.5	30.5	0.13	0.13
	<b>Meas + Ind.</b>	<b>154.5</b>	<b>30.6</b>	<b>0.15</b>	<b>0.13</b>
	Inferred	59.9	30.5	0.08	0.11
Footwall seam	Measured	–	–	–	–
	Indicated	–	–	–	–
	<b>Meas + Ind.</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>
	Inferred	41.2	28.5	0.33	1.03
<b>Total Measured + Indicated Sylvinite</b>		<b>507.7</b>	<b>35.4</b>	<b>0.07</b>	<b>0.14</b>
<b>Total Inferred Sylvinite</b>		<b>340.0</b>	<b>34.0</b>	<b>0.08</b>	<b>0.25</b>

Notes: Tonnes are rounded to the nearest hundred thousand. The average density of the Sylvinite is 2.10. Structural anomaly zones have been excluded. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, marketing, or other relevant issues.

Table 9. July 2017 Kola Mineral Resources for Carnallitite, reported under JORC code 2012 edition, using a 10% KCl cut-off grade.

July 2017 - Kola Deposit Potash Mineral Resources - CARNALLITITE					
		Million Tonnes	KCl	Mg	Insolubles
			%	%	%
Hangingwall Seam	Measured	–	–	–	–
	Indicated	26.6	24.6	7.13	0.11
	<b>Meas. + Ind.</b>	<b>26.6</b>	<b>24.6</b>	<b>7.13</b>	<b>0.11</b>
	Inferred	88.3	24.7	7.20	0.12
Upper Seam	Measured	73.6	19.4	6.19	0.20
	Indicated	109.6	20.7	6.47	0.20
	<b>Meas. + Ind.</b>	<b>183.2</b>	<b>20.2</b>	<b>6.36</b>	<b>0.20</b>
	Inferred	414.2	21.3	6.41	0.12
Lower Seam	Measured	267.7	16.9	5.37	0.16
	Indicated	305.3	17.5	5.52	0.16
	<b>Meas + Ind.</b>	<b>573.0</b>	<b>17.2</b>	<b>5.45</b>	<b>0.16</b>
	Inferred	763.9	16.6	5.20	0.12
<b>Total Measured + Indicated Carnallitite</b>		<b>782.8</b>	<b>18.1</b>	<b>5.72</b>	<b>0.17</b>
<b>Total Inferred Carnallitite</b>		<b>1,266.4</b>	<b>18.7</b>	<b>5.73</b>	<b>0.12</b>

Notes: Tonnes are rounded to the nearest hundred thousand. The average density of the Sylvinite is 1.73. Structural anomaly zones have been excluded. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, marketing, or other relevant issues.

*August 2012 - previous Mineral Resource Estimates*

*Table 10. August 2012 Kola Mineral Resources for Sylvinite – now replaced by the June 2017 Mineral Resource estimate*

<b>August 2012 - Kola Deposit Potash Mineral Resource - SYLVINITE</b>			
		<b>Million Tonnes</b>	<b>KCl</b>
			<b>%</b>
Hangingwall Seam	Measured	–	–
	Indicated	–	–
	<b>Meas. + Ind.</b>	<b>–</b>	<b>–</b>
	Inferred	47	55.0
Upper Seam	Measured	171	35.6
	Indicated	159	34.9
	<b>Meas. + Ind.</b>	<b>330</b>	<b>35.2</b>
	Inferred	96	34.5
Lower Seam	Measured	93	30.4
	Indicated	150	30.2
	<b>Meas. + Ind.</b>	<b>243</b>	<b>30.3</b>
	Inferred	107	30.3
Footwall Seam	Measured	–	–
	Indicated	–	–
	<b>Meas. + Ind.</b>	<b>–</b>	<b>–</b>
	Inferred	225	27.9
<b>Total Measured + Indicated sylvinite</b>		<b>573</b>	<b>33.1</b>
<b>Total Inferred sylvinite</b>		<b>475</b>	<b>32.5</b>

*Table 11. August 2012 Kola Mineral Resources for Carnallitite – now replaced by the June 2017 Mineral Resource estimate*

<b>August 2012 - Kola Deposit Potash Mineral Resource - CARNALLITITE</b>			
		<b>Million Tonnes</b>	<b>KCl</b>
			<b>%</b>
Upper Seam Carnallite	Measured	74	20.3
	Indicated	151	21.0
	<b>Meas. + Ind.</b>	<b>225</b>	<b>20.8</b>
	Inferred	182	21.3
Lower Seam Carnallite	Measured	221	17.0
	Indicated	298	17.5
	<b>Meas. + Ind.</b>	<b>519</b>	<b>17.3</b>
	Inferred	291	17.3
<b>Total Measured + Indicated Carnallitite</b>		<b>744</b>	<b>18.4</b>
<b>Total Inferred Carnallitite</b>		<b>473</b>	<b>18.8</b>

## Mineral Resource modelling

As described in section 3.3, the spatial application of the geological model was central to the creation of the Mineral Resource model. Geological controls were used in conjunction with the seismic data interpretation. The process commenced with the interpretation of the depth migrated drill-hole-tied seismic data in Micromine 2013 © involving the following. Table 7 provides an explanation of abbreviations used in text.

1. Interpretation of the base of anhydrite surface or salt roof (SALT\_R) which is typically a distinct seismic event (Figure 10).
2. Interpretation of base of salt, the 'intra-salt marker' and 'base cycle 8' (BoC8) markers. Based on synthetic seismograms the latter is a negative event picking out the contrast between the top of the Cy78 and overlying Rock-salt.

Using Leapfrog Geo 4.0 (Leapfrog) surfaces were created for the SALT\_R and BoC8. In doing so, an assessment of directional control on the surfaces was made; following the observation based on the sectional interpretation a WNW-ESE 'strike' is evident. Experimental semi-variograms were calculated for the surface elevation values at 10° azimuth increments. All experimental semi-variograms were plotted; 100° and 10° produce good semi-variograms for the directions of most and least continuity respectively (Figure 19). This directional control was adopted for the modelling of surfaces, created in Leapfrog on a 20 by 20 m 'mesh' using a 2:1 ellipsoid ratio (as indicated by the semi-variogram ranges).

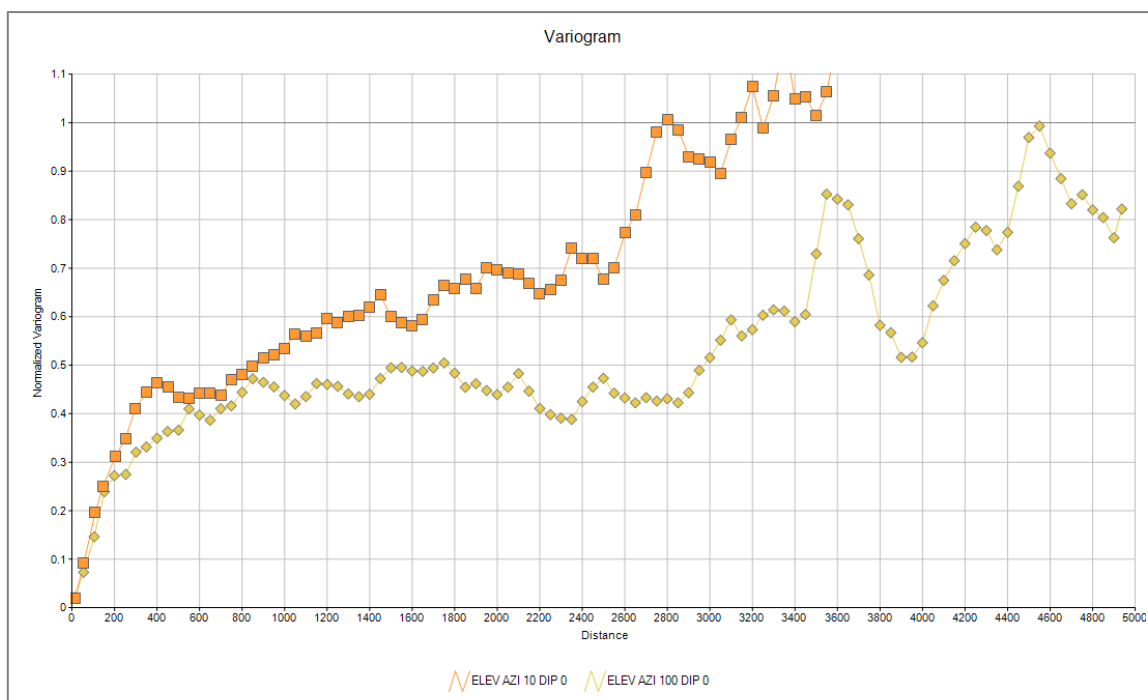


Figure 19. Semi-variograms of BoC8 elevations for 100° and 10° azimuths

The following steps were then carried out:

1. The BoC8 surface was projected up to the position of the Upper Seam roof (US\_R) by 'gridding' the interval between these units from drill-hole data. On seismic lines, The US\_R interpretation was then adjusted to fit reflectors at that position (Figure 10), taking into account interference features common in the data in the Salt Member close to the SALT\_R
2. In all cases drill-hole intersections were honoured. In addition to USS and USC intersections, the small number of leached US intersections (type D and E in Table 4, all within subsidence zones) were used to guide the seam model.
3. The new US\_R interpretation along seismic lines, was then 'gridded' in Leapfrog, also into a mesh of 20 m by 20 m resolution making use of the 100° directional control and 2:1 anisotropy, to create a new US\_R surface.

The Mineral Resource model has two potash domains in order to represent the geology i.e. Sylvinite or Carnallite. A third non-potash domain areas of leaching and/or subsidence as described in the following text. Using the reference horizons the Sylvinite and Carnallite seam model was developed as follows:

1. The US\_R surface was fixed as the reference horizon for the modelling of the US, LS and HWS. The US\_R surface was imported into Datamine Studio 3 (Datamine), using the same 20 by 20 m cells as described above.
2. The US Sylvinite (USS) model was developed by analysing the position of the cell in relation to the SALT\_R and to the RDS zones. The latter were interpreted from seismic data. As described in section 2.3 these attributes are the main geological controls.
3. To a lesser extent the dip of the seam and the relative elevation of each cell, relative to the cells within a 100 by 100 m area were also considered, to further identify Sylvinite with the understanding that areas of very low dip are more likely to be of Carnallite.
4. Beyond the 2010/2011 seismic data (within the Indicated Mineral Resource area) the influence of the distance from RDS zones was reduced and the proximity to the SALT\_R and the dip and relative elevation were assigned greater consideration.
5. Seam thickness of the USS was determined by gridding the drill-hole data of the full Sylvinite intersections (excluding those that have a Carnallite basal layer or are leached) using Inverse distance squared ( $IDW^2$ ) and adjusting it to account for the influence of 2 and 3 above. The Sylvinite thickness was then subtracted from the elevation of the US\_R to create the USS floor (USS\_F), on the 20m by 20m mesh.
6. Only the true thickness of drill-hole intersections were used (i.e. corrections for any dip were made) for the above. As the seam model thickness developed in a vertical sense, areas of the model with a dip were corrected so that the true thickness was always honoured.
7. Even if the USS has zero thickness the surface for the USS\_F was created, overlying exactly that of the US\_R to facilitate the creation of DTMs for each surface.
8. The same method (effectively the inverse) was applied to create the US Carnallite model (USC) below the USS. The roof of the USC (USC\_R) is the same surface as the USS\_F (Figure 20).

- A number of iterations of the model were produced and assessed. The selected model was the one that produced a result that ties well with the drill-hole data and honours the proportional abundance of Sylvinitic as intersected in the drill-holes.

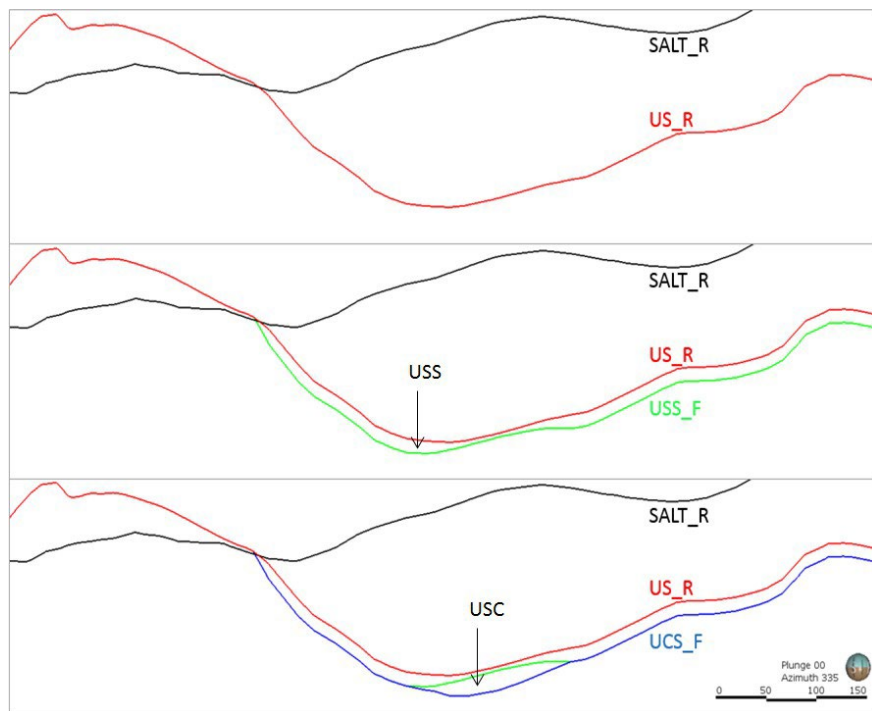


Figure 20. Cross-section showing the construction of the USS and USC seam model

The Lower Seam model was created in a similar manner as follows:

- The LS is separated by between 2 and 6 metres (Figure 21) of barren Rock-salt, also referred to as the Interburden-*halite* or IBH. This layer is an important geotechnical consideration and so care was taken to model it. The IBH thickness from drill-hole data was 'gridded' in Datamine using IDW<sup>2</sup> into the 20 by 20 cells. This thickness was then subtracted from the elevation of the US\_F to obtain the LS\_R elevation from which a DTM was made.
- Unlike the USS the LSS is more often than not underlain by a layer of Carnallite (type B in Table 4). For the LSS model the thickness of the LSS from drill-hole data was gridded using IDW<sup>2</sup> into the 20 x 20 mesh without influence from distance to the SALT\_R or RDS zones. However, based on the geological understanding that LSS rarely occurs beneath USC the LSS model was cut accordingly, based on the USC model. Reflecting the model and based on analysis the following rule was also applied; that if the US is 'full' (type A in Table 4) then the LSS is also full but only *if* the LS\_R is within 30 m of the SALT\_R. Finally, if the US\_R is truncated by the SALT\_R, then the remaining LS is modelled as full LSS due to its proximity to the SALT\_R.

For the US and LS Inferred Resources, the distribution of Sylvinitic and Carnallitite was by manual interpretation based on available drill-hole data and plots of the distance between the seam and the SALT\_R. The thickness of the USS and LSS was determined by gridding all USS drill-hole data. The Carnallitite was then modelled as the Inverse of the Sylvinitic model, in adherence to the geological model.

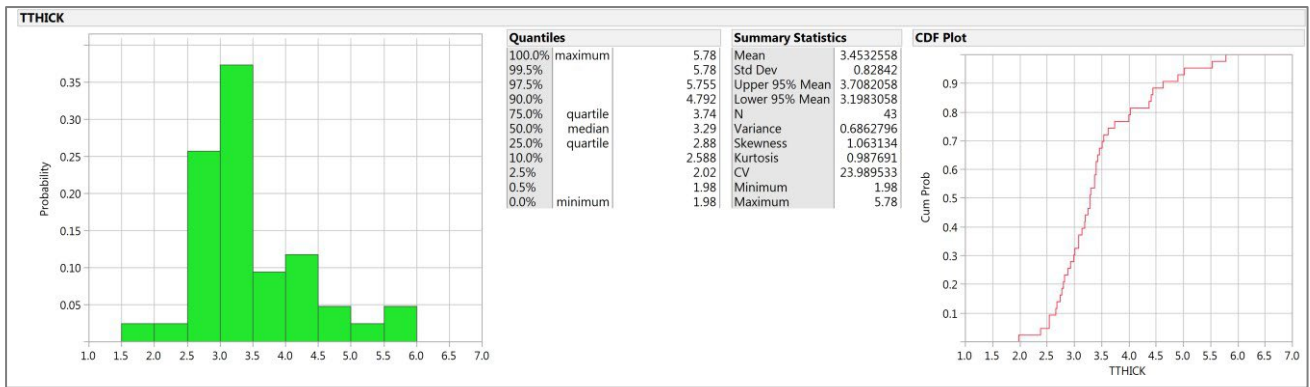


Figure 21. Histogram for the thickness of the Rock-salt between the US and LS (the IBH)

The Hangingwall seam model was created as follows

1. The distance between the US\_R and HWS\_R in drill-hole intersection was gridded using IDW<sup>2</sup> into the 20 by 20 m mesh. This data was then added to the elevation of the US\_R to create a HWS\_R.
2. Being close to the SALT\_R (within 30 m in all cases) there is less variation in domain type; in all areas except for the zone labelled 'A' on Figure 24 the USS is full Sylvinite (not underlain by USC). For all HWS outside of zone A the model was created by gridding the thickness using IDW<sup>2</sup> into the 20 x 20 mesh.
3. The HWS model was created without input from distance to the SALT\_R or RDS zones for the reasons stated above, by gridding of the drill-hole intersections.
4. Within the area labelled 'A' on Figure 24, the HWSS is underlain by HWSC and so this was incorporated into the model.
5. Finally, the HWS was 'pinched' upwards from a distance of 4 m below the SALT\_R to reflect the geological observation that close to this surface the seam is leached.



## Modelling of the Footwall Seam (FWS)

1. A different approach was adopted for the modelling of the FWS as the mode of occurrence is different to the other seams as described in section 2.3. Only Sylvinitic (FWSS) was modelled as Carnallitic FWS is poorly developed or absent, and low grade.
2. Drill-hole and seismic data was used to identify areas of leaching of the Salt Member based on subsidence of the overlying strata signs of marked disturbance of the salt, within which FWSS is typically developed. These were delineated in plan view (Figure 27).
3. Where possible drill-hole data was used to guide thickness of the FWS, in other areas the thickness was interpreted using the seismic data. The FWS was 'constructed' from the top of the Cy7B upwards (Figure 17).

## Subsidence Anomalies

As is standard practice in potash mining zones of subsidence which pose a potential risk to mining were identified using seismic and drill-hole data (Figure 22 and Figure 23) and classified from 1 to 3 depending on severity where 3 is highest. Several drill-holes within or adjacent to these features show that the Salt Member is intact but has experienced some disturbance and leaching.

The HWS, US and LS Mineral Resource models were 'cookie-cut' by these anomalies before calculation of the Mineral Resource estimate. The FWSS model was not cut as that Sylvinitic is considered the product of potassium precipitation below the influence of the subsidence anomalies.

## Truncation by the Anhydrite Member

Finally, all the potash seams were truncated (cut) by the SALT\_R surface (base of the Anhydrite Member) as it is an unconformity. Figure 24 to Figure 27 show the distribution of Sylvinitic by seam and a typical cross-section of the final seam model is provided in Figure 17.

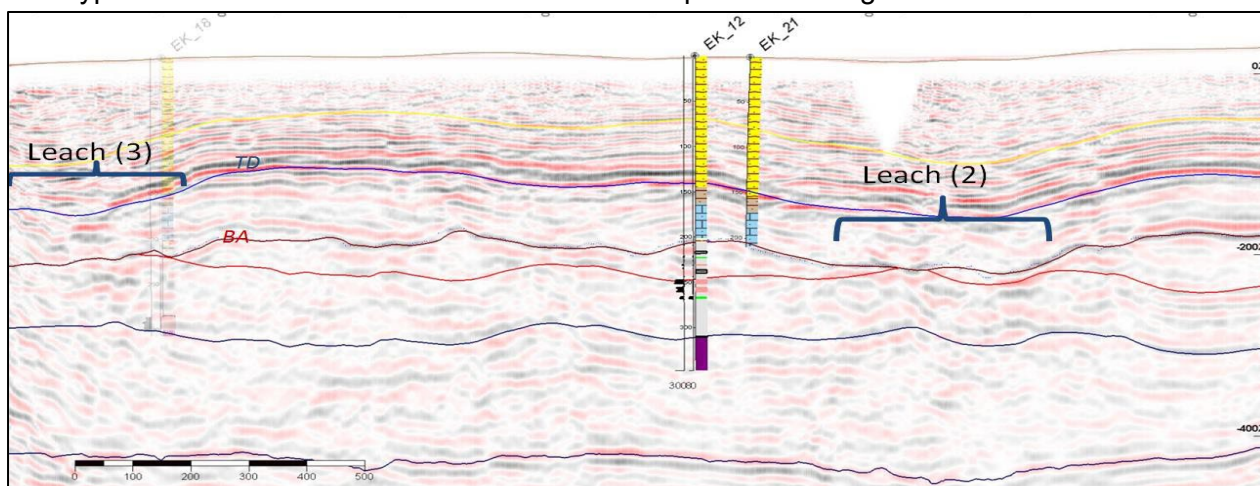


Figure 22. An example of a class 2 and class 3 subsidence anomaly visible in seismic data cross-section, displayed with a 2:1 vertical exaggeration. In both cases drill-holes are within or adjacent to the features.

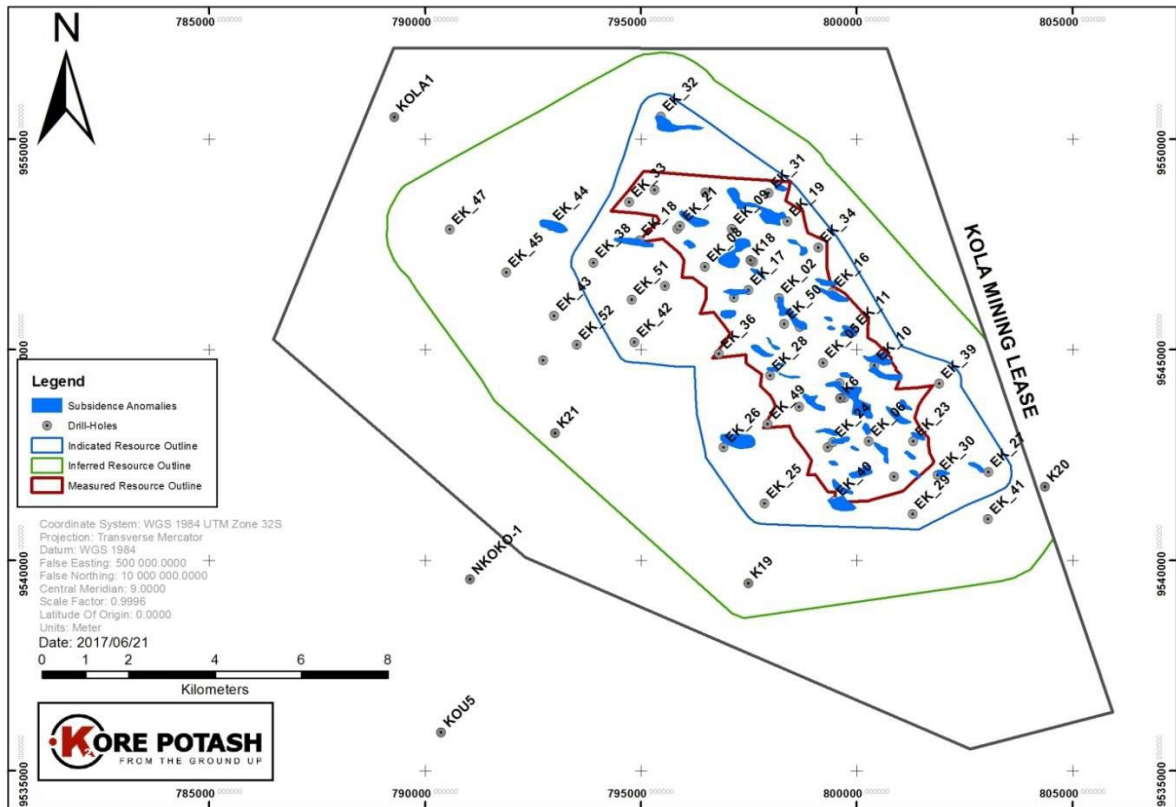


Figure 23. Plan view showing the distribution of subsidence anomalies, cut out from the Mineral Resource before estimation

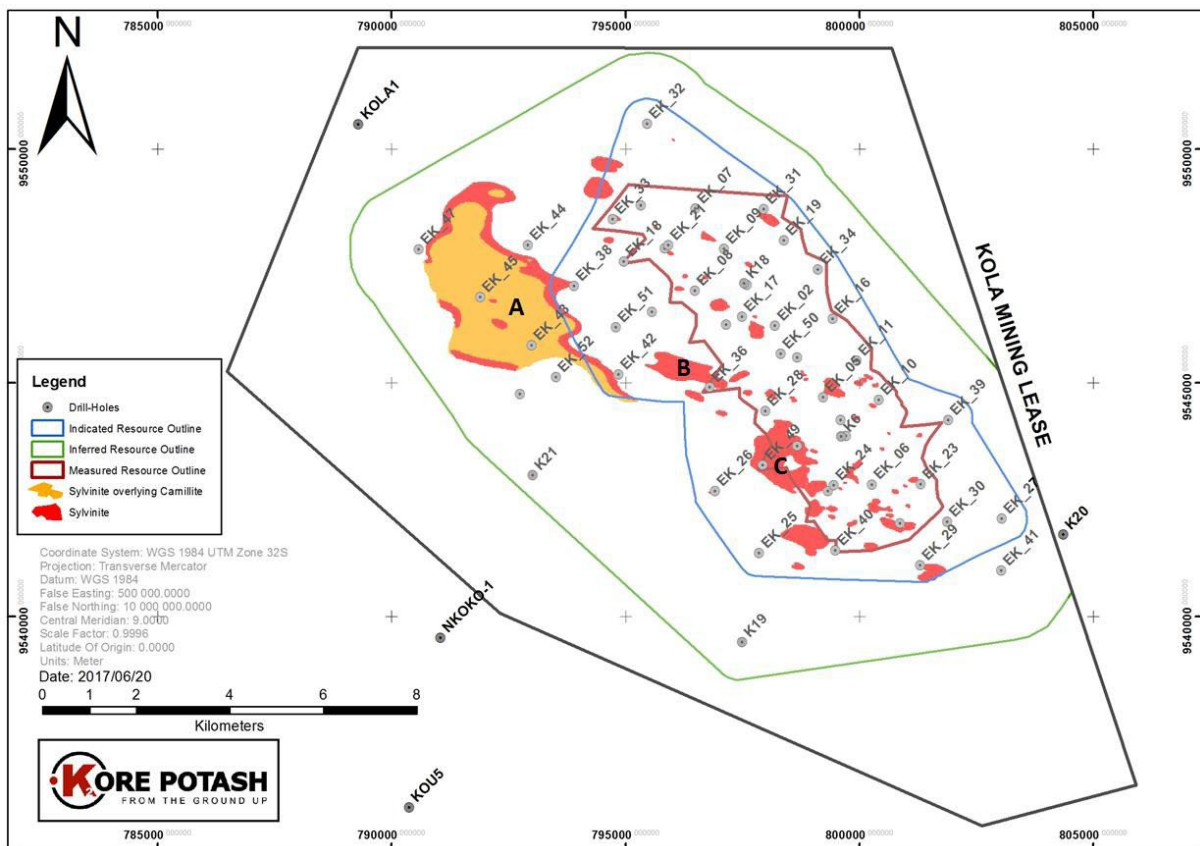


Figure 24. Plan view of HWSS distribution. The entire seam is classified as Inferred except for portions of the areas labelled A, B and C which are classified as Indicated.

## GRADE ESTIMATION SECTION

Traditional block modelling was employed for estimating %KCl, %Na, %Cl, %Mg, %S, %Ca and %Insols (insolubles). No assumptions were made regarding correlation between variables. The block model is orthogonal and rotated by 20 degrees reflecting the orientation of the deposit. The block size chosen was 250m x 250m x 1m to roughly reflect drill hole spacing, seam thickness and to adequately discretize the deposit without injecting error.

Volumetric solids were created for the individual mineralized zones (i.e. Hangingwall Seam, Upper Seam, Lower Seam, Footwall Seam) for both Sylvinitic and Carnallitic using drill hole data and re-processed depth migrated seismic data. The solids were adjusted by moving the nodes of the triangulated domain surfaces to exactly honour the drill hole intercepts. Numeric codes denoting the zones within the drill hole database were manually adjusted to ensure the accuracy of zonal intercepts. No assay values were edited or altered.

Once the domain solids were created, they were used to code the drill hole assays and composites for subsequent statistical analysis. These solids or domains were then used to constrain the interpolation procedure for the mineral resource model, the solids zones were then used to constrain the block model by matching composites to those within the zones in a process called *geologic matching*. This ensures that only composites that lie within a particular zone are used to interpolate the blocks within that zone.

Relative elevation interpolation methods were also employed, which is helpful where the grade is layered or banded and is stratigraphically controlled. In the case of Kola, layering manifests itself as a relatively high-grade band at the footwall, which gradually decreases toward the hanging wall. Due to the undulations of the deposit, this estimation process accounts for changes in dip that are common in layered and stratified deposits.

The estimation plan includes the following:

- Store the mineralized zone code and percentage of mineralization.
- Apply the density, based on calculated specific gravity.
- Estimate the grades for each of the metals using the relative elevation method and an inverse distance using three passes. The three estimation passes were used to estimate the Resource Model because a more realistic block-by-block estimation can be achieved by using more restrictions on those blocks that are closer to drill holes, and thus better informed.
- Include a minimum of five composites and a maximum of twenty, with a maximum of four from any one drill hole.

The nature and distribution of the Kola Deposit shows uniform distribution of KCl grades without evidence of multiple populations which would require special treatment by either grade limiting or cutting. Therefore, it was determined that no outlier or grade capping was necessary.

The grade models have been developed using inverse distance and anisotropic search ellipses measure 250 x 150 x 50 m and have been oriented relative to the main direction of continuity within each domain. Anisotropic distances have been included during interpolation; in other words, weighting of a sample is relative to the range of the ellipse. A sample at a range of 250 m along the main axis is given the same weight as a sample at 50 m distance located across the strike of the zone. Table 13 summarize the search ellipse dimensions for the estimation passes for the Kola.

Table 12. Estimation Strategy for Kola

Pass	Maj or Axis	Semi-Major Axis	Min or Axis	1 <sup>st</sup> Rotation Angle Azimuth	2 <sup>nd</sup> Rotation Angle Dip	3 <sup>rd</sup> Rotati on Angle	Min. No. Of Comps	Max. No. Of Comps	Max. Sampl es per Drill hole
1	1000	1000	100	20	0	0	6	9	3
2	1500	1500	100	20	0	0	3	9	3
3	3500	3500	100	20	0	0	1	9	3

A full set of cross-sections, long sections, and plans were used to check the block model on the computer screen, showing the block grades and the composite. There was no evidence that any blocks were wrongly estimated. It appears that block grades can be explained as a function of: the surrounding composites, the solids models used, and the estimation plan applied. In addition, manual *ballpark* estimates for tonnage to determine reasonableness was confirmed along with comparisons against the nearest neighbor estimate.

Check Estimate

As a check on the global tonnage, an estimate was made in Microsoft Excel by using the average seam thickness and determining a volume based on the proportion of holes containing Sylvinite versus the total number of holes (excluding those that did not reach the target depth) then applying the mean density of 2.1 (t/m<sup>3</sup>) to determine the total tonnes. This was carried out for the USS and LSS within the Measured and Indicated categories. A deduction was made to account for loss within subsidence anomalies. The tonnage of this estimate is within 10% of the tonnage of the reported Mineral Resource.

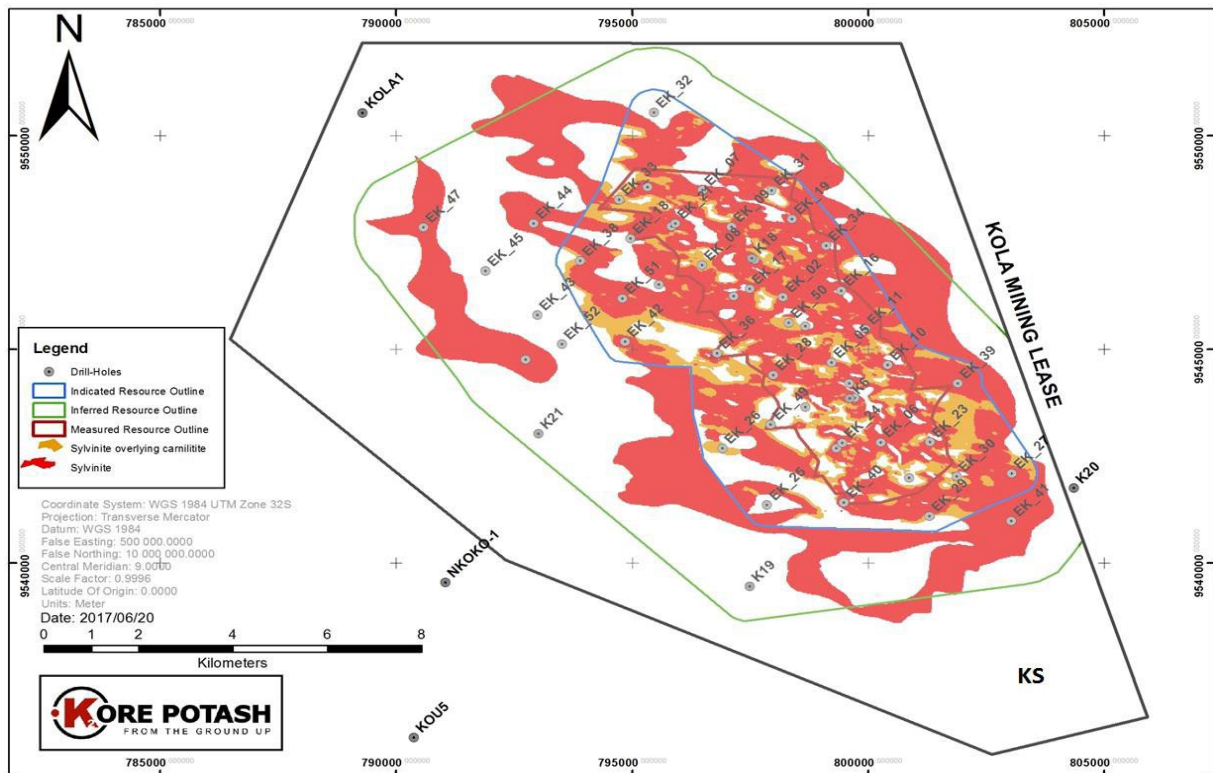


Figure 25. Plan view of USS distribution



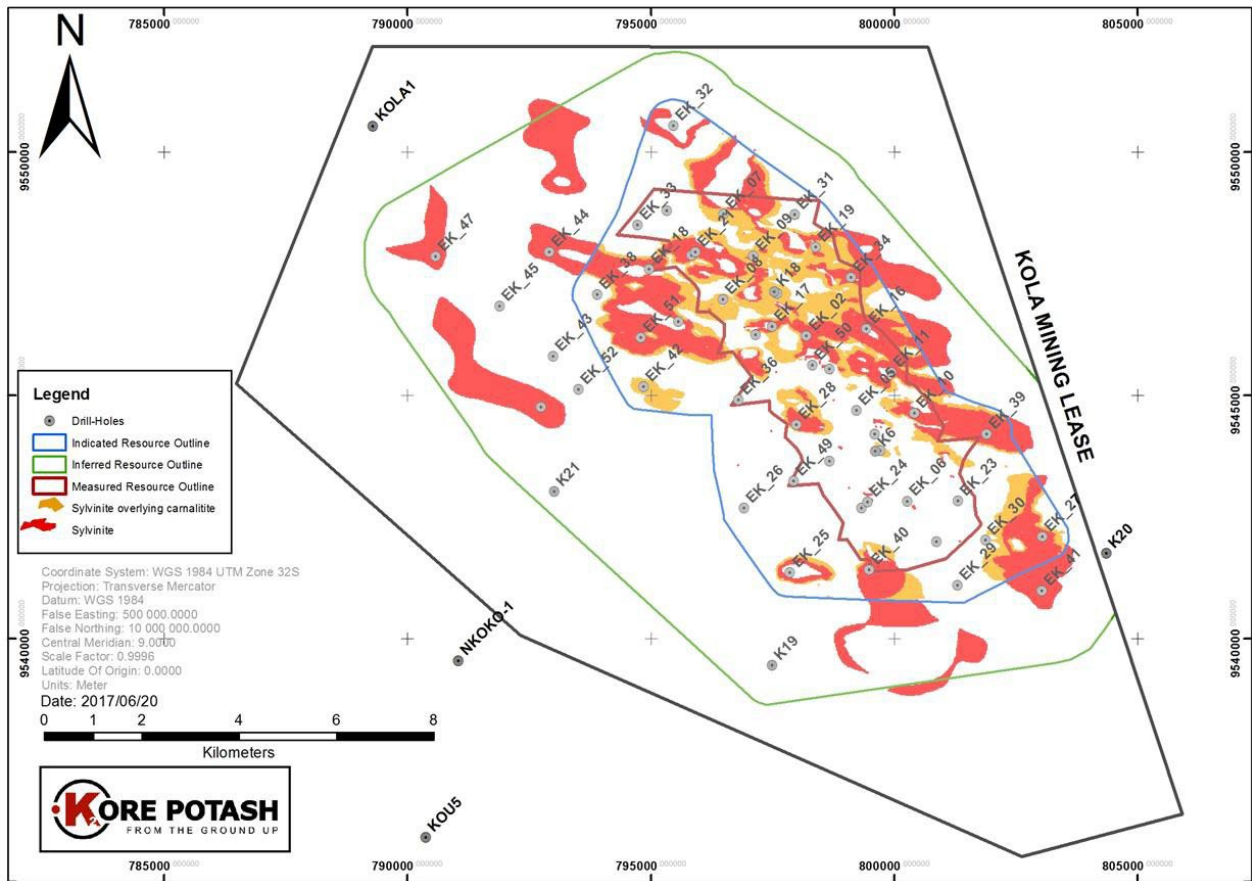


Figure 26. Plan view of LSS distribution

### 3.6 Moisture

Mineral Resource tonnages are reported on an insitu basis (with natural moisture content), Sylvinite containing almost no moisture and Carnallite containing significant moisture within its molecular structure. Moisture content of samples was measured using the 'Loss on Drying' (LOD) method at Intertek Genalysis as part of the suite of analyses carried out. Data shows that for Sylvinite the average moisture content is 0.076 % and the maximum value was 0.6%. Representative moisture analyses of Carnallite are difficult as it is so hygroscopic. 38% of the mass of the mineral *carnallite* is due to water (6 H<sub>2</sub>O groups within its structure). Using the KCl data to work out a mean *carnallite* content, the Carnallite has an average moisture content approximately 25% insitu. It can be reliably assumed that this amount of moisture would have been held by the Carnallite samples at the time of analysis of potassium, in a temperate atmosphere for the duration that they were exposed.

### 3.7 Cut-off parameters

For Sylvinite, a cut-off grade (COG) of 10% was determined by an analysis of the Pre-feasibility and 'Phased Implementation study' operating costs analysis and a review of current potash pricing. The following operating costs were determined from previous studies per tonne of MoP (95% KCl) produced from a 33% KCl ore, with a recovery of 89.5%:

- Mining US\$30/t
- Process US\$20/t
- Infrastructure US\$20/t
- Sustaining Capex US\$15/t



- Royalties US\$10/t
- Shipping US\$15/t

For the purpose of the COG calculation, it was assumed that infrastructure, sustaining capex, royalty and shipping do not change with grade (i.e. are fixed) and that mining and processing costs vary linearly with grade. Using these assumptions of fixed costs (US\$60/t) and variable costs at 33% (US\$50/t) and a potash price of US\$250/t, we can calculate a cut-off grade where the expected cost of operations equals the revenue. This is at a grade of 8.6% KCl. To allow some margin of safety, a COG of 10% is therefore proposed. For Carnallite, reference was made to the Scoping Study for Dougou which determined similar operating costs for solution mining of Carnallite and with the application of a US\$250/t potash price a COG of 10% KCl is determined.

### 3.8 Mining factors or assumptions

For the Kola MRE, it was assumed that all sylvinite greater with grade above the cut-off grade except, for that within the delineated geological anomalies, has reasonable expectation of eventual economic extraction, by conventional underground mining. Geological anomalies were delineated from process 2D seismic data.

The Kola Project has been the subject of scoping and feasibility studies which found that economic extraction of 2 to 5m thick seams with conventional underground mining machines is viable and that mining thickness as low as 1.8m can be supported. Globally, potash is mined in similar deposits with seams of similar geometry and form. The majority of the deposit has seam thickness well above 1.8m; the average for the sylvite HWS, US, LS and FWS is 3.3, 4.0, 3.7 and 6.6m respectively.

For the Mineral Resource Estimate a cut-off grade of 10% KCl was used for sylvinite. The average grade of the deposit is considered of similar grade or higher than the average grade of several operating potash mines. It is assumed that dilution of 20 cm or as much as 10-15% of the seam thickness would not impact the deposit viability significantly. The thin barren rock-salt layers within the seams were included in the estimate as internal dilution.

### 3.9 Metallurgical factors or assumptions

The Kola Sylvinite ore represents a simple mineralogy, containing only sylvite, halite and minor fragments of other insoluble materials. Sylvinite of this nature is well understood globally and can be readily processed. Separation of the halite from sylvite by means of flotation has been proven in potash mining districts in Russia and Canada. Furthermore, metallurgical test-work was performed on all Sylvinite seams (HWSS, USS, LSS and FWSS) at the Saskatchewan Research Council (SRC) which confirmed the viability of processing the Kola ore by conventional flotation.

### 3.10 Environmental Factors or assumptions

The Kola deposit is located in a sensitive environmental setting in an area that abuts the Conkouati-Douli National Park (CDNP). Approximately 60% of the deposit is located within the economic development zone of the CDNP, while the remainder is within the buffer zone around the park. The economic development zone does permit mining activities if it is shown that impact can be minimised. For these reasons, Sintoukola Potash has focussed its efforts on understanding the environmental baseline and the potential impacts that the project will have. Social, water, hydrobiology, cultural, archeological, biodiversity, noise, traffic and economic baseline studies were undertaken as part of the ESIA process between 2011 and 2013. This led to the preparation of an Equator Principles

compliant ESIA in 2013 and approval of this study by the government in the same year.

Waste management for the project is simplified by the proximity to the ocean, which acts as a viable receptor for NaCl from the process plant. Impacts on the forest and fauna are minimised by locating the process plant and employee facilities at the coast, outside the CDNP. Relationships with the national parks, other NGO's and community and government stakeholders have been maintained continuously since 2011 and engagement is continuing for the ongoing DFS. All stakeholders remain supportive of the project.

### 3.11 Bulk Density

The separation of Carnallite and Sylvinite (no instances of a mixed ore-type have been observed) and that these rock types each comprise over 97.5% of only two minerals (Carnallite of *carnallite* and *halite*; Sylvinite of *sylvite* and *halite*) means that density is proportional to grade. The mineral *sylvite* has a specific gravity of 1.99 and *halite* of 2.17. Reflecting this, the density of Sylvinite is less if it contains more *sylvite*. The same is true of Carnallite, *carnallite* having a density of 1.60.

Conventional density measurements using the weight in air and weight in water methods were problematic due to the soluble nature of the core and difficulty applying wax to salt. As an alternative, gas pycnometer analyses were carried out (71 on Sylvinite and 37 on Carnallite samples). Density by pycnometer was plotted against grade for each, as shown for in Figure 28 and Figure 29. A regression line was plotted, the formula of which was used in the Mineral Resource model to determine the bulk density of each block. As a check on the pycnometer data, the theoretical bulk density (assumes a porosity of nil) was plotted using the relationship between grade and density described above. As a further check, a 'field density' was determined for Sylvinite and Carnallite from EK\_49 and EK\_51 on whole core, by weighing the core and measuring the volume using a calliper, before sending samples for analysis. An average field density of 2.10 was derived from the Sylvinite samples, with an average grade of 39% KCl, and 1.70 for Carnallite with an average grade of 21% KCl, supporting the pycnometer data. The theoretical and field density data support the approach of determining bulk-density.

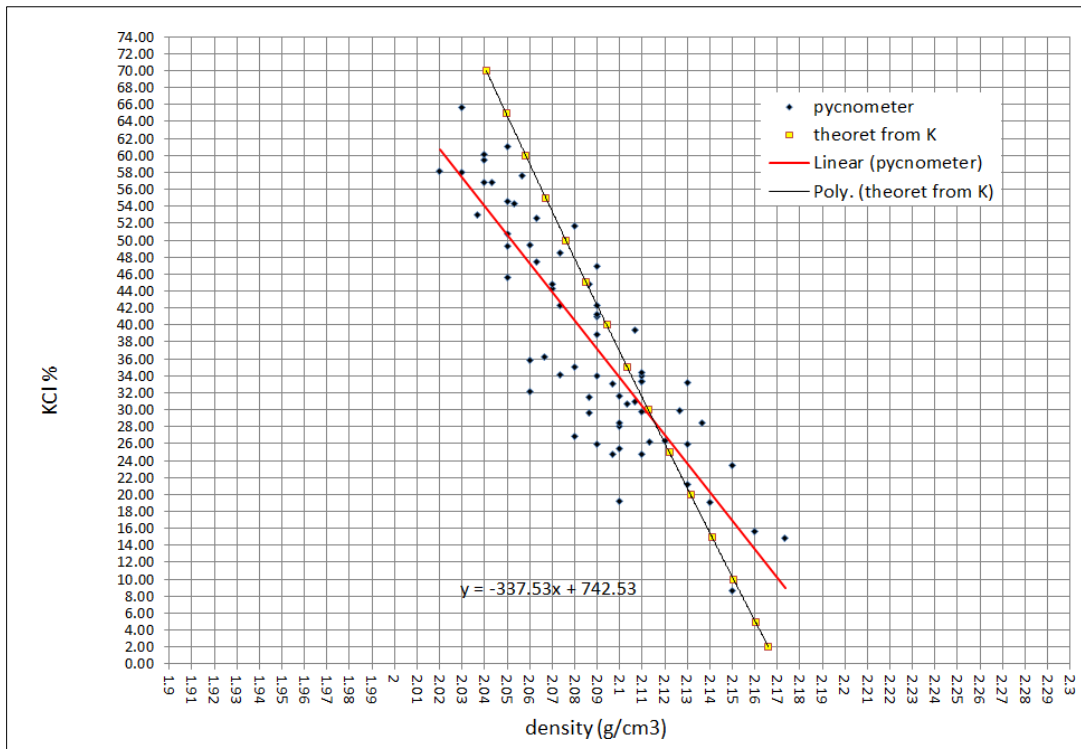


Figure 28. Density of Sylvinites samples, by gas pycnometer and by theoretical calculation, plotted against KCl %.

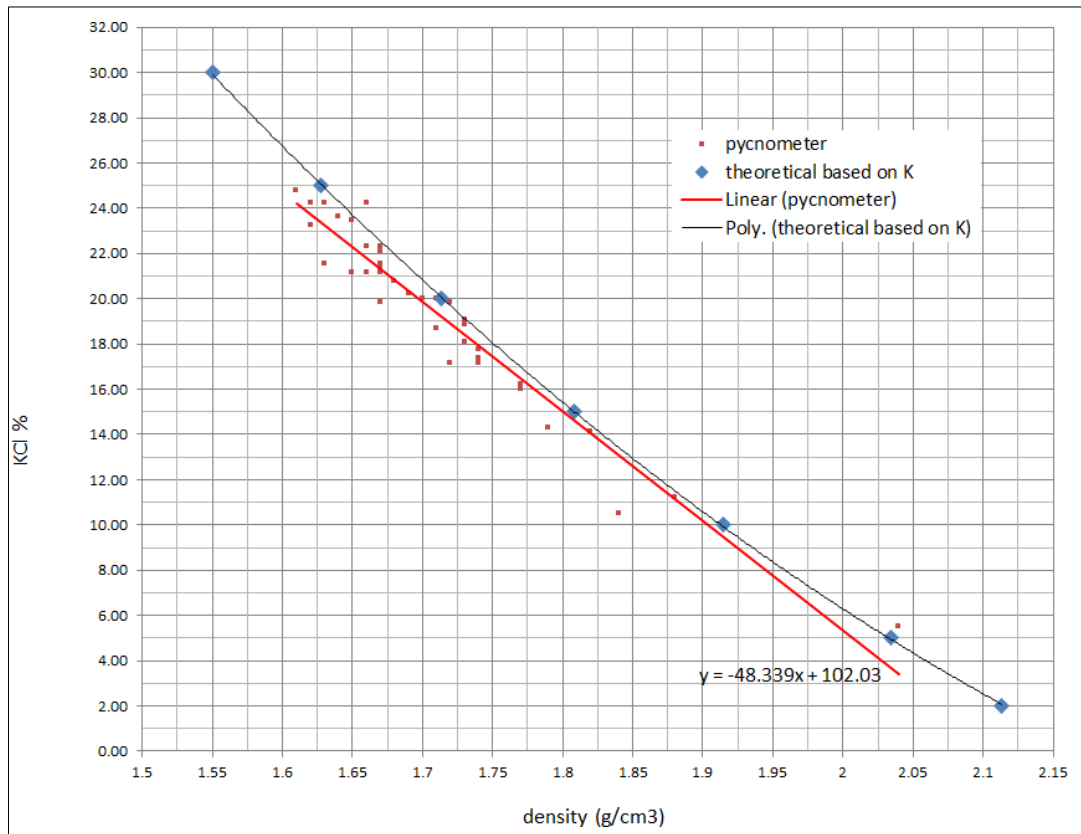


Figure 29. Density of Sylvinitic samples, by gas pycnometer and by theoretical calculation, plotted against KCl %.

### 3.12 Classification

Drill-hole and seismic data are relied upon in the geological modelling and grade estimation. Across the deposit the reliability of the geological and grade data is high. Grade continuity is less reliant on data spacing as within each domain grade variation is small reflecting the continuity of the depositional environment and 'all or nothing' style of Sylvinitic formation.

It is the data spacing that is the principal consideration as it determines the confidence in the interpretation of the seam continuity and therefore confidence and classification; the further away from seismic and drill-hole data the lower the confidence in the Mineral Resource classification, as summarized in Table 13. In the assigning confidence category, all relevant factors were considered and the final assignment reflects the Competent Persons view of the deposit.

*Table 13. Description of requirements for the maximum extent of the Measured, Indicated and Inferred classifications, as illustrated in plan view in figures Figure 24 to Figure 27*

	<b>Drill-hole requirement</b>	<b>Seismic data requirement</b>	<b>Classification extent</b>
<b>Measured</b>	Average of 1 km spacing	Within area of close spaced 2010/2011 seismic data (100-200 m spacing)	Not beyond the seismic requirement
<b>Indicated</b>	1.5 to 2 km spacing	1 to 2.5 km spaced 2010/2011 seismic data <b>and</b> 1 to 2 km spaced oil industry seismic data	Maximum of 1.5 km beyond the seismic data requirement <b>if</b> sufficient drill-hole support
<b>Inferred</b>	Few holes, none more than 2 km from another	1-3 km spaced oil industry seismic data	Seismic data requirement and maximum of 3.5 km from drill- holes

### 3.13 Audits or reviews

No audits or reviews of the Mineral Resource have been carried out other than those of professionals working with Met-Chem division of DRA Americas Inc., a subsidiary of the DRA Group as part of the modelling and estimation work.

### 3.14 Discussion of relative accuracy/confidence

The Competent Person has a very high degree of confidence in the data and the results of the Mineral Resource Estimate. The use of tightly spaced seismic that was reprocessed using state-of-the-art techniques combined with high quality drill data formed the solid basis from which to model the deposit. Industry standard best practices were followed throughout, and rigorous quality assurance and quality control procedures were employed at all stages. The Competent Person was provided all information and results without exception and was involved in all aspects of the program leading up to the estimation of resources. The estimation strategy and method accurately depict tonnages and grades with a high degree of accuracy both locally and globally.

There is no production data from which to base an opinion with respect to accuracy and confidence.



## Glossary of Terms

Term	Explanation
Albian	The uppermost subdivision of the Early/Lower Cretaceous epoch/series. Its approximate time range is $113.0 \pm 1.0$ Ma to $100.5 \pm 0.9$ Ma (million years ago)
anhydrite	Anhydrous calcium sulphate, $\text{CaSO}_4$ .
Aptian	a subdivision of the Early or Lower Cretaceous epoch or series and encompasses the time from $125.0 \pm 1.0$ Ma to $113.0 \pm 1.0$ Ma
assay	in this case refers to the analysis of the chemical composition of samples in the laboratory
bischofite	Hydrous magnesium chloride minerals with formula, $\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$ and $\text{CaMgCl}_2 \cdot 12\text{H}_2\text{O}$
brine	Brine is a high-concentration solution of salt in water
carbonate	any rock composed mainly of carbonate minerals such as calcite or dolomite
carnallite	an evaporite mineral, a hydrated potassium magnesium chloride with formula $\text{KMgCl}_3 \cdot 6(\text{H}_2\text{O})$
carnallitite	a rock comprised predominantly of the minerals carnallite and halite
clastic	Clastic rocks are composed of fragments, or clasts, of pre-existing minerals and rock.
clay	A fine-grained sedimentary rock.
collars (drill-hole)	the top of the drill-hole
composite (sample)	an interval of uniform length for which attributes such as grade are determined by combining or cutting original samples of greater or lesser length, to obtain a uniform support size
conformable	refers to layers of rock between which there is no loss of the geological record
core (drill)	the cylindrical length of rock extracted by the process of diamond drill coring
Cretaceous	the last of the three periods of the Mesozoic Era. The Cretaceous began 145.0 million years ago and ended 66 million years ago
cross-section	an image showing a slice (normally vertical) through the sub-surface
diamond coring	the method of extracting cores of rock by using a circular diamond-tipped bit (though may be tungsten carbide)
dip	in this case refers to the angle of inclination of a layer of rock, measured in degrees or % from horizontal
dolomite	anhydrous carbonate mineral composed of calcium magnesium carbonate, ideally $\text{CaMg}(\text{CO}_3)_2$ . The term is also used for a sedimentary carbonate rock composed mostly of the mineral dolomite. mineral form is indicated by italic font
domain (mineral)	a spatial zone within which material is modelled/expected to be of a type or types that can be treated in the same way, in this case in terms of resource estimation
drill-hole	a hole drilled to obtain samples of the mineralization and host rocks, also known as boreholes or just holes
euohedral	crystals with well defined crystal form
evaporite	Sediments chemically precipitated due to the evaporation of an aqueous solution or brine
gamma-ray	A gamma ray or gamma radiation is penetrating electromagnetic radiation arising from the radioactive decay of atomic nuclei.
geotechnical	Refers to the physical behavior of rocks, particularly relevant for the Mine design requiring geotechnical engineering

Gondwana	Gondwana or Gondwanaland, was a supercontinent that formed from the unification of several cratons in the Late Neoproterozoic, merged with Euramerica in the Carboniferous to form Pangaea, and began to fragment in the Mesozoic
graben	A graben is a basin bound by normal faults either side, formed by the subsidence of the basin due to extension
gypsum	soft sulfate mineral composed of calcium sulfate dehydrate, with the chemical formula $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ .
halite	The mineral form of sodium chloride (NaCl), salt.
horst	a horst is a raised fault block bounded by normal faults. A horst is a raised block of the Earth's crust that has lifted, or has remained stationary, while the land on either side (grabens) have subsided
Indicated Mineral Resource	An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes, and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Ore Reserve.
Inferred Mineral Resource	An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
insoluble material	in this report, refers to material that cannot be dissolved by water such as clay, quartz, anhydrite
JORC	Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC). JORC issues the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, last updated 2012 (JORC 2012).
lithological	refers to the observed characteristics of a rock type (or lithology)
Measured Mineral Resource	A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes, and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Ore Reserve or under certain circumstances to a Probable Ore Reserve.
Mineral Reserve	the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified
potash	refers to any of various mined and manufactured salts that contain potassium in water-soluble form. In this report generally refers to the potassium bearing rock types
pycnometer	A laboratory device used for measuring the density of solids.
recovery (of drill core)	refers to the amount of core recovered as a % of the amount that should have been recovered if no loss was incurred.

rift	refers to the splitting apart of the earth's crust due to extension, typically resulting in crustal thinning and normal faulting
rock-salt	rock comprising predominantly of the mineral halite
sediment	A naturally occurring material that is broken down by processes of weathering and erosion, and is subsequently transported by the action of wind, water, or ice, and/or by the force of gravity acting on the particles.
seismic	in this case seismic reflection, a method of exploration geophysics that uses the principles of seismology to estimate the properties of the Earth's subsurface from reflected seismic waves. The method requires a controlled seismic source of energy, such as dynamite or Tovex blast, a specialized air gun or a seismic vibrator
stratigraphy	Stratigraphy is a branch of geology concerned with the study of rock layers (strata) and layering (stratification). It is primarily used in the study of sedimentary and layered volcanic rocks
strike	refers to the direction of preferred control of the mineralization be it structural or depositional. In this direction it is expected that there be greater correlation of attributes
sylvinite	a rock type comprised predominantly of the mineral sylvite and halite
sylvite	an evaporite mineral, potassium chloride (KCl)
unconformity	An unconformity is a buried erosional or non-depositional surface separating two rock masses or strata of different ages, indicating that sediment deposition was not continuous