DAVENPORT RESOURCES

ASX Announcement
03 April 2018

Davenport announces Maiden JORC potash resource for Ebeleben Licence

Highlights

- Inferred Resource of 576.6 million tonnes at 12.1% K_2O declared for Ebeleben Mining Licence, South Harz Basin
- Confirmed conversion of historical exploration data to Mineral Resources following the guidelines of the JORC Code (2012)
- Resource comprises mostly sylvinite (324 million tonnes at 15.6% K_2O) and Carnallitite (252 million tonnes at 7.5% K_2O)
- Consultant Micon International Co. Limited continues to model data from Davenport's adjoining South Harz licences with a view to confirming additional JORC resources

Davenport Resources (ASX: DAV) ("Davenport", "the Company") is pleased to announce a JORC 2012 Inferred Resource of 576.6 million tonnes at 12.1% potassium oxide (K_2O) for its 100%-owned Ebeleben licence in Germany's South Harz region. The resource, which is predominantly sylvinite, was confirmed by internationally-renowned consultant Micon International Co Limited ("Micon") based on available historic exploration data.

Ebeleben is one of three perpetual mining licences in the South Harz Basin that Davenport acquired recently from German government agency Bodenverwertungs-und-verwaltungs GmbH (BVVG), (Figure 1). The Ebeleben area was explored during the 1960s and 1980s under former GDR state control and at one stage, was to be developed as an extension of the adjoining Volkenroda Mine from where 27.4 Mt of potash was extracted.

Davenport Managing Director Chris Gilchrist said: *"This is the first of several areas in the recently acquired licences where we believe there is sufficient data to support the conversion of historic resources into mineral resources as defined by the JORC Code. Whilst Ebeleben is one of our smallest areas, Micon has confirmed a significant resource that compares closely to both the historic resource and the recently-announced exploration target. We are now working to bring our remaining licenses to a similar level recognized by the JORC Code and, if their exploration targets are also realised, these areas will represent Europe's largest declared potash resource."*
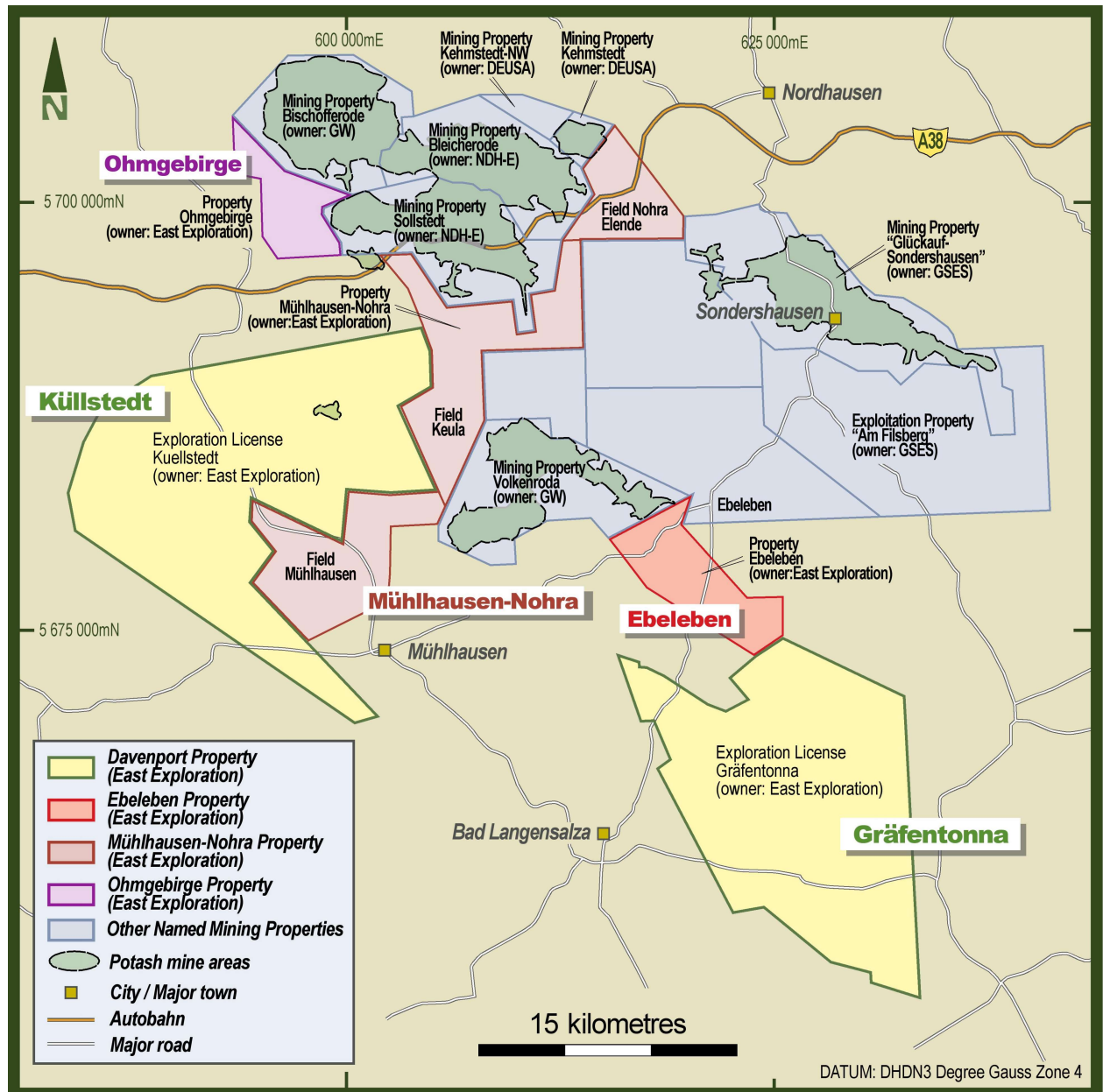
Figure 1 Location of Ebeleben mining license area showing adjoining mining license areas Mühlhausen and Ohmgebirge. Davenport also has exploration licenses and historical drill data for the Küllstedt and Gräfentonna areas.

The Ebeleben mining license covers 38.8 km^2 and adjoins the south-eastern boundary of the former Volkenroda potash mine which last operated in 1991 and produced 27.4 Mt of potash (Figure 1).

A comprehensive exploration campaign was conducted in two stages in the 1960s and 1980s by the former GDR state potash mining authority. Twelve potash core holes were drilled during these campaigns, however nineteen hydrocarbon exploration holes were also sunk, mainly in the SW portion of the license area (Figure 2). Full drill hole logs include a detailed lithological description of the entire drill hole, which was also summarised and graphically portrayed alongside the downhole geophysical logging and assay results. Full logs were available for six drill holes. Geophysical logs were available for 24 drill holes, mostly made up of caliper and natural gamma logs with the full suite of geophysical results available for at least five drill holes.

All drill hole sampling was conducted according to the Kali-Instruktion (1956 and 1960), the German Standard Operating Procedures for evaluation of Potash. Core samples were taken from three of the hydrocarbon drill holes and 12 of the potash drill holes. Where possible, the K_2O grade of the potash bearing horizons was determined on an empirical base using the correlation with the downhole natural gamma log. Samples were taken across all potash-bearing horizons and the total sampled length represents the total thickness of the potash-bearing horizon of the stratigraphic potash bearing unit z2KSt. In the hydrocarbon drill holes, core sample thickness ranges from 0.07-1.58 m. In the potash drill holes, core sample thickness ranges from 0.18-4.00 m. Over inhomogeneous potash horizons where interlayers of potential waste were included, the minimum sample thickness was 0.5 m and the maximum was 5 m. Samples were crushed to 2 mm in a jaw crusher and a representative sample was milled and crushed further to 50 µm which was assayed by Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) for all elements except NaCl which was tested using potentiometric titration. X-Ray Diffraction (XRD) was used for mineralogy and thin sections were carried out at a local university.
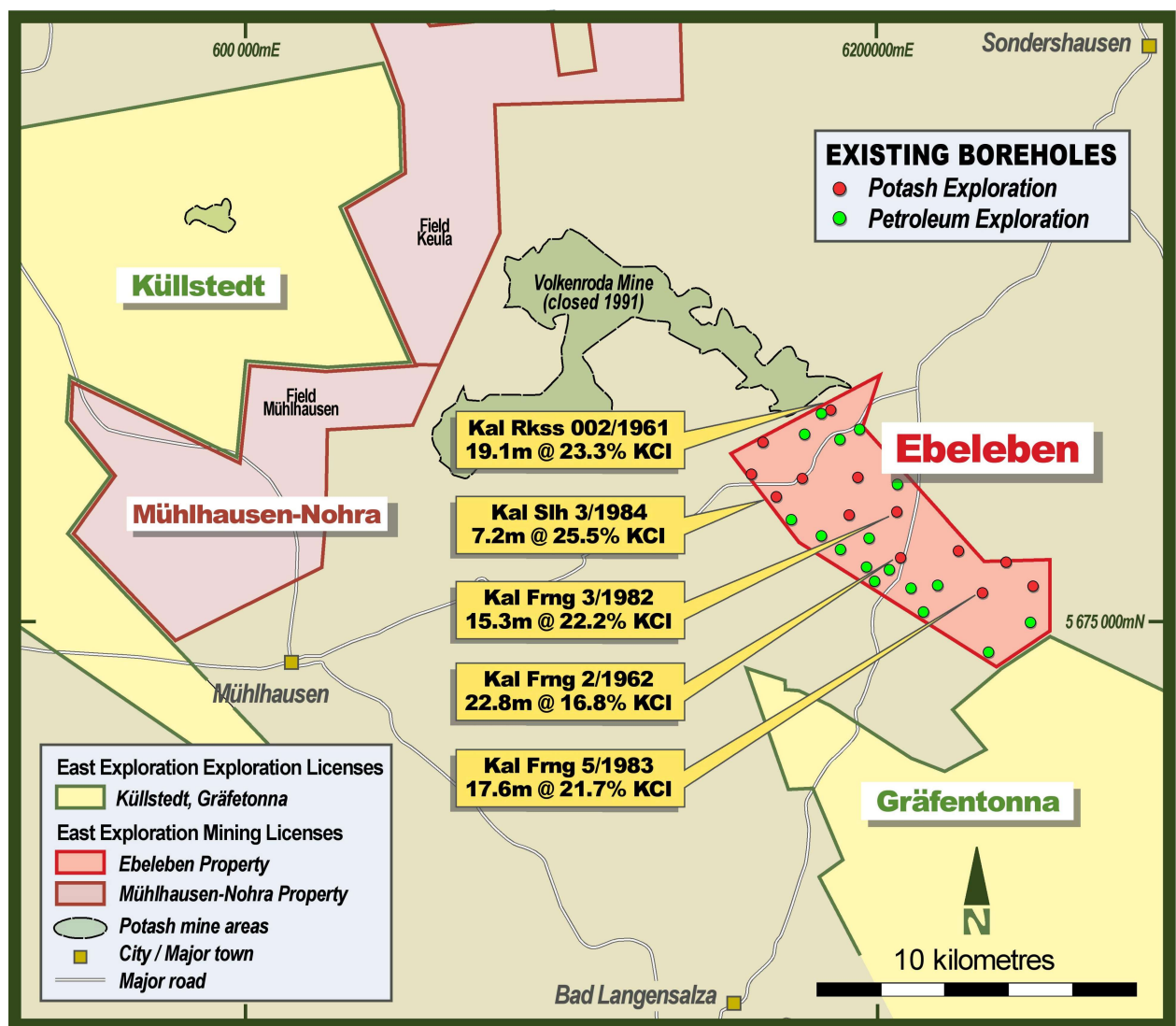

Figure 2 Map showing existing drill holes within the Ebeleben mining license area together with a selection of intersections from throughout the license.

Geology and modelling

The drilling results provided a relatively detailed picture of the underlying lithostratigraphic structure. The geological model and resource estimation for Ebeleben was carried out in Micromine, which is an internationally recognised software used for modelling stratiform deposits. The database used to create the geological model and Mineral Resource estimation was created from manual data entry of hard copy historical drill hole logs and exploration records. The Excel database was cross-checked against the original drill hole logs in the BVVG and K-Utec Salt Technologies archives in Berlin and Sondershausen respectively. The drill hole database was imported into Micromine and validated. Validation checks undertaken included checking for missing samples, mismatching sample and stratigraphy intersections, duplicate records and overlapping from-to depths. In addition, and where possible, the sum of chemical compounds was checked to ensure a total of 100%.

Once imported into Micromine, geological interpretation was carried out in 2-dimensional (2D) cross sections and 3-dimensional (3D) downhole plots of lithology and grade. This process confirmed the correlating relationship between the drill hole logs and the geophysical logging as well as the stratigraphic-hosted nature of the potash mineralisation. The potash-bearing horizons on Ebeleben are sub-horizontal. During the interpretation, an area to the east of Ebeleben was separated out as it contains an upper sylvinite layer and a lower carnallitite layer. The remainder of Ebeleben only has the upper sylvinite layer, with the exception of drill hole E Rkss 6/1969, which contains halite and was eventually excluded from the resources.

In Micromine, the chemical database was first composited according to stratigraphy. The composited database was assigned a tag column to indicate if a sample was sylvinite or carnallitite, based on the mineralogical drill hole logging data. Some drill holes did not have a full suite of chemical data, for example a number of drill holes did not have an assay result for $MgSO_4$. In these instances, a length weighted average dummy value was assigned. For missing KCl values, the K_2O value was divided by 0.63. The resultant database was composited again, this time by grade, using a minimum trigger of 5% K_2O, a minimum grade length of 2 m, a 2 m maximum total length of waste and a 1 m maximum consecutive length of waste.

Roof and floor grids were made for the sylvinite seam and a floor grid was made of the Carnallitite seam. The minimum and maximum x and y origins used for gridding were 614132.966 (min x), 5672180.20 (min y), 626632.966 (max x) and 5683680.20 (max y). A grid cell size of 500 was used as this best fitted the data when correlated in cross-section. An inverse distance squared gridding algorithm was used, with a circular search area and a 5,000 m search radius to cover the distance between data points, one sector and maximum 1 point per sector. The floor grid was viewed to check for structure, no major faults were interpreted. The roof and floor grids were converted to wireframe surfaces (DTM) and these were cut according to the limits of the sylvinite/carnallitite, licence boundary, >1 m thickness and gas storage area. Solid wireframes were created for sylvinite and carnallitite using the roof and floor surfaces.

Previous Resources

An historical resource estimation dated 1987 was stated for Ebeleben according to the Kali-Instruktion. The exact area of the resource was slightly different to the current mining licence boundary. The C_2 balanced resource was 220.9 Mt with 36.9 Mt of K_2O at an average grade of 16.7% K_2O, based on the same historical drill holes used for this estimation with a thickness cut-off of 3m minimum and 7m maximum as specified in the Kali-Instruktion. In addition, an Exploration Target (JORC 2012) was reported for Ebeleben by Ercosplan dated 2nd February 2018. The Exploration Target states a tonnage range of 447-559 Mt with 44-97 Mt K_2O at a grade of 9.84-17.35% K_2O. Both estimates are comparable to the Inferred Resource calculated by Micon. (ASX announcement 15 Nov 2017)

Mineral Resources

The economic potash deposit covers the whole of the Ebeleben mining licence and the Mineral Resource has been restricted by seam thickness (>1 m), grade (>5% K_2O) and the gas storage area. The total Mineral Resource area is 26,688,685 m^2. The average thickness of the sylvinite is 15.3 m and the average thickness of the carnallitite is 7.9 m. The average depth to the roof of the sylvinite is 1,061 m from surface and the seam is horizontal with gentle undulations.

A grade-tonnage report was generated for both seams using densities obtained from historical records, specifically 2.21 t/m^3 for sylvinite and 1.86 t/m^3 for carnallitite. The grades for each wireframe reported are based on the modelled composited assay database that was modelled using the same algorithm and parameters as the seam roof and floor surfaces.

The whole of the Ebeleben licence area has been classified as an Inferred Resource based on the quality and extent of the drilling database which is deemed sufficient to imply that geological grade and continuity exists for eventual economic extraction. The spacing between drill holes ranges from ±370 m to ±1,800 m. A 20% geological loss was applied to the modelled tonnage to take into consideration the Inferred Resource category of the resources and potential for discovery of localised structure and grade variation.

The 28th March 2018 Mineral Resources for Ebeleben are shown in Table 1.

Table 1: Ebeleben Mineral Resources, 28th March 2018 (JORC, 2012)

Seam	Density	Geol Loss (%)	Tonnage (t)	K_2O (%)	K_2O (t)
Sylvinite	2.21	20.0	324,000,000	15.6	50,400,000
Carnallitite	1.86	20.0	252,600,000	7.5	18,900,000
Total Ebeleben	**2.06**	**20.0**	**576,600,000**	**12.1**	**69,300,000**

Notes:
Minimum seam thickness considered for resources is 1m.
Minimum cut-off grade ≥5% K_2O.
20% geological loss applied to account for potential unknown geological losses for Inferred Resources.
Data source: historical state records (BVVG) checked and verified.
Inferred Resources rounded down to nearest 100,000t.
Errors may exist due to rounding.

INVESTOR & MEDIA ENQUIRIES

Dr Chris Gilchrist - Managing Director
Davenport Resources Ltd
+353 41 988 3409
+353 87 687 9886
cgilchrist@davenportresources.com.au

Luke Forrestal - Account Director
Media & Capital Partners
+61 (0) 411 479 144
luke.forrestal@mcpartners.com.au

ASX Announcement
April 2018

Competent Person Statement

The Inferred Resource estimate was prepared by Mrs Elizabeth de Klerk M.Sc., Pr. Sci. Nat., SAIMM, who is a full-time employee and Senior Geologist of Micon International Co Limited. Mrs. de Klerk is a member of a recognised professional organisation and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for the reporting of Exploration Results, Mineral Resources and Ore Reserves.

The resource estimate was aided by Mr Stanley C Bartlett, M.Sc., PGeo., Managing Director of Micon International Co Limited under the guidance of the Competent Person. Mrs de Klerk visited the South Harz Potash Project during 12th-16th February 2018 and 6th-8th March 2018. During the initial site visit, the historical drilling area and laboratory facilities at K-Utec Salt Technologies Ltd ("K-Utec") in Sondershausen, Germany, were inspected. The original drill hole logs, reports, maps and cross-sections held in the Bodenverwertungs und Verwaltungs GmbH (BVVG) archives in Berlin were also inspected. In addition, Mrs de Klerk interviewed the Ercosplan team at their offices in Erfurt, Germany, to understand how the data was used to compile an Excel database and generate an initial Exploration Target for Ebeleben. The second visit involved additional time spent at K-Utec inspecting historical records for Ebeleben held in the archives at their offices in Sondershausen.

Mrs de Klerk consents to the inclusion in this announcement of the matters based on the information, in the form and context in which it appears.

Appendix 1: JORC Table 1

Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	*Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*	All samples were taken during historical drilling campaigns predominantly carried out during the 1960's and 1980's. Sample data exists from 19 hydrocarbon drill holes that were geophysically logged and 12 diamond core drill holes ('potash drill holes') that produced core samples.
	Include reference to measures taken to ensure sample retrospectivity and the appropriate calibration of any measurement tools or systems used.	Information about the calibration of the geophysical downhole tools is not available. Core recovery logs were kept for the core drill holes, showing measurements taken by the drillers and geologists, which were checked and correct against the geophysical logs. .
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	All drill hole sampling was conducted according to the Kali-Instruktion (1956 and 1960). Core samples were taken from 3 of the hydrocarbon drill holes and 12 of the potash drill holes. Where possible, the K_2O grade of the potash bearing horizons was determined on an empirical base using the correlation with the downhole natural gamma log. Samples were taken across all potash-bearing horizons and the total sampled length represents the total thickness of the potash-bearing horizon of the z2KSt. In the hydrocarbon drill holes, core sample thickness ranges from 0.07 to 1.58 m. In the potash drill holes, core sample thickness ranges from 0.18 to 4.00 m. Over inhomogeneous potash horizons where interlayers of potential waste were included, the minimum sample thickness was 0.5 m and the maximum was 5 m. Samples were crushed to 2 mm in a jaw crusher and a representative sample was milled and crushed further to 50 µm which was assayed by Induced Coupled Plasma Optical Omission Spectrometry (ICP-OES) for all elements except NaCl which was tested using potentiometric titration. X-Ray Diffraction (XRD) was used for mineralogy and thin sections were carried out at a local university.

Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Drilling techniques	*Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	The 12 cored potash drill holes were drilled using a Type C 1500 rig in the 1960s, and T50A and Sif 1200 rigs in the 1980s producing core with diameters of 108 mm and 65 mm respectively. The 19 hydrocarbon drill holes were drilled using T-50, BU-40 and BU-75 rigs producing core with diameters of 114 mm, 118 mm, 143 mm and 193 mm. All drill holes were drilled vertically with minor deviations in some drill holes at depth. Drilling from surface used tricone bits through the overburden and upper stratigraphy, switching to core through the potash-bearing horizons to the end of hole (EOH). MgCl brine ($MgCl_2$ >350g/l) was used as the drilling fluid through the salt sections in the potash drill holes and NaCl-saturated drilling fluid was used in the hydrocarbon drill holes. Casing was used through the overburden.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Core recovery was measured by the project geologist on site. The core recovery ranged between 93% to 100% with an average of 98%. Lithological and stratigraphic intersections were subsequently corrected using the geophysical logging results.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Information about maximising sample recovery is not currently known but may be available in historical German documents.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Sampling was conducted according to the stratigraphic interpretation of the core using the downhole geophysical logging as a depth guide. Axial drilling into the drill core with a spiral drill was conducted to contain pulverised material for chemical and mineralogical analysis.
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	Core samples were geologically logged in detail and full and summary drill hole logs were produced in both written and graphical format. Information recorded on the drill hole logs included lithological depths, stratigraphic interpretation, and sampling information.

Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Full drill hole logs include a detailed lithological description of the entire drill hole, which was also summarised and graphically portrayed alongside the downhole geophysical logging and assay results. Full logs are available for 6 drill holes and geophysical logs are available for 24 drill holes, mostly made up of calliper and natural gamma with the full suite of geophysical results available for at least 5 drill holes. Geophysical logging speed is recorded as 2.5m/min and 7m/min.
	The total length and percentage of the relevant intersections logged.	The complete core intersection was logged on a millimetre scale.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	Axial drilling into the drill core with a spiral drill was conducted to contain pulverised material for chemical and mineralogical analysis.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Not applicable.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	All drill hole sampling was conducted according to the Kali-Instruktion (1956 and 1960).
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Samples were homogenised to ensure a representative sample was assayed (see section above on sampling).
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	No field duplicates were taken. Thicknesses of the potash-bearing horizons were confirmed by the geophysical logging and the full length of the potash was sampled.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate to the material being sampled, which is bulk mineralisation.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	Samples were sent to the VEB Kombinat Foundation of Potash Research Institute, now known as K-Utec AG Salt Technologies. Samples were assayed by ICP-OES for all elements except NaCl which was tested using potentiometric titration.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	This information is not currently known but may be available in untranslated historical German documents.

Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	Quality control was ensured by technical representatives from several state institutions at the time who checked the sampling procedures and laboratory results.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Approximately 21% of the samples had duplicates sent to umpire laboratories for quality control purposes. The results have been compared and the sample results confirmed. The lithological intersections were also verified with the geophysical logging as described above.
	The use of twinned holes.	No twin drilling has taken place.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Original drill hole logs were recorded on paper, using a combination of handwritten and typed records. Copies of the drill hole logs (including the summary logs and geophysical logging etc) were distributed to several institutions around Germany, including BVVG, Ercosplan and K-Utec, many of which are still stored in the archives and available for review. The header for each drill hole lists where copies were sent to, not all are still inexistence but those that are have been reviewed in person by Micon and Davenport. No original drill hole core or sample pulps are still available.
	Discuss any adjustment to assay data.	Assay data was not adjusted in any way. K_2O grades for the hydrocarbon drill holes were interpreted from the natural gamma logs.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	Drill hole collars were surveyed by the state surveyor subsequent to drilling and given with centimetre to decimetre accuracy. Records of collar positions were obtained from drill hole logs and state archives. Nine drill holes have downhole survey records that show a deviation from vertical at the final depth ranging from 0.2° to 2.7°.
	Specification of the grid system used.	Drill hole coordinates were recorded in local a German coordinate system, which is a 3-degree Gaus Kruger zone 4 projection with a DHDN datum and an East Germany local transformation to 2 m (EPSG-Code 31, 468). For the purposes of this resource estimation the coordinates have been converted to UTM Zone 32 North.
	Quality and adequacy of topographic control.	No topographic survey exists for the project area, which is flat lying to gently undulating.

Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The drill hole spacing on Ebeleben ranges from ±370 m to ±1,800 m
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The spacing of drill holes and samples is considered sufficient to imply geological and grade continuity based on information obtained from historical drill holes and samples.
	Whether sample compositing has been applied.	Samples were not composited prior to laboratory test work.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	All drill holes are vertical with only minor deviations at depth as discussed above. The potash-bearing horizons are horizontal with only minor gentle undulations and the sample thicknesses are considered to represent true thickness without requiring correction.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No faulting has been identified, however two drill holes display stratigraphic duplication, suggesting there is some structure present that will need further investigation.
Sample security	*The measures taken to ensure sample security.*	No information is available about sample security, although it is noted that the historical drilling programmes were conducted with a very high level of technical capability with experienced geologists and drillers. The laboratory used (K-Utec) is regarded as one of the most experienced salt technological facilities in the world.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	Original analytical results retained in the K-Utec archives were reviewed where possible and compared with historical records stored at the BVVG archives. No original core or sample material is available; however, the available data is of sufficient quality to support an Inferred Resource.

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	Davenport Resources Limited is a publicly listed company on the Australian Securities Exchange and holds the Ebeleben mining licences through its wholly owned subsidiary East Exploration GmbH. The Ebeleben mining licence is located within the South Harz Potash District of the Thuringian Basin, Germany.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	An area of ±1,036 Ha in the southwestern part of the Ebeleben mining licence overlaps with an underground gas storage facility held under the Allmenhausen mining licence. Gas is stored in the Bunstandstein sandstone above the potash-bearing horizon. This area has been excluded from the current Ebeleben resource estimation as the area of the influence of the gas storage is not known.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	All of the exploration conducted on Ebeleben is historical. The first evidence of exploration drilling on the project area is from drill hole Kal Mehrstedt 3/1913, which was drilled in 1913. All of the other exploration drilling was conducted by the former GDR. Various parties were involved, most of which combined to form VEB Kombinant after reunification.
Geology	Deposit type, geological setting and style of mineralisation.	The Ebeleben mining licence is located in the Südharz (South Harz) Potash District in the north-western extent of the Thuringian sedimentary basin, which has been separated by the uplift of the northerly Harz Mountains from the South Permian Basin (SPB). The regional stratigraphy of the South Permian Basin is fairly well understood with a pre-Variscan basement (Upper Carboniferous and older rocks) and a transition horizon of Upper Carboniferous to Lower Permian lying beneath an expansive sequence of evaporite rocks of the Upper Permian succession. These evaporite deposits

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
		are assigned to the Zechstein Group, and host the target potash mineralisation of the South Harz Potash District which occurs on the Ebeleben mining licence. The potash bearing target Zechstein Group consists of seven depositional cycles with the potash mineralisation of the South Harz Potash District hosted within the second cycle, the Staßfurt Formation (Z2). The Z2 is further sub-divided into horizons, of which the Kaliflöz Staßfurt (z2KSt) hosts potentially economic potash. The z2KSt is split into a Hanging Wall Group that has11 to 19 horizons of finely layered potassium salts and a Footwall Group that has 1 to 10 coarsely layered potassium salts and thick halite layers. The z2KSt is present across the whole of Ebeleben and has an average thickness of 15.6m. the main minerals present on Ebeleben are sylvite and carnallite with lesser amounts of halite, polyhalite, anhydrite, kieserite, langbeinite, kainite, aphthitalite and syngenite.
Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*	The drill hole database for Ebeleben is made up of 31 historical drill holes, two of which are re-drills. The table below reports drill hole collar information.

Hole ID	Easting (UTM 32N)	Northing (UTM 32N)	RL (m)	Dip (°)	Azimuth (°)	EOH (m)	z2KSt intersection (m)	
E All 01/1935	618809	5677347	360.0	-90	0	1136.0	1037.10	1051.75
E All 02/1959	621434	5675095	294.0	-90	0	1073.6	996.50	1006.50
E All 04/1959	620605	5679319	279.0	-90	0	1274.55	1107.50	1140.00
E All 05/1962	623575	5673875	297.6	-90	0	1324.5	1017.50	1046.40
E All 06/1960	621951	5676023	333.6	-90	0	1174.6	1023.00	1035.60
E All 08/1960	619731	5677568	334.0	-90	0	1218.85	1074.80	1090.00
E All 10/1961	624964	5674845	332.0	-90	0	1148.5	1052.00	1057.80
E All 11/1960	617174	5678179	308.8	-90	0	1118.6	not available	
E All 11a/1960	617174	5678179	308.8	-90	0	658.0	1021.20	1033.20
E All 14/1963	618151	5677660	354.0	-90	0	510.0	hole stopped short of z2KSt	

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation							Commentary	
	E All 15/1962	620979	5675985	319.4	-90	0	390.0	hole stopped short of z2KSt	
	E All 16/1962	623166	5675615	352.9	-90	0	427.7	hole stopped short of z2KSt	
	E All 33/1968	619867	5676175	353.6	-90	0	1215.2	1051.00	1053.50
	E All 34h/1969	620345	5676552	360.2	-90	0	1248.0	1094.00	1133.50
	E All 34/1969	620345	5676552	360.2	-90	0	1193.0	not available	
	E All 35/1969	619584	5676641	365.3	-90	0	1235.2	1036.50	1044.00
	E Rkss 4/1969	618181	5681681	266.3	-90	0	1181.0	1031.70	1034.00
	E Rkss 4/1969	618181	5681681	266.3	-90	0	1181.0	1099.00	1101.00
	E Rkss 6/1969	617689	5680862	277.5	-90	0	1146.8	1050.00	1055.50
	E Rkss 8/1971	618815	5680748	282.7	-90	0	1261.0	1090.00	1097.00
	E Rkss 8/1971	618815	5680748	282.7	-90	0	1261.0	1122.00	1141.50
	Kal Frng 1/1962	622533	5677258	318.0	-90	0	1117.8	1065.25	1080.20
	Kal Frng 2/1962	620754	5676917	340.5	-90	0	1127.9	1074.45	1106.10
	Kal Frng 3/1982	620611	5678438	297.7	-90	0	1134.8	1078.34	1096.35
	Kal Frng 5/1983	623261	5675971	344.6	-90	0	1118.1	1045.40	1065.73
	Kal Frng 6/1983	624129	5676939	279.8	-90	0	1130.15	1042.30	1046.01
	Kal Frng 6/1983	624945.	5676131	321.4	-90	0	1130.15	1049.78	1056.85
	Kal Frng 6/1983	616309	5680736	265.0	-90	0	1130.15	1065.09	1073.05
	Kal Frng 8/1984	617588	5679478	290.2	-90	0	1080.11	1037.86	1039.24
	Kal Mhr 3/1913	618487.00	5681686.00	260.0	-90	0	1076.0	1048.10	1055.60
	Kal Rkss 001/1961	619394	5679551	282.0	-90	0	1102.7	1060.77	1072.50
	Kal Rkss 002/1961	619073	5678321	327.4	-90	0	1106.8	1054.82	1074.00
	Kal Rkss 003/1962	616727	5678925	292.1	-90	0	1194.8	1142.75	1148.70
	Kal Slh 2/1984	619073	5678321	327.4	-90	0	1193.76	1078.98	1143.44
	Kal Slh 3/1984	616727	5678925	292.1	-90	0	1081.4	1023.65	1033.94
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.							Not applicable	

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.*	The chemical analysis for Ebeleben was composited according to stratigraphy (z2KSt). A minimum cut-off grade of 5% K_2O was applied to delineate the limits of the potash-bearing horizon within the z2KSt. A weighted average K_2O grade for each drill hole was calculated against sample length with a 2 m minimum grade length, a 2 m maximum total length of waste and a 1 m maximum consecutive length of waste allowed.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	Waste was included in the grade composite with a 2 m maximum total length of waste and a 1 m maximum consecutive length of waste allowed.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents were used or reported.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.*	All drill holes are vertical with only minor deviations at depth as discussed above. The potash-bearing horizons are horizontal with only minor gentle undulations and the sample thicknesses are considered to represent true thickness without requiring correction.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	Diagrams attached: 'Drill hole plan showing mineral zones', 'NW-SE Cross-section' and 'Sylvite Grade'.

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	All available drill hole information was used. Ebeleben has been reported as a Mineral Resource, see Section 3 of Table 1.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	As well as the potash and hydrocarbon drill hole information described above, hydrogeological, geotechnical and seismic studies have also been conducted on Ebeleben. The details and results of these projects are written up in the historical archived reports and have not been reviewed by the author as they require translation into English.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	The current Mineral Resources are the full extent of the Ebeleben mining licence apart from the zone that has been excluded due to the gas storage facility. This should be investigated because if the resources underneath the gas storage area can be mined this will be upside to the current Mineral Resources. Future work should include 2 to 3 twin drill holes to confirm the historical grades.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Diagrams attached: 'Drill hole plan showing mineral zones', suggest twinning drill holesKal Frng 3/1982, E Rkss 4/1969 and E All 10/1961

Section 3 Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	The database used to create the geological model and Mineral Resource estimation was created from manual data entry of hard copy historical drill hole logs and exploration records. The Excel database was cross-checked against the original drill hole logs in the BVVG and K-Utec archives in Berlin and Sondershausen respectively.
	Data validation procedures used.	When the Excel database is imported into Micromine modelling software, a data validation exercise is run that includes checking for missing samples, mis-matching sample and stratigraphy intersections, duplicate records and overlapping from-to depths. In addition, and where possible the sum of chemical compounds was checked to ensure a total of 100%.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The Competent Person visited Ebeleben on two occasions and incorporated visits to the archives of BVVG and K-Utec and the surrounding area where there are currently operating and now dormant Potash mines. The dates for the two site visits are 12th-15th February 2018 and 6th-8th March 2018.
	If no site visits have been undertaken indicate why this is the case.	Not applicable
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The confidence in the data used and geological interpretation of the potash deposit is high due to the strict guidelines followed during the historical exploration and adherence to the Kali-Instruktion. In addition, the geological interpretation was checked by several geologists during both the 1960s and 1980s drilling campaigns. Lastly, the depths recorded in the lithological descriptions and geophysical logs correspond, providing confidence in the continuity of the potash horizons and grade.
	Nature of the data used and of any assumptions made.	Since there are no records about some of the sampling protocols and sample security, assumptions have been made that this was done to a high standard as reference is made to the Kali-Instruktion as a guideline.

Section 3 Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No alternative interpretations exist for Ebeleben.
	The use of geology in guiding and controlling Mineral Resource estimation.	The mineralisation is confirmed to the z2KSt horizon and this was used as the initial basis for geological modelling prior to applying cut-off grades.
	The factors affecting continuity both of grade and geology.	A couple of the drill holes have a duplication of the z2KSt horizon that suggests there is some localised folding and/or faulting. This can only be tested when horizontal drilling can be done from underground and face mapping.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	The economic potash deposit covers the whole of the Ebeleben mining licence and the Mineral Resource has been restricted by seam thickness (>1 m), grade (>5% K_2O) and the gas storage area. The total Mineral Resource area is 26,688,685.2 m^2. The average thickness of the sylvitie is 15.3 m and the average thickness of the carnallitite is 7.9 m. The average depth to the roof of the sylvinite is 1,061 m from surface and the seam is horizontal with gentle undulations.
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	The geological model and resource estimation for Ebeleben was carried out in Micromine modelling software, which is an international recognised software used for modelling stratiform deposits. The chemical database was first composited according to stratigraphy. The composited database was assigned a tag column to indicate if a sample was sylvite or carnallite based on the mineralogical data. Where some chemical data was missing, for example a number of drill hole did not have $MgSO_4$, a length weighted average dummy value was assigned. For missing KCl values, the K_2O was divided by 0.63. This database was composited using a minimum trigger of 5% K_2O, a minimum grade length of 2 m, a 2 m maximum total length of waste and a 1 m maximum consecutive length of waste. Roof and floor grids were made for the sylvinite seam and a floor grid was made of the carnallitite seam. The minimum and maximum x and y origins used for gridding were 614132.966 (min x), 5672180.20

Section 3 Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
		(min y), 626632.966 (max x) and 5683680.20 (max y). A grid cell size of 500 was used as this best fitted the data when correlated in cross-section. An inverse distance squared gridding algorithm was used, with a circular search area and a 5,000 m search radius to cover the distance between data points, one sector and maximum 1 point per sector. The floor grid was viewed to check for structure, no major faults were interpreted. The roof and floor grids were converted to wireframes surfaces (DTM) and these were cut according to the limits of the sylvite/carnallite, licence boundary, >1 m thickness and gas storage area. Solid wireframes were created for sylvinite and carnallitite using the roof and floor surfaces. A grade-tonnage report was generated for both seams using densities obtained from historical records, specifically 2.21 t/m^3 for sylvinite and 1.86 t/m^3 for carnallitite. The grades for each wireframe are reported based on the modelled composited assay database, that were modelled using the same algorithm and parameters as the seam roof and floor surfaces. A 20% geological loss was applied to the modelled tonnage to take into consideration the Inferred category of the resources and potential for discovery of localised structure and grade variation.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	An historical Kali-Instruktion balanced C$_2$ reserve and a JORC Exploration Target exists for Ebeleben. Both are comparable to the current Inferred Resource in both grade and tonnage.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding by-products, there is minor polyhalite but this has not been estimated at this stage.
	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	The insoluble content has been reported for purposes of metallurgical processing review and is not considered to be significant.

Section 3 Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	A block model was not created.
	Any assumptions behind modelling of selective mining units.	No selective mining units were modelled. The resource was modelled according to sylvite and carnallite so the low grade and high-grade areas can be distinguished.
	Any assumptions about correlation between variables.	Not applicable.
	Description of how the geological interpretation was used to control the resource estimates.	The geological model was first constrained to the z2KSt horizon and then the mineralocal data was used to split this into and upper sylvite and a lower carnallite unit. No structural blocks have been defined.
	Discussion of basis for using or not using grade cutting or capping.	A minimum cut-off grade of 5% K_2O was used as this is considered economic. No top cut was applied as the statistical analysis of the data shown a normal distribution with no outlying populations.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	The composited assay data was compared against original assay data in cross section. Modelled wireframes were compared against original stratigraphic interpretations and geophysical logs. All correlated well.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Not applicable.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	A minimum cut-off grade of 5% K_2O was used as this is considered economic. In addition, areas with a seam height of <1 m were excluded and the area around drill hole E Rkss 6/1969 was excluded as there was no sylvite or carnallite mineralisation.

Section 3 Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	A minimum seam height of 1 m was used as a cut-off to take into account potential mining height underground.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	Processing specifically for Ebeleben has not been considered at this stage. Insoluble material has been modelled. The South Harz area has historically been mined for decades and there is a lot of local knowledge about the metallurgical processes required.
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a Greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this*	Mining will take place underground. Assumptions regarding environmental factors have been based on the standards set by surrounding potash mines in the area. Davenport has the exclusive right to explore and/or produce and to appropriate the respective mineral resources in a certain field. However, all exploration and production activities require a mining permit (Betriebsplanzulassung) to be applied for with the mining authority.

Section 3 Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
	should be reported with an explanation of the environmental assumptions made.	
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*	The bulk density for both the sylvite and carnallite layers was calculated by Ercosplan based on historical data from 18 drill holes for sylvite and 7 drill holes for carnallite. The bulk density for each sample was calculated based on the derived mineralogical composition. A weighted average was created for sylvite and carnallite based on the samples. The average density for sylvite is 2.21 t/m^3 and the average density for carnallite is 1.86 t/m^3. The densities reported by Ercosplan were used by Micon.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	Not applicable.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Not applicable.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.*	The whole of the Ebeleben licence area has been classified as an Inferred Resource based on the quality and extents of the drilling database that are sufficient to imply geological grade and continuity for eventual economic extraction.
	Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	The location of Ebeleben is in an area that has been mining potash for decades. In addition, the adjacent Volkenroda underground potash mine originally held the mining licence for Ebeleben and had planned on continuing the mine southeast onto Ebeleben. A new ventilation shaft was started on Ebeleben, which was sunk to a depth of 100 m before Germany was reconciled and Volkenroda lost the licence for Ebeleben. Whilst on site, the Competent Person visited the area where the ventilation shaft was sunk.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The stated tonnes and grade are considered an appropriate reflection of the Competent Persons view of the deposit.

Section 3 Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	An historical resource estimation dated 1987 was stated for Ebeleben according to the Kali-Instruktion. The exact area of the resource was slightly different to the current mining licence boundary. The C_2 balanced resource was 220.9 Mt with 36.9 Mt of K_2O at an average grade of 16.7% K2O, based on the same historical drill hole used for this estimation with a thickness cut-off of 3 m minimum and 7m maximum as specified in the Kali-Instruktion. In addition, an Exploration Target (JORC, 2012) was reported for Ebeleben by Ercosplan dated 2nd February 2018. The Exploration Target states a tonnage range of 447 to 559 Mt with 44 to 97 Mt K_2O at a grade of 9.84 to 17.35% K_2O. Both of these estimates are comparable to the Inferred Resource estimation.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	The stated resource tonnes and grades stated are considered based on the detailed drill hole database and 3D modelling. The use of inverse distance squared is considered appropriate for Ebeleben as the drill holes are relatively far apart, the mineralised zone is flat lying, mineral zones are clearly defined and grade is relatively consistent.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	This statement relates to the global Ebeleben resource.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Not applicable.

Section 4 Estimation and Reporting of Ore Reserves
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves		
Site visits		
Study status		
Cut-off parameters		
Mining factors or assumptions		
Metallurgical factors or assumptions		
Environmental	Not applicable for this report	
Infrastructure		
Costs		
Revenue factors		
Market assessment		
Economic		
Social		
Other		
Classification		
Audits or reviews		
Discussion of relative accuracy/ confidence		