

ASX Release
12 May 2014

HIGHFIELD RESOURCES COMPLETES SIGNIFICANT DRILL HOLE AT JAVIER POTASH PROJECT

Highlights

- **4.5m potash seam intersected**
- **Depths from surface of less than 300m**
- **Drill hole over 1.5kms from nearest modern or historic drill hole**
- **Seismic suggests continuity of host Unidad Evaporite for over 5kms**

Spanish potash developer Highfield Resources (HFR:ASX) (the "Company") is pleased to announce additional exploration results from its 100% owned Javier Potash Project (the "Project").

The Javier Project covers an area of 97km² in Northern Spain. Depths from surface to potash mineralisation are less than 300m. The Company is building on substantial historical potash exploration information that includes ten drill holes and seven seismic profiles completed in the late 1980s.

Javier Potash Project Drilling Results

The Company completed drill hole J13-07 on 6 May 2014. It intersected 4.5m of potash mineralisation starting at a depth to surface of 282m (Figure 1). Core samples are presently being prepared for assay.



Figure 1: Photos of core samples in the field from DDH J13-07 showing potash mineralisation (red)

Highfield Resources Ltd.

ACN 153 918 257
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Issued Capital

135.5 million shares
103 million performance shares
21 million options

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The J13-07 drill hole is located in the Muga permit area (Figure 2). The drill hole is around 1.5kms from any modern or historical drill hole. This drill hole indicates potash mineralisation extends well into the south eastern section of the Project area.

Drilling of the J13-01 hole started 1 May and is currently underway.

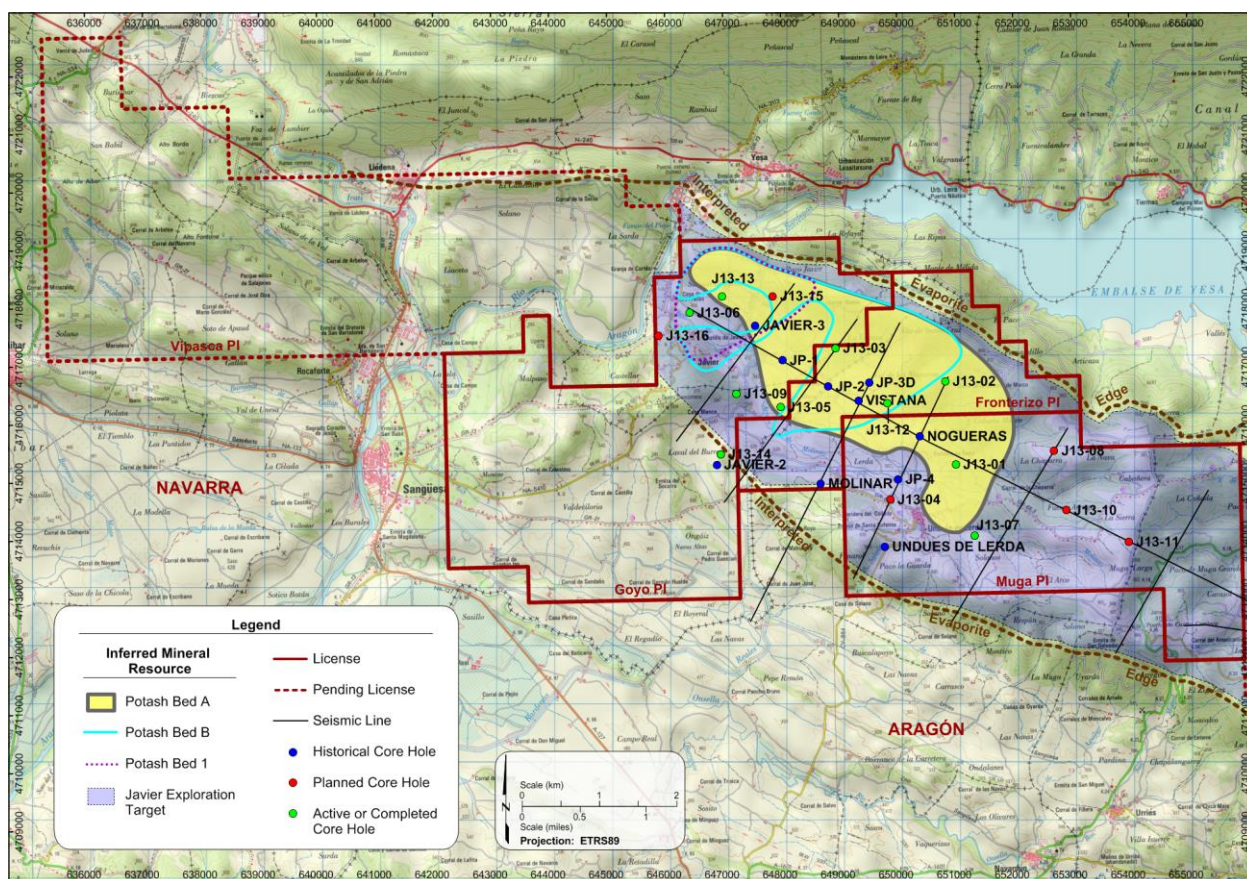


Figure 2: Javier Project Area showing potash exploration drill holes and seismic lines

JORC-compliant Mineral Resource Estimate

Independent geology and mining consultant, Agapito Associates Inc (AAI) is currently finalising an upgraded JORC compliant Measured and Indicated Mineral Resource estimate. Results from the J13-07 drill hole are not planned to be included in this Resource estimate given timing of assay result information.

Preliminary Feasibility Study (PFS)

The Company expects to be in a position to release the results of the PFS to the market shortly after the release of the JORC compliant Mineral Resource estimate for the Project.

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Permits

The Company received the Muga Investigation Permit from the Aragón administration on 09 April 2014. The Vipasca Investigation Permit application was filed on 6 November 2013 with approval pending (Table 1).

Table 1. Interests in Mining Permits Held by the Company

Region	Permit Name	Permit Type	Applied	Granted	Reference No.	Area (km ²)
Navarra	Goyo	Investigation	19-Jul-11	24-Dec-12	35780	27.72
Navarra	Vipasca	Investigation	6-Nov-13	Pending	35900	38.92
Aragón	Fronterizo	Investigation	21-Jun-12	5-Feb-14	3502	9.80
Aragón	Muga	Investigation	28-May-13	9-Apr-14	3500	20.40

Competent Persons' Statement

This ASX release was prepared by Mr. Anthony Hall, Managing Director of Highfield Resources. The information in this release that relates to Mineral Resources and Exploration Results is based on information prepared by Mr. Leo Gilbride, P.Eng and Ms. Vanessa Santos, P.Geo. of Agapito Associates, Inc. (AAI) of Colorado, U.S.. Mr. Gilbride is a licensed professional engineer in the State of Colorado, U.S. and is a registered member of the Society of Mining, Metallurgy and Exploration, Inc. (SME). Ms. Santos is a licensed professional geologist in South Carolina and Georgia, U.S., and is a registered member of the SME. SME is a Joint Ore Reserves Committee (JORC) Code 'Recognized Professional Organization' (RPO). An RPO is an accredited organization to which the Competent Person (CP) under JORC Code Reporting Standards must belong in order to report Exploration Results, Mineral Resources, or Ore Reserves through the ASX. Mr. Gilbride is the Vice President of Engineering and Field Services and Ms. Santos is the Chief Geologist with AAI and both have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a CP as defined in the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Gilbride and Ms. Santos consent to the inclusion in the release of the matters based on their information in the form and context in which it appears.

ABOUT HIGHFIELD RESOURCES

Highfield Resources is an ASX-Listed potash company with three 100%-owned projects located in Spain (Figure 3).

Highfield’s Javier, Pintano and Sierra del Perdón potash projects are located in the Ebro potash producing basin in Northern Spain covering a project area of about 350km². The Sierra del Perdón project includes two former operating mines. The Company is working on feasibility studies for both the Sierra del Perdón and Javier projects.

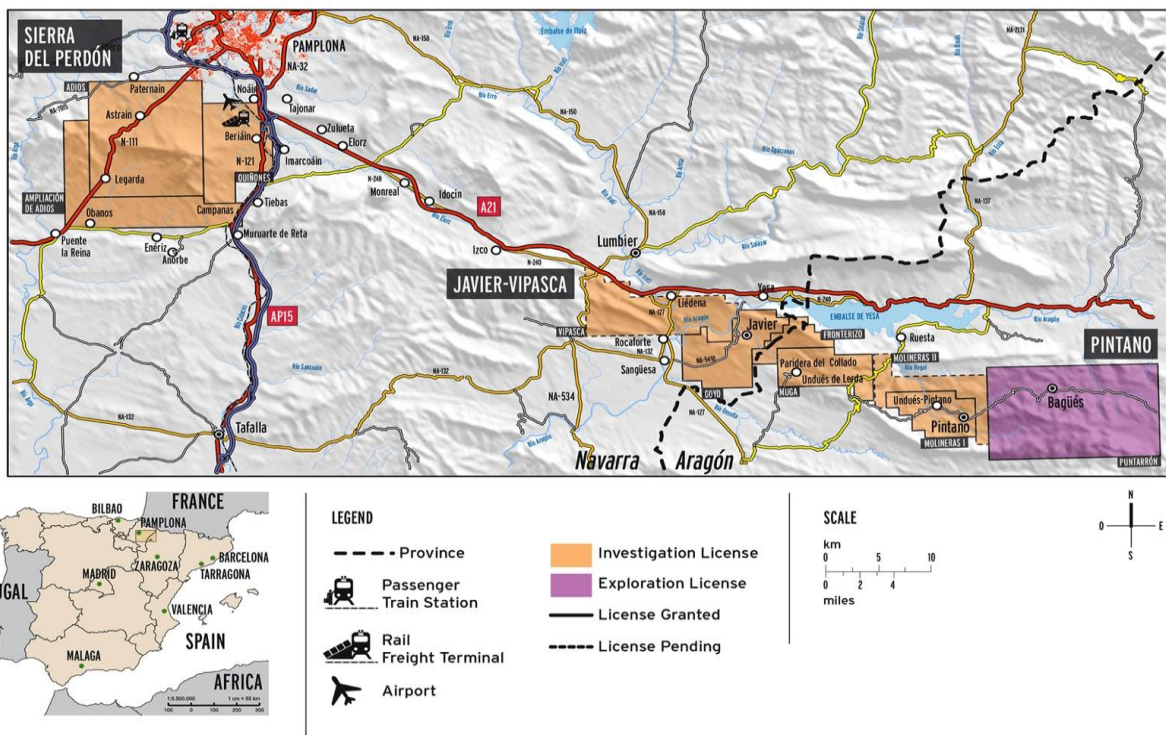


Figure 3: Location of Highfield’s Javier-Vipasca, Pintano and Sierra del Perdón Projects in Northern Spain

Appendix

Explanatory Notes to the Exploration Results for the Javier-Vipasca Potash Project

Property Description

The project area is located in the northern portion of Spain within the Ebro basin and is situated within the Navarra and Aragón provinces of Spain. The project area is divided into two sub-basins, Javier-Vipasca and Pintano, which are separated by an elevated saddle area. The Javier-Vipasca area occupies the western extent of the property, and the Pintano area is along the eastern extent (Figure 3). The Javier-Vipasca area is the subject of this report. A maiden Inferred Resource (Highfield 2013) was declared under JORC 2004 guidelines on 08 October 2013 based on historic holes, as illustrated in Figure 1.

Tenure and Surface Rights

Spanish mining permits are split into three categories: Exploration Permit (PE), Investigation Permit (PI) and Mining Concession. A PE is for desktop studies and lasts for a period of one year (it may be rolled over once). A PI is necessary for drilling, allows for the sinking of shafts and driving of declines and lasts for a period of three years (it may also be rolled over for multiple three-year periods). For a PI to be granted, an environmental review must be completed by the relevant government. A Mining Concession is for mineral extraction and lasts for periods of 30 years (it may be rolled over two times).

In addition to the above, if a permit sits in two regions, it must be formally issued by the Central Government in Madrid under Article 71.3 of the Spanish Mining Code.

The Javier-Vipasca project comprises four permits (Table 1 and Figure 2): Goyo, Fronterizo, Muga and Vipasca. Goyo and Muga are granted PI in Navarra. Fronterizo straddles the Navarra and Aragón border and was granted 05 Feb 2014. Vipasca is a new application which was filed at the end of 2013, and it is not expected to be approved for the upcoming resource estimate. The CPs have reviewed the mineral tenure from documents provided by Highfield Resources (Highfield) (the "Company") including permitting requirements, but have not independently verified the permitting status, legal status, ownership of the project area, underlying property agreements or permits. Highfield is relied upon by the CPs for tenure status.

Geology

The Upper Eocene potash deposits occur in the subbasins of Navarra and Aragón provinces within the larger Ebro basin (Figure A-1). The Navarrese subbasin includes the Javier and adjoining Pintano deposits, the former being the subject of this resource estimate. This potash deposit contains a 100-meter (m)-thick Upper Eocene succession of alternating claystone and evaporites (anhydrite, halite, and sylvite). The evaporites accumulated in the elongated basin at the southern foreland of the Pyrenean range (Busson Schreiber 1997). The evaporites overlie marine deposits and conclude in a transitional marine to non-marine environment with terrigenous influence. Open marine conditions existed in the Eocene-Oligocene epochs progressing to a more restricted environment dominated by evaporation and the deposition of marl, gypsum, halite and potassium minerals. Later, tectonism and resulting salt deformations formed broad anticlines, synclines and overturned beds, which created outcrops of the evaporite sequence. The possibility exists that basement-related faulting has resulted in repeated (or overturned) mineralized beds.

Two fault systems dominate and bound the basin, to the north by the extension of the thrusting Loiti Fault and to the south by the Magdalena Fault, both resulting in the cropping out of the evaporite units (Figure A-2). The basin axis is defined by the Javier-Undues Syncline. To the east, the basin climbs to the Flexura de Ruesta, a northwest-southeast offset block contemporaneous with evaporite deformation that resulted in a higher saddle area between the Javier-Vipasca and Pintano subbasins. Approximately vertical faults parallel to the west of the Flexura have been defined by two-dimensional (2D) seismic surveys (e.n. adaro 1988-1991). Basin continuity to the west-northwest has not been well-defined by drilling programs or seismic surveys so far, but surface expression shows the evaporite outcrop as offset approximate to the Aragón River and trending northeast-southwest suggesting a smaller transverse block similar to the Flexura de Ruesta.

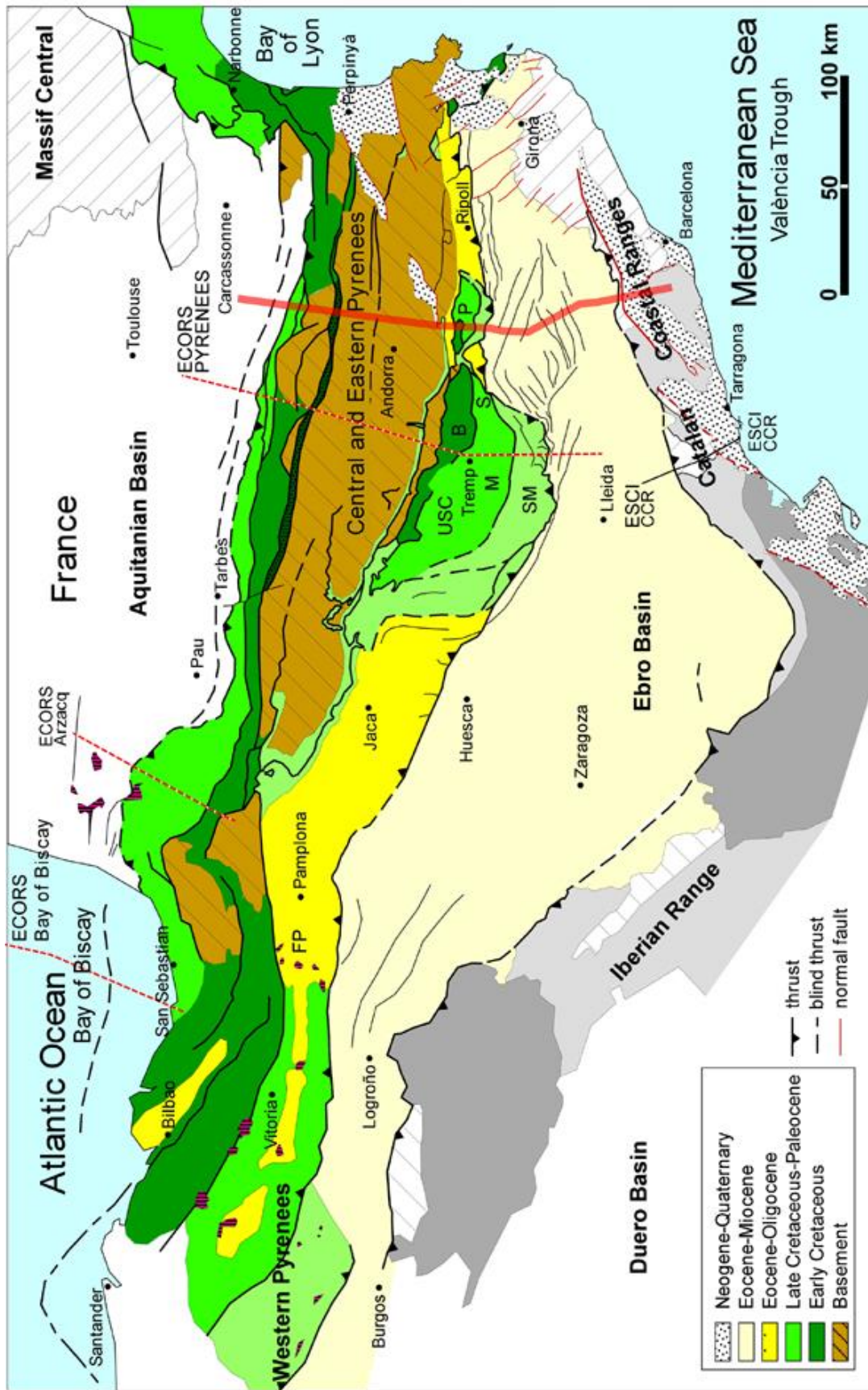


Figure A-1. Regional Geology of the Ebro and Jaca-Pamplona Basin (from University of Michigan [2004])

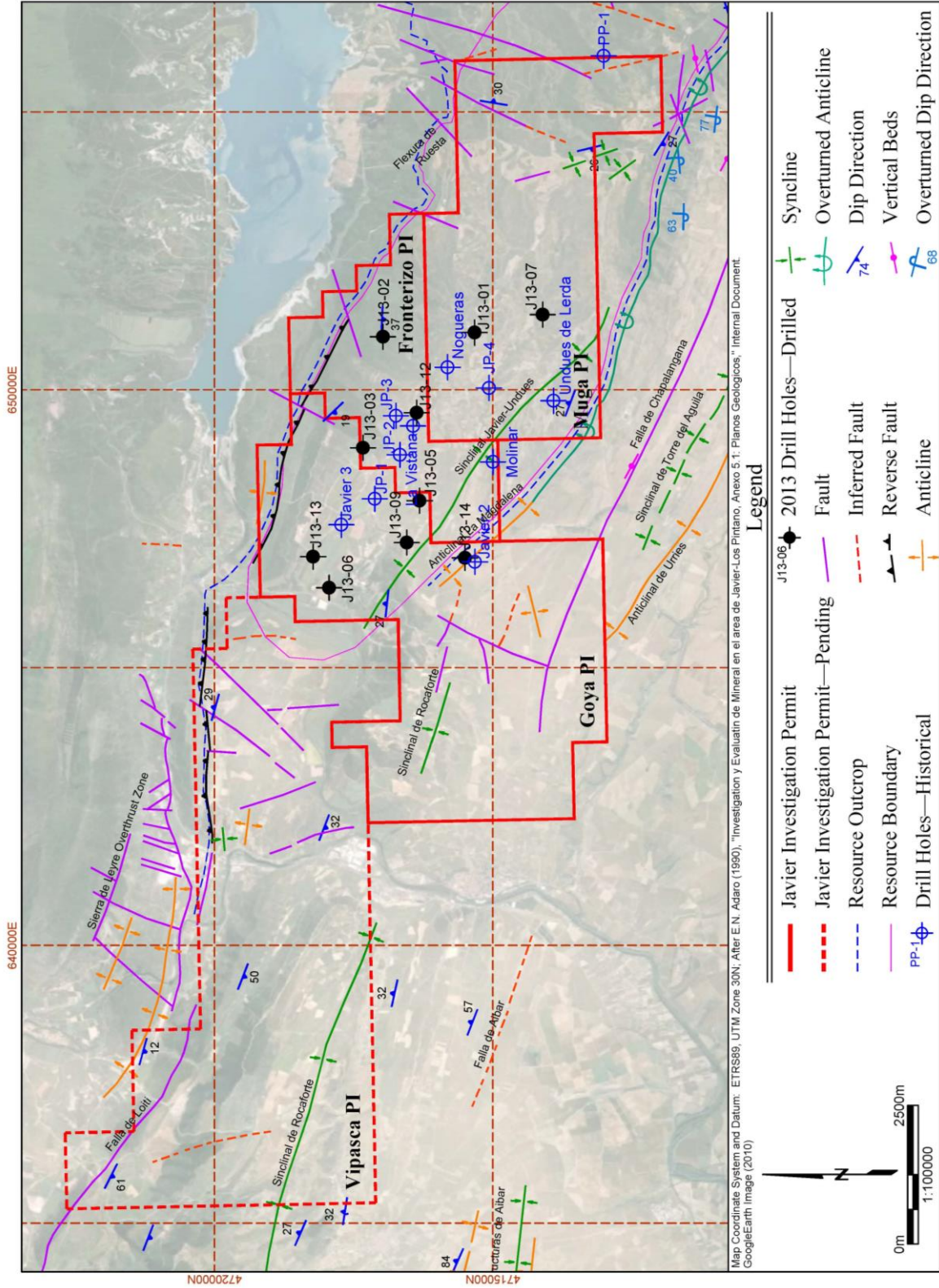


Figure A-2. Javier-Vipasca Regional Structure and Drill Hole Locations

The depositional environment is that of a restricted marine basin, influenced by eustasy, sea floor subsidence, and/or uplift and sediment input. It is suggested that the basin is a combination of reflux and drawdown. Reflux represents a basin isolated from open marine conditions thereby characterized by restricted inflow, increased density, and increased salinity. Drawdown is simple evaporation in an isolated basin resulting in brine concentration and precipitation, consistent with the classic “bulls-eye” model (Garrett 1996). In this case, the basin is further influenced by erosion at the basin edges due to contemporaneous and post-depositional uplift resulting in localized shallowing and sediment influx (Ortiz and Cabo 1981).

In the classic “bulls-eye” model, a basin that is cut off from open marine conditions will experience drawdown by evaporation in an arid to semi-arid environment. In the absence of sediment influx, precipitation will proceed from limestone to dolomite to gypsum and anhydrite to halite. Depending on the composition and influences of the brine at that time, the remaining potassium, magnesium, sulfates, and chlorides will progress from potassium and magnesium sulfates to sylvite and then carnallite. It is proposed herein that the formation of carnallite and sylvite be described as primary and secondary, respectively.

Potash is used to describe any number of potassium salts. By and large, the predominant economic potash is sylvite: potassium chloride (KCl) usually occurring mixed with halite to form the rock sylvinite which may have a potassium oxide (K₂O) content of up to 63%. Carnallite, a potassium magnesium chloride (KCl•MgCl₂•6H₂O), is also abundant, but has K₂O content only as high as 17%. “Carnallite” is used to refer to the mineral and the rock interchangeably, although “carnallitite” is the more correct terminology for the carnallite and halite mixture. Besides being a source of lower grade potassium, carnallite involves a more complex production process, so it is less economically attractive than is sylvite.

The regional stratigraphy of this small basin is dominated by open and restricted marine conditions (Figure A-3). Evaporitic sedimentation (Guendulain Formation) directly overlies the fine marine offshore sediments (Pamplona Marls) (Ortiz and Cabo 1981, Orti et al. 1984). Both drill hole data and outcrop observations assign an average thickness of about 150 m to the saline formation, which displays the following sequence from bottom to top:

- a) Basal sulphate member (basal anhydrite).
- b) Lower salt member (*sal de muro* or “bottom salt”), medium to very coarse recrystallized halite, medium grey to black and lower part may be brown and sandy as described below.
- c) Multiple sylvinitic beds lower member and a carnallitic upper member. The potash is characterized as fine to coarse granularity, typically light to medium orange red in color, of crystalline structure with high insolubles and interbedded halite. The upper unit exhibits brecciated structure suggesting recrystallization after carnallite formation. Carnallite formation is limited in the Javier-Vipasca project area and more commonly occurring in the Sierra del Perdón project area.
- d) Upper saline member (*sales de techo* or “top salts”), alternating halite and clay layers, some of which exhibit deformation.
- e) Top marl member (*margas fajeadas* or “banded marls”) with intercalated anhydrite layers.

Overlying the salt is a siliciclastic detrital unit, made up of the Oligocene Galar Sandstone, Javier-Pintano hard layers, the Oligocene-Miocene Rocaforte Formation and, locally, the Igaza Conglomerates (Uncastillo Formation). This unit is capped by Quaternary and Oligocene sediments. The Quaternary is made up of alluvium, till and glacial debris (Orti et al. 1986).

These units have been simplified in the geologic modelling database as:

- Unidad del Oligoceno (UO) for Lutitas y Limolitas
- Unidad Detritica (UD) for Areniscas de Galar / Belsúe and (MF) as Margas Fajeadas (MF)
- Unidad Evaporitica (UE) for Sales de Techo (ST) and Sal Muro (SM) or Sal (S)

In the Javier-Vipasca project area, the mineralogy is dominated by sylvinite, which is medium red orange and white, largely coarse crystalline in bands and in heavily brecciated beds containing high levels of insoluble material,

largely fine-grained clays, anhydrite and marl. The upper potash beds transition to finely banded light brown marls and clays. The salts just below the potash tend to dark grey to black. In some lower beds, halite become brownish, sandy to coarsely granular sand and sandstone as sediment influx from the basin edges. The evaporite beds and bands are separated by fine to very coarse crystallized and re-crystallized salt which is mostly grey, though sometimes light to medium honey brown or white, with anhydrite blebs, nodules and clasts.

Exploration and Methodology

Extensive exploration was carried out by Empresa Nacional Adaro Investigaciones Mineras (e.n. adaro) (e.n. adaro 1989–1991) in the late 1980s and early 1990s. Adaro, the state-owned group tasked with exploration and development of Spain's mineral resources, produced detailed reports and "reserve" studies of the Javier-Vipasca area. The drilling program completed in 1989–1990 was outlined in detail in reports that are referenced herein.

Potash mineralisation occurs in five principal sylvinitic beds (descending 0, A, B, 1 and 2) with ranging in depth from approximately 100 meters (m) to more than 1,000 m. The 08 October 2013 maiden Mineral Resource estimate for the property was independently developed by U.S. geology and mining consultant Agapito Associates, Inc. (AAI) based on the results of documented geological studies, 2D seismic analysis, exploration drilling, electric logging (elogs), and chemical analyses on core from exploration holes drilled during the 1980s by Potasas de Subiza, S.A. (POSUSA) (POSUSA 1987).

Eleven drill holes were drilled in the 1980s (see Table A-1) (one was drilled to replace an incomplete well), and, in early 1991, detailed lithology logs and assays were completed. Eight new holes (see Table A-2) were drilled, cored, and assayed in 2013 and early 2014 by Geoalcali Sociedad Limitada (Geoalcali) for a total of nineteen holes on the property to be used in the upcoming resource. A ninth hole, J13-07, was completed in May of this year and has yet to be assayed. An additional hole, J13-01, is currently being drilled. The potash beds have been provisionally correlated using a combination of assays, core photos, and lithological and geophysical logs. The potash beds vary in grade and thickness across the basin and can be discontinuous. Efforts are underway to develop regional correlation. Downhole geophysical records are absent or incomplete in some drill holes and individual logs are missing from the geophysical suite, making current correlations preliminary.

From top to bottom, the main beds that can be correlated begin with potash "zero" or P0. P0 is newly defined with this drilling program and is typically of a lower grade averaging less than 6% K_2O , where present. The bed designated as P0 is a transitional zone generally marked by low grade orange sylvinitic and halite interbedded with light to medium grey and thinly bedded clay and marls exhibiting some cross-cutting veining and re-crystallization near the top of salt. In J13-09, P0 is well developed with an approximate 2.7-m true thickness (adjusted from apparent dip) averaging 11.7% K_2O , based on provisional bed correlations. P0 is of low grade in JP-4.

The main beds are PA and PB which are generally the thickest and highest grade. PA generally exhibits the highest degree of recrystallization and brecciation, and is likely the geologic equivalent of the carnallite bed in the Sierra del Perdón basin to the northwest. PA and PB are typically separated by about one meter or less of halite and, consequently, are treated as a combined single bed (PAB) for correlation purposes. PAB is typically of 9 to 13% K_2O grade and has a thickness averaging about 3.6-m true thickness, where present. Thicknesses in this report are generally reported as true thickness, corrected from measured thickness.

P1 and P2 are generally thinner and more discontinuous than the overlying beds. Grade is variable in both beds and may be as high as 19% (in one 0.5-m intercept) but typically averages about 2 m thick and 8.7% K_2O . P1 or P2 are usually more banded in appearance than PAB and appear to represent earlier potash deposition in a deeper part of the basin.

The core in most holes exhibits sylvinitic bands separated by minor beds and bands of orange salt, which, themselves are bound by larger salt-brecciated bands. High angle folding is occasionally evident in the core, suggesting variable steep structure and/or local deformation above the brecciated potash beds caused by secondary recrystallization.

Table A-1. Javier-Vipasca Historic Drillholes

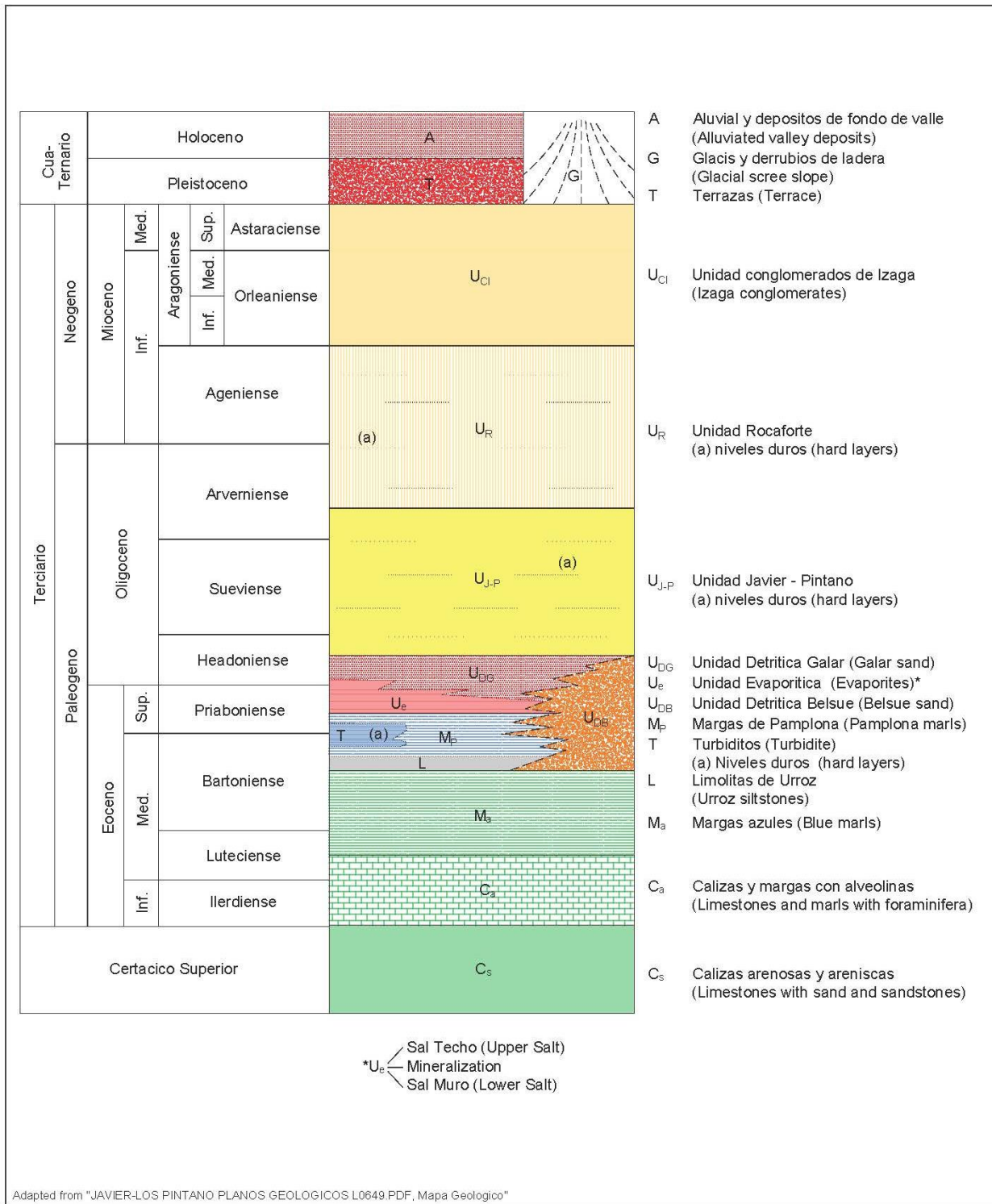
Drill Hole ID	Coordinates ETRS89			Total Depth (m)	Date of Drilling Campaign*
	Easting (m)	Northing (m)	Elevation MSL (m)		
Javier-2	646902	4715320	506	896	pre-1987
Javier-3	647567	4717718	500	592	pre-1987
JP-1	648035	4717117	475	731	1989-1990
JP-2	648825	4716665	515	556	1989-1990
JP-3	649528	4716734	574	455	1989-1990
JP-3D (re-drill)	649528	4716734	574	455	1991
JP-4	650030	4715070	551	466	1989-1990
Las Nogueras (NGR)	650403	4715811	605	402	pre-1987
Molinar (MLN)	648698	4714996	520	771	pre-1987
Undues Lerda (UDL)	649798	4713910	625	616	pre-1987
La Vistana (VST)	649347	4716428	537	466	pre-1987

Note: ETRS89 = European Terrestrial Reference System 1989; MSL = mean sea level.
*Pre-1987 drill-hole locations could not be relocated and are taken from maps.

Table A-2. Highfield Resources Javier 2013–2014 Drilling Campaign

Drill Hole ID	Coordinates ETRS89			Total Depth (m)	Investigation Permit
	Easting (m)	Northing (m)	Elevation MSL (m)		
J13-01	651026	4715326	805	IP	P.I. Muga
J13-02	651254	4716804	716	305.5	P.I. Fronterizo
J13-03	648952	4717328	554	421.3	P.I. Goyo
J13-04	649893	4714720		ND	P.I. Muga
J13-05	648001	4716310	492	893.0	P.I. Goyo
J13-06	646435	4717937	444	860.6	P.I. Goyo
J13-07	651350	4714103	630	335.0	P.I. Muga
J13-08	652718	4715561		ND	P.I. Muga
J13-09	647246	4716540	471	1,093.0	P.I. Goyo
J13-10	652932	4714536		ND	P.I. Muga
J13-11	654010	4713992		ND	P.I. Muga
J13-12	649480	4716153	553.03	481.6	P.I. Muga
J13-13	646993	4718223	485	755.6	P.I. Goyo
J13-14	646972	4715501	515	1,222.0	P.I. Goyo
J13-15	647869	4718223	575	ND	P.I. Goyo
J13-16	645900	4717542	440	ND	P.I. Goyo

Note: ND = not drilled. IP = in progress



Adapted from "JAVIER-LOS PINTANO PLANOS GEOLOGICOS L0649.PDF, Mapa Geologico"
 831-01 Geocalcali [Strat Column_Simplified.dwg].smvf (2-14-2014)

Figure A-3. Regional Stratigraphy of the Ebro Basin

In J13-03, a sandy bed within the lower salt bed suggests sediment influx from the basin edge. J13-03 is approximately on strike with J13-02, although J13-03 is deeper into the basin. In J13-02, the salt package is thin and the entire potash sequence missing. Correlation suggests that the potash sequence was not deposited in J13-02, indicative of the northern edge of the potash mineralisation.

J13-12, shows good geologic agreement with the nearby historic holes La Vistana and JP 3-D. P0 shows weak mineralisation but PAB shows 12% K₂O grade of composited K₂O in a 4.3-m thickness, P1 is 17.5% K₂O with a 0.6-m thickness and P2 contains very low grades. This compares to La Vistana PAB at 11.1% K₂O and 4.6-m thickness, P1 is 12.1% grade of K₂O at 1.7-m thickness, P2 shows 10.4% K₂O and 2-m thickness. Nogueras shows no P0, weak P1, and no P2. The PAB bed has a grade 13.1% K₂O and a thickness of 4.1 m.

J13-14 is interpreted as being on a basin high, similar to the Undues de Lerda hole, and exhibits the overthrusting and absence of salt that defines the southern edge of the Javier-Vipasca basin near the Magdalena Anticline.

In J13-05, there is under-gauge and etched core at the top of P1 (767 m depth), the result of solutioning from undersaturated drilling mud, likely reducing the assayed mineralisation which may have been highly soluble carnallite. J13-13 shows evidence of subaerial exposure at the base of P0 at 468 m depth.

J13-07 was completed in the central western part of the basin and intersected potash estimated to be 4.5 m thick at 282 m depth. Assay work, downhole geophysical review, and correlations are pending. J13-01 is currently being drilled due north and slightly west of J13-07 and southeast of Nogueras. Both holes are testing for mineralization continuity to the east.

Additional lower beds may exist, as suggested in the logs from drill holes JP09 and JP13-13, but there is insufficient information to confirm whether these are new beds or repeated beds in the lower salt layers. Potash (and salts) are plastic and mobilize with faulting, folding, and recrystallization processes. In some cases, faulting is "basement" derived and can produce faulted or thrust beds which attenuate up sequence in the salt beds. Additional drilling will help to determine the nature of these beds.

Potash bed picks and composite assays are summarized by bed and hole in Table A-3. Regional correlations of the bed picks are based on modern and historical drill hole core logs, chemical analyses, geophysical surveys, and structural/depositional modelling. Bed composite grades are calculated as length-weighted average values over continuous intervals.

Seismic surveys and Structure

A 2D high-resolution seismic survey was run for POSUSA in August–October 1988, by Compagnie Generale de Geophysique (CGG) over most of what is now the Javier-Vipasca area. This consisted of 9 lines totalling 55 kilometers (km). Additional 2D seismic was run at an (unknown) later date, increasing the total available seismic survey data to 16 lines, totalling 87.3 km (RPS Energy Canada Limited [RPS] 2013). The resulting structure maps for both the top (*techo*) and bottom (*muro*) of salt (Figure A-4) were developed by CGG in combination with the regional seismic, field maps, satellite imagery and drill hole data.

RPS (formerly RPS Boyd Petrosearch) of Calgary, Alberta, Canada completed a re-interpretation in 2013 of the 2D historical seismic lines and profiles on behalf of Highfield. The re-interpretation program was designed to review the overall accuracy of the historical data in terms of good correlation to drill hole data and geological intersections, as well as identify any sub-surface structures that may adversely affect the salt-bearing strata. A total of 16 lines were reviewed and were tied to wells with historical wireline data. The paper copies of the seismic profiles were digitized as the original tapes were unavailable. RPS interpreted that there is no indication of widespread salt removal due to faulting or dissolution. Deep structural features are noted across the project area, but only poor quality seismic data exist over these features.

The CPs used these structural data, but upon their review concluded they had more confidence in the original structure produced by CGG, which provided more complete detail.

Table A-3. Potash Bed Assay Composites from Exploration Drill Holes

Potash Bed and Hole ID	Depth From (m)	Depth To (m)	Composite		K ₂ O (wt %)	MgCl ₂ (wt %)	NaCl (wt %)	Clay (wt %)	Insolubles (wt %)
			Downhole Thickness (m)	True Thickness (m)					
Potash 0									
Javier-3	No occurrence								
Molinar	No occurrence								
Nogueras	No occurrence								
Undues de Lerda	No occurrence								
J13-02	No occurrence								
JP-4	414.05	414.34	0.29	0.28	0.38	0.87	18.73	78.30	79.80
JP-1	528.33	528.92	0.59	0.54	3.44	0.26	71.03	15.84	23.25
Vistana	368.93	369.80	0.87	0.85	4.56				
J13-12	395.50	396.70	1.20	1.15	2.17	0.82			36.48
J13-13	467.30	468.80	1.50	1.41	6.44	0.61			27.60
JP-3D	309.14	310.86	1.72	1.60	9.34	0.44	58.06	20.34	26.68
JP-2	443.17	445.24	2.07	1.90	5.46	0.79	58.48	21.23	32.06
J13-09	894.65	897.95	3.30	2.70	11.68	2.16			16.50
J13-03	289.60	292.60	3.00	2.74	5.14	0.71			32.18
J13-06	724.10	727.70	3.60	3.48	4.53	0.34			36.24
J13-05	737.70	742.20	4.50	3.63	8.72	1.54			27.35
Potash AB									
J13-02	No occurrence								
J13-03	298.90	301.90	3.00	2.74	10.05	0.49			20.85
J13-05	752.10	755.70	3.60	2.90	9.47	1.76			21.93
J13-06	751.10	755.00	3.90	3.77	12.22	0.44			14.69
J13-09	922.10	928.10	6.00	4.90	13.51	0.34			7.74
J13-12	403.00	407.50	4.50	4.31	11.97	0.43			6.46
J13-13	475.10	480.50	5.40	5.07	12.08	0.30			11.11
Javier-3	409.50	411.97	2.47	2.22	11.32				
JP-1	531.00	533.64	2.64	2.42	10.55	0.80	60.19	17.06	22.26
JP-2	457.82	462.40	4.58	4.21	9.26	0.56	69.25	10.00	15.48
JP-3D	316.04	323.37	7.33	6.83	12.09	0.77	53.99	19.34	26.04
JP-4	417.10	418.60	1.50	1.47	10.15	1.13	61.35	13.79	21.40
Molinar	No occurrence								
Nogueras	300.30	304.70	4.40	4.12	13.05				
Undues de Lerda	465.75	466.75	1.00	0.86	5.00				
Vistana	370.42	374.99	4.57	4.45	11.14				

Table A-3. Potash Bed Assay Composites from Exploration Drill Holes (concluded)

Potash Bed and Hole ID	Depth From (m)	Depth To (m)	Composite		K ₂ O (wt %)	MgCl ₂ (wt %)	NaCl (wt %)	Clay (wt %)	Insolubles (wt %)
			Downhole Thickness (m)	Composite True Thickness (m)					
Potash 1									
Molinar	No occurrence								
Undues de Lerda	No occurrence								
J13-02	No occurrence								
JP-4	No occurrence								
Nogueras	306.63	306.95	0.32	0.30	5.00				
J13-12	409.00	409.60	0.60	0.57	17.47	0.38			18.65
JP-2	479.97	481.10	1.13	1.04	5.29	0.37	73.07	12.40	18.16
JP-1	547.13	548.61	1.48	1.36	8.92	0.51	72.29	8.84	13.03
J13-05	768.00	769.80	1.80	1.45	9.20	0.44			12.15
J13-09	969.50	971.30	1.80	1.47	5.22	0.17			6.39
J13-03	321.10	322.90	1.80	1.64	8.78	0.25			10.45
Vistana	382.02	383.76	1.74	1.70	12.14				
Javier-3	462.25	464.69	2.44	2.19	12.09				
J13-13	489.90	492.45	2.55	2.40	5.85	0.43			6.00
JP-3D	326.73	329.33	2.60	2.42	8.34	0.53	59.37	21.48	26.86
J13-06	766.70	772.70	6.00	5.80	5.91	0.49			14.74
Potash 2									
JP-2	No occurrence								
Molinar	No occurrence								
Nogueras	No occurrence								
Undues de Lerda	No occurrence								
J13-02	No occurrence								
JP-4	No occurrence								
Javier-3	472.30	472.81	0.51	0.46	19.00				
JP-3D	332.80	333.36	0.56	0.52	8.19	1.16	73.94	6.90	11.90
J13-03	324.70	325.60	0.90	0.82	6.74	0.37			12.58
JP-1	555.58	556.47	0.89	0.82	2.03	0.21	87.57	4.26	10.19
J13-12	412.30	413.50	1.20	1.15	1.00	0.91			9.52
J13-05	790.60	792.10	1.50	1.21	9.82	0.36			10.21
J13-13	532.30	534.00	1.70	1.60	9.37	0.69			3.00
Vistana	391.07	393.15	2.08	2.03	10.36				
J13-09	985.70	989.90	4.20	3.50	12.94	0.43			7.48
J13-06	773.90	781.70	7.80	7.54	12.34	0.44			9.15
Note: blank entry indicates no data.									

Two surfaces are defined in the current geologic/computer model: 1) the base of the salt and 2) top of the Pamplona Marls. The potash-bearing zones lack any velocity/density contrasts within the salt, so it is not possible to detect potash or map the structure of the zone directly. Seismic interpretation does not extend to the northwest part of the basin.

Depositional basin bounds are defined to the west at the east southeast-north southwest trending Rocaforte Syncline near the margin of the Aragón River. Associated with this syncline is the Sierra de Leyre anticlinal structure that overthrusts the Pamplona Marls Formation. This thrust and two reverse faults run approximately east-west. The first fault with the Pamplona Marls over Yesa turbidites and the second which runs makes the Yesa turbidites coincident with the Liedena Sandstone.

On the south, the basin is bound by the La Magdalena Anticline and Fault, characterized by beds steepening to periclinal structure at the crest and then to overturned beds resulting from thrusting to the east, exhibited at the surface in sandstones of the Javier-Vipasca Formation. The Magdalena anticline is sub-parallel to the Javier-Undues Syncline in the western portion of the basin with gentle dipping on the northern flank; the southern flank dips increasingly to vertical and is overturned from Undues de Lerda to the Ruesta Flexure. The Flexure is marked by a series of bounding normal and transverse faults to define the eastern basin edge as it climbs to a saddle area between Javier-Vipasca and Pintano basins. The Pintano Syncline trends in the east-west direction for about 20 km and can be considered the continuation of the Javier-Vipasca eastern syncline.

The northern part of the basin is defined by the extension of the Fault Loiti which also corresponds to the synsedimentary line between marine sediments within the basin to the Eocene-Oligocene continental sediments at the thrust front, resulting in cropping out of the evaporites.

The first deposits in the region at the end of the Cretaceous period were characterized by a regressive period with reddish continental deposits. The Eocene is marked by the beginning of tectonic compression, causing formation of subsiding basins parallel to the Pyrenees with emersion and erosion in some parts.

The different basins are separated by orogenic events developing in the north and south as turbidite basin carbonate platforms. Towards the end of the Eocene, the sedimentation axis migrated south to the Jaca-Pamplona basin, on which the Oligocene materials were deposited. The pre-evaporitic basin sedimentation occurs in a context of continuous tectonic compression during the Eocene and Oligocene epochs, as synsedimentary tectonics of the end of the orogeny, with pronounced sediment influx.

The influence of the turbidites towards the end of the Eocene in the Bartoniense series, are sourced from the east initially into the Pintano basin and contained by the flexure and then from the northwest into the basin as the Belsue Formation, indicative of continued subsidence.

The formation of the evaporites is further influenced by the basin restriction, and paleo highs and lows which are perhaps defined by block faulting as well as the main structural basin bounds.

Quality Control and Data Confirmation

The 2013–2014 drilling program has been operated by Highfield personnel. Details of the sampling techniques and oversight of the quality control program are summarized in Table A-4 found at the end of this report.

The CPs reviewed the available historical geophysical logs to compare estimated K_2O from natural gamma and/or spectral gamma logs versus the assayed values. Comparisons show good agreement (see Figures A-5 a–d), indicating that gamma can be a good indirect measure of K_2O content.

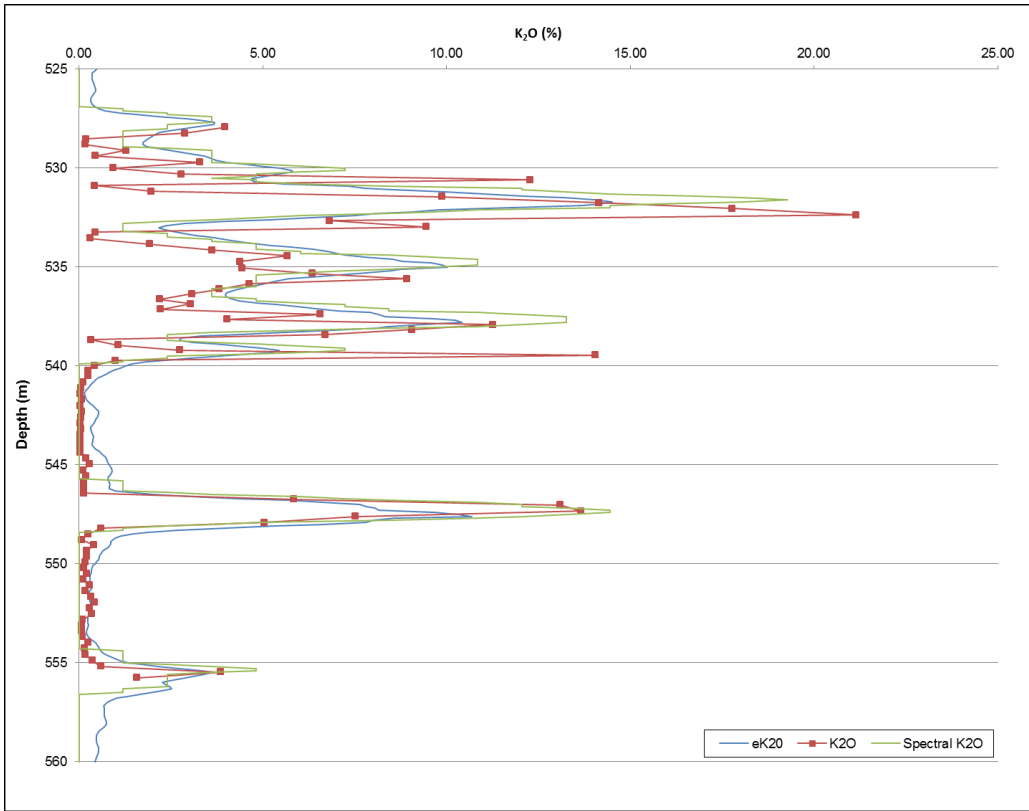


Figure A-5a. Comparison of Assay and Geophysical K₂O Values for JP-1

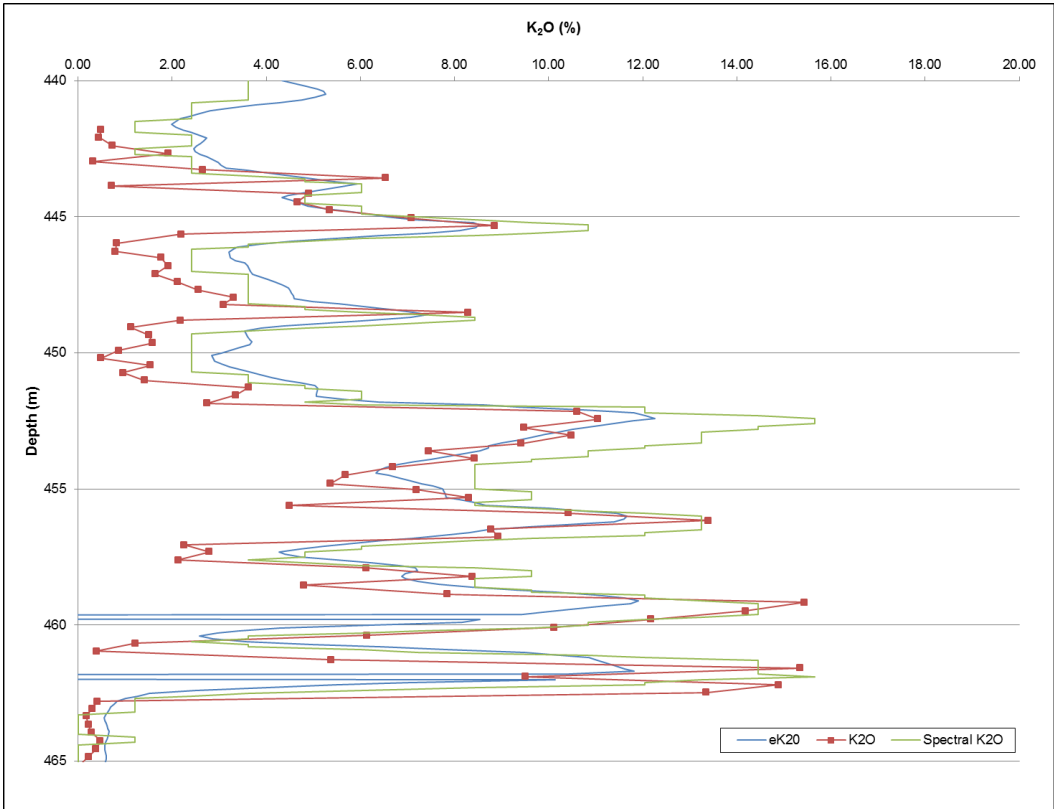


Figure A-5b. Comparison of Assay and Geophysical K₂O Values for JP-2

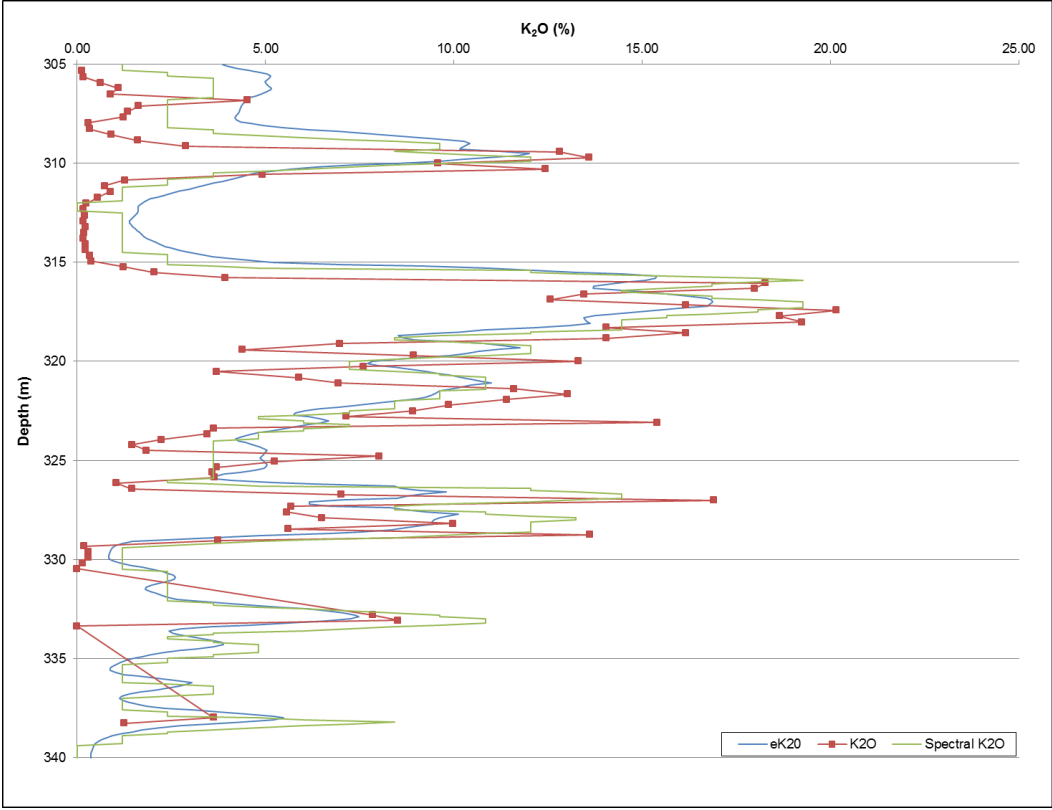


Figure A-5c. Comparison of Assay and Geophysical K₂O Values for JP-3D

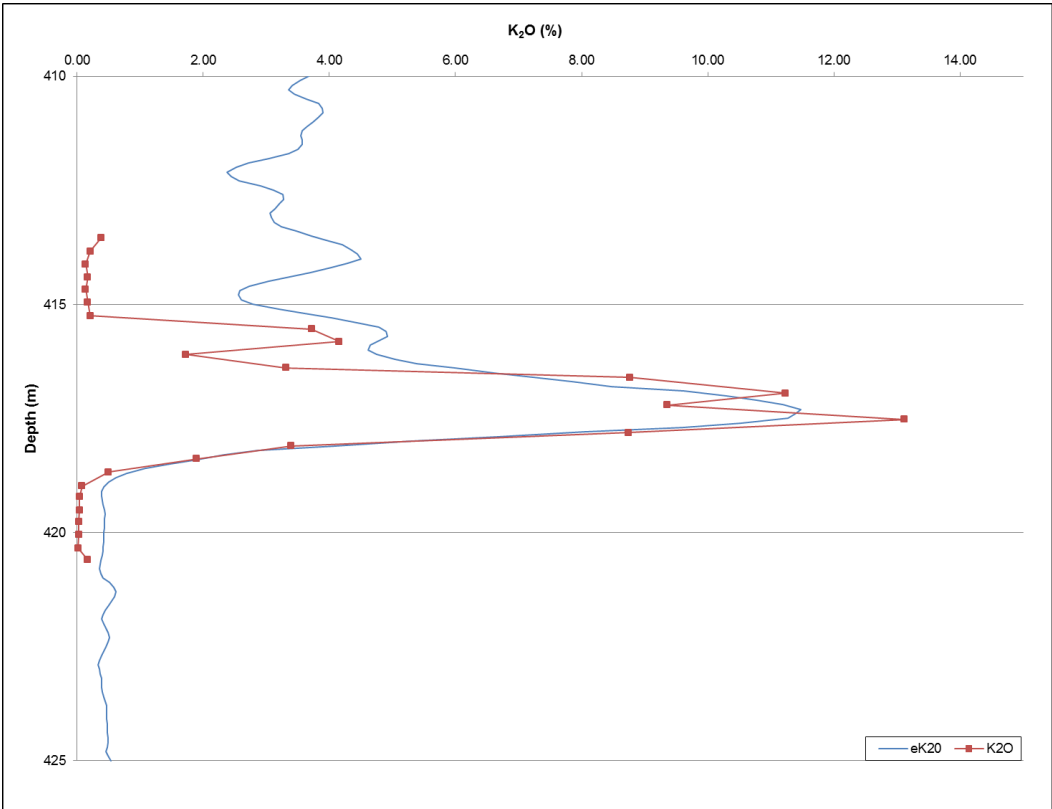


Figure A-5d. Comparison of Assay and Geophysical K₂O Values for JP-4

Highfield and ALS Global, the primary contract laboratory, maintained quality control procedures of standards, duplicates, and blanks. Highfield made multiple Standard or Certified Reference Material-type (SRM or CRM) samples representing low-, medium-, and high-grade (LG, MG, HG) potassium material, but the insertion rate is insufficient to determine repeatability and calibration of the target instrumentation. SRM samples, blanks, and duplicates were inserted, both by Highfield personnel during sample preparation and by ALS as part of their own quality assurance/quality control (QA/QC) program. ALS insert commercial standards BCR-113 and BCR-114 both potash fertilizer materials, a muriate of potash (MOP) and sulfate of potash (SOP), respectively, as well as their own internal standard, SY-4, a diorite gneiss used as a blank material. The insertion rate is one blank, one RM, and one lab duplicate per 20 samples or batch. Results are compared in Figures A-6 through A-8 illustrating target values with ± 2 standard deviations as control limits. ALS's internal standard shows the best agreement, suggesting strong instrument calibration against that standard.

ALS assayed samples both by inductively coupled plasma (ICP) and X-ray fluorescence (XRF). In general, the ICP and XRF techniques show reasonable agreement with the XRF method exhibiting modestly elevated K_2O values of over the ICP method, as illustrated by example in hole J13-03 (Figure A-9). Other holes showed similar bias, thereby substantiating testing precision. The ICP method is the base method used for resource estimation.

Duplicates were submitted to ALS and ICP results show good internal agreement (Figure A-10). Check samples were tested at SRC. In general, SRC reports K_2O values lower than reported by ALS. Because ALS and SRC show good internal agreement, the bias suggests a calibration issue. A graph of those comparisons is found in Figure A-11.

Additional Work

Additional drilling is ongoing to continue to define and expand the resource.

A regional Transient Electromagnetic Sounding (TEM) geophysical program is planned to define the continuity of the salt package. Combined with data obtained from the drill holes by Vertical Electrical Soundings (VES), the program is intended to define the regional thickness and extent of the evaporite layer using resistivity.

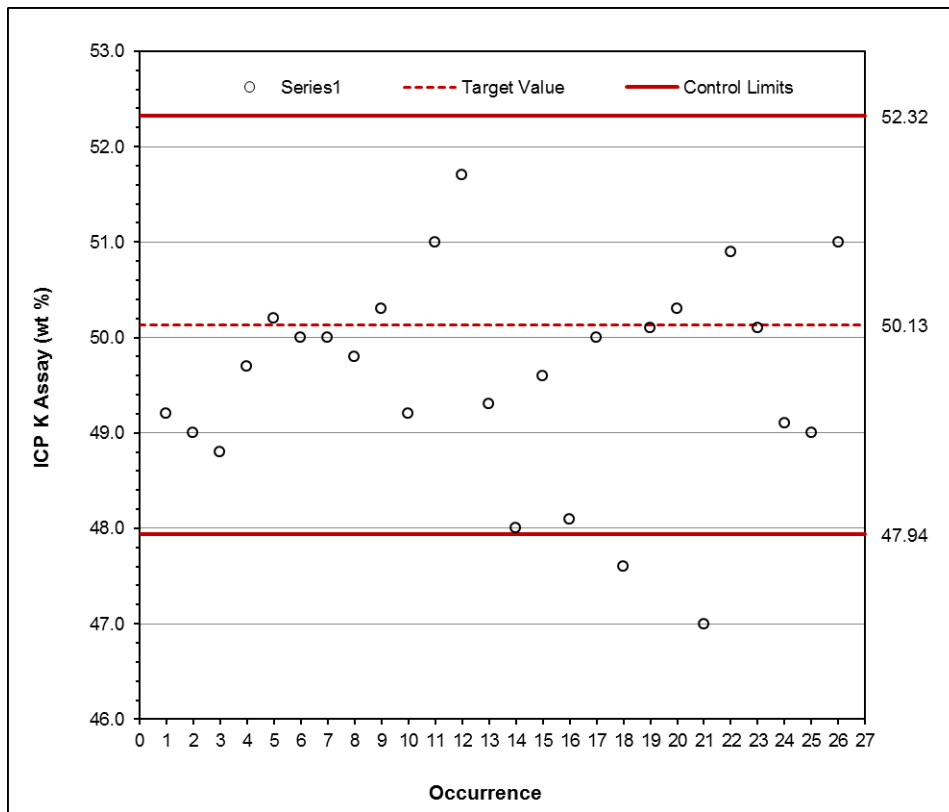


Figure A-6. SRM BCR-113 for Potassium

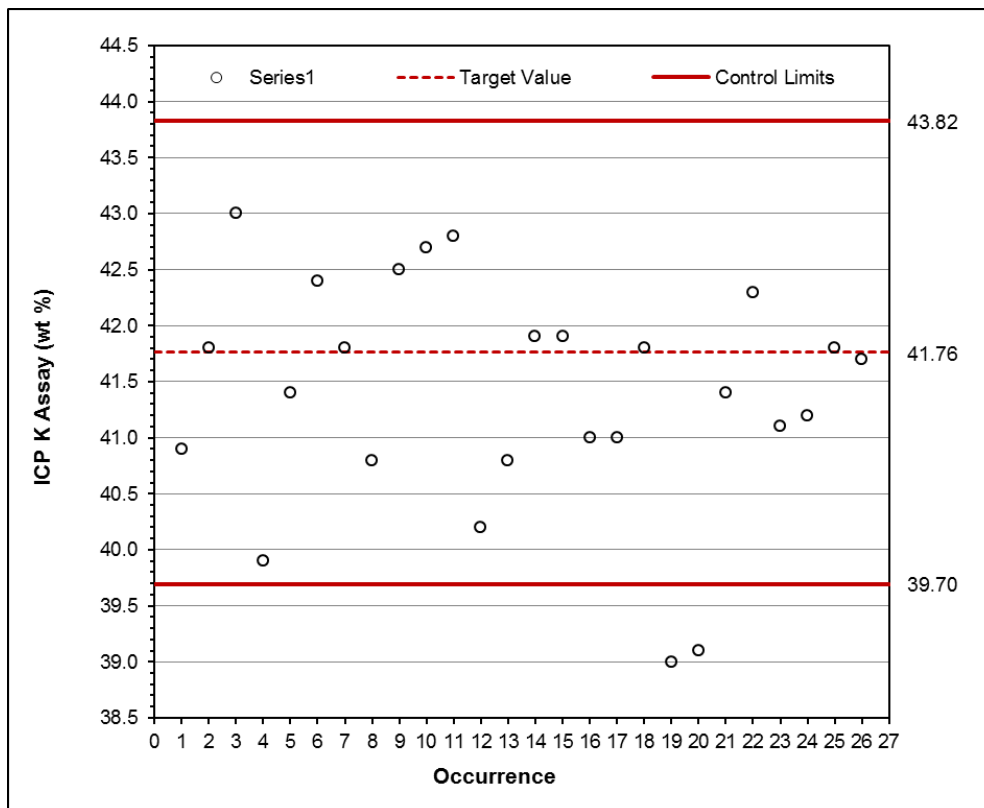


Figure A-7. SRM BRC-114 for Potassium

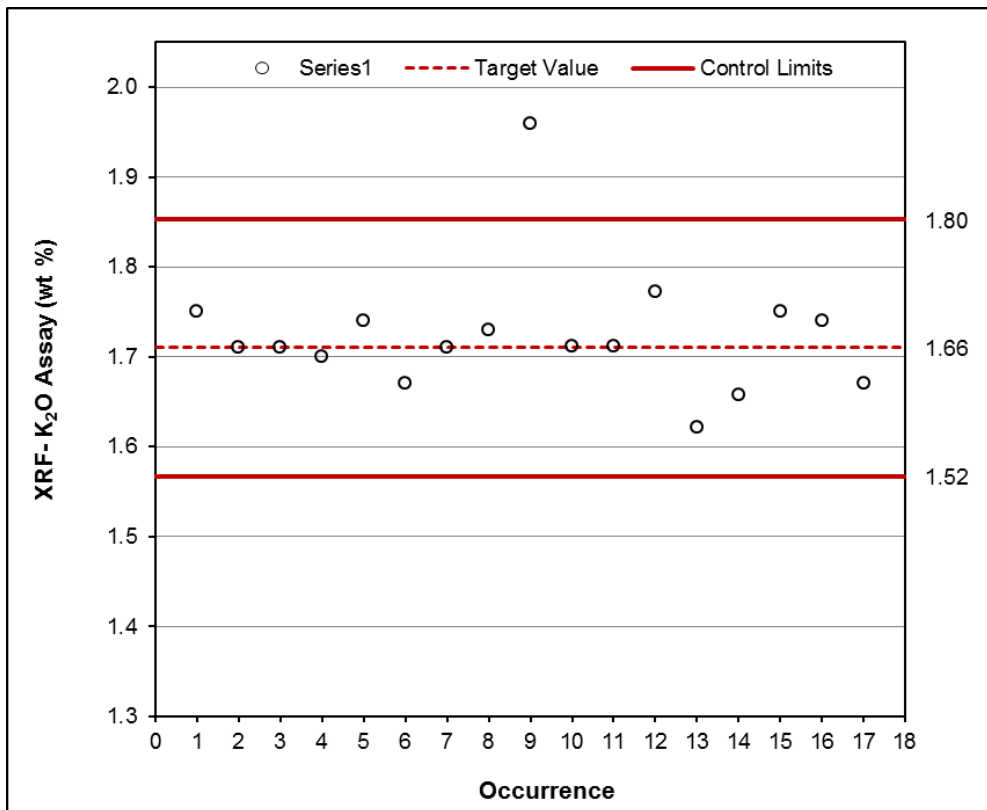


Figure A-8. ALS SRM SY-4 for Potassium

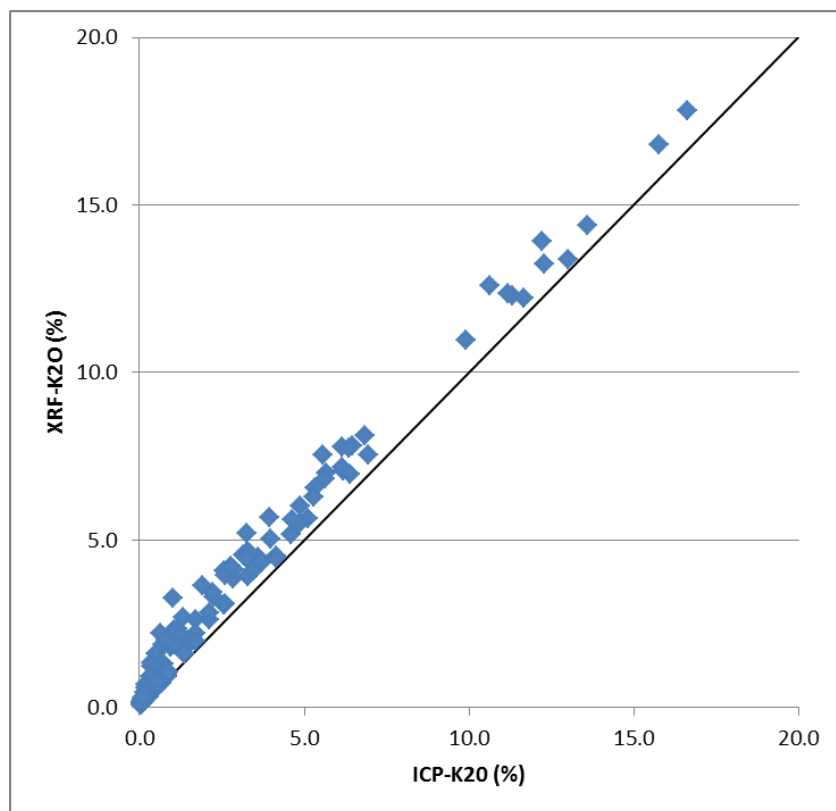


Figure A-9. Comparison of XRF and ICP for J13-03

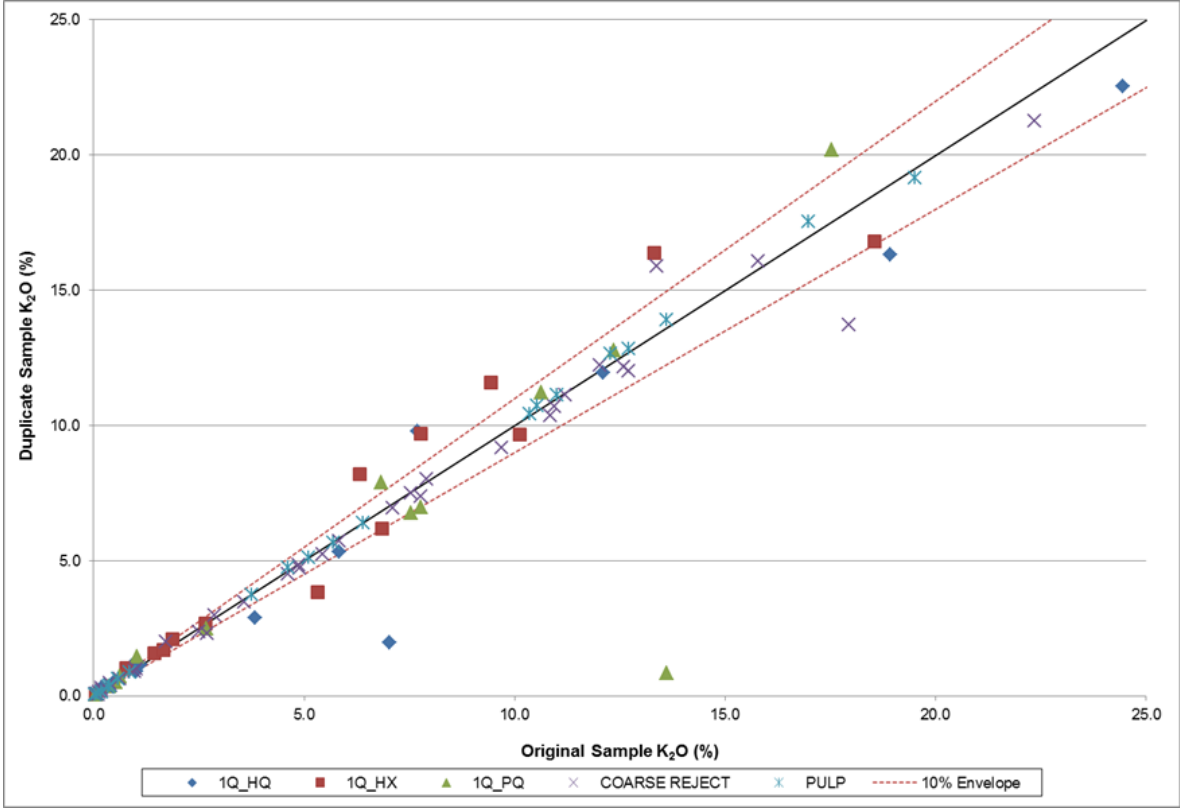


Figure A-10. Duplicate Analysis

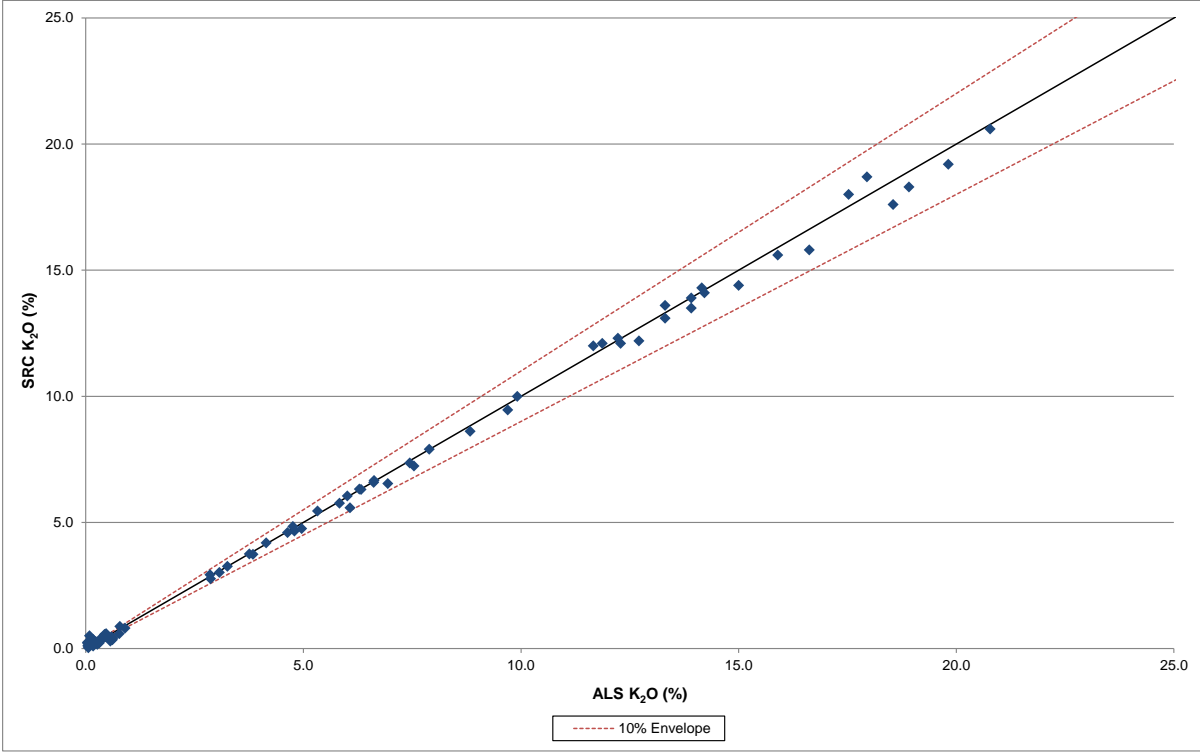


Figure A-11. ICP K₂O Check Lab Comparisons

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Table A-4. JORC Checklist of Assessment and Reporting Criteria

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information. 	<ul style="list-style-type: none"> Eleven historic drill holes (see Table A-1) (one was drilled to replace an incomplete well) were drilled in the 1980s and in early 1991 detailed lithology logs and assays on core were completed. Eight new holes (see Table A-2) were drilled, cored, and assayed in 2013 and early 2014 by Geocalci Sociedad Limitada (Geocalci) for a total of nineteen holes on the property to be used in the upcoming resource. A ninth hole, J13-07 was completed in May of this year and has yet to be assayed. An additional hole, J13-01 is currently being drilled. Geocalci is a 100% owned Spanish subsidiary of Highfield Limited (Highfield). The historic drilling program resulted in compiled reports which are referenced in <i>Appendix—Explanatory Notes to the Exploration Results for the Javier-Vipasca Potash Project</i>. The historic programs, in general, were well-documented. The new drill holes were geologically logged, photographed, and assayed. Some of the holes were geophysically logged through the mineralized zone. Following logging and photographing, samples are marked and numbered for assay. Core is sawed with hydraulic oil as the lubricating agent; half core is retained and shrink-wrapped, and samples to be assayed are bagged and secured with plastic ties and boxed for shipping to ALS Minerals (ALS) for crushing, grinding and splitting. Cored samples are assayed by inductively coupled plasma-optical emission spectrometry (ICP-OES) and X-ray fluorescence (XRF) by ALS Laboratories (ALS). Sample preparation is in Seville, Spain and assay work is completed in Loughrea, County Galway, Ireland. ALS has documented methodology and quality assurance/quality control (QA/QC) protocol. The historic holes contributed to a maiden Joint Ore Reserves Committee (JORC) Inferred Resource in September 2013 (Stirrett and Mayes 2013). Of the historic holes, a comparative study to re-assay to test the quality and accuracy of the historical assays showed moderate agreement. Re-sampling of three mineralized drill holes was completed by independent advisor North Rim Exploration Ltd (North Rim). The re-sampled assay results for J-3, Nogueras (NGR), La Vistana (VST) individually showed large degrees of variation from the historical results, but with an average difference of 3.68% K₂O overall. The results are documented

Criteria	JORC Code explanation	Commentary
		<p>in an internal report to Highfield (Stirett and Maye 2013) and discussed in more detail in “<i>Quality of Assay</i>” section here. The report is referenced herein.</p> <ul style="list-style-type: none"> Geophysical logs available on four historic holes (JP-1, 2, 3, and 4) were compared to the assay results to test the validity of those data. The Javier Pintano project area is abbreviated as “JP.”
<p>Drilling techniques</p>	<ul style="list-style-type: none"> <i>Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g., 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.).</i> 	<ul style="list-style-type: none"> Drilling procedures are unknown from historic Javier holes drilled prior to 1987 include drill holes J-2, J-3, VST, NGR, Molinar (MLN), and Undues de Lerda (UDR). The drilling program completed in 1989–1990 was outlined in detail by Empresa Nacional Adaro Investigaciones Mineras (e.n. adaro 1989–1991). Adaro, the state-owned group tasked with exploration and development of Spain’s mineral resources, produced detailed reports and “reserve” studies of the Javier-Vipasca area. Historic drilling was completed with the Mayhew 1500 drill from June to August, 1989. During this time JP-1 through JP-4 were completed. Holes were drilled open hole to core point. The tricone bit used for open hole drilling was reduced through stages from 12 1/4-inch to 5 7/8-inch diameter. Upon completion, the hole was abandoned and cemented through the 8 1/2-inch diameter drill hole. Approximately 2,208 meters (m) were drilled in Javier, not accounting for some re-drilling in JP-3 and JP-4. For JP-3 and JP-4, the mineralized zone was drilled into and not cored for assay. Both holes were re-drilled through the salt section to take the appropriate cores. No record of a re-drilled hole is available for JP-4; two assay sets were available for JP-3, listed as JP-3 and JP-3D. JP-3D was the re-drilled hole and was completely cored. Limited deviation data are available for JP-1, JP-2, JP-3, JP-3D, or JP-4, for the lower half/salt section and were used in the model. If no deviation surveys were found, then the holes were considered to be vertical. In 2013, a drilling program was initiated in Javier. In some cases, holes were cored from surface, and in others, the holes were open holes drilled to the top of salt. When the top of salt is reached, the mud is re-formulated to a super-saturated brine to eliminate or diminish dissolution of the highly soluble evaporite minerals. Drilling was contracted to Geonor Servicios Tecnicos S.L. of Galicia, Spain (4 holes) using a Christensen CS3000 and Forida Golden Bear and

Criteria	JORC Code explanation	Commentary
		Sondeos y Perforaciones Industriales del Bierzo (SPI) (J13-09, SPRDrill 260). Drilling was supervised by Highfield geologists.
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<ul style="list-style-type: none"> Detailed information on core recovery for the historic program is not available but the assay data are largely complete over the mineralized zones. Core recovery on the 2013–2014 drilling campaign averaged greater than 95% in the mineralized zones although some samples show dissolution due to undersaturated brine mud. Typically these samples are thought to underreport the target potassium mineralogy because of the highly soluble nature of those minerals, but it is also possible that less desirable or deleterious mineralogy (i.e. MgO) may also under-report in this situation. Core sampling procedure is well-documented in the 2013–2014 drilling program.
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> Lithology logs were completed for the historical drilling programs. The 1989–1990 drilling program included Javier and Pintano wells: JP-1 to JP-4, PP-2/2B, and PP-3. The sample intervals were comparable to industry standards (generally <30 centimeters [cm]) but the methodology is unknown. Thirty centimeters is typically used for a maximum sample length for potash in order to assure samples are not diluted and confidence in mineralogy is maintained over the interval. Assay intervals for the unknown (pre-1987) drilling program used a much larger sampling interval (up to 2.44 m) for NGR, VST, and J-3. In the modern program, cuttings were collected and core was logged, photographed, sampled, and assayed approximately 0.3-m lengths. Core point, if not coring from surface, was generally within the banded marls above the salt and was completed at the base of the salt at the anhydrite marker bed to ensure complete coring through the salts and the mineralized zones.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. 	<ul style="list-style-type: none"> On the historic holes, groove samples were taken for assay through the potash mineralisation. These samples were produced by sawing a shallow channel into the core surfaces. This is not usually considered good practice, but is sometimes used to keep the core intact. Independent technical advisor North Rim (Stirrett and Maye 2013) conducted a re-assay of available holes to test the validity of the historic data, as discussed below in “Quality of assay data and laboratory tests.” On the 2013–2014 drilling campaign core holes, samples were halved and quartered, with a quarter sent for assay. This sampling methodology is the modern industry standard. The sample intervals of approximately 0.3 m in length

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	<p>were taken over the length of the mineralised interval. Cores were usually PQ (85 millimeter [mm]), but in the case of difficult drilling conditions, coring was reduced to HQ (63.5 mm) as was the case for J13-13 (at 642 m depth below the mineralized zone) and J13-09 (from 484 m depth) and J13-06 (at 458 m).</p>
<p>Quality of assay data and laboratory tests</p>	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established. 	<ul style="list-style-type: none"> Geochemical results are available for the 1989–1990 drilling campaign, complete with 570 assays. The results were obtained through the internal Potasas de Subiza S.A. (POSUSA) lab and were analysed for KCl, MgCl₂, NaCl, insolubles, and clay. The intervals listed for these samples reflect the thickness of the sample as measured in the drill core; however, true thicknesses for the sample intervals is outlined in the historical strip logs to account for structural dip of the intervals. Samples were typically limited to 30 cm or less to maintain good sample resolution. No original assays are available for the pre-1987 drilling program. Results for P-1, J-3, VST, and NGR are summarized from the e.n. adaro comprehensive reports (e.n. adaro 1989–1991). These drill holes were only analyzed for KCl, and therefore lack results pertaining to MgCl₂ (to determine carnallite content) or insolubles. UDR was not assayed and its mineralisation reported to be of “insignificant grade.” In this case, mineralisation was interpreted to be <5% K₂O in the PAB main bed, as representative of the sampling cut-off at the time, based on a review of e. n. adaro’s assay results. The “grooving” technique on the historic assay sampling was used to minimise destruction of core and may not be representative. The method of geochemical analyses used for both the 1989-1990 drilling campaign and the pre-1987 drilling program is unknown as is the identity of the lab that conducted the geochemical analyses. A resampling program was carried out by North Rim (Stirrett and Mayes 2013). Re-sampling on VST, NGR, and J-3 was carried out at the Litoteca de Sondeos in Spain, the state-run core lab. North Rim noted that large intervals of core were

Criteria	JORC Code explanation	Commentary
		<p>not present or missing for both VST and NGR, and thus could not be re-sampled. North Rim attempted to duplicate the historic sample intervals; their methodology is described below:</p> <ul style="list-style-type: none"> ○ For the re-sampling of historic core samples, the start and end of each sample was identified using blue corrugated plastic to ensure the proper intervals were selected for slabbing. For each sample, a line was drawn across the top after the core was fit together. Once the sample intervals were determined, one-quarter of the core was cut for sampling. A hand-held circular saw with a diamond-tipped blade was used to cut the core. Once the entire interval was cut, the cut surface was wiped down with a damp cloth to remove any rock powder generated by cutting. The quarter core was divided into individual samples by drawing straight lines across the core diameter in permanent black marker as identified by the blue plastic markers. The determination of individual samples was based entirely on the historical sample intervals. No additional sampling was completed. As the samples were chosen, they were labelled using a numbering scheme that incorporated both the drill hole number and a sample number (i.e., J3-583RS). An “RS” was incorporated at the end of the sample to indicate “re-sample.” Each sample and its corresponding sample tag were placed into a waterproof, plastic sample bag and stapled to enclose the sample within the bag. Samples were placed into sturdy cardboard boxes and packed with styrofoam. Shipping sheets were completed that included well information, box numbers, sample numbers, and contact information and accompanied the samples to the Saskatchewan Research Council (SRC) Laboratories in Saskatoon, Saskatchewan, Canada. ○ In the re-assayed sampling program, the correlation plot between the historic samples and their re-analysed equivalents has an average difference of 3.68% K₂O overall. The results indicate a general over-estimation of grade within the historical samples, with 87% of the historical samples having higher K₂O grade than the re-sampled analyses indicate. This is not a systematic difference, but instead indicates that the variation is more likely due to sampling technique rather than a problematic analytical technique or procedure.

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> ○ In the 2013–2014 sampling program, assay was by ICP-OES and XRF. ○ Highfield and ALS, the primary contract laboratory, maintained quality control procedures of standards, duplicates and blanks. SRM, blanks and duplicates were inserted, both by Highfield personnel during sample preparation and by ALS as part of their own QA/QC program. ○ ALS inserted commercial standards BCR-113 and BCR-114 both potash fertilizer materials, a MOP (Muriate of Potash) and SOP (Sulfate of Potash), respectively, as well as their own internal standard as a blank material SY-4, a diorite gneiss. Those results are compared in Figure A-6 through A-8. ○ Duplicates were submitted to ALS and show good internal agreement (Figure A-10). ○ Highfield made multiple Standard or Certified Reference Material-type (SRM or CRM) samples representing low-, medium-, and high-grade (LG, MG, HG) potash material, but the insertion rate is insufficient and outside round-robin testing is too limited to make reasonable conclusions as to accuracy and precision. Insertion rate is one blank, one SRM, and one lab duplicate per 20 samples or batch. ○ Check samples were tested at SRC. In general, SRC reports K₂O values lower than ALS reports. Because ALS and SRC show good internal agreement, this suggests a calibration issue. A graph of those comparisons is found in Figure A-11.
<p>Verification of sampling and assaying</p>	<ul style="list-style-type: none"> ● <i>The verification of significant intersections by either independent or alternative company personnel.</i> ● <i>The use of twinned holes.</i> ● <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> ● <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> ● The re-sampling program of historic cores was carried out under the supervision of North Rim and documented in a report to Highfield. The goal of the geochemical re-sampling program was to acquire sufficient confidence in the historical assay data to develop a JORC Code-compliant Mineral Resource estimate. Only three drill holes with cored intervals containing potash mineralisation were available for re-sampling within the project area: VST, NGR, and J-3. ● AAI reviewed the available historical geophysical logs (run by Schlumberger) to compare estimated K₂O from natural gamma and/or spectral gamma logs versus the assayed value, which showed very good agreement (see Figure A-5 a–d). ● ALS assayed samples both by ICP and XRF (see Figure A-9). In general, ICP analysis shows adequate agreement with assays by XRF, which report,

Criteria	JORC Code explanation	Commentary
		<p>consistently, slightly higher values of K₂O. Other holes showed similar bias, thereby substantiating testing precision. The ICP method is the base method used for resource estimation.</p> <ul style="list-style-type: none"> Highfield receives all assay data in .xls or .csv format from the laboratories and one person is responsible for transferring those data into a master database and maintaining the QA/QC monitoring. AAI independently graphed the QA/QC data. A database was built from the historic drill hole information by Highfield and checked by AAI against the historic reporting of assays and intervals listed on the lithologic logs. The master database was checked against the ALS-issued Certificates of Analysis (COA).
Location of data points	<ul style="list-style-type: none"> Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> Historical collar locations were re-located in most cases and re-surveyed. Some historic collars could not be located as many were drilled on agricultural land. Historic drill hole location maps consistently show locations and so suggest confidence in the hole coordinates. Specifically JP-1, JP-2, JP-4, UDL, MLN, and Javier 3 could not be relocated. Historic data and maps are referenced to the ED50 datum and have been updated to the ETRS89 datum for compatibility with modern survey information. All new locations from the 2013–2014 drilling program are surveyed before and after drilling by a licensed surveyor.
Data spacing and distribution	<ul style="list-style-type: none"> Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	<ul style="list-style-type: none"> Exploration drill hole spacing is illustrated on the scaled maps in Figures 1 and A-4. Samples have been composited over the thickness of identified potash beds for the reporting of exploration results. Potash bed names are provisional pending regional correlations. Data spacing and distribution adequacy will be discussed in the context of the pending Mineral Resource estimate when reported.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. 	<ul style="list-style-type: none"> Some deviation data were available in the 2013–2014 drilling program. In building the new database, apparent bed dips from the lithology logs were incorporated from historic and new holes to attempt to correct to true bed thickness. Historic holes were assumed to be vertical in the absence of deviation surveys. Deviation data show relatively vertical trajectories in surveyed holes. Data on bed

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> 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. 	<p>orientation were incorporated into the database to calculate apparent true thickness.</p> <ul style="list-style-type: none"> The regional structure is discussed in more detail in “<i>Geology</i>” but structural dip is interpreted from regional the CGG “base of salt” map and new drill hole control. The deposit is bedded but the historic seismic maps show mostly vertical faults parallel to the Flexura de Ruesta, propagating to the west as well as up through the top of salt. An historic structure map (Figure A-2) with fault offsets is used for the interpretation of bed orientation. Further, it is well known that the northern Loiti Fault System and the south Magdalena system and anticline result in cropping out and overturning of the evaporites and steep dips are interpreted in parallel to these structures, again in conjunction with drill hole data where available. In the case of J13-02, the salt bed thins considerably and potash mineralisation is absent; this is interpreted as a basin high or the basin edge. J13-12, drilled in 2014, shows good geologic agreement with the nearby historic holes La Vistana and JP 3-D. P0 shows weak mineralisation but PAB shows 12% grade of composited K₂O in a 4.3-m true thickness, P1 is 17.5% grade with a 0.6-m thickness and P2 contains very low grades. This compares to La Vistana PAB at 11.1% grade and 4.5-m thickness, P1 is 12.1% grade of K₂O at 1.7 m thickness, P2 shows 10.4% K₂O and 2-m thickness.
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> In the 2013–2014 drilling program, Highfield personnel maintained effective chain of custody procedures for the samples. Core was picked up at the drill site and brought to the secured warehouse for detailed logging and sampling. Following sampling (see sections on sampling herein), sample bags and boxes were secured with zip ties for shipping to the laboratory.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> Besides the re-sampling program carried out by North Rim, AAI compared historic assay data to estimate K₂O from geophysical records. In addition, ALS assayed samples both by ICP and XRF and these values were compared as discussed in “<i>Verification of sampling and assaying data.</i>”

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<p>Mineral tenement and land tenure status</p>	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area. 	<ul style="list-style-type: none"> Property descriptions and land status were obtained from the list of lands as set forth in the documents provided by Highfield. The Javier-Vipasca area is comprised of four permits (see Table 1 and Figure 2). Goyo is a granted Investigation Permit (PI) in Navarra. Muga is a granted PI with a modification to reduce its size to only cover the extent of the evaporite. Fronterizo straddles the Navarra and Aragón border and its PI was granted 05 Feb 2014. Vipasca is a newer application applied for at the end of 2013 and is not expected to be approved in time for this resource estimate. The CPs have reviewed the mineral tenure from documents provided by Highfield including permitting requirements, but has not independently verified the permitting status, legal status, ownership of the project area, underlying property agreements or permits. Therefore, AAI has fully relied upon, and disclaims responsibility for that information. Exploration and exploitation of mineral deposits and other geological resources in Spain are governed by the Mining Law 22/1973, which is further governed by the Royal Decree 2857/1978. All sub-surface geological structures, rocks, and minerals are considered the property of the public domain and are categorized into four sections under the Spanish law (A, B, C, and D), and must have mining authority authorization and supervision for commercial exploitation. Section C covers the minerals of interest for Highfield, and a mining concession would need to be awarded prior to exploitation which requires the accompaniment of environmental permits and municipal licenses (electrical, water etc.). Generally exploration and investigation permits are applied for prior to applying for a mining concession (not legal obligation), and are aimed at determining the mineral resource potential of the area through exploration practices (drilling, seismic, sampling etc.). These are granted through the region's government/mining authority where the exploration or investigative work will take place. Exploration permits (PE) are valid for one year and can be renewed for one additional year. A PE allows only non-intrusive investigation, which is defined by the various Spanish regions and can vary. A PI is good for up to three years and renewable in three-year terms or longer depending on the scope of the intended work. Investigation permits carry with them municipal approval as they are publically released for community

Criteria	JORC Code explanation	Commentary
		<p>discussion. To carry out work under the investigation permit, the permittee must contract with the individual the landowners to allow for access and occupation of the land during the exploration.</p> <ul style="list-style-type: none"> In order for both types of permits to remain valid, the applicable taxes must be paid and the permittee must comply with the applicable regulations and exploration plan approved by the mining authority. Investigation permits require assessment reporting which requires the permittee to submit working plans, budgets, and initiate work within certain time allotments. Exploration and investigation permits can be transferred in whole or in part to other third parties with enough technical and financial backing, but must be authorized by the proper mining authorities in Spain.
<p>Exploration done by other parties</p>	<ul style="list-style-type: none"> <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<ul style="list-style-type: none"> The historic drilling program completed in 1989–1990 was outlined in detail by e.n. adaro (1989–1991). Adaro, the state-owned group tasked with exploration and development of Spain’s mineral resources, produced detailed reports and “reserve” studies of the Javier area. Potash was first discovered in the Ebro basin in the Catalonia area in 1912 at Suria after the potash discoveries in Germany (Moore 2012). Salt was first discovered through drilling, later followed by four economic potash mining zones with a combined total thickness of 2.0 to 8.0 m (Stirrett and Maye 2013). The potash horizons in the area were identified to cover approximately 160 square kilometers (km²) at depths of approximately 500 m sub-surface, unless they were brought closer to surface by anticlinal or tectonic structures (Stirrett and Maye 2013). Several deposits were located in the Catalonia area, including, Cardona, Suria, Fodina, Balsareny, Sallent, and Manresa. Several of these areas were developed into mines and are all flanked by anticlinal structures. The potash deposits in the Navarra region were not located until later, in 1927 through comparative studies to the deposits found at Catalonia (Stirrett and Maye 2013). The exploration efforts later led to the development of a mine near Pamplona and Beriain. Production at Pamplona began in 1963 with a capacity of 250,000 tonnes per year of K₂O. A thick carnallite member overlies the sylvinitite, so in 1970 a refinery with the capacity for 300,000 tonnes per year was built to accommodate for carnallite from the Esparza (Stirrett and Maye 2013). Carnallite mining was ceased in 1977.

Criteria	JORC Code explanation	Commentary
		<p>Inclined ramps for the mine were located near Esparza, reaching the center of the mine, with further shafts located at Beriain, Guendulain and Undiano. In 1982 2.2 million tonnes of sylvinites were extracted with an average K₂O grade of 11.7% (Stirrett and Mayes 2013). The operations in Navarra were closed in the late 1990s.</p>
<p>Geology</p>	<ul style="list-style-type: none"> • <i>Deposit type, geological setting and style of mineralisation.</i> 	<ul style="list-style-type: none"> • The Upper Eocene potash deposits occur in the subbasins of Navarra and Aragón provinces within the larger Ebro basin (Figure A-1). The Navarrese subbasin includes the Javier and adjoining Pintano deposits, the former being the subject of this resource estimate. This potash deposit contains a 100-m-thick Upper Eocene succession of alternating claystone and evaporites (sulfate, halite, and sylvite). The evaporites accumulated in the elongated basin at the southern foreland of the Pyrenean range. The evaporites overlie marine deposits and conclude in a transitional marine to non-marine environment with terrigenous influence. Open marine conditions existed in the Eocene-Oligocene progressing to a restricted environment dominated by evaporation and the deposition of marl, gypsum, halite and potassium minerals. Later tectonism and resulting salt deformations formed broad anticlines and synclines and overturned beds, resulting in cropping out. The possibility exists that basement-related faulting has resulted in repeatedly overturned mineralized beds. • Two fault systems dominate (Figure A-2) and bound the basin, to the north by the extension of the thrusting Loiti Fault and to the south by the Magdalena Fault, both resulting in the cropping out of the evaporite units, resulting in alteration to gypsum. The basin axis is defined by the Javier-Undues Syncline. To the east, the basin climbs to the Flexura de Ruesta believed to be a northwest-southeast offset block resulting in a higher saddle area between the Javier and Pintano subbasins. Basin continuity to the west-northwest is not well-defined by drilling or seismic. • A 2D high-resolution seismic survey (Figure A-4) was run for POSUSA in August–October 1988, by CGG over most of what is now the project area. This consisted of 9 lines totalling 55 km (Geoalcali 2012). The resulting structure maps for both the top (<i>techo</i>) and bottom (<i>muro</i>) of salt were developed by CGG in combination with the regional seismic, field map, satellite imagery, and drill hole data.

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> • The surface, defined as the base of the salt and top of the Pamplona Marls, will be used in the new geologic/computer model. The potash-bearing zones lack any velocity/density contrasts within the salt, it is not possible to detect potash or map the structure of the zone directly. Coverage of the seismic interpretation does not extend to the northwest part of the basin. • Potash is used to describe any number of potassium salts. By and large, the predominant economic potash is sylvite: a KCl usually found mixed with salt to form the rock sylvinite which may have a K₂O content of up to 63% in its purest form. Carnallite, a potassium magnesium chloride (KCl•MgCl₂•6H₂O), is also abundant, but has K₂O content only as high as 17%. “Carnallite” is used to refer to the mineral and the rock interchangeably, although “carnallitite” is the more correct terminology for the carnallite and halite mixture. Besides being a source of lower grade potassium, carnallite involves a more complex production path, so it is less economically attractive. • The depositional environment is that of a restricted marine basin, influenced by eustasy, sea floor subsidence, and/or uplift and sediment input. It is suggested that the basin is a combination of reflux and drawdown. Reflux represents a basin isolated from open marine conditions thereby restricting inflow, increasing density, and increasing salinity. Drawdown is simple evaporation in an isolated basin resulting in brine concentration and precipitation. This is the classic “bulls-eye” model (Garrett 1995). In this case, the basin is further influenced by erosion at the basin edges due to contemporaneous and post-depositional uplift, resulting in localized shallowing and sediment influx. (Ortiz and Cabo 1981). In that classic model, a basin that is cut off from open marine conditions will experience drawdown by evaporation in an arid to semi-arid environment. In the absence of sediment influx, precipitation will proceed from limestone to dolomite to gypsum and anhydrite to halite. Depending on the composition and influences of the brine at that time, the remaining potassium, magnesium, sulfates, and chlorides will progress from potassium and magnesium sulfates to sylvite and then carnallite. The formation of sylvite and carnallite are proposed herein as secondary and primary, respectively. • In the Javier-Vipasca project areas, the mineralogy is dominated by sylvinite, appearing as medium red orange and white, largely coarse crystals in bands and

Criteria	JORC Code explanation	Commentary
		<p>in heavily brecciated beds with high insoluble material, largely fine-grained clays, anhydrite and marl. The upper potash beds transition to finely banded light brown marls and clays. The salts just below the potash tend to dark grey to black. In some lower beds, halite becomes brownish, sandy to coarsely granular sand and sandstone as sediment influx from the basin edges. In portions of the halite beds, sediment influx from the basin edges is seen as sandy to coarsely granular sands and sandstones. The evaporite beds and bands are separated by fine to very coarse crystallized and re-crystallized salts, generally grey, sometimes light to medium honey brown or white, with anhydrite blebs, nodules and clasts.</p>
<p>Drill hole Information</p>	<ul style="list-style-type: none"> • <i>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:</i> <ul style="list-style-type: none"> ○ <i>easting and northing of the drill hole collar</i> ○ <i>elevation or RL (Reduced Level—elevation above sea level in metres) of the drill hole collar</i> ○ <i>dip and azimuth of the hole</i> ○ <i>down hole length and interception depth</i> ○ <i>hole length.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • Table A-1 shows the historic drill holes and Table A-2 show the drill holes from the 2013–2014 drilling program including planned holes.
<p>Data aggregation methods</p>	<ul style="list-style-type: none"> • <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i> 	<ul style="list-style-type: none"> • Composites by weighted average were made from the geochemical data to optimize grade and thickness of the mineralized seams in both the new and historic data. Composites are summarized by bed and hole in Table A-3. • This press release includes some picks that are preliminary and further drilling will add confidence. Some potash zones could not be correlated across the basin.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	<ul style="list-style-type: none"> All potassic values are in K₂O percent. Most cations are reported as oxides and water-soluble material on a percent basis. ICP and XRF testing reports are in elemental values, but the industry standard is to report in oxides.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). 	<ul style="list-style-type: none"> Some deviation data were available in the 2013–2014 drilling program. In building the new database, apparent bed dips from the lithology logs were incorporated from historic and new holes to attempt to correct to true vertical bed thickness. In some cases high angled bedding is noted within the potash beds but may be an indication of recrystallization of carnallite to sylvinite, resulting in a volume reduction largely by the hydrous component of carnallite. In those cases, apparent dip was reduced to reflect the bed below or above the potash which in most cases was less steep. In the absence of deviation surveys, historic holes were assumed to be vertical. Data on bed orientation were incorporated into the database to calculate apparent true thickness.
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Figure 1 is Highfield's Javier-Vipasca project area showing the current JORC Inferred Mineral Resource. Figure A-2 shows the Javier-Vipasca regional structure and location of drill holes.
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Detailed exploration drilling results from individual holes appear in Highfield's 1 May 2014 ASX release.
Other substantive	<ul style="list-style-type: none"> Other exploration data, if meaningful and material, should be reported including (but not limited to): 	<ul style="list-style-type: none"> A 2D high resolution seismic survey was run for POSUSA in August–October 1988, by CGG over most of what is now the project area. This consisted of 9 lines

Criteria	JORC Code explanation	Commentary
exploration data	<i>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.</i>	<p>totalling 55 km (Geoalcali 2012). Additional 2D seismic was run at a later date (unknown) increasing the total available seismic to 16 lines, totalling 87.3 km (RPS 2013).</p> <ul style="list-style-type: none"> • RPS of Calgary, Alberta, Canada completed a re-interpretation of the 2D historical seismic lines and profiles on behalf of Highfield. The re-interpretation program was designed to review the overall accuracy of the historical data in terms of good correlation to drill hole data and geological intersections, as well as identify any sub-surface structures that may adversely affect the salt-bearing strata within the project area. A total of 16 lines were reviewed and were tied to wells with historical wireline data from the 2D seismic RPS. The paper copies of the seismic were digitized as the original tapes were unavailable. • RPS interpreted that there is no indication of widespread salt removal due to faulting or dissolution. Deep structural features are noted across the project area, and only poor quality seismic data exist over these features. A large-scale structural high is present between the Javier and Pintano areas, separating them geologically. • The surface defined as the base of the salt and top of the Pamplona Marls was used in the current geologic/computer model. The potash-bearing zones lack any velocity/density contrasts within the salt; it is not possible to detect potash or map the structure of the zone directly. Coverage of the seismic interpretation does not extend to the northwest part of the basin.
Further work	<ul style="list-style-type: none"> • <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> • <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> • Drilling is ongoing to continue to define and expand the resource. J13-07 was completed in the central western part of the basin and intersected a potash bed estimated to be 4.5m thick at 282m depth. Assay work, downhole geophysical review and correlations are pending. J13-01 is currently being drilled due north and slightly west of J13-07 and southeast of Noguerras. Both holes are testing for mineralization continuity to the west. • A regional transient electromagnetic sounding (TEM) geophysical program is planned to define the continuity of the salt package. Combined with data obtained from the drill holes by vertical electrical soundings (VES), the program will define the regional thickness and extent of the evaporite layer by using resistivity.



Section 3 Estimation and Reporting of Mineral Resources

Mineral resources based on exploration drilling results are pending.

Section 4 Estimation and Reporting of Ore Reserves

No mineral reserves are reported.