HIGHFIELD RESOURCES CONTINUES TO ADVANCE DEVELOPMENT OF SPANISH POTASH PROJECTS

Highlights

- Head of Construction appointed for the flagship Muga Potash Project
- Continued drilling success in Muga Project area including J14-04, J14-06 and J14-07 with assay results received for J14-06 that include the following intersects:
  - 356.4 – 358.2m, 1.8m at 11.4% K₂O (18.0% KCl)
  - 359.1 – 372.0m, 13.2m at 13.3% K₂O (21.1% KCl), with high grade beds of
    - 5.1m at 16.3% K₂O (25.8% KCl), including a 1.2m at 22.5% K₂O (35.6% KCl); and
    - 2.4m at 16.4% K₂O (26.0% KCl)
- Scoping Study for Sierra del Perdón Potash Project progressing
- First phase of electromagnetic and gravity survey program for Vipasca Potash Project complete in south western area of Goyo permit
- Drilling at Pintano Project confirms historical drilling results that included an intersect of 1.8m at 13.6% K₂O (20.5% KCl) in drill hole P13-01

Spanish potash developer Highfield Resources (HFR:ASX) (the “Company”) is pleased to provide a development update on progress at its four 100% owned Spanish potash projects.

Appointment of Head of Construction

The Board is delighted to announce the appointment of Mr Andrés Zapico Martín as Head of Construction of the Company’s flagship Muga Project. Mr Zapico’s initial responsibility will be the construction, commissioning and handover of the Muga project.

Mr Zapico is a Spanish qualified mining engineer with a PhD in Mining from the University of Oviedo. He started his career as a site engineer with various geotechnical and drilling specialists and subsequently moved into construction management. He has some 15 years’ experience in senior roles across a wide range of major civil and industrial engineering projects including hydroelectric power plants, tunnels (NATM and TMB-EPB), railways, highways, major underground excavations and mine infrastructure. He has worked for a number of major international contractors and consultants and was most recently based in Mexico delivering a hydroelectric energy plant.

In addition to leading all aspects of site safety management during construction, Mr Zapico will have particular delivery responsibility for construction program and budget.

The senior appointment of Mr Zapico reinforces the Company’s strong focus on assembling a highly qualified and competent Spanish team to move quickly to commence mine construction at its advantaged Muga Project.
Muga Potash Project

The Company’s 100% owned Muga Potash Project is targeting the relatively shallow PAB potash (sylvinite) beds in the combined Muga-Vipasca Project that covers an area of more than 110 km². Mineralisation in the PAB potash beds commence at depths to surface of less than 250m and appears ideal for a relatively low cost conventional mine accessed via a decline. The Company is currently completing an infill drill program designed to enhance confidence in the Resource that will be the subject of the Company’s first mine target. On the completion of these drill holes, a total of 32 drill holes will have been completed into the Project area.

![Figure 1: Muga-Vipasca Project area showing current JORC Mineral Resource estimate, potash exploration drill holes and seismic lines](image)

Drilling Results

Following the success of J13-07, J13-08 and J13-10 three additional drill holes have intersected mineralisation in the shallow south eastern section of the Project area. An update to the drilling from the last release is provided as follows:

- **J14-01** in the Fronterizo permit area, intersected mineralisation at 610.3-614.7 (4.4m) and is currently being prepared for assay. The lower salt is less than 0.5m conformably overlying the basal anhydrite with a sandy base. J14-01 has a repeated P0 with a thin PA with the P0 exhibiting brecciation and mineralisation.

- **J14-03** is barren due to dissolution and likely defines the basin edge in the Muga PI to the east and north near the Flexura de Ruesta.

- **J14-04** intersected around 2.0m from 287m depth. Core was lost during drilling and will be re-drilled.
J14-05 is without mineralisation likely the result of a dissolution front within and above the evaporite formation effectively compacting it into one unit with minor remnant P0 and PA salt and structure. J14-05 is close to J13-01 where minimal potash mineralisation was intersected and both appear to demonstrate a depositional high within the Project area that will be important for the final mine plan.

J14-06 has three potash intersections at depths from 352.2 to 354.9m for P0, 2.7m thick with 6.2% grade, 1.8m thick PA at 11.4% K₂O grade and a 13.2m thick PB at 13.3% K₂O; over a thin lower salt. PB includes a high grade bed of 1.2m at 22.5% K₂O.

J14-07 near the southern bound of the basin is a very thick (~10m) intersection with apparent strong mineralisation, the result of structural thickening and repeated beds: 330.5-332.6 (2.8m @ 40° dip), 333.2-336.2 (3.0m @ 40°), 336.9-338.3 (1.5m 30°), 340.0-342.1 (2.1m @40°) and 345.0-348.6 (3.7m @40°). Samples have been sent for assay.

Figure 2: Core Photos from DDH J14-07

Drill holes J14-02, J14-08 and J14-10 are currently being drilled. J14-04 will be re-drilled.

Assay results from the balance of the infill drill holes should be completed by early next Quarter.

JORC Resource Upgrade

Due to the success of recent drilling, in particular drill holes J14-06 and J14-07, the Company has elected to delay the completion of the JORC Resource upgrade being prepared by the Company’s independent resource and engineering consultant, Agapito Associates. The JORC Resource upgrade will now include drill holes and assay results from the entire infill drilling program. As a result, the Resource upgrade is now expected in the December Quarter.

Sierra del Perdón Potash Project

Highfield’s 100% owned Sierra del Perdón Project covers an area of more than 100km² in Northern Spain. It is located within 40kms of the Muga-Vipasca Project and hosts two former operating mines that produced over 10m tonnes of K60 potash product between 1963 and 1996 (Annual Ministerio de Industria lodgements by Minas de Potasas de Navarra and Subiza). Both mines were underground conventional mines where mineralisation was accessed via a decline with a conveyor belt system hoisting mineralisation to the surface via the decline.
Scoping Study

Canadian process engineering consultants, Hatch, has delivered the initial iteration of two process plant options that include the mining and processing of carnallite. Work on the Scoping Study is ongoing.

Vipasca Potash Project

The Vipasca Project area includes the entire Vipasca permit and the deeper areas within the Goyo permit area, including new extensions. The exploration focus is on deeper higher-grade potash mineralisation that occurs in the P2 potash bed in the deeper sections of the combined Muga-Vipasca Project area.

Drilling and TEM and Gravimetric Survey Update

Drill hole J14-10 has commenced in deeper sections of the south and western Goyo permit area. Initial results are expected in September with the assay results of core expected in the next Quarter.

The initial component of the Transient Electromagnetic Sounding (TEM) and gravimetric survey program in the south western section of the Goyo permit area is complete. The balance is expected to be completed in the current Quarter which will in turn enable the Company to plan a drilling campaign to test possible extension of mineralisation in this area and is expected to commence later this Calendar Year.

Pintano Potash Project

Highfield’s 100% owned Pintano Project abuts the Muga-Vipasca Project and covers an area of 125km². Depths from surface to mineralisation commence at around 500m. The Company is building on substantial historical potash exploration information that includes seven drill holes and ten seismic profiles completed in the late 1980s.

Drilling Campaign

Drill holes P13-01 and P13-02 have been completed and are the first modern drillholes in the Basin. P13-01 was designed to test historic drill holes and recorded strong sylvinite mineralisation consistent with these historic drill holes including a 1.8m intersect in P13-01 at 13.6% K₂O (21.5% KCl); the entire mineralised zone was reported from 633m to 643.55m. Full interpretation of the assay results are pending.

P13-02 is located around 2kms from any historic drill hole. Due to tools lost in the hole and poor core recovery the hole was side-tracked (P13-02D) from 1101m depth with NQ to complete coring through the mineralised zone. There is some variability in the original hole and the side-track which must be further interpreted.

P13-02 shows mineralization beginning at P0 (1167.52-1170.60m) [3.1m], PA (1182.10-1183.85m) [1.8m] and PB (1191.8-1193.3m) [1.5m]. Assay results have been received and will be evaluated. This hole was NQ cored through the mineralised zone.

P13-02D shows mineralisation beginning at 1169.4m depth in P0 (2.6m thick) and lower grade PAB from 1177.0m depth separated by halite. P0 exhibits some brecciation and the halite shows recrystallization perhaps indicative of faulting.
Figure 3: Pintano Project area showing current JORC Mineral Resource estimate, potash exploration drill holes and seismic lines

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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 J. Gilbride, P.Eng. and Ms. Vanessa Santos, P.Geo. of Agapito Associates, Inc. (AAI) of Colorado, United States of America (USA). Mr. Gilbride is a licensed professional engineer in the State of Colorado, USA 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, USA, 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 a Principal 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 four 100%-owned projects located in Spain. The Company’s combined Muga-Vipasca, Pintano and Sierra del Perdón potash projects are located in the Ebro potash producing basin in Northern Spain covering a project area of nearly 400km². The Sierra del Perdón project includes two former operating mines. The Company has completed a PFS for its Muga (formerly Javier) Project and is currently working towards completing a DFS by the end of the 2014 Calendar Year.

Figure 4: Location of Highfield’s Muga-Vipasca, Pintano, and Sierra del Perdón Projects in Northern Spain
New Drill Hole Assay Results for Muga-Vipasca and Pintano Project Areas

Table 1: Summary of J14-06 Assay Results – Selected Intervals

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Notes:

1. Provisional results with one sample sent for geotechnical testing from 370.8 to 371.1 m.
2. Assumed average grade from sample above and below.
3. ALS conducted assay using inductively coupled plasma (ICP) method. Samples were processed by ALS Sevilla, Camas, Spain and analysed by ALS Loughrea, Galway, Ireland.
4. Intervals are cored intervals (versus true thickness intervals).
5. Composite grades calculated as length-weighted averages.
Appendix

Explanatory Notes to the Exploration Results for the Muga-Vipasca and Pintano Potash Projects
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 Basin (as defined here by the Muga and Vipasca leases) and the Pintano Basin, which are separated by an elevated saddle area. The Muga-Vipasca area occupies the western extent of the property, and the Pintano area is along the eastern extent (Figure 3).

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 1 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 3 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 provinces, it must be formally issued by the Central Government in Madrid under Article 71.3 of the Spanish Mining Code.

The Muga-Vipasca property comprises four main permits and two extension permits (Figure 2): Goyo, Fronterizo, Muga, and Vipasca. Goyo and Muga are granted PIs in Navarra. Fronterizo straddles the Navarra and Aragón border and was granted 5 February 2014. Three permits are pending. Vipasca was filed at the end of 2013, and it is not expected to be approved for the upcoming resource estimate. The Goyo Sur PI and Muga Sur PI are new applications. 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.

The Pintano property comprises three PI and one PE permits (Figure 3): Molineras 10 (PI), Molineras 20 (PI), and Puntarrón (PI), and Puntarrón (PE). Puntarrón (PI) is pending. The Molineras 20 is under application and pending approval in 2014. For the existing Puntarrón (PE), Highfield has applied for a rollover to extend the exploration period an additional one year. Highfield is relied upon by the CPs for tenure status.

Geology

The Upper Eocene potash deposits occur in the sub-basins of Navarra and Aragón provinces within the larger Ebro Basin (Figure A-1). The Navarrese sub-basin includes the Muga-Vipasca (Javier) and adjoining Pintano deposits. 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 and 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) mineralised beds.

Two fault systems dominate and bound the Javier 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 sub-basins. Approximately vertical faults parallel to the west of the Flexura de Ruesta have been defined by two-dimensional (2D) seismic surveys (Empresa Nacional
Figure A-1. Regional Geology of the Ebro and Jaca-Pamplona Basins
(from University of Michigan 2004)

Figure A-2. Muga-Vipasca Project Regional Structure and Drill Hole Locations
Adaro Investigaciones Mineras [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. Field investigation has shown an overthrust of much younger rocks, but generally lower angle structure than suggested by the offset. The area will be evaluated by drilling upon the granting of the Vipasca PI.

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 characterised 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 localised 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 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 sylvinitic which may have a potassium oxide (K<sub>2</sub>O) content of up to 63%. Carnallite, a potassium magnesium chloride (KCl•MgCl<sub>2</sub>•6H<sub>2</sub>O) is also abundant, but has K<sub>2</sub>O 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 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 150m to the saline formation, which displays the following sequence from bottom to top:

a) Pamplona Marls.
b) Basal sulfate member (basal anhydrite).
c) Lower salt member (sal de muro or “bottom salt”), medium to very coarse recrystallised halite, medium grey to black and lower part may be brown and sandy as described below.
d) Multiple sylvinitic beds as the lower member and a carnallitic upper member. The potash is characterised as fine to coarse granularity, typically light to medium orange-red in colour, of crystalline structure with high insolubles and interbedded halite. The upper sylvinitic exhibits brecciated structure suggesting recrystallisation after carnallite formation. Carnallite formation is limited in the Muga-Vipasca Project area and more commonly occurring in the Sierra del Perdón Project area.
e) Upper saline member (sales de techo or “top salts”), alternating halite and clay layers, some of which exhibit deformation.
f) 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 Rocaforté Formation and, locally, the Igaza Conglomerates (Uncastillo Formation). This unit is capped by Quaternary and Oligocene sediments. The Quaternary is made up of alluvium, glacial till and debris (Orti et al. 1986).
These units have been simplified in the geologic modeling database as:

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

In the Muga-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 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 lower salt is banded, exhibits very large cubic crystals and, in some cases, high angles and folding indicative of recrystallisation and structural deformation. The literature denotes this salt as the "sal vieja" or "old salt" (Ortiz and Cabo 1981). The evaporite beds and bands, in general, are separated by fine to very coarse crystallised and recrystallised salts, generally grey, sometimes light-to-medium honey brown or white, with anhydrite blebs, nodules, and clasts.

### Exploration and Methodology

Extensive exploration was carried out originally by Potasas de Subiza, S.A. (POSUSA) through 1987 and later by e.n. adaro (1989–1991) in the late 1980s and early 1990s. e.n. adaro, the state-owned group tasked with exploration and development of Spain's mineral resources, produced detailed reports and "reserve" studies of the Muga-Vipasca and Pintano areas. The drilling program completed in 1989–1990 was outlined in detail in reports that are referenced herein.

#### Muga-Vipasca Property

Potash mineralisation occurs in five principal sylvinite beds (descending 0, A, B, 1 and 2), ranging in depth from approximately 100m to more than 1,000m. **The 8 October 2013** maiden Mineral Resource estimate for the Muga-Vipasca property was independently developed by USA geology and mining consultants 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 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. Eighteen new holes (see Table A-2) have been drilled and cored since 2013 by Geoalcali Sociedad Limitada (Geoalcali) for a total of 29 holes on the property. Four holes J14-02, J14.04 (planned redrill), J14-06 and J14-10 are in progress as of 04 September 2014.

The second phase of drilling in the Muga-Vipasca Project area includes ten holes for infill drilling and resource extension. Detailed evaluation of this second phase will be part of the upcoming updated resource estimate. Assays for drill holes J13-06 are presented in this press release. Assay results for J14-01, the original J14-04, J13-05, and 14-07 are pending. No assays for recently completed drill holes J13-03.

The potash beds have been correlated using a combination of assays, core photos and inspection, and lithological and geophysical logs. The beds vary in grade and thickness and can be discontinuous. From top to bottom, the principal beds 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% K2O where present. The bed designated as P0 is a transitional zone generally marked by low-grade orange sylvinite and halite interbedded with light- to medium-grey and thinly bedded clay and marls exhibiting some cross-cutting veining and recrystallisation near the top of salt. In J13-09, P0 is well developed with an approximate 2.7m true thickness (adjusted from apparent dip) averaging 11.7% K2O, 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, of highest grade, and most continuous across the Basin. PA generally exhibits the highest degree of recrystallisation 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 1m or less of halite and, consequently, are treated in the resource modelling as a combined single bed (PAB) for correlation purposes. PAB is typically of 9% to 13% K2O grade and has a thickness averaging about 3.6m true thickness where present. Thicknesses in this report are generally reported as measured thickness except in the resource where thickness is corrected to true thickness.

P1 and P2 are generally thinner and more discontinuous than the overlying beds and appear to represent early deposition as seen in the western part of the basin. Grade is variable in both beds and may be as high as 19%
(in one 0.5m intercept) but typically averages about 2m thick and 8.7% K$_2$O. 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. P2 may exhibit a pink colour with decimated white anhydrite nodules and steep bedding.

The core in most holes exhibits sylvinite 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 recrystallisation.

In J14-06, bed P0 is present over a 2.7m interval interbedded with characteristic light coloured and thinly laminated beds of clays and marls which directly overlying the PAB bed. PAB shows typical dark brecciated mineralisation with minor banding over an interval of approximately 18m, a very thick intersection which could be the result of folding.

Exploration drilling results for earlier holes are summarised in Highfield’s 1 May 2014, 12 May 2014, and 5 June 2014 ASX and 04 August 2014 releases.

Additional lower beds in the depositional center of the Basin may exist, as suggested in the logs from drill holes J13-09 and J13-13, 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 mobilise with faulting, folding, and recrystallisation processes. In some cases, faulting is “basement” derived and can produce faulted or thrusted beds which attenuate up geologic sequence through the salt beds. Additional drilling will help to determine the nature of these beds.

J14-01 in the Fronterizo permit area, intersected mineralisation at 610.3-614.7 (4.4m) and is currently being prepared for assay. The lower salt is less than 0.5m thick and conformably overlying the basal anhydrite with a sandy base. J14-01 has a repeated P0 with a thin PA in between with the P0 exhibiting brecciation and mineralisation.

J14-03 is barren due to dissolution and likely defines the basin edge in the Muga PI to the east and north near the Flexura de Ruesta.

J14-04 intersected around 2.0m from 287m depth. Core was lost during drilling and will be re-drilled.

J14-05 is without mineralisation likely the result of a dissolution front within and above the evaporite formation effectively compacting it into one unit with minor remnant P0 and PA salt and structure. J14-05 is close to J13-01 where minimal potash mineralisation was intersected and both appear to demonstrate a depositional high within the Project area that will be important for the final mine plan.

J14-06 has three potash intersections at depths from 352.2 to 354.9m for P0, 2.7m thick with 6.2% grade, 1.8m thick PA at 11.4% K$_2$O grade and a 13.2m thick PB at 13.3% K2O; over a thin lower salt.

J14-07 near the southern bound of the basin is a very thick (~10m) intersection with apparent strong mineralisation, the result of structural thickening and repeated beds: 330.5-332.6 (2.8m @ 40º dip), 333.2-336.2 (3.0m @ 40º), 336.9-338.3 (1.5m at 30º), 340.0-342.1 (2.1m @40º) and 345.0-348.6 (3.7m @40º). Samples have been sent for assay.
### Table A-1. Muga-Vipasca Historic Drill Holes

<table>
<thead>
<tr>
<th>Drill Hole ID</th>
<th>Coordinates ETRS89</th>
<th>Total Depth (m)</th>
<th>Date of Drilling Campaign*</th>
</tr>
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<tr>
<td></td>
<td>Easting (m)</td>
<td>Northing (m)</td>
<td>Elevation MSL (m)</td>
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<td>Javier-2</td>
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<td>JP-1</td>
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<td>JP-3</td>
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</table>

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.
Eight potash exploration holes were drilled (one was drilled to replace an incomplete well) on the Pintano property (Figure 3) between the 1980s and 1991 (see Table A-3) by POSUSA (1987) and e.n. adaro (1989–1991). Drill holes P13-01 and P13-02 have been completed and are the first modern drillholes in the Basin. (Table A-4). The lithologies are similar to those in Muga-Vipasca and the potash beds are correlatable to beds in Muga-Vipasca, including an 8.9m mineralised zone (depth 640m) selected for assay. Full interpretation of the assay results are pending.

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 the Muga-Vipasca property. This consisted of 9 lines totalling 55 kilometers (km). An additional 2D seismic survey was performed at an (unknown) later date, increasing the total available seismic survey data to 16 lines covering the majority of the Muga-Vipasca and Pintano properties, totalling 87.3km (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.

Table A-3. Pintano Historic Drill Holes

<table>
<thead>
<tr>
<th>Drill Hole ID</th>
<th>Coordinates ETRS89</th>
<th>Total Depth (m)</th>
<th>Date of Drilling Campaign*</th>
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<td>Elevation MSL (m)</td>
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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-4. Highfield Resources Pintano 2014 Drilling Campaign

<table>
<thead>
<tr>
<th>Drill Hole ID</th>
<th>Start Date</th>
<th>End Date</th>
<th>Coordinates ETRS89</th>
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</tbody>
</table>

Note: ND = not drilled. IP = in progress. IC=Incomplete. Coordinates in bold are final.
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 seismic survey 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 Muga and Pintano Project areas, 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 interpreted seismic structure map produced by CGG, which provided more complete detail. The historical structure map is modified and corrected to reflect updated drill holes.

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.

For the Muga-Vipasca Project area, depositional basin bounds are defined to the west at the east-southeast/north-northwest trending Rocafort 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 is within the Pamplona Marls over Yesa turbidites and the second which makes the Yesa turbidites coincident with the Liedena Sandstone.
Along the south of the Muga-Vipasca property, the basin is bound by the La Magdalena Anticline and Fault, characterised 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 Muga-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 Flexura de Ruesta. The Flexura 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 the Muga-Vipasca and Pintano Basins. The Pintano Syncline trends in the east-west direction for about 20km and can be considered the continuation of the Javier eastern syncline.

The northern part of the Muga-Vipasca Basin is defined by the extension of the Loiti Fault 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, occurring at the end of the Cretaceous period, were characterised 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 Mountains 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 epoch, 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 epoch in the Bartoniense series, are sourced from the east initially into the Pintano Basin and contained by the Flexura de Ruesta 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.

A detailed interpretation of structure is in progress for the Pintano property.

**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 summarised in Table A-5.

The CPs reviewed the available historical geophysical logs to compare estimated K₂O from natural gamma and/or spectral gamma logs versus the assayed values. Comparisons show good agreement, indicating that gamma can be a good indirect measure of K₂O content.

Highfield and ALS Global (ALS), 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 inserted commercial standards BCR-113 and BCR-114, both potash fertilizer materials, 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 SRM, and one laboratory duplicate per 20 samples or batch.
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$_2$O values over the ICP method.

Duplicates were submitted to ALS, and ICP results show good internal agreement. Check samples were tested at Saskatchewan Research Council Laboratory (SRC). In general, SRC reports K$_2$O values lower than reported by ALS. Because ALS and SRC show good internal agreement, the bias suggests a calibration issue.

Supporting analytical details appear in Highfield’s 1 May 2014 ASX release.

**Additional Work**

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

A regional Transient Electromagnetic Sounding (TEM) geophysical and gravimetric survey program has been completed in the Goyo area to define the continuity of the salt package. International Geophysical Technology, SL (IGT) has prepared a report which is being evaluated for possible expansion of the program to the south and east. 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. Data resolution may be limited to a depth range of 1000m which would limit the usefulness in the deeper parts of the basin. An additional area in the south and west part of Goyo PI is expected to be completed in the current Quarter which will in turn enable the Company to plan a drilling campaign to test possible extension of mineralisation in this area and is expected to commence later this Calendar Year.

**References**


Table A-5. JORC Checklist of Assessment and Reporting Criteria

Section 1 Sampling Techniques and Data

<table>
<thead>
<tr>
<th>Criteria</th>
<th>JORC Code explanation</th>
<th>Commentary</th>
</tr>
</thead>
</table>
| Sampling techniques |  • 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. |  • In Muga-Vipasca 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. Eighteen new holes (see Table A-2) have been drilled and cored since 2013 by Geoalcali Sociedad Limitada (Geoalcali) for a total of 30 holes on the property. Four holes J14-02, J14-04 (planned redrill), J14-06 and J14-10 are in progress as of 04 September 2014. Upon completion of this second phase of infill drilling and resource extension total of thirty two holes will have been drill and a new resource estimate will be prepared. Geoalcali is a 100% owned Spanish subsidiary of Highfield Limited (Highfield or the “Company”).  
  • The historic drilling program resulted in compiled reports which are referenced in Appendix—Explanatory Notes to the Exploration Results for the Muga-Vipasca (formerly Javier-Vipasca) Potash Project. The historical programs, in general, were well-documented.  
  • The new drill holes have been geologically logged, photographed, and assayed. Some of the holes were geophysically logged through the mineralised 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 Global (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. Sample preparation is in Seville, Spain and assay work is completed in Loughrea, County Galway, Ireland. ALS has a documented methodology and quality assurance/quality control (QA/QC) protocol.  
  • The historical holes contributed to a maiden Joint Ore Reserves Committee (JORC) Inferred Resource in September 2013 (Stirrett and Mayes 2013). Of the historical holes, a comparative study to re-assay to test the quality and accuracy of the historical assays showed moderate agreement. Re-sampling of three  

mineralised 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 in an internal report to Highfield (Stirrett and Mayes 2013) and discussed in more detail in the “Quality of Assay” section here. The report is referenced herein.

- 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.”

- Drilling techniques
  - 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.).

- Drilling procedures are unknown from historic Javier holes drilled prior to 1987 including 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). e.n. adaro, the state-owned group tasked with exploration and development of Spain’s mineral resources, produced detailed reports and “reserve” studies of the Muga-Vipasca area.

- Historical drilling was completed with the Mayhew 1500 drill rig 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 2,208m were drilled in Javier, not accounting for some re-drilling in JP-3 and JP-4. For JP-3 and JP-4, the mineralised 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, and 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. In the second phase of the 2014 program, procedural changes have been adapted to open hole drill and case above the salt and core only beginning in the banded marls and through the salt. This should decrease the time to complete each hole and reduce the risk of drilling problems that result in reducing hole diameter and smaller core diameter. Drilling has been contracted to Geonor Servicios Tecnicos S.L. of Galicia, Spain using a Christensen CS3000 and Forida Golden Bear and Sondeos y Perforaciones Industriales del Bierzo (SPI) (J13-09, SPRDrill 260). Drilling was supervised by Highfield geologists. An additional company, In Situ out of Madrid has been contracted to drill deeper targets.

**Criteria** | JORC Code explanation | Commentary
--- | --- | ---
Drill sample recovery | Method of recording and assessing core and chip sample recoveries and results assessed. | Detailed information on core recovery for the historical program is not available, but the assay data are largely complete over the mineralised zones.
 | Measures taken to maximise sample recovery and ensure representative nature of the samples. | Core recovery on the 2013–2014 drilling campaign averaged greater than 95% in the mineralised zones although some samples show dissolution due to undersaturated brine mud. Typically these samples are thought to under-report 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.
 | 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. | PQ core is the recommended diameter for core but in some cases the hole is completed with HQ and in one case with NQ (P13-02) for a side track hole through the mineralised zone.
 | Core sampling procedure is well-documented in the 2013–2014 drilling program. | Core sampling procedure is well-documented in the 2013–2014 drilling program.

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. | 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 centimetres [cm]) but the methodology is unknown. Thirty centimetres 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
<table>
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<th>Criteria</th>
<th>JORC Code explanation</th>
<th>Commentary</th>
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<td></td>
<td>• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</td>
<td>intervals for the unknown (pre-1987) drilling program used a much larger sampling interval (up to 2.44m) for NGR, VST, and J-3.</td>
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<td></td>
<td>• The total length and percentage of the relevant intersections logged.</td>
<td>• In the modern program, cuttings were collected and core was logged, photographed, sampled, and assayed in approximately 0.3m 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 mineralised zones.</td>
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<td>Sub-sampling techniques and sample preparation</td>
<td>• If core, whether cut or sawn and whether quarter, half or all core taken.</td>
<td>On the historical holes, grooved 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 Mayes 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.”</td>
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<td>• If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</td>
<td>• 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 0.3m in length 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 (63.5mm) as was the case for J13-13 (at 642m depth below the mineralised zone) and J13-09 (from 484m depth) and J13-06 (at 458m). J13-08 and J13-05 were HX cored through the mineralised zone. J14-01 was HQ diameter core through the mineralized zone. J14-04 used a combination of PQ and HQ through the mineralised zone. This smaller core diameter is not ideal for assay as some duplicates have shown variability. To try to mitigate this, duplicates are selected from HQ as true duplicates rather than on a quarter core sample. Quarter sample duplicates are selected for PQ core. In all cases, hole size was reduced to continue drilling in difficult hole conditions (lost circulation or kick-off) and is not part of normal procedure. The program forward has made procedural changes to reduce the risk of the need to downsize hole diameter.</td>
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<td>• For all sample types, the nature, quality and appropriateness of the sample preparation technique.</td>
<td>• 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.</td>
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<td>• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</td>
<td>• Whether sample sizes are appropriate to the grain size of the material being sampled.</td>
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<tr>
<td>Quality of assay data</td>
<td>• The nature, quality and appropriateness of the assaying and laboratory procedures used and</td>
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<td>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,</td>
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<td>and laboratory tests</td>
<td>whether the technique is considered partial or total.</td>
<td>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 30cm or less to maintain good sample resolution.</td>
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<td>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.</td>
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<td>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.</td>
<td>No original assays are available for the pre-1987 drilling program. Results for P-1, J-3, VST, and NGR are summarised from the e.n. adaro comprehensive reports (e.n. adaro 1989–1991). These drill holes were only analysed for KCl, and therefore lack results pertaining to MgCl2 (to determine carnallite content) or insolubles. UDR was not assayed and its mineralisation is reported to be “insignificant grade.” In the current resource, mineralisation was interpreted to be &lt;5% K₂O in the PAB main bed, as representative of the sampling cutoff at the time, based on a review of e.n. adaro’s assay results. This will be changed in the forthcoming resource estimation to reflect the new data from J13-04.</td>
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<td>The “grooving” technique on the historical 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.</td>
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<td>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 not present or missing for both VST and NGR, and thus could not be re-sampled. North Rim attempted to duplicate the historical sample intervals; their methodology is described below:</td>
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<td>o For the re-sampling of historical 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</td>
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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 historical 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.

- 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.

- Duplicates were submitted to ALS and show good internal agreement.
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<td>Verification of sampling and assaying</td>
<td>• The verification of significant intersections by either independent or alternative company personnel.</td>
<td>o 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.</td>
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<td>• The use of twinned holes.</td>
<td>o 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.</td>
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<td>• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</td>
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<td>• Discuss any adjustment to assay data.</td>
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<td>• 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.</td>
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<td>• ALS assayed samples both by ICP and XRF. In general, ICP analysis shows adequate agreement with assays by XRF, which report, 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.</td>
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<td>• 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 and reports outliers to Geoalcali for re-assay.</td>
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<td>• A database was built from the historical drill hole information by Highfield and checked by AAI against the historical reporting of assays and intervals listed on the lithologic logs.</td>
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| 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.  
• Specification of the grid system used.  
• Quality and adequacy of topographic control. | • The master database was checked against the ALS-issued Certificates of Analysis (COA).  
• Historical collar locations were re-located in most cases and re-surveyed. Some historical collars could not be located as many were drilled on agricultural land. Historical drill hole location maps consistently show locations and so suggest confidence in the hole coordinates. Specifically JP-1, JP-2, MLN, and Javier 3 could not be relocated. Historical data and maps are referenced to the European Datum 50 (ED50) and have been updated to the European Terrestrial Reference System 1989 (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            | • 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. | • Exploration drill hole spacing is illustrated on the scaled maps in Figures 2 and 3. 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 | • Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  
• 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. | • 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 historical and new holes to attempt to correct to true bed thickness.  
• Historical holes were assumed to be vertical in the absence of deviation surveys. Deviation data show relatively vertical trajectories in surveyed holes. Data on bed orientation were incorporated into the database to calculate apparent true thickness.  
• The regional structure is discussed in more detail in “Geology”, but the Basin structural dip is interpreted from regional the CGG “base of salt” map and new drill hole control. The deposit is bedded, but the historical 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. A historical structure map with fault offsets is used for the interpretation of bed orientation and is modified and corrected to reflect |
updated drill holes. 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 to be 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 historical holes La Vistana and JP 3-D. P0 shows weak mineralisation but PAB shows 12% grade of compositcd K₂O in a 4.3m true thickness, P1 is 17.5% grade with a 0.6m thickness, and P2 contains very low grades. This compares to La Vistana PAB at 11.1% grade and 4.5m thickness, P1 is 12.1% grade of K₂O at 1.7m thickness, P2 shows 10.4% K₂O and 2m thickness.

Sample security

- The measures taken to ensure sample security.
- 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

- The results of any audits or reviews of sampling techniques and data.
- 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 “Verification of sampling and assaying data.”

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

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<td>Mineral tenement and land tenure status</td>
<td>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.</td>
<td>Property descriptions and land status were obtained from the list of lands as set forth in the documents provided by Highfield. The Muga-Vipasca property is comprised of four permits (see Figure 2). Goyo and Muga are granted Investigation Permits (PI) in Navarra. Fronterizo straddles the Navarra and Aragon border and its PI was granted 05 February 2014. Vipasca is a newer application applied for at the end of 2013 and is not expected</td>
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- 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.

- 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.

- The Pintano property comprises three PI and one PE permits (Figure 3): Molineras 10 (PI), Molineras 20, and Puntarrón (PI), and Puntarrón (PE). Puntarrón (PI) is pending. The Molineras 20 is under application and pending approval in 2014. For the existing Puntarrón (PE), Highfield has applied for a rollover to extend the exploration period an additional one year.

- The CPs have reviewed the mineral tenure from documents provided by Highfield including permitting requirements, but have 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 categorised into four sections under the Spanish law (A, B, C, and D), and must have mining authority authorisation 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.
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.

- 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 authorised by the proper mining authorities in Spain.

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| **Exploration done by other parties** | Acknowledgment and appraisal of exploration by other parties. | The historical drilling program completed in 1989–1990 was outlined in detail by e.n. adaro (1989–1991). e.n. 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 Mayes 2013). The potash horizons in the area were identified to cover approximately 160 square kilometers (km²) at depths of approximately 500m sub-surface, unless they were brought closer to surface by anticlinal or tectonic structures (Stirrett and Mayes 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 Mayes 2013). The exploration efforts later led to the development of a mine near Pamplona and Berain.

- Production at Pamplona began in 1963 with a capacity of 250,000 tonnes per year (tpy) of K₂O. A thick carnallite member overlies the sylvinite, so in 1970 a refinery with the capacity for 300,000tpy was built to accommodate for carnallite
from the Esparza (Stirrett and Mayes 2013). Carnallite mining was ceased in 1977. Inclined ramps for the mine were located near Esparza, reaching the centre of the mine, with further shafts located at Beriain, Guendulain and Undiano. In 1982, 2.2 million tonnes of sylvinite were extracted with an average K₂O grade of 11.7% (Stirrett and Mayes 2013). The operations in Navarra were closed in the late 1990s.

Geology
- Deposit type, geological setting and style of mineralisation.
- The Upper Eocene potash deposits occur in the sub-basins of Navarra and Aragón provinces within the larger Ebro Basin (Figure A-1). The Navarrese sub-basin includes the Javier and adjoining Pintano deposits, the former being the subject of this resource estimate. This potash deposit contains a 100m-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 mineralised 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 sub-basins. Basin continuity to the west-northwest is not well-defined by drilling or seismic survey.
- 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 totalling 55km (Geoalcali 2012). The resulting structure maps for both the
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<td>top (techo) and bottom (muro) of salt were developed by CGG in combination with the regional seismic, field map, satellite imagery, and drill hole data.</td>
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<td>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.</td>
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<td>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 K$_2$O content of up to 63% in its purest form. Carnallite, a potassium magnesium chloride (KCl•MgCl$_2$•6H$_2$O), is also abundant, but has K$_2$O 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.</td>
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<td>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 1996). In this case, the basin is further influenced by erosion at the basin edges due to contemporaneous and post-depositional uplift, resulting in localised 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...</td>
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The formation of sylvite and carnallite are proposed herein as secondary and primary, respectively.

- In the Muga-Vipasca Project areas, the mineralogy is dominated by sylvinitic, appearing as medium red-orange and white, largely coarse crystals in bands and in heavily brecciated beds with high insoluble material, largely fine-grained clays, anhydrite and marl. Mixed sylvinitic and carnallitic was noted in J13-08 in the PA bed. 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 lower salt is banded, exhibits very large cubic crystals and, in some cases, high angles and folding indicative of recrystallisation and structural deformation. The literature denotes this salt as the “sal vieja” or “old salt” (Ortiz and Cabo 1981). The evaporite beds and bands, in general, are separated by fine to very coarse crystallised and recrystallised salts, generally grey, sometimes light to medium honey brown or white, with anhydrite blebs, nodules and clasts.

**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:
  - easting and northing of the drill hole collar
  - elevation or RL (Reduced Level—elevation above sea level in metres) of the drill hole collar
  - dip and azimuth of the hole
  - down hole length and interception depth
  - hole length.
- 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

- Table A-1 shows the historical drill holes and Table A-2 shows the drill holes from the 2013–2014 drilling program. Subsequent to the previous release results drill hole results for Muga-Vipasca Project Area are presented below. The previous release report on J13-01, J13-07, J13-08, J13-10 and on J13-04 and J13-1. This press release includes some picks that are preliminary.
  - J14-01 in the Fronterizo permit area, intersected mineralisation at 610.3-614.7m (4.4m) and is currently being prepared for assay. The lower salt is less than 0.5m conformably overlying the basal anhydrite with a sandy base. J14-01 has a repeated P0 with a thin PA in between with the P0 exhibiting brecciation and mineralisation.
  - J14-03 is barren due to dissolution and likely defines the basin edge in the Muga PI to the east and north near the Flexura de Ruesta.
  - J14-04 intersected around 2.0m of potash from 287m depth. Core was lost during drilling and will be re-drilled.
Criteria | JORC Code explanation | Commentary
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understanding of the report, the Competent Person should clearly explain why this is the case. | - J14-05 is without mineralisation likely the result of a dissolution front within and above the evaporite formation effectively compacting it into one unit with minor remnant P0 and PA salt and structure. J14-05 is close to J13-01 where minimal potash mineralisation was intersected and both appear to demonstrate a depositional high within the Project area that will be important for the final mine plan.
- J14-06 has three potash intersections at depths from 352.2 to 354.9m for P0, 2.7m thick with 6.2% grade, 1.8m thick PA at 11.4% K2O grade and a 13.2m thick PB at 13.3% K2O; over a thin lower salt.
- J14-07 near the southern bound of the basin is a very thick (~10m) intersection with apparent strong mineralisation, the result of structural thickening and repeated beds: 330.5-332.6m (2.8m), 333.2-336.2m (3.0m @ 40º), 336.9-338.3m (1.5m), 340.0-342.1m (2.1m) and 345.0-348.6m (3.7m). Samples have been sent for assay.
- In the Pintano Project Area, P13-01 and P13-02 have been completed and are the first modern drillholes in the Basin. (Figure 3). P13-01 was designed to test historic drill holes and recorded strong sylvinitite mineralisation consistent with these historic drill holes including a 1.8m intersect in Pintano-1 (P-1) at 13.6% K2O; the entire mineralized zone was reported from 633m to 643.55m. Full interpretation of the assay results are pending.
- P13-02 is located around 2kms from any historic drill hole. Due to tools lost in the hole and poor core recovery the hole was side-tracked (P13-02D) from 1101m depth with NQ to complete coring through the mineralized zone. There is some variability in the original hole and the side-track which must be further interpreted. P13-02 shows mineralisation beginning at P0 (1167.5-1170.6m) [3.1m], PA (1182.1-1183.9m) [1.8m] and PB (1191.8-1193.3m) [1.5m]. Assay results have been received and will be evaluated.
- P13-02D shows mineralisation beginning at 1169.4m depth in P0 (2.6m thick) and lower grade PAB from 1177.0m depth separated by halite. P0 exhibits some brecciation and the halite shows recrystallization perhaps indicative of faulting. P0 is from 1169.4m to 1172.0m) and PA is from 1177.5m to 1177.9m), 0.4m thick.
### Criteria | JORC Code explanation | Commentary
--- | --- | ---
**Data aggregation methods** | • 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.  
• 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. | • Composites by weighted average were made from the geochemical data to optimise grade and thickness of the mineralised seams in both the new and historical data. Composites were summarised by bed and hole in Table A-3 in Upgraded JORC Compliant Resource Estimate For Javier Project 16 May 14.  
• This press release includes some picks that are preliminary and further drilling will add confidence.  
• 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** | • 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’). | • 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 historical 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 recrystallisation of carnallite to sylvnite, 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, historical holes were assumed to be vertical. Data on bed orientation were incorporated into the database to calculate apparent true thickness.  

**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. | • Figures 1 and 2 illustrate Highfield’s Muga-Vipasca and Pintano properties showing the current JORC Mineral Resource footprints.  
• Figure A-4 shows the Muga-Vipasca regional structure and location of drill holes.  

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<th>Criteria</th>
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<td>Balanced reporting</td>
<td>• 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.</td>
<td>• Detailed exploration drilling results from individual holes appear in Highfield’s 1 May 2014 ASX release. Updated assay results are presented in subsequent news ASX news releases here and previously dated Highfield’s 1 May 2014, 12 May 2014, and 5 June 2014 ASX releases.</td>
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<td>Other substantive exploration data</td>
<td>• 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.</td>
<td>• 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 totalling 55km (Geoalcali 2012). An additional 2D seismic was run at a later date (unknown) increasing the total available seismic to 16 lines, totalling 87.3km (RPS 2013).                                                                 • 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.</td>
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<td>Further work</td>
<td>• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</td>
<td>• Drilling is ongoing to continue to define and expand the resource in Muga-Vipasca and in Pintano. The ongoing second phase of drilling in the Muga-</td>
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<td>• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</td>
<td>Vipasca Project area is for infill drilling and resource extension. Detailed evaluation will be part of the upcoming updated resource estimate.</td>
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<td>• A regional transient electromagnetic sounding (TEM) survey program has been completed in the Goyo area is planned to define the continuity of the salt package. International Geophysical Technology, SL (IGT) has prepared a report which is being evaluated for possible expansion of the program to the south and east. 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. Data resolution may be limited to a depth range of 1000m which would limit the usefulness in the deeper parts of the basin. The survey area has been extended to an area in the southwest Goyo Pl to test for basin extension. That work is ongoing.</td>
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**Section 3 Estimation and Reporting of Mineral Resources**

No new information regarding the estimation and reporting of mineral resources is presented. The reader is directed to the 16 May 2014 ASX release.

**Section 4 Estimation and Reporting of Ore Reserves**

No mineral reserves are reported.