



MUGA POTASH MINE UPDATED 2023 FEASIBILITY STUDY

HIGHLIGHTS

Highfield Resources (ASX: HFR) (“Highfield” or the “Company”) is pleased to provide a 2023 update to the Muga-Vipasca Potash Project (“Muga” or the “Project”) Feasibility Study (“FS”) that reconfirms the compelling economics of the Project.

Outstanding project economics include:

- NPV₈ of €1.82 billion and 24% IRR (post tax)
- EBITDA of approximately €340 million per annum at full production
- 30 year Life of Mine with planned production over 2 phases to produce up to 1Mtpa of Muriate of Potash (MOP)
- Pre-production construction capital requirement of €449 million for Phase 1 and €286 million for Phase 2, including 10% contingency
- Competitive C1 cash cost estimate of €108/t post salt by-product revenue
- Proximity to potash consumers results in low transportation costs which, for such a high-volume commodity, are key for outstanding margins and the robustness of the project through price cycles
- Higher level of confidence in this updated capex number with 93% of the capex based on contracts plus firm offers compared to 76% in the 2022 FS.

Significant competitive advantages

- Strategically located in the middle of the European market
- Excellent logistics with immediate access to ports, transport and renewable grid power
- Straightforward access to the mine with two ramps, no shafts, no aquifers and shallow mineralization
- Low technical risk with conventional underground Room and Pillar mining method and flotation and crystallization processing
- Global demand for MOP as a critical fertilizer input expected to grow driven by geopolitical supply diversity, population growth, and declining arable land. All these factors being particularly acute in Europe
- Fully permitted and construction ready, subject to financing
- Major focus on completing remaining Phase 1 funding, working with financial advisors, Macquarie Capital, Clarksons Securities and Endeavour Financial in negotiations with numerous parties encompassing strategic partnerships, non dilutive royalty funding, equity and offtake agreements.

Cautionary Statement. The production target set out in this update is derived from Proved and Probable Ore Reserves, additional Measured, Indicated and Inferred Mineral Resources from the Muga-Vipasca tenement as well as the Exploration Target at the Vipasca and Muga Sur tenements. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The potential quantity and grade of an Exploration Target is conceptual in nature, there has been insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that the production target itself will be realised. The technical parameters underpinning the Mineral Resource in the market announcement dated 30 March 2021 and the Exploration Target in the market announcement dated 23 November 2021 and 2 November 2022 continue to apply and, in the Company’s opinion, have not materially changed.

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Ignacio Salazar, CEO, commented: “We are delighted to announce the updated Feasibility Study for the Muga Project. After significant progress, now fully permitted and construction ready, with access to all the project land and a much higher level of confidence in the Capex estimate, the Muga Potash mine stands out with a value of €1.8 billion. The difficult global geopolitical backdrop reinforces the importance of Muga, and the strategic nature of the project for Europe.”

Muga Mine

The Muga Potash Mine is located in northern Spain, near the town of Pamplona with high quality and readily accessible infrastructure already in place in the region. Importantly, Muga is located in the heart of a European agricultural region which has a clear deficit in potash supply. With the Mining Concession being granted in July 2021, the underground access ramp construction licence in Aragón in June 2022 and the process plant construction licence in Navarra in March 2023, Muga has all key licences and permits needed to begin full scale construction.

Mine plan

The Mineral Resources and Mine Plan remain as presented in the 2022 Muga Feasibility Study Update (refer ASX release 2 November 2022, “Updated Muga Feasibility Study”). The Mine Plan was prepared by Highfield in 2021 with technical mine planning support from the Spanish mining engineering consultants, IGAN Consulting Group. The portion of the plan that supports the Ore Reserve was reviewed by SRK Consulting (“SRK”) which incorporated various capital and operating cost sensitivities into its assessment to confirm its robustness in December 2021.

The Mine Plan is based on the Proved and Probable Ore Reserves, but also integrates Inferred Mineral Resources¹ as well as the abutting Exploration Target² tonnes that remain unchanged as per the ASX announcement released on the 23 November 2021 (refer ASX release, “Updated Ore Reserve Estimate – Muga Project”), and the additional Measured, Indicated and Inferred Mineral Resources audited by SRK as per the ASX release on 30 March 2021 (refer ASX release, “Annual Report to the stakeholders”).

The technical parameters assumed for the 2021 Mine Plan continue to apply and have not been changed as at November 2023.

Table 1 below describes the various sources that are included in the Mine Plan.

TABLE 1: MINE PLAN TONNES SOURCES

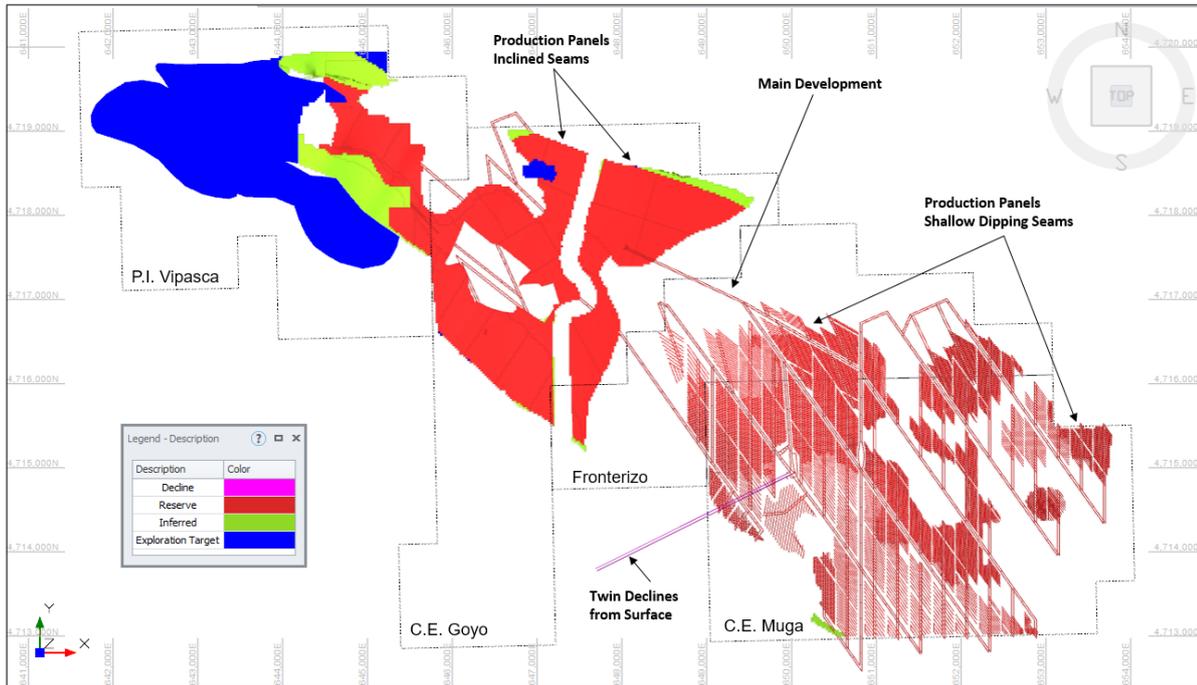
	Reported tonnes and grade		Sources of tonnes and grade in the Mine Plan	
	Million Tonnes	Grade %K ₂ O	Million Tonnes	Grade %K ₂ O
Proved and Probable Ore Reserves	104.3	10.2	104.3	10.2
Additional Measured and Indicated Mineral Resources	30.9	11.8	11	12.9
Inferred Mineral Resources ¹	45	10.3	16	10.8
Exploration Target²	80 to 130	8-10	43	10

¹ There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

² The potential quantity and grade of an Exploration Target is conceptual in nature, there has been insufficient exploration to determine a

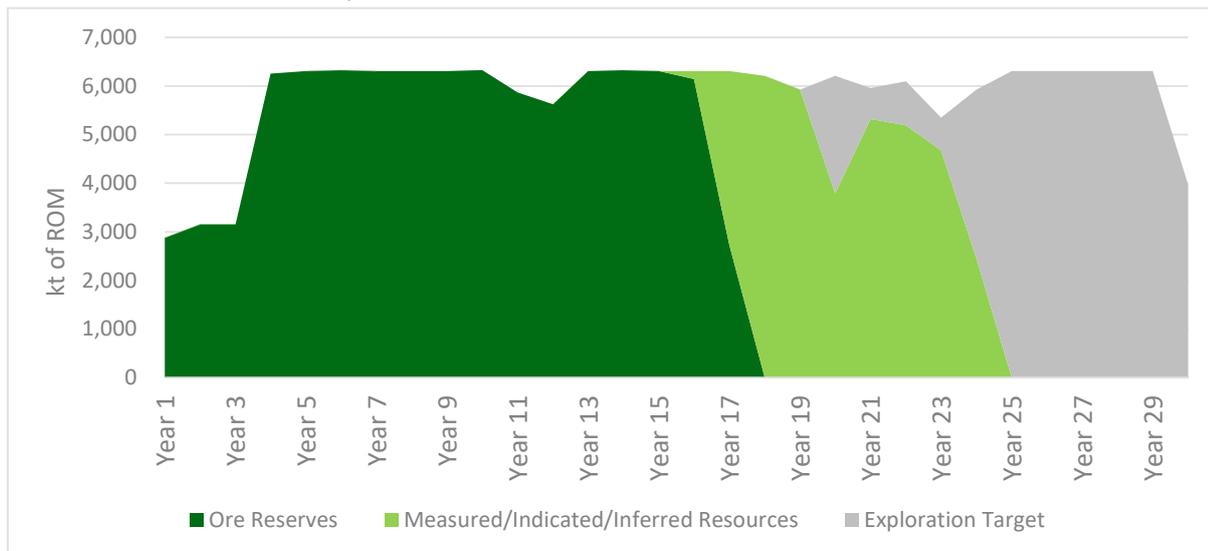


FIGURE 1: THE MINE PLAN DESIGN FOR MUGA



Regarding the Inferred Resources included in the Mine Plan, specific areas with thickness below the expected minimum of 2 metres but greater than 1.6 metres have also been considered, given it has the potential to be mined with low profile equipment. The Measured and Indicated Resources included in the Mine Plan refer to the pillars in the exclusion zones under towns and the Bardenas Channel (an important water channel which runs through the project). Highfield considers these could potentially be mined in the future if the backfilling provides enough support to demonstrate there will be no impact on the surface.

GRAPH 1: THE MINE PLAN SEQUENCING ROM TONNES PROCESSED



mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that the production target itself will be realised.

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The Mine Plan which has not changed from the December 2021 Muga Feasibility Study update has a planned production up to approximately 1,000,000 tpa of Muriate of Potash (“MOP”) over a mine life of 30 years³ comprising approximately 18 years of mine life from Ore Reserves and 12 years from additional Mineral Resources and the Exploration Target. Graph 1 above shows the sequencing of the mine plan.

Appendix 1 incorporates the summary description of Ore Reserves, Mineral Resources and Exploration Target for the Muga Project.

Mining

Developed by the engineering company SYSTRA Subterra S.L. (“Subterra”), the twin parallel declines have an approximate length of 2.6 km and are planned to be constructed at an average gradient of –15%, which will provide underground access from surface (shown in the pink line in Figure 1) to an approximate depth of 350 metres from the portal. The two declines will be built 25 metres apart and will be linked by six cross-cuts. Both declines will have an arched profile and a cross-sectional area of approximately 32m² and will be widened at the cross-cut connections and at other various points to accommodate pumping stations and mine electrical facilities.

The West decline will accommodate the permanent backfill conveyor during mine operation and provide the intake ventilation airway, while the East decline will contain the permanent ore conveyor and provide the return ventilation airway to surface. A bypass will be constructed at the top of the East decline to accommodate the main fans. The planned decline gradients are suitable for both ore conveying and vehicle access, and the decline design provides for underground infrastructure requirements, i.e., staged pumping stations and underground electrical installations.

Five different levels of ground support have been specified depending on the various rock type and ground conditions expected along the full length of each decline. A single portal boxcut (shown in Figure 2) is shared by both declines and will be adequately protected against rainfall and surface water incursion into the decline developments.

FIGURE 2: PORTAL EXCAVATION WORK CARRIED OUT IN 2022 AND 2023



³ This production target must be read in conjunction with the cautionary statement on page 1 that “there is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised” and that “the potential quantity and grade of an Exploration Target is conceptual in nature, there has been insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that the production target itself will be realised. In the opinion of the Company the technical parameters underpinning the target in the market announcement dated 23 November 2021 continue to apply and have not materially changed.”



The Company plans to implement mechanical excavation of the declines by roadheader and/or conventional excavator combined with conventional drilling and blasting.

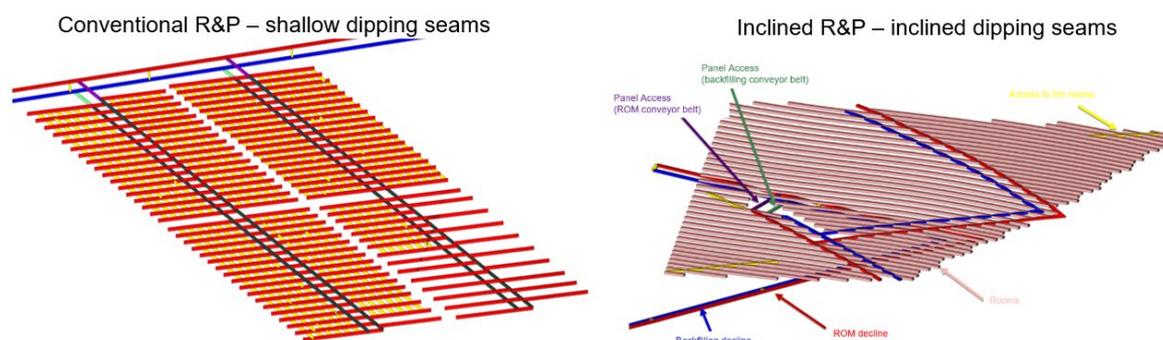
Both declines will be excavated using trackless mobile equipment. Roadheaders and/or conventional excavators in combination with two-boom jumbos will be utilised for excavation, face drilling and rockbolting, while 30-tonne low profile mining haul trucks and 14-tonne load-haul-dump loaders (“LHD”) will be used to transport material to surface. The development excavation will be supported by sprayed concrete and rockbolts. The thickness of sprayed concrete and bolt spacing will be determined by the geological surveys developed by the horizontal drilling undertaken.

The detailed design of the shallow dipping seams utilises a set of two parallel roadways as the main development access, one for fresh air intake and access and the other for exhaust ventilation, both with conveyor belt materials handling systems. The mining method approach is a typical Room and Pillar (“R&P”) panel layout. The planned room width will be 8 metres with the pillar sizes determined by the room height, the total combined seam thickness, the geotechnical constraints due to the depth below surface and any equipment limitations (see “Production panels shallow dipping seams” in Figure 3 below).

The Northwest area of the deposit is a more steeply declining potash seam. To minimise dilution and maximise extraction, this area requires an alternative mining approach to the R&P panel layout used for the shallow dipping seams, one that takes into consideration the geotechnical constraints and the equipment limitations. It consists of the development of inclined roadways and mining rooms, while maintaining the same production targets, and utilising the same excavation, material handling and backfilling approach. In addition, the panel design and the extraction ratio applied take geotechnical constraints into account such as seam thickness, depth below surface and any equipment limitations (see “Production panels inclined seams” also shown in Figure 3 below).

The pillars, in both shallow and inclined dipping seams, have been designed to provide an optimal extraction ratio while maintaining ground stability to ensure safe working and environmental conditions.

FIGURE 3: CONVENTIONAL AND INCLINED ROOM AND PILLAR PATTERN MINING



The mining equipment used will be based on the specific potash seam geometry. The production will be supported by auxiliary machinery, including roof bolters to ensure roof stability in abnormal areas, and LHDs to load and dump material to intermediate storage points.



Ore will be loaded directly from the road header or continuous miner to electrical cable-tethered shuttle cars that will move the ore to a feeder breaker and then onto conveyor belts. At this point, the Run of Mine (“ROM”) ore will be transported via a series of conveyors to the surface via the East decline conveyor.

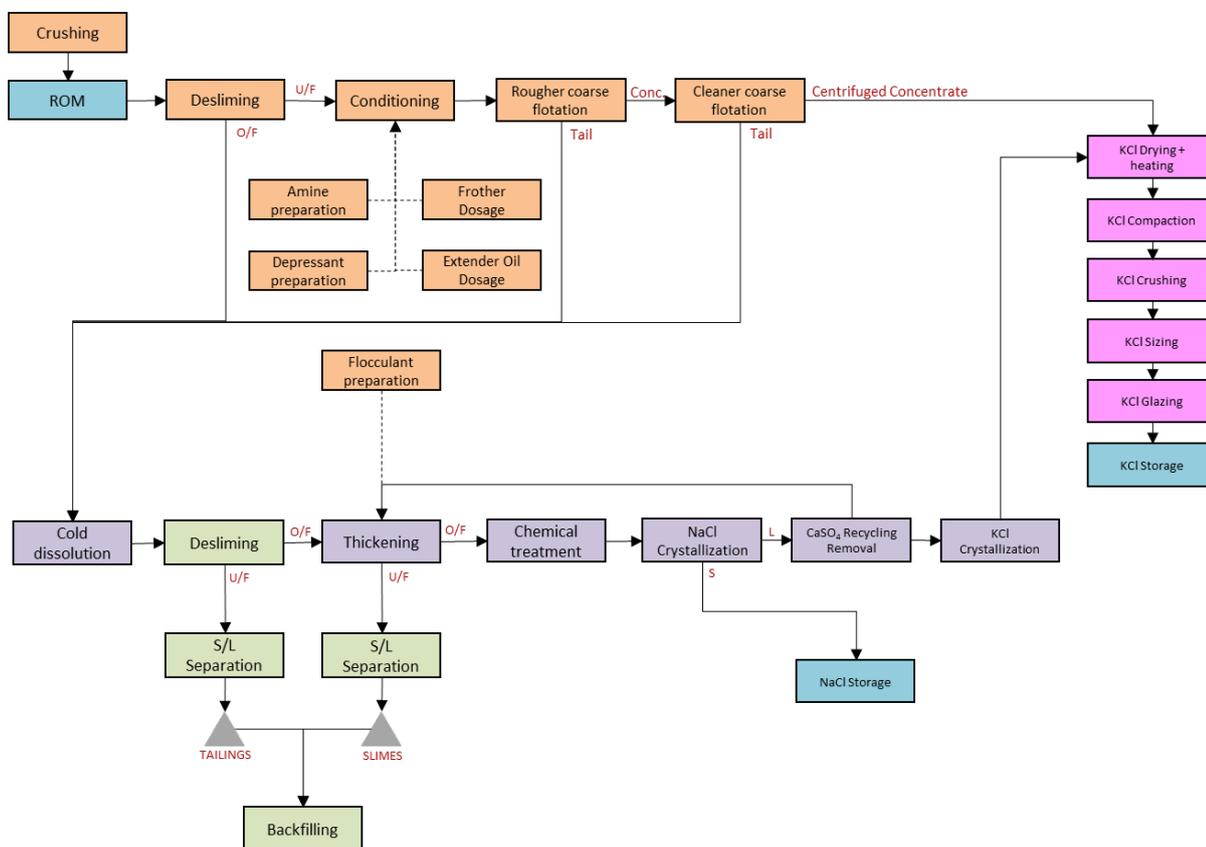
As part of the environmental approval Highfield is committed to leave no residue waste on surface at the end of the mine life and will backfill all waste material. The waste material will be transported down to the mine via conveyors through the East decline, commencing in line with production.

Processing

Apart from some minor updates that were incorporated following comments as part of the due diligence process ran by the Project finance banks, the processing plant design is the same as was presented in the December 2021 Muga Feasibility Study Update.

The final process is represented in the below block diagram (Figure 4). In this process the ROM ore is crushed to the determined liberation size, attritioned and deslimed to separate insoluble particles and then conditioned with reagents prior to rougher flotation. Rougher concentrate is reground and transferred to the cleaner flotation in a column to obtain the final flotation concentrate. Slimes, rougher tails, and cleaner tails are cold leached prior to solid/liquid separation to remove final tails and slimes. This process results in a potassium chloride (“KCl”) concentrated brine, to which reagents are added to remove magnesium and other impurities. The resulting brine feeds the crystallisation unit, where both vacuum salt and a high grade KCl product are obtained.

FIGURE 4: BLOCK DIAGRAM OF THE PROCESS

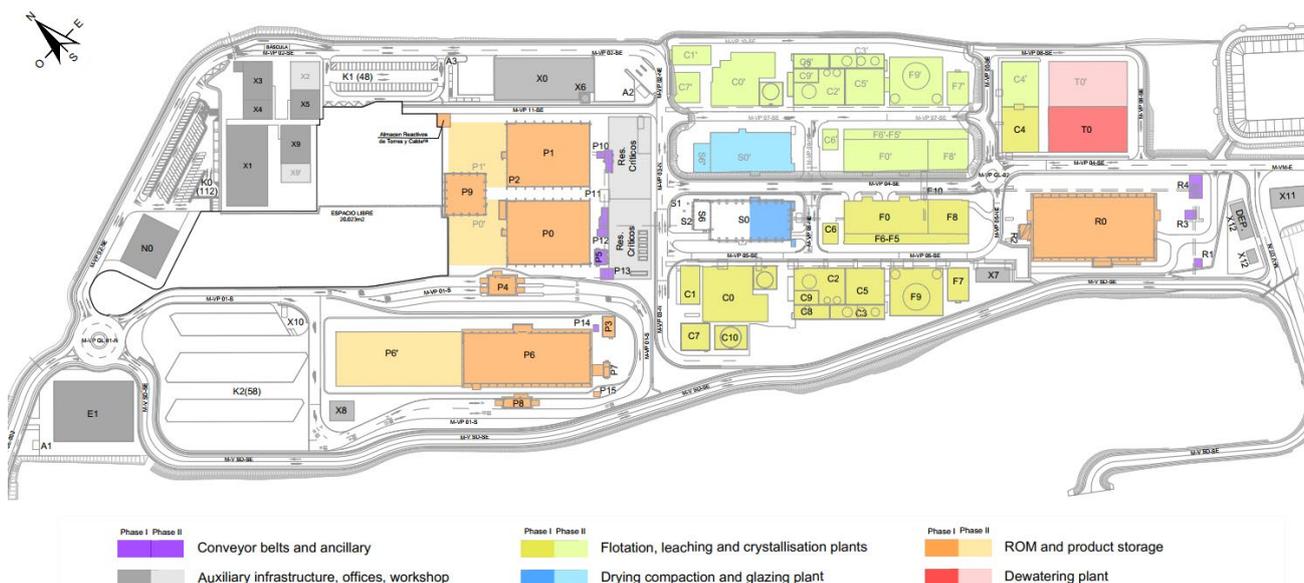




KCl product from the crystalliser is mixed with flotation product before passing to the drying stage, where moisture is reduced, and material is prepared to sell directly as standard grade muriate of potash (“SMOP”) or for compaction and glazing and sold as granular grade muriate of potash (“GMOP”). SMOP is a powder form of MOP that is dissolved to produce a single granular blend of fertiliser whereas GMOP is a granular form of MOP that is physically mixed with other nutrients to produce a blended fertiliser.

These updates are all integrated in the site layout as shown in Figure 5 below. Note that Phase 1 no longer has a compaction and glazing unit as production is now focused on SMOP. The compaction and glazing unit is being built in Phase 2.

FIGURE 5: PROCESS PLANT SITE LAYOUT, GRINDING, FLOTATION AND CRYSTALLISATION PLANT



Project Timetable

Following a successful expropriation process of some remaining land areas in mid-2023, the Company is continuing some preparatory and preliminary works, in the recently acquired areas.

The next stage in the construction schedule, expected to start early in 2024, involves building and establishing key infrastructure to provide electricity to the Project, road access, water storage capacity for construction as well as basic above ground installations. Specifically, these works include the power line from the main electricity network to the plant and the mine gate as well as road access to the Project from the main road, and the north ponds to store water generated while building the decline ramps. Basic urbanisation at the processing plant will also be part of this stage.

Construction and Contracting Strategy

The main construction activity consists of the Decline Ramps, Civil Works and the Process Plant and is expected to run for 2.5 years. Tendering is ongoing and construction agreements are currently being negotiated. While the contracting and tendering are well advanced, the plan is to close the remaining contracts as soon as final decision to proceed with the construction is made.



The contracting strategy is for the construction of the Ramps to be undertaken by a Mining Specialist Contractor and the Civil Works by a General Contractor. However, given the specialised nature of the Plant, the process plant construction will be performed as discreet work packages by specialist contractors under the supervision of the Highfield Owner's Team supported by a specialist construction management contractor.

The Company will employ an owner-managed project delivery strategy, essentially a disaggregated Engineering, Procurement, and Construction Management ("EPCM") approach. This strategy entails the use of specialist consultants to assist Highfield's experienced management team with the delivery of the Project on an E + P + CM basis as follows:

- 1) Engineering – IDOM Engineering have been contracted to carry out certain design and engineering services (including carrying out the detailed design of the process plant and associated facilities, and to ensure design and engineering consistency and optimization across all works packages). Subterra has been contracted to carry out design and engineering services for the mine. The Company owner's team will supervise and manage all detailed engineering on the Project alongside both engineering companies,
- 2) Procurement – Highfield's internal procurement team will be responsible for managing the procurement of all equipment and services required to complete the Project and for all contract management (oversight, cost control, dispute avoidance and resolution and close out) of each contract using the Company's established internal procurement and supply chain systems.
- 3) Construction Management – The Highfield owner's team will supervise and manage the construction and commissioning of the Project with support from a (i) a construction management specialist, (ii) a number of specialist installation contractors, (iii) an experienced QAQC consultant, (iv) Highfield's commissioning team, and (v) the relevant vendor representatives, to ensure construction quality across the Project. Highfield will be responsible for ensuring that the constituent parts when aggregated perform to the required minimum performance levels set out in the financial model.

CAPEX

Since the end of 2022, progress has been made updating contracts and entering into new contracts, providing a higher degree of confidence in the current capital expenditure estimates for Muga which have been revised to:

- Phase 1 capital expenditure of €449 million
- Phase 2 capital expenditure of €286 million
- Total capital expenditure of €735 million

Capex for Phase 1 and 2

The updated capex estimate for both Phase 1 and Phase 2 totals €735 million which is approximately a 11% increase from the €662 million reported in November 2022 (refer ASX release, 2 November 2022, "Updated Muga Feasibility Study").

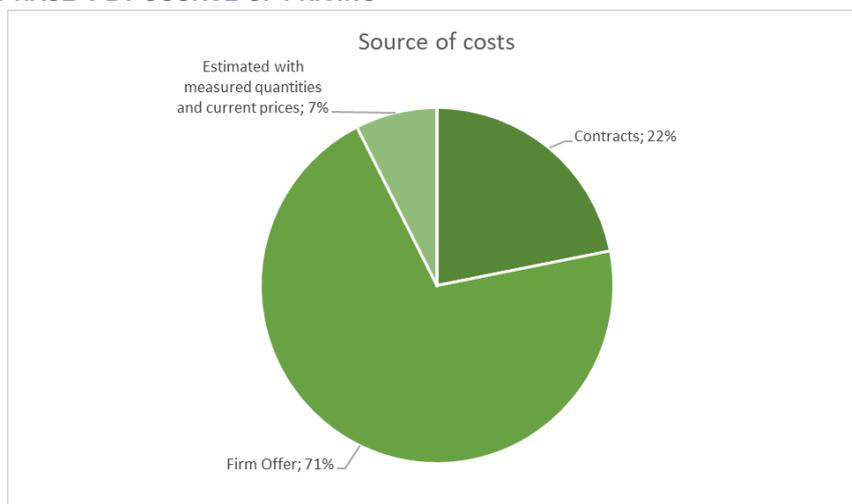
The main changes are due to updated contracts and the impact of global cost inflation on the price of raw materials partially offset by design optimisations and efficiencies. The changes in the estimate of Capex for Phase 1 are explained in detail in the next section. Increases in the Phase 2 Capex are mainly due to cost inflation and deferral of some costs from Phase 1 to Phase 2.



Capex for Phase 1

The updated Phase 1 capex estimate of €449 million is 2.9% higher than the capex estimate released in the feasibility study of November 2022 (refer ASX release, 2 November 2022, “Updated Muga Feasibility Study”). The estimated capital and operating costs used to report the Ore Reserve estimate have also not materially changed (refer ASX release, 23 November 2021, “Updated Ore Reserve Estimate – Muga Project”) and are based on the Company’s signed agreements with contractors, detailed quotes, or estimations made by the Company and its third-party consultants. There is a higher level of confidence in the updated capex estimate with contracts plus firm offers representing 93% of total in the current 2023 FS compared to 76% in the 2022 FS. The 2023 FS numbers are the result of recent new tendering. These firm offers will remain valid for a specific period of time which covers the planned construction timeline. Firm offers from the 2022 FS which are more than one year old required revaluation given the time lapsed. The source of pricing is shown in Graph 2 and the reconciliation of the Capex for Phase 1 between the 2023 FS and the 2022 FS is shown in Table 2 below.

GRAPH 2: CAPEX PHASE 1 BY SOURCE OF PRICING



Source of costs	2023 (%)	2022 (%)
Contracts	22%	21%
Firm Offer	71%	55%
Estimated with measured quantities and current prices	7%	13%
Estimates by designer	0%	11%
TOTAL	100%	100%



TABLE 2: CAPEX BREAKDOWN FOR PHASE 1 OF THE MUGA PROJECT (AND DATE OF ESTIMATES)

CAPEX BREAKDOWN (€ million)	October 2023	September 2022	Comments
Underground capex	107.7	98.6	Increase in costs due to the need for ATEX equipment in the ramps and an increase in the cost of electrical services in the mine.
Aboveground civil works	56.4	54.3	Change due to price inflation
Facilities building	4.9	5.8	Savings from scope reduction (modular offices instead of buildings)
Process plant capex	169.5	175.1	Cost reduction due to the deferral of the compacting and glazing unit with the production of SMOP in the first phase
Dewatering and backfilling plant	65.4	55.3	Increases in general equipment costs and price inflation of the dewatering plant
Utilities	15.1	15.8	
Indirect costs	20.0	21.4	
Pre-production costs	9.8	9.7	(1)
Total	448.8	436.1	

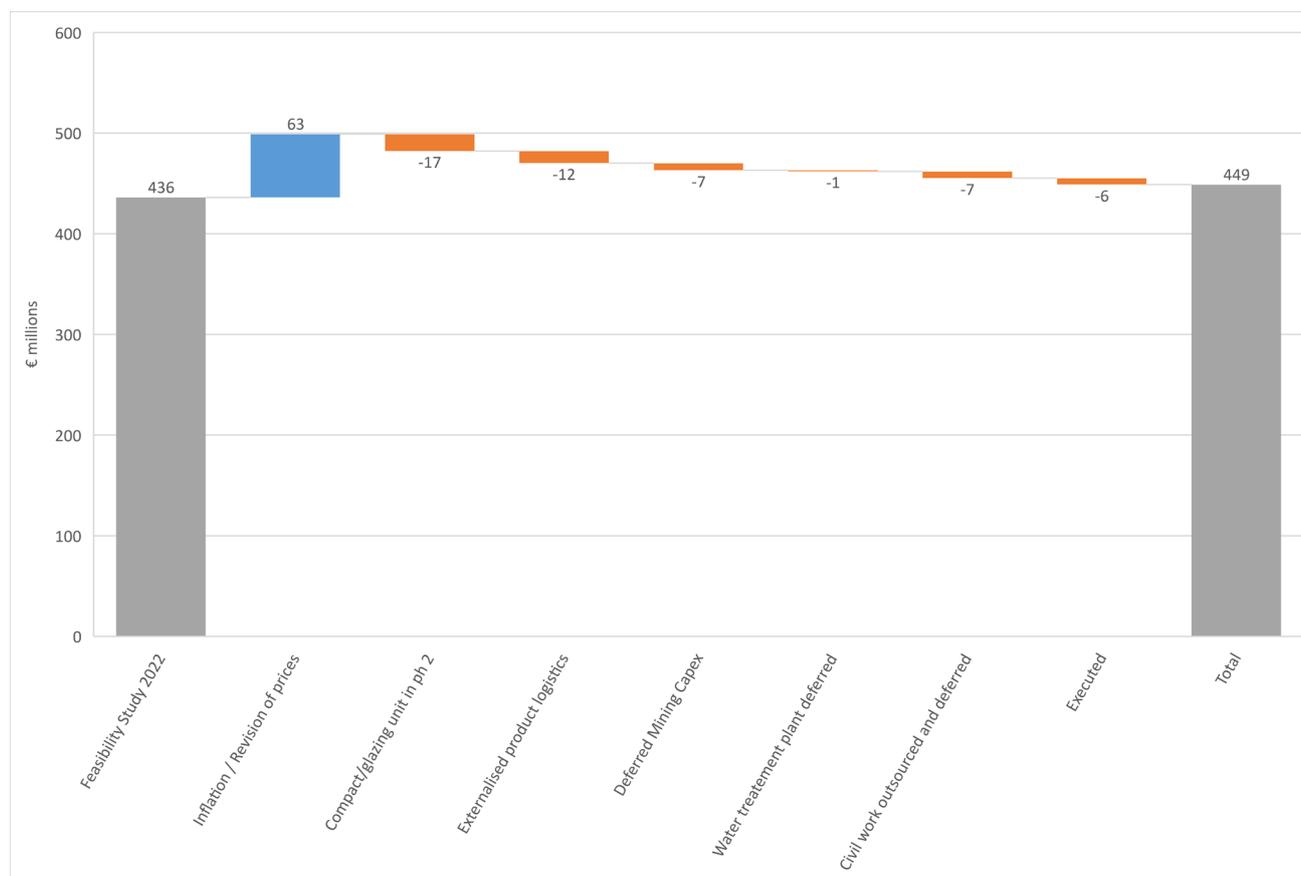
(1) The 2022 FS Pre-Production cost was €15,44M and included €5,74M for the mining infrastructure labour. The Mining infrastructure will be contracted to a specialist contractor who will provide its own personnel. Therefore, the cost of the Company's personnel has been re-assigned to the Underground Capex category above.

Key Initial Capex Phase 1 Changes

An increase in initial Capex due to inflation pressures have been partially offset by a series of measures undertaken in the three key construction areas below. These measures aim at focusing all the initial investment in the construction of facilities that are necessary for Phase 1 production. Construction which is not necessary to start production or construction that is required for Phase 2 volumes has been delayed to the moment that the Project is in production and generating cash flow from operations to finance these works.



GRAPH 3: CAPEX PHASE 1: RECONCILIATION



Plant:

- For the first few years and until construction of Phase 2, the Project will be selling only SMOP. There is demand for both SMOP and GMOP around the area of interest for Muga, specifically European demand is approximately 60% GMOP and 40% SMOP. The sale of SMOP is a safer marketing strategy, given that the commissioning of the GMOP unit takes extra time compared to SMOP. In addition, GMOP requires an additional investment to upgrade the product (a compaction and glazing unit) which is planned to be built in Phase 2.
- Storage, loading, handling, and transport will be externalised, allowing for synergies across the full transportation chain and port logistics. The warehouse facilities will be built by a third party and rented out to the Company.

Mine:

- Underground workshops have been deferred partially to the first year of production and partially to Phase 2. The workshops will be enhanced in line with the development of the mine. Prior to building the underground workshops, maintenance crews and spare parts will be supplied directly from the surface through the ramps. In any case, the Muga mine will always have the possibility to take equipment to surface through the ramps for major overhauls if necessary.



- The construction of one water storage pond has been deferred to year 1 of production as the water storage requirements are covered at the start of the production.

Civil Works and Urbanisation:

- Power supply will be provided from the existing substation owned by Iberdrola only. This substation is sufficient to provide power for Phase 1, and the new substation will only be built when needed during construction of Phase 2.
- Definitive staff facilities will be replaced by rental of prefabricated modular buildings. These buildings will be used during the construction phase, expanding their use during the first few years of operation.
- Fresh water purification and wastewater treatment plant is planned to be outsourced.
- Additional layers of asphalt for the roads in the project will be built only when necessary, in first year of operation and in Phase 2.

Permitting

The construction licence for the construction of Muga’s process plant by the Townhall of Sangüesa in Navarra was granted on 29 March 2023 (refer ASX release, “Construction Licence Granted for Muga Mine Process Plant”) and for the construction of Muga’s mine gate and declines from the Townhall of Undués de Lerda in Aragon on 24 June 2022 (refer ASX release, “Construction Licence Granted Muga Mine Gate and Declines”). These licences were obtained following the receipt of the mining concession permit as announced on 5 July 2021 (refer ASX release, “Muga Project Receives Mining Concession”). This permit followed the positive environmental permit announced in June 2019 (refer ASX, “Muga Project Receives Positive Environmental Permit”) and concluded the Government permitting process.

The Company has all key licences and permits needed to begin full scale construction at Muga.

Financing

On December 2022 Muga announced the signing of the principal facility with four European major banks acting as Mandated Lead Arrangers (“MLA”), BNP Paribas S.A., ING Bank N.V., Natixis CIB and Societe Generale (London Branch) for €320.6 million Senior Secured Project Financing for Muga (refer ASX release, 22 December 2022, “Highfield signs definitive documentation for €320.6 million Senior Secured Project Financing for Muga”). Following this the Company announced in April 2023 that HSBC Continental Europe and Caja Rural de Navarra had joined the Senior Facilities as Lenders (refer ASX release, 17 April 2023, “Highfield welcomes additional lenders to its Senior Secured Project Financing for Muga Project Development”). These milestones are seen as be a significant endorsement of the Muga Project.

The Company announced in May 2023, that it had received credit approval from Macquarie for an equipment operating lease facility with a total value of €27 million, with a peak exposure not expected to exceed €25 million (refer ASX release, 12 May 2023 Highfield secures credit approval for up to €25 million Equipment Operating Leasing Financing).



In May 2023, the Company secured a key strategic investment of approximately A\$25 million from EMR Capital and Tectonic and related parties under a convertible note deed (refer ASX release, 17 May 2023 Highfield secures a key strategic investment of A\$25 million from EMR Capital and Tectonic Investment Management). The proceeds have allowed the Company to continue to advance the project.

The Company is exploring multiple sources for the remaining financing to reach a Final Investment Decision and the commencement of construction. Together with its financial advisors, Macquarie Capital, Clarksons Securities and Endeavour Financial, a number of negotiations are underway on the remaining financing mix which include non-dilutive royalty funding, a strategic project partner, and equity. As part of the remaining funding the Company is focusing on outcomes which maximise shareholder value.

Project economics

The updated parameters are based on more advanced engineering and firm contracts which provide a higher level of confidence in the Project assumptions while incorporating increases due to the current global inflationary pressures. Energy prices, foreign exchange rates and potash prices have also been updated. Parameters such as recoveries, salt by-product production, potash production have not changed since the 2022 FS. With all these changes, the 2023 Feasibility Study reconfirms the economics of the Project with an NPV₈ of €1.81 billion and an IRR of 23%. Even though average costs and Capex are slightly higher than in the 2022 FS, the most recent potash price forecast prepared by CRU shows higher potash prices in the first years of Muga production reflecting the challenging geopolitical environment and new supply / demand balances globally. CRU is forecasting a lower potash price in the longer term, but the net result has positively impacted the IRR and NPV.

TABLE 3: PROJECTED FINANCIAL METRICS FOR MUGA PROJECT (REAL TERMS UNLESS STATED OTHERWISE)

	2023 Model	2022 Model
CAPEX phase 1 (500,000 tpa MOP)	€ 449 million	€ 436 million
CAPEX phase 2 (Additional 500,000 tpa MOP)	€ 286 million	€ 226 million
Total CAPEX	€ 735 million	€ 662 million
ROM Tonnes	173.7 million	173.7 million
Average plant tonnage feed rate	800 tph	800 tph
K2O grade	10.5%	10.5%
KCL recovery	91%	91%
LOM MOP production ⁴ in tonnes	27.7 million	27.5 million
LOM Average MOP Potash prices ⁴	€436/t	€449/t
Foreign exchange Euro:USD	1:1.08	1:1.07
De-Icing salt production	8.5 Mt	8.5 Mt
Vacuum salt production	15.9 Mt	15.9 Mt
C1 cost (€/t)		
Mining	47	43

⁴ Cautionary Statement. The production target set out in this update is derived from Muga Proved and Probable Ore Reserves and Inferred Mineral Resources from the Muga-Vipasca tenement as well as the Exploration Target at the Vipasca and Muga Sur tenements. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The potential quantity and grade of an Exploration Target is conceptual in nature, there has been insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that the production target itself will be realised. In the opinion of the technical and financial parameters underpinning the target in the market announcement dated 23 November 2021 and 2 November 2022 continue to apply and have not materially changed.



Processing incl. Waste and backfilling	80	75
Environmental and G&A	14	11
Sustaining capex	10	10
Salt by-product credit	(43)	(47)
Total (at mine gate)	€108/t	€91/t
Tax rate (Navarra)	28%	28%
Life of mine ⁴	30	30
NPV ₈	€ 1.82 billion	€ 1.82 billion
NPV ₈	A\$ 3.00 billion	A\$ 3.00 billion
IRR (post tax)	23%	21%

The largest single impact on the NPV and IRR has been the change in the potash prices and energy prices. The potash prices are higher at the start positively impacting the IRR with lower longer term prices reducing the overall NPV. Current energy prices have significantly come down since the 2022 FS positively impacting the NPV and IRR. As can be seen in Table 4 below:

TABLE 4: NPV AND IRR COMPARISON

Improvements	NPV (€ billion)	IRR
2022 FS	1.82	21.0%
Energy costs	0.06	1.7%
Reagents	-0.03	-0.3%
Mine equipment cost	0.04	0.3%
Potash price	-0.18	1.1%
Foreign exchange	-0.04	-0.4%
Costs/others	0.15	0.0%
2023 FS	1.82	23.4%

The “other” category in the table above regroups various different smaller cost packages like, savings in initial labour cost, initial reduction in costs due to SMOP production in the first years, maintenance cost optimisation and other smaller cost savings.

Market pricing assumptions

The tightness in the potash market seen in 2022 with sanctions on Belarus and the ongoing war in the Ukraine that impacted supply from Belarus and Russia has eased in 2023, though Belarussian supply is still constrained compared to historical levels. However, the war in Israel and Palestine has created further uncertainty in medium term potash supply but is yet to impact prices. The result is that prices for MOP have come off from the highs of 2022, however prices in Europe and Brazil are still above their pre-Ukraine war average. In 2023 European-delivered spot prices for GMOP reached highs of €770/t and Brazil-delivered spot prices reached highs of US\$540/t, with 2023 averages of around €530/t in Europe and around US\$410/t in Brazil.

This compares to an overall average potash price of €436/t used in this feasibility study over the Muga life of mine. The potash prices used in the financial modelling have been updated and are now based on the last



released September 2023 forecasts from the independent research company CRU Group (“CRU”). The average potash price forecasts in the model remain similar to those used in 2022 (€436/t vs €449/t) given that the long-term fundamentals of the market have not significantly changed. The potash price forecasts also include the effect of updating foreign exchange rates to reflect current levels, as potash price forecasts are expressed in US dollars.

Although salt prices in 2023 are not as high as in 2022, they still remain higher relative to previous years and the estimates included in the FS. Therefore, to remain conservative, the salt by-product credit is still based on the same forecast as in 2022. The forecast used, is the one provided by Argus Media and continues to reflect the commercial production of vacuum salt as well as de-icing salt. The mine gate sales price is €36/tonne for de-icing salt and €55/tonne for vacuum salt.

With the deferral of the compacting and glazing unit construction, the mine will now produce SMOP in Phase 1. Phase 2 will produce GMOP. The destination sales strategy has been defined based on the specific product demand in each area, with the majority of SMOP being sold in Europe. European demand is 60% GMOP and 40% SMOP. Sales of GMOP are based on the assumption that 50% of the total Phase 2 production is sold into local and regional markets with a further 25% sold into northern European markets and the remaining 25% to export markets.

Financial Sensitivity Analysis

The Company has run sensitivity analysis on the key Project parameters which have the potential to have a significant impact on the projected returns. This analysis indicates that the projected returns for the Project are most sensitive to changes in the received potash price. The financial results use an average MOP price forecast based on CRU Group’s September 2023 dataset. The sensitivity analysis indicates that even in the downside scenario of a fall of 20% in received potash prices, the Project would still deliver a post-tax NPV₈ of €1.15 billion and an IRR of 19%.

The Company has run two financial analysis scenarios, the first one considers if the Exploration Target and the Muga Inferred Resource tonnes were deleted from the projected forecasts. This scenario yields an NPV₈ of €1.15 billion and an IRR of 23%. The second scenario considers a situation where Phase 2 is not built. This scenario yields an NPV of around €1.1 Billion and an IRR of approximately 21%.

The Company has run financial sensitivity analysis to determine the impact of changes to the NPV₈ and IRR of the Project due to fluctuations of the operating cost, Project CAPEX and the potash price forecast. These can be seen in Tables 5 and 6 and Graph 4 below.

TABLE 5: SENSITIVITY ANALYSIS IMPACT ON NPV₈

		NPV ₈ (€ billion) output				
		-20%	-10%	Base	10%	20%
Sensitivity analysis	Operating Cost	2.04	1.93	1.82	1.71	1.59
	Project CAPEX	1.92	1.87	1.82	1.77	1.72
	Potash price forecast	1.15	1.48	1.82	2.15	2.49



GRAPH 4: SENSITIVITY ANALYSIS IMPACT ON NPV₈

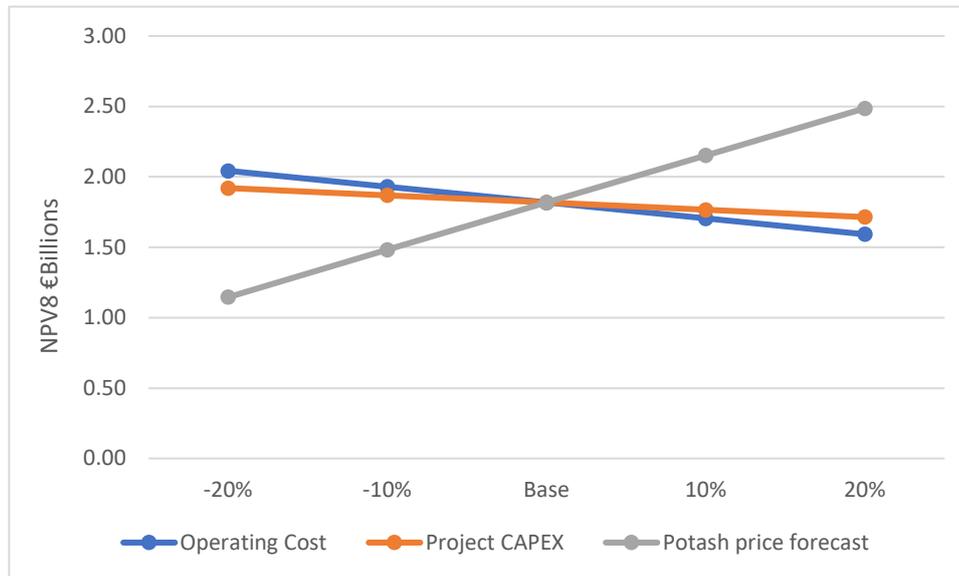


TABLE 6: SENSITIVITY ANALYSIS IMPACT ON IRR

		IRR %				
		-20%	-10%	Base	10%	20%
Sensitivity analysis	Operating Cost	26%	25%	24%	23%	22%
	Project CAPEX	28%	26%	24%	23%	22%
	Potash price forecast	19%	22%	24%	27%	29%

Key Risks

Key risks identified in this document include:

- Project funding;
- Adverse movement in potash prices;
- Adverse movement in key capital costs;
- Adverse movement in key operating costs;
- Challenges to government approvals and changes in political and regulatory environment; and
- Future conversion of Resources (including Inferred) and the Exploration target into Ore reserves.

-ENDS-

This announcement has been authorised for release by the **Directors of Highfield Resources Limited**

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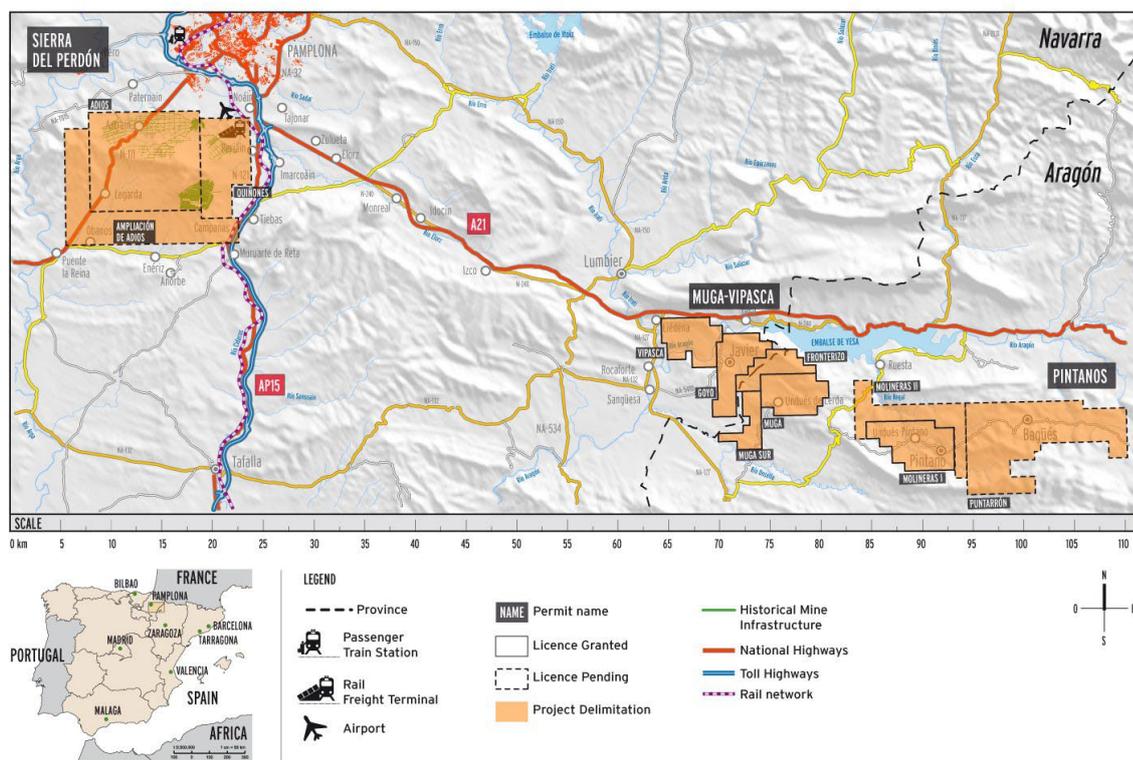
About Highfield Resources

Highfield Resources is an ASX listed potash company which is focussing on the construction of its flagship low cost, low capex Muga Project in Spain having now received all permits and key licences needed. With the Mining Concession being granted in July 2021, the ramp construction licence in Aragón in June 2022 and the process plant construction licence in Navarra in March 2023. Following the finalisation of the initial site preparatory work of the mine gate and decline area, full scale construction is expected to commence in 2024.

Muga is a unique project – with shallow mineralization with no aquifers above it there is no need to build a shaft. There is quality and readily accessible infrastructure already in place in the region and importantly, the Muga Project is located in the heart of a European agricultural region which has a clear deficit in potash supply. In addition to Muga’s secure southern European location, since February 2022 events in Russia and Belarus have heightened the awareness of the strategic value of the Muga Project for both Spain and the European Union.

Highfield’s potash tenements (Muga-Vipasca, Pintanos, and Sierra del Perdón) are located in the Ebro potash producing basin in Northern Spain, covering an area of around 250km².

FIGURE 5: LOCATION OF MUGA-VIPASCA, PINTANOS, AND SIERRA DEL PERDÓN TENEMENT AREAS IN NORTHERN SPAIN.





COMPETENT PERSONS STATEMENT FOR MUGA ORE RESERVES AND MUGA MINERAL RESOURCES

This update was prepared by Mr. Ignacio Salazar Director of Highfield Resources. The information in this update that relates to the Ore Reserve reported as of 31 October 2021 is based on information prepared under the direction of Dr Mike Armitage who was a Corporate Consultant with SRK Consulting (UK) Limited at that time and who was the Competent Person who assumed overall professional responsibility for the Ore Reserve reported at that time. The information related with the review of the Life of Mine (“LOM”) that underpins the October 2021 Ore Reserve was prepared by Mr Chris Bray, who was, and remains, a full-time employee of and Principal Consultant (Mining) at SRK. The information in this update that relates to the Mineral Resources with the effective date of 31 December 2020 is based on information prepared by Ms Anna Fardell, was a Senior Consultant at SRK Consulting (UK) Limited.

Dr Mike Armitage is a Member the Institute of Materials, Minerals and Mining (“IMMM”) which is a ‘Recognised Overseas Professional Organisation’ (“ROPO”) included in a list promulgated by the Australian Stock Exchange (“ASX”) from time to time. Dr. Mike Armitage has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Dr. Mike Armitage consents to the inclusion in this update of the matters based on the information upon which the October 2021 Ore Reserve is based in the form and context in which it appears.

Mr Chris Bray BEng, MAusIMM (CP) takes responsibility for the review of the LOM plan that underpins the October 2021 Ore Reserve. Mr Bray is a full-time employee and Principal Consultant (Mining) at SRK. He is a Member of and Chartered Professional in the Australasian Institute of Mining and Metallurgy. He is a Mining Engineer with 25 years’ experience in the mining and metals industry, including operational experience in underground mines as well as mine planning and review experience on underground potash, salt, lithium and borate projects, and as such qualifies as a CP as defined in the JORC Code. He has also been involved in the reporting of Ore Reserves on various properties internationally for over 10 years.

Ms Anna Fardell was a Senior Resource Geologist employed by SRK as of the effective date for the December 2020 Mineral Resource estimate, and at that time had over five years’ experience in estimating and reporting Mineral Resources relevant to the style of mineralisation and type of deposit described herein. Ms Fardell is a registered member of the Australian Institute of Geoscientists (6555) and considered a Competent Person (CP) under the definitions and standards described in the JORC Code 2012. Ms Fardell takes responsibility for the Mineral Resource Statement and Exploration Target presented here and consents to the inclusion in this update of the matters based on their information in the form and context in which it appears.



APPENDIX 1

ORE RESERVES, RESOURCES AND EXPLORATION TARGET

The information in this release referring to the mine plan or mining activities, as defined by the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (“JORC Code”), is derived from Ore Reserve Estimate and Exploration Target related to Muga announced 23 November 2021 (refer ASX, “Updated Ore Reserve Estimate – Muga Project”) and the Mineral Resource statement related to Muga announced on 30 March 2021 (refer ASX, “Annual Report to the stakeholders”). These Ore Reserves and Mineral Resources were reported by competent persons in accordance with the requirements of the JORC Code. The relevant Competent Persons’ statements are shown elsewhere in this ASX announcement.

Mineral Resource Estimate

Cautionary Statement. The production target set out in this update is derived from Proved and Probable Ore Reserves and Measured, Indicated and Inferred Mineral Resources from the Muga tenement as well as the Exploration Target at the Vipasca and Muga Sur tenements all of which were reported in 2021. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The potential quantity and grade of an Exploration Target is conceptual in nature, there has been insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that the production target itself will be realised. The technical parameters underpinning the Mineral Resource in the market announcement dated 30 March 2021 (refer ASX announcement, “Annual report to Shareholders”) continue to apply and, in the opinion of the Company, have not materially changed.

The Mineral Resource Statement for the Project as authored by SRK (refer ASX announcement 30 March 2021, “Annual report to Shareholders”) had not changed materially from the previous statement released in October 2018. The Mineral Resource tonnage had increased by 14.91 Mt to 282.26 Mt and the grade of the Mineral Resource had decreased from 12.4% K₂O to 11.8% K₂O. The reasons for the decrease in grade and additional tonnage were:

- Additional drilling in the Vipasca Licence area which added new areas to the Mineral Resource.
- The lower grade mineralisation which was intersected at Vipasca than previously in the Muga Licence area.
- The decrease in the interpolated thicknesses of the potash horizons at the edges of the basin which decreased the tonnage in the Muga Licence area slightly.
- The lower grade intercepts in Vipasca which influence the grades at the western edge of the Muga Licence which decreased the block model grades at the western edge of that licence.



The Mineral Resource Statement shows that the tonnage in the Muga Licence area is 12.1% K₂O as opposed to the Vipasca Licence area where the average grade is 10.0% K₂O.

The total Measured and Indicated Mineral Resource had increased by 2.58 Mt and decreased in grade by 0.3% K₂O which SRK did not expect to have any material impact on the mine plan. The Inferred Mineral Resource had increased in tonnage from 32.6 Mt to 44.93 Mt and decreased in grade from 12.9% to 10.8% K₂O. This was due to the low-grade mineralisation added in the Vipasca Licence area which had been predominantly classified as Inferred.

TABLE 7: MUGA POTASH PROJECT DEPOSIT MINERAL RESOURCE ESTIMATE RELEASED ON MARCH 2021 AND COMPARED TO MINERAL RESOURCE ESTIMATE OF OCTOBER 2018 NOW SUPERSEDED.

	31 December 2020		31 December 2019	
	Tonnes In Place (Mt)	Grade K ₂ O (%)	Tonnes In Place (Mt)	Grade K ₂ O (%)
Measured	103.2	12.3%	91.8	12.4%
Indicated	134.1	11.7%	143.0	12.1%
Total Measured & Indicated	237.3	12.0%	234.8	12.3%
Inferred	44.9	10.8%	32.6	12.9%
Total	282.2	11.8%	267.4	12.4%

The Company confirms that it is not aware of any new information or data that materially affects the information included in this market announcement and that all material assumptions and technical parameters underpinning the estimates with regards to exploration results in the ASX announcement released on 30 March 2021 continue to apply and have not materially changed.

In order to report Mineral Resources in accordance with the JORC Code, it must be demonstrated that the mineralisation has the potential for eventual economic extraction. The upper horizons, P0 to PB are likely to be mined in a continuous sequence in the central part of the Muga Basin as there is very little interburden between them. In this instance the minimum thickness of the total unit P0, PA and PB was assessed to ensure thinner central horizons were not excluded. A minimum thickness of 1.7 m was applied to this combined package of horizons. In other areas where the horizons separate and cannot be mined together a minimum mining thickness of 1.5 m was applied on the assumption the proposed equipment can be selective to 1.7 m.

A minimum thickness of 1.5 m was also applied to the P1, P2 and P4 potash horizons in order to constrain the Mineral Resources.

In addition, a cut-off calculation was derived to support limiting the Mineral Resource reporting of material above 8% K₂O. Specifically, the horizons were visually assessed to delineate contiguous areas above cut-off and ensure they were still mining targets. It is assumed at this stage that the high levels of MgO seen in horizon PA could be managed through blending with adjacent horizons.

The cut-off grade was derived using technical and economic parameters provided by the Company. SRK reviewed the input parameters and the cut-off grade calculation, alongside the technical reasoning behind the proposed production scenario, as well as the sensitivity of the cut-off grade to operating costs and a



contingency and was satisfied that these are appropriate for the purposes of reporting Mineral Resources. SRK notes that the cut-off grade derived is considerably lower than the 8% applied. However, SRK deems a high cut-off grade appropriate as the processing recovery used in the calculation is not variable and applies to the average grade of the deposit while there is no testwork available to support processing recoveries of 95% for grades lower than 8% K₂O and therefore SRK considered it appropriate to apply this limit to the Resources reported herein.

The SRK Mineral Resource Statement is shown in Table 8. The extents of the Mineral Resource occur between 180 m and 1,400 m below surface and it is contained entirely within the Investigation and Mining Permits held by the Company. The Mineral Resources have been presented according to licence area. The Mineral Resource Statement is valid as at 31 August 2020 and is based on the information available at that time.



TABLE 8: AUDITED SRK MINERAL RESOURCE STATEMENT FOR THE MUGA-VIPASCA POTASH DEPOSIT EFFECTIVE DATE 31 AUGUST 2020

Classification	Area	Horizon	Density (g/cm ³)	Tonnage (Mt)	%K ₂ O	%MgO	%Na ₂ O	% Insolubles	True Thickness (m)	
Measured	Muga	P0	2.1	10.18	9.8	0.2	25.9	23.3	2.0	
		PA	2.0	17.81	11.7	0.8	24.2	20.3	1.7	
		PB	2.1	38.07	12.9	0.2	26.9	19	3.5	
		P1	2.2	20.53	12.5	0.1	31.5	17.1	2.8	
		P2	2.2	16.6	12.9	0.1	24.3	13.4	3.0	
Sub-total Measured			2.1	103.19	12.3	0.3	26.8	18.4		
Indicated	Muga	P0	2.1	34.47	10.1	0.5	27.7	28.5	4.1	
		PA	1.9	19.43	12.4	2	22.8	20.8	2.0	
		PB	2.1	17.69	11.8	0.4	27.4	20.6	1.6	
		P1	2.2	34.22	12.8	0.1	30.7	17.1	5.6	
		P2	2.2	11.72	12.9	0.1	26	14	3.4	
	Sub-total			2.1	117.53	11.8	0.6	27.5	21.3	
	Vipasca	P1	2.2	5.75	10.7	0.1	30	17.9	1.8	
		P2	2.2	10.86	11.2	0	31.1	18.7	2.8	
		Sub-total			2.2	16.61	11	0	30.7	18.4
	Sub-total Indicated			2.1	134.14	11.7	0.5	27.9	20.9	
Measured + Indicated	Muga	P0	2.1	44.65	10	0.4	27.3	27.3	3.6	
		PA	1.9	37.24	12.1	1.4	23.5	20.6	1.9	
		PB	2.1	55.76	12.6	0.3	27.1	19.5	2.9	
		P1	2.2	54.75	12.7	0.1	31	17.1	4.6	
		P2	2.2	28.32	12.9	0.1	25	13.6	3.2	
	Sub-total			2.1	220.72	12.0	0.4	27.2	19.9	
	Vipasca	P1	2.2	5.75	10.7	0.1	30	17.9	1.8	
		P2	2.2	10.86	11.2	0	31.1	18.7	2.8	
		Sub-total			2.2	16.61	11	0	30.7	18.4
	Sub-total Measured + Indicated			2.1	237.33	12.0	0.4	27.5	19.8	
Inferred	Muga	P0	2.1	0.3	9.9	0.4	28.3	28.4	2.6	
		PA	1.9	0.16	11.8	2.4	24.3	21.8	1.2	
		P1	2.2	1.75	12.4	0.1	29.5	15.7	5.0	
		P2	2.2	6.02	13.1	0.1	27.5	15.3	3.0	
		P4	2.2	7.55	13.7	0.2	31.7	17.1	2.1	
	Sub-total			2.2	15.78	13.2	0.2	29.7	16.5	
	Vipasca	P0	2.1	10.43	8.9	0.1	26.1	30.6	2.9	
		PA	2.1	4.2	9.4	0.1	27	27.6	1.6	
		PB	2.1	3.79	8.4	0	29.2	25.2	1.7	
		P1	2.2	2.37	9.5	0	29.4	19.3	2.8	
		P2	2.2	8.36	10.5	0	31.2	19.6	5.6	
		Sub-total			2.1	29.15	9.4	0.1	28.4	25.4
		Sub-total Inferred			2.2	44.93	10.8	0.1	28.8	22.3
Grand Total	Muga	P0	2.1	44.95	10	0.4	27.3	27.3	3.6	
		PA	1.9	37.4	12.1	1.4	23.5	20.6	1.9	
		PB	2.1	55.76	12.6	0.3	27.1	19.5	2.9	
		P1	2.2	56.5	12.7	0.1	31	17.1	4.6	
		P2	2.2	34.34	12.9	0.1	25.4	13.9	3.1	
	Sub-total			2.1	236.5	12.1	0.4	27.4	19.7	
	Vipasca	P0	2.1	10.43	8.9	0.1	26.1	30.6	2.9	
		PA	2.1	4.2	9.4	0.1	27	27.6	1.6	
		PB	2.1	3.79	8.4	0	29.2	25.2	1.7	
		P1	2.2	8.12	10.3	0.1	29.8	18.3	1.9	
		P2	2.2	19.22	10.9	0	31.1	19.1	3.1	
		Sub-total			2.2	45.76	10	0	29.2	22.9
		Total			2.1	282.26	11.8	0.4	27.7	20.2

*Reported above a cut-off grade of 8% K₂O and a minimum mining thickness (where horizons will be mined separately) of 1.5m

*Insolubles refers to clays, gypsum and sulphates

*Numbers have been rounded to reflect the relative level of accuracy and as such totals may include rounding discrepancies

Ore Reserve Estimate

The most up to date Ore Reserve Statement prepared by Highfield, and reviewed by SRK, is presented in Table 9 below. The Proved and Probable Ore Reserve was derived from the Measured and Indicated Mineral Resource of 237.3 Mt at 12.0% Potassium Oxide (“K₂O”, potash) which is valid as at 31 August 2020 and comprises 104.3 million tonnes at 10.2% Potassium Oxide (“K₂O”, potash), with a Proved Ore Reserve of 45.3 million tonnes at 10.5% K₂O and a Probable Ore Reserve of 58.9 million tonnes at 10.0% K₂O.

Highfield Resources

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The audited Ore Reserve Statement was reported in accordance with the terminology and guidelines of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (“JORC Code”). The Ore Reserve is presented in terms of plant feed and inclusive of losses and dilution incurred during mining and is a sub-set of, and not additive to, the Mineral Resource estimate from which it was derived.

The Company confirms that it is not aware of any new information or data that materially affects the information included in this market announcement and that all material assumptions and technical parameters underpinning the estimates with regards to exploration results in the ASX announcement released on 23 November 2021 continue to apply and have not materially changed.

TABLE 9: AUDITED SRK ORE RESERVE STATEMENT FOR THE MUGA POTASH PROJECT DEPOSIT EFFECTIVE DATE 31 OCTOBER 2021

Ore Reserve Classification	Tonnage	%K ₂ O	%MgO	%KCl
	(Mt)			
Proved Reserve	45.3	10.5%	0.3%	16.6%
Probable Reserve	59.0	10.0%	0.6%	15.8%
Total Ore Reserve (Proved + Probable)	104.3	10.2%	0.5%	16.1%

* Additional notes to consider for the purposes of the Ore Reserve statement are as follows:

1. All figures are rounded to reflect the relative accuracy of the estimate and have been used to derive sub-totals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material. The Concession is wholly owned by and exploration is operated by Geocalci S.L.U., the wholly owned Spanish subsidiary of Highfield Resources.
2. The standard adopted in respect of the reporting of Ore Reserves for the Project, following the completion of required technical studies, is the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.
3. SRK reasonably expects the Muga deposit to be amenable to a variety of underground mining methods for the shallow and inclined potash seams. Ore Reserves are reported at an 8% K₂O cut-off which is based on potash price assumptions, metallurgical recovery assumptions from initial testwork, mining costs, processing costs, general and administrative (G&A) costs, and other factors.
4. SRK notes that the Reserve Tonnes are reported as wet tonnes with a low moisture content of 0.8%.

Ore Reserve assumptions

The most up to date Ore Reserve has an effective date of 31 October 2021 and was prepared by the Company and reflects the results of mine planning work undertaken in 2021 based on the most up to date geological model and MRE which has an effective date 31 August 2020; and further advances in the project design and cost estimation made during 2021.



The approach, and the assumptions made, for the purpose of the Ore Reserve estimate are summarised in the following sections.

Ore Reserve cut-off grade approach

The cut-off grade utilised to report the Ore Reserve was 8% K₂O. SRK verified the input parameters and the cut-off grade calculation together with the technical justification behind the production scenario proposed by Highfield. SRK also assessed the sensitivity of the Project economics to capital costs, operating costs and commodity prices with additional contingencies applied to test the robustness of the project economics. The Company and SRK are confident that the Ore Reserve was reported in accordance with the JORC Code guidelines and was determined to be economically viable based on the commodity prices forecast at the time.

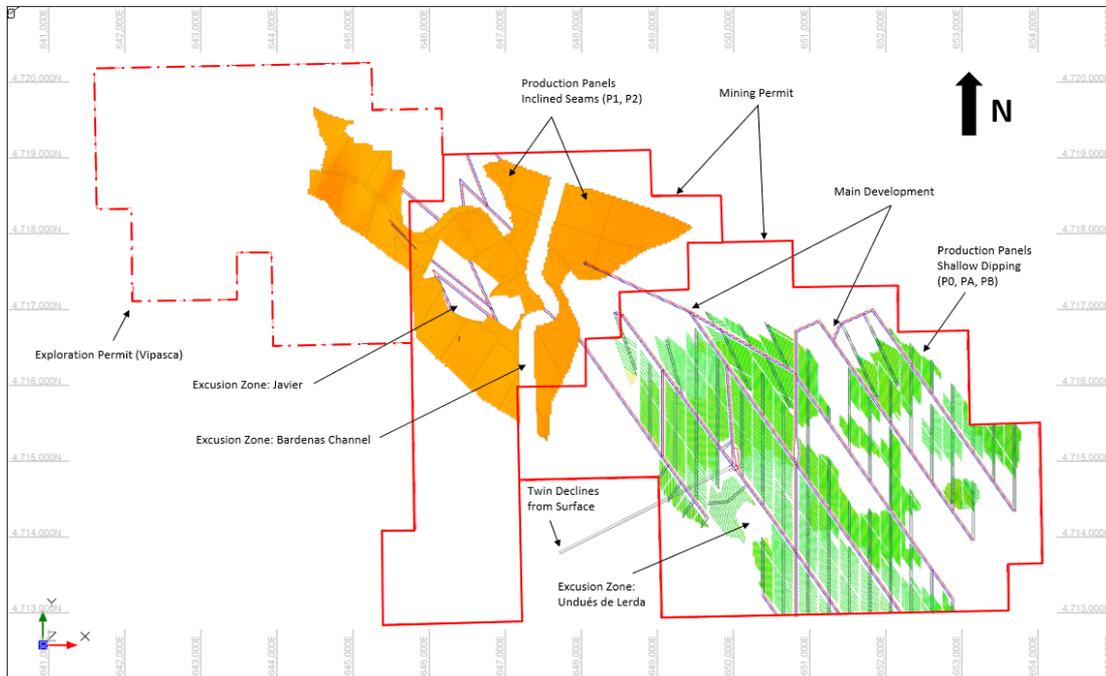
Mining method approach

The mine plan used as the basis for the Ore Reserve estimate, was developed by Highfield with technical mine planning support from IGAN and based on panel rib pillar guidance by SRK (following the methodology and modifying factors based on the Muga Project Update statement of 22 January 2019). The revised approach considered mining of shallow dipping seams referred to as P0, PA, and PB (the “shallow dipping seams”) and inclined seams referred to as P1 and P2 (the “inclined seams”), as shown in Figure 6. The mineable tonnes were comprised of approximately 66% from the shallow dipping seams and 34% from the inclined seams.

The potash seams are also constrained by a minimum mining height of 2 metres which is consistent with the planned mining equipment. The shallow dipping seams utilise a set of two parallel roadways as the main development access, one for fresh air intake and access and the other for exhaust ventilation and both with conveyor belt materials handling system. The mining method approach is a typical Room and Pillar (“R&P”) panel layout. The room width is specified at 8 metres and the height and pillar size is determined by the total combined seam thickness, geotechnical constraints due to depth below surface and/or any equipment limitations.



FIGURE 6: PLAN VIEW OF REVISED ORE RESERVE ESTIMATION MUGA-VIPASCA MINING PANELS INCLUDING ACCESS DEVELOPMENT AND BOUNDARY CONSTRAINTS



The more steeply inclined potash seams in the north west of the deposit required an alternative mining approach to the R&P panel layout used for the shallow dipping seams, to minimise dilution and maximise extraction, taking into consideration the geotechnical constraints and equipment limitations. An adaptation of the existing R&P method was considered for developing a practically achievable inclination for the roadways and mining rooms while maintaining the same production targets and utilising the same excavation, material handling and backfill approach.

The mine design included a primary twin decline access at a maximum apparent dip of 15%. The revised mine plan also incorporated the requirements of the environmental and mining approval process, particularly related to subsidence controls and exclusion zones around towns, infrastructure and objects of significant cultural importance.

Processing

The detailed economic analysis supporting reasonable prospects for eventual economic extraction of the Mineral Resource assumed processing with conventional crushing, flotation and crystallisation.

The proposed beneficiation process consists of a hybrid of two conventional beneficiation processes for sylvinite ores, namely froth flotation and dissolution/crystallisation. Flotation is applied to the coarse fraction of the feed ore after crushing, and dissolution/crystallisation, which produces a higher quality product, is applied to fines and intermediate fractions to achieve an overall optimum level of recovery. Sufficient testwork has been conducted to support the development of the flowsheet. For the purpose of the Ore Reserve estimate 91% KCl average recovery was used, as validated by the metallurgical testwork.

The process design resulting of the testwork carried out at the Saskatchewan Research Centre (“SRC”) laboratories in Canada in 2018 has been optimised with minor updates to improve the robustness of the process and included the production of vacuum salt as a by-product to reduce surface tailings storage.



Capex

The capex estimate was comprehensive and confirmed in 2019 by Micon International Company Ltd. (“Micon”) to be superior to typical estimates at this stage of a project’s development. Allowances were made for the full mining fleet to extract ore over the life of mine including refurbishment and replacement costs, ground support, conveying systems for ore and backfill operations, ventilation systems and other materials to support mining development. The process plant capex estimate was calculated utilising the equipment purchase contracts. The Company had already signed purchase contracts for 85% of the process plant equipment (refer ASX 21 September 2021, “Purchase Contract Signed for Process Plant Equipment”) giving a high degree of confidence in the capex estimate.

Sales and marketing

The product sales assumptions and forecast pricing used to support the ORE were the same as used by the Company in the Muga Project Update statement of 15 October 2018 (refer ASX, “Muga Project Update”). This approach assumes that 100% of the first phase of production is assumed to be sold into local and regional markets and for the second phase, a conservative approach has been adopted which considers 25% of product is sold into northern European markets and 25% to export markets. Forecast Potash prices were based on Commodity Resource Unit (“CRU”) second half 2021 dataset. The forecast prices considered in the financial model for southern Europe price for 2021 ranged from €360-390/tonne of potash.

A flat €16.4/tonne for transport of potash product to the ‘point of sale’ was applied in the economic assessment.

The mine gate sales price of €36/tonne for de-icing salt and the mine gate sales price of €55/tonne for vacuum salt was applied based on Argus Media’s most recent prices.

Social and environmental considerations

In addition to the statutory consultation required as part of the environmental approval process, the Company had implemented a comprehensive stakeholder engagement programme. This is based on a strategy that includes regular meetings with community leaders, community groups and an actively managed project website.

A range of environmental factors were considered for the development of the Ore Reserve estimate. These included groundwater assessments, surface water management infrastructure, waste management, environmental controls around the temporary waste storage area and mining exclusion zones around surface infrastructure to mitigate against potential subsidence.

The Ore Reserve statement as included herein is materially compliant with the JORC Code guidelines effective October 31, 2021. In accordance with additional reporting requirements of the latest version of the JORC Code (2012), SRK’s review report includes an Appendix comprising the JORC checklist tables which include additional details and commentary on “Section 1 - Sampling Techniques and Data”, “Section 2 Reporting of Exploration Results”, “Section 3 - Estimation and Reporting of Mineral Resources” and “Section 4 - Estimation and Reporting of Ore Reserves”. These tables were appended to the November 2021 press release.



Mineral Resource Estimate

Cautionary Statement. The production target set out in this update is derived from Proved and Probable Ore Reserves and Measured, Indicated and Inferred Mineral Resources from the Muga tenement as well as the Exploration Target at the Vipasca and Muga Sur tenements. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The potential quantity and grade of an Exploration Target is conceptual in nature, there has been insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that the production target itself will be realised. In the Company's opinion, the technical parameters underpinning the Mineral Resource in the market announcement dated 30 March 2021 (refer ASX announcement, "Annual report to Shareholders") continue to apply and have not materially changed.

The most up to date Mineral Resource Statement for the Project as authored by SRK (refer ASX announcement 30 March 2021, "Annual report to Shareholders") had not changed materially from the previous statement released in October 2018. The Mineral Resource tonnage had increased by 14.91 Mt to 282.26 Mt and the grade of the Mineral Resource had decreased from 12.4% K₂O to 11.8% K₂O. The reasons for the decrease in grade and additional tonnage were:

- New drilling in the Vipasca Licence area which had added new areas to the Mineral Resource.
- Lower grade mineralisation which was intersected at Vipasca than previously in the Muga Licence area.
- The new thickness interpolation which had decreased the thicknesses of the potash horizons at the edges of the basin and which had in turn decreased the tonnage in the Muga Licence area slightly.
- The lower grade intercepts in Vipasca which had influenced the grades at the western edge of the Muga Licence and which had in turn decreased the block model grades at the western edge of that licence.

The Mineral Resource Statement shows that the tonnage in the Muga Licence area is 12.1% K₂O as opposed to the Vipasca Licence area where the average grade is 10.0% K₂O.

The total Measured and Indicated Mineral Resource had increased by 2.58 Mt and decreased in grade by 0.3% K₂O which SRK did not expect to have any material impact on the mine plan. The Inferred Mineral Resource had increased in tonnage from 32.6 Mt to 44.93 Mt and decreased in grade from 12.9% to 10.8% K₂O. This was due to the low-grade mineralisation added in the Vipasca Licence area which has been predominantly classified as Inferred.



TABLE 11: MUGA POTASH PROJECT DEPOSIT MINERAL RESOURCE ESTIMATE RELEASED ON MARCH 2021 AND COMPARED TO MINERAL RESOURCE ESTIMATE OF OCTOBER 2018 NOW SUPERSEDED.

	31 December 2020		31 December 2019	
	Tonnes In Place (Mt)	Grade K ₂ O (%)	Tonnes In Place (Mt)	Grade K ₂ O (%)
Measured	103.2	12.3%	91.8	12.4%
Indicated	134.1	11.7%	143.0	12.1%
Total Measured & Indicated	237.3	12.0%	234.8	12.3%
Inferred	44.9	10.8%	32.6	12.9%
Total	282.2	11.8%	267.4	12.4%

The Company confirms that it is not aware of any new information or data that materially affects the information included in this market announcement and that all material assumptions and technical parameters underpinning the estimates with regards to exploration results in the ASX announcement released on 30 March 2021 continue to apply and have not materially changed.

In order to report Mineral Resources in accordance with the JORC Code, it must be demonstrated that the mineralisation has the potential for eventual economic extraction. The upper horizons, P0 to PB are likely to be mined in a continuous sequence in the central part of the Muga Basin as there is very little interburden between them. In this instance the minimum thickness of the total unit P0, PA and PB has been assessed to ensure thinner central horizons are not excluded. A minimum thickness of 1.7 m has been applied to this combined package of horizons. In other areas where the horizons separate and cannot be mined together a minimum mining thickness of 1.5 m has been applied on the assumption the proposed equipment can be selective to 1.7 m.

A minimum thickness of 1.5 m was also applied to the P1, P2 and P4 potash horizons in order to constrain the Mineral Resources.

In addition, a cut-off calculation was derived to support limiting the Mineral Resource reporting of material above 8% K₂O. Specifically, the horizons were visually assessed to delineate contiguous areas above cut-off and ensure they were still mining targets. It is assumed at this stage that the high levels of MgO seen in horizon PA could be managed through blending with adjacent horizons.

The cut-off grade was derived using technical and economic parameters provided by the Company. SRK reviewed the input parameters and the cut-off grade calculation, alongside the technical reasoning behind the proposed production scenario, as well as the sensitivity of the cut-off grade to operating costs and a contingency and was satisfied that these are appropriate for the purposes of reporting Mineral Resources. SRK notes that the cut-off grade derived is considerably lower than the 8% applied. However, SRK deems a high cut-off grade appropriate as the processing recovery used in the calculation is not variable and applies to the average grade of the deposit. There is no testwork available to support processing recoveries of 95% for grades lower than 8% K₂O and therefore SRK considers it appropriate to apply this limit to the Resources reported herein.



The SRK Mineral Resource Statement is shown in Table 12. The extents of the Mineral Resource occur between 180 m and 1,400 m below surface and it is contained entirely within the Investigation and Mining Permits held by the Company. The Mineral Resources have been presented according to licence area. The Mineral Resource Statement is valid as at 31 August 2020 and is based on the information available at that time.



TABLE 12: AUDITED SRK MINERAL RESOURCE STATEMENT FOR THE MUGA-VIPASCA POTASH DEPOSIT EFFECTIVE DATE 31 AUGUST 2020

Classification	Area	Horizon	Density (g/cm ³)	Tonnage (Mt)	%K ₂ O	%MgO	%Na ₂ O	% Insolubles	True Thickness (m)		
Measured	Muga	P0	2.1	10.18	9.8	0.2	25.9	23.3	2.0		
		PA	2.0	17.81	11.7	0.8	24.2	20.3	1.7		
		PB	2.1	38.07	12.9	0.2	26.9	19	3.5		
		P1	2.2	20.53	12.5	0.1	31.5	17.1	2.8		
		P2	2.2	16.6	12.9	0.1	24.3	13.4	3.0		
Sub-total Measured			2.1	103.19	12.3	0.3	26.8	18.4			
Indicated	Muga	P0	2.1	34.47	10.1	0.5	27.7	28.5	4.1		
		PA	1.9	19.43	12.4	2	22.8	20.8	2.0		
		PB	2.1	17.69	11.8	0.4	27.4	20.6	1.6		
		P1	2.2	34.22	12.8	0.1	30.7	17.1	5.6		
		P2	2.2	11.72	12.9	0.1	26	14	3.4		
	Sub-total			2.1	117.53	11.8	0.6	27.5	21.3		
	Vipasca	P1	2.2	5.75	10.7	0.1	30	17.9	1.8		
		P2	2.2	10.86	11.2	0	31.1	18.7	2.8		
		Sub-total			2.2	16.61	11	0	30.7	18.4	
	Sub-total Indicated			2.1	134.14	11.7	0.5	27.9	20.9		
Measured + Indicated	Muga	P0	2.1	44.65	10	0.4	27.3	27.3	3.6		
		PA	1.9	37.24	12.1	1.4	23.5	20.6	1.9		
		PB	2.1	55.76	12.6	0.3	27.1	19.5	2.9		
		P1	2.2	54.75	12.7	0.1	31	17.1	4.6		
		P2	2.2	28.32	12.9	0.1	25	13.6	3.2		
	Sub-total			2.1	220.72	12.0	0.4	27.2	19.9		
	Vipasca	P1	2.2	5.75	10.7	0.1	30	17.9	1.8		
P2		2.2	10.86	11.2	0	31.1	18.7	2.8			
Sub-total			2.2	16.61	11	0	30.7	18.4			
Sub-total Measured + Indicated			2.1	237.33	12.0	0.4	27.5	19.8			
Inferred	Muga	P0	2.1	0.3	9.9	0.4	28.3	28.4	2.6		
		PA	1.9	0.16	11.8	2.4	24.3	21.8	1.2		
		P1	2.2	1.75	12.4	0.1	29.5	15.7	5.0		
		P2	2.2	6.02	13.1	0.1	27.5	15.3	3.0		
		P4	2.2	7.55	13.7	0.2	31.7	17.1	2.1		
	Sub-total			2.2	15.78	13.2	0.2	29.7	16.5		
	Vipasca	P0	2.1	10.43	8.9	0.1	26.1	30.6	2.9		
		PA	2.1	4.2	9.4	0.1	27	27.6	1.6		
		PB	2.1	3.79	8.4	0	29.2	25.2	1.7		
		P1	2.2	2.37	9.5	0	29.4	19.3	2.8		
		P2	2.2	8.36	10.5	0	31.2	19.6	5.6		
		Sub-total			2.1	29.15	9.4	0.1	28.4	25.4	
		Sub-total Inferred			2.2	44.93	10.8	0.1	28.8	22.3	
Grand Total	Muga	P0	2.1	44.95	10	0.4	27.3	27.3	3.6		
		PA	1.9	37.4	12.1	1.4	23.5	20.6	1.9		
		PB	2.1	55.76	12.6	0.3	27.1	19.5	2.9		
		P1	2.2	56.5	12.7	0.1	31	17.1	4.6		
		P2	2.2	34.34	12.9	0.1	25.4	13.9	3.1		
		P4	2.2	7.55	13.7	0.2	31.7	17.1	2.1		
		Sub-total			2.1	236.5	12.1	0.4	27.4	19.7	
	Vipasca	P0	2.1	10.43	8.9	0.1	26.1	30.6	2.9		
		PA	2.1	4.2	9.4	0.1	27	27.6	1.6		
		PB	2.1	3.79	8.4	0	29.2	25.2	1.7		
		P1	2.2	8.12	10.3	0.1	29.8	18.3	1.9		
		P2	2.2	19.22	10.9	0	31.1	19.1	3.1		
		Sub-total			2.2	45.76	10	0	29.2	22.9	
Total			2.1	282.26	11.8	0.4	27.7	20.2			

*Reported above a cut-off grade of 8% K₂O and a minimum mining thickness (where horizons will be mined separately) of 1.5m

*Insolubles refers to clays, gypsum and sulphates

*Numbers have been rounded to reflect the relative level of accuracy and as such totals may include rounding discrepancies



Exploration Target⁵

Cautionary Statement. The production target set out in this update is derived from Proved and Probable Ore Reserves and Inferred Mineral Resources from the Muga-Vipasca licences as well as the Exploration Target at the Vipasca and Muga Sur licences. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The potential quantity and grade of an Exploration Target is conceptual in nature, there has been insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that the production target itself will be realised. In the opinion of the Company, the technical parameters underpinning the target in the market announcement dated 23 November 2021 continue to apply and have not materially changed.

Subsequent to producing the most up-to-date MRE in August 2020, Geoalcali also derived an Exploration Target as defined by the JORC Code for both the Vipasca Licence area and the Muga Sur Licence area. The Vipasca Exploration Target was assumed to contain all five horizons P2 to P0 while the Muga Sur Exploration Target was assumed to contain the PB, PA and P0 horizons only. The presence of the potentially economic potash has not been confirmed in these areas, but they comprise projected lateral extensions to the current Muga-Vipasca model that are either untested by drilling or contain historical data that is considered unreliable.

An Exploration Target is defined by the JORC Code (2012) as a statement or estimate of exploration potential of a mineral deposit in a defined geological setting where the statement or estimate, which must be quoted as a range of tonnes and a range of grade (or quality), relates to mineralisation for which there has been insufficient exploration to estimate a Mineral Resource.

SRK reviewed both the tonnage and grade estimates for the exploration targets and the drilling programmes proposed to further explore these and projected cost of these. The tonnages in each case were calculated by delineating the target areas for each horizon, as shown in Figure 7, by applying a thickness for each horizon based on the nearest drilling intersection and by assuming a density of 2.13 g/cm³ (the average density for the existing model). Three target areas were delineated for Vipasca and one for Muga Sur. The tonnage ranges were then derived by applying $\pm 25\%$ thresholds to the calculations. The grade ranges were derived by projecting those in the existing block model estimates in the adjacent Vipasca and Muga licence areas.

The Exploration Target so derived for the Vipasca areas (West Vipasca, Northwest Vipasca and South Vipasca respectively) was between 80 and 130 Mt with a mean grade of between 8 and 10% K₂O and for Muga Sur was between 0.5 and 1 Mt with a mean grade of between 8 and 12% K₂O. Note that these were rounded further from the numbers derived by Geoalcali.

It should be noted that these estimates are conceptual in nature, that there has been insufficient exploration to estimate a Mineral Resource for these areas and that it is uncertain if further exploration of these areas will result in the estimation of a Mineral Resource.

⁵ *The potential quantity and grade of an Exploration Target is conceptual in nature, there has been insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that the production target itself will be realised. In the Company's opinion, the technical parameters underpinning the target in the market announcement dated 23 November 2021 continue to apply and have not materially changed.*

ASX ANNOUNCEMENT



The drilling programmes and envisaged expenditures are summarised in Table 13 and SRK ensured that these have been allowed for in the operating costs assumed by the mine plan it used to underpin the Ore Reserve statement.

TABLE 13: PLANNED DRILLING AND EXPENDITURE FOR EACH EXPLORATION TARGET

Exploration Target	Planned Drilling Schedule	Description	Expenditure (USD)
West Vipasca	Y4-Y7 Mine Life	Underground fan drilling of 5 holes, total meterage 5,000m	650,000
Northwest Vipasca	Y4-Y7 Mine Life	Underground fan drilling of 5 holes, total meterage 5,000m	650,000
South Vipasca	Y4-Y7 Mine Life	Underground fan drilling of 5 holes, total meterage 5,000m	650,000
Muga Sur	2022-2023	1 drillhole, 750m	97,500

While the Exploration Targets were derived by Geoalcali these have been reviewed by SRK and, as is the case for the Mineral Resource, the Competent Person responsible for these is Ms Fardell.

FIGURE 7: EXPLORATION TARGET AREAS FOR THE MUGA AND VIPASCA LICENCES.

