

NORTH YORKSHIRE LOCAL ACCESS FORUM

10 SEPTEMBER 2014

UPDATE ON THE YORK POTASH PROJECT

1.0 PURPOSE OF REPORT

1.1 This report is an update on the York Potash Project proposals near Whitby.

2.0 BACKGROUND

2.1 York Potash Limited are proposing to open 3 mines to the north west of Whitby, to extract polyhalite, a form of potash that is used as a fertilizer.

3.0 CURRENT SITUATION

3.1 A planning application for the site was submitted to the National Park but was subsequently withdrawn. The application identified that there was likely to be an impact on several public rights of way during the construction of a pipeline to Teeside. A further application is apparently due to be submitted to the National Park which is suspected to have a much reduced impact on the landscape, and on the public rights of way network.

3.2 Royal HaskoningDHV are undertaking the preliminary Environmental Impact Assessment to inform the company regarding the local environmental impact of the project.

3.3 The company are consulting with a number of local organisations including the North York Moors National Park. Two of the mine sites lie within Redcar and Cleveland, and one site, Lady Cross Plantation, lies within North Yorkshire, but within the area of the North York Moors National Park.

3.4 There are no public rights of way affected at the mine site at Lady Cross Plantation although there would potentially be a significant increase in traffic along the B1416 from the A171 to the east, as this would be the HGV access route. This would have an impact on users on Wainwright's Coast to Coast Walk who utilise the verge for about 600m in this vicinity on their way to Robin Hood's Bay. However, the National Park are completing a footpath diversion scheme which will enable walkers to go straight across the main road rather than walking alongside it and will limit the impact on walkers.

3.5 A copy of 'The York Potash Project Explained' is attached for information.

4.0 RECOMMENDATION

4.1 It is recommended that members receive this report for information.

Contact:

Penny Noake
Definitive Map Team Leader
01609 532245

THE YORK POTASH PROJECT EXPLAINED

Information to support
public consultation

Summer 2014



YORKPOTASH
A Sirius Minerals Project



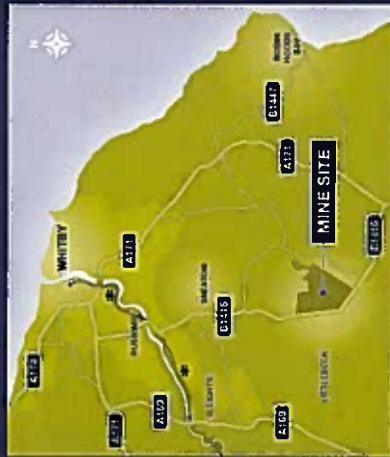
NATIONAL NEED LOCAL BENEFIT

THE YORK POTASH PROJECT AIMS TO BUILD THE FIRST POTASH MINE IN THE UK FOR OVER 40 YEARS – AN OPPORTUNITY FOR NORTH YORKSHIRE AND TEESIDE THAT HAS LOCAL, NATIONAL AND GLOBAL SIGNIFICANCE.

The state-of-the-art mine would be the first in the world focused on the extraction of polyhalite, a liquid multi-valent form of potash that is not only recognised as a highly effective fertiliser but would also boost the local, regional and UK national economies. It has the potential to create thousands of jobs, benefit local businesses, help improve skills in the region and contribute to people's prosperity for generations to come.

We have already made significant progress towards delivering this vision.

Source: York Potash project overview website on pages 2, 3 and 4.



OVER 4200 JOBS CREATED DURING CONSTRUCTION AND PRODUCTION

£1.2 BILLION EXPORTS ANNUALLY

£48M ANNUAL LOCAL PAYMENTS

£233M IN TAX RECEIPTS

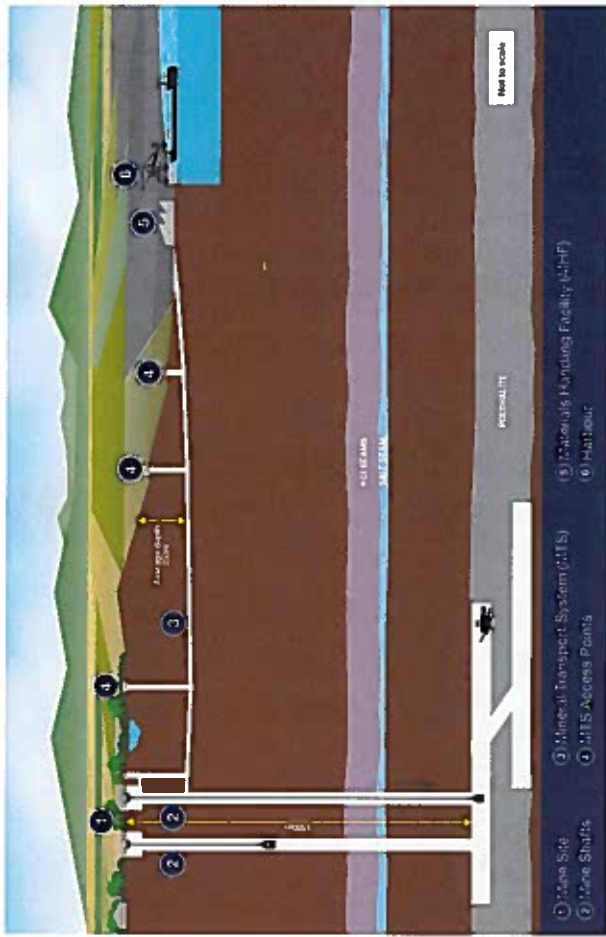
Source: Figures based on full consultation. © York Potash. A copy of the price of £1.50 per...

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OVERVIEW OF THE PROJECT

The polyhalite would be extracted via the mine shafts and transported to Teesside on an underground conveyor belt system in a tunnel that has an average depth of 250m. Once at Teesside the polyhalite would be granulated at the materials handling facility, with the majority being exported from the nearby harbour



IMPROVING THE PROJECT

From the outset, York Potash has focused on designing a project that minimises its impact on the environment. We have now improved our project making it more efficient and with less visual and environmental impact.

TELL US WHAT YOU THINK

This brochure is supporting our public consultation and sets out our plans for the mine, the mineral transport system and the materials handling facility (the harbour is subject to a separate consultation exercise).

Please take time to read it, visit our exhibitions over the summer and submit a feedback form.

You can do this online at our website www.yorkpotash.co.uk/consultation

YOUR VIEWS COUNT

PLEASE TAKE TIME TO COMPLETE THE FEEDBACK FORM ON OUR WEBSITE WWW.YORKPOTASH.CO.UK/CONSULTATION

POLYHALITE - FERTILIZER OF THE FUTURE

THE YORK POTASH PROJECT FOCUSES ON MINING THE LARGEST, HIGHEST GRADE RESOURCE OF POLYHALITE FOUND ANYWHERE IN THE WORLD.

WHAT IS POLYHALITE?

Polyhalite is a type of potash, an essential ingredient in plant fertilizer, which contains a unique combination of four of the six essential nutrients plants need -

potassium, magnesium, sulphur and calcium. It can be used directly on crops or combined with the other nutrients - nitrogen and phosphorus - to create other commonly used NPK fertilizer products.



Polyhalite ore

WHY IS IT NEEDED?

As the world population grows, demand for food increases. New wealthy economies are emerging and within them a growing middle-class which demands more protein rich and higher quality diets. Sustaining increased livestock herds requires greater efficiency from grain production and arable land and this requires farmers and food producers to use balanced fertilization to increase yields.

The situation has become even more challenging as there is increasingly less farm land available to grow the required crops, necessary for both food supply and to support biofuel technology. Green energy crops also require potash.

Potash, and polyhalite in particular, can play a major role in more efficient and productive agricultural techniques.

A PROVEN PRODUCT

Independent research and trials on all the major crop groups prove that polyhalite is highly effective and suitable for widespread commercial farming.

A report by the leading, independent environmental and agricultural consultancy, ADAS, "The Agronomic Case for Polyhalite", which has been peer reviewed by world-leading agronomists, states that "Polyhalite significantly increased the growth of a wide range of crop species including: corn, flax, oilseed rape, pepper, potato, sorghum, soybean, sugarcane and wheat".

Polyhalite has a low carbon footprint, no measurable effects on soil pH and is essentially chloride free. Its high total nutrient content delivers excellent nutrient availability, and polyhalite has been certified for use in organic farming.

POLYHALITE

MACRO-NUTRIENT COMPOSITION

19	K	POTASSIUM (14% K ₂ O)	16	S	SULPHUR (19% S)
12	Mg	MAGNESIUM (6% MgO)	20	Ca	CALCIUM (17% CaO)
7	N	NITROGEN	15	P	PHOSPHORUS

Notes: (1) Based on 90% polyhalite grade. Polyhalite contains four of the six essential macro nutrients highlighted in green.



WORLD'S LARGEST RESOURCE

Our area of interest contains the largest, highest grade resource of polyhalite to be found anywhere in the world. There is a defined resource of 2.66 billion metric tonnes of polyhalite from just seven percent of the project area of interest.

The company's production of polyhalite would contribute to a solution to the challenge of global food security as York Potash would become one of the most significant large scale suppliers of a multi-nutrient fertilizer.



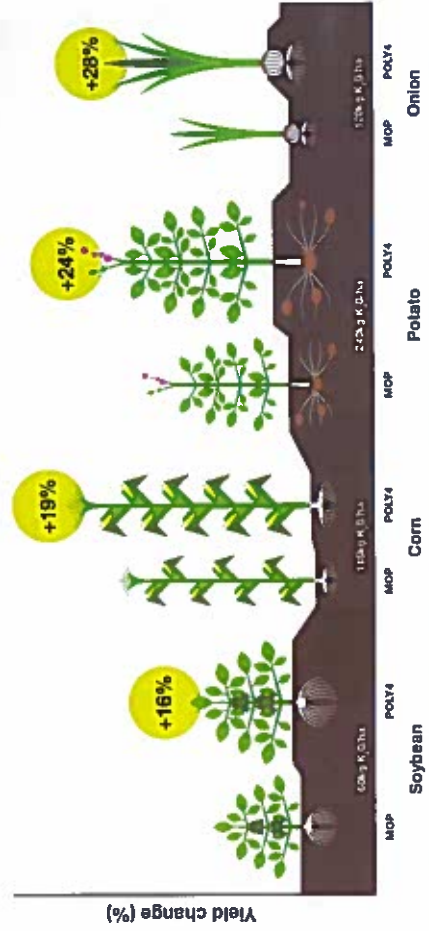
A GROWING GLOBAL DEMAND

World leading fertilizer experts Cifu Strategies produced a report "Polyhalite Market Study: April 2014", which focused on the potential global market for polyhalite. This study predicts that there would be market capacity to absorb York Potash's full production.

Since it began marketing polyhalite York Potash has already signed major sales agreements with leading commercial organisations in North America and China and has commitments from many other regions including Europe, the Americas and Asia.

Domestic interest in the product continues to grow and, importantly, York Potash provides an additional domestic source of potash well into the future.

EXAMPLE CROP STUDY RESULTS: POLY4 Vs MOP



Notes: Source - Sussex Minerals Agronomy Webcasts. Muriate of potash, otherwise known as MOP is a source of potassium and is the most common potash product on the market. It does not contain the other nutrients found in polyhalite. Corn results shown are from a MOP blend from trials at the University of Florida.

THE MINE – A NEW BENCHMARK IN SUSTAINABLE DESIGN

THE PROPOSED LOCATION FOR THE YORK POTASH MINE IS SET WITHIN AN EXISTING FARM AND A COMMERCIAL FORESTRY BLOCK LOCATED APPROXIMATELY ONE MILE SOUTH OF SNEATON VILLAGE AND THREE MILES SOUTH OF WHITBY. IT IS LOCATED OFF THE B1416, CLOSE TO RED GATE, WHICH GIVES GOOD ACCESS TO THE A171.

The mine infrastructure would mostly be sub-surface, to limit the impact above ground. Buildings would be screened by the existing woodland and new landscaping, which blends in with the surrounding area. This sensitive design would minimise both the visual and environmental impact.

Innovative measures, such as high tech shutters on the windows would keep light emissions to a minimum at night. Car park lighting would be minimal and enclosed with an environmental barrier to contain light from headlights.

Buildings would be sound proofed and a system would ensure any dust generated is contained underground. A Sustainable Drainage System (SuDS) would reduce surface water run off and minimise any flood risk.

SITE LOCATION



SITE PLAN

WHY THIS SITE?

The location of the site has been determined by the geology of the area. It lies towards the centre of the defined polyhalite resource and away from known faulting systems – an essential consideration for safely sinking the mine shafts as well as ongoing operations.

The site also already benefits from extensive screening, offers the ability to conceal the mine in the local landscape, and is isolated away from local villages and settlements.

A draft detailed alternative sites assessment has been prepared and demonstrates why there is no sensible scope for this mine to be constructed outside of the National Park. In particular, this includes a thorough assessment of why the area between Whitby and Sleights and the outskirts of Coughton are not suitable locations for the mine.

MINE SUPPORT BUILDING

The mine support building would be hidden in an existing commercial forestry block and would provide essential facilities such as:

- Staff welfare areas
- Mine rescue facilities
- Security office
- Lamproom
- Laboratory
- Survey offices
- Control room
- Workshop
- Laydown area



MINE SHAFT HEAD FRAMES PARTIALLY SUNK BELOW THE SURFACE AND HOUSED WITHIN AGRICULTURAL STYLED BUILDINGS

LANDSCAPE SCREENING

EXHAUST SHAFT

MTS SHAFT

REED BED STYLE SETTLEMENT PONDS

POWER AND VENTILATION BUILDINGS

LANDSCAPE SCREENING

EXISTING ACCESS ONTO B1416

A priority would be to create bunds around the site, using excluded material, to provide screening and to act as a noise barrier. Where the site is most open, these bunds would be completed and grass seeded to mirror the first six months

MINE LOCATION – CAREFULLY CHOSEN FOR MINIMUM IMPACT

THIS PAGE SHOWS IMAGES FROM A NUMBER OF LOCATIONS TO DEMONSTRATE THE VISUAL IMPACT OF THE MINE DURING AND AFTER CONSTRUCTION.

The A171 represents the most frequently used road near the site from where it would be most visible to members of the public travelling by car. Opposite are views from nearby Hawsker village and from Whitby Abbey. The tower-like structures shown in these photographs are temporary winding head frames, which would be needed to construct the shafts for the mine and permanent winders are installed in the mine buildings that will be designed in an agricultural style.

THE EXISTING SITE VIEWED FROM THE A171

The view today across moorland towards the mine site from the main A171 Whitby to Scarborough road.



DURING CONSTRUCTION

The same view from the A171 showing the view during construction.



THE SITE ONE YEAR AFTER CONSTRUCTION

The view of the mine from the A171, one year after construction has finished and mining operations have begun.



VIEW FROM THE VILLAGE OF HAWSKER DURING CONSTRUCTION

Hawsker is the village with the most open view of the mine site. The photograph shows the temporary winding head frames as they would be seen from the village.



VIEW FROM THE VILLAGE OF HAWSKER ONE YEAR AFTER CONSTRUCTION

After construction, the temporary winding head frames would be removed.



VIEW FROM WHITBY ABBEY DURING CONSTRUCTION

Whitby Abbey is one of the most visited tourist attractions in the area. This is the view that visitors to the Abbey would see during construction.



VIEW FROM WHITBY ABBEY ONE YEAR AFTER CONSTRUCTION

The view from Whitby Abbey one year after construction has finished and mining operations have begun.



Notes: More images from different view points will be made available on our website www.yorkpotash.co.uk

THE MINE - CONSTRUCTION AND COMPLETION

THE MINE WILL BE BUILT OVER A FOUR YEAR PERIOD AND MEASURES WILL BE PUT IN PLACE TO REDUCE THE IMPACT AS MUCH AS POSSIBLE ON THE ENVIRONMENT AND ON PEOPLE VISITING AND LIVING IN THE AREA.

The main elements of construction would include, preparing the site, sinking the mine shafts and establishing the underground infrastructure; building the necessary surface buildings; and landscaping the site.

This would involve the mobilisation of specialist equipment, machinery and vehicles, as well as the large scale movement of excavated material from the shafts. Work onsite would take place 24 hours a day, seven days a week, in order to minimise the total duration of the construction period.

Construction workers, some of whom would come from outside the area, would either be accommodated locally, or in a purpose built workers village at the construction Park & Ride site near to Whitby Business Park.

SITE PREPARATION

Before the main construction starts a hard standing area would be built around the shaft locations to support the temporary winding head frames and plant and equipment, which would remain in place for the construction period.

NATURE OF THE EXCAVATED MATERIALS

Whilst most of the excavated material would be retained on site without any special measures it would also contain three types of non-hazardous, non-inert (NHNI) materials:

- Pyritic Mudstone
- Dolomitic and Anhydritic Mudstones
- Hallic Mudstone and Halite

The Pyritic mudstone would be retained on site in an engineered and landscaped bund. The remaining NHNI material would be taken offsite.

EARTHWORKS MANAGEMENT

which are stripped from the surface before landscaping and then re-laid. Approximately 215,000 m³ of excavated material would be taken offsite.

EARTHWORKS AFTER THREE MONTHS



EARTHWORKS AFTER TWO YEARS



REDUCING NOISE LEVELS

Shaft sinking would involve drill and blast operations which would normally involve one blast per day per shaft, although on occasion there could be a maximum of two blasts. A system would be put in place to alert people in advance of blasting. This could make use of email and text alerts as well as messages through social media such as Twitter. Vibration and noise levels would be kept as low as possible and as the shafts get deeper the blasting would become less frequent and less noticeable.

Additional noise reduction measures would include silencers on generators. These would help to control noise generated by vehicle movements and general construction activities at levels that would be below standard guidelines.

MINIMISING LIGHTING IMPACT

- Have the maximum illumination levels necessary to maintain a safe working environment
- Prevents blinding lighting of areas
- Light areas only on an as required basis
- Minimise the land upward light spill

There are a small number of viewpoints, mostly directly adjacent to or very close to the site, where there may be potential night impacts due to light being reflected or directed into the night sky. This would not affect any of the viewpoints from the surrounding villages or Whoby.

VIEW FROM ROAD ADJACENT TO SITE (B1416)

EXISTING SITE VIEW



DURING CONSTRUCTION



ONE YEAR AFTER CONSTRUCTION



VIEW FROM BLUE BANK CAR PARK OFF A169

DURING CONSTRUCTION



ONE YEAR AFTER CONSTRUCTION



MINERAL TRANSPORT SYSTEM - LOW IMPACT SUSTAINABLE DESIGN

OUR PROPOSED MINERAL TRANSPORT SYSTEM WOULD TAKE THE POLYHALITE FROM THE MINE SITE TO THE MATERIALS HANDLING FACILITY AT TEESSIDE ON A HIGH CAPACITY CONVEYOR BELT SYSTEM IN A TUNNEL THAT HAS AN AVERAGE DEPTH OF 250 METRES BELOW THE SURFACE. THIS NEW SYSTEM REPLACES A PREVIOUS PROPOSAL FOR A SLURRY PIPELINE AS THE METHOD OF TRANSPORTING THE MINED ORE.

PROPOSED MINERAL TRANSPORT SYSTEM (MTS)

Once the polyhalite is mined it would be hoisted to 360m below the surface where it would be loaded onto the MTS conveyor belt. From the mine this travels approximately 23 miles until it rises to the surface at Teesside. The technology involved is established and widely used in most underground mines around the world.

The tunnel containing the conveyor belt system would be a maximum of six metres wide, and follow a stable geological sequence that naturally comes to surface at Teesside. It is below the water table and follows a simple low impact route.



REDUCING IMPACT

Following the previous public consultation, we responded to requests for extra contingency measures in the pipeline system and looked at ways of addressing these. This involved options that would have significantly increased the permanent surface impact of the pipeline.

This led our engineering teams to look at other options and develop the new mineral transport system. The new system would deliver important benefits including:

- Reducing the project's surface construction footprint by 70%.
- Significantly reducing the building footprint at the mine site.
- Reducing the estimated operating costs by 25%.
- Reducing the energy requirement for the project.
- Completely removing the need to disturb any protected moorland sites.

MINERAL TRANSPORT SYSTEM - CONSTRUCTION AND COMPLETION

THE MTS IS THE MOST EFFICIENT METHOD OF TRANSPORTING THE POLYHALITE AND HAS THE LEAST ENVIRONMENTAL IMPACT. EXTENSIVE MITIGATION MEASURES WOULD BE PUT IN PLACE TO MINIMISE THE EFFECTS ON THE SURROUNDING AREA DURING CONSTRUCTION.

The total construction period for the entire MTS would take just over three years and be centred on the five access points. Construction would take place 24 hours a day, seven days a week.

SITE PREPARATION -6 MONTHS

This would involve the creation of a hard standing area for the shaft head, temporary construction area, site office, site temporary buildings and car park. Equipment would include cranes and a conveyor for excavated material. A temporary existing head frame up to 4.5m high would be used for the MTS shafts at the mine site and for each of the intermediate sites.

SHAFT SINKING -14 MONTHS

Shaft sinking would involve drill and blast operations. As with the mine shafts, a system would be put in place to alert people in advance of blasting. Vibration and noise levels would be kept as low as possible and as the shafts got deeper the blasting would become less frequent and less noticeable.

TUNNEL CONSTRUCTION AND FIT OUT -30 MONTHS

The construction of each tunnel area is expected to take in the region of 16 months and site fit out completion and commissioning an extra five months.

REMIEDIATION

In the operational phase, there would be an agricultural style building (20m x 20m and 8m high) over each of the intermediate shafts and a small area of hard standing parking, though access would be infrequent.

LADY CROSS SITE DURING CONSTRUCTION



LADY CROSS SITE DURING OPERATION



TEMPORARY VISUAL IMPACT AND LANDSCAPING

With the exception of the temporary winding head frames, construction equipment and activity would be largely screened by existing woodland, at each of the sites, although they could be visible from some viewpoints at distances further away from the sites. The image at the bottom of the page shows a view of the access point within the National Park.

Permanent changes to the landscape would not be significant given the relatively small size of the sites, the small permanent buildings and plans to ensure that excavated material and restoration work is done sympathetically in character with the surroundings. The excavated material would be used to slightly raise the level of the sites adjacent to the shafts and where possible create an enhanced environment.

The construction phasing as described on page 14 is the same for all the three intermediate access points along the MTS route.

The plans on the left relate to the Lady Cross Plantation access point. Similar site plans for Lockwood Beck and Tocketts Lythe will be available on our website.

MATERIAL MANAGEMENT AND LANDSCAPING

The amount of material excavated from the MTS tunnels and shafts is estimated to be between 1.2 – 1.4 million m³ (unbulked). The tunnel for the MTS would be constructed within the geological stratum known as the Redcar Mudstone Formation.

It is expected that all of the excavated material would be spread and landscaped on the land adjacent to each of the intermediate access points. Redcar Mudstone is classified as 'Non-inert, Non-Hazardous', of low polluting potential, and requiring a low permeability barrier to protect groundwater. The excavated material would be landscaped in accordance with approved environmental requirements.

The total area of land that would be landscaped at each site amounts to 20 hectares per site. It is the intention that the area of land being landscaped at any one location would be kept at less than one hectare per site at any one time. To minimise noise disturbance excavated materials would only be landscaped during the day.

NO CONSTRUCTION WOULD TAKE PLACE ON ANY EUROPEAN PROTECTED SITES THAT HAVE BEEN DESIGNATED AS ENVIRONMENTALLY SENSITIVE

CONSTRUCTING THE WILTON PORTAL

The Wilton end of the MTS where it meets the materials handling facility is the only portal along the route, meaning that there is no shaft and the tunnel rises to the surface on an incline from 120m below ground.

Portal construction works would take approximately four months and it would take up to a year to complete the 4.3 mile drive to the access point at Tocketts Lythe.

VIEW OF LADY CROSS SITE FROM A171

DURING CONSTRUCTION

DURING OPERATION



THE MATERIALS HANDLING FACILITY

THE MINERAL TRANSPORT SYSTEM CARRYING THE MINED POLYHALITE WOULD RISE TO THE SURFACE AT THE MATERIALS HANDLING FACILITY SITE IN TEESIDE.

The site would consist of the plant and equipment necessary to granulate the polyhalite and create the final product, and would be linked to the harbour facility by a conveyor system.

As can be seen on the flow diagram below, the site would include crushing and screening buildings, which would house the equipment required to prepare the polyhalite for granulation.

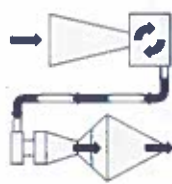
A granulation plant of around 50m x 20m x 30m high would pelletize the polyhalite, which would then be transferred to the product storage facilities. There would be an onsite storage capacity for around 700,000 tonnes of granulated polyhalite and this would be the largest building on the site at up to 45m high, 500m in length and 120m wide. All buildings would be fully clad for noise and dust mitigation.

Administration and support facilities would also be located on the site including an engineering store, office buildings, control room and car park.

THE POTASH GRANULATION PROCESS

1 CRUSHING & MILLING

The mineral is crushed and milled with the ore and taken by conveyor to the screening facility.



2 SCREENING

Oversized ore is screened out in a mixer and returned to the crusher. Remaining ore is then carried by conveyor to the granulation area.



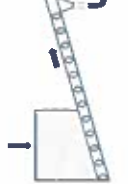
3 GRANULATING

Crushed ore is converted into pellets, dried and screened again for size. Oversized pellets are returned to the crusher with the remainder sent via conveyor for storage.



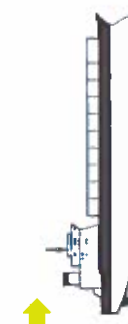
4 STORAGE

After granulation, the polyhalite is taken from a storage hopper by conveyor where it is dried and screened again.



5 TRANSPORTATION

The polyhalite product is transferred to the harbour facility by conveyor. The potential for a bagging plant has been incorporated into the design.



✓ All the processing facilities are housed in fully-clad buildings to reduce both dust and noise from the process.

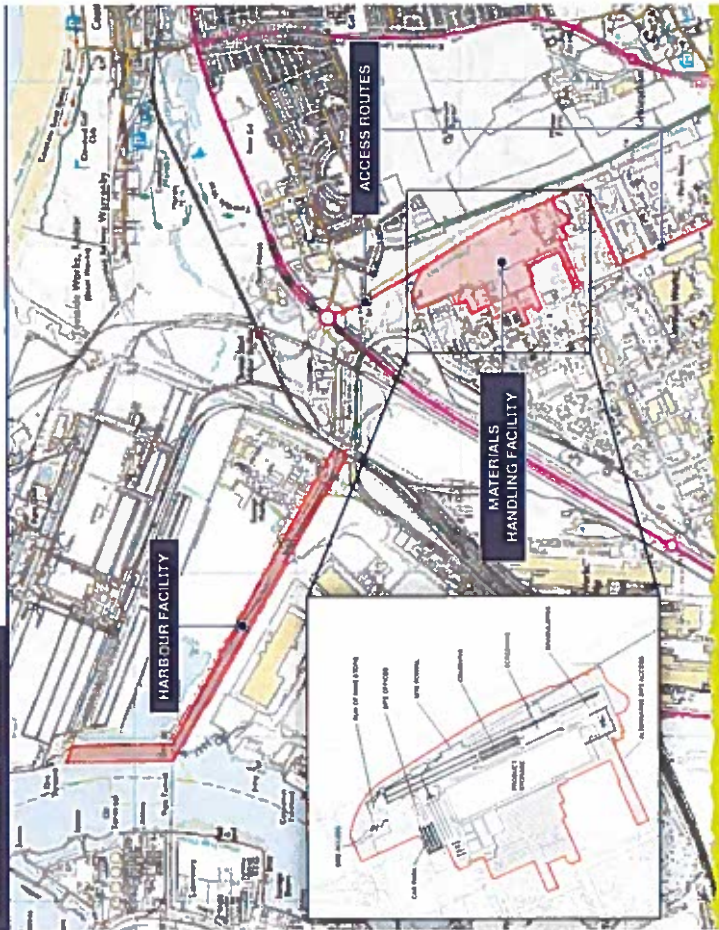
HARBOUR FACILITIES AT TEESIDE
Teeside is ideally located to handle the onward transportation of the polyhalite. Situated approximately 25 miles from our proposed mine site, its port would offer shipping access to customers around the world and road or rail links to destinations throughout the UK.

Our proposed harbour consists of a new quay adjacent to the Rictar steetworks and is part of the former ICI estate. Our intention is to construct the quay, providing a bulk shipping facility for export of polyhalite. The quay would be connected to our materials handling plant at Wilton by a conveyor facility.



Teeside approximately 25 miles from the proposed mine site

OPERATIONS AT TEESIDE



TRAFFIC AND TRANSPORT

TO ACHIEVE OUR STATED OBJECTIVES TO BECOME A SUSTAINABLE OPERATION AND REDUCE OUR IMPACT ON THE ENVIRONMENT, THE MOVEMENT OF VEHICLES TO AND FROM OUR SITES WOULD BE STRICTLY MANAGED.

The construction of the mine and the mineral transport system would involve the transportation of materials, equipment and workforce to and from each of the sites. During operations traffic related to the project would be limited to transporting the workforce and a small number of deliveries a day.

The map (below) shows the percentage increase in daily vehicle movements as a result of the traffic generated by the project. It shows figures for both construction and operation phases.

The figures used are for the busiest few months of the construction period and a typical month for operations.

In calculating the percentage increase we have used figures from August, which is typically the busiest time of the year with around 20,000 daily vehicle movements in Whitby and 30,000 in Teesside, so that we are showing a worst case scenario. Vehicle movements fluctuate throughout the year, therefore the percentage increase due to the construction of the project would go up or down accordingly. We have also assumed construction workers travel individually.



Note: Traffic related to M-F and harbour construction is not included in the map.

LOCATION (LABELLED ON PLAN)	DAILY HGV MOVEMENTS DURING CONSTRUCTION		DAILY HGV MOVEMENTS DURING CONSTRUCTION	
	PEAK CONSTRUCTION MOVEMENTS	PERCENTAGE INCREASE COMPARED TO: AUGUST	AVERAGE HGV CONSTRUCTION MOVEMENTS	PERCENTAGE INCREASE COMPARED TO: AUGUST
A	331	27.2%	181	11.6%
B	331	16.6%	181	9.1%
C	276	45.6%	156	29.5%
D	213	48.7%	125	23.9%
E	161	26.7%	83	16.3%
F	161	16.7%	99	13.2%
G	315	37.0%	162	26.2%

Note: HGV movements from this location include buses transporting the construction workforce

HGVs

The table on page 18 shows the number of HGV movements during the busiest few months of construction, and also the average number of HGV movements during construction. It also shows the percentage increase resulting from these movements compared to usual HGV movements in August and also a typical month.

HGVs relating to construction would be on the road Monday to Saturday between 7.00am and 7.00pm, with a small HGV demand on Sundays.

During operations there would be minimal numbers of HGVs, with five deliveries and up to eight buses, going to and from the site on a daily basis.

MANAGING IMPACT

The Construction Traffic Management Plan will set out ways to mitigate potential impacts.

To prevent a significant increase in the number of cars during both construction and operations, the workforce would be transported in York Potash buses from Park & Ride facilities at conventional locations away from operational sites. See the map below for the locations of the Park & Ride facilities.

SITE ACCESS AND BANNED ROUTES

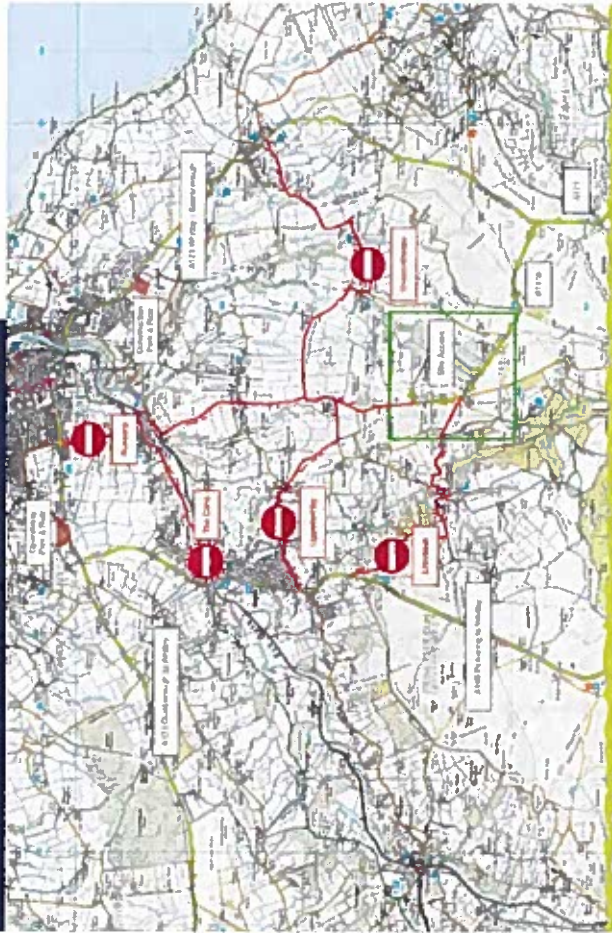
During construction access to the mine would be via the A171 and B1416 (as shown in green in the plan below). Site traffic using other local roads would be prohibited - these details are being set out in 'Mine Access Policy' that would form part of employees and supplier contracts.

The scheme would be rigorously enforced potentially using Automatic Number Plate Recognition cameras to check the direction of arrival of vehicles. Those not adhering to the Mine Access Policy would be subject to disciplinary action (in the case of staff) or required to pay compensation to local parish councils (in the case of suppliers).

ONCE THE MINE IS OPERATIONAL
Although there would be around 700 staff employed at the mine at full production, they would be split over four shifts.

Car parking spaces at the mine are restricted to 76 with staff using these expected to car share. The remainder would use the company Park & Ride service from Whitby or Scarborough where mining teams would be transported in a dedicated bus.

MAP OF AGREED TRANSPORT ROUTE DURING CONSTRUCTION



ENVIRONMENTAL IMPACTS AND MITIGATION

WE RECOGNISE OUR RESPONSIBILITY FOR PROTECTING AND WHERE POSSIBLE IMPROVING THE ENVIRONMENT WHEREVER WE OPERATE.

We have made a number of major project decisions as our proposals have developed, with a focus on reducing their environmental impact as much as possible and also integrating mitigation measures into our fundamental designs – even if it increases our overall costs. Some independent commentators have called this the ‘most mitigated mining project in the world’.

To support our planning applications, we are required to undertake Environmental Impact Assessments (EIAs), which are being prepared by one of the UK’s leading environmental consultancies. The EIAs look in detail at the potential impacts of the project on the environment both during construction and once the key elements of our operation – mine, mineral transport system, material handling facility and harbour – are up and running, together with the measures that can be put in place to minimise these impacts.

As part of this, an in-depth assessment has been undertaken into a wide range of environmental topics. A Construction Environmental Management Plan would be developed to ensure that all environmental impacts are managed effectively.

Here are some of the key topics and an overview of the impacts of the mine and proposed mitigation measures.

More details on these and other impacts such as Historic Environment and Hydrogeology will be available in the Environmental Statement once the planning applications have been submitted.

WILDLIFE AND ECOLOGY

Most of the possible impacts on wildlife and ecology occur during construction. To minimise them we would:

- Retain habitats wherever possible to reduce the impact on habitat and species.
- Carry out protected species surveys and re-home wildlife as necessary.
- Remove any vegetation outside the breeding season for birds. If we have to remove vegetation during the breeding season, we would carry out surveys to identify occupied nests for nests being built and these would be left in place.
- Position construction lighting away from sensitive ecological receptors. Lighting would be designed using guidance from the Bat Conservation Trust.

LIGHTING

Preserving the dark skies that characterise parts of the North York Moors has been a major consideration in the development of our plans. To reduce the impact of light on the local environment, we would:

- Strictly control working hours for surface operations during the construction period.
- Enclose shafts and winding towers to enable 24 hour underground operations without light spill at the surface.
- Keep lighting at the mine to a minimum during operations and adding additional shielding by creating screening mounds.
- Installing shutters on welfare building, keeping car park lighting to a minimum and enclosing the area with an environmental barrier to contain light from car headlights.
- Keeping lighting at the Wilson materials handling facility to a safe minimum and containing main operations within buildings.

NOISE AND VIBRATION

Noise from the type of modern mine we propose is minimised through being located underground. To keep construction noise to a minimum, we would:

- Implement a Construction Environmental Management Plan with full noise control measures.
- Restrict vehicle movements and enforce a Travel Plan which sets out approved routes for contractors – see pages 18 and 19 for more details.
- Restrict the number of parking spaces at the mine site.
- Operate a Park & Ride scheme for those working at the mine to reduce the number of individual vehicles going to and from the mine.
- Advance notification of blasting for shaft construction.
- Prior Consent and work with the local authorities to ensure compliance.

HYDROLOGY

To protect existing watercourses and minimise flood risk of surface run off, we would:

- Implement a Surface Water Drainage Strategy as set out in our planning application.
- Use proven Sustainable Drainage Systems (SuDS).
- Apply all traps, check dams and apply level one water treatment as Part of the SuDS.
- Obtain approval from the regulator for our construction methods to ensure existing watercourses are fully protected.
- Operate to the highest standards of site safety and good practice construction methods.

TRAFFIC AND TRANSPORT

Working with the community and the local authority to reduce the impact of our work on local roads – particularly during construction – has been a priority. To keep the impact to a minimum we would:

- Enforce a Travel Plan that restricts vehicle movements and sets out approved routes for contractors.
- Restrict the number of parking spaces at the mine site.
- Operate a Park & Ride scheme for those working at the mine to reduce the number of individual vehicles going to and from the mine.
- Restrict parking at the site to those car sharing.
- More information on our traffic management plans can be found on pages 16 and 19.

AIR QUALITY

We have undertaken extensive air quality monitoring around all our proposed sites and will continue to monitor during construction and operation. To minimise our potential impact on air quality, we would:

- Implement a Construction Environmental Management Plan with full dust control measures.
- Restrict vehicle movements and enforce a Travel Plan which sets out approved routes for contractors – see pages 18 and 19 for more details.
- Restrict the number of parking spaces at the mine site.
- Operate a Park & Ride scheme for those working at the mine to reduce the number of individual vehicles going to and from the mine.
- Comply fully with the Control of Pollution Act 1974 Section 61.
- Prior Consent and work with the local authorities to ensure compliance.

VISUAL AND LANDSCAPE

Locations for both the mine and access buildings have been selected to ensure that their visual impact is kept to a minimum. Although all our sites already benefit from existing screening, to enhance this we would:

- Provide new landscaping to blend into the surrounding area.
- Use the material extracted from the mine as we build it to provide landscaped features to screen the mine and access buildings further.
- More details can be found throughout this brochure and specifically on pages 6, 7, 8, 9, 14 and 15.

ENVIRONMENTAL IMPACTS AND MITIGATION

ECONOMIC AND SOCIAL IMPACTS

THE PROJECT WOULD MAKE A LONG AND LASTING CONTRIBUTION TO THE LOCAL, REGIONAL AND NATIONAL ECONOMIES.

An independent socio-economic study concluded that there would be significant and positive economic benefits, directly, through investment, employment and output, and indirectly through the supply chain and the increase in spending power.

The scale of these benefits would have a significant positive impact on an area with historically low employment growth and an over reliance on low paid part-time jobs. At a national level the project would make a significant annual contribution to UK GDP of over £1 billion, and could reduce the UK's trade deficit by up to 4%.

The significance of these benefits has been recognised by business networks including the Chamber of Commerce.

Federation of Small Business and the Confederation of British Industry, in addition to the Local Enterprise Partnerships covering North Yorkshire and Tees Valley.

Local Members of Parliament, education institutions, tourism bodies and council leaders have all made public statements about how the region and the national economy would benefit from the project, as have Government Departments.

PROMOTING TOURISM

Whilst we do not believe that the project would have a negative impact on tourism during operations, we are aware that the perceptions of people considering visiting the area during construction could be affected.

Making sure that these potential perceptions and misconceptions are addressed will be important, and can be done through boosting promotion of the area and its key attractions and also improving services or features to enhance the visitor experience.

We have previously proposed a range of measures as part of our Section 106 contributions. These include improvements to the Coast to Coast Walk, funding for additional rail services into Whitby and contributions to Welcome to Yorkshire. Further discussions with National Park Authority will identify how best we can promote the special qualities of the National Park and identify other enhancements that we can help implement.

SKILLS DEVELOPMENT

THE PROJECT WOULD USE THE LATEST TECHNOLOGY, AND WOULD REQUIRE A FIRST CLASS WORKFORCE SO IT CAN OPERATE.

The project requires a highly skilled mining workforce and the company has developed 'Potash Prospects', a careers guide to highlight the types of jobs available.

We have produced a skills strategy to help ensure that the right skills are available locally. This would help us to deliver our goal of sourcing our workforce from the local area wherever possible, and would include the following:

- Creating up to 50 apprenticeships over the next four years in preparation for mining operations, with a particular focus on engineering.
- Supporting local students studying engineering and geology with bursaries and work experience through the York Potash Undergraduate Programme
- Training local people with transferable skills to become mine workers

- Continuing to work with schools and colleges throughout the area to encourage more young people to become engineers and technicians.
- Working with our construction contractors to provide supply chain opportunities for local business and jobs for people from the area.



The five undergraders who have received bursaries from York Potash pictured with Education & Skills Manager, Matt Parsons (right)

OPERATION BENEFITS

- **2,200 DIRECT AND INDIRECT JOBS**
Bring thousands of sustainable, skilled jobs into a local economy with historic low employment growth.
- **£1.1 BILLION ANNUAL CONTRIBUTION TO UK GDP**
Increases the size of the North Yorkshire economy by up to 10%.
- **£1.2 BILLION OF EXPORTS PER ANNUM**
Reduce the balance of trade deficit by 4%.

- **£233 MILLION IN TAX CONTRIBUTION A YEAR**
Strengthen the UK's fiscal position.
- **£48 MILLION IN LOCAL PAYMENTS EACH YEAR**
Generate health and create additional jobs.
- **£6 MILLION IN PAYMENTS TO THE YORK POTASH FOUNDATION**
Sharing the benefits with the local area and improving community facilities.

CONSTRUCTION BENEFITS

- **UP TO 2,500 CONSTRUCTION JOBS**
- **ALMOST 2,000 INDIRECT JOBS PER YEAR OVER THE CONSTRUCTION PERIOD**

- **£910 MILLION CONTRIBUTION TO GDP**
- **£154 MILLION IN TAX CONTRIBUTION**

Note: Figures based on full production of 13mtpa at a polyhale price of \$150 per

A LASTING COMMUNITY COMMITMENT

The company has set up the York Potash Foundation to share the profits of the Project with the local area. The company would contribute an annual royalty of 0.5% of revenue from the Project to the Foundation. Independently run as a charity, the Foundation will be run for the benefit of the area and provide funding to community projects according to its objectives.

Based on current estimates the annual payment could be up to £6 million at full production. In addition, the Foundation would make an initial payment of £2 million for local community projects during the construction period.



York Potash Foundation Trustees



The Foundation's objectives define a range of areas where it can support community projects.

- Education and skills training
- Health and well-being
- Environmental protection and improvement
- Improving community facilities
- Support for the long-term unemployed

PROJECT TIMELINE

SUMMER 2014*

Planning application submitted for the mine



AUTUMN 2014*

Planning application submitted for the harbour facility



AUTUMN 2014*

Planning application submitted for the mineral transport system



Q1 2015

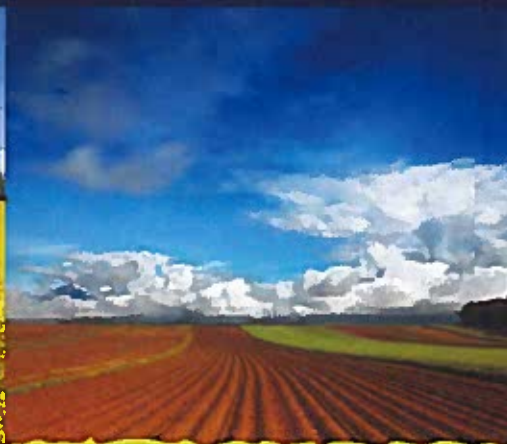
Proposed construction starts



2018

Target date for first production

* There will be a further opportunity to comment on the proposals at this stage as part of the authorities' statutory consultation period.



York Potash Ltd
7-10 Manor Court
Manor Garth
Scarborough
YO11 3TU

T: 24-hour community
helpline 0845 543 8964
E: info@yorkpotash.co.uk

www.yorkpotash.co.uk

YORKPOTASH
A Sirius Minerals Project



MTS recreation and amenity assessment study area map

