# Wilgerup Mine Development

## Frequently Asked Questions (FAQ's)

### Wilgerup Mine Site

***Q: What are the water requirements for the site?***

***A:*** The project is intended to be self sufficient in regards to water and we don't expect any drawdown on the mains supply. As there is no employee housing or accommodation planned for the site, mains water will not be required for showers or other such uses.

Further investigations into water requirements are currently being undertaken.

***Q: What will happen to the water extracted from the mine through dewatering?***

***A:*** This water will be stored in an evaporation pond. The pond has been designed to relevant Australian standards and allowance has been made to allow fire fighting helicopters to load water into their storage compartments in the event of an emergency.

***Q: Will there be more dust at the mine site than at the port?***

***A:*** Yes, there will be more dust at the mine site due to processing (crushing, screening, blasting) at the mine site. Preliminary dust investigations have revealed that the impacts of dust on vegetation, crops, health and water supplies will be contained to within approximately a 1 kilometre radius of the open pit mine. A multitude of dust mitigation measures will be undertaken to reduce the impact of dust on the surrounding community, including such measures as ongoing revegetation works, mounds, spraying, road sealing, etc. It should also be known, that hematite dust is heavier than other particles, such as grain. This means that it falls to the ground sooner than lighter particles. Therefore, the impacts do not spread as wide. Please see the Dust Fact Sheet for further information.

***Q: What are the implications to the mine site and water after mining?***

***A:*** This forms probably the most significant part in Centrex being able to get allocated a mining permit in the first place. Centrex are currently developing a Mining Lease Proposal and Mine and Rehabilitation Plan (MARP) to operate. Some of the initiatives that will be undertaken to ensure that Centrex does not leave a negative footprint on the area include:

- Preliminary assessment identified that the management of surface water around the mine site should be able to be achieved via a series of diversion banks.
- Minimising the operations footprint and keeping the disturbed areas to the absolute minimum required to conduct the operation in a safe and efficient manner.
- For those areas which are to be disturbed, the topsoil and subsoil layers will be separately removed and stockpiled for placement back onto the disturbed areas at the end of mine life. The stockpiled material designated to be spread back onto areas to be used for agriculture will be seeded with grasses while the material designated to be spread over the waste dump will be seeded with gasses and shrubs. This will help prevent erosion of the stockpiles until they are used and also help with the rehabilitation of the designated areas by providing a supply of seeds and vegetable material already embedded in the soil. Note that further seeding of the replaced topsoil would still occur after final placement.
- Progressively rehabilitating disturbed areas during the mine life when they are no longer required. This is particularly relevant to the waste dump, which will have each 10 metre lift (or level) rehabilitated when dumping is finished on the immediately overlying lift.
- To reduce the potential for erosion the waste dump will be constructed in 10m high lifts with 20m wide berms. The dump will then have the sides flattened to 20 degrees then be covered with a layer of subsoil and topsoil and furrows ripped along the sides of the dump at 2.5m vertical intervals. The dump will then be seeded.
- To reduce the impact on visual amenity the height of the dump will be restricted and the ends rounded to give the rehabilitated dump a more natural look (rather than square).

- The site will be monitored for as long as required following mine closure and completion of the rehabilitation works to demonstrate that the closure and rehabilitation objectives have been met. Further rehabilitation works may be required during this time if it is found that the initial rehabilitation works have not met the stated objectives.
- The mine void will be screened from surface viewing initially by the abandonment bund (or mound) and later by vegetation as this becomes established.
- An abandonment bund to make the pit inaccessible by vehicles will be constructed around the pit perimeter. The top and pit side wall of the bund will be covered with topsoil and vegetated, as will be the area between the bund and the crest of the pit. A smaller bund or mound to impede pedestrian access will be placed around the pit crest.
- The crushing plant will be dismantled and removed from Site.
- All hardstand material will be removed and placed in the bottom of the pit. Any soil contaminated with hydrocarbons will be placed in a stockpile for bio remediation.
- All dewatering pumping infrastructure will be dismantled and removed from Site. Rubber liners from the dams will be removed and either reused elsewhere (off Site) or disposed of in an approved manner. Earthworks for the dams will be removed and any salt contaminated soil will be removed and placed in the bottom of the pit. Following removal, top and subsoil will be replaced in the (former) dam areas and contoured.
- All sewerage facilities, on site haul roads, site fencing, fuel storage, office and workshop areas and hydrocarbon contaminated soil will be removed, remediated and/or recycled as per industry best practice.

***Q: Once you are finished with the mine, what sort of water will be in the mine?***

***A:*** The current water quality is equivalent to sea water. It is expected that the pit will eventually fill with this water back to the current aquifer water level (30 metres below current surface). The water will be extremely saline, but will meet all the requirements of the relevant standards and legislation.

***Q: Could you give us an idea of the depth of water in the mine pit after mining has finished?***

***A:*** 25-30m below the current surface and 130 metres deep.

***Q: Who are the surrounding groundwater users?***

***A:*** Most of the ground water in the vicinity is extremely saline (comparable to that of sea water) and useless for anything but dust suppression. As a result, there is minimal grazing in the area due to lack of suitable groundwater.

***Q: How does the mine site operate?***

***A:*** The mine site will operate seven days per week, 24 hours a day. Blasting of the ore (using explosives) is proposed to occur once a day – probably at around 5:30pm. We would initially try dry style explosives, however, if these do not work we will use wet style explosives. There would be dewatering bores at each end of the open pit. Large water trucks will be used for dust suppression. Water would be stored in an evaporation pond. All processing/ crushing of the ore would occur on site. All the material will be trucked off-site and no washing of the ore is required on-site as the ore is proposed to be direct shipped to market.

***Q: What are the plans for excess water at the Mine site?***

***A:*** Evaporation ponds are proposed to be used for water storage. An 85 tonne water truck shall collect and use this water for dust suppression on site. The water truck has a water cannon fitted on top, which can also be used in the case of fire emergency. This will be a valuable source of water for the CFS during an emergency in the local area.

***Q: What will be the impact of dust on the vegetation? I imagine that most of the dust comes from the haul roads!***

***A:*** All the roads used off site would be sealed and therefore dust will not be an issue. For further information on dust, please see the Dust Fact Sheet.

***Q: Are you potentially generating sulphates?***

***A:*** More than two thirds is hematite or dolomite. There are no sulphides identified in the ore or waste material.

***Q: How loud is 47 Decibels? (this is potentially the level of noise that two homesteads located close to the proposed Mine site might experience at certain times)***

***A:*** See table below

| Range (dB) | Description | Examples |
|---|---|---|
| 0 - 30 | Very Quiet | This is the threshold of human hearing, up to the sound of a quiet whisper. |
| 31 - 50 | Quiet | This is an average quiet house, with maybe the sound of a fridge running or someone moving around. |
| 51 - 70 | Normal | Regular daily sounds like people talking. |
| 71 - 90 | Loud | This is the point where a sound becomes annoying or distracting. Vacuums or a noisy car on a busy street are at these levels. |
| 91 - 110 | Very Loud | Most people will try to avoid being in areas this loud. Prolonged exposure can cause permanent ear damage. Temporary effects, like "stereo hiss", may happen. |
| 111 + | Painful!!! | Even limited exposure to levels this high will cause permanent hearing loss. |

**Source: http://www.studyphysics.ca/newnotes/20/unit03_mechanicalwaves/chp141516_waves/lesson49.htm (18/03/08)**

***Q: Have there been any studies on the impact of vibrations from the blasting?***

***A:*** These studies are currently being undertaken, however, due to the 25 metre layer of sand in the area, these vibrations are expected to be absorbed and have minimal to no impact.

***Q: What is the contingency plan for mains water?***

***A:*** Should extra water be required at the mine site, additional water bore into the saline acquifer will be developed.

The proposed Proper Bay storage shed and rainwater tanks should provide all the water required for the Port and Wharf operations provided historic rainfall is received.

***Q: Where do you envisage employees will be accommodated?***

***A:*** This has not been decided and employees are sure to make their own decisions. Accommodation will not be provided on site. Initial feedback has indicated that there is currently a significant number of empty homes in the surrounding areas that can be utilised for mine employees.

***Q: If another 120+ people are likely to be employed as a result of the project, will this mean there will be this many extra people on the roads every day?***

***A:*** The 120 employees covers the mine, the Port and the trucking operations. There will also be a number of shifts. Maybe 20-40 people will enter the site each day, whilst another 40 may be sleeping and another 40 will be on rostered breaks.

***Q: What other resources or employment opportunities will this proposed development bring to the community?***

***A:*** There are a multitude of multiplier effects including, but not limited to:

- Trucking companies
- Catering
- Accommodation
- Hospitality
- Road maintenance
- Fashion / work supplies
- Building and construction
- Accounting, insurance and financial planning
- Explosive delivery
- Seeds and nursery supplies
- Electrical
- Mechanical repairs

***Q: What happens with the top soil that is removed from the top of the mine site? How is this protected from erosion?***

***A:*** This valuable soil will be protected through revegetation. The vegetation (initially grasses) will add value/nutrients to the quality of the soil when it is later used for landscaping the escarpment and waste dump.

***Q: What are you going to do to make sure that contactors do not sub-contract and effectively keep the profits for themselves?***

***A:*** We have faced this issue before and we are able to write these clauses into contacts to ensure that the money/ wages we pay go directly to the workers.

***Q: What will be the demand on emergency services?***

***A:*** Pre-employment medicals will be required (but these can be undertaken anywhere). Similar mine sites in Australia generally receive approximately 3-4 ambulance call outs a year. Hopefully the additional influx of employees will also lead to an increase in the number of emergency services volunteers.

## Transport Corridor

***Q: Have rail options been explored? Particularly in relation to the cumulative impact/opportunities of numerous developments in the Eyre Peninsula.***

***A:*** Yes, however initial investigations have deemed it not viable. There are a number of reasons:

- Rail is speed, length and load limited;
- The proposed section of rail at the Proper Bay end requires a significant loop to manage the change in height of the topography;
- It is extremely expensive. There are no economies of scale and no one wants to pay the exorbitant cost to develop rail sufficiently to use it;

Rail options, however, may be further investigated.

***Q: How many trucks should we expect along the transport corridor every day?***

***A:*** About 2.2 trucks per hour – 24 hours a day.

***Q: Are you going to be carbon neutral in regard to transport?***

***A:*** We have considered carbon sequestration options. We plan to expand the vegetation and wildlife corridors. Our Environmental Management Plan, which is still to be developed, will cover this issue, in particular being prepared for when the Government introduces its Carbon Trading Scheme.

***Q: How wide will Tooligie and Roberts Roads be, as I have to move machinery down them?***

***A:*** The roads will be built to main road specifications. If you can transport equipment now, this should not change.

***Q: The current state of the roads is very poor. Is there the option to develop these to a better standard with safer access?***

***A:*** Yes – this is one of many community benefits. We will have access to materials for road building that have previously been hard to source in the area. We propose to seal all of the (currently unsealed) roads that we would need to use for ore transport. Therefore, current dust issues along these roads should no longer be an issue.

***Q: What about the safety of the kids when they get dropped off and picked up by the school bus?***

***A:*** Safety will be a primary feature of all our operations. Community feedback has already highlighted the concern over road safety. Centrex has already promised residents residing on the roads leading from the Mine site to Tod Highway that include pull over verges for the school bus will be included in the proposed road upgrades. Further community consultation and investigations may come up with other safety improvements. There is also the option to have transport shift changes (when the trucks are off the road) scheduled to coincide with school pick up and drop off times.

***Q: Whilst the proposed transport route would be upgraded, what about the other roads that lead to the mine site that employees will use?***

***A:*** Our ongoing road audit and investigations are in relation to the heavy vehicles. They may, however, identify some predicted impacts on these roads. We can then negotiate with local Council to up-grade as

required. An issue for local council in the past has been the inability to source materials to upgrade these roads. This development may be able to provide the required resources.

***Q: A large portion of the Tod Highway already requires upgrading. Your operations will further add to the degradation of this highway. What will you do to address this?***

***A:*** We understand our operation's impact on this road and are currently undertaking investigations to address this. Highways are however the lifeblood of our economy. We think the project benefits will ensure the highway's ongoing maintenance and upgrades.

***Q: Will overtaking lanes be investigated/considered along Tod Highway as part of this proposal? Tod Highway is very narrow.***

***A:*** This will be investigated.

***Q: Will the trucks be tarped?***

***A:*** Yes, all trucks will be tarped on-site to ensure that no dust is released outside of the mine boundary. The tarps will not be removed until the ore unloading is undertaking within a contained shed through side tipping (if required).

***Q: Has a pipe or conveyor been considered to transport the ore from the Mine site to the Port?***

***A:*** Yes, we have considered these options. Piping is not possible as this would devalue the product and the larger rock product could not be transported by this method. A conveyor from the Mine site to Proper Bay would be nosier than trucks.

## Proper Bay / Port Lincoln

***Q: How big is the new shed proposed at Proper Bay?***

***A:*** The shed that currently exists at Proper Bay is 125m x 20m and was built by BHP to store (30,000 t) lime sand. The new shed is planned to hold 160,000 tonnes of ore and will be approximately 142 metres long, 72 metres wide and approximately 28 metres high at the apex. In order to further minimise the new building frontage visible from the Port Lincoln township, the building has been deliberately positioned parallel to the existing limestone sands shed. The new storage shed position has also been chosen to reduce the amount of native vegetation clearance required.

***Q: What sort of visual impact will the new shed and wharf have on the local environment?***

***A:*** The new shed is being built to a height comparable to the existing shed on the site to minimise visual impact. In fact, the new shed will blend in much better with the natural environment due to the proposed natural leaf green colour of the shed.

***Q: Have you looked at other ports to export from? Which ports have been considered?***

***A:*** Yes, almost every one in the Eyre Peninsula has been scrutinised, including Whyalla, Pt Lincoln, Port Bonython and Proper Bay. Port Lincoln Council support the proposed port at Proper Bay. The other ports were ruled out for a number of reasons, including, but not limited to the impact on other users already occupying the port, and the potential for cross contamination with grain.

***Q: Could further ore finds be taken out of Proper Bay port?***

***A:*** Yes, it is planned to be a multi-user facility. The emerging mining industry in the southern Eyre Peninsula is in dire need of a port facility. We hope to increase our own reserves in the next few years.

***Q: How does Port Bonython fit into this – in relation to the Pt Bonython Working Group Media release? They are large share holders in the Bungulla project.***

***A:*** Port Bonython might be a potential port for products and other ventures in the future, but the Bungulla project is at least 4 years away.

***Q: How is Port Lincoln Borefield affected?***

A: It would not be affected. It was potentially impacted with the rail option that was investigated earlier.

***Q: What size ships will be used?***

***A:*** Due to the depth of the existing fairway, it is necessary to load the ore onto a barge and transfer the ore to the cape size vessel anchored approximately 16km offshore. The transport corridor to the Cape Class vessel will not interfere with existing aquaculture.

A barge with a capacity to load 30,000 tonnes is proposed to be used. The barge will load 1 ship a month over a 4-5 day period.

The cape class vessel can carry 120,000 to 220,000 tonnes per vessel. Centrex plans to ship 120,000 tonnes per shipment.

***Q: What would seabed mooring look like?***

***A:*** It would be a reinforced concrete structure in the seabed with chains attached to buoy on the surface.

***Q: Have you consulted with the tuna industry?***

***A:*** Yes. We are continuing to consult with this important group. Further consultation is planned to be held.

***Q: Will you need to dredge at Proper Bay?***

A: No. There are no plans to dredge the Bay for the Handimax or barge option. A barge can dock at the wharf in just 6 metres of water (and only 3 when it is empty). There is an existing shipping channel that we will utilise. Further investigation may still be needed though as this has not been used in a while.

***Q: What impact will the trans-shipment point have on the tuna industry?***

***A:*** We will be talking with the fishing industry in regard to the location of the trans-shipment point (where the ship is loaded off-shore). Dust impact investigations and mitigation measures for this area are still to be undertaken.

***Q: What sort of noise should we expect at Proper Bay and the trans-shipment point?***

***A:*** Preliminary noise modelling (based on preliminary shed and infrastructure designs) has been undertaken and there are no exceedences. There will be three levels of documentation covering the environment and operations and these will contain all the details, available for public scrutiny and consultation. The noise levels will be similar to the existing noise levels of the wheat loading at Brennan Jetty but due to the vegetation buffer at Proper Bay the noise is further removed from residential areas.

***Q: How large is the ore storage shed at Proper Bay proposed to be?***

***A:*** The shed will have a capacity of approximately 160,000 tonnes.

***Q: How many ships (Cape Class vessels) will be loaded each year?***

***A:*** 13 ships per year.