

Our Ref: POS.2693 / RM8 116368
Your ref: L4474/1976/14

24 February 2017

Mr Jason Banks
Director General
Department of Environment Regulation
Locked Bag 33 Cloisters Square
Perth WA 6850

Dear Mr Banks,

ADDENDUM LETTER - NOTIFICATION OF MATERIAL CHANGE - KWINANA BULK JETTY (L4474/1976/14) SILICA SAND EXPORTS

I refer to the previous notification of Material Change dated 30 November 2017 and your subsequent response dated 13 December 2017 which requested further information relating to the assessment and mitigation of health and environmental risks associated with the loading of this cargo. This further information was requested by 3 January 2017 so a further assessment for another two future trial shipments could be undertaken.

Please be advised that it was intended to submit an application to amend the Environmental Licence to include silica sand exports as an ongoing cargo, so the further information requested was not provided by the 3 January 2017, and to date the other trial shipments have not proceeded.

The trial shipment of the 7 December 2017 went extremely well from an operational, safety and environmental perspective and it is therefore intended to proceed with an application to amend the Environmental Licence as a matter of priority. The proposed amendment will seek one silica vessel per month, up to 52,000 tonnes per vessel (624,000 tonnes per annum). In line with our previous request seeking favourable consideration from you to continue exporting Spodumene at Kwinana Bulk Terminal while a determination is made on an application to amend the Environmental Licence, we are seeking similar dispensation for ongoing silica sand exports at Kwinana Bulk Jetty. The next silica sand vessel is scheduled for the 25 March 2017.

In support of the request and the notification of Material Change please find attached the following documents for your review and consideration:

1. Environmental and Heath Risk Assessment (Attachments 1 & 2): identifies and rates inherent risks, and rates the residual risk after the existing and proposed control measures are implemented to mitigate them. Given the physical and chemical properties of the cargo, and the proposed risk mitigation measures, Fremantle Ports

considers there to be a very low environmental and public health risk associated with the receipt and export of silica sand.

2. Safety Data Sheet (Attachment 3) - Silica Sand.

3. Job Safety and Environment Analysis (JSEA) form including risk assessment (Attachment 4);

4. Diagram - plan and sectional view showing single and dual ship loader (Attachment 5);

5. Aerial photograph showing typical configuration of portable loader and berth operations (Attachment 6);

6. Certificate of analysis (SGS Australia) - chemical composition - shows the material is 99.87% silicon dioxide (SiO_2) - (Attachment 7);

7. Certificate of analysis (SGS Australia) - moisture content of trial shipment cargo (Attachment 8) moisture content was 2.76%; note there was no visible dust at any stage of the trial shipment at this level. The moisture content of ongoing cargoes will be 2.0 - 5.0%;

8. Certificates of analysis (ARL) - (Attachments 9 - 11) - respirable dust and crystalline silica monitoring reports from Gaskell Quarry - the reports show that respirable dust and silica levels at the source quarry were below national occupational exposure levels. With suitable controls in place handling of this cargo poses a low health risk to operational staff working in close proximity to the berth and trucking operations. Given the distance from the Kwinana Bulk Jetty to other sensitive human receptors (2,300 m to closest residential premises and 1,200 m to closest industrial neighbour) the receipt and export of silica sand is considered to pose a very low risk to public health; and

9. Berth Operator LINX (previously Patricks) Health and Safety Management Plan (Attachment 12); and

10. Photographs of silica sand export trial 7 December 2016 showing risk reduction measures on cargo conveying equipment/operations (Attachment 13).

Please don't hesitate to contact me on [REDACTED] if you would like to discuss any aspect of this notification further.

Yours sincerely,

[REDACTED]
Denise Doak

Environmental Manager

Risk Assessment Record / Risk Reduction Plan

Location / Work Area :		Export of Silica Sands via mobile loader														
Assessment Team :		Denis Doak (Environment Manager), Andrew Hathaway (KBJ Operations Coordinator), Melissa Manns (Environment Advisor) & Matthew Oswald (Environmental Consultant)														
RISK ASSESSMENT RECORD												RISK REDUCTION PLAN				
Hazard	Unwanted Event (or risk)	Inherent Risk					Existing Controls	Residual Risk								
		Consequenc e	Exposure Frequency	Workforce Exposure	Likelihood	INHERENT RISK		Consequenc e	Exposure Frequency	Workforce Exposure	Likelihood	RESIDUAL RISK				
Trucks unloading of product at the Hopper	Spillage of product onto berth enters marine environment	Minor	Several times per day	A few people	Possible	Low (6)	1) Sweeper trucks to remove spilt material from berth and jetty neck. 2) Traffic light system installed on hopper to communicate tipping action at hopper to ensure hoppers aren't overfilled causing spillage. 3) Truck driver induction & training - Driver's advised to drive over the truck unloader ramps and hopper slowly and enter the hopper straight and not to deviate. 4) Loading hopper installed with extended side guarding to better contain product in the event of overloading. 5) Traffic management plan. 6) Bunded and sealed berth with drainage containment and sump system. 7) Contaminated stormwater/wastewater contained in holding tanks or pumped directly into trucks (from containment system) for disposal. 8) Material characterisation.	Minor	Several times per day	A few people	Unlikely	Low (3)				
Trucks unloading of product at the Hopper	Generation of dust from tipping action into hopper impacts sensitive receptors	Minor	Several times per day	Some people (less than half)	Unlikely	Low (6)	1) Moisture content of product on arrival 3-5%. 2) Contractor or Stevedore monitors and controls tipping action to reduce dust emissions. 3) Weather monitored and discharge rate reduced or delayed in response to adverse weather conditions. 4) Long distance of operations from the nearest sensitive receptors (closest residential premises is 2,300 meters and closest industrial building is 1,200 meters). 5. Respirable silica (quartz) <0.4 mg/m3.	Minor	Several times per day	Some people (less than half)	Very unlikely	Low (3)				
Material on conveyor from hopper to ships hatch	Spillage of product onto berth enters marine environment	Minor	Several times per day	A few people	Possible	Low (6)	1) Sweeper trucks remove spilt material from berth and jetty neck. 2) Bunded and sealed berth with drainage containment and sump system. 3) Contaminated stormwater/wastewater contained in holding tanks or pumped directly into trucks (from containment system) for disposal. 4) Conveyor wind guards & out loader sleeves to reduce spillage. 5) Conveyor belt changed from Chevron formation to flatter type to allow installation of brush scrappers to eliminate carry back of material to mitigate dust and spillage (improvement identified during export trial). 6) Material characterisation.	Minor	Several times per day	A few people	Unlikely	Low (3)				
Material on conveyor from hopper to ships hatch	Spillage of product off conveyor enters marine environment	Minor	Once per day	A few people	Possible	Low (3)	1) Conveyor operated by trained and certified operator to operate ship loader. 2) Conveyor speed monitored and adjusted to ensure spillage doesn't occur. 3) Hopper chute to conveyor adjusted to ensure material is loaded in a central pile formation rather than a tradional flat and wide placement to reduce spillage. 4) Weather monitored and discharge rate reduced or delayed in response to adverse weather conditions. 5) Shroud will be placed on ship loader. 6) Material characterisation.	Minor	Once per day	A few people	Unlikely	Low (1)				
Material on conveyor from hopper to ships hatch	Spillage of product onto ships deck enters marine environment	Minor	Several times per day	A few people	Possible	Low (6)	1) All spilt cargo onto ships deck is to be cleaned utilising dry methods only (e.g. sweepers and brooms). 2) Operations shall be managed by experienced stevedore crews with regular inspections undertaken 3) Material is loaded in a central pile formation rather than a tradional flat and wide placement. This will reduce the risk for spillage off the conveyor	Minor	Several times per day	A few people	Unlikely	Low (3)				
Material on conveyor from hopper to ships hatch	Dust generated off conveyor during transport to ships hatch impacts upon sensitive receptors	Minor	Several times per day	Some people (less than half)	Unlikely	Low (6)	1) Moisture content of product on arrival 3-5%. 2) Conveyor wind guards & out loader sleeves to reduce spillage & dust emissions. 3) Conveyor speed shall be monitored and adjusted to reduce dust generation. 4) Weather is monitored and discharge rate reduced or delayed in response to adverse weather conditions. 5) Long distance of operations from the nearest sensitive receptors (closest residential premises is 2,300 meters and closest industrial building is 1,200 meters). 5. Respirable silica (quartz) <0.4 mg/m3.	Minor	Several times per day	Some people (less than half)	Very unlikely	Low (3)				
Noise generated from loading operations	Increased noise level impacts upon sensitive receptors	Minor	Once or couple of times per year	Some people (less than half)	Unlikely	Low (1)	1) Long distance of operations from the nearest sensitive receptors (closest residential premises is 2,300 meters and closest industrial building is 1,200 meters). 2) Conveyor and hopper equipment operated by trucks internal generator, emits low levels of noise.	Minor	Once or couple of times per year	Some people (less than half)	Very unlikely	Low (1)				

RISK ASSESSMENT MATRIX

STEP 1. What is the potential **Consequence** of a problem occurring with the task ?

What would the maximum credible consequences be?					
Level	Descriptor	Safety	Environment	Financial	Reputation
5	Catastrophic	Multiple fatalities	Major impact on the environment that is non-recoverable	Loss exceeding \$50 million	Potential for an inquiry/legal action which may threaten existence of Fremantle Ports
4	Major	Permanent disablement / Single fatality	Significant impact on the environment that is mostly non-recoverable	Loss in the order of \$10 to \$50 million	Major ongoing public opposition with long term impact on Fremantle Ports
3	Severe	Lost time injuries / Temporary disablement	Significant impact on the environment that is partially non-recoverable	Loss in the order of \$2 to \$10 million	Significant adverse publicity - a specific project or operation may not recover
2	Moderate	Medical treatment injury (MTI)	Moderate impact on the environment but recoverable over the long term	Loss in the order of \$200,00 to \$2 million	Adverse public relations recoverable over long term but not short term
1	Minor	No treatment required / First aid injury (FAI)	Measurable, temporary, recoverable impact on the environment	Loss of less than \$200,000	Adverse public relations but easily recoverable in the short term

STEP 2. What is the **Exposure** to the task ?

2a. How often are people exposed to the task (**Exposure Frequency**)?

Level	Descriptor
5	Continuously
4	Several times per day
3	Once per day
2	Weekly
1	Once or couple of times per year

2b. How many people are exposed to the task (**% Workforce Exposure**)?

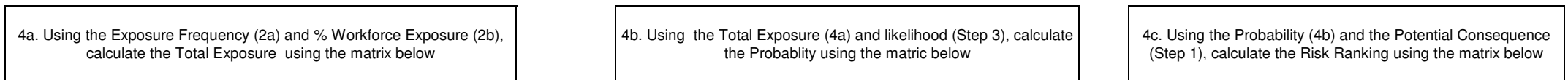
Level	Descriptor
5	Almost everyone
4	Most people on site
3	Some people (less than half)
2	A few people
1	One person



STEP 3. What is the **Likelihood** of a problem occurring with the task ?

Level	Descriptor	Description
E	Almost certain	Expected to happen
D	Quite possible	Likely to happen at some point
C	Possible	Heard of so it might happen
B	Unlikely	Not likely to happen
A	Very unlikely	Practically impossible

STEP 4. Calculate the risk score using the matrix charts below



Total Exposure Matrix						Probability Matrix						Risk Ranking Matrix								
Workforce Exposure						Total Exposure						Consequence								
Exposure Frequency	1	2	3	4	5	Likelihood	A	1	2	3	4	5	Probability	E	1	2	3	4	5	
	1	1	1	1	2		3	A	A	A	A	B		C	D	15	19	22	24	25
	2	1	1	2	3		4	B	A	A	B	C		D	E	10	14	18	21	23
	3	1	2	3	4		5	C	A	B	C	D		E	E	6	9	13	17	20
	4	2	3	4	5		5	D	B	C	D	E		E	E	3	5	8	12	16
5	3	4	5	5	5	E	C	D	E	E	E	E	A	1	2	4	7	11		

Safety Data Sheet

Section 1: Identification of the Material and Supplier

Company Details	Hanson Construction Materials Pty Ltd ABN 90 009 679 734
Address	Level 10, 35 Clarence Street Sydney 2000
Tel/Fax	Tel: +61 2 9323 4000 Fax: +61 2 9323 4500
Emergency Contact No	1800 882 478

Product	SILICA SAND
Other Names/ Synonyms	Quartz sands, Wash concrete sand, Packing sand, Concrete sand, Foundry sand, Fine sand, Medium sand, Manufacturing sand, Fine white sand, Wash pit sand, Bricklayers sand
Use	Quartz sands are used in building construction and other civil engineering activities such as road building
Other Information	NA

Section 2: Hazards Identification

HAZARDOUS SUBSTANCE NON-DANGEROUS GOODS

This product contains crystalline silica. Crystalline silica dust is classified as Hazardous

(Australian Safety and Compensation Commission ASCC (formerly NOHSC) Approved Criteria for Classifying Hazardous Substances [NOHSC:1008] 3rd Edition)

- ☐ The solid product as supplied is classified as non-Hazardous
- ☐ Dust in/on the supplied product or created when the product is cut, abraded, or crushed contains crystalline silica some of which may be respirable (particles small enough to go into the deep parts of the lung when breathed in)
- ☐ A proportion of the fine dust in/on the supplied product may be respirable crystalline silica

The following Risk and Safety phrases apply to this product:

Risk Phrases:	Safety Phrases:
R20: Harmful by Inhalation (Applies to dust)	S22: Do not breathe dust
R22: Harmful if Swallowed	
R48: Danger of serious damage to health by prolonged exposure through inhalation (Applies to dust)	

Safety Data Sheet

Section 3: Composition / Information On Ingredients

All significant constituents are listed below:

Major Ingredients

Name	CAS	Proportion
Sand		
Containing Crystalline Silica (Quartz)	14808-60-7	>50 - 100 %
Mineral and organic impurities	NA	Balance

Section 4: First Aid Measures

Swallowed	Rinse mouth and lips with water. Do not induce vomiting. If symptoms persist, seek medical attention
Eye	Flush thoroughly with flowing water, while holding eyelids open, for 15 minutes to remove all traces. If symptoms such as irritation or redness persist, seek medical attention
Skin	Remove heavily contaminated clothing. Wash off skin thoroughly with water. Use a mild soap if available. Shower if necessary. Seek medical attention for persistent redness, irritation or burning of the skin
Inhaled	Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have a qualified person give oxygen through a face mask if breathing is difficult. If irritation persists seek medical attention
First Aid Facilities	Eye wash and normal washroom facilities

Advice to Doctor: Treat symptomatically or consult a Poisons Information Centre

Section 5: Fire Fighting Measures

Flammability	Not flammable or combustible
Hazards from combustion products	None
Suitable extinguishing media	Not applicable
Special protective precautions and equipment for fire fighters	None
Hazchem code	None allocated

Section 6: Accidental Release Measures

Spills

- ☐ Dust is best cleaned up by vacuum device to avoid making dust airborne. Wetting down before sweeping up dust may be a useful control measure
- ☐ Recommendations on Exposure Controls / Personal Protection (see Section 8 below) should be followed during spill clean-up if conditions are dusty

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Section 7: Handling And Storage

Storage Precautions	No special storage requirements
Transport	Not classified as a Dangerous Goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (6th Edition)
Proper Shipping	Name None Allocated

Section 8: Exposure Controls / Personal Protection

The following applies to dust from this product:

Exposure Limits

- ☐ National Occupational Exposure Standard (NES) Australian Safety and Compensation Commission ASCC (formerly NOHSC)
- ☐ Exposure to dust should be kept as low as practicable, and below the following NES:-
- ☐ Crystalline silica (quartz): 0.1 mg/m³ TWA (time-weighted average) as respirable dust. Total dust (of any type, or particle size): 10 mg/m³ TWA

Engineering Controls

- ☐ All work should be carried out in such a way as to minimise dust generation, and exposure to dust.
- ☐ Mechanical ventilation: Dust extraction and collection may be used, if necessary, to control airborne dust levels.
- ☐ Work areas should be cleaned regularly.

Personal Protection:

Skin	Ensure a high level of personal hygiene is maintained when using this product. That is; always wash hands before eating, drinking, smoking or using the toilet. Remove all contaminated clothing. Wash gently and thoroughly with tepid water and non-abrasive soap. If irritation develops and persists seek medical attention
Eyes	Safety glasses with side shields or safety goggles (AS/NZ 1336) or a face shield should be worn
Respiratory	Where engineering and handling controls are not enough to minimise exposure to total dust and to respirable crystalline silica, personal respiratory protection may be required. The type of respiratory protection required depends primarily on the concentration of the respirable crystalline silica dust in the air, and the frequency and length of exposure time. Amount of exertion required during the work, and personal comfort are other considerations in choice of respirator. A suitable P1 or P2 particulate respirator chosen and used in accordance with AS/NZS 1715 and AS/NZS 1716 may be sufficient for many situations, but where high levels of dust are encountered, more efficient cartridge type or powered respirators or supplied-air helmets or suits may be necessary. Use only respirators that bear the Australian Standards mark and are fitted and maintained correctly. For dust levels approaching or exceeding the NES (see above) a more effective particulate respirator providing a greater protection factor should be worn. Procedures for effective use of respirators should be applied and supervised. Do not contaminate the home environment with dusty work clothes and shoes. Do not shake out work clothes before laundering.

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Section 9: Physical And Chemical Properties

Appearance	Fine to coarse grains varying in colour from white to yellow.
Odour	None
Ph	7.4
Vapour Pressure	Not determined
Vapour Density	Not determined
Boiling Point/range	Not determined
Freezing/melting point	Not determined
Solubility	Not soluble.
Specific gravity	2.0- 2.7 (water=1)
Flash Point	Not applicable
Upper and lower flammability Limits	Not applicable
Ignition Temp	Not applicable
Particle Size	A proportion of the dust may be respirable (below 10 microns) and if it becomes airborne constitutes an exposure if inhaled.

Section 10: Stability And Reactivity

Chemical Stability:	Chemically Stable
Condition to avoid:	Dust generation
Incompatible materials:	None
Hazardous Decomposition Products:	None
Hazardous Reactions:	None

Crystalline silica is stable, compatible with other materials, does not polymerise, and will not decompose into hazardous by-products.

Section 11: Toxicological Information

Health Effects:

Acute (short term) -

Swallowed	Unlikely under normal industrial use. Mildly abrasive to mouth and throat if swallowed
Eyes	Dust is irritating to the eyes. Exposure to dust may aggravate pre-existing eye conditions
Skin	Dust may be mildly irritating and drying to the skin due to its physical characteristics
Inhaled	Dust is mildly irritating to the nose, throat and respiratory tract and may cause coughing and sneezing. Pre-existing upper respiratory and lung diseases including asthma and bronchitis may be aggravated

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Chronic (long term)-

Skin

Dust may cause irritation and inflammation of the eyes and aggravate pre-existing eye conditions

Repeated heavy contact with the dust may cause drying of the skin and can result in skin rash (dermatitis) typically affecting the hands. Over time this may become chronic and can also become infected

Inhaled

Repeated exposure to the dust may result in increased nasal and respiratory secretions and coughing. Inflammation of lining tissue of the respiratory system may follow repeated exposure to high levels of dust with increased risk of bronchitis and pneumonia. Long term occupational over-exposure or prolonged breathing-in (or inhalation) of crystalline silica dust at levels above the NES carries the risk of causing serious and irreversible lung disease, including bronchitis, and silicosis (scarring of the lung), including acute and/or accelerated silicosis. It may also increase the risk of other irreversible and serious disorders including scleroderma (a disease affecting the skin, joints, blood vessels and internal organs) and other auto-immune disorders. Inhalation of dust, including crystalline silica dust, is considered by medical authorities to increase the risk of lung disease due to tobacco smoking.

The product contains a proportion of respirable free crystalline silica in the quartz component. Crystalline silica (inhaled in the form of quartz or cristobalite from occupational sources) has been classified by The International Agency for Research on Cancer (IARC) as carcinogenic to humans (Group 1). However (in the view of CC&AA) the research on this is inconclusive and ASCC/NOHSC has not classified crystalline silica as a carcinogen.

The most current research indicates no excess risk of lung cancer or other cancers from using these products

Other information

Inhalation of airborne particles from other sources in the work environment, including those from cigarette smoke, may increase the risk of respiratory diseases. It is recommended that all storage and work areas should be smoke-free zones and that other airborne contaminants should be kept to a minimum

Section 12: Ecological Information

Silica Sands

Ecotoxicity

Silica sands pose no ecology risk. They are non-toxic to aquatic and terrestrial organisms and are not biodegradable.

Persistence and Degradability

Product is persistent and is non-degradable

Mobility

Low mobility would be expected in a landfill situation

Dust

Crystalline silica is non-toxic to aquatic and terrestrial organisms; is not biodegradable; is insoluble and is expected to have low mobility in landfill

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SECTION 13: Disposal Considerations

- ☐ Crystalline silica itself in all common forms can be treated as a common waste for disposal or dumped into a landfill site in accordance with local authority guidelines
- ☐ Measures should be taken to prevent dust generation during disposal and exposure and personal precautions should be observed (see above)
- ☐ Wear sufficient respiratory protection. Dampen spilled material with water to avoid airborne dust, then transfer material to a suitable container for reuse
- ☐ May be disposed in local landfill

Section 14: Transport Information

UN Number	None Allocated
UN proper Shipping name	None Allocated
Class and subsidiary risk	None Allocated
Packing Group	None Allocated
Hazchem Code	None Allocated
Special precautions for user	See above
DG class	None Allocated

SECTION 15: Regulatory Information

- ☐ Crystalline silica is classified as non-Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail
- ☐ Crystalline silica in the form of respirable dust is classified as Hazardous according to the Australian Safety and Compensation Commission ASCC (formerly NOHSC) Approved Criteria For Classifying Hazardous Substances [NOHSC:1008] 3rd Edition
- ☐ Exposures by inhalation to high levels of dust may be regulated under the Hazardous Substances Regulations (State and Territory) as they are applicable to Respirable Crystalline Silica, requiring exposure assessment, and control of inhalation exposure below the NES
- ☐ Persons who have potential for exposure above the NES may be required by Regulations to have periodic health surveillance including Chest X-ray (see relevant State Government Regulations and ASCC/NOHSC documentation)

Safety Data Sheet

Section 16: Other Information

Emergency Contact No (All hours)

1800 882 478

Emergency Contact No (Office Hours)

Contact For further information contact the Risk Manager at your nearest Hanson office;

New South Wales & ACT

Level 18, 2-12 Macquarie St
Parramatta, NSW, 2150

Ph: (02) 9354 2600

Fax: (02) 9354 2699

Tasmania

114 Gormandston Road
Moonah, TAS, 7009

Ph: (03) 6272 6796

Fax: (03) 6272 1714

South Australia

55 Galway Avenue
Marieston, SA, 5033

Ph: (08) 8292 5950

Fax: (08) 8292 5995

Northern Territory

Winnellie Road Level 1
Winnellie, NT, 5789

Ph: (08) 8984 4266

Fax: (08) 8984 3717

Victoria

601 Doncaster Road
Doncaster, VIC, 3108

Ph: (03) 9274 3700

Fax: (03) 9274 3794

Western Australia

35 Great Eastern Highway
Rivervale, WA, 6103

Ph: (08) 9311 8811

Fax: (08) 9470 2793

Queensland

Level 11, Toowong Tower
9 Sherwood Road
Toowong, Qld, 4066

Ph: (07) 3246 5500

Fax: (07) 3246 5533

Authorised by: David Pallot

Date of issue information 1-7-2015 (Replace version dated 1-11-2010)

Notice: We believe the information contained in this Safety Data Sheet is accurate and is given in good faith, but no warranty expressed or implied is made. The suggested procedures are based on experience as of the date of publication. They are not necessarily all-inclusive nor fully adequate in every circumstance. Users are advised to make their own independent determination of suitability and completeness of information at their own risk, in relation to the particular purposes and specific circumstances.

Since the information contained in this document may be applied under conditions beyond our control, no responsibility can be accepted by us for any loss or damage cause by any person acting or refraining from action as a result of any information contained in this Safety Data Sheet. Where the information provided herein disclosed a potential hazard or hazardous ingredient, adequate warning should be provided to employees and users and appropriate precautions taken

END OF SDS

Emergency Phone Number 1300 665 409 or from Mobile XXXXXXXXXX

Date November 2016 ATW Number Work order No Emergency Pick up

Description of work *Load ship with Silica Sand with mobile loading equipment*

Isolation *Isolation procedure for truck unloader and Telebelts.* Task procedure # 3

Responsible person *Graeme Cooney* Ph 0404 157 948 Assembly Area Location

Use following chart to rate hazard before and after control measure

Use following chart to rate hazard before and after control measure						Rating Chart	1	2	3	4	5
Multiple Fatalities	1	Common Occurrence	1	Risk	Level	1	1	2	4	7	11
Fatality/Permanent Disability	2	Known to Happen	2	High	1-8	2	3	5	8	12	16
Lost Time Injury	3	Could Happen	3	Medium	9-15	3	6	9	13	17	20
Medical Treated Injury	4	Not Likely	4	Low	16-20	4	10	14	18	21	23
First Aid Injury	5	Practically Impossible	5	Very Low	21-25	5	15	19	22	24	25

Task procedure step No	Job Steps	Hazards (with each step)	Rating	Control measures for each hazard	New Rating	Responsible Person/Date when will happen
1	Transport equipment to berth,	Vehicle interactions Interaction on the berth	H	Driver must have completed a General & Road induction. Contact Port Authority before entering the berth	L	Float driver
2	Unload equipment	Interaction with people and mobile equipment	H	Clear area have watchers while unloading equipment	L	MCS Supervisor
3	Set up equipment on the berth & starting / moving	Interactions- ship / structure	M	Truck unloader (Ashross) Setup Ashross must be setup in operating position use spotter to guide, connect	L	MCS Supervisor

Emergency Phone Number 1300 665 409 or from Mobile [REDACTED]

Step 3 Cont...			generator to Ashross ensure isolation switch is on prior to connection. Startup • Check the isolation switch is in the off position on the generator, proceed to power the generator on after pre start check. • Check the isolation switch is in the off position on the Ashross, proceed to turn the Ashross hydraulic system on after pre start check. • End ramps must be lowered and bolted firmly in place, done using hydraulic controls. • Self cleaning ramps to be lowered to top of ramps. • Unfurl top fold conveyor to the fully extended position, pin lock when required to the out position. • The end chute must be installed for feeding onto additional conveyors Moving • To move the machine it must be walked with self propelled wheels. • Ensure that you use a spotter to assist in the final placement of the unit. Using machine to receive loads. • Ensure the machine is set up in its optimal operating position, turn belts on at control panel. • Horn will sound prior to starting the		MCS Supervisor
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Emergency Phone Number 1300 665 409 or from Mobile [REDACTED]

				conveyor belts (Automated). • The unit is now ready to accept loads. Note: Ensure that spillage is immediately rectified and regular checking is undertaken while operating the machine. Please refer to the user manual for any technical specifications. Only suitably trained operators are allowed to operate this equipment.		
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				<u>Telebelt (TBS 600)</u> Setup - TBS 600 must be setup in operating position use spotter to guide into place, Startup: - Check the isolation switch is in the off position on the generator, proceed to turn the generator on after pre start check. - Check the isolation switch is in the off position on the 600, proceed to turn the 600 hydraulic system on after pre start check, horn alarm will sound automatically on start up. - Engage the remote control - Ensure outriggers are fully lowered and extended. - Raise the boom to the desired angle and extend the conveyor over vessel as required with the remote control. Ensure spotter on vessel is being used Operation of machine - The machine can be operated with or without remote control. - Start the conveyor belts. - Slewing and jibbing of machine as required, please use spotter whilst doing either action. - Trimming of vessel to be done at direction of stevedore and/or chief officer of vessel. Moving - To move the machine turn the belts off		
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Emergency Phone Number 1300 665 409 or from Mobile [REDACTED]

				And retract the boom into its cradle position, raise and retract the outriggers and drive the machine with into desired position. • Ensure that you use a spotter to assist in the final placement of the unit. • Note : • Please refer to the user manual for any technical specifications. Only suitably trained operators are allowed to operate this equipment.		
4	Running equipment / maintaining and cleaning	Pinch points, slip trips falls Noise	H	All equipment to be guarded and area kept clean free of any sand. When the truck unloader has to be lifted, use the hydraulic legs. Insert safety pins when required. Isolate the machine as per the isolation procedure. Hearing and eye protection is to be worn when in close proximity to the truck unloader & conveyors. Cleaning equipment will completed in situ, in consultation with the Fremantle Port Authority. Wash down will occur and sump tanks will be vacuum trucked as required. Berth will be regularly cleaned by road sweeper.	L	MCS Supervisor
5	Trucks unloading in the truck loader/hopper	Interactions with people, equipment and incorrect loading	H	Truck drivers to be instructed by MCS or the stevedore's while tipping. Trucks are NOT to TIP until instructed.	L	Truck drivers

6	Trucks entering on and off the truck loader/hopper area	Interaction collision with equipment	H	Truck drivers are to drive over the truck unloader ramps and hopper slowly. They must enter the hopper straight and not to deviate.	L	Truck drivers
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Emergency Phone Number 1300 665 409 or from Mobile [REDACTED]

7	Trucks loading at the hopper	Interaction with the equipment	H	Truck drivers are to stay in their truck at all times	L	Truck drivers
8	Travelling to the berth from stockpile and back from the berth to the stockpile	Trucks to obey all speed limits while working on berth site.	H	Truck drivers must have berth and Port road and rail inductions Traffic management plan will be communicated to all stakeholders utilizing radios as needed to manage truck movements.	L	Truck driver ALL
9	Loading of trucks	Over loading of trucks	H	Loader driver not to over load (Over fill) the trucks there will be 20t and 30t ensure no sand on top combing rail of the truck. Follow loading procedures.	L	Loader driver
10	Loading of trucks	Interaction with other mobile equipment	H	Communication between each other on CB radio while in the stockpile yard and on the berth	L	Loader driver and truck drivers
11	Dusty environment / spillage on berth	Dust from loading trucks and tipping off at the hopper	M	To be conditioned at Gaskell Load point to mitigate dust during loading at KBJ. Spillage on the berth will be regularly monitored and a road sweep needs to be used to clean any excess spillage. Product water content which will reduce dust. Shroud will be placed around ship loader exit to reduce dust. Bobcat, shovels as well as road sweeper will be present to contain and clean up any spillage.	L	ALL

12	Adverse weather events	Damage to equipment or spillage	M	Weather will be constantly monitored using BOM (Garden Island data). Shroud will be placed on ship loader. Severe weather – operations will cease until all clear.	L	ALL
13	Trimming vessel	Damage to ship or berth	M	Ensure that the machine is setup with the pivot base away from the edge of the berth. Take direction from the stevedore for trimming Only MCS trained and certified operator to operate ship loader. Ship loader will maintain a clearance of one metre over vessel edge.	L	MCS

Check the following to ensure all possible hazards have been controlled

Asbestos	☐	Hot work (metal/surface)	☐	Chemical & toxic materials	☐	Proximity to water	☒
Biological	☐	Excavation	☐	Underground services	☐	Slips, trips and falls	☒
Confined space	☐	Fire	☐	Working at height	☐	SPECIAL CAUSES	☐
Dangerous goods	☐	Flooding	☐	Traffic & vehicles	☒	Overhead pipes	☐
Dust	☒	Gas, fumes	☐	Moving machinery	☒	Equipment protection	☐
Electricity, access to live parts & gas	☐	Hazardous equipment	☐	Noise	☒	ANY OTHER RISKS	☐
Temperature	☐	Materials handling	☒	Overhead hazards	☐		☐



MCS JSEA



Emergency Phone Number 1300 665 409 or from Mobile [REDACTED]
Lighting ☒ Hydraulic & pneumatic pressure ☒ Multiple contractors ☐

Comment

Special PPE

Long pants & sleeves, safety footwear, safety helmet, high visibility clothing, eye protection, gloves, hearing protection

Written By: Print Name: Michael Santomauro

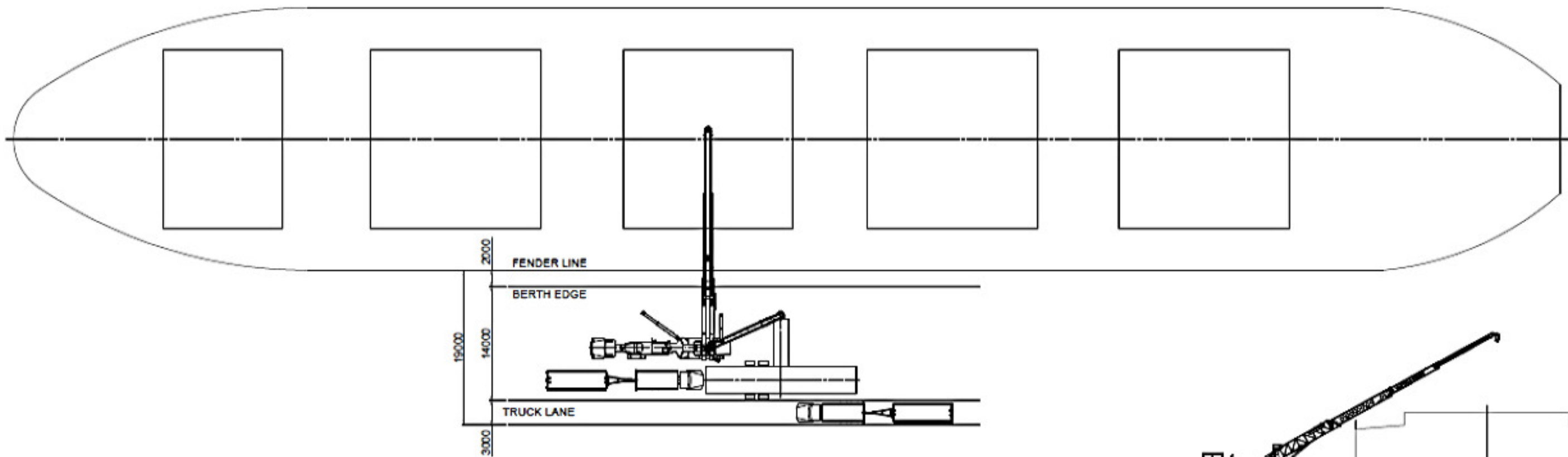
Reviewed By: Print Name Graeme Cooney

Signature:

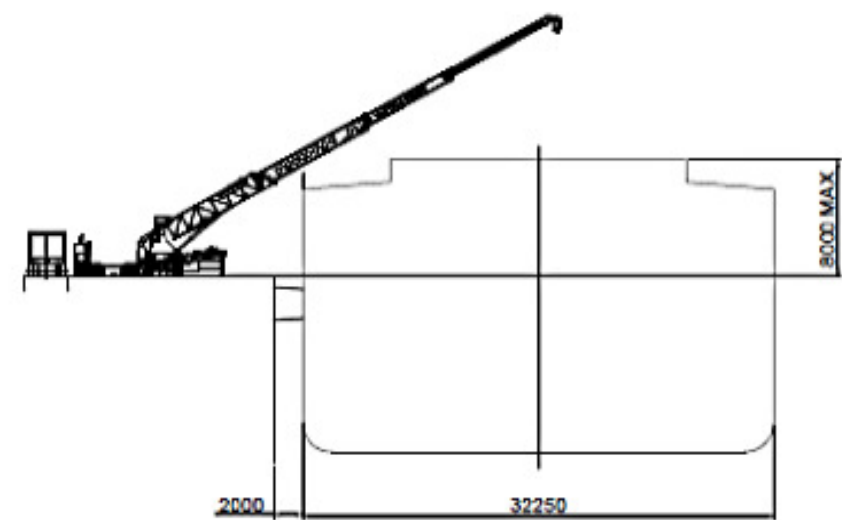
Team members

Signature:

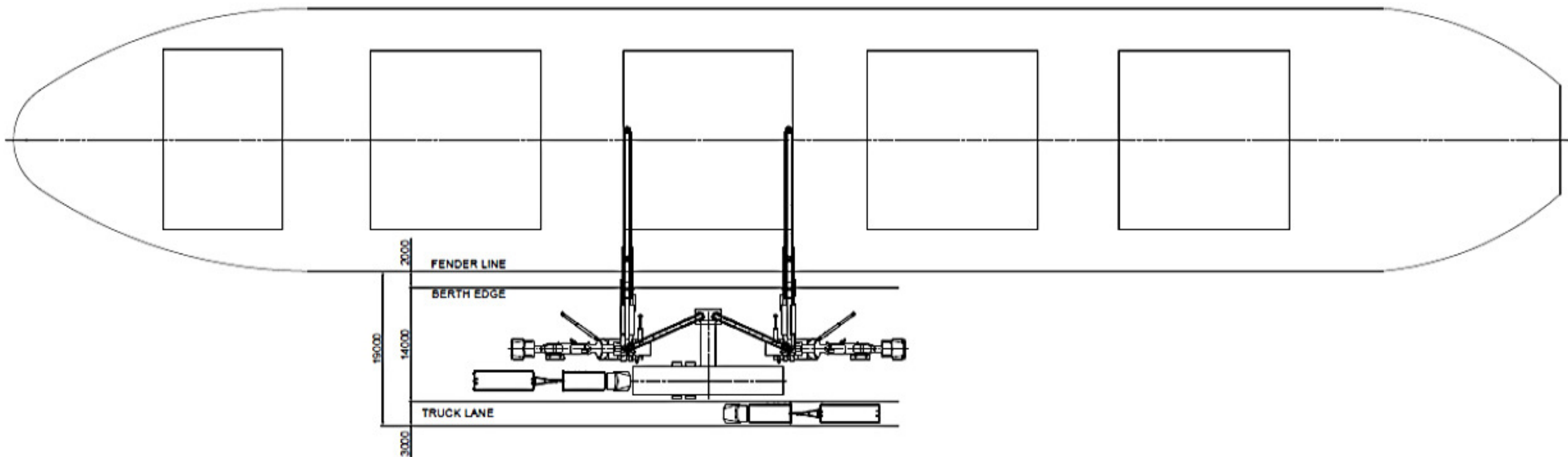
	Date/Sign		Date/Sign



PLAN VIEW WITH SINGLE SHIP LOADER



SECTIONAL VIEW



PLAN VIEW WITH DUAL SHIP LOADER



SGS Australia Pty Ltd

28 Reid Road
Perth Airport
Western Australia, 6105

Tel: +61 (0)8 9373 3500
Fax: +61 (0)8 9373 3556

**SGS****ORIGINAL**

TR 1/1

AFFILIATE CODE: F700101**CERTIFICATE OF QUALITY****SGS Job Number: PER16_MT_458-4**

IN PURSUANCE OF AN ORDER RECEIVED FROM:	HANSON
TO CARRY OUT INSTRUCTIONS SUMMARISED AS:	ANALYSIS
DECLARED COMMODITY:	SILICA SAND
NOMINATED VESSEL:	MV GLORIA ISLAND
PORT OF LOADING:	Kwinana, Australia
PORT OF DISCHARGE:	Mizushima & Yokohama, Japan
SAMPLE ID:	AFS30-35 Comp 4 RED16-975-Q4

SGS CERTIFY AS FOLLOWS: A sample was collated and sent to us on the 01 December 2016 and analysed with the following results:

ANALYSIS	RESULTS (%)
Aluminium Oxide (Al ₂ O ₃)	0.014
Iron (III) Oxide (Fe ₂ O ₃)	0.005
Manganese (II) Oxide (MnO)	<0.001
Silicon Dioxide (SiO ₂)	99.87
Titanium Dioxide (TiO ₂)	0.023

PSD (Retained 212µm)	4%
AFS Grain Fineness No.	34

Results are on an 'as received' basis

METHOD

ICP44D: ICP-AES, ore grade total digest
SCR32: Particle size distribution (-300µm +212 µm) AS2757-1985

"The sample to which the findings recorded herein (the "Findings") relate was drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness or any goods and strictly relate to the sample. The Company accepts no liability with regard to the origin or source from which the sample is said to be extracted."

Signed and dated
At PERTH, WESTERN AUSTRALIA
07 December 2016

For and on behalf of
SGS AUSTRALIA PTY LTD

SGSPAPER**00709557**

SGS Australia Pty Ltd

28 Reid Road
Perth Airport
Western Australia, 6105

Tel: +61 (0)8 9373 3500
Fax: +61 (0)8 9373 3556

**SGS****ORIGINAL****AFFILIATE CODE: F700101****CERTIFICATE OF ANALYSIS****SGS Job Number: PER16 MT 465**

IN PURSUANCE OF AN ORDER RECEIVED FROM: HANSON
TO CARRY OUT INSTRUCTIONS SUMMARISED AS: ANALYSIS
DECLARED COMMODITY: SILICA SAND
NOMINATED VESSEL: MV GLORIA ISLAND
PORT OF LOADING: KBB3 Kwinana, Australia
PORT OF DISCHARGE: Mizushima & Yokohama, Japan
BILL OF LADING WEIGHT: 20,000MT
BILL OF LADING DATE: 12 December 2016

SGS CERTIFY AS FOLLOWS: we carried out an analysis from samples collated by SGS Australia. The samples were drawn during the loading of vessel "MV GLORIA ISLAND" at Kwinana, Australia on the 09 December 2016 to the 12 December 2016.

ANALYSIS	RESULTS (%)
Moisture	2.76

Results are on an 'as received' basis

METHOD

PHY08D: Moisture by Gravimetric Analysis, 105°C

This certificate reflects our findings at time and place of our intervention only and does not relieve the parties from their contractual responsibilities. The information stated in this report (or certificate) is derived from the results of inspection or testing procedures carried out in accordance with the instructions of our Client, and/or our assessment of such results on the basis of any technical standards, trade custom or practice, or other circumstances which should in our professional opinion be taken into account.

Signed and dated
At PERTH, WESTERN AUSTRALIA
15 December 2016

For and on behalf of
SGS AUSTRALIA PTY LTD

SGSPAPER**00709560**

LABORATORY REPORT

Job Number: 16-04937
Revision: 00
Date: 12 July 2016

ADDRESS: Hanson Construction Materials
123 Burswood Road
BURSWOOD WA 6100

ATTENTION: Joyce Spencer

DATE RECEIVED: 5/07/2016

YOUR REFERENCE: Gaskell Quarry - 3490

PURCHASE ORDER: 4502133881



Tracey Johnston
Senior Hygiene Analyst

APPROVALS:
SAMPLING COMMENTS:

The samples were analysed on an as received basis.

METHOD REFERENCES:

ARL No. 098	Analysis of respirable dust based on AS2985-2009 Workplace atmospheres - Method for sampling and gravimetric determination of respirable dust.
Quartz	Subcontracted to AEC Environmental – In house method LOP006 X-ray diffraction measurement of Crystalline Silica (Quartz) on filters
ARL No. 097	Analysis of inhalable dust based on AS3640-2009 Workplace atmospheres - Method for sampling and gravimetric determination of inhalable dust.



LABORATORY REPORT

Hanson Construction Materials

ARL Job No: 16-04937

12 July 2016

Respirable Dust Sample Number	Sample Description	Respirable Dust mg	Respirable Dust mg/m ³	Quartz µg	Quartz mg/m ³
16-04937-1	R46234 FEL Operator 30/06/2016	0.04	<0.1	[NT]	[NT]
16-04937-2	R46432 Laboratory Technician 30/06/2016	0.64	0.7	60	0.06
16-04937-3	R43388 Quarry Supervisor 30/06/2016	0.09	0.1	[NT]	[NT]
16-04937-4	R46431 Dry Plant Operator 30/06/2016	0.09	0.1	[NT]	[NT]
16-04937-5	R46560 FEL Operator 30/06/2016	0.01	<0.1	[NT]	[NT]
16-04937-6	R46559 FEL Operator 30/06/2016	0.03	<0.1	[NT]	[NT]
16-04937-7	R46430 FEL Operator 30/06/2016	0.12	0.1	[NT]	[NT]
16-04937-8	R46229 Main Lab 30/06/2016	0.35	0.4	75	0.08
16-04937-9	R46437 BellWest Lunch Room 30/06/2016	0.02	<0.1	[NT]	[NT]
16-04937-13	R46237 Field Blank 30/06/2016	<0.01	[NA]	[NA]	[NA]
	Limit of Reporting	0.01	0.1	5	0.01

LABORATORY REPORT

Hanson Construction Materials

ARL Job No: 16-04937

12 July 2016

Inhalable Dust Sample Number	Sample Description	Inhalable Dust mg	Inhalable Dust mg/m ³
16-04937-10	I36763 Dry Lab 30/06/2016	0.08	0.1
16-04937-11	I36761 Weighbridge 30/06/2016	0.25	0.3
16-04937-12	I33888 Production Manager 30/06/2016	0.08	0.1
16-04937-14	I36765 Field Blank 30/06/2016	<0.01	[NA]
	<i>Limit of Reporting</i>	0.01	0.1

REPORT COMMENTS:

Values are corrected for blank data.

NA - Denotes Not Available/Applicable.

mgm³ values calculated using supplied flow rates and sampling times.

[NT] - Denotes Not Tested, sample weight <0.3 mg.

Quartz subcontracted to AEC Environmental, NATA Accreditation 17053, Report Number 99184a.

Rejected Sample; I36762.

LABORATORY REPORT

Hanson Construction Materials

ARL Job No: 16-05755

15 August 2016

Respirable Dust Sample Number	Sample Description	Respirable Dust mg	Respirable Dust mg/m ³	Quartz µg	Quartz mg/m ³
16-05755-1	R46239 Bagging Plant 29/07/2016	0.14	0.1	[NT]	[NT]
16-05755-2	R46556 Dry Plant Operator 29/07/2016	0.21	0.1	[NT]	[NT]
16-05755-3	R46434 Production Lab 29/07/2016	0.01	<0.1	[NT]	[NT]
16-05755-4	R46433 Exploration Lab 29/07/2016	0.10	0.1	[NT]	[NT]
16-05755-5	R46240 Dry Plant Rotex 29/07/2016	0.80	0.5	600	0.38
16-05755-6	R46233 Dry Plant Computer 29/07/2016	0.24	0.2	[NT]	[NT]
16-05755-7	R46236 Exploration Lab 29/07/2016	0.03	<0.1	[NT]	[NT]
16-05755-11	R46238 Field Blank 29/07/2016	<0.01	[NA]	[NA]	[NA]
	<i>Limit of Reporting</i>	0.01	0.1	5	0.01

LABORATORY REPORT

Hanson Construction Materials

ARL Job No: 16-05755

15 August 2016

Inhalable Dust Sample Number	Sample Description	Inhalable Dust mg	Inhalable Dust mg/m ³
16-05755-8	I37640 Bagging Plant 29/07/2016	330.00	0.2
16-05755-9	I36764 Dry Plant Rotex 29/07/2016	1.54	1.1
16-05755-10	I33496 Dry Plant Computer 29/07/2016	0.49	0.3
16-05755-12	I37638 Field Blank 29/07/2016	<0.01	[NA]
	<i>Limit of Reporting</i>	0.01	0.1

REPORT COMMENTS:

Values are corrected for blank data.

NA - Denotes Not Available/Applicable.

 mgm³ values calculated using supplied flow rates and sampling times.

[NT] - Denotes Not Tested, sample weight <0.3 mg.

Quartz subcontracted to AEC Environmental, NATA Accreditation 17053, Report Number 99745.

LABORATORY REPORT

Job Number: 16-05755
Revision: 00
Date: 15 August 2016

ADDRESS: Hanson Construction Materials
123 Burswood Road
BURSWOOD WA 6100

ATTENTION: Joyce Spencer

DATE RECEIVED: 2/08/2016

YOUR REFERENCE: Gaskell Quarry 3490

PURCHASE ORDER: 4502146433



Tracey Johnston
Senior Hygiene Analyst

APPROVALS:

SAMPLING COMMENTS:



The samples were analysed on an as received basis.

METHOD REFERENCES:

ARL No. 098	Analysis of respirable dust based on AS2985-2009 Workplace atmospheres - Method for sampling and gravimetric determination of respirable dust.
Quartz	Subcontracted to AEC Environmental – In house method LOP006 X-ray diffraction measurement of Crystalline Silica (Quartz) on filters
ARL No. 097	Analysis of inhalable dust based on AS3640-2009 Workplace atmospheres - Method for sampling and gravimetric determination of inhalable dust.

LABORATORY REPORT

Hanson Construction Materials

ARL Job No: 16-05755

15 August 2016

Respirable Dust Sample Number	Sample Description	Respirable Dust mg	Respirable Dust mg/m ³	Quartz µg	Quartz mg/m ³
16-05755-1	R46239 Bagging Plant 29/07/2016	0.14	0.1	[NT]	[NT]
16-05755-2	R46556 Dry Plant Operator 29/07/2016	0.21	0.1	[NT]	[NT]
16-05755-3	R46434 Production Lab 29/07/2016	0.01	<0.1	[NT]	[NT]
16-05755-4	R46433 Exploration Lab 29/07/2016	0.10	0.1	[NT]	[NT]
16-05755-5	R46240 Dry Plant Rotex 29/07/2016	0.80	0.5	600	0.38
16-05755-6	R46233 Dry Plant Computer 29/07/2016	0.24	0.2	[NT]	[NT]
16-05755-7	R46236 Exploration Lab 29/07/2016	0.03	<0.1	[NT]	[NT]
16-05755-11	R46238 Field Blank 29/07/2016	<0.01	[NA]	[NA]	[NA]
	<i>Limit of Reporting</i>	0.01	0.1	5	0.01

LABORATORY REPORT

Hanson Construction Materials

ARL Job No: 16-05755

15 August 2016

Inhalable Dust Sample Number	Sample Description	Inhalable Dust mg	Inhalable Dust mg/m ³
16-05755-8	I37640 Bagging Plant 29/07/2016	330.00	0.2
16-05755-9	I36764 Dry Plant Rotex 29/07/2016	1.54	1.1
16-05755-10	I33496 Dry Plant Computer 29/07/2016	0.49	0.3
16-05755-12	I37638 Field Blank 29/07/2016	<0.01	[NA]
	<i>Limit of Reporting</i>	0.01	0.1

REPORT COMMENTS:

Values are corrected for blank data.

NA - Denotes Not Available/Applicable.

 mgm³ values calculated using supplied flow rates and sampling times.

[NT] - Denotes Not Tested, sample weight <0.3 mg.

Quartz subcontracted to AEC Environmental, NATA Accreditation 17053, Report Number 99745.

LABORATORY REPORT

Job Number: 16-08968
Revision: 01
Date: 24 November 2016

ADDRESS: Hanson Construction Materials
123 Burswood Road
BURSWOOD WA 6100

ATTENTION: Kalema Collis

DATE RECEIVED: 16/11/2016

YOUR REFERENCE: 3490 - Gaskell Quarry

PURCHASE ORDER: 4502191433



Tracey Johnston
Senior Hygiene Analyst

APPROVALS:

SAMPLING COMMENTS:

The samples were analysed on an as received basis.



METHOD REFERENCES:

ARL No. 098	Analysis of respirable dust based on AS2985-2009 Workplace atmospheres - Method for sampling and gravimetric determination of respirable dust.
Quartz	Subcontracted to AEC Environmental – In house method LOP006 X-ray diffraction measurement of Crystalline Silica (Quartz) on filters
ARL No. 097	Analysis of inhalable dust based on AS3640-2009 Workplace atmospheres - Method for sampling and gravimetric determination of inhalable dust.

LABORATORY REPORT

Hanson Construction Materials

ARL Job No: 16-08968

24 November 2016

Respirable Dust Sample Number	Sample Description	Respirable Dust mg	Respirable Dust mg/m ³	Quartz µg	Quartz mg/m ³
16-08968-1	R46933 Dump Truck Operator 11/11/2016	0.04	<0.1	[NT]	[NT]
16-08968-2	R47422 FEL Operator 11/11/2016	0.06	0.1	[NT]	[NT]
16-08968-3	R47046 FEL Operator 11/11/2016	0.17	0.2	[NT]	[NT]
16-08968-4	R47424 Land Plane Operator 11/11/2016	0.13	0.1	[NT]	[NT]
16-08968-5	R46904 Water Cart Operator 11/11/2016	0.03	<0.1	[NT]	[NT]
16-08968-6	R46897 Leading Hand 11/11/2016	0.09	0.1	[NT]	[NT]
16-08968-7	R46906 FEL Operator 11/11/2016	<0.01	<0.1	[NT]	[NT]
16-08968-8	R47045 - Laboratory Technician 11/11/2016	0.39	0.4	100	0.09
16-08968-9	R46910 - Bagging Plant 11/11/2016	0.01	<0.1	[NT]	[NT]
16-08968-10	R47050 Exploration Lab 11/11/2016	0.65	0.6	120	0.11
16-08968-13	R47425 Field Blank 11/11/2016	<0.01	[NA]	[NA]	[NA]
	<i>Limit of Reporting</i>	0.01	0.1	10	0.01

LABORATORY REPORT

Hanson Construction Materials

ARL Job No: 16-08968

24 November 2016

Inhalable Dust Sample Number	Sample Description	Inhalable Dust mg	Inhalable Dust mg/m ³
16-08968-11	I35474 FEL Operator 11/11/2016	0.15	0.2
16-08968-12	I33216 Weighbridge 11/11/2016	0.13	0.2
16-08968-14	I35476 Field Blank 11/11/2016	<0.01	[NA]
	<i>Limit of Reporting</i>	0.01	0.1

REPORT COMMENTS:

Values are corrected for blank data.

NA - Denotes Not Available/Applicable.

 mgm³ values calculated using supplied flow rates and sampling times.

[NT] - Denotes Not Tested, sample weight <0.3 mg.

Quartz subcontracted to AEC Environmental, NATA Accreditation 17053, Report Number 21168a.



Fremantle Health and Safety Management Plan

Date of Issue: January 2017

Document Number: FRE-PL-007

Document Control

Fremantle Health and Safety Management Plan – FRE-PL-007		
Revision Number	2	05/01/2017 Date
Status	IFU	05/01/2017 Date
Author	G Henry	05/01/2017 Date
Checked	C Minchin	05/01/2017 Date
Approved	G Henry	05/01/2017 Date
Review Date	05/01/2018	

Revision History (to be completed for each version)					
Author	Checker	Approver	Rev No.	Issued Date	Notes on key changes
C Heales		C Heales	1	May 2016	
G Henry	C Minchin	G Henry	2	January 2017	Moved to LINX template, Added LINX HSE Policy

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Part A: Work Health and Safety Arrangements

LINX Health and Safety Policy

LINX



HEALTH & SAFETY POLICY

LINX is committed to the provision and maintenance of a safe working environment to ensure the health and safety of everyone who interacts with our business including the public. The continuous improvement of safety performance, through the development and maintenance of a positive safety culture is a key priority in all aspects of our business activities and we will ensure that we:

- Implement Health and Safety Management Systems tailored to the specific risks in each of our businesses;
- Hold executives, managers, supervisors and employees accountable and responsible for their individual actions concerning health and safety performance whilst recognising that senior executives are ultimately accountable;
- Corporate and local policies and procedures apply to employees contractors and other persons at our sites;
- Report, conduct investigations (including independent investigations where required under our investigations procedures), identify relevant causal factors and take action to prevent recurrence within a context of organisational learning;
- Focus on identifying and controlling our highest risks as a priority;
- Establish measurable objectives and targets for health and safety to seek and ensure continual improvement aimed at reducing risk and work-related injury and illness;
- Provide maintenance programs that ensure healthy and safe work areas and plant and equipment that is fit for purpose;
- Establish effective consultation processes and make sure that all affected stakeholders are included in matters impacting on their workplace health and safety;
- Provide such information, instruction, training and supervision as may be necessary to allow our employees to safely and competently carry out their work;
- Provide relevant health and safety information and instruction for contractors and visitors;
- Ensure that adequate specialist HSE support is available where needed;
- Take all reasonable care for the health, safety and rehabilitation legislative requirements;
- Audit based on risk to ensure compliance with this policy; and
- Provide access to this Health and Safety Policy within the business.

Yours sincerely,

Anthony Jones
CEO – LINX Cargo Care Group

Sean Jeffries
CEO – LINX

Purpose

The purpose of this Plan is to establish and maintain an effective health and safety management system. LINX is committed to implementing a structured approach to workplace health and safety in order to achieve a consistently high standard of safety performance. This Plan will assist the Fremantle business in meeting its obligations in accordance with work health and safety legislation. This Plan applies to all LINX offices and workers and to other persons at risk from work carried out at across all Fremantle workplaces. Failure to comply with the requirements of this Plan may lead to disciplinary action.

Scope

LINX Stevedoring – Fremantle is part of the Ports & Stevedoring Division of LINX Corporation a subsidiary of LINX Cargo Care. The main office is located at Berth 2, North Quay, North Fremantle, Western Australia.

General stevedoring is carried out on the following berths:

- Fremantle 1, 2, 11, 12, H – J
- Kwinana 3 & 4.
- Australian Maritime Complex 1 & 4.
- Albany Port
- Esperance Port
- And the Geraldton Port

The main stevedoring tasks undertaken by LINX at these ports consist of;

- Steel products
- PCC (cars and commercial vehicles)
- Bulk (fertiliser, bulka bags)
- RORO
- Livestock
- LOLO
- And Project Cargo

Definitions

Term	Definition
Employee	• a person by whom work is done under a contract of • employment; or an apprentice
Employer	• a person that employs an employee under a contract of • employment; and • in relation to an apprentice, a person who employs the • apprentice under a training contract registered under the • Vocational Education and Training Act 1996 Part 7 Division 2;

Responsibilities

Position	Responsibilities
LINX	• ensure the health and safety of its workers and others in our workplace

	• ensure the health and safety of other persons is not put at risk from work carried out as part of its operations • provide and maintain a work environment that is without risks to health and safety • provide and maintain safe plant and structures • provide and maintain safe systems of work • ensure the safe use, handling and storage of plant, structures and substances • provide adequate facilities for the welfare of workers • provide information, training, instruction and supervision • monitor the health of workers and the conditions of our workplaces. Specific duties also include: • record and notify Worksafe and other agencies as relevant of any notifiable incidents arising out of the conduct of the business or undertaking • ensure authorisations are in place for any high risk work or plant • consult so far as reasonably practicable with persons who have a duty in regard to a work health and safety matter • consult so far as reasonably practicable with workers, their representatives on work health and safety matters.
Business Unit Manager	• The Business Manager is responsible for ensuring that LINX WHS policies and procedures are implemented in the workplace and/or systems of work under their control. As an integral part of their normal duties, the Business Manager will: • Actively promote, demonstrate and foster a commitment to the LINX Safety, Health and Environment Management Systems to ensure all hazards / risks are identified, controlled and monitored as part of a continual improvement process. • Management System documentation is available to all required areas • Ensure all statutory reporting is completed for incidents (safety and environment) • All incidents are investigated and reported to relevant levels of management • Training systems are developed to ensure personnel are competent in the roles they are engaged. • Control the allocation of resources to tasks, berth allocation and the arrival and departure of vessels. • Manage revenue against budget and ensure all revenue items are addressed in vessel reporting. • Report status and progress against financial and operations

	targets in writing and verbally on a regular basis to LINX National Stevedoring Manager. • Manage operations to ensure client expectations are consistently met or exceeded. • Manage the daily allocation of shift managers, planners and employees to best utilise appropriate skills and complete the desired tasks in the required time. • Communicate short, medium and long term goals for Shift Managers and Team Leaders in respect to personnel, shift and facility objectives and manage performance issues on an on-going basis. • Develop and maintain effective relationships with Shipping Company Planners, clients, vessel command and statutory authorities.
Operations Manager	• Ensure adequate and serviceable equipment is provided for tasks to be undertaken (within budget). • Maintain regular communication to make employees aware of activities and developments and to resolve any problems (by meetings or personal contact). • Commend achievement as well as correcting management system failures. • Achieve a high level of performance in the management of safety and health in the geographical area of responsibility. • Provide leadership and coaching in safety, health and environmental management within the LINX Stevedoring Fremantle business. • Plan appropriate resources to ensure that set annual safety performance objectives are met for both process (activities) and output (AIFRS, Severity). • Assess incident trends and manage system failures.
Managers and Leaders	• Managers and leaders are responsible for providing a workplace that is, as far as reasonably practicable, safe and healthy workplace for workers and visitors, in particular in the areas of their control. This includes: • modelling health and safety leadership • demonstrating a commitment to good health and safety performance, by: • talking about safety at regular meetings • ensuring safe work procedures are followed • reporting incidents, hazards and safety concerns promptly • assessing task risk and not allowing an activity to continue until it can be controlled adequately

	• fostering a strong work health and safety culture where worker input is valued • Promoting and implementing the LINX Work Health and Safety Management System • actively support the identification of hazards and risks and the management of these • understand and monitor safety performance objectives • Proactively manage other duty holders (e.g. contractors), when required.
Workers	• Workers must take reasonable care for their own health and safety while they are at work, and take reasonable care that their acts or omissions do not adversely affect the health and safety of other persons. They must comply, so far as they are reasonably able, with any reasonable instruction given by the Business Manager, as well as co-operating with any reasonable LINX policy or procedure which relates to workplace health and safety. On a day to day basis, this includes: • to the extent of the worker's control or influence over working conditions and methods, take reasonable care to work safely • making sure that the work area safe when leaving it • make proper use of all appropriate safeguards, safety devices and personal protective equipment • follow agreed safe working practices and rules • report all known hazards, accidents and incidents as soon as possible • It is acknowledged that, in accordance with the Act, a worker may cease, or refuse to carry out work if they have a reasonable concern the work would expose the worker to a serious risk to their health or safety. The Act requires workers who cease work to notify the relevant manager that they have ceased unsafe work as soon as practicable after doing so. It also requires workers to remain available to carry out 'suitable alternative work'. This would not however require workers to remain at any place that poses a serious risk to their health or safety.
Contractors	• Contractors, sub-contractors and self-employed persons or any persons that carry out work in any capacity for LINX are required to: • comply with the requirements of the WHS legislation • have in place any work health and safety policies and programs required under State or Territory safety legislation • consult with LINX about safety matters and comply with LINX policies

	• work safely and to include the safety of LINX staff and visitors in their safety plans. • If any staff member believes that a contractor may be engaging in an unsafe work practice, they are required to report this issue to their manager.
Visitors	• Visitors and other persons to LINX managed facilities also have responsibilities to abide by our workplace safety rules and procedures. These responsibilities include to: • take reasonable care for their own health and safety and for the health and safety of other persons • comply with, so far as they are reasonably able, all reasonable safety directions provided by LINX • report all safety related incidents to LINX Staff • ensure the adequate supervision of any accompanying children • not bring or consume alcohol or illegal drugs at LINX work places • not wilfully or recklessly interfere with LINX property

Critical Safety Essentials (CSE)

The CSE's have been developed to be implemented business wide and cover a range of known business fatality risks. During the planning phase of any task the 11 safety essentials;

- Confined Space
- Container Handling
- Falls Prevention
- Hazardous Chemicals
- Hazardous Energy
- Lifting Operations
- Maintenance and Inspection
- Road Transport
- Shunting
- Traffic Management

These are to be considered and if applicable the requirements with in implemented.

Consultation and Communication Arrangements

Open communication between workers and managers is important to ensuring a safe workplace. Therefore, workers are encouraged to:

- ask questions relating to WHS
- bring up safety concerns
- make recommendations regarding WHS

- give regular feedback
- become involved in evaluation of safety issues
- participate in any WHS related problem solving process.
- help shape decisions about WHS particularly when:
 - identifying hazards and assessing risks
 - making decisions about ways to eliminate or minimise those hazards or risks
 - proposing business changes that may affect the health and safety of workers
 - purchasing of new equipment or substances
 - developing or changing job tasks or safety procedures.

All workers belong to a work group and are encouraged to raise any work health and safety concerns they may have with their manager. If the issue identified remains unresolved, it should be raised directly with the Business Manager.

Occupational Health and Safety Committee

The purpose and Function of the Fremantle health and safety committee are to:

- enable and assist consultation and cooperation between employers and workers;
- help to initiate, develop and implement safety and health measures;
- keep informed about safety and health standards in similar workplaces;
- make recommendations on safety and health rules, programs, measures and procedures;
- ensure information on hazards is kept where it is readily accessible;
- consider and make recommendations about changes that may affect the safety and health of workers;
- consider matters referred to it by safety and health representatives; and
- review and provide guidance on safety work methods in the field to ensure that all operations are as safe as possible
- perform other functions as required by the Fremantle business.

With regard to workplace safety and health, the committee may deal with:

- policy development;
- monitoring programs;
- emergency procedures;
- training and supervision;
- trends in incident and hazard reports; and resolution of safety and health issues.

WHS Risk Assessment

The purpose of any WHS risk assessment is to ensure that, for any identified hazards, appropriate control measures are implemented in order to protect workers, contractors and visitors from risks to their health, safety and welfare.

Control measures for WHS hazards should be implemented as required using the following hierarchy of control, in order of preference these measures relate to:

- elimination (removal of the hazard)
- substitution (substitute the hazard for something which is less hazardous e.g. replace a hazardous chemical with one which is not hazardous)
- isolation (isolate the hazard from people e.g. place a noisy piece of equipment in another location)
- engineering (e.g. guarding on machinery)
- administrative (e.g. provision of training, policies and procedures, signage)
- personal protective equipment (e.g. use of hearing , eye protection, high visibility vests).

Outcomes of risk assessments will be documented and the control measures reviewed at least annually or earlier should a task or activity be the subject of a WHS incident or a change of process or requirement. Current risk assessments will ensure that achieves the goal of eliminating or minimising the risk workers may be exposed to.

WHS Issue Resolution

Wherever possible, any WHS concerns will be resolved through consultation between workers, their representatives and/or their manager. If the concern cannot be resolved, then it can be referred to the Business Manager for resolution. Ultimately any issue remaining unresolved may be referred to the Regional Manager. Where the issue remains unresolved the default procedure for issue resolution set out in the WHS Regulations must be followed.

If reasonable efforts have been made to resolve an issue and it remains unresolved, any party to the issue can ask Worksafe to appoint an inspector to assist in resolving the matter.

Additional Sources

- Occupational Health and Safety Act 1984
- Occupational Health and Safety Regulations 1996
- Workers Compensation
- Approved Work Health and Safety Codes of Practice
- Australian Standards (Guidance material)

PART B: General WHS Information

Emergency Procedures

An emergency plan has been developed and this plan, is communicated to all relevant parties and reviewed annually. Please refer to related documents for the Fremantle Emergency Management Plan.

Hazard/Injury/Incident Reporting

All managers and workers including contractors are required to complete an incident form if a hazard / injury / incident occurs, and:

- Advise the Business Manager of the incident or injury or hazard

- For recording purposes complete a Hazard/Injury / Incident Report entry in to SHED
- Complete the relevant sections of the form giving details of the incident. The form should be completed even when an injury has not occurred, that is, in the event of a near miss
- Internal reporting of any hazard/injury/incident should occur is separate from reporting of notifiable incidents to Worksafe.

Reporting of Notifiable Incidents

Any serious incidents must be notified immediately to the Business Manager. After becoming aware that any such incident has occurred, it is the Business Manager's responsibility to ensure all details are reported to the Regional management team and have a responsibility to report 'notifiable incidents' to Worksafe by the fastest possible means.

First Aid

Definitions:

First aid is the immediate treatment or care given to a person suffering from an injury or illness until more advanced care is provided or the person recovers.

First Provider is a person who has successfully completed a nationally accredited training course or an equivalent level of training that has given them the competencies required to administer first aid.

LINX work places provide the following:

- Trained First Aid Providers
- The provision of suitable first aid kits within the workplace

It is the Business manager's responsibility to ensure that the contents of all first aid kits are maintained

- The minimum level of training is Provide First Aid
- Refresher training should be undertaken every three years

First Aid Responsibilities:

- Render first aid assistance in the workplace.
- Ensure that they do not administer first aid services beyond their level of training.

A record of any first aid treatment given should be reported to the Business Manager

WHS Training and Induction

Training

LINX is committed to providing appropriate training to ensure workers have the skills and knowledge necessary to fulfil their WHS obligations. WHS training is a fundamental requirement for LINX to achieve a safe workplace. The WHS training needs for LINX will be determined in consultation with managers and workers, as well as through review of the WHS Risk Register, however it can be generally categorised into three kinds:

Generic WHS Training - skills and knowledge which is commonly required, e.g. induction training, WHS risk management training, evacuation procedures.

Risk Specific WHS Training - training required for those persons conducting activities with a specific risk to health and safety or a verification activity e.g. first aid training, hazardous substances training, manual handling training, confined spaces training, working from heights.

Task Specific WHS Training – skills and licensing which are required depending on the specific hazards and risk, e.g. high risk work licenses such as for driving forklifts, cranes.

Documentation for Training

Training records shall be maintained as evidence of training delivery and assessment of competence.

WHS Induction for Managers and Employees

All new managers and workers are required to be provided with WHS information regarding the workplace as part of their overall Induction. A thorough online WHS induction process will become integrated into the organisation and ensure that they are able to work safely. Until then, there is a paper based induction module.

Managers must ensure a WHS induction is provided on the new team leaders or worker's first day.

Managers must:

- to ensure that all WHS issues are covered
- on completion of the induction, sign the checklist and ensure that the new worker also signs
- file a copy of the induction checklist on the worker's file
- provide the new worker with access to this WHS Management Plan and the WHS Policies and Procedures Manual.

WHS Induction for Contractors

All contractors/visitors should be provided with a Safety Induction prior to entering the LINX premises. All contractors/visitors must sign in and be provided with a copy of the Safety requirements to read, and to then sign, acknowledging that they have read and understood the information.

For contractors (e.g. trade persons) the requirements for induction will depend on the work to be undertaken and the duration of their stay at the workplace. At a minimum, contractors should be advised of emergency procedures and location of facilities. Before commencing works be issued a contractor work Permit

Risk Management

WHS risk management is a systematic process of hazard identification, risk assessment, and risk control with the aim of providing healthy and safe conditions for managers, workers, visitors and contractors at LINX.

Take 3

A take 3 is a personal risk assessment tool to aid in the identification of workplace hazards and their controls. When is a take 3 required?

- Shall be conducted prior to every task not considered a "simple task". If there is doubt whether a task is simple or not a take 3 shall be completed.
- Jobs that are re-occurring through the same shift may have a take 3 completed at the start of the shift, and shall be reviewed when changes occur to the workplace or activity
- When one or more individuals are involved in a task, a take 3 shall be completed by each team member

- Where a take 3 identifies or where a hazard cannot be controlled a JSA shall be completed.

Job Safety Analysis (JSA)

When a JSA is required?

- In the absence of a SWI (e.g. non routine or one of task)
- When prompted by risk assessment (take 3)
- Tasks that are non-routine or complex in nature
- Introduction of new equipment or processes (trialling a larger spreader)
- If there are changes to the work environment
- If there are a large number of jobs taking place in a small work area
- Where work has deviated from the scope of a SWI

Should include:

- Supervisor for the workgroup
- Employees involved in the task
- Specialist where required
- Approval
- Operations managers are required to approve residual risks that are High or very high
- Shift Managers are required to approve residual risks Medium or low
- Supervisors should confirm all controls are in place in the field prior to approving a JSA.

Safe Work Instructions (SWI)

- When a SWI is required?
- For complicated tasks, to avoid steps getting missed frequently performed tasks.
- When development:
 - SWI's should be created in consultation with workgroups
 - SWI's should be developed utilising the JSA's previously completed for the work task
 - HSE should review work practice and provide suggestions on improvements where possible
- Approval
- Operational managers should sign off on the final approved work practice

Team Based Risk Assessment (TBRA)

When Shall a TBRA be completed?

- Introduction of new equipment or processes (new crane)
- When developing a process to be utilised at a national level

Who should be involved?

- Subject Matter Experts

- All personnel with involvement e.g. Maintenance, operational, finance and commercial personnel.
- HSE team
- National representatives (if applicable)

Hazard

A hazard is a potential harm in the workplace to people, plant or the environment. This could be task related, or involve equipment, or the environment, or hazardous chemicals. A hazard can be:

- A substance
- Part of a machine
- Uncontrolled energy
- A work environment or situation

It is essential before, during and after the task to be observant of any possible changing circumstances in the task or area which may introduce new hazards this may include but not be limited to:

- Weather
- Types of tools used
- Changes to activities adjacent to but not directly related to the repairs
- Fatigue
- Experience of the work force
- Production demands

If at any time before or during the task there is any doubt concerning the effectiveness or application of any hazard control, work must stop immediately and appropriate actions are to be taken.

Safety Engagement

A safety Engagement is a face-to-face discussion about behaviour, between people doing the work and a leader. They focus on recognising and reinforcing safer behaviours and getting commitments to change any at-risk or undesired behaviours. They allow Leaders to take immediate action if an unsafe situation is observed, or even if something does not look right. Information is Recorded for further analysis and learning.

WHS Record Keeping

The Business Manager should retain all WHS and workers compensation documents. These documents are required to be filed for 30 years in safe storage accessible only to authorised personnel in accordance with the Privacy Amendment (Enhancing Privacy Protection) Act 2012 (Cth).

Documents To Be Displayed

- Emergency contacts page
- Emergency Evacuation Plan

PART C: Specific WHS Requirements

Inappropriate Behaviour

Bullying, harassment, discrimination and violence of any form will not be tolerated at LINX work places. LINX undertakes to investigate all complaints formally made. LINX will take action to resolve the complaint. If the complaint is found to be valid, Will be dealt with in line with LINX HR policy

Manual Handling

Manual handling is any task that requires you to push, pull, lift, carry, move, hold or lower any object, person or animal. Manual tasks include tasks that have repetitive actions, sustained postures and may involve exposure to vibration. The types of injuries related to manual handling include repetitive strain injuries, muscle injuries, tendon and ligament injuries, bone injuries and injuries from falling objects.

Manual handling hazards are managed at LINX by a risk management process in order to prevent or minimise the risk of injuries caused by manual tasks.

The process involves conducting a risk assessment on manual tasks carried out in the workplace, working out how to address any problems, choosing and implementing appropriate solutions, and following up to check that the solutions work.

Examples of manual handling include:

- lifting and moving equipment
- general repairs

Preventing Manual Handling Injuries

- Decide what changes can be made to reduce the risks of injury. If possible, select permanent changes (such as workplace layout, tools and equipment)
- avoid double handling of items
- provide mechanical aids (hoists)
- identify changes that are possible immediately, and those that may take time to implement
- Document your risk control decisions for each task assessed, and set timelines for changes
- Trial the changes in consultation with workers before making them permanent
- provide training if new equipment is introduced.

Personal Protective Equipment

Personal Protective Equipment (PPE) may be required to protect managers and workers during general, specific and hazardous tasks. PPE is the least effective way to control risk and is always the last resort to protect workers. PPE are to be identified in specific work instructions, it is the employee and managers responsibility to ensure PPE is worn at appropriate times.

Slips Trips and Falls

Slips, trips and falls are one of the major types of accidents in workplaces and may be due to poor housekeeping practices such as water or oil spilt. Material placed untidily or using walkways for storage can

also be a cause of these types of incidents. When assessing the potential for slips, trips and falls, make sure you look at out of sight areas such as stairways and workshops.

Prevention

Reduce the risk of injury by following these guidelines:

- avoid walking on slippery floors
- keep floors free of water and grease
- clean floors regularly
- use non-slip footwear
- clean up spills immediately

Drugs and Alcohol

LINX maintains the right to refuse work to any worker or contractor who, in the opinion of management, is in an unfit state to perform their work in a safe manner. In line with the LINX drug and alcohol free work place policy, regular testing will be conducted on all LINX sites.

UV Radiation

Ultraviolet radiation (UV) exposure can cause sunburn, skin and eye damage and skin cancer. UV protective clothing, hats, sunglasses and SPF 30 sunblock will be provided as PPE and are required to be worn for outdoor tasks.

Vehicles

Licenses

Managers and workers who are required to drive a vehicle on work related business must hold a current valid driver's license of the appropriate class and notify the Business Manager if the license is suspended or revoked. A copy of the current driver's license must be provided to the Business Manager or their delegate to be retained on file.

Mobile Phones

The use of a hand-held mobile telephone while driving is a safety risk and is against the law. Managers and workers are not to use a hand-held mobile telephone while driving a motor vehicle or other motorised equipment and are not permitted to use mobile electronic devices in operational areas.

Seat Belts

It is a legal and LINX requirement that seat belts are worn at all times in a moving vehicle. The driver is responsible for ensuring that all passengers wear a seat belt when the vehicle is in motion on a public road or in a LINX controlled workplace.

Working Alone

The risk of injury or harm for people who work alone may be increased because of difficulty contacting emergency services when they are required. Emergency situations may arise because of the sudden onset of a medical condition, accidental work-related injury or disease, attack by an animal, exposure to the elements, or by becoming stranded without food or water.

The consequences of an incident arising when working alone may be very serious so LINX managers and workers shall implement the following for each alone work task:

- a telephone call to home base on arrival and departure at a remote work site
- development and approval of trip itineraries for extended trips and adherence to the itinerary
- pre-trip agreement on departure and arrival times and accommodation arrangements
- for travel in remote areas an emergency location beacon should be carried in the vehicle
- pre-arranged mobile/satellite phone calls at scheduled times
- appropriate first aid kit
- Sufficient water for emergency purposes.

Related Documents

Document
Fremantle Emergency management Plan – FRE-PL-004
Fremantle Environmental Management Plan – FRE-PL-006
Fremantle Traffic Management Plan – FRE-PL-010
LINX Health and Safety Policy
LINX Environmental Policy

**KWINANA BULK JETTY – RISK REDUCTION MEASURES – SILICA SAND EXPORT TRIAL
7 DECEMBER 2016**



Truck Hopper with light communication system installed to avoid trucks overfilling hopper



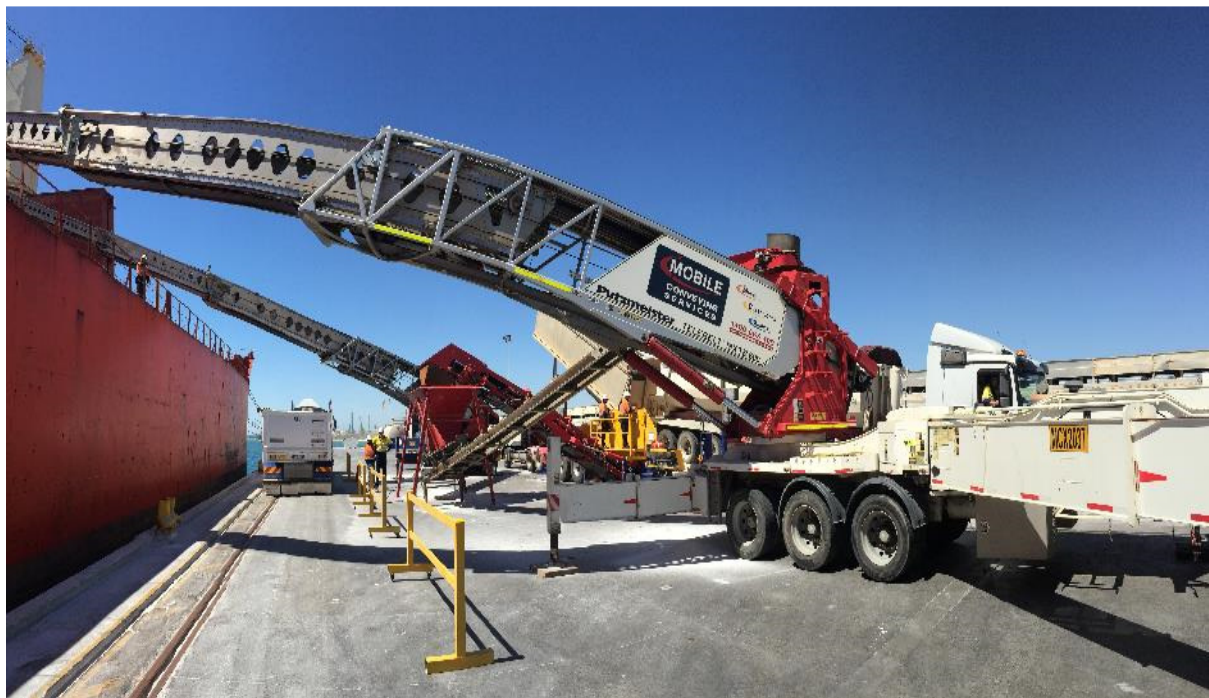
Truck Hopper installed with extended side guarding to reduce spillage and improve containment



Hopper chute modified to place material in a heaped central piled, rather than a wide formation, in to reduce spillage off belt



Conveyor belt changed from Chevron formation to flatter type to allow brush scrappers to be installed which eliminates carry back of material generating dust and spillage



Conveyor wind guards and sleeves on out loading conveyor arm reducing dust emissions



Shroud placed on the end of ship loader to reduce spillage and dust emissions