



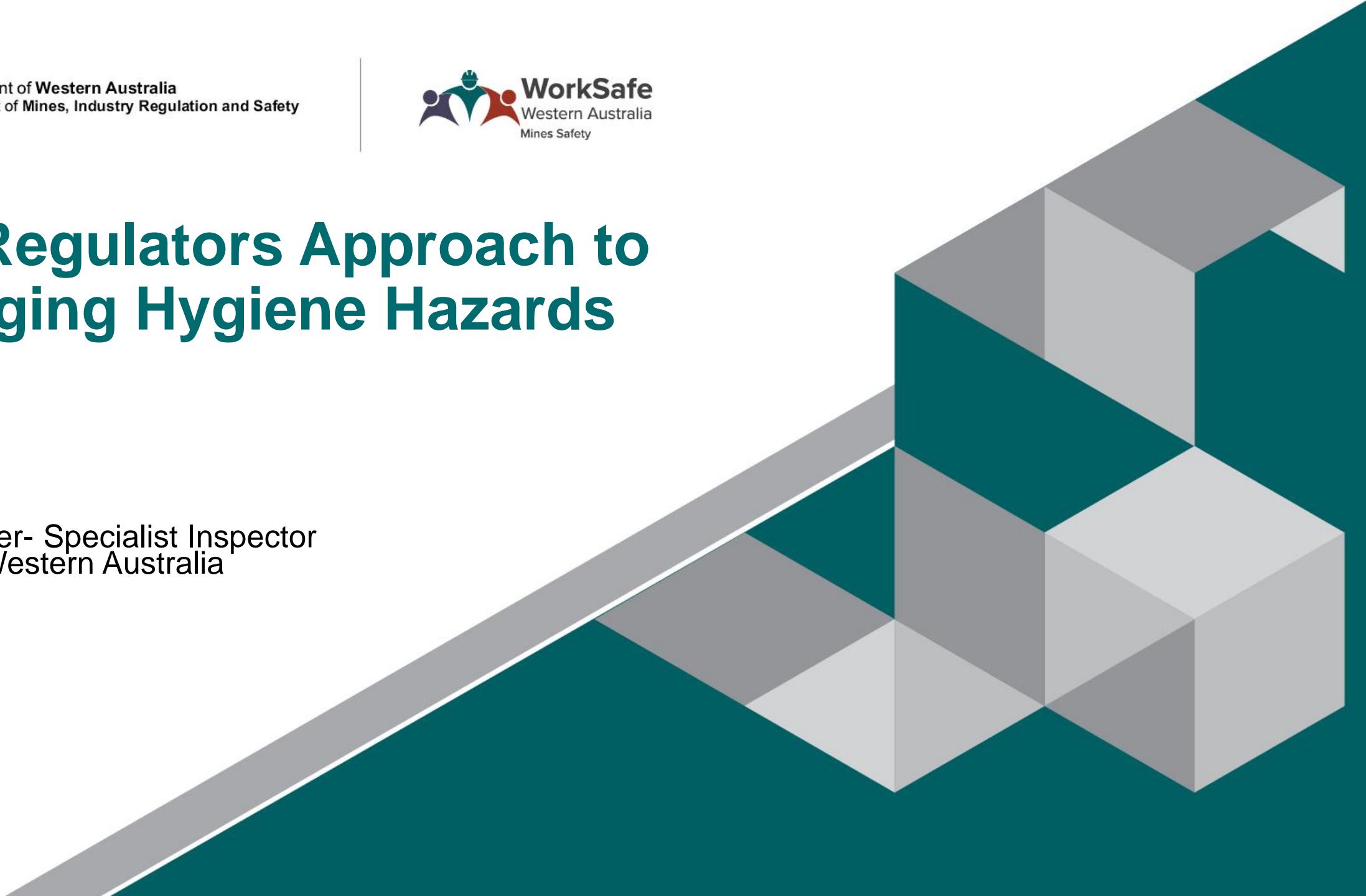
Government of Western Australia
Department of Mines, Industry Regulation and Safety



One Regulators Approach to Managing Hygiene Hazards

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Team Leader- Specialist Inspector
of Mines- Western Australia



The Western Australian Mine Industry

- In 2022 adopt WHS Model style Regs
 - WHS Act 2020
 - WHS (mines) Regs 2022
- Commodities include
 - Iron ore
 - Aluminium
 - Coal
 - Nickel
 - Copper-Lead-Zinc
 - Gold
 - Manganese
 - Rare earths
 - Mineral sands
 - Uranium
 - Tin-Tantalum-Lithium
 - Construction materials
 - Diamonds
 - Salt
 - Talc
- Jan 2020 (pre-Covid)
 - ~500 mine operations
 - ~100,000 onsite mine workers
- March 2022
 - ~627 mine operations
 - ~160,000 onsite mine workers
 - (industry wants another 24,000)

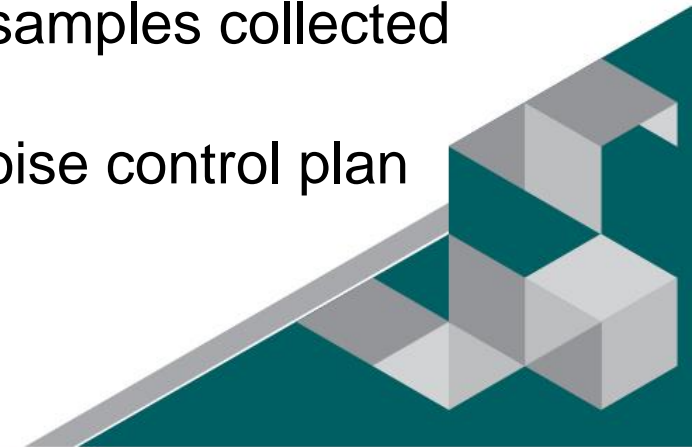


Evolution of hygiene management in WA mines

1970's and 1980's	Early 80's	2010's	2017	2022>
Inspectors conducted 'spot' sampling to determine compliance	<p>Based on site knowledge inspector issued a sample "quota" for testing.</p> <ul style="list-style-type: none"> Sample results required submission to inspectorate via "CONTAM" database Formalised requirements for "samplers" and "sampling methodology" to improve sample integrity Standardised job descriptions and location codes introduced Sample quota numbers evolved to be more statistically based 	<p>Risk based hygiene management plan required.</p> <ul style="list-style-type: none"> Statistical based sampling with adjustments permitted based on risk Still predominately a sampling plan All samples results directly submitted electronically into database 	<p>Health and Hygiene Management Plans (HHMP) for all minesites introduced. Focus on management of hazards and verification of controls.</p> <p>Industry-Regulator computer interface (SRS) upgraded to include;</p> <ul style="list-style-type: none"> HHMP submission Includes biological samples Sample plan submission with background statistical checking Sample result submission Auto generation of Exceedance and requirement to investigate Auto reminders for outstanding tasks Provides statistics 	<p>HHMP to evolve to HMP requirements in WHS legislation adopted in WA</p> <p>Little change to HMP requirements but now to include all "health" hazards eg heat stress, psychosocial as well as agents such as chemical, dust and noise.</p> <p>Will include ability to submit health monitoring reports</p>

What is expected in an HMP?

- Prepare and Submit Health Management Plan (HMP) that includes
 - Description of the operation
 - Identification of “health” hazards at all stages of operation and the controls
 - Health Risk Assessment (HRA) - may include “investigative” sampling
 - Identify SEG’s
 - Determine verification of control effectiveness strategies eg inspection, test, sampling, audit, audiometry, biological monitoring, medical examination
 - Submit sampling plan based on expectation that sufficient samples collected to include top 20% with 95% confidence
 - Additional plans e.g. Fibrous mineral management plan, Noise control plan

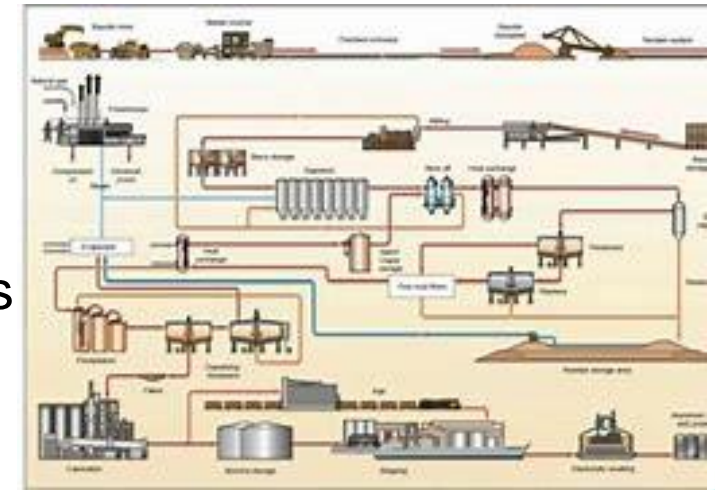


What is expected in an HMP (1)



Description of operation

- Principal function e.g. exploration, quarry, process plant
- Status of operation e.g. new, reopening of suspended activities, expansion of existing facilities, continuation of normal operations
- Location, activities at site (a schematic flowchart may assist), techniques and controls, size of operation
- Basic geology e.g. principle mineral(s), contaminants in ore and waste, likelihood of harmful or flammable gases, chemically unstable minerals
- Process chemicals used or created. Temperature and pressure of processing



What is expected in an HMP (2)



- Identify Hazards during
 - Exploration
 - Mining
 - Processing and stockpiling
 - Ancillary/Support Services
- Identify the engineering, administrative and PPE controls
- Document hazards and controls



What is expected in an HMP (3)



Assess Risk

- Define parameters used to assess risk and risk acceptability
- Can use corporate method or AS/ISO 31000
 - Must be appropriate for size, scope and nature of operation
- Determine Similar Exposure Groups (SEGs)
 - Not employer groups or individual task groups- don't get too granular
- Risk Assess each SEG for the hazards
- Document in the Health Risk Assessment (HRA) with controls in place for inclusion in submission

			CONSEQUENCE				
			Probably not Carcinogenic to humans (IARC-Cat4) or causes minor irritation	Not classifiable as Carcinogenic to humans (IARC-Cat3) or causes irritation, headache, nausea, shortness of breath, erythema Temporary Hearing Loss (Threshold Shift)	Possibly Carcinogenic to humans (Cat2b) or causes temporary incapacitation, or dermatitis, dizziness, poor coordination Permanent hearing loss/impairment	Probably Carcinogenic to humans (Cat2a) Permanent incapacitation/ sensitisation, liver or kidney damage. Significant Permanent hearing loss/impairment	Carcinogenic to humans (Cat1) Reproductive effects, Death, Deafness
			Insignificant	Minor	Moderate	Major	Catastrophic
Likelihood/ Exposure	Always <10% of OEL	Very unlikely to occur	Low	low	Low	medium	medium
	Consistently <50% of OEL and 0% of all samples above OEL	Unlikely to occur	low	low	medium	medium	high
	Consistently <50% of OEL and <5% of all samples above OEL	Possibly could occur	low	medium	medium	high	Unacceptable
	Consistently 50-100% of OEL or >5% of all samples above OEL	Probably will occur	medium	high	high	Unacceptable	Unacceptable
	Consistently >100% of OEL	Almost Certain to occur	medium	High	Unacceptable	Unacceptable	Unacceptable

What is expected in an HMP (4)



Verify the effectiveness of controls

- Determine verification of control effectiveness strategies eg inspection, test, sampling, audit, audiometry, biological monitoring, medical examination
- Submit sampling plan based on expectation that sufficient samples collected to include top 20% of exposures with 95% confidence
 - Regular and representative sampling
 - Mines are dynamic processes therefore “past performance no guarantee of future outcomes”

Size of group (N)	<6	7-8	9-11	12-14	15-18	19-26	27-43	44-50	>51
Minimum # of measured employees (n)	n=N	6	7	8	9	10	11	12	14

- Include Additional plans e.g. Fibrous mineral management plan, Noise control plan
- Submit results to DMIRS via SRS
- Conduct (Statistical) analysis of results
- Present overview in annual report(s)

What is expected in an HMP (5)



Improvements

- Confirm and document controls that are effective
- Identify what additional controls are required
- Conduct exceedance investigation and report to Regulator in timely manner
 - No different to an incident or accident
- Summarise and present in annual report(s)



HMP Submission screen- SRS

Home

SRS

Alerts (13)

Tasks (1)

Drafts

Recent Activity

Favourites

28/02/2019 11:10:59 AM	HHMP-000085-N01	'HHMP-000085-N01' for SRS TESTING PRODUCTION - EXPLN & MINING v2 - Test Exploration Site LIGN is under assessment.
26/02/2019 7:41:35 PM	HHMP-000084	'HHMP-000084' for 'SRS TESTING PRODUCTION - EXPLN & MINING v2 - SRS Production Operations' has been Suspended.
26/02/2019 7:36:09 PM	HHMP-000083-R01	'HHMP-000083-R01' for SRS TESTING PRODUCTION - EXPLN & MINING v2 - SRS Production Operations has been Declined.
26/02/2019 7:31:52 PM	HHMP-000083-R01	'HHMP-000083-R01' for SRS TESTING PRODUCTION - EXPLN & MINING v2 - SRS Production Operations is under assessment.
26/02/2019 6:51:29 PM	CSA-168-411071	Exceedance Investigation Details and Contributory Factor(s) Action Plan Required

[View All Alerts...](#)

Quick Search

Reference ID:

Go

Approvals

This is an approvals module for online submission, assessment and tracking of Dredge submissions, High Voltage Installation submissions, Health and Hygiene Management Plans, Project Management Plans, Radiation Management Plans, Shaft Sinking submissions and Winding System submissions.

Continue

Compliance

This is a compliance system for the management of audits, inspections, notices, defects and other matters for action.

Continue

Health and Hygiene

This is the system for the lodgement of health and hygiene sampling data. Sample lodgement can be done via bulk upload or submission of individual samples. Exceedance actions are managed through this system. The active Health and Hygiene Management Plans can also be viewed.

Continue

Licensing, Certifications and Registrations

This is the system to view, apply for and manage your licences, registrations and certifications.

Continue

Notifications

This is a notifications system where a notification may include an accident, incident, injury, appointment, election, monthly status report, occurrence or noise report.

Continue

I would like to:

Go to my Summary page

Continue

I would like to:

Go to my Summary page

Continue

- Submission of a New HHMP
- Submission of Revision HHMP

- Submission of Sample Data
- Administration of active HHMPs

Submission of a NEW or Revision HMP

Summary

Approvals

Actions

Management Plans

13 New Alert(s)

My Tasks

☒ All ☐ I am an Assignee ☐ I am Responsible ☐ I am the Owner

0 Tasks

Reference ID	Regarding	Title	Responsible Assignee	Due Date	Task Created	Done
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Page 0 of 0 5 View 0 - 0 of 0

New

Incomplete Approvals

☒ All ☐ Dredge ☐ Health and Hygiene Management Plan ☐ High Voltage Installation ☐ Project Management Plan ☐ Radiation Management Plan ☐ Shaft Sinking ☐ Winding System

Incomplete Approvals

Reference ID	Employer/Company	Area	Name of Mine	Operation Name	Document Title	Submit
--------------	------------------	------	--------------	----------------	----------------	--------

< >

Page 0 of 0 10 No records to view

Submitted Approvals

☒ All ☐ Dredge ☐ Health and Hygiene Management Plan ☐ High Voltage Installation ☐ Project Management Plan ☐ Radiation Management Plan ☐ Shaft Sinking ☐ Winding System

Submitted Approvals

Reference ID	Employer/Company	Area	Name of Mine	Operation Name	Document Title	Submission Type
--------------	------------------	------	--------------	----------------	----------------	-----------------

New Submission

Please select the area:

☒ Mining
☐ Exploration

Please select the submission:

Health and Hygiene Management Plan

Please select a type:

☐ New
☐ Revision This will only be visible if you have an active HHMP

Continue

HMP Wizard- Entire Site details- or auto fills

Health and Hygiene Management Plan - New | Area: Mining

Approvals ☆

REFERENCE ID: HHMP-000093-N01 | Status: Incomplete

📁

🔄

✖

📄

1. Applicant and Company ⚠

2. Documentation 🔒

3. Import / Export Sampling Plan 🔒

4. Sampling Plan 🔒

5. Other Information 🔒

6. Review ⚠

7. Submit 🔒

Related Communication

History

1. Applicant and Company

Company *

Company *

Combined Operation *

Site / Operation *

Clear

Add

Add All

Actions

Site / Operation

Contact Persons *

Please select *

Contact for

Clear

Add

Contact Persons

HMP Wizard- Attach Documents

Health and Hygiene Management Plan - New | Area: Mining

Approvals ☆

REFERENCE ID: HHMP-000093-N01 | Status: Incomplete

O Company code – Name and SG code and -

1. Applicant and Company

2. Documentation

3. Import / Export Sampling Plan

4. Sampling Plan

5. Other Information

6. Review

7. Submit

Related Communication

History

2. Documentation

Upload the following mandatory documentation:

▲ Health Risk Assessment (HRA) *

▲ Health and Hygiene Management Plan (HHMP) *

The following optional documentation may also be uploaded:

e.g. Asbestos Management Plan, Diesel Particulate Management Plan, Dust Control/Management Plan, Health Surveillance Report(s), Hearing Conservation Program, Noise Control Plan (NCP), Noise Report (NR), Respirator Program, Other

Attach Files

Previous





Next








Documentation Hints:

- Red triangles indicate incomplete fields – Mandatory information has not been provided.
- Current Noise Reports and Noise Control Plans **MUST** be submitted at submission of the first Annual Review, however if due for a new noise report in the next few years, consider attaching the current one, as it may be requested by the reviewing inspector.

HMP Wizard- Any other Information added

Health and Hygiene Management Plan - New | Area: Mining
REFERENCE ID: HHMP-000093-N01 | Status: Incomplete



1.	Applicant and Company	
2.	Documentation	
3.	Import / Export Sampling Plan	
4.	Sampling Plan	
5.	Other Information	
6.	Review	
7.	Submit	




Related Communication




History





5. Other Information


Paragraph

B*I*













Attach Files

- This is a free-text field for use of any information that you wish to link to this HHMP submission.

HMP Wizard- Error checking and submit

Health and Hygiene Management Plan | Area: Mining
REFERENCE ID: HHMP-000055-N01 | Status: Incomplete



6. Submit

1.	Applicant and Company	✓
2.	Documentation	✓
3.	Import / Export Sampling Plan	✓
4.	Sampling Plan	✓
5.	Review	✓
6.	Submit	⚠

Submit

Related Communication

History

- An inspector will receive a task to review and advice may be provided for improvement, if necessary.
- Upon acknowledgement it is deemed compliant
- Valid for five years or until change in risk profile

Health and Hygiene Management Plan | Area: Mining
REFERENCE ID: HHMP-000055-N01 | Status: Under Assessment

Thank you. HHMP-000055-N01 successfully submitted.

The outcome of the review will be provided electronically. If you do not consent to being provided an electronic copy, please contact the Department.

OK

HMP Sampling Plan

Health and Hygiene Management Plan | Area: Mining
REFERENCE ID: HHMP-000016 | Status: Active

001923 -

Approvals

HHMP-000016 (Revision: Original)
Sampling Plan Year 1

View Sampling Plan Year

1 2 3 4 5

Oct - Dec (2018) to Jul - Sep (2019)

Risk Rating: **Extreme**

Print Expand All Collapse All

EMU SEG 1 - Crushing Plant Occupations | Number of Workers: 7 ✓

Risk Rating: **Medium**

EMU SEG 10 - Exploration Coreshed | Number of Workers: 15 ✓

EMU SEG 2 - Processing Plant Occupations | Number of Workers: 12 ✓

Risk Rating: **Medium**

EMU SEG 3 - Gold Room Operator | Number of Workers: 4 ✓

Risk Rating: **Extreme**

Atmospheric

Agent	Exp Type	Oct - Dec (2018)			Jan - Mar (2019)			Apr - Jun (2019)			Jul - Sep (2019)			Total			As Required	Risk Rating
		Planned	Valid	Exceedances	Planned	Valid	Exceedances	Planned	Valid	Exceedances	Planned	Valid	Exceedances	Planned	Valid	Exceedances		
✓ AS - Arsenic	TWA	1	0	0	2	0	0	1	0	0	2	0	0	6	0	0		Medium
✓ PB - Lead (excluding as chromate)	TWA	1	0	0	2	0	0	1	0	0	2	0	0	6	0	0		Medium
✓ HG - Mercury	TWA	1	0	0	2	0	0	1	0	0	2	0	0	6	0	0		Medium

Biological

Agent	Gender	Oct - Dec (2018)			Jan - Mar (2019)			Apr - Jun (2019)			Jul - Sep (2019)			Total			As Required	Risk Rating
		Planned	Valid	Exceedances	Planned	Valid	Exceedances	Planned	Valid	Exceedances	Planned	Valid	Exceedances	Planned	Valid	Exceedances		
✓ As-In_bio (Urine) - Arsenic (inorganic)	Male	6*	3	1	0	0	0	6	0	0	0	0	0	12	3	1		Extreme
✓ As-In_bio (Urine) - Arsenic (inorganic)	Female	6*	3	0	0	0	0	6	0	0	0	0	0	12	3	0		High
✓ Hg_bio (Urine) - Mercury	Female	6*	4	0	0	0	0	6	0	0	0	0	0	12	4	0		Medium
✓ Hg_bio (Urine) - Mercury	Male	6*	2	0	0	0	0	6	0	0	0	0	0	12	2	0		Medium

* Indicates planned number of samples for the agent is the total of both genders

Annual Review – A Brief report

- **What is an annual report?**
 - A mandatory document that is submitted with each annual review.
- **What is included in the report?**
 - Details of areas that require further efforts to reduce exposures and to control risks.
 - Reasons for not meeting the number of samples that were committed to in the initial HHMP submission
 - Justification for variations to future sample numbers.
 - Reasons for any alterations to the number and frequency of health assessments and audiometric tests.
 - Details of changes to controls, including proposed controls.
 - Any other matters relating to a sites commitment to effectively manage health hazards.
 - Achievements, initiatives

How to submit samples



How Samples Are Submitted

- All samples are submitted electronically
- Only samples collected by “registered samplers” accepted
- Only approved methods accepted
- QC in system ensures all required fields included
- Encourage all samples to be submitted as the data forms basis of actions (or inactions)

The image displays a screenshot of a government website for applying for registration as a hygiene sampler, alongside a physical registration form.

Website Screenshot:

- Navigation Bar:** Home, Minerals & Mining, Petroleum, Dangerous Goods, Geological Survey, Environment, **Safety**, Investor Information, Community & Education, About Us & Careers.
- Breadcrumb:** Home > Safety > Legislation and compliance > Applying for registration as a hygiene sampler.
- Page Title:** Applying for registration as a hygiene sampler.
- Links:** Who can apply for registration?, Required information, Lodging the application.
- Download:** Hygiene sampler registration form - 1 Mb. This form is required to be registered as a Hygiene sampler form.
- Who can apply for registration?**
 - To be registered as a hygiene sampler, a person must provide proof of qualification as a surf been undertaken, a person may apply citing their relevant qualification or experience related.
 - Hygiene registration lasts for five years. Re-registration will only be approved if e:
- Required information:**
 - The completed and signed form must be lodged with a copy of the certificate(s) for:
 - surface ventilation technician
 - or
 - surface ventilation officer
- Lodging the application:** Submit samples via the Safety Regulation System only.

Hygiene Sampler registration form (Physical Form):

- Header:** Government of Western Australia, Department of Mines, Industry Regulation and Safety. 100 Plain Street, EAST PERTH WA 6004. Tel: (08) 9358 8001 (option 2). www.dmps.wa.gov.au, SRSManager@dmps.wa.gov.au.
- Personal Details:**
 - Title: ☐ Mr ☐ Mrs ☐ Ms ☐ Dr Other
 - Surname: _____
 - Date of birth: ____/____/____
 - Qualifications (optional): _____
 - Given names: _____
- Residential Address:** _____
- Phone no.:** _____
- Form to be submitted along with course provider certificate(s) to:** SRSManager@dmps.wa.gov.au
- Postal Address (if different from above):** _____
- Phone no.:** _____
- State:** _____ **Postcode:** _____
- Course details:**
 - Surface ventilation technician
 - Course date: ____/____/____
 - Certificate of competency no.: _____
 - Surface ventilation officer
 - Course date: ____/____/____
 - Certificate of competency no.: _____
- Signature:** _____ **Date:** ____/____/____

Step 1: Select “new” Sample

Summary

Health and Hygiene Sampling

0 New Alert(s)

Individual Samples

Sampling Regime

Exceedance Actions

▲ My Tasks

☒ All ☐ I am an Assignee ☐ I am Responsible ☐ I am the Owner

0 Tasks

	Reference ID	Regarding	Title	Responsible Assignee	Due Date	Task Created	Done
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Page 0 of 0 » 5 ▼ View 0 - 0 of 0

New

▲ Individual Samples

☐ All ☐ Atmospheric ☒ Biological ☐ Noise
☐ All ☐ Incomplete ☒ Industry Response Required ☐ Under Assessment ☐ Accepted

Samples

	Reference ID	Company	Site / Operation	Person	Lodged	Status
--	--------------	---------	------------------	--------	--------	--------

Step 2: Select Sample Type

New Sample

Health and Hygiene Sampling

Select the Business Area:

☒ Mining

Select the Sampling Method:

☒ Atmospheric
☐ Biological
☐ Noise

Continue

Step 3: Enter Company and Site Details

Status: Incomplete

1. Reporting Details

* Denotes Mandatory

Sample Coverage

Company*:

Site / Operation*:

Form Completed By

Surname: Edmondson Given Name(s): Vicki ex57776

Position:

Phone: 93588001 Mobile:

Fax: 93588000 Email: vicki.edmondson@dmp.wa.gov.au

Select the Company and Site from the drop down list

This information will be prefilled

Step 4: Enter Sample Details

Atmospheric Sample

Health and Hygiene

REFERENCE ID: CSA-534-382855 | Status: Incomplete

HAMERSLEY IRON PTY. LIMITED | Dampier - Port

1.Reporting Details

2.Sample

3.Results

4.Declaration

5.Investigation

6.Review

7.Submit

Related Communication

Related Item

History

2. Sample

* Denotes Mandatory

Sample Details

Date of Sample*:

Sampled Person Details

Sampled Person*:

Add

Surname:

Given Name(s):

Date Of Birth:

Gender:

Occupation*:

Location*:

Shift Length*: hours

Shift Pattern*: days on days off

Sample Collected By

Name*:

Same as Form Completed By

Add

Surname:

Given Name(s):

Registration No:

Previous

Next

23





Step 5: Enter Sample Details

Atmospheric Sample

Health and Hygiene

REFERENCE ID: CSA-937-021699 | Status: Incomplete

- Open Pit



1.Reporting Details

2.Sample

3.Results

4.Declaration

5.Investigation

6.Review

7.Submit

Related Communication

Related Item

History

3. Results

* Denotes Mandatory

Sampling Equipment

Sampling Equipment*:

DT

Detector tube

Q

Results

Agent Code*:

▼

Add

Clear

	Agent Code	TWA Result	Adjusted ES	STEL Result	STEL ES	PEAK Result	PEAK ES	Unit	Exceeda...

Step 6: Review

4. Review * Denotes Mandatory

Review

Any issues listed below need to be resolved before the Atmospheric Sample can be submitted. Click on the relevant step to correct the details.

Sample ⓘ

- (Error) : Please enter the sample date.
- (Error) : Please select the sampled person.
- (Error) : Shift Length hours cannot be blank
- (Error) : Shift Pattern days on cannot be blank
- (Error) : Shift Pattern days off cannot be blank

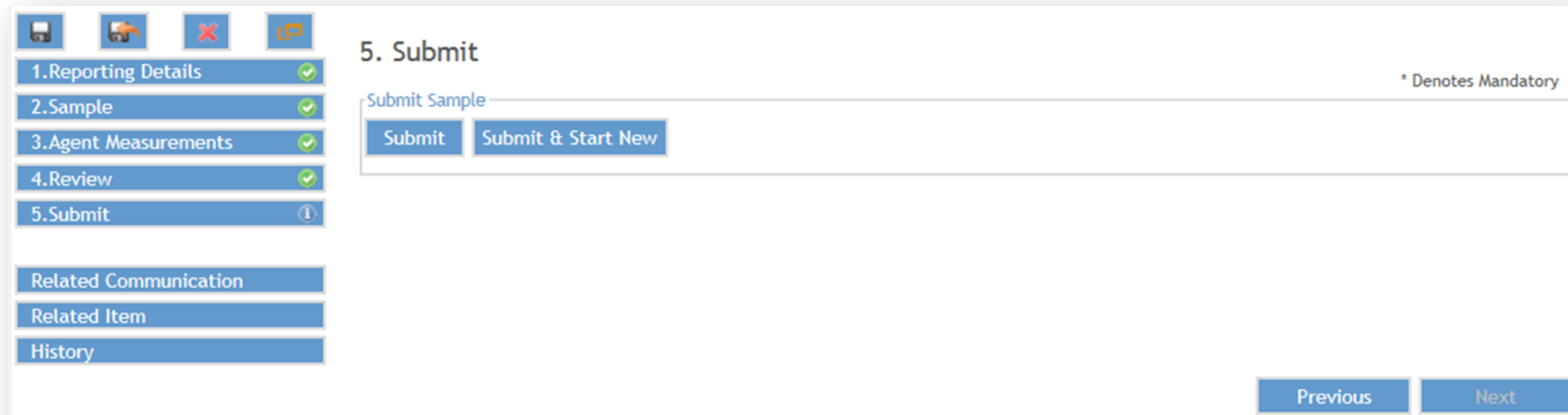
Agent Measurements ⓘ

- (Error) : Please add at least one Agent Measurement.

Previous Next

Any errors will appear here and will need to be fixed before you are able to 'submit'

Step 7: Submit



The screenshot shows a software interface for the '5. Submit' step. On the left is a vertical sidebar with a list of steps: '1.Reporting Details', '2.Sample', '3.Agent Measurements', '4.Review', and '5.Submit'. Steps 1-4 have green checkmarks, while '5.Submit' has an information icon. Below these are links for 'Related Communication', 'Related Item', and 'History'. The main area is titled '5. Submit' and includes a note '* Denotes Mandatory'. A 'Submit Sample' section contains two buttons: 'Submit' and 'Submit & Start New'. At the bottom right are 'Previous' and 'Next' navigation buttons. The interface has a clean, modern design with blue accents.

5. Submit

* Denotes Mandatory

Submit Sample

Submit Submit & Start New

Previous Next

What is bulk lodgement?

- Bulk lodgement functionality allows sites to submit multiple samples
- Two methods are available –xml and xls
- Includes noise and biological samples in addition to atmospheric samples

Guides, videos and other assistance available



What happens if result exceeds OEL

- A shift adjusted exceedance result triggers
 - A task for the “mine air quality officer /ventilation officer” to complete investigation
 - A notification to inspector(s) that exceedance has occurred.
- If not addressed in timely manner then
 - A task raised for “Senior site Executive/ Mine Manager that investigation is not completed
 - A notification to inspector’s manager that investigations not completed
 - (nobody likes this to occur!)



Exceedance Declaration

- If all “yes” then no further action
 - Task is closed
 - Inspector may verify at next site visit
- If a “no” to any
 - Conduct PEEPO investigation
 - Task remains open
- If “no” to all then expect a site inspection!

Results

Sampling Equipment

Sampling Equipment: IO - IOM head

Results

Agent Code	TWA		STEL		PEAK		Unit	Exceedance?
	Result	Adjusted Exposure Standard	Result	Exposure Standard	Result	Exposure Standard		
INS	62.0000	6.3000					mg/m3	Yes

Declaration

Declaration

I declare that:

- The worker has been provided with suitable and adequate information, training and instruction about the risks and controls associated with airborne contaminants [WHS s. 19(3) and WHS(M)R r. 39] **No**
- The hazard has not been eliminated or controlled by isolation, engineering or administrative controls and the worker was supplied with respiratory protection devices of sufficient rating and type to ensure the exposure is below the relevant exposure standard [WHS(M)R rr. 36 and 44(3)] **Yes**
- The worker was provided with respiratory protection devices of a suitable size and fit that are reasonably comfortable for the person to wear, and appropriate information, training and instruction [WHS(M)R rr. 44(3) and 44(4)] **Yes**
- The worker is subject to an ongoing health monitoring program [WHS(M)R rr. 368 and 675F] **No**
- A health management plan inclusive of airborne contaminants and controls, has been prepared and implemented [WHS(M)R r. 675EA] **Yes**

Please Note” An Inspector may request evidence to confirm the above declarations. Providing false or misleading information that hinders or obstructs an inspector to exercise compliance powers is a breach of WHS s188

Please refer to

- Work Health & Safety Act 2020
- Work Health & Safety Regulations 2022

PEEPO Investigation to find the cause of the over-exposure

- Intentionally only room for a sentence or two
 - Find the root cause
 - *“if you cant explain it simply then you probably don’t understand the problem”- Albert Einstein*
- If no or minimal controls in place and exposure was expected then a site visit likely from inspector

5. Investigation

* Denotes Mandatory

☐ Please tick to provide investigation details later.

Sample Context

What activities were being conducted including influence from others? (People)*:

What environmental factors could have influenced exposure? (Environment)*:

Were engineering controls in place and did they operate as expected? (Equipment)*:

Were control procedures in place and followed completely? (Process)*:

What organisational factors may have contributed (rosters, manning levels, culture/attitudes, history of similar events)? (Organisation)*:

Was the exposure expected?*: ☐ Yes ☐ No

Personal Protective Equipment (PPE)

What PPE was being correctly worn?*:

Example of Investigation

- Short description of contributing factors
- Action plan addresses the root cause
- Option to add action plans, training material and records, photos or other documents to support that matter has been properly investigated and appropriate actions taken.

▲ Investigation

☐ Please tick to provide investigation details later.

Sample Context

What activities were being conducted including influence from others? (People)*:

Drillers offsider cleaning cyclone and tating samples

What environmental factors could have influenced exposure? (Environment)*:

Open Pit RC drilling enviroment

Were engineering controls in place and did they operate as expected? (Equipment)*:

Nil

Were control procedures in place and followed completely? (Process)*:

Procedure in place correct PPE not being worn

What organisational factors may have contributed (rosters, manning levels, culture/attitudes, history of similar events)? (Organisation)*:

No organisational factors contributed

Was the exposure expected?*

No


Personal Protective Equipment (PPE)

What PPE was being correctly worn?*: None Worn

Factor Analysis and Action Plan

Exceedance Actions

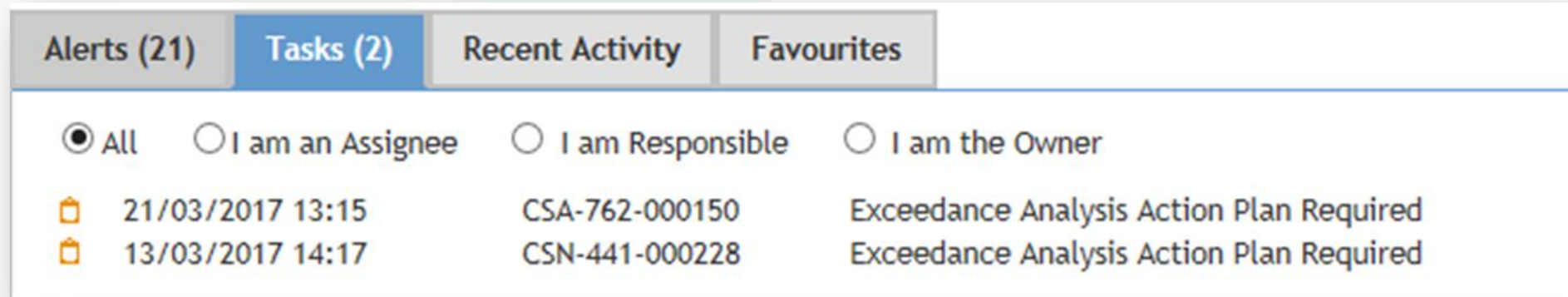
Reference ID	Contributory Factor	Proposed Action	Due Date	Completed Date	Person Responsible	Status	Related To
CF-828-92157	PPE not worn at time of exposure and dust control not evident	Re-enforce the need to wear appropriate PPE and arrange fit testing	30/09/2018		Zane Padman	Open	CSA-320-393695



 Dust Management Plan Fortnum.xlsx (11.54 KB)

▲ Other Information

Other Information

Alerts and tasks



Alerts (21)	Tasks (2)	Recent Activity	Favourites
<input checked="" type="radio"/> All <input type="radio"/> I am an Assignee <input type="radio"/> I am Responsible <input type="radio"/> I am the Owner			
	21/03/2017 13:15	CSA-762-000150	Exceedance Analysis Action Plan Required
	13/03/2017 14:17	CSN-441-000228	Exceedance Analysis Action Plan Required

- An exceedance generates the task notification in SRS
- Can see all tasks for the site or just those for your team (I am an assignee), for you (I am responsible) or the manager (I am the owner)

Data & Information in SRS



Reports available

- A range of compliance status reports are available eg.
 - Open notices
 - Open exceedance actions
 - Open tasks
 - Open incident reports
 - Current Approvals
- Can do safety performance comparison
- What Industry sees is same as inspectorate
 - This is a tool used when planning inspection focus

SRS

EXTERNAL USER TEST

HomeMy ProfileBusiness IntelligenceAdministration

Industry InformationBusiness Intelligence

Information

This includes SRS data up until Tuesday 10/12/2019 at 12:32 AM

Business Intelligence Reports

Reports for Industry Information

Report Name	Description		
Approvals	Approvals Reporting for Industry Users - Details	Report Help	Run Report
Comparative Performance	Performance Reporting for Industry Users - Charts	Report Help	Run Report
Completed Audits and Inspections	Completed Audits and Inspections Reporting for Industry Users - Details	Report Help	Run Report
Issued Site Visit Records	Issued Site Visit Details Reporting for Industry Users - Details	Report Help	Run Report
Monthly Status Reports	Monthly Status Reporting for Industry Users - Details	Report Help	Run Report
Open Defects	Open Defects Reporting for Industry Users - Details	Report Help	Run Report
Open Exceedance Actions	Open Exceedance Actions Reporting for Industry Users - Details	Report Help	Run Report
Open Improvement Notices	Open Improvement Notices Reporting for Industry Users - Details	Report Help	Run Report
Open Other Matters for Action	Open Other Matters for Action Reporting for Industry Users - Details	Report Help	Run Report
Open Prohibition Notices	Open Prohibition Notices Reporting for Industry Users - Details	Report Help	Run Report
Open Tasks	Open Tasks Reporting for Industry Users - Details	Report Help	Run Report
Open Tasks and Exceedance Actions	Open Tasks and Exceedance Actions for Industry Users - Charts	Report Help	Run Report
Outcomes	Notices, Other Matters for Action, Approvals and Defects outcomes for Industry Users - Charts	Report Help	Run Report
Submitted Incidents	Submitted Incident Details Reporting for Industry Users - Details	Report Help	Run Report
Submitted Injuries	Submitted Injury Details Reporting for Industry Users - Details	Report Help	Run Report
Timeliness	Improvement Notices, Other matters for actions, Approvals and Defects resolution timeliness for Industry Users - Charts	Report Help	Run Report
Workforce Summary	Average Employees and Contractors Summary for Industry Users - Charts	Report Help	Run Report

Page 1 of 120

View 1 - 17 of 17 results

Example of Site Summary Status

HEALTH AND HYGIENE MANAGEMENT PLAN (HHMP001)

Area: Mining

Approvals

Status: Active

Sampling Plan Year 1

Apr - Jun (2018) to Jan - Mar (2019)

Risk Rating: High

View Sampling Plan Year: 1 2 3 4 5

Export Sampling Plan to Excel

Print

> Expand All

KC001a - Open Cut - Drillers | Number of Workers: 35

Risk Rating: High

Atmospheric

Atmospheric Agent	Exp Type	Planned	Apr - Jun (2018) Valid	Exceedances	Planned	Jul - Sep (2018) Valid	Exceedances	Planned	Oct - Dec (2018) Valid	Exceedances	Planned	Jan - Mar (2019) Valid	Exceedances	Planned	Total Valid	Exceedances	As Required	Risk Rating	
INH - Inhalable dust	TWA	4	4	4	4	4	4	4	4	4	3	3	0	15	15	12		High	
RES - Respirable dust	TWA	4	4	4	4	4	4	4	4	4	3	3	0	15	15	12		High	
DP - Diesel particulate	TWA	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	Yes	Low	
CO2 - Carbon dioxide	TWA	1*	1	0	0	0	0	0	1*	1	0	0	0	2*	2	0		Low	
CO2 - Carbon dioxide	STEL	1*	1	0	0	0	0	0	1*	1	0	0	0	2*	2	0			
HCL - Hydrogen chloride	PEAK	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	Yes		

* Indicates planned number of samples for the agent is the total of both exposure types

Biological

Biological Agent	Gender	Planned	Apr - Jun (2018) Valid	Exceedances	Planned	Jul - Sep (2018) Valid	Exceedances	Planned	Oct - Dec (2018) Valid	Exceedances	Planned	Jan - Mar (2019) Valid	Exceedances	Planned	Total Valid	Exceedances	As Required	Risk Rating	
Pb_bio (Blood) - Lead	Female	4*	1	0	4*	1	0	4*	1	0	3*	1	0	15*	4	0		Low	
Pb_bio (Blood) - Lead	Male	4*	3	0	4*	3	0	4*	3	0	3*	2	0	15*	11	0		Low	
Hpy_bio (Urine) - 1-hydroxypyrene	Both					2	0								2	0			

* Indicates planned number of samples for the agent is the total of both genders

Health Assessments

	Planned	Total Conducted	New Occupational Diseases	Ongoing Occupational Diseases
Health Assessments	4	4	1	5

Noise

Agent	Planned	Apr - Jun (2018) Valid	Exceedances	Planned	Jul - Sep (2018) Valid	Exceedances	Planned	Oct - Dec (2018) Valid	Exceedances	Planned	Jan - Mar (2019) Valid	Exceedances	Planned	Total Valid	Exceedances	As Required	Risk Rating	
1 LAeq,8h	2	2	2	3	3	3	2	2	2	3	3	3	10	10	10		High	

Audiometric Testing

	Planned	Total Conducted	New Significant Hearing Loss
Audiometric Testing	10	6	1

KC037a - Underground - Diamond Drillers | Number of Workers: 15

Risk Rating: Low

Investigative Samples

Risk Rating: High

Export Sampling Plan to Excel

Print

Example of Statistical Package Information



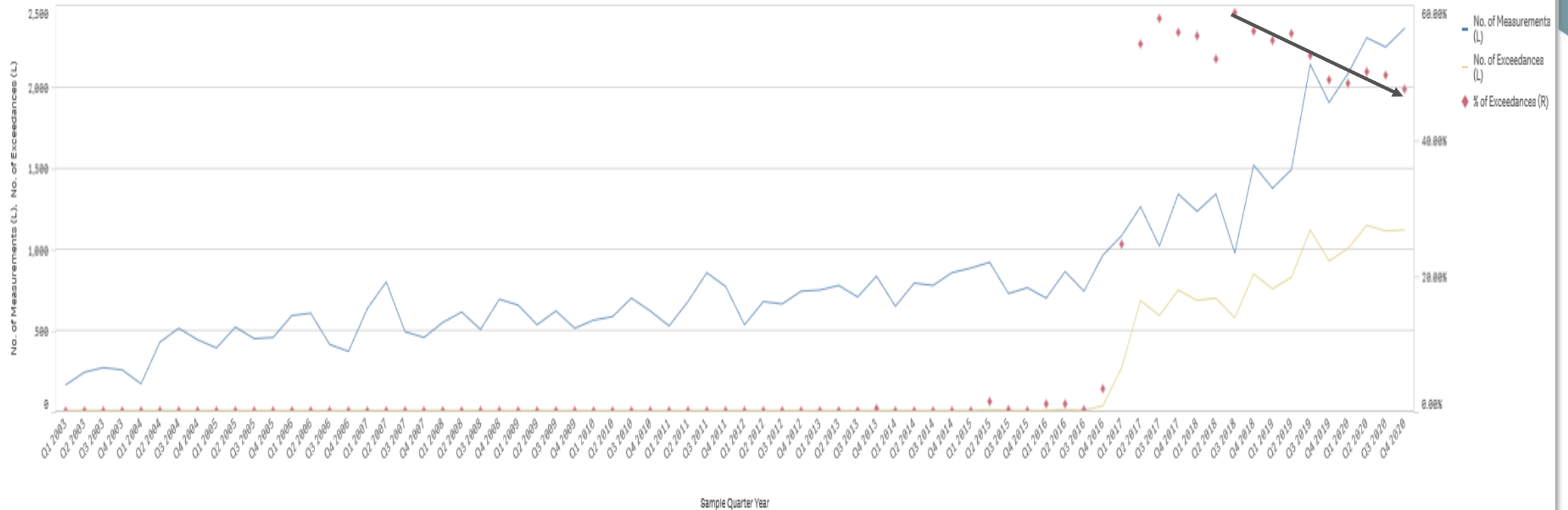
Example of Data that is stored

Sample Date	Company Site Operation	Sample Reference	Sample Status	Occupation	Location	Sampled Person	Date of Birth	Gender	Agent	Exposure Type	Result	Exposure Standard	Adjusted Exposure Standard	Unit of Measur ement	% of ES	Exceedance
30/09/2021		CSA-655-504391	Accepted	931000 Toolstore Attendant	330 Warehouse / Stores		05/03/1993	Male	SIL - Silica, crystallir	TWA	.0050	0.0500	0.0415	mg/m3	12%	No
30/09/2021		CSA-677-504389	Accepted	352000 Grader Driver	230 Haul Road		18/10/1964	Male	SIL - Silica, crystallir	TWA	.0050	0.0500	0.0355	mg/m3	14%	No
30/09/2021		CSA-339-504393	Accepted	146000 Township / Accommodation Occupations	390 Surface General Area Noc 400 Treatment Plant/Ore Processing		07/01/1972	Female	SIL - Silica, crystallir	TWA	.0031	0.0500	0.0335	mg/m3	9%	No
30/09/2021		CSA-532-504385	Accepted	631000 Fitter	411000 Processing Plant Operator		07/03/1983	Male	SIL - Silica, crystallir	TWA	.0034	0.0500	0.0355	mg/m3	10%	No
30/09/2021		CSA-669-504382	Accepted	400000 Ore Treatment Occupations	471 Processing Plant Other 400 Treatment Plant/Ore Processing		13/09/1958	Male	SIL - Silica, crystallir	TWA	.0032	0.0500	0.0415	mg/m3	8%	No
30/09/2021		CSA-358-505192	Accepted	700000 Electrical / Electronic Trades	400 Treatment Plant/Ore Processing		02/02/1972	Male	SIL - Silica, crystallir	TWA	.0100	0.0500	0.0475	mg/m3	21%	No
30/09/2021		CSA-240-505199	Accepted	900000 Material Handling Stores / Warehouse Occupations	400 Treatment Plant/Ore Processing		10/01/1977	Male	SIL - Silica, crystallir	TWA	.0100	0.0500	0.0475	mg/m3	21%	No
30/09/2021		CSA-228-505210	Accepted	221000 Long Hole Drill Operator	300 Surface Work Areas General		10/05/1967	Male	SIL - Silica, crystallir	TWA	.0100	0.0500	0.0415	mg/m3	24%	No
30/09/2021		CSA-554-501825	Accepted	420000 Mobile Plant Occupations	100 Underground Workplaces		05/01/1987	Male	SIL - Silica, crystallir	TWA	.0210	0.0500	0.0415	mg/m3	51%	No
30/09/2021		CSA-470-501826	Accepted		100 Underground Workplaces 400 Treatment Plant/Ore Processing		05/10/1955	Male	SIL - Silica, crystallir	TWA	.0017	0.0500	0.0415	mg/m3	4%	No
30/09/2021		CSA-288-500522	Accepted	411000 Processing Plant Operator	Processing		23/10/1974	Female	SIL - Silica, crystallir	TWA	.0030	0.0500	0.0475	mg/m3	6%	No
30/09/2021		CSA-361-510595	Accepted	411000 Processing Plant Operator	550 Wharf Area		12/12/1973	Female	SIL - Silica, crystallir	TWA	.0013	0.0500	0.0475	mg/m3	3%	No
29/09/2021		CSA-569-507528	Accepted	311000 Blast Hole Drill Operator	221 Drill Pattern Area		05/11/1992	Male	SIL - Silica, crystallir	TWA	.0030	0.0500	0.0355	mg/m3	8%	No
29/09/2021		CSA-144-504376	Accepted	834000 Tyre Fitter	670 Workshop Tyre Fitting 610 Workshop Heavy Equipment		01/02/1995	Male	SIL - Silica, crystallir	TWA	.0066	0.0500	0.0415	mg/m3	16%	No
29/09/2021		CSA-363-504374	Accepted	631000 Fitter	722000 Telecommunication Technician		18/05/2000	Male	SIL - Silica, crystallir	TWA	.0033	0.0500	0.0475	mg/m3	7%	No
29/09/2021		CSA-953-504379	Accepted	441000 Laboratory Technician / Assistant / Analyst	300 Surface Work Areas General		01/07/1980	Male	SIL - Silica, crystallir	TWA	.0023	0.0500	0.0415	mg/m3	6%	No
29/09/2021		CSA-237-504373	Accepted	631000 Fitter	360 Laboratory		23/07/1973	Male	SIL - Silica, crystallir	TWA	.0078	0.0500	0.0475	mg/m3	16%	No
29/09/2021		CSA-489-504570	Accepted		600 Workshop Surface 200 Open Pit Production/Development Areas		07/05/1983	Male	SIL - Silica, crystallir	TWA	.0051	0.0500	0.0495	mg/m3	10%	No
29/09/2021		CSA-572-505178	Accepted	100000 General Management / Professional & Supervisory	200 Open Pit Production/Development Areas		19/03/1996	Male	SIL - Silica, crystallir	TWA	.0100	0.0500	0.0500	mg/m3	20%	No
29/09/2021		CSA-621-505202	Accepted	800000 Miscellaneous Trades / Utilities	300 Surface Work Areas General		13/10/1998	Male	SIL - Silica, crystallir	TWA	.0100	0.0500	0.0355	mg/m3	28%	No
29/09/2021		CSA-297-505186	Accepted	300000 Mining Production & Services (Surface)			20/11/1995	Female	SIL - Silica, crystallir	TWA	.0100	0.0500	0.0355	mg/m3	28%	No
29/09/2021		CSA-181-505200	Accepted	700000 Electrical / Electronic Trades	600 Workshop Surface		16/03/1992	Male	SIL - Silica, crystallir	TWA	.0100	0.0500	0.0355	mg/m3	28%	No
29/09/2021		CSA-964-505180	Accepted	100000 General Management / Professional & Supervisory	600 Workshop Surface 200 Open Pit Production/Development Areas		19/08/1988	Male	SIL - Silica, crystallir	TWA	.0100	0.0500	0.0355	mg/m3	28%	No
29/09/2021		CSA-162-505203	Accepted	800000 Miscellaneous Trades / Utilities			10/05/1976	Male	SIL - Silica, crystallir	TWA	.0100	0.0500	0.0355	mg/m3	28%	No
29/09/2021		CSA-818-506937	Accepted	361000 Haulage Truck Driver	230 Haul Road		04/04/1976	Female	SIL - Silica, crystallir	TWA	.0048	0.0500	0.0435	mg/m3	11%	No
29/09/2021		CSA-176-502774	Accepted	120000 Engineering Occupations	100 Underground Workplaces		10/12/1990	Male	SIL - Silica, crystallir	TWA	.0100	0.0500	0.0475	mg/m3	21%	No



Noise (%exceedances and trends)

Agent Summary - For the selected dates



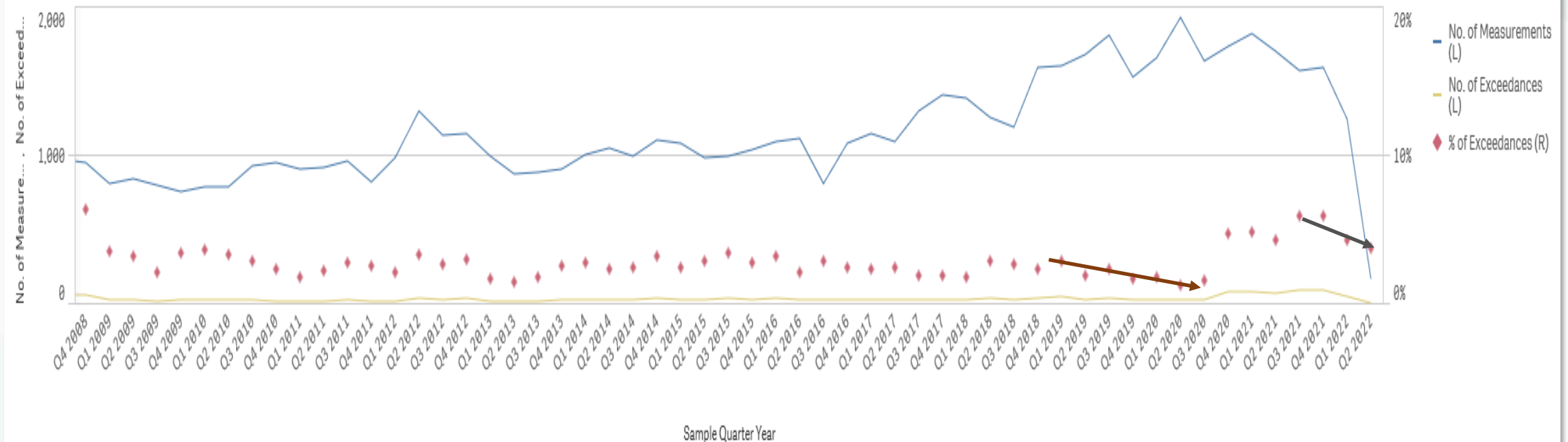
Silica

- Since 2002, 123216 respirable crystalline silica samples have been submitted
 - ~1700 samples /quarter
 - 5672 or 4.6% exceeded the exposure standard of the time
 - Since introduction of HMP 3.0% (2017-2020) and 4.4% since OEL change (2020—21)
- A campaign on silica awareness occurred in 2020-21 coinciding with the exposure standard changing from 0.1 to 0.05mg/m³
- Since HHMP introduction (end of 2017) sampling focus on high risk tasks
- Despite more samples from high risk groups, slight downward trend in exceedances



Silica (%exceedances and trends)

Company Summary - For all the years



Data driven targeted inspections

- Silica Quarry
 - Extracts 90% SiO_2 to make silicon metal or decorative aggregate concrete
 - 7% exceedances but up to 35x OEL
 - Directed to improve dust suppression at crushers
 - water spray alarm activated when sprays on causing annoyance in control room!!!
 - Better sprays and wind shields installed
 - Improved activation timing of sprays
 - Directed to conduct LDCT (rather than Xray) as part of wider health assessment
 - All long term employees 10+, and 20+ years
 - All participated in LDCT scans (included recently retired)
 - No silicosis in current workforce-other health effects identified (asthma, obesity and smoking related)
 - 1 retired person >65 that was a very long term employee had abnormality, but asymptomatic, has been referred to resp. physician
- Gold, Nickel and Tantalum Mines
 - Biological monitoring identified excessive Arsenic exposure when smelting
 - Intervention- workers removed
 - Notices issued-
 - Improvement to engineering controls,
 - Training and hazard awareness
 - PPE selection use and maintenance



Impact of HMP's

- By using a HMP the management of health hazards has improved.
 - This was a logical evolution from the historical requirements for a monitoring plan
- Health hazards are managed in a contemporary more holistic manner.
 - Resulting in less samples of low risk occupations (eg admin and supervisors) and more on frontline personnel
- When an exposure standard is exceeded, an investigation is completed and action plan implemented i.e. recognising an exceedance as a hazard exposure
 - Companies have been challenged on inadequate submissions and held to account on commitments in the action plans. In some instances, regulatory action has been taken.



A Positive Change

- Campaign targeting “dusty operations” has increased awareness of health risk management generally.
- Early indications are an overall reduction in excessive exposures on WA mines. As an example;
 - ***~900 WA mine workers were not exposed to excessive levels of silica last year***



Questions

(and the attempt to answer session)

