

Pollution Incident Response Management Plan (PIRMP)

Gunnedah Quarry

April 2020 (Version 2)

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Record of Revision

Date	Version	Details of changes	Reviewed by	Approved by
Feb. 2015	1	Original document		
Apr. 2020	2	Review – Updates implemented <ul style="list-style-type: none"> • Reformat and general refresh • EPL details added • Notification information amended • Hazardous chemicals manifest and manifest map updated • Site map updated 	B Pignone	D Keys

Record of PIRMP testing

Date of last test:	14.02.2020
Tested by:	Steve Kenworthy
Details of test:	Minor diesel spill (approx. 20 L) at Hanson storage tank. Was treated as though PIRMP had been triggered
Test findings, including issues identified:	Clarification of pollution incidents, incident notification and reporting requirements necessary
Next scheduled test date:	On or before 14.02.2020

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1. Introduction

Hanson Construction Materials Pty Ltd holds an Environment Protection Licence with the NSW Environment Protection Authority (EPA) for the Gunnedah Quarry. Extractive operations at the quarry have not been carried out since 16 July 2019 and the site has been under care and maintenance since that time.

The site consists of a decommissioned quarry, cleared yard areas, a covered shed with containers, as well as a disused office.

2. Purpose

In accordance with the *Protection of the Environment Operations Act 1997* (the *POEO Act*), the holder of an Environment Protection Licence must prepare, keep, test and implement a pollution incident response management plan (PIRMP) that complies with Part 5.7A of the *POEO Act* in relation to the activity to which the licence relates (see **Appendix A**).

If a pollution incident occurs in the course of an activity so that material harm to the environment (within the meaning of s. 147 of the *POEO Act*) is caused or threatened, the person carrying on the activity must **immediately** implement this plan in relation to the activity required by Part 5.7A of the *POEO Act*.

3. Definitions

The *POEO Act* defines **pollution** as:

*“Pollution means—
water pollution, or
air pollution, or
noise pollution, or
land pollution.”*

The *POEO Act* defines a **pollution incident** as:

“Pollution incident means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.”

The *POEO Act* (s. 147) defines **material harm to the environment** as:

*“(1) For the purposes of this Part—
(a) harm to the environment is material if:*

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and

(b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

(2) For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.”

Table 1: Requirements of the *POEO (G) Regulation*, relevant to a Pollution Incident Response Management Plan required to be prepared under Part 5.7A of the *POEO Act*.

Requirement	Section in PIRMP
98B Form of plan	
(1) A plan is to be in written form.	Entire PIRMP
(2) A plan may form part of another document that is required to be prepared under or in accordance with any other law so long as the information required to be included in the plan is readily identifiable as such in that other document.	Section 7
98C Additional matters to be included in plan	
(1) General The matters required under section 153C(d) of the Act to be included in a plan are as follows—	
(a) a description of the hazards to human health or the environment associated with the activity to which the licence relates (the relevant activity),	Section 5
(b) the likelihood of any such hazards occurring, including details of any conditions or events that could, or would, increase that likelihood,	Section 5
(c) details of the pre-emptive action to be taken to minimise or prevent any risk of harm to human health or the environment arising out of the relevant activity,	Section 5
(d) an inventory of potential pollutants on the premises or used in carrying out the relevant activity,	Section 6
(e) the maximum quantity of any pollutant that is likely to be stored or held at particular locations (including underground tanks) at or on the premises to which the licence relates,	Section 6
(f) a description of the safety equipment or other devices that are used to minimise the risks to human health or the environment and to contain or control a pollution incident,	
(g) the names, positions and 24-hour contact details of those key individuals who—	
(i) are responsible for activating the plan, and	Section 7.2
(ii) are authorised to notify relevant authorities under section 148 of the Act, and	Section 8.2
(iii) are responsible for managing the response to a pollution incident	
(h) the contact details of each relevant authority referred to in section 148 of the Act,	Section 8.3
(i) details of the mechanisms for providing early warnings and regular updates to the owners and occupiers of	Section 8.3

Requirement	Section in PIRMP
premises in the vicinity of the premises to which the licence relates or where the scheduled activity is carried on,	
(j) the arrangements for minimising the risk of harm to any persons who are on the premises or who are present where the scheduled activity is being carried on,	Section 5 Section 7
(k) a detailed map (or set of maps) showing the location of the premises to which the licence relates, the surrounding area that is likely to be affected by a pollution incident, the location of potential pollutants on the premises and the location of any stormwater drains on the premises,	Noted
(l) a detailed description of how any identified risk of harm to human health will be reduced, including (as a minimum) by means of early warnings, updates and the action to be taken during or immediately after a pollution incident to reduce that risk,	Section 5 Section 7
(m) the nature and objectives of any staff training program in relation to the plan,	Section 10
(n) the dates on which the plan has been tested and the name of the person who carried out the test,	Page i Section 11.2
(o) the dates on which the plan is updated,	Page i Section 11.2
(p) the manner in which the plan is to be tested and maintained.	Section 11.2
98D Availability of plan	
(1) A plan is to be made readily available—	
(a) to an authorised officer on request, and	Noted
(b) at the premises to which the relevant licence relates, or where the relevant activity takes place, to any person who is responsible for implementing the plan.	Section 11.1
(2) A plan is also to be made publicly available in the following manner within 14 days after it is prepared—	
(a) in a prominent position on a publicly accessible website of the person who is required to prepare the plan,	Noted
(b) if the person does not have such a website—by providing a copy of the plan, without charge, to any person who makes a written request for a copy.	
98E Testing of plan	
(1) The testing of a plan is to be carried out in such a manner as to ensure that the information included in the plan is accurate	Noted

Requirement	Section in PIRMP
and up to date and the plan is capable of being implemented in a workable and effective manner.	
(2) Any such test is to be carried out— (a) routinely at least once every 12 months, and (b) within 1 month of any pollution incident occurring in the course of an activity to which the licence relates so as to assess, in the light of that incident, whether the information included in the plan is accurate and up to date and the plan is still capable of being implemented in a workable and effective manner.	Section 11.2

4. Environment Protection Licence (EPL) details

Name of licensee: (including ABN)	Hanson Construction Materials Pty Ltd Locked Bag 5260 Parramatta NSW 2124 ABN: 90 009 679 734
EPL number*:	1838
EPL anniversary date:	15-February
Premises name and address:	Hanson Construction Materials Pty Ltd Gunnedah Quarry Racecourse Road Gunnedah NSW 2380
Website address:	https://www.hanson.com.au/about-us/regulatory-information/public-reports/
Scheduled activity/activities on EPL:	Crushing, grinding or separating
Fee based activity/activities on EPL:	Crushing, grinding or separating: >30,000-100,000 T processed

* Listed in the [EPA Public Register](#)

5. Hazards to health and the environment

To minimise risk to human health and the environment the site has an **Environmental Impact and Aspect Register** which includes pre-empted hazards, sources for those hazards, risk assessments and controls. This can be found in the **Environmental Management Plan**. For all work methods when performing a task refer to the IRMS (Integrated Risk Management System).

Identified hazards to health and the environment on site:

- Fire
- Escape, spillage or leakage of hazardous substances.
- Leak/spillage of contaminated storm water
- Excessive / harmful air emissions (dust, smoke)
- Spill on site from visiting vehicles
- Utility or service rupture

A risk assessment for the major pollution hazards related to the project was completed and is attached in **Appendix B**. The assessment evaluates the consequence, likelihood and risk rating of major pollution incidents occurring.

Possible circumstances or events that could increase the likelihood of major hazards occurring are listed in **Table 2**.

Table 2: Major hazards and circumstances that could increase the likelihood of their occurrence.

Major hazards	Increases to likelihood of occurrence
Fire	<ul style="list-style-type: none"> ▪ Sparks causing uncontrolled bushfire
Escape, spillage or leakage of hazardous substances	<ul style="list-style-type: none"> ▪ Onsite refuelling
Leak/spillage of contaminated storm water	<ul style="list-style-type: none"> ▪ Periods of very high rainfall
Excessive / harmful air emissions (dust, smoke)	<ul style="list-style-type: none"> ▪ Faulty plant or equipment ▪ Inadequate water suppression ▪ Long periods of drought
Spill on site from visiting vehicles	<ul style="list-style-type: none"> ▪ Unsafe driving (e.g. speeding) ▪ Driver(s) affected by alcohol or other drugs
Utility or service rupture	<ul style="list-style-type: none"> ▪ Strike by mechanical means ▪ Inadequate control measures

Table 3 contains a list of the key pre-emptive actions applied on site to minimise the risk of the potential hazards and incidents.

In addition to the controls listed in **Table 3** all employees and contractors are to wear appropriate Personal Protective Equipment (PPE) and undergo appropriate safety and environmental training.

Safety equipment and other devices used to contain or control a pollution incident are included in **Section 6.1**.

Table 3: Pre-emptive actions applied on site to minimise the risk of potential hazards

Hazard	Pre-emptive Action
Bushfire	<ul style="list-style-type: none"> ■ No activities with the potential to start a fire will be undertaken on site. ■ No flammable substances will be stored on site. ■ Gates are locked and site fenced to prevent unauthorised entry to site.
Leak/spillage of contaminated stormwater.	<ul style="list-style-type: none"> ■ The majority of stormwater on the premises will divert into the quarry pit. ■ Periodic inspections and maintenance of environmental controls. ■ No contaminants kept on site.
Excessive dust/smoke emission	<ul style="list-style-type: none"> ■ Minimal dust exposure as vegetation now covers the majority of site, water partially fills the quarry. ■ Smoke or fumes not present as no vehicles or machinery operate on site.
Spill on site from visiting vehicles	<ul style="list-style-type: none"> ■ Minimal vehicular access to site. Locked gates and fences preventing unauthorised access. Emergency services will be contacted as necessary. First Aid kits will be kept in each vehicle of visiting managers. ■ Spill kits may be brought to site from the Sancrox Quarry.
Utility Rupture	<ul style="list-style-type: none"> ■ Utilities to site have been disconnected. ■ Excavation permits will be utilised as a control in areas where utility strike is possible. ■ Emergency services will be contacted as necessary.

6. Potential pollutants on the premises

6.1. Pollutant inventory

The primary hazardous materials and chemicals (including fuels) used and stored on site include and the maximum quantity to be stored on site are listed in **Table 4**. Potential pollutants would be stored in a bunded area when not in use within the site area, if required. Safety equipment and material safety data would also be located within the site, should they be required. Digital material safety data will also be accessible to staff with access to electronic devices.

Table 4: Maximum quantity and location of hazardous materials stored onsite.

Potential Pollutants	Maximum quantity stored onsite (L)	Storage Location
Diesel fuel	Zero	None
Oil and lubricant	Zero	None
Grease	Zero	None
Hydraulic oil	Zero	None
Survey and marking paint	Zero	None

6.2. Minimising harm to persons on the premises

A **24-hours Emergency Hotline** is shown on signage at the entrance to the Quarry premises. The signage also includes Hanson Construction Materials Pty Ltd contact details.

The premises will have no personnel carrying out operations on them. These numbers may be contacted should there be a safety or environmental incident on the premises:

Emergency Hotline: 1800 882 478

Hanson Construction Materials (Sancrox Quarry): 02 6585 1833

7. Incident Response

In the event of a pollution incident that triggers the PIRMP (i.e. the pollution incident *causes or threatens to cause material harm to the environment*):

STOP

7.1. Activate the Gunnedah Quarry Site Emergency Plan

Immediately activate the Gunnedah Quarry **Site Emergency Plan**.

The alarm will be raised by alerting all personnel via the company radio frequency **“Emergency, Emergency, Emergency...”**

As the Gunnedah Quarry is no longer in operation, the Site Emergency Plan is available in digital form available to the Area manager, and it is co-located with the PIRMP so that both documents are accessible during an emergency.

7.2. Procedural implementation

When coordinating procedures to combat any pollution caused by the incident this will follow the **SITE EMERGENCY TEAM** protocol located in the **BLUE** section of the Site Emergency Plan. The **Area Manager** will be responsible for contacting the required authorities and relaying all necessary information back to persons at the incident location.

Specific procedures are in place, depending on the type of incident that has occurred. This information is contained within the **Site Emergency Plan** – in the **DARK BLUE ‘OTHER EMERGENCIES’** Section.

8. Notification and reporting

8.1. What needs to be notified?

Under s. 148 of the *POEO Act*, Hanson has a duty to **immediately** notify (i.e. via phone) each relevant authority of a **pollution incident** if there is a risk of **material harm to the environment** (see **Section 2** for definitions).

According to the provisions of s. 150 of the *POEO Act*:

- (1) *The relevant information about a pollution incident required under section 148 consists of the following—*
 - (a) *the time, date, nature, duration and location of the incident,*
 - (b) *the location of the place where pollution is occurring or is likely to occur,*
 - (c) *the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known,*
 - (d) *the circumstances in which the incident occurred (including the cause of the incident, if known),*
 - (e) *the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known,*
 - (f) *other information prescribed by the regulations.*
- (2) *The information required by this section is the information known to the person notifying the incident when the notification is required to be given.*
- (3) *If the information required to be included in a notice of a pollution incident by subsection (1) (c), (d) or (e) is not known to that person when the initial notification is made but becomes known afterwards, that information must be notified in accordance with section 148 immediately after it becomes known.*

8.2. Internal pollution incident reporting

Hanson employees and contractors are responsible for immediately alerting management personnel (Hanson Management personnel) to all environmental incidents or hazards which may result in an environmental incident, regardless of the nature or scale.

Contact details for the Owners and Occupiers (Residents and Caretakers) are as follows:

Owners	Hanson Construction Materials Pty Ltd	(02) 9354 2600
	David Keys (Area Manager)	0428 918 086
	Aaron Binnie (Hanson Risk Manager)	0407 012 523

If they have not already been otherwise alerted, an Occupier must be contacted immediately following a pollution incident.

8.3. External pollution incident reporting

Under the provisions of cl. 101 of the *POEO (G) Regulation*:

- (1) *For the purposes of section 149 of the Act, a pollution incident that is required to be notified under section 148 of the Act—*
 - (a) *is to be notified verbally to each relevant authority, and*

(b) is to be followed by notification in writing within 7 days of the date on which the incident occurred.

(2) For the purposes of section 149 of the Act, notification of the EPA may be achieved by telephoning the EPA environment line.

Note. Section 150(2) of the Act provides that the information contained in a notification is to be the information known when the notification occurs. Therefore, if information becomes known between the immediate notification given verbally and the time when written notification is required to be given, that new information will be required to be notified immediately after it becomes known and to be included in the written notification.

Pollution incidents must be **notified via phone immediately** in the order listed below:

Environment Protection Authority (EPA)+ 'Environment Line'	131 555
NSW Resources Regulator	1300 814 609
Ministry of Health After hours – ask for “Public Health Officer on call”	02 9391 9000
SafeWork NSW	13 10 50
Gunnedah Shire Council (the Local Authority)	02 6740 2100
Fire and Rescue NSW*	1300 729 579

+ The Appropriate Regulatory Authority (ARA) for the Gunnedah Quarry is the EPA.

* Note that if the pollution incident required immediate assistance from emergency services (i.e. 000 was called), Fire and Rescue (NSW) do not need to be called again.

The verbal notification must be followed by a **written notification** within 7 days of the date on which the incident occurred. This written notification must contain all of the information required under s. 150 of the *POEO Act*.

Hanson also has written notification requirements under the provisions of EPL-21838; these requirements are summarised below. Reference the listed regulatory condition for further information about the structure and content that must be included in the written notification.

Notification trigger	Party to be notified	Time period	Regulatory condition
Environmental harm	EPA	Within 7 days of the date on which the incident occurred	EPL-1838 <i>licence condition R2.2</i>

9. Record and review

Following a pollution incident, an investigation will take place following the procedures of the **Mine Safety Management System (Section 10: Accident & Serious Incident Investigation)**. This includes the involvement and review of findings by all relevant parties, including any necessary outside parties.

The incident will be recorded using the central records management system, SAP, by creating an IRIS event. This may also be accompanied by a written investigation report, which can be uploaded to the IRIS event as an attachment.

The PIRMP must then be reviewed within 1 month of the date of the incident (see **Section 10.2**).

10. Staff training

All personnel are trained to respond to emergency scenarios, including pollution incidents. Training is in the form of an annual emergency drill, which may include both safety and environmental components. Typically, each shift will complete their emergency drill separately, for logistical reasons. These drills are designed to ensure that all workers are adequately prepared to respond to pollution incidents. To record staff training in emergency procedures, the Site Emergency Drill Report (HCM-FM-E6-001) and a Training Attendance Record are completed for each emergency drill. The completed forms are uploaded to the central records management system, SAP, as an IRIS meeting document.

All workers are also required to complete an online training module on environmental principles as part of the annual Health, Safety and Environment Charter, as well as a separate module about spill control.

11. PIRMP maintenance

11.1. Availability of the PIRMP

The PIRMP is publicly available on the company website. It must also be made available at the request of an authorised EPA officer, response agencies during an incident, and members of the public on request.

11.2. Testing of the PIRMP

It is a legal requirement to test the PIRMP **every 12 months**. Two forms of PIRMP testing are used to meet this requirement:

- Desktop simulation – annual desktop simulation completed by a competent person. This test is scheduled in SAP to ensure that it is completed as scheduled.

- Emergency drill – annual mock emergency or emergency drill, involving all workers. The emergency drill typically has both safety and environmental components, although may instead consist of two separate emergency drills to test these components.

The Site Emergency Drill Report is used to record the details of all PIRMP tests, and the completed forms are uploaded to the central records management system, SAP, as an IRIS meeting document.

It is also a legal requirement that the PIRMP be tested **within 1 month of any pollution incident**.

12. References

Hanson documentation

IRMS – Integrated Risk Management System:

- This contains policies, work methods, forms and checklists. These are written to comply with ISO 9001, ISO 14001, AS4801, state based WHS and environmental legislation.
- It covers an overview of emergency process control.
- This is intranet based.

External references

- NSW EPA September 2013, *Environment Compliance Report: Requirements for preparing and implementing Pollution Incident Response Management Plans*
- NSW EPA May 2019, *Guideline: Pollution Incident Response Management Plans* [draft for public consultation]
- NSW EPA June 2019, *Environment Protection Licence 1838 (EPL-1838)*
- *Protection of the Environment Operations Act 1997 (NSW), Part 3A*
- *Protection of the Environment Operations (General) Regulation 2009 (NSW)*

Appendices

Appendix A – Relevant requirements of POEO Act Part 5.7A

Table 5: Relevant requirements of the POEO Act Part 5.7A Duty to prepare and implement pollution incident response management plans.

Requirement	Section in PIRMP
<p>153A Duty of licence holder to prepare pollution incident response management plan</p> <p>The holder of an environment protection licence must prepare a pollution incident response management plan that complies with this Part in relation to the activity to which the licence relates.</p> <p>Maximum penalty—</p> <p>(a) in the case of a corporation—\$1,000,000 and, in the case of a continuing offence, a further penalty of \$120,000 for each day the offence continues, or</p> <p>(b) in the case of an individual—\$250,000 and, in the case of a continuing offence, a further penalty of \$60,000 for each day the offence continues.</p> <p>Note. An offence against this section committed by a corporation is an executive liability offence attracting executive liability for a director or other person involved in the management of the corporation—see section 169A.</p>	Noted
<p>153C Information to be included in plan</p> <p>A pollution incident response management plan must be in the form required by the regulations and must include the following—</p>	Entire PIRMP
<p>(a) the procedures to be followed by the holder of the relevant environment protection licence, or the occupier of the relevant premises, in notifying a pollution incident to—</p>	Section 8.3
<p>(i) the owners or occupiers of premises in the vicinity of the premises to which the environment protection licence or the direction under section 153B relates, and</p> <p>(ii) the local authority for the area in which the premises to which the environment protection licence or the direction under section 153B relates are located and any area affected, or potentially affected, by the pollution, and</p> <p>(iii) any persons or authorities required to be notified by Part 5.7,</p>	Section 8.3
<p>(b) a detailed description of the action to be taken, immediately after a pollution incident, by the holder of the relevant environment protection licence, or the occupier of the relevant premises, to reduce or control any pollution,</p>	Section 7 (references Emergency Plan)
<p>(c) the procedures to be followed for co-ordinating, with the authorities or persons that have been notified, any action taken in combating the pollution caused by the incident and, in</p>	Section 7 (references Emergency Plan)

Requirement	Section in PIRMP
particular, the persons through whom all communications are to be made,	
(d) any other matter required by the regulations.	Section 3
153D Keeping of plan	
A person who is required to prepare a pollution incident response management plan under this Part must ensure that it is kept at the premises to which the relevant environment protection licence relates, or where the relevant activity takes place, and is made available in accordance with the regulations.	Section 11.1
Maximum penalty—	
(a) in the case of a corporation—\$1,000,000 and, in the case of a continuing offence, a further penalty of \$120,000 for each day the offence continues, or	
(b) in the case of an individual—\$250,000 and, in the case of a continuing offence, a further penalty of \$60,000 for each day the offence continues.	
Note. An offence against this section committed by a corporation is an executive liability offence attracting executive liability for a director or other person involved in the management of the corporation—see section 169A.	
153E Testing of plan	
A person who is required to prepare a pollution incident response management plan under this Part must ensure that it is tested in accordance with the regulations.	Section 11.2
Maximum penalty—	
(a) in the case of a corporation—\$1,000,000 and, in the case of a continuing offence, a further penalty of \$120,000 for each day the offence continues, or	
(b) in the case of an individual—\$250,000 and, in the case of a continuing offence, a further penalty of \$60,000 for each day the offence continues.	
Note. An offence against this section committed by a corporation is an executive liability offence attracting executive liability for a director or other person involved in the management of the corporation—see section 169A.	
153F Implementation of plan	
If a pollution incident occurs in the course of an activity so that material harm to the environment (within the meaning of section 147) is caused or threatened, the person carrying on the activity must immediately implement any pollution incident response management plan in relation to the activity required by this Part.	Section 2 Section 7
Maximum penalty—	

Requirement**Section in
PIRMP**

(a) in the case of a corporation—\$2,000,000 and, in the case of a continuing offence, a further penalty of \$240,000 for each day the offence continues, or

(b) in the case of an individual—\$500,000 and, in the case of a continuing offence, a further penalty of \$120,000 for each day the offence continues.

Note. An offence against this section committed by a corporation is an executive liability offence attracting executive liability for a director or other person involved in the management of the corporation—see section 169A.

Appendix B – Risk Assessment

A risk score was assigned to each of the list hazards using the following risk matrix.

RISK ASSESSMENT MATRIX

		CONSEQUENCE				
		Insignificant	Minor	Moderate	Serious	Major
LIKELIHOOD	Almost Certain	11	16	20	23	25
	Likely	7	12	17	21	24
	Occasional	4	8	13	18	22
	Unlikely	2	5	9	14	19
	Rare	1	3	6	10	15

Consequence Rating	Insignificant	Minor	Moderate	Serious	Major
People	Report only. No injury	FAI	Recordable injury (MTI, RWI, Minor LTI)	Severe lost time injury	Fatality / Multiple Fatalities
Environment	Degradation confined within the work area with impacts readily addressed & reversible detrimental effects	Degradation confined within the work area with impacts readily addressed & reversible detrimental effects and breach of project of site EMP	On-site / Off-Site degradation which has persistent (<3 weeks) but reversible impact. Non-compliance with legal & contractual requirements requiring reporting to authorities	An incident resulting in prosecution under environmental laws	On-Site / Off-site degradation which may have irreversible effects and an accident resulting in prosecution under environmental laws.
Plant / Property	<\$5K	<\$5K - \$20K	<\$20K - \$100K	<\$100K - \$500K	<\$500K
Community	One off compliant / no media attention	Small number of complaints / low cost / local community media attention	Repeated complaints from same area, state / media attention	Community discontent and impact on viability of business / National media attention	Complete loss of trust / social unrest / dissension and likely closure of business / National media attention
Legal Compliance	Minor breach not attracting regulatory body	Issue resulting in notice / fine	Prosecution & penalty or fine	Prosecution suspension of operating licence / criminal conviction	Prosecution / loss of operating licence or closure of operations / imprisonment
Quality	Rework costs less than \$5K	Rework costs between \$5K and \$10K	Rework costs between \$10K and \$50K	Rework costs between \$50K and \$100K	Rework costs greater than \$100K

LIKELIHOOD	DESCRIPTION	EXAMPLE
Almost Certain	Is expected to occur in most circumstances / common or repeating occurrence	Multiple occurrences within a month
Likely	Will occur in most circumstances	Multiple occurrences within a year
Occasional	Could occur infrequently	1 to 10 year event
Unlikely	May occur / improbable	10 to 100 year event
Rare	Only in exceptional circumstances, practically impossible	100+ year event

RISK SCORE	RISK LEVEL	REQUIRED LEVEL OF ACTION AND TIME FRAME FOR ACTIONS
1-6	Low Risk	Check current controls for adequacy and communicate hazards identified and their controls to the work group. No further actions / controls necessary (possibly consider new controls).
7-15	Moderate Risk	Some action required. Action may be administrative and / or PPE if higher levels of controls are not practicable
16-19	High Risk	Immediate action required above Admin and PPE to control the hazard where possible. Look for longer term solutions to reduce risk on an ongoing basis
20-25	Extreme Risk	Activity must not commence / activity must stop immediately until actions have been implemented so far as to control the hazards to an acceptable level (below 20).

Bushfire	Potential to start bushfire	13	Moderate	<p>No activities with the potential to start a fire will be undertaken on site.</p> <p>No flammable substances will be stored on site.</p> <p>Gates are locked and site fenced to prevent unauthorised entry to site</p>	4	LOW
Leak/spillage of contaminated stormwater.	Contamination of soil or water/waterways	13	Moderate	<p>The majority of stormwater on the premises will divert into the quarry pit.</p> <p>Periodic inspections and maintenance of environmental controls.</p> <p>No contaminants kept on site</p>	5	Low
Excessive dust/smoke emission	Community Complaint	5	Low	<p>Minimal dust exposure as vegetation now covers the majority of site, water partially fills the quarry.</p> <p>Smoke or fumes not present as no vehicles or machinery operate on site.</p>	2	Low
Spill on site from visiting vehicles	Contamination of soil or water/waterways	5	Low	<p>Minimal vehicular access to site. Locked gates and fences preventing unauthorised access.</p> <p>Emergency services will be contacted as necessary</p>	5	Low

				<p>First Aid kits will be kept in each vehicle of visiting managers</p> <p>Spill kits may be brought to site from the Sancrox Quarry</p>		
Utility Rupture	Escape of waste water	1	Low	<p>Utilities to site have been disconnected.</p> <p>Excavation permits will be utilised as a control in areas where utility strike is possible.</p> <p>Emergency services will be contacted as necessary</p>	1	Low

Appendix C: Site Map