RISK MANAGEMENT REPORT

TYPE	Excavator - Small	Report Number	BTE 20180501-1140
MAKE	Yanmar	Date	14-May-2018
MODEL	VIO82-C	Created By	Kylie Standing
SERIAL NUMBER	00532	Assessor	Kylie Standing
ENGINE NUMBER	65052	Assist. Assessor(s)	SCOTT MANGAN
		Owner	Tutt Bryant Equipment - NSW
		Customer	CMS PLANT HIRE
		Assessment Purpose	Sale
		State	NSW

PURCHASER ACKNOWLEDGEMENT

I the undersigned acknowledge that I have read and understand the risk management report described above. I also acknowledge that I have recieved a copy of this risk management report. I also acknowledge that I am authorised to sign on behalf of the purchaser.

Name

Company Name CMS

Position

Signature

Date 14/

The manufacturer's operational & maintenance handbooks have been supplied, (circle one) YES NO (initial) ____________

Please transfer this assessment to my Plant Assessor membership as a (circle one) HIRE / PLANT IN USE assessment.

My Plant Assessor email is ____________

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Completed By	Breeam Foster
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TABLE OF CONTENTS

SECTION 1 IMPORTANT INFORMATION

This report generated by Plant Assessor™ © Online Safety Systems on Monday, 14 May 2018 8:56 AM

This Risk Management Report has been prepared for -

(Insert recipient name/company name)

This document has been prepared to cover the sale or transfer of this item of plant between the Company identified on the front cover and their named recipient. This report must not be used for any subsequent sale or transfer.

This document is provided to meet duty of care obligations as set out in relevant state and territory health and safety regulations for the supply of plant and the sale and transfer of plant.

The safety hazards associated with the operating and maintaining of this item of plant have been identified as far as practical by visual inspection. This item of plant is being sold in an "as-is" condition with known and unknown safety hazards. No physical testing has been conducted (eg. Wire rope tests, stress tests, structural/non-destructive tests, noise tests, vibration tests, brake tests, insulation tests etc.) unless stated otherwise in the notes.

This document is not intended to provide information on, nor warrant the mechanical, electrical or structural condition of this item of plant. Any information on standard features have been supplied through the manufacturer and should be used as a guide only until otherwise verified.

This item of plant should be further assessed, tested and inspected or dismantled as necessary to gauge any further hazards and /or risks relating to SPECIFIC WORKPLACE USE, which are currently unknown, in accordance with relevant standards, regulations and acts.

Under common law and relevant state and territory health and safety acts, regulations and codes of practice, there is a requirement for the plant owner, employer and operator to exercise a duty of care in the safe operation and maintenance of plant. Accordingly before this item of plant is supplied to, or used at any workplace it must be inspected to ensure it is in a fully operational , safe and serviceable condition and that operators and maintenance personnel are appropriately trained in the use & maintenance of this item of plant.

For further information regarding this report contact Online Safety Systems on 1300 72 88 52

SECTION 2 MACHINE DETAILS

MACHINE DETAILS	- NOISE TEST RESULTS	1. Manufacturers specified noise level dBA	
		2. Ambient noise level dBA	
		3. Noise level - Operator position (high idle) dBA	
		4. Noise level - Operator position (low idle) dBA	
		5. Noise level LHS dBA @ m (high idle)	
		6. Noise level Front dBA @ m (high idle)	
		7. Noise level RHS dBA @ m (high idle)	
		8. Noise level Rear dBA @ m (high idle)	
	BUCKET	Standard bucket capacity, SAE rated (m3)	
		Standard bucket width (mm)	
	CAPACITIES	Fuel Tank Capacity (Litres)	
		Hydraulic Oil Tank Capacity (Litres)	
	DIMENSIONS/WEIGHTS	Dig depth (mm)	
		Dig depth to cut 2.44 m level bottom (mm)	
		Dump height (mm)	

	Ground clearance (mm)	
	Max depth of vertical wall (mm)	
	Operating weight (kg)	8,285
	Reach @ ground level (mm)	
	Tailswing radius (mm)	
	Transport height (mm)	2,680
	Transport length (mm)	6,460
	Width (mm)	2,270
ENGINE	Engine Displacement (Ltr)	
	Engine Hours	
	Engine Make & Model	Yanmar - 4TNV98-ZWBV2
	Engine Number	
	Engine Power (kW@rpm)	40.7@2000
	Number of Cylinders	4
EXTRAS	Spare spool for attachments? Yes/No	
HITCH	Quick Hitch Make	
	Quick Hitch Model	
	Quick Hitch Serial No.	
HYDRAULICS	Flow of main pumps (lit/min)	
	Pump types	
	Relief valve pressure, main pumps (bar)	
PLANT CLASSIFICATIONS	Class	
	Year	
SAFETY STRUCTURES	FOPS Compliance No.	
	FOPS Serial No.	
	ROPS Compliance No.	
	ROPS Serial No.	
TRACKS	Track length on ground (mm)	
	Track pad width (mm)	
TRANSMISSION	Speed (km/h)	2.5/4.5
WORK CAPABILITIES	Arm breakout (kgf)	
	Bucket breakout (kgf)	50.4 kN
	Gradeability (%)	
EXTRAS	Air Conditioning	
	Bucket - 300mm	
	Bucket - 450mm	
	Bucket - 600mm	
	Bucket - Mud - 1500mm	
	FOPS	
	Front grader blade	
	Hammer Piping	
	Hitch - Quick	
	Ripper	
	ROPS - Cabin	

SECTION 3 RISK ANALYSIS / RISK EVALUATION

RISK ANALYSIS

CONSEQUENCE →

LIKELIHOOD ↓

	1. INSIGNIFICANT Dealt with by in house first aid	2. MINOR Treated by medical professionals, hospital out patients	3. MODERATE Significant non permanent injury overnight hospital stay	4. MAJOR Extensive permanent injury eg. Loss of fingers, extended hospital stay	5. CATASTROPHIC Death, permanent disabling injury eg. Loss of hand, quadriplegia
A. Almost certain to occur in most circumstances	MEDIUM 8	HIGH 16	HIGH 18	CRITICAL 23	CRITICAL 25
B. Likely to occur frequently	MEDIUM 7	MEDIUM 10	HIGH 17	HIGH 20	CRITICAL 24
C. Possibly and likely to occur at sometime	LOW 3	MEDIUM 9	MEDIUM 12	HIGH 19	HIGH 22
D. Unlikely to occur but could happen	LOW 2	LOW 5	MEDIUM 11	MEDIUM 14	HIGH 21
E. May occur but only in rare circumstances	LOW 1	LOW 4	LOW 6	MEDIUM 13	MEDIUM 15

RISK EVALUATION

CRITICAL	Act immediately to mitigate risk. Implement risk treatment(s) in accordance with the risk treatment table below.
HIGH	Act immediately to mitigate risk. Implement risk treatment(s) in accordance with the risk treatment table below. If the appropriate risk treatments are not immediately accessible establish interim risk treatment strategies. Permanent risk treatments must be implemented within one week.
MEDIUM	Take reasonable steps to mitigate and monitor the risk. Implement risk treatment(s) in accordance with the risk treatment table below. Permanent risk treatments must be implemented within one month.
LOW	Take reasonable steps to mitigate and monitor the risk. Implement risk treatment(s) in accordance with the risk treatment table below. Permanent risk treatments must be implemented within three months.

RISK TREATMENT

Selecting the most appropriate risk treatment option involves balancing the costs and efforts of implementation against the benefits derived, with regard to legal, regulatory and other requirements. (source AS/NZS ISO 31000:2009)

Eliminate	Eliminate the risk source.
Substitute	Provide an alternative that is capable of performing the same task which is safer.
Engineering	Provide or construct a physical barrier or guard.
Administration	Develop policies, procedures, practices and guidelines in consultation with employees to mitigate the risk. Provide training, instruction and supervision about the risk source.
Personal protective	Provide personal protective equipment to protect the individual from the risk source.

SECTION 4 RISK TREATMENTS REQUIRED

This section of the report pertains to hazards created by use of this item of plant which currently do not have risk treatments in place. The risk treatments recommended in this section have been developed based on relevant Australian Standards, health & safety legislation, the hierarchy of risk treatment in accordance with the guidelines set forth in AS/NZS ISO 31000 – Risk Management and various other sources. The recommended risk treatment measures must be developed, implemented and validated as effective prior to the operation, maintenance or testing of this item of plant. Treatments applied must be dated and initialled adjacent the recommendations. All operators must read and understand the entire contents of this section prior to operating this item of plant.

<table>
<tr><th></th><th>HAZARD(S)</th><th>Prelim. Risk Rating</th><th>Residual Risk Rating</th><th>Time Frame</th><th>Due Date</th><th>Date Rectified</th><th>Initial</th></tr>
<tr><td rowspan="4">OPERATION</td><td>NOMINATED OPERATOR ONLY
INCORRECT OPERATION</td><td>CRITICAL 24</td><td>MEDIUM 15</td><td>Immediate</td><td>14-May-18</td><td></td><td></td></tr>
<tr><td colspan="7">Risk Treatment Required: Operator Competency
Only persons who are qualified, trained and experienced and/or hold the relevant certification/license can operate this item of plant. If there is not a competent/licensed person available for operation of this item of plant then only persons who are supervised by a competent/licensed person can operate this item of plant.

Legislation: State Health & Safety Legislation & Regulation
References: Work Health & Safety Act & Regulations-</td></tr>
<tr><td>SWL
CRUSHING, POOR SIGNAGE</td><td>HIGH 19</td><td>MEDIUM 13</td><td>1 Week</td><td>21-May-18</td><td></td><td></td></tr>
<tr><td colspan="7">Risk Treatment Required: Boom Lifting Point Table
This item of plant has a lifting point fitted to the boom, accordingly a load/distance table must be present at the operator work area. This must be clear and legible at all times. This item of plant must comply with the relevant parts of AS 1418 at all times. All operators must be appropriately trained to use this item of plant and licenced where necessary.

Legislation: State Health & Safety Legislation & Regulation
References: AS1418.8</td></tr>
<tr><td rowspan="4">DESIGN COMPLIANCE</td><td>CRUSHING</td><td>CRITICAL 24</td><td>LOW 1</td><td>Immediate</td><td>14-May-18</td><td></td><td></td></tr>
<tr><td colspan="7">Risk Treatment Required: Closed Eye Lifting Point
This tem of plant may be used for normal operations however, this item of plant must be fitted with a closed eye type lifting point prior to performing any lifting. Hooks with or with out latching devices must not be used as a lifting point at any time.
References: AS1418.8</td></tr>
<tr><td>INSTABILITY, TIP OVER, CRUSHING</td><td>HIGH 22</td><td>MEDIUM 15</td><td>1 Week</td><td>21-May-18</td><td></td><td></td></tr>
<tr><td colspan="7">Risk Treatment Required: Levelness Device
This item of plant must be fitted with a level indicator. This device indicates the "levelness" of the chassis.
Once fitted operators must ensure that the machine is within the manufacturers guidelines for levelness during operation.
The rated capacity chart fitted for lifting operations has a maximum level angle which must never be exceeded during lifting operations.
Once fitted this level indicator must be present and fully functional at all times whilst this item of plant is in operation.
References: AS1418.8</td></tr>
</table>

SECTION 5 RISK TREATMENTS IN PLACE

This section of the report pertains to risk treatments currently in place on this item of plant. This section must be read in conjunction with the safety section of the manufacturers handbook. All operators must read and understand the entire contents of this section prior to operating this item of plant. These treatments or equivalent must remain in place at all times whilst this item of plant is in operation.

HAZARD(S)		Prelim. Risk Rating	Residual Risk Rating
DELIVERY	**CRUSHING**	HIGH 22	MEDIUM 15
	Risk Treatments In Place: SWMS Loading/Unloading Ensure that all operators follow approved SWMS/SOP when loading and unloading this machine to and from a flat top truck or trailer, low loader or tilt tray. **References:** Work Health & Safety Act & Regulations-		
	CRUSHING	HIGH 22	MEDIUM 15
	Risk Treatments In Place: SWMS Load Restraint Ensure that all operators follow the approved SWMS/SOP when restraining this machine for transport. **References:** Work Health & Safety Act & Regulations-		
OPERATION	**CRUSHING**	CRITICAL 24	MEDIUM 15
	Risk Treatments In Place: Fully Automatic Quick Hitch - Swing Risk This item of plant was fitted with a fully automatic quick hitch prior to December 31st 2015. This type of hitch allows for uncontrolled movement of the attachment in the event of a failure of the primary retention system. This hitch must be replaced prior to December 31st 2022. Ensure that all operators are familiar with the safe use of this hitch. **References:** SafeWork NSW- Position Paper		
	INCORRECT OPERATION	HIGH 22	MEDIUM 15
	Risk Treatments In Place: Operation Handbook The manufacturer's operation handbook has been supplied for this item of plant. This handbook must be available at all times to all potential operators and supervisory staff. All potential operators must read and be familiar with this handbook prior to operating. A complete risk assessment/Job Safety Analysis must be undertaken covering all operating processes and environments associated with this item of plant. SWMS should be produced for specific tasks associated with use of this item of plant. **References:** Work Health & Safety Act & Regulations-		
	INCORRECT OPERATION	HIGH 22	MEDIUM 15
	Risk Treatments In Place: Pre-op Checklist Excavator A pre-operation checklist is available for this Excavator. This checklist must be completed by all operators prior to operating this Excavator. **References:** Work Health & Safety Act & Regulations-		
	INCORRECT OPERATION	HIGH 22	MEDIUM 15
	Risk Treatments In Place: SOP Excavator Safe Operation Procedures are available for this Excavator. The information in the Safe Operation Procedures must be followed at all times whilst operating this Excavator. **References:** Work Health & Safety Act & Regulations-		
	INCORRECT OPERATION	HIGH 22	MEDIUM 15
	Risk Treatments In Place: Control Labels All controls including all levers, buttons, pedals, switches etc. are clearly labelled as to their purpose and method of operation. These labels must be maintained in a clean and serviceable condition at all times. **References:** AS/NZS4024.1905		

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
FALLING, CRUSHING	HIGH 22	MEDIUM 15

Risk Treatments In Place: Passenger Seat Label
This item of plant is fitted with a clear hazard warning label re: Operator only, No passengers. Passengers must not be carried at anytime. This label must be clear and legible at all times whilst this item of plant is in operation.

Legislation: State Health & Safety Legislation & Regulation
References: AS1319-

CRUSHING	HIGH 22	MEDIUM 15

Risk Treatments In Place: ROPS Label
The warning label stating that the ROPS must not be damaged at any time (including cuts, drill holes and welds) must be present, clean and legible at all times.
References: ISO3471

CRUSHING	HIGH 22	MEDIUM 15

Risk Treatments In Place: ROPS seat belt label
The advisory label stating that a "ROPS is fitted seatbelts must be worn" must be followed at all times whilst operating this item of plant. This label must be present, clean and legible at all times.
References: AS2294, ISO3471

ELECTROCUTION	HIGH 22	MEDIUM 15

Risk Treatments In Place: Electrical Approach Distances
This item of plant has a hazard warning label re: overhead electrical hazards and minimum approach distances fitted. These distances must be adhered to strictly. These labels and tables must be present, clear and legible at all times.

Spotters are required when working within 5 metres of the minimum approach distance of any live electrical apparatus.

Any encroach within the minimum approach distances must only occur if the following provisions have been met -
1. The machine is designed to work within the minimum approach distances
2. Permission has been granted by the electricity company and
3. Safe systems of work have been documented and approved.

References: ISO31000

EXPLOSION, ELECTROCUTION	HIGH 22	MEDIUM 15

Risk Treatments In Place: Dial Before You Dig (AUS)
This item of plant is fitted with a clear hazard warning label re: underground services and advice to "Dial 1100 Before You Dig"to the operator work area. This advice must be adhered to strictly. Digging into an electricity cable or gas pipe can cause serious injury or death. Damaging a pipe or cable may also lead to isolating a community from emergency services such as fire, police or ambulance. This label must be present, clear and legible at all times.
References: ISO31000

COLLISION	HIGH 22	MEDIUM 15

Risk Treatments In Place: Phone Use label
This item of plant is fitted with an instruction label advising that mobile phones must not be used whilst operating this machine. Accordingly all operators must not use a mobile phone at any time whilst operating machine. If phone use is necessary then operator must place machine in park configuration in a safe position prior to phone use. Operators MUST adhere to this advice at all times.

This label must be clear and legible at all times whilst this item of plant is in operation.
References: AS1319- , ISO31000

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
POISONING, EXPLOSION, BURNS	HIGH 22	MEDIUM 15

Risk Treatments In Place: Tank ID Label

The tank(s) on this item of plant have clear, legible label(s) identifying their contents, and if appropriate any necessary controls re: the contents. These must be present, clear and legible at all times. (this includes radiator, hydraulic and petrol/diesel tanks)

References: Work Health & Safety Act & Regulations-

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
COLLISION	HIGH 22	MEDIUM 15

Risk Treatments In Place: Left Hand Drive Label

This item of plant has a hazard warning label re: left hand drive, at the rear. It must be present, clear and legible at all times.

References: ISO20474-

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
INCORRECT OPERATION, CRUSHING	HIGH 22	HIGH 21

Risk Treatments In Place: Boom Rated Capacity Label

This item of plant has a rated capacity label fitted to each side of the boom. Ensure that these labels are clear and legible at all times whilst this item of plant is in operation. Operators must not exceed this rated capacity at any time during operation.

References: AS1418.8

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
INCORRECT OPERATION, CRUSHING	HIGH 21	MEDIUM 15

Risk Treatments In Place: Quick Hitch Information

This hydraulic quick hitch has the following information marked upon it -

1. A unique identification mark (serial number)
2. The manufacturer's name and model clearly and durably marked upon it
3. The maximum rated capacity clearly and durably marked upon it
4. The mass of the hitch clearly and durably marked upon it
5. The lift point capacity (kg) clearly and durably marked upon it

This information must be considered by all operators when assessing the suitability of the hitch for any task. Failure to consider and or comply with this information could lead to serious injury or death.

References: AS4772

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
BURNS, ENTANGLEMENT, SHEARING	HIGH 19	MEDIUM 13

Risk Treatments In Place: Engine Guard Label

The engine fan and alternator belts, pulleys and gears are guarded. These guards have clear legible hazard warning labels re do not open or remove guards while engine is running. These labels must be present, legible and easily seen at all times whilst this item of plant is in operation.

References: AS1319- , AS/NZS4024.1201

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
CRUSHING, PINCHING	MEDIUM 14	MEDIUM 13

Risk Treatments In Place: Swing Boom Crush Label

This item of plant has clear hazard warning labels re: pinch point/crush zone, keep clear, that are attached to each side of the boom swing/pivot point. These must be present, clear and legible at all times whilst this item of plant is in operation.

References: AS1319- , AS/NZS4024.1201

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
FIRE	MEDIUM 13	LOW 4

Risk Treatments In Place: Fire Extinguisher

This item of plant is fitted with an approved and maintained fire extinguisher. Fire extinguisher(s) must be present and fully functional at all times. They must be readily accessible to the operator. Regular inspections must also be carried out in accordance with the manufacturer's requirements and AS 1851 – 1995

References: AS/NZS1841, AS1851

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
COLLISION, CRUSHING	MEDIUM 12	LOW 6
Risk Treatments In Place: Warning Device (horn) This item of plant is fitted with a fully functional audible warning device such as a horn. This must be easily accessed by the operator, and easily identifiable by nearby pedestrians. All operators should ensure the warning devices are functional at the start of each shift, by completing pre-start checklists. Warning devices should operate automatically where appropriate (eg reversing) **References:** ISO7731, ISO9533		
BURNS	MEDIUM 12	MEDIUM 12
Risk Treatments In Place: Open Cabin Dust, exhaust fumes, chemical fumes, sunstroke and sunburn pose serious risk to the operator both short and long term. The appropriate controls for all of these hazards must always be available whilst this item of plant is in operation. If these controls e.g. hats, sunscreen, dust masks etc are not available then operation of this item of plant must cease until these are made available to all operators. **References:** ISO31000		
CRUSHING	MEDIUM 12	LOW 6
Risk Treatments In Place: Front Grader Blade Label The front blade on this item of plant is fitted with a hazard warning label re: crush zone, keep clear. This label must be present and fully functional and serviceable at all times. **References:** ISO20474- , AS1319-		
COLLISION, STRIKING, CRUSHING	MEDIUM 12	LOW 6
Risk Treatments In Place: Tail Swing Label The rear of this item of plant has a hazard warning label re: general plant movement, tail swing, keep clear. It must be present and fully functional and serviceable at all times. **References:** ISO20474-		
COLLISION	MEDIUM 9	LOW 5
Risk Treatments In Place: Recovery Point Label This item of plant is fitted with a hazard warning label adjacent the recovery tow point which states "Danger – Read manufacturer's towing instructions before towing. Failure to do so could result in DEATH or SERIOUS INJURY." This label must be clear and legible at all times whilst this item of plant is in operation. **References:** ISO31000		

DESIGN COMPLIANCE

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
STRIKING, ENTANGLEMENT, COLLISION, CRUSHING	HIGH 22	MEDIUM 15
Risk Treatments In Place: Neutral Start This item of plant has neutral start control in place. It must be fully functional and serviceable at all times whilst this item of plant is in operation. **References:** AS4024.1603		
CRUSHING	HIGH 22	MEDIUM 15
Risk Treatments In Place: Quick Hitch Controls The quick hitch operation control fitted with a device/method to prevent accidental operation. This device must be fully functional at all times whilst this item of plant is in operation. **References:** AS/NZS4024.1906, AS4772		

HAZARD(S)		Prelim. Risk Rating	Residual Risk Rating
	CRUSHING	HIGH 22	MEDIUM 15

Risk Treatments In Place: **Seat Belt**
This item of plant is fitted with an operator seat belt. This seat belt must be free from damage, and permanently and sturdily attached at all times whilst this item of plant is in operation. Operators must use this seat belt at all times during operation.
References: ISO6683

	CRUSHING	HIGH 22	MEDIUM 15

Risk Treatments In Place: **Quick Hitch Operation Alarm**
This item of plant is fitted with a quick hitch with a fully functional audible alarm fitted to the operator work area to alert the operator that the host machine is in the mode that allows for the controls to be operated to engage or disengage attachments.

This alarm must be fully functional at all times whilst this item of plant is in operation.
References: AS4772, ISO7731

	CRUSHING	HIGH 22	MEDIUM 15

Risk Treatments In Place: **Movement Awareness Alarm**
An automatic movement awareness alarm is fitted to this item of plant. This alarm is automatically activated when travel in any direction occurs. It must be fully functional and serviceable at all times whilst this item of plant is in operation.
References: ISO7731, ISO9533

	CRUSHING	HIGH 22	MEDIUM 15

Risk Treatments In Place: **Quick Hitch - Fully Automatic**
This item of plant is fitted with a fully automatic hydraulic (quick) hitch (i.e. has hydraulically operated latch as primary retention device and remotely controlled safety device as back up) between the excavator arm and attachments.

This safety device must meet all of the following criteria at all times prior and during operation -

1. Is a mechanical device i.e. not just an indicating system/device
2. Must be intentionally disengaged to remove attachments
3. Is not the primary source of retention of attachments
4. Has means of verifying engagement of the primary retention device from the operator position and
5. Has means of verifying engagement of safety system from operator position

If any of these criteria are not met at any time then operation must cease.
References: AS4772

	ENTANGLEMENT, SHEARING, CRUSHING, BURNS, PINCHING	HIGH 22	MEDIUM 15

Risk Treatments In Place: **Safe Operator Location**
This machine is designed so that the operator is isolated from all danger zones whilst at the operator position. This condition must exist at all times whilst this item of plant is in operation.
References: AS/NZS4024.1201

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
STRIKING, BURNS	HIGH 22	MEDIUM 15

Risk Treatments In Place: **Hydraulic Hoses**

This item of plant has hydraulic hoses. These hoses must be inspected each day or before each use for wear and tear. If there are visible signs of wear immediate action must be taken to control the risk arising from this wear. These inspections must be documented.

Hydraulic fluid at high pressure can penetrate the skin, never use any part of your body to check for leaks. If oil penetrates the skin seek medical advice immediately. Always use a piece of cardboard or similar to check for suspected leaks.

Hydraulic pressure can be stored and is a hazard. Before disconnection or connection of hydraulic hoses complete the following steps -

1. Stop engine
2. Keep all bystanders clear of the work area
3. Refer to operators manual as to methods to release pressure
4. Wait 5 minutes

References: AS2671, AS4024

COLLISION, POOR VISIBILITY	HIGH 22	MEDIUM 15

Risk Treatments In Place: **Machine Lights**

This item of plant is fitted with self contained lighting. All of these lights must be fully functional and serviceable whilst this item of plant is in operation in areas of reduced light. If any of these lights stop working the operation must cease immediately and the faulty light be repaired before operation can continue in the areas of reduced light.

References: ISO20474-

ENTANGLEMENT	HIGH 22	MEDIUM 15

Risk Treatments In Place: **Engine Guards**

The engine fan and alternator belts, pulleys and gears are guarded. These guards must be present and fully functional and serviceable at all times whilst this item of plant is in operation.

References: AS/NZS4024.1601

COLLISION	HIGH 22	MEDIUM 15

Risk Treatments In Place: **Beacon**

This item of plant is fitted with a safety beacon. This beacon must meet the following criteria at all times whilst this item of plant fitted is in operation -

- Is visible up to 200m in all directions (allowing for intermittent obstruction from the plant structure whilst the plant is in operation)
- Is fitted in the most appropriate location on machine to maximise visibility without risking continual damage

NOTE: more than one beacon may be fitted to meet these criteria.

References: ISO20474-

OPERATIONAL MALFUNCTION	HIGH 22	LOW 2

Risk Treatments In Place: **Plant Modification**

The plant is in original condition.

References: ISO31000

ENTRAPMENT	HIGH 21	MEDIUM 15

Risk Treatments In Place: **Two Operator Exits**

The operator cabin/work area on this item of plant has a minimum of two (2) possible exits. These must be functional and accessible at all times whenever the item of plant is manned, whether during operation or maintenance activities.

References: AS3868

<table>
<tr><th>HAZARD(S)</th><th>Prelim. Risk Rating</th><th>Residual Risk Rating</th></tr>
<tr><td>POOR VISIBILITY</td><td>HIGH 21</td><td>MEDIUM 15</td></tr>
<tr><td colspan="3">Risk Treatments In Place: Windscreen Wipers
The windscreen wipers and washers fitted to this item of plant must be fully functional at all times.
References: AS/NZS4024.1201</td></tr>
<tr><td>CRUSHING</td><td>HIGH 21</td><td>MEDIUM 15</td></tr>
<tr><td colspan="3">Risk Treatments In Place: ROPS
A Roll Over Protective Structure (ROPS) to ISO 3471, ISO 12117.1 or 2, AS 2294 or AS 4987 is fitted to this item of plant. A permanent label stating this standard must be attached to the structure at all times. This structure provides a safety envelope during a rollover. A warning label re: wearing of seat belts at all times whilst this item of plant is in operation and accordingly seat belts must be worn at all times during operation.
References: AS2294, ISO3471, AS4987</td></tr>
<tr><td>CRUSHING</td><td>HIGH 21</td><td>LOW 5</td></tr>
<tr><td colspan="3">Risk Treatments In Place: FOPS Level II
This item of plant is fitted with a level II Falling Objects Protective Structure (FOPS). This structure is designed to protect the operator from heavy falling objects (e.g. trees, rocks). Care should still be exercised when operating in an area with a risk of falling objects.
References: AS2294, ISO3449, ISO10262</td></tr>
<tr><td>INCORRECT OPERATION</td><td>HIGH 20</td><td>MEDIUM 14</td></tr>
<tr><td colspan="3">Risk Treatments In Place: Intuitive Controls
The controls fitted to this item of plant are orientated so that the movement of the control is consistent with the action of the machine e.g. moving a control lever to the left results in the machine turning to the left. This design feature must be maintained at all times whilst this item of plant is in operation.
References: AS/NZS4024.1906</td></tr>
<tr><td>STRAINS</td><td>HIGH 19</td><td>LOW 5</td></tr>
<tr><td colspan="3">Risk Treatments In Place: Controls Ergonomics
All controls including all levers, buttons, pedals, switches etc, are placed near the operator work position and are easy to reach and operate during the execution of the operator's normal duties. This applies for all persons within the 95th percentile of the normal population distribution.
References: AS/NZS4024.1901</td></tr>
<tr><td>STRIKING, BURNS</td><td>HIGH 19</td><td>LOW 5</td></tr>
<tr><td colspan="3">Risk Treatments In Place: Hydraulic Hose Failure Shield
This item of plant is fitted with a sturdy, permanent shield(s) between the hydraulic hoses and any body parts of the operator to provide protection during a hose or component failure. This shield(s) must be present and fully functional at all times whilst this item of plant is in operation.
References: AS2671, AS4024, ISO4413</td></tr>
<tr><td>SLIPPING, INCORRECT OPERATION</td><td>HIGH 17</td><td>LOW 6</td></tr>
<tr><td colspan="3">Risk Treatments In Place: Control Levers/Pedals/Buttons
All controls including all levers, buttons, pedals, switches etc. must be kept non-slip and free from damage at all times.
References: AS/NZS4024.1901</td></tr>
</table>

<table>
<tr><th>HAZARD(S)</th><th>Prelim. Risk Rating</th><th>Residual Risk Rating</th></tr>
<tr><td>SLIPPING</td><td>MEDIUM 12</td><td>LOW 6</td></tr>
<tr><td colspan="3">Risk Treatments In Place: Operator Work Area Access/Egress
Safe access and egress to the cabin/work area(s) must be maintained at all times whilst this item of plant is in operation. It must be non slip, free from damage, located at a height so as to not cause undue body stresses and strains with three points of contact available to personnel at all times.

All personnel must -
1. Always face the item of plant during access and egress.
2. Always maintain three points of contact during access and egress.
3. Never carry an object(s) in his/her hand(s) during access and egress.
4. Never jump off machine.
References: AS3868</td></tr>
<tr><td>SLIPPING, FALLING</td><td>MEDIUM 12</td><td>LOW 6</td></tr>
<tr><td colspan="3">Risk Treatments In Place: Access/Egress Instruction Label
An instruction label is fitted adjacent access/egress areas to advise all personnel of the following -

1. Always face the item of plant during access and egress.
2. Always maintain three points of contact during access and egress.
3. Ensure the steps are clean.
4. Never jump off machine.

This label must be clear and legible at all times whilst this item of plant is in operation.
References: ISO31000</td></tr>
<tr><td>POOR VISIBILITY, COLLISION</td><td>MEDIUM 12</td><td>MEDIUM 11</td></tr>
<tr><td colspan="3">Risk Treatments In Place: Operator Mirror
This item of plant is fitted with at least one rear vision mirror. This mirror must be fully functional and clean at all times whilst this item of plant is in operation.
References: ISO5006</td></tr>
<tr><td>ELECTRIC SHOCK, BURNS</td><td>MEDIUM 12</td><td>LOW 6</td></tr>
<tr><td colspan="3">Risk Treatments In Place: Battery Cover
All batteries fitted to this item of plant are constrained to prevent displacement & fitted with a permanent sturdy cover which allows for ventilation. The constraint and cover must be present and fully functional and serviceable at all times whilst this item of plant is in operation.
References: AS/NZS4024.1201</td></tr>
<tr><td>SLIPPING, INCORRECT OPERATION</td><td>MEDIUM 9</td><td>LOW 4</td></tr>
<tr><td colspan="3">Risk Treatments In Place: Operator Floor
All work area floors are non-slip and free from damage & debris.

Floor area must remain non-slip and free from damage & debris, including rubbish, tools and other items, at all times whilst this item of plant is in use.
References: AS/NZS4024.1201, ISO20474-</td></tr>
<tr><td>STRAINS</td><td>MEDIUM 9</td><td>LOW 1</td></tr>
<tr><td colspan="3">Risk Treatments In Place: Operator Seat
The operator seat fitted to this item of plant must remain free from damage and tears, and be permanently and securely fitted at all times.
References: AS/NZS4024.1401 , ISO20474-</td></tr>
</table>

MAINTENANCE

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
BURNS	MEDIUM 9	LOW 5

Risk Treatments In Place: **Exhaust**
The engine exhaust on this item of plant is fitted with a guard to prevent injury to any person and control the risk of initiating a fire. It must be present and fully functional and serviceable at all times whilst this item of plant is in operation.
References: AS/NZS4024.1201

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
CURRENT OR PREVIOUS STRUCTURAL DAMAGE	CRITICAL 25	MEDIUM 15

Risk Treatments In Place: **Structural Integrity**
Regular checks for structural damage must be undertaken. Look for cracks in frames/chassis (current or repaired), bends or damage to structural components, etc.
References: ISO31000

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
INCORRECT OPERATION	HIGH 22	MEDIUM 15

Risk Treatments In Place: **Maintenance Manual**
The manufacturer's maintenance manual(s) has been supplied for this item of plant

These manual(s) must be available at all times to all users and maintenance staff of this item of plant. All users and maintenance staff must read and be familiar with these handbook(s) prior to maintaining or repairing this item of plant.

A complete risk assessment/JSEA must be undertaken covering all inspection, maintenance, servicing and transportation requirements of this piece of plant prior to use.

A full assessment of the competence of people using the book(s) must also be undertaken
References: Work Health & Safety Act & Regulations-

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
CRUSHING	HIGH 22	MEDIUM 15

Risk Treatments In Place: **ROPS Damage**
The Roll Over Protective Structure (ROPS) fitted to this item of plant must remain free from damage at all times whilst this item of plant is in operation.
References: AS2294, ISO3471

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
STRIKING, BURNS	HIGH 22	MEDIUM 15

Risk Treatments In Place: **Hydraulic Damage**
The hydraulic hoses to this item of plant are free from damage and protected against damage arising from contact with the plant structure. Ensure that hoses are free from damage and that protection is in place at all times whilst this item of plant is in operation. Inspection of the hydraulic hoses and protection system should be conducted regularly and documented as part of your plant safety programme.
References: AS2671, AS4024, ISO4413

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
OPERATIONAL MALFUNCTION	HIGH 22	LOW 2

Risk Treatments In Place: **Major Fluid Leaks**
This item of plant must remain free from leaks at all times whilst in operation (this includes engine, transmission, cooling system, air, fuel, drive line, wheel hubs, steering and hydraulics). Development of a major leak will require this item of plant to be stood-down until repaired. Minor leaks detected must be repaired within 1-14 days.
References: ISO31000

HAZARD(S)	Prelim. Risk Rating	Residual Risk Rating
OPERATIONAL MALFUNCTION	HIGH 21	MEDIUM 15
Risk Treatments In Place: **Service Records** Service and maintenance records are available for this item of plant. These records must continue to be maintained and stored in a secure area as part of your plant safety management programme. This programme includes the undertaking of regular inspections concerning the general condition of the item of plant including (but not limited to) tyre condition, oil levels and wear and tear on critical items such as brakes and steering, etc. All OEM prescribed, scheduled and non scheduled maintenance must also be documented as part of these records and attended to within a risk management framework. **References:** Work Health & Safety Act & Regulations-		
POOR VISIBILITY	MEDIUM 9	LOW 4
Risk Treatments In Place: **Windows & Screens** Ensure the cabin/work area safety glass windows and screens are kept clean and free from cracks and other damage at all times whilst this item of plant is in use. **References:** ISO20474- , AS/NZS4024.1201		
COLLISION, INSTABILITY	MEDIUM 9	LOW 4
Risk Treatments In Place: **Tracks** The tracks and track components must be inspected as part of a "pre start" checklist. These inspections must be documented as part of your plant safety programme. **References:** ISO20474-		

SECTION 6 IMAGES AND NOTES

IMAGES

No Images Available

NOTES

- No Notes Available -