

Project:

Assessment Number: Assessment Dates: **29/03/2021**

Updated:

Works to be conducted: **Excavation**

Site work Areas: **Various**

Plant Type: **Kubota U17-3**



Asset/Fleet/Rego No: **EX01**

Assessed by: **Tommy McErlean**

Reviewed by:

Plant Operators Names: **Various**

Plant Owner Name: **TMS Oz Plant Hire**

Initial Assessment

Follow up Assessment (eg plant modified)

Purpose of PURAC: To identify associated Hazards with the operation of Plant listed.

Determine Risk Ranking by choosing **CONSEQUENCE**, then the **LIKELIHOOD** and use the **colour table** below to decide

Consequence	Health & Safety	Environment
LOW	First aid treatment	Limited damage to area or low significance
MINOR	Medical Treatment	Minor short-term damage to environment / heritage
MODERATE	Classified Injury (LTI or restricted work case)	Moderate effects on environment / heritage
MAJOR	Fatality or severe permanent disability	Significant environmental / heritage damage
CRITICAL	Multiple fatalities / health effects to > 50 persons	Severe damage to environment / heritage with long-term effects



LIKELIHOOD TABLE		
Likelihood	Description	Frequency at Location
ALMOST CERTAIN	Expected to happen	Occurs once a week
LIKELY	May easily happen	Occurs once a month
POSSIBLE	May happen	Occurs once every year
UNLIKELY	May happen sometime	Occurs once every 10 years
RARE	May happen in extreme circumstances	Occurs once every 100 years



Likelihood	Consequence				
	Low	Minor	Moderate	Major	Critical
Almost certain	High (11)	High (16)	Extreme (20)	Extreme (23)	Extreme (25)
Likely	Moderate (7)	High (12)	High (17)	Extreme (21)	Extreme (24)
Possible	Low (4)	Moderate (8)	High (13)	Extreme (18)	Extreme (22)
Unlikely	Low (2)	Low (5)	Moderate (9)	High (14)	Extreme (19)
Rare	Low (1)	Low (3)	Moderate (6)	High (10)	High (15)

Is the plant designed to perform the task? Yes No _____

Has the plant been modified from the original condition? Yes No But potential exists to add quick hitch and/ or add Rock breaking attachment/ or different bucket

Is the plant in good working condition? Yes No _____

All identified action items closed out/addressed (plant checks)? Yes No _____

Is the plant safe to operate? Yes No Date: _____ Signature: _____

Potential Hazards	Hazard			Describe Hazard	Risk Level	Control Measure(s) Required	After Risk Level	Action & Action By (if required, JHA may cover some issues)	Close Out Date & Sign (only where specific corrective action is required)
	Y	N	N/A						
1. Are there any specific warnings or conditions (manufactures or other) relating to potential hazards from the operation of the item of plant? (Eg, Refer to technical or operating manuals, SOPs, safe use instructions etc)?	√			certain combinations of boom/ digger/ quick hitch and attachments can allow the operator's cabin to be struck during some operations – serious potential for injury and also <i>equipment</i> damage Other Alerts to be supplied by owner ASA Practicable	E18	Operators to review owner's manuals for guidance. Take 5/ JHA/ Testing of reach of configuration in use. Decals on windscreen S.O.P. 048 and 048A for Excavator/ VOC/ supervision Clearing Heavily Timbered terrain with Excavator Procedure Excavating Drill Pad Sumps Procedure Tramming Track Equipment Procedure Pad Construction Procedure	H10		
2. Can anyone be ENTANGLED in the plant? eg Hair caught in moving parts, PPE caught in moving parts	√			Caught in moving parts, pinch points crushed.	H12	Isolation procedures performed prior to commencement of task and tri-start machine. Take 5's, J.H.A., P.P.E. Guarding. Safe distance to be kept while machine is operating. Radio Communications. Signage. Use Spotter if needed.	L5		
3. Can anyone be CRUSHED ? eg Being crushed by moving parts.	√			Servicing & Checks Run over by plant	E22	Operator to ensure that they and no other persons are standing in a potential crush/drop zone. Take 5's, J.H.A. Set exclusion zone when servicing with signage. Isolation of machine and tri-start.	M9	Supervisor to oversee task and correct any shortfalls	Ongoing
4. Can anyone be CUT, STABBED or PUNCTURED ? eg Flying objects, moving parts, pinch points	√			Pinch points Cabin doors and engine bay doors	M8	Operators to maintain awareness of pinch points and ensure to keep body parts clear. Correct tooling. Wear gloves. Other P.P.E., Take 5's. Operator out of machine while being serviced. Eyes on task. Isolation of machine and tri-start.	L5		
5. Can SHEARING occur? eg Between two moving parts	√			Hold down pins, lock in bolts, articulation pin	E13	Regular servicing Pre-Start checks Excavator Procedure Guarding.	M9		
6. Can FRICION occur? eg Continuous contact with moving parts		√		Friction does not appear to be a hazard during normal operating conditions.					
7. Can anyone be STRUCK whilst operating the plant? eg Plant disintegrating, work pieces thrown out, moving parts	√			Potential exists for operator/offsider/bystanders to be struck. Plant is mobile and can therefore strike pedestrians or other plant.	E18	Maintain safe distance from operational area – exclusion zone. Conduct JHA/Take 5 prior to commencing tasks. Crew to ensure others are out of line of fire. Inspect all equipment prior to use. Traffic Management Plan. High Visibility Clothing. Radio Communication. Use Spotters when needed. Signage.	M9	Supervisor to oversee task and ensure appropriate controls measures are in place as per JHA.	Ongoing

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8. Can a hazardous PRESSURE be produced? eg Hydraulic hoses, radiator, etc	✓			Hydraulic system operates under high pressure. Cooling system produces high pressure and high heat. Burns, pinch point.	H12	Qualified maintenance personnel only to perform maintenance tasks. Maintain daily prestart checks. Pre-Start checks Excavator Procedure Check hoses/fittings for damage or wear. Correct tooling P.P.E. Take 5's, J.H.A.'s Wait for engine to cool before completing task. Machine isolate and tri-start performed.	L4	Site Mechanic to conduct periodic checks. Supervisor to call mechanic if he suspects any problems.	Ongoing
9. Can an ELECTRICAL hazard be created? eg Lack of insulation, contact with electrical conductors, poor earthing	✓			Possible if spraying of electrical energy sources during servicing of machine.	H13	Maintain specified distances from power sources. Isolate machine and perform a tri-start. J.H.A.'s & Take 5's. P.P.E.	M9		
10. Can an EXPLOSION occur? eg Gas emission, dusts, vapours, fuel tank		✓		No Potential for explosive hazard was identified at time of assessment.					
11. Can anyone using or near the plant SLIP, TRIP or FALL? eg Uneven surface, fall from a height, weather conditions	✓			Potential exists for persons to fall during access/egress from truck cabin. Persons also at risk from falling from any area on machine, but minimal.	E18	Maintain 3 points of contact during access/egress. Good housekeeping. Clean footwear before accessing machine cabin. Eyes on path ahead. Handrails – checked daily as part of pre-start.	M8	Supervisor to ensure spotters in place. JHA action item.	Ongoing
12. Are there ERGONOMIC - MANUAL HANDLING hazards associated with the plant? eg Poor posture, repetitive movements, awkward positions, strained movements	✓			No. All controls fitted to AS. Prestart, not impeded by other equipment or W@H. Conduct servicing	H13	Maintain correct body posture when performing task. Wear gloves during set/pack up tasks. Fitter V.O.C, take regular breaks and stretching exercises, aids, other personal	L5	JHA action item.	Ongoing
13. Are there ERGONOMIC - OPERATING CONTROL hazards associated with the plant? eg Difficult to understand, inappropriate colouring, function not identified	✓			Malfunction Lack of knowledge	H13	Audio and visual warnings S.O.Ps Operations manuals	L4		
14. Can anyone be SUFFOCATED? eg Lack of oxygen, contaminated atmosphere	✓			Faulty exhaust system allowing untreated fumes into cabin. Faulty Air-conditioning system.	H13	Maintain Prestart checks Change air filters when servicing.	M9		
15. Does operation of the plant cause extreme TEMPERATURE changes? eg Fire, burns through conduction, convection, cryogenic burns	✓			Hot exhaust temperatures, Turbo, engine cooling systems. All can present as having potential to cause injury via elevated temperatures.	H13	Do not touch hot components. Wait to components cool prior to commencing maintenance tasks. Fire suppression P.P.E. Correct tooling. Take 5's, J.H.A.	M8		
16. Can certain WEATHER conditions create a hazard? Eg Hypothermia, heat stroke, wet conditions	✓			All weather conditions have the potential to cause hazards	H17	Operate according to the conditions, do not operate in high winds or electrical storms, and do not operate in excessively muddy conditions. S.O.P. for Lightning, Take 5, J.H.A. Have plenty of drinking water with you while operating.	M8		

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17. Does VIBRATION of the plant create a hazard? eg Plant becomes unstable, causes physical problems for the operator	√			Body vibration and unsafe plant positioning	H17	Competent operator – V.O.C Safe operating Good planning	M8		
18. Can the plant emit toxic FUMES or VAPOURS? eg Exhaust fumes, chemicals	√			Exhaust fumes, Spilt hydrocarbons	H13	Take 5's. Maintain daily pre-start checks. Do Not breathe vapours, use in well ventilated area Spill kits on site, P.P.E. Use mask if needed.	M8		
19. Is the plant noisy? eg Emit >85 dBA at the operator, effects operator communication	√			Meets Australian Design Regulations for Vehicles Loss of hearing.	E18	Maintain seals on cab doors P.P.E. Training on how to correctly use earplugs.	M9		
20. Is there poor visibility eg at the controls, at the task, darkens surrounding areas	√			Excavator can operate 24/7 including dusk/ night/ dawn and overcast days	E18	Area Lighting sets Machine Lighting Well delineated work areas Radio Comms Hi Vis clothing Planning	H10		
21. Does the plant emit RADIATION? Eg X-rays, EMR, laser		√							
22. Can operation of the plant create DUST? eg Explosive atmosphere, breathing hazard, decrease visibility	√			Operation of plant on loose unsealed surfaces creates a dust hazard.	H13	Use water cart to wet down area, Limit excess plant movements. Stick to designated tracks/roads.	L5		
23. Can the plant become UNSTABLE during operation? eg Working on uneven ground, shifting load	√			Vehicle has potential to become unstable during all phases of operation due to poor surface conditions.	E21	Signage, J.H.A.'s, Take 5's. Drive to the conditions. Do not exceed manufacturers recommended limits. Do not overload plant. Operate Excavator Steep Terrain Procedure Operator V.O.C., Operate to Conditions.	M9		
24. Could LOSS of LOAD occur? eg Failure of booms/ rams/ components, overloading, entanglement in surrounding structures	√			Boom/ digger arm/ quick hitch/ attachments (bucket/ rock breaker etc) could come loose or detached	E18	Qualified Mechanics only to perform maintenance/repairs. Maintain pre-start and during shift inspections/ checks and report faults Observation by supervisors, operators and maintenance staff	M9		
25. Is there anything in the SURROUNDING ENVIRONMENT that may produce a hazard? eg Power lines, low ceiling, other plant, storage areas	√			Fixed Structures/other Plant / Weather conditions/ surface conditions all contribute to hazard creation. Yes, surrounding environment is always a factor in the generation of specific hazards. Each needs to be managed on an individual basis.	E18	Update JHA (follow Change Management process). Take 5's. Use traffic control when needed Use spotters when needed Maintain awareness of other personnel and plant. Radio communications. Operate to conditions.	M8		



MOBILE PLANT MAINTENANCE
DIESEL ENGINE REMAPPING

Plant Usage Risk Assessment and Controls

Potential Hazards	Hazard			Describe Hazard	Risk Level	Control Measure(s) Required	After Risk Level	Action & Action By (if required, JHA may cover some issues)	Close Out Date & Sign (only where specific corrective action is required)
	Y	N	N/A						
26. Can CHEMICALS create a hazard? eg Leaking from plant, splashing, explosion	√			Hydrocarbon are present in various components	H13	Qualified Mechanics only to perform repairs. Maintain daily checks and report faults Pre-Start Checks Excavator Procedure Spill kits on site.	M8		
27. Are there ANY OTHER potential hazards generated by or during the use of this item of plant and/or any attachments?	√			Many other hazards can present during the course of normal operation	E18	Maintain situational awareness and operate accordingly. Always operate to the conditions and your own ability Update JHA (follow Change Management process) Radio communications, Take 5's. Pre-start Information Meeting S.O.P.'S Signage Traffic Management Plan Operators V.O.C.	L5	Supervisor and crew to maintain vigilance in identifying changes on the job. Constant monitoring of controls is required.	Ongoing