

Title	Maintenance – Coiled Tubing Equipment				
Target Population	Field Engineers, Field Specialists & Equipment Operators				
This requirement is applicable to:	✓	JFE	✓	FST	✓ EOT
	✓	FE1	✓	FS1	✓ EO1
		FE2		FS2	✓ EO2
				FS3	✓ EO3
					✓ GEO

Objective:

The objective of this task is to evaluate and verify the employee's competency in performing basic maintenance on Coil Tubing Unit under supervision including:

Description		JFE	FE1	FST	FS1	EOT	EO1	EO2	EO3	GEO
1	Batch Mixer	✓		✓		✓	✓			✓
2	Fluid Pumping Unit	✓		✓			✓	✓		✓
3	Nitrogen Converter	✓	✓		✓			✓	✓	✓
4	Coiled Tubing Unit including:	✓	✓		✓				✓	✓
	Power Pack									
	Control Cabin									
	CT Reel									
	Injector Head									
	Pressure Control Equipment			✓						
5	Basic BHA Components	✓	✓	✓				✓	✓	✓

The employee should be able to identify the components of CT equipment including those found in hydraulic circuits, explain their functions, ratings and maintenance procedures. This include filling out the EMC 1 form.

He should have basic knowledge of hydraulics including the various components and principles of operations.

Tasks:

The employee will be assigned under an experienced mechanic / electrician or a mentor in the base to guide him in performing the maintenance tasks. This include tracing of the hydraulic lines by referring to Operation and Maintenance Manual.

1. Identify the main components and functions of CTU (i.e. injector head, CT reel, stripper, BOP etc.)
2. Identify main components and functions of basic BHA
3. Physically check the CTU components and fill out the EMC 1 form.
4. Assist in assembly and disassembly of the following components (whenever possible):
 - Injector head conversion. Identify each parts.

- Reel swivel maintenance. Identify each parts.
 - Stripper (replace inserts/brass bushing). Identify each parts.
 - BOP conversion/replacing inserts including function and pressure testing. Identify each parts.
 - Downhole tools (connectors, check valves, nozzles)
5. Show and explain the hydraulics system of the CT unit.
 6. Prepare a report for the activities and explain it to the assigned mentor

IMPORTANT NOTE: The assigned Assessor must conduct the required evaluation to evaluate employee's competency and provide feedback through the respective Task Evaluation Forms PRIOR TO completing this Task Sheet.

This task is deemed INCOMPLETE without the Task Evaluation Forms

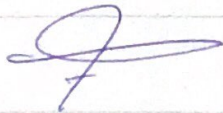
Brief summary of employee's learning outcome (to be completed by Assessor):

Need improvement in hydraulic system
but can perform EMC 1 and
can operate batch mixer

Assessor's Comments & Recommendation:

Good team work

Signature



Assessment Date

16/01/2025

Name

Azmar Abd Razzak

Position

C/Mechanic

FSM / OM Comments & Recommendation:

Task completed

Signature



Assessment Date

16/1/25

Name

Ruthwaga Azizah

Position

FSM

DIMENSION BID

TASK EVALUATION FOR BASIC MAINTENANCE

(ref. CTS-FORM-93 BASIC MAINTENANCE)

NAME	SHAHIRIL IZHAM BIN ALIAS
EMPLOYMENT DATE	11/6/2023
PERFORMANCE CRITERIA	<ol style="list-style-type: none"> Equipment design, technical specification, components and functions: Know and understand equipment design, technical specifications, components and functions Equipment operation: Able to operate the equipment Equipment maintenance / care: Able to perform equipment recommended care / maintenance Equipment maintenance report: Able to track on all required equipment data prior to plan for next maintenance Maintenance analysis: Able to analyse equipment problem based on problem report and EMC. Hence, to identify root cause and best practice to avoid the same problem from happen

ASSESSMENT RESULT SUMMARY


Element of Competency	Score	Assessed By	Assessment Date
1. Batch Mixer	90%	Taufiq	20/1/2025
2. Fluid Pumping Unit	NA		
3. Nitrogen Converter			
4. Coiled Tubing Unit			
4.1 Power Pack			
4.2 Control Cabin			
4.3 CT Reel			
4.4 Injector Head			
4.5.1 Pressure Control Equipment (Stripper)			
4.5.2 Pressure Control Equipment (SBOP)			
4.5.3 Pressure Control Equipment (Combi BOP)			
5. Maintenance Reporting			

Important Note: The minimum passing score is 80%. If the score falls below the minimum passing score, the employee must repeat the assessment

DIMENSION BID

Assessor's Comments & Recommendation (COMPULSORY):

ABLE to operate bmx unit standalone and without supervision. Complete task for break out from EOI to EOI

Signature		Assessment Date	20/1/2025
Name	Taufiq Ismail	Position	CT SUPERVISOR

DIMENSION BID

1. BATCH MIXER

THEORY	COMMENT
1. Identify the Batch Mixer and explain its functions	Complete
2. Show where the following components of Batch Mixer Power Pack and explain the function	Complete
i. Engine component	/
ii. Hydraulic line	/
iii. Parameter on control panel	/
iv. Zone 2 system	/
3. Show where the following components of Batch Mixer Tank and explain the function	Complete
i. C-Pump	/
ii. Agitator	/
iii. Actuator Valve	/
iv. Butterfly Valve	/
v. Volute	/
vi. Jetting	/
4. How did you rig up hydraulic hose from BMX Power Pack to Tank?	Done
5. How did you rig up 4" line?	Done
6. What should you check BEFORE start the Batch Mixer Power Pack?	Done
7. What should you check and monitor during operating the Batch Mixer Power Pack?	Done
8. What is the safety precaution during operating the Batch Mixer Power Pack?	Done
9. What should you check BEFORE stop the Batch Mixer Power Pack?	Done
10. What should you check BEFORE start the Batch Mixer Tank?	Done
11. What should you check and monitor during operating the Batch Mixer Tank?	Done
12. What is the safety precaution during operating the Batch Mixer Power Pack?	Done
13. What should you check BEFORE stop the Batch Mixer Tank?	Done
PRACTICAL	
1. Show how to carry out following basic maintenance	Complete as per required
i. Check coolant level	
ii. Replace fan and alternator belt	
iii. Replace engine oil filter	
iv. Check battery voltage	
v. Clean crankcase vent breather	
vi. Clean exhaust cooler (pyroban)	
vii. Change transmission oil	
viii. Change fuel filter	
ix. Replace air filter	
x. Clean flame trap	
xi. Grease bearing	
xii. Redress c-pump	

OVERALL SCORE	STRONG			ADEQUATE			IMPROVEMENT NEEDED		
	10	9	8	7	6	5	4	3	2


DIMENSION BID

RUN #3

Equipment Maintenance Checklist 1		PRE JOB	LOCATION	ON JOB	LOCATION	POST JOB	LOCATION
Equipment type: <u>CTU Batch Mixer</u>							
Location: <u>Mch/Demob</u>							
Equipment number: <u>CTU 6m/01</u>							
Y N Checklist Appearance and Safety Equipment: <input checked="" type="checkbox"/> Ensure unit appearance good and clean <input checked="" type="checkbox"/> Verify that all earth/ground cables are in place, well connected <input checked="" type="checkbox"/> Skid condition - visually check for any damage <input checked="" type="checkbox"/> Fire extinguisher is present and certified Cooling System: <input checked="" type="checkbox"/> Coolant level & condition <input checked="" type="checkbox"/> Check visible leaks <input checked="" type="checkbox"/> Radiator hose & clamp condition <input checked="" type="checkbox"/> Perform visual and physical check on radiator fan Engine Inspection: <input checked="" type="checkbox"/> Check engine oil level (SAE 15W-40) not too high or too dark <input checked="" type="checkbox"/> Check any general leaks on all filter, hoses and connectors. <input checked="" type="checkbox"/> Check fan, hub, fanbelt condition/ tension <input checked="" type="checkbox"/> Check battery cable connectors (if applicable) <input checked="" type="checkbox"/> Check condition of engine hoses <input checked="" type="checkbox"/> Check for rusted part - repair/repaint if required <input checked="" type="checkbox"/> Check the crankcase vent system for excessive blow by <input checked="" type="checkbox"/> Check engine mounting condition - tight any loose bolt Controls / Instrumentation: <input type="checkbox"/> Normal kill tested <input type="checkbox"/> Emergency kill tested <input checked="" type="checkbox"/> Oil pressure gauge in good condition <input checked="" type="checkbox"/> Tachometer display in good condition <input checked="" type="checkbox"/> Throttle control in good condition <input checked="" type="checkbox"/> Engine stop cable/button in good condition <input checked="" type="checkbox"/> Engine start cable/button in good condition Exhaust System: <input checked="" type="checkbox"/> Pipework - check for any leak or damage <input checked="" type="checkbox"/> Condition/Operation of exhaust flapper <input checked="" type="checkbox"/> Condition of exhaust wrap are in place and in good condition Transmission, Gearbox: <input checked="" type="checkbox"/> Check level Sight glass/dipstick shows in full (SAE 90) <input checked="" type="checkbox"/> Check condition of the gearbox breather filter Hydraulic System: <input checked="" type="checkbox"/> Check Hyd. Hoses/valve/connections undamaged and clean <input checked="" type="checkbox"/> Hyd.tank - drain any water <input checked="" type="checkbox"/> Check hydraulic oil level (2" from top) (Tellus 46) <input checked="" type="checkbox"/> Check hydraulic gauges <input checked="" type="checkbox"/> Check condition of fittings & couplings Fuel System: <input checked="" type="checkbox"/> Check for any water contamination in the fuel filter sight bowl <input checked="" type="checkbox"/> Check fuel tank breather cap condition <input checked="" type="checkbox"/> Check for leaks on fuel lines, connections, and hoses <input checked="" type="checkbox"/> Fuel filter - check condition <input checked="" type="checkbox"/> Fill up the diesel tank to 90% (if applicable) <input checked="" type="checkbox"/> Drain 3 litre fuel from drain valve		Running Hours Date: <u>11/15/2022</u> Y N Checklist Air System: <input checked="" type="checkbox"/> Check any visible leaks - ensure air up 90-110psi <input checked="" type="checkbox"/> Gauges in good condition <input checked="" type="checkbox"/> Air reservoir / tanks - drain any water <input checked="" type="checkbox"/> Air hose, connections, piping, valves and actuators condition <input checked="" type="checkbox"/> All pneumatic control valves working properly <input checked="" type="checkbox"/> All gauges in good condition Air Cleaner: <input checked="" type="checkbox"/> Check the element for water or soot and clean as required Zone II System: <input checked="" type="checkbox"/> Flame traps - check cleanliness <input checked="" type="checkbox"/> Air intake valve (flapper) - check condition <input checked="" type="checkbox"/> Spark arrestor - check condition Paddles / Agitator: <input checked="" type="checkbox"/> Check oil level (SAE 90) <input checked="" type="checkbox"/> Grease bearing <input checked="" type="checkbox"/> Check agitator's rotation System Pressure: Fuel pressure @ idle speed _____ psi Fuel pressure @ 1800 RPM _____ psi Oil pressure @ cold start <u>90</u> psi Oil pressure @ 180deg F <u>40</u> psi Certifications: <input type="checkbox"/> Sling condition/ Due on <u>01/25</u> <input type="checkbox"/> MPI due <u>11/25</u> <input type="checkbox"/> Visual Test due <u>11/24</u>					
Please state the equipment readiness							
Ready				Not Ready			
Maintenance type done. (Please state if any spare used)							
Preventive Maintenance				Corrective Maintenance			
NAME		POSITION		EXAMINER SIGNATURE		VERIFIED BY	
Doc Ref No.: CTS-FORM-13 Rev. No. 01 Effective Date: 01/02/2022 (Rev. 02, dated 01/11/18 OBSOLETE)		SHARON EOT		CONTROLLED COPY			

DIMENSION BID

Run # 3

Equipment Maintenance Checklist 1		PRE JOB	LOCATION	ON JOB	LOCATION	POST JOB	LOCATION																																																																																																																													
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