

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.

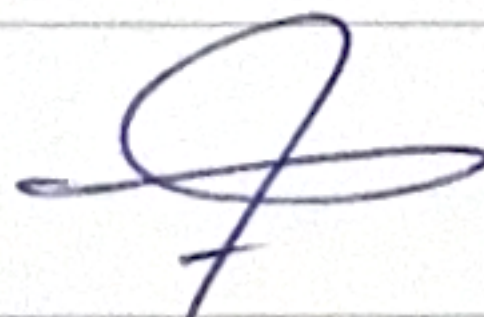
This task is deemed INCOMPLETE without the Task Evaluation Forms

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

Need to improve hand on skill in hydraulic system can perform Emc 2.

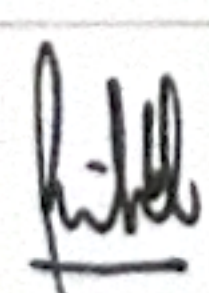
Assessor's Comments & Recommendation:

Good team work.

Signature		Assessment Date	16/01/2025
Name	Azhar Abd Razak	Position	C/Mechanic

FSM / OM Comments & Recommendation:

- To improve in term of troubleshooting.

Signature		Assessment Date	19/1/25
Name	Ridwan Azman	Position	FSM

DIMENSION BID

Equipment Maintenance Checklist 1

PRE JOB

LOCATION

ON JOB

LOCATION

POST JOB

LOCATION

Equipment type : Batch Mixer Tank

Equipment number : CTU/BM/01

Y N Checklist

Appearance & Safety Equipment:

- ☒ Ensure unit is clean
- ☒ Skid condition - visually check for any damage
- ☒ Walkway/Ladders - check for any damage
- ☒ Ensure anti slip installed at walkway/ladder

Labelling

- ☐ MGW and SWL in place
- ☐ Last annual inspection

Lifting Devices

- ☒ Inspection on shackles and pins, slings and lugs
- ☒ MPI on pad eye if necessary
- ☒ Mark the inspection date and due date
- ☒ Load test is current
- ☒ All protection caps and ID tags in place.

Corrosion, Dent, Defects in Weld

- ☒ Check for rust in weld, no leaks
- ☒ Check for leakages or any damage at tank
- ☒ Check all piping, manhole covers, valves

Safety Equipment and Certification

- ☒ Visual inspection of all pad eyes and lifting gear
- ☒ Safety guards and rail in working condition

Location Mob/Demob : DLC

Date : 30/03/2024

Y N Checklist

C-Pump:

- ☐ C-Pump packing - check condition
- ☒ Check operation and shut-in pressure 30 psi
- ☒ 4x5 C-Pump > 45 psi
- ☒ 5x6 C-Pump > 55 psi
- ☒ Perform circulation test

Mixing tank & piping:

- ☒ Check condition of mixing tank & paddle
- ☒ Check condition of suction & discharge piping
- ☒ Check condition of B/F Valve & grease
- ☒ Check condition of safety railing w/comp lock pin
- ☒ Mixing head + circulation jet - no cement build up

Paddles / Agitator:

- ☒ Check oil level (SAE 90)
- ☒ Grease bearing
- ☒ Check agitators rotation

Certifications:

- ☒ Sling condition/ Due on 8/24
- ☒ MPI due 8/24
- ☒ Visual Test due 8/24

Please state the equipment readiness

Ready

Not Ready

Ready for job but need to replace
C-pump seal

Maintenance type done. (Please state if any spare used)

Preventive Maintenance

Corrective Maintenance

NAME

HULAF

POSITION

EO

EXAMINER SIGNATURE

[Signature]

VERIFIED BY

[Signature]

DIMENSION BID

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TASK EVALUATION FOR BASIC MAINTENANCE

(ref. CTS-FORM-93 BASIC MAINTENANCE)

NAME	AHMAD HULAIF AIMAAN BIN AHMAD HAMINIZA
EMPLOYMENT DATE	
PERFORMANCE CRITERIA	<div>1. Equipment design, technical specification, components and functions: Know and understand equipment design, technical specifications, components and functions</div> <div>2. Equipment operation: Able to operate the equipment</div> <div>3. Equipment maintenance / care: Able to perform equipment recommended care / maintenance</div> <div>4. Equipment maintenance report: Able to track on all required equipment data prior to plan for next maintenance</div> <div>5. 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</div>

ASSESSMENT RESULT SUMMARY

Element of Competency	Score	Assessed By	Assessment Date
1. Batch Mixer	85%	MOHD SYUKRI AWANG	20/1/25
2. Fluid Pumping Unit			
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			

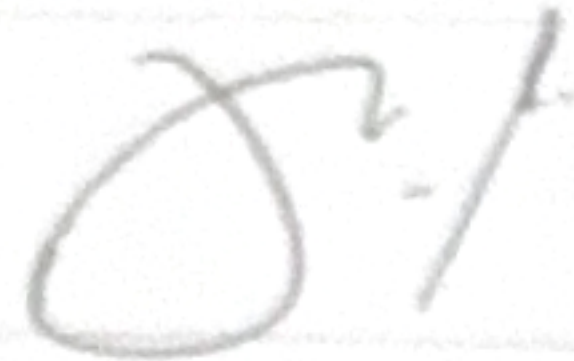
Important Note: The minimum passing score is 80%. If the score falls below the minimum passing score, the employee must repeat the assessment

DIMENSION BID

Assessor's Comments & Recommendation (COMPULSORY):

* Can stay alone operate & rig up bma
as understanding during operation & mixing

Signature



Assessment Date

20-01-25

Name

M/HD SYUKKI AHANA

Position

FS

1. BATCH MIXER

THEORY	COMMENT
1. Identify the Batch Mixer and explain its functions	done
2. Show where the following components of Batch Mixer Power Pack and explain the function	
i. Engine component	done
ii. Hydraulic line	done
iii. Parameter on control panel	done
iv. Zone 2 system	done
3. Show where the following components of Batch Mixer Tank and explain the function	
i. C-Pump	done
ii. Agitator	done
iii. Actuator Valve	done
iv. Butterfly Valve	done
v. Volute	done
vi. Jetting	done
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?	
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?	
PRACTICAL	
1. Show how to carry out following basic maintenance	
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	done

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