

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.

- Identify the main components and functions of CTU (i.e. injector head, CT reel, stripper, BOP etc.)
- Identify main components and functions of basic BHA
- Physically check the CTU components and fill out the EMC 1 form.
- 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):

- Candidate able to identify the basic of hydraulic system for CT unit, identify the part of PCE and perform pressure test Bop, Stripper and Riser under supervision

Assessor's Comments & Recommendation:

- Candidate willing to learn and work hard
- Recommended to the next level

Signature		Assessment Date	30/10/2024
Name	Yusuf Ahmad	Position	MANUFACTURE DEPT.

FSM / OM Comments & Recommendation:

- Able to explain well in term of equipment maintenance

Signature		Assessment Date	3/11/24
Name	M. KHAIRUL RIDHWAH AZIZAN CTS FIELD SERVICE MANAGER Dimension Bid (M) Sdn Bhd	Position	FSM

DIMENSION BID

TASK EVALUATION FOR BASIC MAINTENANCE

(ref. CTS-FORM-93 BASIC MAINTENANCE)

NAME	MUHAMMAD ALIFF BIN ZULKEFLI
EMPLOYMENT DATE	12 JANUARY 2025
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	N/A		
2. Fluid Pumping Unit	8	Jaffar Jaffar	13/1/25
3. Nitrogen Converter	8	Jaffar Jaffar	14/1/25
4. Coiled Tubing Unit	N/A		
4.1 Power Pack	N/A		
4.2 Control Cabin	N/A		
4.3 CT Reel	N/A		
4.4 Injector Head	N/A		
4.5.1 Pressure Control Equipment (Stripper)	N/A		
4.5.2 Pressure Control Equipment (SBOP)	N/A		
4.5.3 Pressure Control Equipment (Combi BOP)	N/A		
5. Maintenance Reporting	N/A		

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):

The operator showed strong skill in pump fluid and N2 pump and troubleshooting with good HSE compliance and communication.

Signature		Assessment Date	14/11/25
Name	JOHANN DOHM	Position	HE10 SPECIALIST <u>III</u>

DIMENSION BID

2. FLUID PUMPING UNIT

THEORY	COMMENT
1. Identify the Fluid Pumping Unit and explain its functions	8
2. Show where the following components of Fluid Pumping Unit and explain the function	
i. Engine component	8
ii. Zone 2 system	8
iii. Hydraulic line	8
iv. Fluid end component	8
v. Parameter on control panel	8
3. How did you assemble pump?	8
4. How did you rig up sensor cable?	8
5. What should you check BEFORE start the Single Pump?	8
6. What should you check and monitor during operating the Single Pump?	8
7. What is the safety precaution during operating the Single Pump?	8
8. What should you check BEFORE stop the Single Pump?	8
9. How to perform horse power test	8
PRACTICAL	
1. Show how to carry out following basic maintenance <ul style="list-style-type: none"> i. Check coolant level 1/2 ii. Perform hydrotest for radiator and cooler 1/2 iii. Replace engine oil 1/2 iv. Replace engine oil filter 1/2 v. Replace fan and alternator belt 1/2 vi. Clean crankcase vent breather 1/2 vii. Test OPSD 1/2 viii. Service exhaust cooler (pyroban) 1/2 ix. Grease u-joint and propeller shaft 1/2 x. Change gearbox oil 1/2 xi. Change fuel filter 1/2 xii. Service pneumatic control valve 1/2 xiii. Clean air cleaner 1/2 xiv. Grease butterfly valve 1/2 xv. Change fluid end insert valve 1/2 xvi. Change fluid end packing 1/2 xvii. Perform horse power test 1/2 	

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

DIMENSION BID

3. NITROGEN CONVERTER

THEORY	COMMENT
1. Identify the Nitrogen Unit and explain its functions	8
2. Show where the following components of Nitrogen Unit and explain the function	8
i. Engine component	8
ii. Zone 2 system	8
iii. Hydraulic line	8
iv. Cold end component	8
v. Nitrogen liquid line	8
vi. Nitrogen gas line	8
vii. Parameter on control panel	8
viii. Nitrogen tank line	8
3. How did you rig up cryogenic hose?	8
4. How did you rig up sensor cable?	8
5. What should you check BEFORE start the Nitrogen Unit?	8
6. What should you check and monitor during operating the Nitrogen Unit?	7
7. What is the safety precaution during operating the Nitrogen Unit?	8
8. What should you check BEFORE stop the Nitrogen Unit?	8
9. How did you transfer on the fly from storage tank to working tank?	7
10. How did you perform normal transfer from storage tank to working tank?	7
PRACTICAL	
1. Show how to carry out following basic maintenance i. Check coolant level 10 ii. Perform hydrotest for radiator and cooler 9 iii. Change engine oil 9 iv. Change engine oil filter 1 v. Change fan belt and clean pulley area 8 vi. Check fan hub bearing for any wobble 7 vii. Clean the crankcase vent breather 7 viii. Test OPSD 9 ix. Service exhaust cooler (pyroban) 7 x. Grease bearing and joint 6 xi. Change hydraulic oil 9 xii. Change fuel filter 8 xiii. Service pneumatic control valve N/A xiv. Replace air filter 8 xv. Clean flame trap 7 xvi. Redress booster pump 7 (ass't service operator) xvii. Redress cold end 5 (just assist to move out from NCV)	

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