



SLICKLINE OPERATOR WORKBOOK

IMPORTANT NOTE:

1. Your point of reference to complete this workbook may be obtained from the following
 - Training Manual and any other training materials provided together with this workbook
 - Your Trainer, Assessor (Slickline Operator), Verifier (FSM) or senior colleagues
 - SOP / Quality Procedures & Processors
2. The completion of this Workbook is a joint effort and responsibility between you and your assessor therefore you have the obligation to request from your assessor to be assessed upon your completion of each topic
3. The completion of this Workbook is part of the MANDATORY requirements which you must fulfill to qualify for a promotion
4. Your training program is mostly self-driven, including this Workbook. It requires individual initiatives, dedication and commitment to complete the process.

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RECEIVED DATE	
DATE COMPLETED	06/06/2024





B.1 OPERATIONS

Legend: C-Competent, NME-Need More Exposure

Document No.	PLAN FOR WELL SERVICES OPERATIONS	Assessment / Verification	Competency		Assessment
			C	NME	Date

FORM B 1.1	PLAN OPERATIONAL REQUIREMENTS				
	<u>CALCULATION & CONVERSION</u>				
	1. Convert to Decimal number i. 15/16" - 0.9375 inch ii. 1 1/16" - 1.0625 inch	Good	✓		10/06/24
	2. a) What is the conversion factor for the following i. 1 Meter = 3.28 feet ii. 1 PSI = 6.894 kpa iii. 1 Degree Centigrade = 33.8 Fahrenheit b) Base on your answer above (No 2), fill in the blank: i. 14 - 3/4" = 0.375 meter ii. 560 Bar = 56000 kpa iii. 450 F = 232.222 C	Good	✓		10/06/24

	<p>3. Show how you utilize Gauge Vernier Caliper to measure OD or ID</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Internal diameter picture</p> </div> <div style="text-align: center;">  <p>Outer diameter picture</p> </div> </div>	<p>Good</p>	<p>✓</p>	<p>10/06/24</p>
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	<p>4. a) How many lbs/foot weight for the following wireline tools?</p> <p>i. $1\frac{7}{8}$ " Stem = 9.4 lbs/foot</p> <p>ii. $1\frac{1}{2}$ " Stem = 6.0 lbs/foot</p> <p>iii. $1\frac{1}{4}$ " Stem = 4.2 lbs/foot</p> <p>b) Base on answer above, what is the weight for the following wireline tools</p> <p>i. $1\frac{7}{8}$" x 5' Stem = 47 lbs</p> <p>ii. $1\frac{1}{2}$ " x 3' Stem = 18 lbs</p> <p>iii. $1\frac{1}{4}$ " x 2' Stem = 8.4 lbs</p> <p>iv. $2\frac{1}{2}$ " x 2' Stem = 33.4 lbs</p>	Good	✓		10/06/24
	<p>5. Calculate how to get the answer for the following question</p> <p>i. $1 - 1/6$" x 0.125" = 0.14575 inch (in decimal number)</p> <p>ii. if $5x = 67$, x equal to</p>	Good	✓		10/06/24



	<p>6. Refer to the data below, what is the average hour/week employee at company A working?</p> <p>Sunday - 14 hours Monday - 12 hours Tuesday - 10 hours Wednesday - 16 hours Friday - 0 hour Saturday - 8 hours</p> <p>Answer: 8.571 hour/week</p>	Good	✓	10/06/24
	<p>7. Write down the formula how to calculate for following items:</p> <p>i. Square Area - $A=a^2$</p> <p>ii. Volume for square box and cylinder - $V = \pi R^2$ (volume for cylinder) $V = a^2 h$ (volume for square box)</p> <p>iii. Pressure - $P = FA$</p> <p>iv. Force - $F = ma$</p>	Good	✓	10/06/24
	<p>8. Which is equal to 0.75?</p> <p>i. $\frac{3}{4}$ (equal to 0.75) ii. $\frac{24}{32}$ iii. $\frac{5}{8}$ iv. $\frac{10}{16}$ v. $\frac{36}{48}$</p>	Good	✓	10/06/24

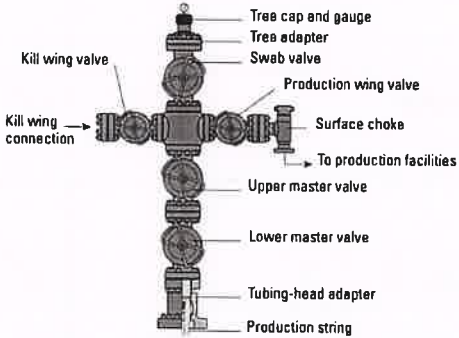


FORM B 1.1		PLAN OPERATIONAL REQUIREMENTS			
1.	What is a 'PTW'? Are you aware a procedure on 'PTW' is in place? Name / Procedure Number / Locate Procedure Permit to work. Yes I am aware	Good	✓		10/08/24
2.	Why do we need one for any wireline activity to take place on an offshore installation? Its used to ensure that work is done safely and efficiently.	Good	✓		10/06/24
3.	Explain the general process in applying for a permit-to-work for a wireline operation to take place.	Good	✓		10/06/24
4.	In the process of planning out an operation, you found out that some materials or special tools are not available on site. What will be your next course of action? Inform to SUPERVISOR and request from town.	Good	✓		10/06/24
5.	Explain how you perform Pre & Post Job Check (Use Pre & Post Job Checklist) Check all equipment and operation need before go to offshore and after return to the base.	Good	✓		10/06/24
6.	When do you need to attend Briefing and De-briefing? Before go to offshore and after return to offshore. What is the benefit of this session? To share information about the job before go to offshore and share any finding or improvement when return to the base.	Good	✓		10/06/24



	<p>7. List down 5 important documents you need to bring offshore and why? -</p> <ol style="list-style-type: none"> 1. Inventory (so we know what tool we bring to offshore) 2. Sign program (as a job program) 3. Daily check list (to check and maintain equipment performance) 4. CSS (to check client satisfactory) 5. TMS (to check and monitor how many day crew at offshore) 	Good	✓		10/06/24
	<p>8. Explain your preparation before going offshore</p> <ul style="list-style-type: none"> * Prepare all tool and equipment before go to offshore. * perform acceptance with client. * perform pre mob briefing with FSM before go to offshore. 	Good	✓		10/06/24
	<p>9. Describe your tasks upon arrival at the platform</p> <ul style="list-style-type: none"> * Attend safety induction conduct by safety officer. * Discuss with client (supervisor) about job want to perform. 	Good	✓		10/06/24
	<p>10. List down tool string configuration prior to carry-out the following jobs:</p> <ol style="list-style-type: none"> i. Tubing clearance Rope socket + swivel joint + normal stem + knuckle joint + spank jar + x over + gauge ring. ii. Sinker Bar Rope socket + swivel joint + normal stem + knuckle joint + spank jar + x over + 2" normal stem. 	Good	✓		10/06/24



	<p>11. Describe what the following terms mean:</p> <ul style="list-style-type: none"> i. Insert Valve – if the SCSSV broken need to install insert valve. ii. TRSCSSV – tubing retriever safety control sub safety valve. iii. RIH – run in hole iv. POOH – pool out of hole 	Good	✓	10/06/24
	<p>12. Draw the X-Mass Tree. Describe what is the function</p> 	Good	✓	10/06/24
	<p>13. What is the valve fitted at X-Mass Tree? Which is the valve is always utilize during wireline operation?</p> <ul style="list-style-type: none"> * swab valve * hydraulic master valve * lower master valve 	Good	✓	10/06/24



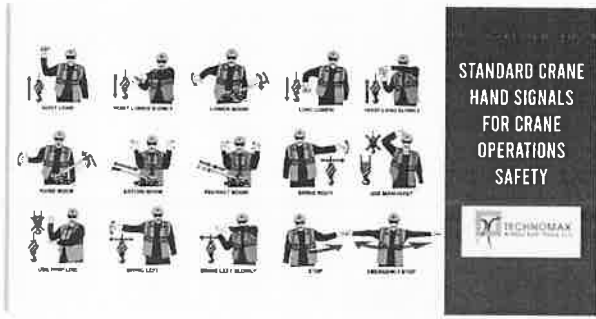
	<p>14. How many turns to close the Master Valve for the following x-Mass Tree:</p> <p>i. WKM – 18-1/2 turns</p> <p>ii. Ingram Cactus – 18-1/2 turns</p> <p>iii. Mcevoy – 18-1/2 turns</p>	Good	✓		10/06/24
	<p>15. Why is it compulsory to count when closing the Master Valve To double confirm the valve was properly closed.</p>	Good	✓		10/06/24
	<p>16. Describe the process of installing pressure manifold at X-Mass Tree Tubing Hanger. N/A</p>	Good	✓		10/06/24
	<p>17. Describe the process prior to RIH and POOH tools string (example- to change wireline tools)</p> <ul style="list-style-type: none"> * Rig up PCE on well. * Hookup toolstring inside lubricator section. * Zero toolstring to tubing hanger. * Pressure test PCE (as per program) * Equalise well. (make sure SV, HMV and LV fully open) * RIH toolstring to desired depth. * POOH after conduct the job. * Close SV and HMV. * Bleed of pressure above SV. * Open QTS and change wireline tool. 	Good	✓		10/06/24
	<p>18. Where to ZERO tool string prior RIH Tubing Hanger</p>	Good	✓		10/06/24



	<p>19. Why it is compulsory to carry-out pressure test upon completion of rig-up? Describe the process To check any leaks at PCE connection.</p> <ul style="list-style-type: none">* Rigup full PCE on well.* Hook up test pump to manifold at PCE stack up. (manifold at LTV area)* Hook up charted recorder to test pump.* Fill up water into PCE stack up. (make sure xmass tree valve closed)* Pressure test PCE stack up once water full as per program.* Check any visual leaks and check at chart recorder.* Once complete bleed off pressure from test pump.	Good	✓	10/06/24
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	<p>20. a) What is the breaking strength for the following wire?</p> <ul style="list-style-type: none"> i. 0.092" EIPS – 1830 lbs ii. 0.108" EIPS – 2490 lbs iii. 0.125" EIPS – 3300 lbs <p>b) Describe the type and size of wireline utilize in Dimension Bid</p> <ul style="list-style-type: none"> 1. ZERON 0.108" 2. ZERON 0.125" 3. ZERON 0.140" 4. ZERON 0.160" 5. BRAIDED 7/32" <p>c) What is the equipment to be used to carry out twist test? Show how to use it</p> <p>BRAIDED WIRE – 7/32"</p> <p>d) Describe the maintenance required for the wire</p> <p>Wire should be maintained with periodical lubrication. In order to prevent internal corrosion a pressure lubricator is suggested to be used.</p>	<p>Grwd</p>	<p>✓</p>	<p>10/06/24</p>
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	<p>21. Show standard "HAND SIGNAL" for the following task:</p> <p>i. Close the CV,MV and TRSCSSV Use head to signal crew when to open and close CV. Use tummy to signal crew when to open and close MV.</p> <p>ii. For crane – Boom Up, Boom Down, Picking-up, Slack-off, Swing to right/left</p> 	Crewd	✓	10/06/24
	<p>22. Describe the topic discussed in Pre-Job Safety Meeting</p> <ul style="list-style-type: none"> * Discuss objective of job to conduct * Discuss about equipment preparation and inspection. * Discuss about job paperwork and reporting. * Discuss about personel and competency. 	Crewd	✓	10/06/24
FORM B 1.2	SELECT AND TEST WELL SERVICES EQUIPMENT			



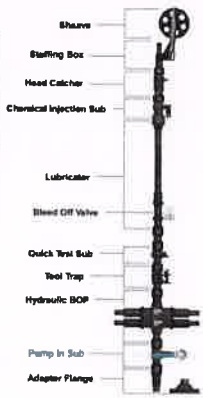
	<p>1. List the specific surface equipment needed for carrying out wireline work using 0.092"/0.108'/0.125'.</p> <ul style="list-style-type: none"> * RSU * POWER PACK * WIRELINE MAST 	Good	✓	10/06/24
	<p>2. Tabulate the standard toolstring for use in carrying out routine wireline operation.</p> <ul style="list-style-type: none"> * ROPE SOCKET * SWIVEL JOINT * NORMAL STEM * KNUCKLE JOINT * SPANK JAR * X OVER * RUNNING TOOL / PULLING TOOL 	Good	✓	10/06/24
	<p>3. Describe the procedure for checking the pulling and running tools for:-</p> <ul style="list-style-type: none"> i. WR-SCSSV. – Key type, size, flapper type, length, OD ii. KOT – Check thread connection, check pin, check spring condition. Check trigger Key, check fishing neck. iii. GA-2 – Check thread, check core iv. 1.1/4" JDC – Check thread connection, check spring, check dog, check skirt. 	Good	✓	10/06/24



	<p>4. What is the minimum breaking load of:</p> <ul style="list-style-type: none"> i. Bridon UHT wire 0.092" - 1545 lbs ii. Bridon UHT wire 0.108" - 2110 lbs iii. Bridon UHT wire 0.125" - 2830 lbs iv. 3/16" Galvanised Dyform wire - 55.2 Kn v. Supa 70 wire size 0.108" - 1550 lbs vi. Supa 75 wire size 0.108" - 2129 lbs 	Good	✓		10/06/24
	<p>5. What is the recommended minimum sheave size for:</p> <ul style="list-style-type: none"> i. 0.092" - 16" ii. 0.108" - 17" iii. 0.125" - 18" iv. 3/16" - 22" <p>Rule of thumb: 100 times the Outside Diameter</p>	Good	✓		10/06/24
	<p>6. Why is it important to check and clean the flame trap on the unit?</p> <ul style="list-style-type: none"> * To prevent from temperature increase. * To prevent from shut down suddenly. 	Good	✓		10/06/24
	<p>7. Why is it necessary to carry out torsion test or wrap test (as appropriate) on the wireline prior to a well entry work?</p> <ul style="list-style-type: none"> * to check wire condition. * to evident the wire breaking point as per document 	Good	✓		10/06/24
	<p>8. What is the recommended distance separating the cell plates of the 0-2000 lbs range Martin Decker load cell assembly?</p> <ul style="list-style-type: none"> * 0.250" 	Good	✓		10/06/24



	<p>9. Why do we need to maintain a minimum distance between the cell's plate and state what could happen if this distance is not maintain during the jarring operation? * weight reading will be not accurate.</p>	Good	✓		10/06/24
	<p>10. Produce a checklist for the wireline reel skid prior to start-up * Daily checklist fot RSU</p>	Good	✓		10/06/24
Form B 1.3	RIG UP WELL SERVICES EQUIPMENT				
	<p>1. Who authorizes and approves the PTW for Well Services activities?</p> <p>i. (SIMOPS/SIPROD) Simultaneous Drilling & Production Operations mode – * DISIPLINE SUPV * PERSON IN CHARGE * AREA AUTHORITY * PERFORMING AUTHORITY * PRODUCTION SUPERVISOR</p> <p>ii. Routine operations on a production platform – * DISIPLINE SUPV * PERSON IN CHARGE * AREA AUTHORITY * PERFORMING AUTHORITY * PRODUCTION SUPERVISOR</p>	Good	✓		10/06/24

	<p>2. Why is it important to have a pre-job briefing/discussion before rigging up?</p> <ul style="list-style-type: none"> * to discuss safety way to perform the job. * to highlight any precaution need to aware. 	Good	✓	10/06/24
	<p>3. What pre-checks are required prior to rigging up Well Services surface equipment?</p> <ul style="list-style-type: none"> * check water level * check diesel * check engine oil * check radiator coolant * check hydraulic * check starter condition * check fan belt * check compressor oil * check grounding cable 	Good	✓	10/06/24
	<p>4. List down a standard lubricator configuration. Describe the sequence of assembling the lubricator followed by safe rigging up process.</p> <div data-bbox="392 829 907 1236"> <p>Pressure Control Equipment</p> <p>Configuration</p> <p>The equipment at right illustrates the possible equipment configuration used in slickline operations.</p> <p>Based on the job to be performed not all of the pictured equipment may be used.</p> <p>Sheave – may be a separate component or an integral part of the stuffing box; is bearing-loaded and guides the wire into the stuffing box; In some cases the sheave is an integral part of the stuffing box.</p> <p>Stuffing Box – seals around the wire and contains wellbore pressure and fluids</p> <p>Head Catcher – uses internal dogs to latch the rope socket when the tool string is pulled from the hole; designed to prevent the wire from being pulled out of the rope socket</p> <p>Smith Tools Co</p>  </div>			



6.	What is the acceptable gap range on the weight indicator load cell during zero check? ¼"	Good	✓	10/06/24
7.	Wire running through the hay pulley of the weight indicator should be at what angle? * As closed to 90 deg	Good	✓	10/06/24
8.	Wire running through the hay pulley of the weight indicator should be at what angle? * As closed to 90 deg	Good	✓	10/06/24
9.	Why is it important? * To make sure reading for the tool weight is right.	Good	✓	10/06/24
10.	Give two reasons why you need to rig up the hay pulley correctly? * To prevent wire from slip from the hay pulley.	Good	✓	10/06/24



11. Describe the process of BOP function and pressure testing for 0.092"/0.108" slick wire after rigging-up. Your answer should include how equalizing pressure across the closed BOP is done prior to opening the BOP rams. Under what circumstances do you need to operate the BOP?

Procedures For Use

Equalising All BOP's have a means of equalising the pressure below the closed rams with the pressure above. A pressure differential acting on the cross-section of the rams creates a force that makes opening the rams extremely difficult. Attempting to open the rams without equalising may result in internal damage.

Always check that the equalising assembly is correctly* installed. The allen screw should be on the high pressure side of the rams, i.e. downwards.

* Some older designs allowed the equalising assembly to be installed upside down, which could prevent equalising and cause the BOP to be inverted.

Keep the equalising valve closed so that in an emergency the BOP will hold pressure as soon as the rams are closed. If this valve is in the 'open' position, it will have to be closed manually before the well pressure will be contained. The additional time required may be critical in an emergency.

Remember the BOP is a safety device for use in an emergency, and it is the responsibility of the operator to ensure that it is in perfect working order at all times.

Testing All types of BOP's should be tested in the workshop on a regular basis to be determined to suit field conditions.

With the rams open - Pressure to 150% of the working pressure.

With the rams closed - Pressure to 100% of the working pressure to test the ram seal against the wire diameter. A test rod" of the same size as the wire to be used should be inserted between the rams.

* **Caution** : Ensure the rod has an enlarged diameter below the ram to prevent it being blown out during testing.

Good

✓

10/06/2018



	<p>A wireline BOP (also known as a wireline valve) is installed between the tree connection and lower lubricator section.* Under <u>normal</u> working circumstances it is not actually used, but it cannot be installed later with wire in the hole and pressure in the lubricator. It <u>must</u> be included in all rig ups.</p> <p>* The only exceptions to the BOP being next to the tree connection are:</p> <p>(i) When installing / retrieving BPV's (Back Pressure Valves) and there is a possibility of the toolstring remaining across the Xmas tree valves, the BOP's can then be mounted <u>above</u> the lower lubricator section. Check that this provides sufficient length to close the rams on the wire, i.e. above the rope socket.</p> <p>(ii) When running / pulling an SCSSV or a wireline retrievable BPV, the BOP can be positioned above the first section of the lubricator. Alternatively, a second BOP can be placed immediately below the stuffing box. This provides a means of isolating the well pressure and recovering the tools if the wire breaks at the rope socket and the tools drop across the Xmas tree valves.</p> <p>Purpose</p> <ul style="list-style-type: none"> • To enable the well pressure to be isolated without cutting the wire by closing the master valve. • To permit the assembly of the wireline cutter above the BOP rams. • To permit the dropping of a wireline cutter if the toolstring becomes stuck in the well. • To permit 'stripping' of the wire through closed rams, only when necessary. 	Good	✓	10/06/24
	<p>12. With respect to wind direction, where do you position the wireline power pack in relation to the wireline winch? Why?</p> <p>* Opposite the wind direction. * To prevent the smoke coming inside the winch.</p>	Good	✓	10/06/24
	<p>13. Why is it necessary to tie down the wireline winch after rigging-up?</p> <p>* To make sure the winch is secure properly and to prevent form any movement while hard jarring.</p>	Good	✓	10/06/24



	<p>14. Why is it important to report remedial action taken on faulty equipment?</p> <ul style="list-style-type: none"> * to make sure crew can continue the work smoothly. * to make sure the problem can be solve as soon as possible. * to make sure client know what happen to the equipment. 	Good	✓		10/06/20
	<p>15. How would you deal with defective equipment that is beyond repair on site?</p> <ul style="list-style-type: none"> * Raise MR and change with other equipment. 	Good	✓		10/06/20
	<p>16. List down all Surface Equipment & Pressure Equipment required for rigging-up</p> <ul style="list-style-type: none"> * RSU * POWER PACK * WIRELINE MAST * CONTROL PANEL * TEST PUMP * INTISIFIER TANK * LUBRICATOR SECTION. 	Good	✓		10/06/20

	<p>17. Draw lay-out for Item (16) and name each equipment</p> <div style="text-align: center;"> <p>SLICKLINE UNIT</p> </div> <p>Features</p> <ul style="list-style-type: none"> ➤ Perform downhole intervention under pressure with solid wire. ➤ No circulation capability ➤ No rotation capability ➤ Unable to work in horizontal section of a well ➤ The lowest pulling capacity well intervention unit <p>Main equipment</p> <ul style="list-style-type: none"> ➤ Power pack ➤ Winch unit ➤ Pressure Control Equipment <ul style="list-style-type: none"> - Tree adaptor - Pumping tool - Blow Out PM - Lysimeter - Stalling box ➤ Pumping unit and tank <p>Main job</p> <ul style="list-style-type: none"> ➤ Downhole safety valve maintenance ➤ Check tubing drift ➤ Zone Change <ul style="list-style-type: none"> - Gas lift installation - Sand balling - Fishing 	Good	✓	10/06/24
	<p>18. Who would you seek advice and support with respect to : FSM</p>	Good	✓	10/06/24
	<p>19. Describe the process and safety pre-caution to be taken when opening Tree Cap Adaptor prior to rig-up</p> <ul style="list-style-type: none"> * Make sure no trap pressure before open xmass tree cap. * Use proper hand tool while open the tree cap collar. * Use crane to bring down xmass tree cap from the well after opened. 	Good	✓	10/06/24
Form B 1.4	RIG DOWN WELL SERVICES EQUIPMENT AND HAND BACK WELL			



	<p>1. What are the pre-check and sequence for safe rigging-down of lubricator?</p> <ul style="list-style-type: none"> * Make sure no trap pressure inside lubricator section. * Use proper hand glove while handling lubricator connection. * Use certified sling while lifting up lubricator. 	Good	✓	10/06/24
	<p>2. What would you do to ensure the wellhead area is clear before rigging-down?</p> <ul style="list-style-type: none"> * Make sure to barricade the wellhead area. * make sure 1 standby person at wellhead area while rigging down the equipment. 	Good	✓	10/06/24
	<p>3. Explain why is it important to report any defective equipment and remedial action taken?</p> <ul style="list-style-type: none"> * to make sure crew can continue the work smoothly. * to make sure the problem can be solve as soon as possible. * to make sure client know what happen to the equipment. 	Good	✓	10/06/24
	<p>4. It is necessary to hand back well to the frontline personnel to open up well as soon as possible after rigging-down. However, you may sometimes be requested to open up on their behalf. Why is it important to inform the frontline personnel before you open up the well?</p> <ul style="list-style-type: none"> * to make sure the well back online without any problem. * to double confirm to open the right valve. * to make sure control room know you want to back online the well. 	Good	✓	10/06/24



	<p>5. How is the daily wireline operation report done in your area? Who need access to the report? For what purpose?</p> <p>* After finish the work need to make a report daily. * The report send to FSM for any improvement and discussion.</p>	Good	✓		10/06/24
	<p>6. Under what circumstances that you have to rig-down the lubricator even though the job is not completed. Consider both oil and gas operations when answering.</p> <p>* When the xmass tree valve was leaked. * When job was canceled and instruction from town to skip the well.</p>	Good	✓		10/06/24

Form B 1.5	DEMobilISE AND STORE WELL SERVICES EQUIPMENT				
	<p>1. How would you prepare the following for:</p> <p>i) backloading and</p> <p>* Check equipment condition. * Check tagline. * Check 4 legged sling. * Check any loose item to prevent drop object.</p> <p>ii) storage on site :</p> <p>* Secure all loose item. * secure tagline and sling. (to prevent missing) * lock all door and secure.</p>	Good	✓		10/06/24



2. What are the pre-checks required for backloading with respect to lifting equipment, platform crane, sea and weather conditions?

Equipment	Backloading	Storage on site
Wireline units	Check sling	Secure door
	Check tag line	Secure loose item
Lubricators	Put inside lubricator	Secure properly.
	Rack.	
Wireline tools	Put inside dog house	Put at proper place

Good

✓

20/06/24

3. Explain why good housekeeping is necessary with respect to proper equipment storage.

* its easy to find anything if good house keeping is performing.

Good

✓

10/06/24

4. Why is it important to check equipment condition and update the equipment inventory for different locations regularly?

* to check any damage or any missing part at equipment while transfer to other location.

Good

✓

10/06/24

5. What is the essential information to be included on the consignment note for equipment returned to shore

* Name of equipment

* Size

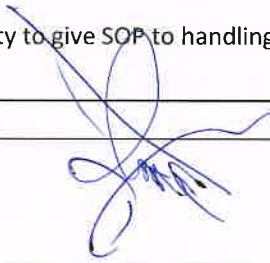

* Weight

Good

✓

10/06/24

	6. For Third party equipment, what are the precautions to take during backloading and/or handling of hazardous materials? * Ask the third party to give SOP to handling their materials.	Good	✓	10/06/24
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Assessed By:		Verified By	
Name	Sahrizan Bin Sapari	Name	AFIQ AIMAN BIN HASSAN
Position	SGSO	Position	Field Service Manager DIMENSION BID (M) SDN BHD
Date	10 06 2024.	Date	10/6/24

