

RIH TADB, MEMORY DOWNHOLE CAMERA & MPLT LOGGING

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WHAT IS TADB ?

A Torque Action Debris Breaker is a tool used in slickline operations, primarily for breaking up and removing debris from the wellbore. When drilling or producing oil and gas, debris like scale, paraffin, or rock fragments can accumulate and obstruct the flow of fluids. The Torque Action Debris Breaker applies torque to create vibrations or rotational forces that help dislodge and break apart this debris.

OBJECTIVE OF TADB?

The primary objectives for running a Torque Action Debris Breaker during slickline operations include:

DEBRIS REMOVER :

Effectively break up and remove accumulated debris, such as scale, paraffin, or rock fragments, that can obstruct the wellbore.

IMPROVE WELL PRODUCTIVITY :

By clearing debris, the tool helps restore or enhance the flow of hydrocarbons, improving overall well performance.

FACILITATE OTHER OPERATION :

Clearing the wellbore allows for easier access for other interventions, such as logging or other maintenance tasks.

INCREASE SAFETY :

By mitigating debris-related hazards, the tool contributes to safer operational conditions for personnel.

What tool we use to remove accumulate debris?

1. TORQUE ACTION DEBRIS BREAKER:

The impact-driven Torque-Action Debris Breaker wellbore cleanup and debris removal tool is deployed downhole to break up concretions of sand and scale which are resisting removal by other methods.

The Torque-Action Debris Breaker tool is jarred down mechanically in the well, with each jar applying a short-duration torque via the unique helically split torque sub. The main torque body comes in 1 1/2-in, 1 7/8-in and, 2 1/2-in sizes and has several different show sizes that can be easily changed on the main body of the tool as the scale is broken down. The debris is recovered by subsequent bailer runs.

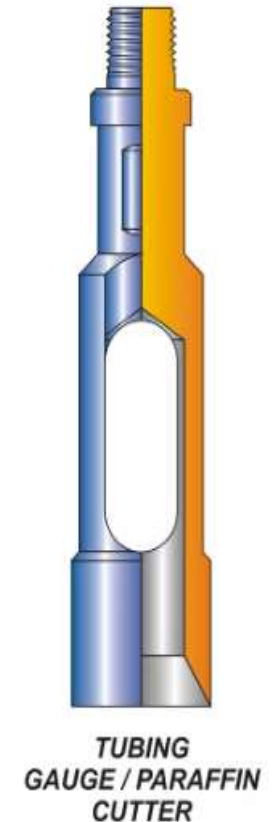


What tool we use to remove accumulate debris?

2. TUBING CUTTER / PARAFFIN CUTTER :

Tubing cutter / Paraffin Cutter is run in the hole before running any sub surface equipment. The tubing cutter / paraffin cutter is used to check if there are any obstruction to passage of the sub surface equipment. The bottom of tubing gauge paraffin cutter is suitable to cut paraffin, scale or other obstacles in the tubing.

Engineering Data for Tubing Gauge / Paraffin Cutters			
O.D. RANGE (IN) *	F/N O.D.(IN)	THREAD CONN. PIN (IN.-TPI)	PART NO
0.905 - 1.575	0.875	5/8 - 11 UNC	831600
1.655 - 2.265	1.375	15/16 - 10 UN	832231
2.323 - 2.520	1.375	15/16 - 10 UN	832521
2.598 - 2.953	1.750	1.1/16 - 10 UN	832932
2.992 - 3.900	2.312	1.1/16 - 10 UN	833942
5.750 - 6.151	2.312	1.9/16 - 10 UN	836146



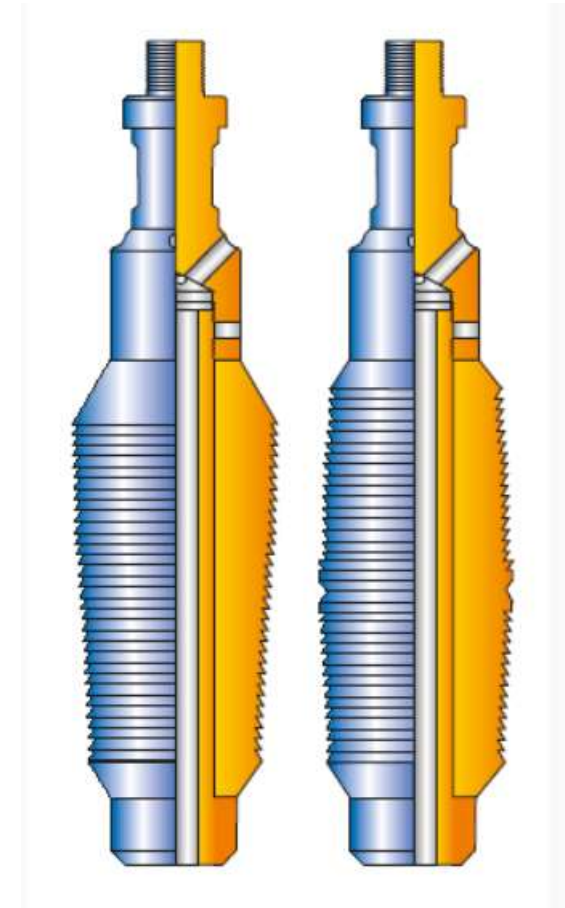
What tool we use to remove accumulate debris?

3. TUBING BROACH :

Tubing Broach is used to remove burrs in the tubing left after perforating and broaching through the restrictions in the tubing. Tubing Broach is also used to remove scale, rust etc, from tubing I.D.

TUBING BROACH			
Max. O.D. (in)	F/N. O.D.(in)	Top Conn.	Part No.
1.50	1.375	15/16 - 10 UN	121-150
2.00	1.375	15/16 - 10 UN	121-200
2.50	1.375	15/16 - 10 UN	121-250
3.00	1.750	1-1/16 - 10 UN	121-300
4.00	1.750	1-1/16 - 10 UN	121-400
5.00	2.313	1-1/16 - 10 UN	121-500

- Other sizes available on request.



TORQUE ACTION DEBRIS BREAKER

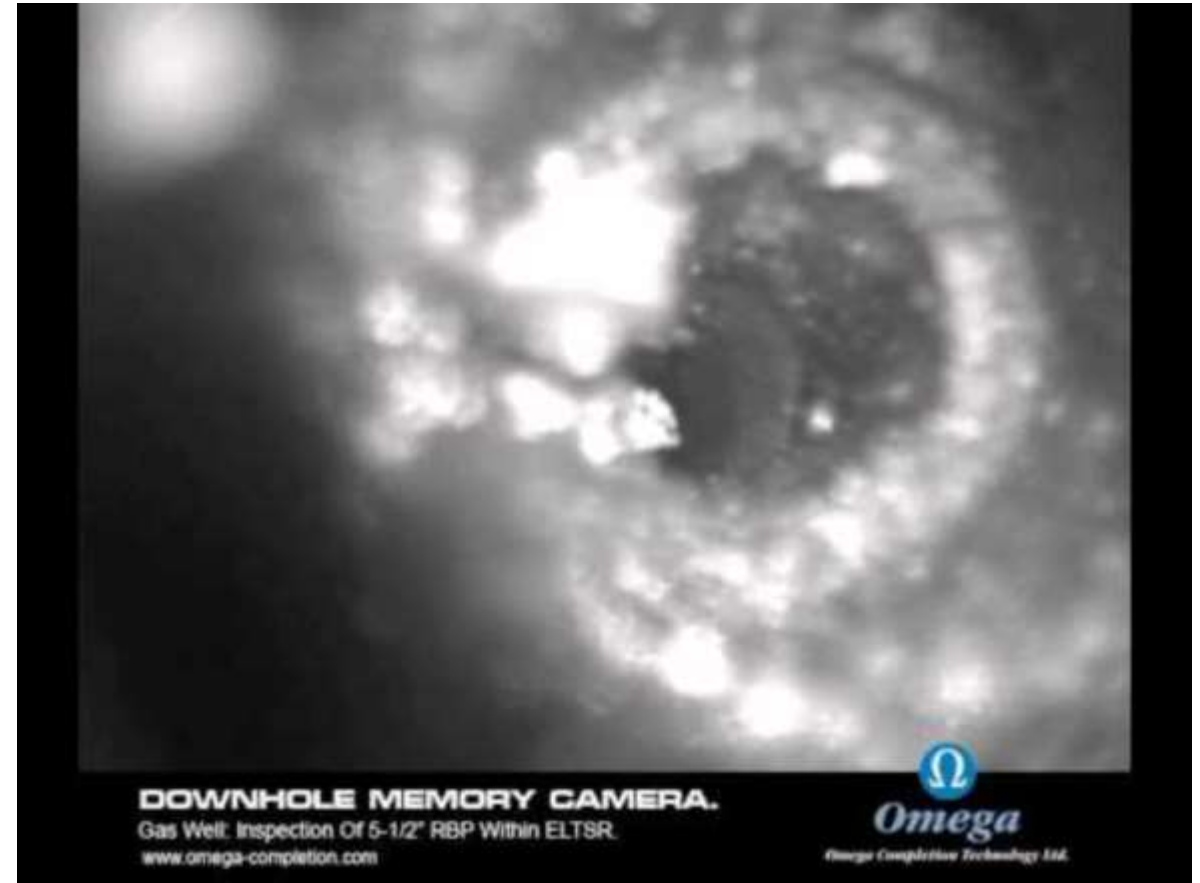


WHAT IS MEMORY DOWNHOLE CAMERA ?

Downhole Memory Camera enables operators to deploy a camera system via slickline in a cost effective manner. No requirement for either E-line equipment/ personnel or any other specialized equipment commonly required with alternative systems, greatly enhances both the flexibility and value of Omega's solution.

Obtaining images of a wellbore obstruction or wireline fish, allows operators to fully understand what they are actually up against. Validating the downhole issues can help determine the best course of action, increasing the likelihood of a successful intervention whilst reducing the operator's overall intervention risk and associated costs. As the tool is fully programmable at the well site, the operator can decide when the camera will start capturing images, the time duration between each image being captured and also the total amount of images to be captured.

WHAT IS MEMORY DOWNHOLE CAMERA ?



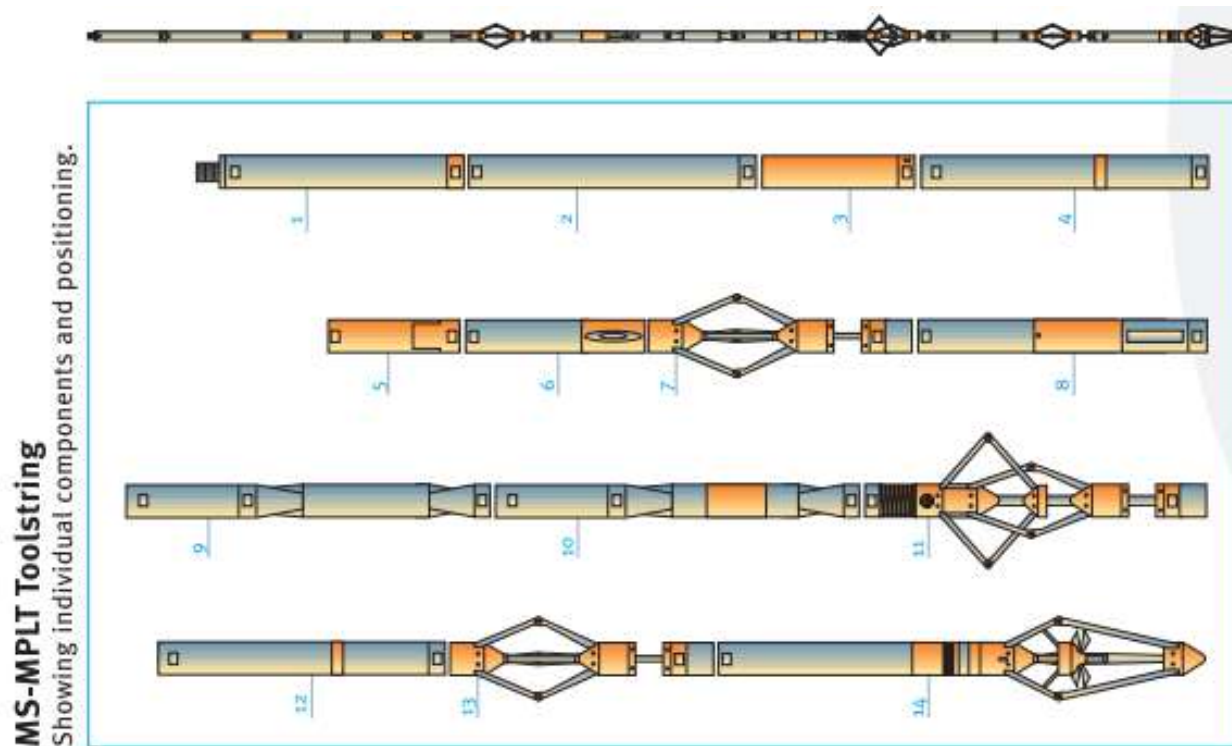
WHAT IS MPLT LOGGING ?

Memory production logging services use a range of combinable sensors to provide advanced measurements, with the same accuracy and quality as those from the real-time configuration, when logistical, operational, or downhole constraints prevent use of the surface readout (SRO) system. Downhole fluid flow properties and well conditions can be monitored to evaluate production and injection performance.

The following measurements are available:

- gamma ray and casing collar location for depth correlation
- temperature
- pressure
- quartz pressure
- fluid velocity (fullbore and inline spinners)
- water, oil, and gas holdups and bubble counts
- dual-axis caliper and relative bearing
- density of wellbore fluid.

WHAT IS MPLT LOGGING ?



- | | |
|------------------------------|------------------------------------|
| 1. Battery Housing (MS-MPLT) | 8. Radio Active Fluid Density Tool |
| 2. MS-MPLT Memory Section | 9. In Line Flowmeter |
| 3. Pressure Tool | 10. Capacitance Water Hold Up Tool |
| 4. Casing Collar Locator | 11. X-Y Caliper |
| 5. Knuckle Joint | 12. Gamma Ray Tool |
| 6. Temperature Tool | 13. Centraliser |
| 7. Centraliser | 14. Full Bore Flowmeter |

WHAT IS MPLT LOGGING ?



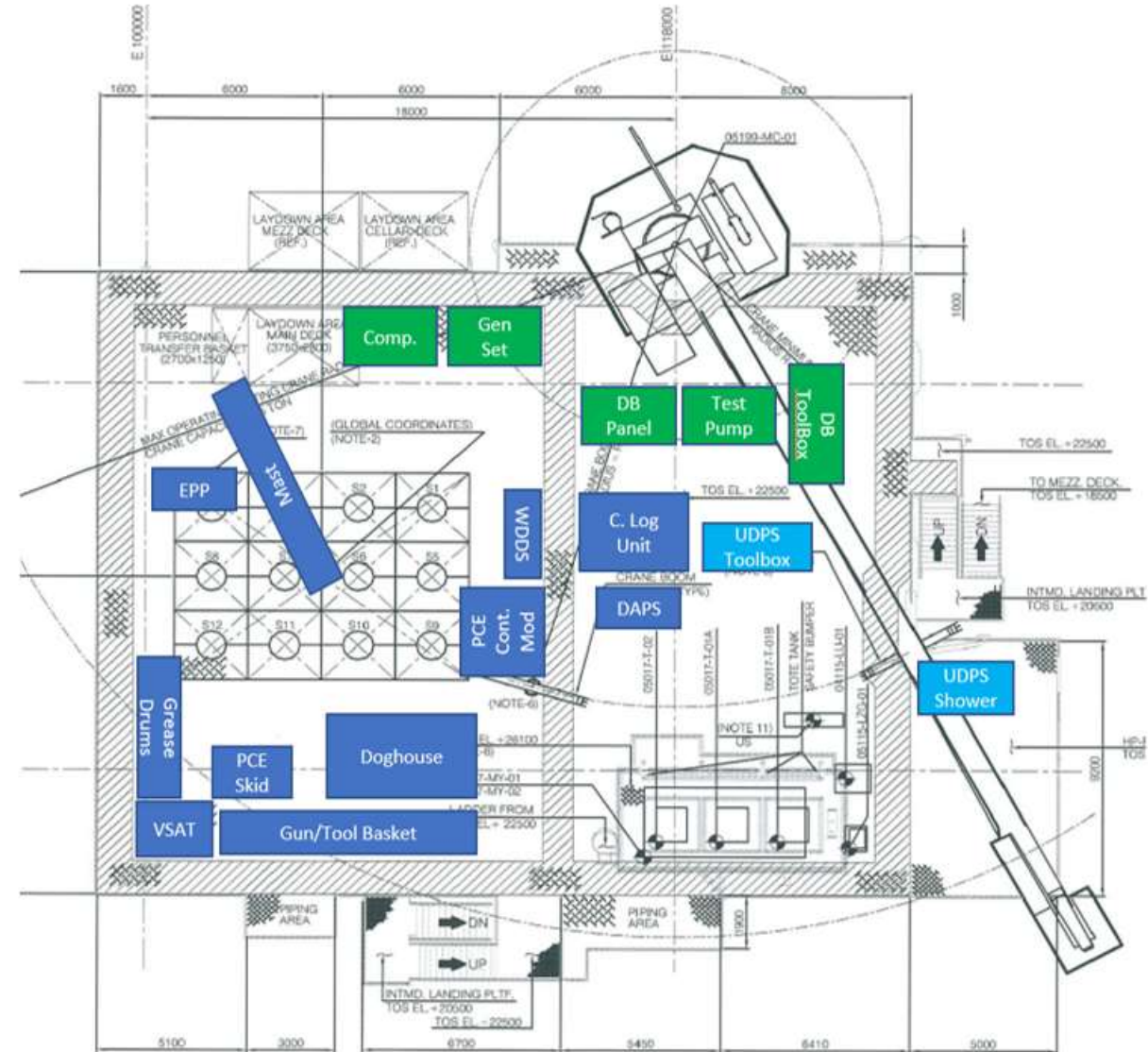
TO PERFORM TCC WITH 3.625" WIRELINE DRIFT

1. JOB PREPARATION :

- Main deck to be cleared to maximize deck space for handling of lubricator.
- Guide wires of mast to be securely fastened in anticipation of heavy loads and strong winds.
- Clear grating around wellhead and Xmas tree area for deployment of tool string.
- Ensure the reference logs and completion schematics are available at the well site.
- Operation is to be suspended in the event of electrical storms and high wind speed in excess of 25 knots. Ensure to work within the design limit of the mast. Marine crew on the bridge shall communicate the weather conditions to client as and when required.

TO PERFORM TCC WITH 3.625" WIRELINE DRIFT

1. JOB PREPARATION : EQUIPMENT LAYOUT



TO PERFORM TCC WITH 3.625" WIRELINE DRIFT

2. RIG UP SLICKLINE :

- Conduct a “Toolbox meeting” prior to commencement.
- Ensure the Surface Equipment and Wireline Tools as per inventory and if some tools are missing, inform Wireline Supervisor and report to base for replenishment.
- Verify the well status.
- Open wellhead hatch cover. Ensure to barricade the open hatch cover area to prevent personnel, equipment or tools from falling thru the open hatch.
- Record THP, PCP, and SCP
- Ensure to count the number of turns to fully open or close any manual gate valve on the Xmas tree. Report the number of turns to open/close in the Daily Report.
- Ensure SSV is locked open with fusible cap. At this stage, both SSV and TR-SCSSV are opened and TR-SCSSV is controlled from wellhead control panel.
- Close needle valve at the TR-SCSSV control line exit port at wellhead. With platform wellhead control panel, bleed-off the pressure from the SSV and TR-SCSSV control lines to zero.

TO PERFORM TCC WITH 3.625" WIRELINE DRIFT

2. RIG UP SLICKLINE :

- Isolate the TR-SCSSV control line from the platform wellhead control panel. Transfer the control of TR-SCSSV to wireline control panel by connecting the hydraulic hose to the tree manifold.
- Check that the needle valve on TR-SCSSV manifold is still closed. Pressure tests the hose and connections from the Wireline control panel to this manifold to 6000 psi for 15 minutes (acceptance criteria: ≤ 150 psi loss)
- After the pressure test on the hydraulic hose is completed, open needle valve connected to the exit block.
- Cycle TR-SCSSV and verify the volume of hydraulic fluid returns. Record results in the Daily Report
- Set the TR-SCSSV control line pressure at 5000 psi. Maintain this pressure on Wireline control panel at all times during operation.

TO PERFORM TCC WITH 3.625" WIRELINE DRIFT

2. RIG UP SLICKLINE :

- Hook up Wireline control panel lines to LV (*Close Line* and *Open Line*) and perform line test to 5000 psi for 15 minutes (acceptance criteria: ≤ 125 psi loss). With the Wireline control panel connected to the *Open Line*, apply 3000 psi and observe for fluid return on the *Close Line*. Leave LV in opened position.
- Pressure up SSV/UMV to open position from wellhead control panel. Lock-open the valve using a fusible lock open cap. Maintain pressure at the wellhead control panel.
- Confirm that the Xmas Tree has been de-pressurized and that the Swab Valve is closed. Carefully open the needle valve on the Swab cap to confirm that the Swab cap is de-pressurized.
- Ensure that the pick-up line used to support the lubricator is centered as accurately as possible over the wellhead to ensure the lubricator will be easily "stabbed" over the well.
- Once it has been confirmed that there is no pressure build up above the Swab Valve, remove the Tree Cap.

TO PERFORM TCC WITH 3.625" WIRELINE DRIFT

2. RIG UP SLICKLINE :

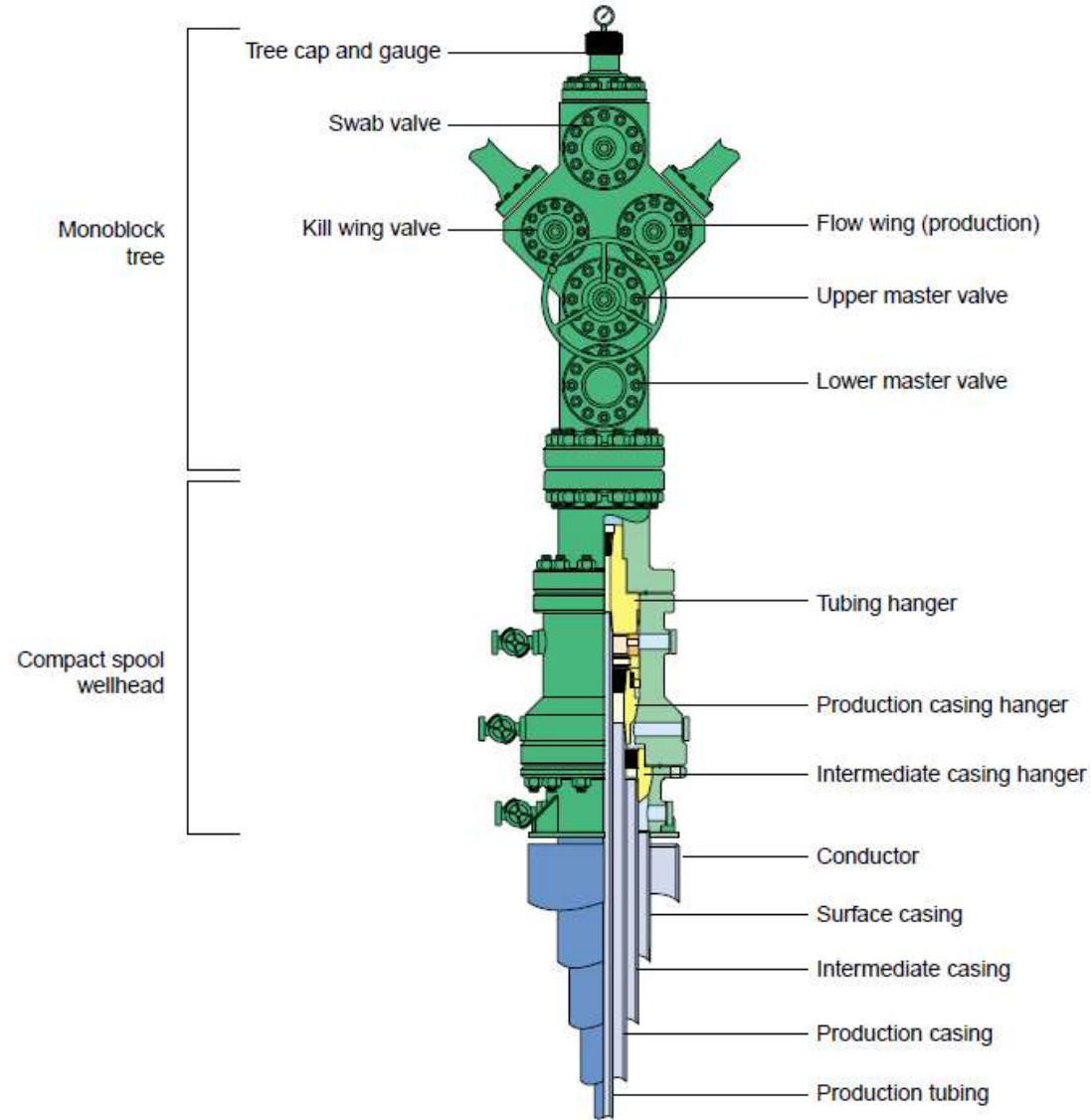
- Pick up and install the appropriate X-Over followed by the Wireline riser sections
- Make up the riser from wellhead to above the main deck.
- Install the BOP and connect the hydraulic hoses from the BOP control panel.
- Flush all lines with hydraulic oil before connecting to make sure that there is no air trapped in the system. Using the control panel, activate the BOP rams to the closed position. (This should be done with minimum hydraulic pressure). Check that both rams close, meet centrally and that the rams are the correct ones for the wire being used. Activate the rams to the open position, check that they open fully and that there are no oil leaks.
- Lay out the quick test sub (QTS), lubricator sections as required and GIS onto stands or gluts and make them up. The lubricator should be made-up as close as is practicable to the mast to enable it to be picked up easily without being dragged across the deck. Insert a standard tool-string into the lubricator.
- Lower the lubricator onto the BOP and make up the quick union of the QTS.
- Install a pressure gauge and needle valve onto the lubricator for venting.

RIH TADB, MEMORY DOWNHOLE CAMERA & MPLT LOGGING

PCE STACK UP :

Diagram	Description	Pin	Box	ID (inches)	Working Pressure (psi)	Services	Length (ft)
	3" Stuffing Box	5.75"-4	N/A	3.00	10,000	H2S	2.00
	3" Hydraulic Tool Catcher	5.75"-4	5.75"-4	3.00	10,000	H2S	2.00
	X-Over	7-7/8"-4 x2	5.75"-4	3.00	10,000	H2S	2.00
	5" x 8 ft Lubricator	7-7/8"-4 x2	7-7/8"-4 x2	5.13	10,000	H2S	8.00
	5" x 8 ft Lubricator	7-7/8"-4 x2	7-7/8"-4 x2	5.13	10,000	H2S	8.00
	5" x 8 ft Ported Lubricator	7-7/8"-4 x2	7-7/8"-4 x2	5.13	10,000	H2S	8.00
	5" Quick Test Sub	7-7/8"-4 x2	7-7/8"-4 x2	5.13	10,000	H2S	2.00
	5" Dual Ram Blow Out Preventor	7-7/8"-4 x2	7-7/8"-4 x2	5.13	10,000	H2S	5.00
	5" Hydraulic Ball Valve	7-7/8"-4 x2	7-7/8"-4 x2	5.13	10,000	H2S	2.00
	5" Pump-In Tee + 2" Low Torque Valve (Double)	7-7/8"-4 x2	7-7/8"-4 x2	5.13	10,000	H2S	2.00
	5" Manual Ball Valve (Optional)	7-7/8"-4 x2	7-7/8"-4 x2	5.13	10,000	H2S	2.00
	X-Over	9.00"-4	7-7/8"-4 x2	4.00	10,000	H2S	2.80
Total PCE Stack Up Length (ft) =							45.60

WELL SCHEMATIC :



TO PERFORM TCC WITH 3.625” WIRELINE DRIFT

3. PRESSURE TESTED :

- The BOP should have been function and pressure tested prior to rig up.
- Carry out a final check on all Xmas Tree valves and needle valves to ensure that they are in the correct position.
- Fill up lubricator with water. Pressure up the lubricator in stages of 500 psi (hold for 5 minutes at each stage) to 5000 psi for 15 minutes – observe for leaks.
- All pressure tests shall be recorded on a Pressure Test Chart and verified by Hess WIS.
- On conclusion of the test, disconnect the pressure test source from the lubricator.

Rig-up Pressure Test	Test Pressure	Duration
Pressure test the pressure control equipment	500/ 5,000 psi	5/ 15 mins

NOTE :


Do not stand at line of fire while pressure test in progress.

TO PERFORM TCC WITH 3.625" WIRELINE DRIFT

4. RIH 3.625" WIRELINE DRIFT:

- Ensure LMV, Swab Valve, and WV are closed.
- Confirm UMV/SSV is locked-open with fusible lock-open cap
- Make-up drift toolstring per Attachment
- Zero toolstring at the THF.
- Pick up toolstring into lubricator and make-up QTS. Pressure test to 500/5000 psi for 5/10 minutes.
- Open Swab Valve. Count the number of turns to open the gate valve.
- Open LMV. Count the number of turns to open the gate valve.
- Record the SITHP.

RIH TADB, MEMORY DOWNHOLE CAMERA & MPLT LOGGING

Diagram	Description	Connection		OD (Inch)	Fishneck (Inch)	Length (Inch)	Weight (Lbs)
		Pin	Box				
	1-7/8" x0.125" Rope Socket	N/A	1-1/16" SR	1.875"	1.750"	17	9.7
	1-7/8" Swivel Joint	1-1/16" SR	1-1/16" SR	1.875"	1.750"	14	8.8
	1-7/8" X 5' Tungsten Stem	1-1/16" SR	1-1/16" SR	1.875"	1.750"	60	66.9
	1-7/8" X 5' Tungsten Stem	1-1/16" SR	1-1/16" SR	1.875"	1.750"	60	66.9
	1-7/8" Knuckle Joint	1-1/16" SR	1-1/16" SR	1.875"	1.750"	12	8.4
	1-7/8" X Spring Jar	1-1/16" SR	1-1/16" SR	1.875"	1.750"	57	40.0
	1-7/8" X 20" Mechanical Spang Jar	1-1/16" SR	1-1/16" SR	1.875"	1.750"	63	35.7
	X-Over	1-1/16" SR	15/16" SR	1.875"	1.750"	5	4.0
	3.625" Dri It	15/16" SR	N/A	3.625"	1.750"	9	22.0
	Total length (ft)						24.8
Total weight (lbs)							262.4

TO PERFORM TCC WITH 3.625" WIRELINE DRIFT

4. RIH 3.625" WIRELINE DRIFT:

- RIH Drift toolstring to the last recorded HUD @ 8,530ft MDDF. If found no HUD at this depth, evaluate if it is safe to go deeper with the Drift toolstring. Deepest target depth shall be @ 9,025ft MDDF (bottom of H5-A perforations).
 - Perform pick-up weight checks and record the running weight, pulling weight, and hanging weight at every 1,000ft interval.
 - Attempt to tag the liquid level inside the well, if any.
 - Slow down prior to reaching completion accessories and verify their depths during RIH.
 - Observe for any potential hold-up while RIH.
- Once the intended depth or new HUD is encountered, flag the wire.
- RIH 3.625" Wireline Drift until HUD @ 8530ft MDDF. Unable to pass thru. Inform to WIS and POOH.

TO PERFORM TCC WITH 3.625" WIRELINE DRIFT

4. RIH 3.625" WIRELINE DRIFT:

- POOH until toolstring is inside the lubricator, slowing down when passing through restrictions. Record the initial pick-up weight in the Daily Report when commencing POOH.
- Close LMV. Count the number of turns to close the gate valve.
- Close Swab Valve. Count the number of turns to close the gate valve.
- Bleed-off the lubricator pressure to 0 psi. Monitor for 10 minutes.
- Once there is no pressure build-up inside the lubricator, break QTS.
- Recover toolstring. Report any anomaly found on the toolstring. Collect any samples stuck to the toolstring.

TO PERFORM RIH 3.62" TADB :

5. RIH 3.62" TADB TO REMOVE ACCUMULATE DEBRIS :

- Ensure LMV, Swab Valve, and WV are closed.
- Confirm UMV/SSV is locked-open with fusible lock-open cap
- Make-up 3.62" TADB toolstring per Attachment
- Zero toolstring at the THF.
- Pick up toolstring into lubricator and make-up QTS. Pressure test to 500/5000 psi for 5/10 minutes.
- Open Swab Valve. Count the number of turns to open the gate valve.
- Open LMV. Count the number of turns to open the gate valve.
- Record the SITHP.

TO PERFORM RIH 3.62" TADB

5. RIH 3.62" TADB TO REMOVE ACCUMULATE DEBRIS :

- RIH TADB toolstring to the last recorded HUD @ 8,530ft MDFF.
- Perform pick-up weight checks and record the running weight, pulling weight, and hanging weight at every 1,000ft interval.
- Attempt to tag the liquid level inside the well, if any.
- Slow down prior to reaching completion accessories and verify their depths during RIH.
- Observe for any potential hold-up while RIH.
- Continue RIH to max depth of 9,025ft MDFF. Whilst RIH, reciprocate the toolstring for TADB to effectively scrap gunk off the tubing wall. Whenever solid HUD is tagged, activate the TADB by jarring.
- WOL several times. Able to pass thru until target HUD @ 9025ft MDFF.

TO PERFORM RIH 3.62" TADB

5. RIH 3.62" TADB TO REMOVE ACCUMULATE DEBRIS :

- POOH until toolstring is inside the lubricator, slowing down when passing through restrictions. Record the initial pick-up weight when commencing POOH in the Daily Report.
- Close LMV. Count the number of turns to close the gate valve.
- Close Swab Valve. Count the number of turns to close the gate valve.
- Bleed-off the lubricator pressure to 0 psi as per Section 7.4. Monitor for 10 minutes.
- Once there is no pressure build-up inside the lubricator, break QTS.
- Recover toolstring. Report any anomaly found on the toolstring. Collect any samples stuck to the TADB for lab analysis.

6. TO PERFORM RIH MEMORY DOWNHOLE CAMERA

- Ensure LMV, Swab Valve, and WV are closed.
- Confirm SSV is locked-open with fusible lock-open cap.
- Make-up EV HT160 Downhole Memory Camera toolstring
- Zero toolstring at the THF.
- Pick up toolstring into lubricator and make-up QTS. Pressure test to 500/5000 psi for 5/10 minutes.
- Open Swab Valve. Count the number of turns to open the gate valve.
- Open LMV. Count the number of turns to open the gate valve.
- Record the SITHP.
- RIH EV HT160 Downhole Memory Camera toolstring to 8,432ft MDDE.
- Perform pick-up weight checks and record the running weight, pulling weight, and hanging weight at every 1,000ft interval.
- Slow down prior to reaching completion accessories and verify their depths during RIH.
- Observe for any potential hold-up while RIH. If unable to reach the intended depth, consult Town immediately.

6. TO PERFORM RIH MEMORY DOWNHOLE CAMERA

- Log across the perforation intervals per the schedule below: (Shut in passes)

Logging Mode	Logging Direction	Top Logging Interval (ft MDDF)	Bottom Logging Interval (ft MDDF)	Logging Speed (ft/min)	# of Pass
Shut-in	Down	8,432	8,596	6	1
	Down	8,596	8,908	30	1
	Down	8,908	9,025	6	1

- With DPIC's assistance, gradually bring the well online to 5 Mmscfd (26% choke). Wait for 15 minutes to allow the well flowrate and pressure to stabilize prior to proceeding with the next step.

NOTE :

The toolstring weight must be monitored during this period. If the toolstring weight drops below 20 lbs during bean up, the flowrate shall be reduced until toolstring weight increases again.

6. TO PERFORM RIH MEMORY DOWNHOLE CAMERA

- Log across the perforation intervals per the schedule below: (Flowing passes)

Logging Mode	Logging Direction	Bottom Logging Interval (ft MDDF)	Top Logging Interval (ft MDDF)	Logging Speed (ft/min)	# of Pass
Flowing at 5 MMscfd	Up	9,025	8,908	6	1
	Up	8,908	8,596	30	1
	Up	8,596	8,432	6	1

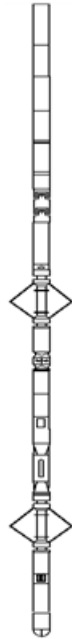
- Once the logging is completed, with DPIC's assistance, shut-in the well at the PWV.
- POOH until toolstring is inside the lubricator, slowing down when passing through restrictions. Record the initial pick-up weight when commencing POOH in the Daily Report.
- Close LMV. Count the number of turns to close the gate valve.
- Close Swab Valve. Count the number of turns to close the gate valve.
- Bleed-off the lubricator pressure to 0 psi as per Section 7.4. Monitor for 10 minutes.
- Once there is no pressure build-up inside the lubricator, break QTS.
- Recover toolstring. Report any anomaly found on the toolstring.
- Send the acquired footage to Town.

7. TO PERFORM MPLT LOGGING

- Ensure LMV, Swab Valve, and WV are closed.
- Confirm SSV is locked-open with fusible lock-open cap.
- Program UMT memory section per program. Make-up the Memory Production Logging Tool (MPLT) toolstring per Attachment 10.7. Complete all surface checks accordingly per DB's specific procedure. Check all the MPLT sensors and ensure all data are recording prior to RIH.
- Zero toolstring at the THF.
- Pick up toolstring into lubricator and make-up QTS. Pressure test to 500/5000 psi for 5/10 minutes.
- Open Swab Valve. Count the number of turns to open the gate valve.
- Open LMV. Count the number of turns to open the gate valve.
- Record the SITHP.

7. TO PERFORM MPLT LOGGING

10.7. Proposed Slickline Toolstring: Running MPLT



Company Name	HESSE	Company Rep		Date :	19-Aug-22		
Field Name	BRG_A4	Well Name	A-04	Rev No.	1		
Casing Size		Platform	BERGADING	Run Name	MPLT Shut-in Cond.		
Casing Weight		PB TD	9223.0 ft-MDDF	THP	357 PSI		
Casing ID		EOT	7885.22ft-MDDF	BHP	677 PSI		
Tubing Size	4-1/2"	Min ID		BHT	310 DEG F		
Tubing Weight	12.6	Max Dev	21 degree	Top Log			
Tubing ID	3.958"	Perf Zone		Bot Log			
No.	Description	Co.	Top Connection	Bottom Connection	OD (inch)	Length (ft)	Weight (lbs)
1	1.875 Rope Socket	SL	NA	1.875 QLS	1.88	0.90	3.0
2	1.875 Swivel Joint	SL	1.875 QLS	1.875 QLS	1.88	1.20	4.0
3	1.875 Knuckle Joint	SL	1.875 QLS	1.875 QLS	1.88	1.10	4.0
4	1.875 x 5ft SL Normal Stem TUNGSTEN	SL	1.875 QLS	1.875 QLS	1.88	5.00	70.0
5	1.875 x 5ft SL Normal Stem TUNGSTEN	SL	1.875 QLS	1.875 QLS	1.88	5.00	70.0
6	1.875 Adapter QLS to SR Box	SL	1.875 QLS	1 5/16" SR Box	1.88	0.50	2.0
7	Adapter Battery/Memory, ABM003	CHS	1 5/16" SR Pin	1-3/16" 12 UN Go Sondex Pin	1.69	1.62	8.0
8	Ultrawire Memory Tool, UM T007	CHS	1-3/16" 12 UN 7pin Box	1-3/16" 12 UN Go Sondex Pin	1.69	1.04	5.9
9	Production Gamma Ray, PGR020	CHS	1-3/16" 12 UN Go Sondex Box	1-3/16" 12 UN Go Sondex Pin	1.69	1.92	9.4
10	Casing Collar Locator, CCL015	CHS	1-3/16" 12 UN Go Sondex Box	1-3/16" 12 UN Go Sondex Pin	1.69	1.54	12.1
11	Production Knuckle Joint, PKJ013	CHS	1-3/16" 12 UN Go Sondex Box	1-3/16" 12 UN Go Sondex Pin	1.69	0.54	3.7
12	Production Knuckle Joint, PKJ013	CHS	1-3/16" 12 UN Go Sondex Box	1-3/16" 12 UN Go Sondex Pin	1.69	0.54	3.7
13	Quartz Pressure Sensor, QPS019	CHS	1-3/16" 12 UN Go Sondex Box	1-3/16" 12 UN Go Sondex Pin	1.69	1.58	8.8
14	Production Roller Centralizer, PRC 034 4 Arm	CHS	1-3/16" 12 UN Go Sondex Box	1-3/16" 12 UN Go Sondex Pin	1.69	2.77	13.0
15	In-Line Spinner Flowmeter, LS022	CHS	1-3/16" 12 UN Go Sondex Box	1-3/16" 12 UN Go Sondex Pin	1.69	1.44	6.8
16	Fluid Density Radioactive, FDR020	CHS	1-3/16" 12 UN Go Sondex Box	1-3/16" 12 UN Go Sondex Pin	1.69	1.92	9.6
17	Capacitance Water Holdup, CWH013	CHS	1-3/16" 12 UN Go Sondex Box	1-3/16" 12 UN Go Sondex Pin	1.69	2.19	9.5
18	Production Roller Centralizer, PRC 034 4 Arm	CHS	1-3/16" 12 UN Go Sondex Box	1-3/16" 12 UN Go Sondex Pin	1.69	2.77	13.0
19	Platinum Resistance Thermometer, PR T016	CHS	1-3/16" 12 UN Go Sondex Box	1-3/16" 12 UN Go Sondex Pin	1.69	1.04	5.2
20	Caged Full Bore Electronics, CFBE05	CHS	1-3/16" 12 UN Go Sondex Box	NL	1.69	0.95	4.7
21	Continuous Flowmeter Spinner Mechanical, CF5M02	CHS	NL	NA	1.69	0.75	1.7

Bottom of BHA

Note: All measurements to be confirmed at site

Total Length(ft) & Weight (lbs):	35.43	265.1
Max OD:	1.875	

7. TO PERFORM MPLT LOGGING

- RIH MPLT to 9,024.5ft MDDF at 90ft/min.
- Reduce RIH speed when passing through completion accessories or restrictions.
- Operator must be aware of any changes on the tool weight during RIH.
- Stop at 9,024.5ft MDDF (or 10ft above HUD, if tagged) and wait for 3 minutes prior to starting the logging pass.
- Perform up and down logging passes in shut-in condition per the schedule below:

Logging Condition	Top Logging Interval (ft MDDF)	Bottom Logging Interval (ft MDDF)	Logging Length (ft)	Logging Speed (ft/min)	# of Pass
Shut-in	8,510	9,025	515	30	1
			515	60	1
			515	90	1

- Once the shut-in passes are completed, pick up toolstring to the DHPG depth @ 7,684ft MDDF and remain stationary for 5 minutes to record the pressure and temperature.
- RIH to 50ft above the top logging interval and monitor weight indicator for any abnormal weight loss.

7. TO PERFORM MPLT LOGGING

- With DPIC’s assistance, gradually bring the well online to 5 MMscfd for flowing passes. Allow the well flowrate and pressure to stabilize prior to proceeding with the next step.

NOTE :

- The toolstring weight must be monitored during this period. If the toolstring weight drops below 20 lbs during bean up, the flowrate shall be reduced until toolstring weight increases again.
- Flow the well at a fixed rate for up to 1 hour or until stabilized, whichever is earlier. The well is considered stabilized when the variation of flowing bottomhole pressure is within $\pm 2\%$.
- RIH to 9,024.5ft MDDF (or 10ft above HUD, if tagged) and stop **for 3 minutes** prior to starting the logging pass.
- Perform up and down logging passes in flowing [at 5 MMscfd] condition per the schedule below:

Logging Condition	Top Logging Interval (ft MDDF)	Bottom Logging Interval (ft MDDF)	Logging Length (ft)	Logging Speed (ft/min)	# of Pass
Flowing at 5 MMscfd	8,510	9,025	515	30	1
			515	60	1
			515	90	1

7. TO PERFORM MPLT LOGGING

- Once the flowing passes are completed, pick up toolstring back to the DHPG depth @ 7,684ft MDDF and remain stationary for 5 minutes to record the pressure and temperature while the well is flowing at 5 MMscfd.
- RIH to 50ft above the top logging interval and monitor weight indicator for any abnormal weight loss.
- With DPIC's assistance, gradually bring the flowrate up to 9 MMscfd for flowing passes. Allow the well flowrate and pressure to stabilize prior to proceeding with the next step.

NOTE :

- The toolstring weight must be monitored during this period. If the toolstring weight drops below 20 lbs during bean up, the flowrate shall be reduced until toolstring weight increases again.
- Flow the well at a fixed rate for up to 1 hour or until stabilized, whichever is earlier. The well is considered stabilized when the variation of flowing bottomhole pressure is within $\pm 2\%$.
- RIH to 9,024.5ft MDDF (or 10ft above HUD, if tagged) and stop for 3 minutes prior to starting the logging pass.

7. TO PERFORM MPLT LOGGING

- Perform up and down logging passes in flowing [at 9 MMscfd] condition per the schedule below:

Logging Condition	Top Logging Interval (ft MDDF)	Bottom Logging Interval (ft MDDF)	Logging Length (ft)	Logging Speed (ft/min)	# of Pass
Flowing at 9 MMscfd	8,510	9,025	515	30	1
			515	60	1
			515	90	1

- Once the flowing passes are completed, pick up toolstring back to the **DHPG depth @ 7,684ft MDDF** and remain stationary for 5 minutes to record the pressure and temperature while the well is flowing at 9 MMscfd.
- With DPIC's assistance, shut-in the well at the PWV.
- POOH until toolstring is inside the lubricator, slowing down when passing through restrictions.
- Close LMV. Count the number of turns to close the gate valve.
- Close Swab Valve. Count the number of turns to close the gate valve.
- Bleed down the lubricator pressure to 0 psi. Monitor for 10 minutes.
- Once there is no pressure build-up inside the lubricator, break QTS. Recover toolstring.

7. TO PERFORM MPLT LOGGING

- Report any anomaly found on the toolstring.
- Send the acquired data to Town
- Rig down Slickline and return well back to Production.

Q & A

GOT QUESTIONS?

- End of slide-