



August 5, 2022

OROGO
Department of Industry, Tourism and Investment
Government of the Northwest Territories
P.O. Box 1320
Yellowknife NT
X1A 2L9
Canada

Attn: Ms. Pauline de Jong
Regulator

Re: Application to Alter the Condition of a Well (AACW)
East Mackay I-78 (WID 2078)

Paramount Resources Ltd. on behalf of its subsidiary MGM Energy plans to abandon the above well:

Please find the following in support of this application:

- A signed original Application to Alter the Condition of a Well (AACW)
- Details regarding the Application to Alter
- Abandonment program including downhole diagrams
- A signed original Information Disclosure Consent Form

A PDF version of the Application, including scanned copies of the above attachments will be provided to OROGO secure FTP site.

Should you require additional information regarding this application and project please contact me.

Furthermore, please accept this letter as permission to discuss this application and associated communications and operations with Paramount team members or Mr. Richard (Dick) Heenan of Heenan Energy Services Ltd. at (403) 818-4408 or dickheenan@shaw.ca if required.

Regards,

A handwritten signature in black ink, appearing to read 'John Hawkins'.

John Hawkins, P. Eng.
Director Asset Management
Paramount Resources Ltd.

APPROVAL TO ALTER THE CONDITION OF A WELL

This form is an application for a Well Approval under Section 10 of the *Oil and Gas Drilling and Production Regulations*.

INSTRUCTIONS:

1. Complete both pages.
2. Send one electronic copy of this form and supporting technical documentation by email to orogo@gov.nt.ca. If you wish to communicate with OROGO in hard copy, please do so using the courier address found at www.orogo.gov.nt.ca.

WELL INFORMATION

Well Name	East Mackay I-78	Operator	MGM Energy
Well Type	Exploratory Well (if Other, specify _____)	Contractor	TBD

RELATED LICENCES, PERMITS, AND AUTHORIZATIONS

Operating Licence No.	NWT-OL-2014-009	Operations Authorization	OA-2019-002-MGM
PRA Licence No.	Select <input type="text"/>	Station Keeping	Not Applicable
		Land Structure	Conventional Land
Land Use Permit No.	S22A-002	Issued by:	Sahtu Land and Water Board
Water Licence No.	S22L1-002	Issued by:	Sahtu Land and Water Board

ACTIVITY INFORMATION

Current Well Status	Suspended	Anticipated Well Status	Abandoned
Well Path	Select	Elevation KB/RT	160.7 m
Approximate Start Date	Jan 15 2024	Ground Level / Seafloor	155.1 m
Est. Days on Location	15 days	Anticipated Total Depth	2020 m KB

WELL OPERATION PROGRAM

Activity Type	Top to Bottom Interval (m KB)	Comments
Abandonment	1840-1948	Abandon with bridge plug & cement on top of extg. pkr
Select	-	Cut & cap 1m below grade
Select	-	
Select	-	

Additional Information

"I certify that the information provided on this form is true and correct"

Name	<u>John Hawkins</u>	Phone	<u>(403) 817-5074 Ext</u>
Title	<u>Director Asset Management</u>	E-Mail	<u>john.hawkins@paramountres.com</u>
Operator	<u>Paramount ACL/ MGM Energy</u>		
Signature	<u><i>John Hawkins</i></u> <u>John Hawkins</u> <i>Responsible Officer of Company</i>	Date	<u>August 5, 2022</u>



**Application for Approval to
Alter the Condition of a Well
East Mackay I-78 Abandonment**

August 2022

Introduction

East Mackay I-78 was drilled in 2013 by MGM Energy to a depth of 2001m and cased to 1988mKB and cemented surface. A completion string was run and the Bluefish and Canol shales were hydraulically fractured and tested. Due to the extremely limited time available all the frac fluid was not recovered from the extremely tight shales, but result was sufficient to justify the award of a significant discovery licence in the Canol shale. Recorders were left in the well in 2013. They will be recovered, and any available data will be downloaded (if possible).

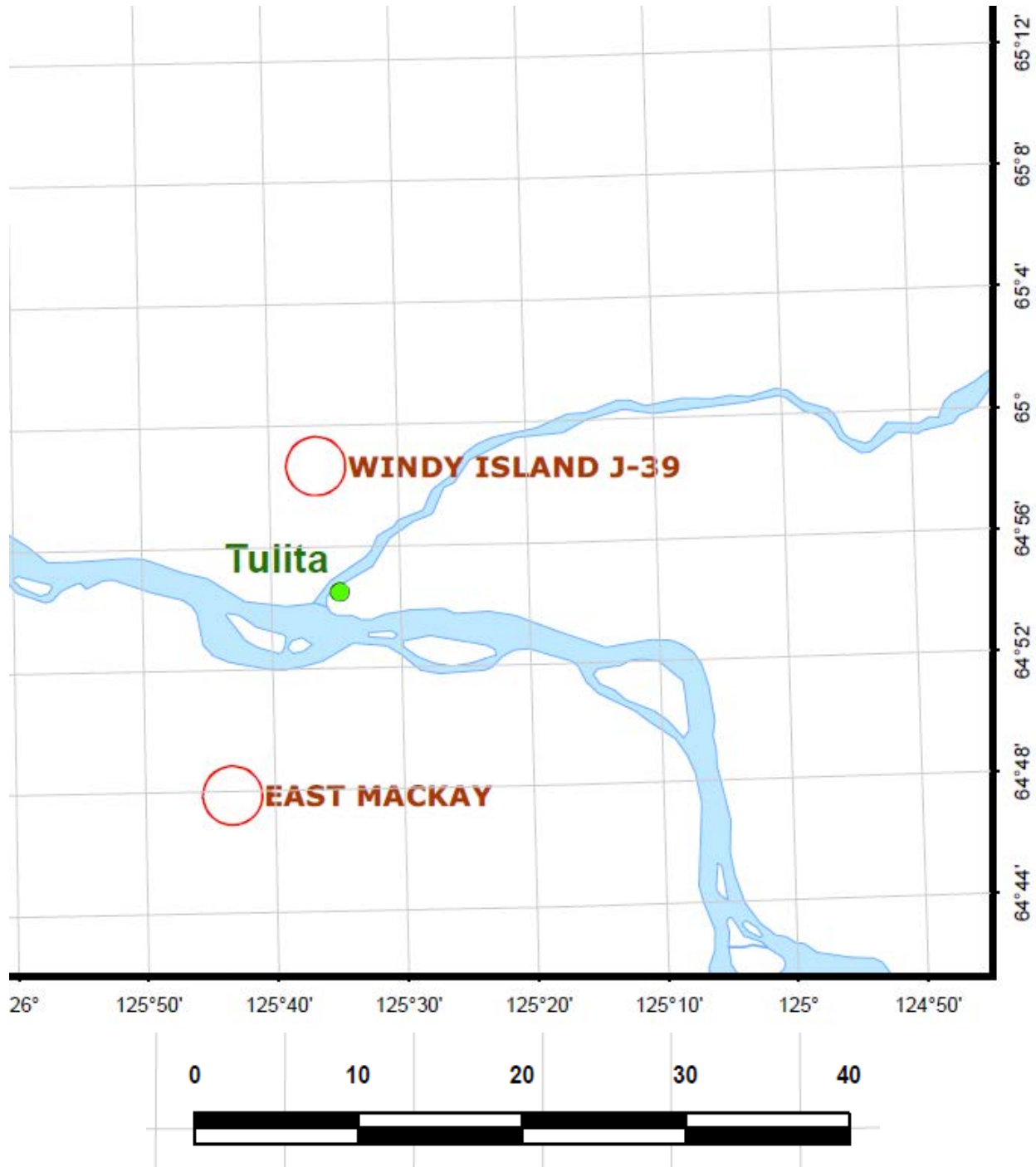
This well has been suspended for a significant period and there are no current plans to put it on production, MGM Energy (MGM), the current owner of record, intends to abandon it in compliance with the requirements of OROGO. Current plans are to abandon this well in the region in the winter of 2024. MGM has applied for an Operations Authorization for these wells. Circumstances and/or permitting issues may mean that it is more desirable to change the order and/or timing of the abandonments.

MGM intends to diligently pursue abandonment operations of these (and other) wells in OROGO jurisdiction, but to allow operational flexibility and minimize administrative overhead, MGM requests that the Well Approval be valid until April 30, 2024. Note that due to access considerations (an ice bridge across the Mackenzie and a dedicated winter road) this operation is logistically separate from the abandonment of the wells in the Colville Lake area.

MGM Energy is a wholly owned subsidiary of Paramount Resources Ltd (Paramount). As indicated in the Application for Operations Authorization, operations will be performed using Paramount procedures, supervision, and contract personnel.

For ease of review and completeness, this application will follow the format of the OROGO "Roadmap for applications".

Area of Application



General Requirements for a Well Approval

Obligation to Consult with Existing/Asserted Aboriginal Rights Holders

Paramount (on behalf of MGM) has consulted with the Aboriginal rights holders affected or potentially affected by these operations.

No concerns were raised by any of the parties involved.

The I-78 well is approximately 20km south of the Hamlet of Tulita and is only accessible by winter road and an ice bridge across the Mackenzie River

The Engagement Plans and Engagement Records were supplied as part of the supporting information for the application for Operations Authorization for this project.

Well Approval Application Form (AACW)

The original of this form is supplied with the covering letter.

Requirements of the Oil and Gas Drilling and Production Regulations (OGDPR)

Requirement for a Well Approval – OGDPR S.10

The operations contemplated under this program (well abandonment) require a Well Approval. This document is provided in support of MGM's application for a Well Approval for the abandonment of East Mackay I-78

Application to Drill - OGDPR S.11

This application does not include any new drilling and thus this section of the OGDPR does not apply.

Application to Abandon a Well - OGDPR S.12

The following is a summary of the abandonment program for East Mackay I-78

1. Read & record SIP(s), Confirm status of SCVF/GM (SCVF inconclusive)
2. MIRU Service Rig, P-tank, snubbing unit, and associated equipment.
3. Remove BPV, tubing plug @ 1812mKB and recover recorders from 1833mKB.
4. Set tubing plug at 1833mKB and P-test
5. Rig Up BOPs
6. Come off Seal latch Assembly at 1819mKB
7. Circulate to fresh water & POOH
8. Set a bridge plug as close as practical to packer/ON-OFF connector @ 1819mKB & P-test
9. Set cement plug on top of bridge plug and test
10. Lower fluid level in wellbore to prevent freezing due to permafrost
11. Cut and cap the casing strings with vented cap & install well sign

A detailed program is provided with this application.

This approach (rather than removing the existing packers) was chosen for two reasons. Firstly, it retains a downhole barrier (in addition to the hydrostatic head of the fluid and the BOPs) between the perforations and the surface, and thus is safer than removing the existing packers. Secondly, the current completion was designed to permit hydraulic fracturing and testing of several different shale zones. For this reason, it was designed with five permanent packers and four hydraulically actuated frac sleeves. The packers cannot be released and would have to be washed over and fished out separately. In addition, the ball seats would need to be drilled out to allow passage of the inside cutters required to cut the tubing for fishing. The complexity of this operation (and risk inherent in any fishing operation) means that it may not be possible to fish the assembly out of the well in the time available. (The well can only be accessed by a winter road, constructed after building an ice bridge across the Mackenzie River. The duration of this access construction, combined with the freeze up and breakup timing of the Mackenzie River means that the available time on location is limited. The above approach provides greater certainty of a successful abandonment in the time available.

In this configuration, the Bluefish and Canol shales are not isolated from each other, but the extremely low permeability of the shales makes this a moot point, as there would be no cross-flow between them.

MGM has reviewed the interpretation of a bond log run in 2013 (attached at the end of this document). In summary, the results are mostly excellent bond up to 1693mKB (approximately 150 meters above the highest perforation) and mostly fair bond (with segments of very good and some of poor bond) to 390mKB (just above the surface casing shoe). Considering that a lighter fill cement was run in the top section (above 1412mKB approximately) there is significant cement present, as evidenced by the 8 m³ of cement returns reported. The majority of the uphole formations are reported as shale, siltstone, and/or mudstone. None of the isolated sands noted on the lithology log show any significant response on the "total gas" log (typically less than 20 units and a maximum of 50 units). These results indicate that perforation of the production casing and a cement squeeze is not warranted, and not likely to be successful.

Current plans are to start construction of a winter road in December (subject to weather conditions and completion of the GNWT road to Colville Lake).

Downhole abandonment operations are planned to start late January and are estimated to take about 7 days. As there are a total of six wells to be abandoned in the area, the exact order of operations and wells may vary but it is planned to abandon all six wells by the end of March.

Operations are subject to weather and site conditions, and to the availability of equipment and suitable personnel. For this reason, the timing, duration, and even order of the operations may change from those below.

Conditions for Abandonment- OGDPR S.56

The abandonment of this well, as described above and in the supplied program will comply with the requirements of OGDPR section 56.

Monitoring of Suspended Well - OGDPR S.57

The well site will be checked for indications of gas migration during the summer of 2022, in conjunction with regular shut-in well inspections. Prior to and during abandonment operations, the well and immediately surrounding area will be monitored for surface casing vent flows and gas migration outside of the casing. Neither event was observed during shut-in well inspections to date. If any indication of gas migration of surface casing vent flow is observed, operations will be suspended, the program will be modified to address the issue, and OROGO will be notified.

Once the well has been cut and capped and reported as permanently abandoned no further monitoring is anticipated at this time.

Offshore Well- OGDPR S.58

As this is not an offshore well, this section of the OGDPR does not apply.

Other Requirements

The Well Suspension and Abandonment Guidelines and Interpretation Notes

The abandonment of this well, as described above and in the program supplied separately, will comply with the *Well Suspension and Abandonment Guidelines and Interpretation Notes* provided by OROGO.

Information Disclosure Consent

This form for the East Mackay I-78 operations is supplied along with this application. The form for the information associated with the Operations Authorization is included with that application.

Cement Bond Log Interpretation

Company: MGM ENERGY CORP
 Well: MGM SHELL EAST MACKAY I-78
 License: 1202



CASING DATA				
Size [mm]	Weight [kg/m]	Grade	From [m]	To [m]
244.5	59.5	N/A	SURFACE	401.8
177.8	38.7	I-80	SURFACE	1978.5

In making interpretations of logs, our employees will give the customer the benefit of their best judgment. But since all interpretations are based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any interpretation. Baker Hughes shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

1. Logs ran:

- Segmented Bond Log Tractor/(SBT)/Gamma Ray (GR)/Casing Collar Locator (CCL)
(Log interval 1971m- 390m)

2. Purpose:

- To determine cement quality behind the 177.8 mm casing string.

3. Comments:

- Main and repeat passes logged with no wellhead pressure.
- The cement map normalized for cement compressive strength of 5419 kPa for interval 390m-1412.
- The cement map normalized for cement compressive strength of 17113 kPa for interval 1412m-1971m.

4. Interpretation:

<u>From</u>	<u>To</u>	<u>Bond</u>	<u>Remarks</u>
1971	1931	Very Good	Dominating excellent bond cement.
1931	1920	Fair to Poor	Fair bond cement, possible channeling
1920	1816	Excellent	Dominating excellent bond cement.
1816	1776	Good to Fair	Equal mix of good and bond cement.
1776	1753	Excellent	Only excellent bond cement.
1753	1733	Good Fair	Alternating good and fair cement.
1733	1692	Excellent	Homogeneous interval, excellent bond cement only.
1692	1675	Good	Averages to good bond cement.
1675	1662	Fair	Fair bond cement.

1662	1513	Good	Primarily good bond cement
1513	1508	Fair	Range of poor bond cement over good bond interval.
1508	1412	Good to Fair	Alternating good and fair bond cement.
1412	1380	Very Good	Mostly excellent bond cement.
1380	1291	Fair	Mostly fair bond cement, isolated poorly bonded ranges.
1291	1250	Fair to Poor	Equal mix of fair and poor bond cement.
1250	1213	Fair	Averages to fair bond cement.
1213	1171	Good to Fair	Alternating good and fair bond cement.
1171	1081	Fair to Poor	Fair bond cement with segmental poorly bonded ranges.
1081	1071	Fair	Fair bond cement.
1071	1062	Fair to Poor	Fair bond cement with segmental poorly bonded ranges.
1062	1017	Fair	Fair bond cement.
1017	956	Fair to Poor	Fair bond cement with possible channeling.
956	881	Fair	Fair bond cement.
881	876	Fair to Poor	Fair bond cement with possible channeling.
876	762	Fair	Fair bond cement.
762	752	Good to Fair	Mix of good and fair bond cement.
752	619	Fair	Fair bond cement.
619	609	Fair to Poor	Fair bond cement with possible channeling.
609	552	Fair	Fair bond cement.

Company: MGM ENERGY CORP
Well: MGM SHELL EAST MACKAY I-78
License: 1202



552	540	Fair to Poor	Fair bond cement with possible channeling.
540	390	Fair	Fair bond cement.

Notes:

- Attenuation values at collars are not valid and may appear as poor bond or excellent bond, these should be ignored.
- Definition of micro-annulus size is relative and not pertaining to absolute values.



ABANDONMENT PROGRAM
OROGO Compliant Suspended Well
OROGO LEVEL II WELLBORE
MGM – Shell East Mackay I-78
WID # 2078
POTENTIAL H₂S: 0.0%

PROCEDURE APPROVAL & DISTRIBUTION

DATE: August, 2022
WELL NAME: MGM – Shell East Mackay I-78
COORDINATES 64.7951 N 125.7237 W NAD 83
UWID: 300/I-78-6450-12530/1
OPERATIONS AREA: Central Mackenzie Valley **PROVINCE:** NWT
OBJECTIVE: Abandon wellbore in accordance with OROGO guidelines and approved ACW.

AFE NUMBER:

POU Supplier Coding: PR210-9231-xxx (Abandonment program)

REGULATORY APPROVALS:

REQUIRED: YES

TYPE: OROGO Operations Authorization and ACW.

AUTHORIZATION RECEIVED by: **DATE:**

PROCEDURE COMPLIES WITH CONDITIONS OF AUTHORIZATION: YES NO

TYPE OF WORK: Abandonment

PROCEDURE COMPLIES WITH PARAMOUNT RESOURCES LTD. POLICIES ON:

- 1) Paramount Well Control Manual
- 2) AER Servicing **BOP Class III** well

DISTRIBUTION: **FIELD:** **CALGARY:** Richard Bean/Corey Thomson/Well Files

PREPARED BY: Richard Heenan, P.Eng. - Consultant **DATE:** August 4, 2022

REVIEWED AND

APPROVED BY: Corey Thomson – Completions Engineer **DATE:**

Tim Wood, Manager ARO & Workover *Tim Wood* **DATE:** August 5, 2022

John Hawkins, Director ARO *John Hawkins* **DATE:** August 5, 2022

ABANDONMENT PROGRAM

OBJECTIVE

Abandon well to OROGO requirements. Cut and cap well.

REPORTING

- All rig calls and Daily Reports are to be directed to Corey Thomson (Engineer ARO)
 - Office: 403-261-1250
 - Cell: 403-835-4447
 - E-mail: Corey.Thomson@paramountres.com

PROGRAM SUMMARY

- Read & record SIP(s), Confirm status of SCVF/GM (SCVF inconclusive)
- MIRU Service Rig, P-tank, and associated equipment.
- Remove BPV, tubing plug @ 1812mKB and recover recorders from 1833mKB.
- Set tubing plug at 1833mKB and P-test
- Rig Up BOPs
- Come off Seal latch Assembly at 1819mKB
- Circulate to fresh water & POOH
- Set a bridge plug as close as practical to packer/ON-OFF connector @ 1819mKB & P-test
- Set cement plug on top of bridge plug and test
- Lower fluid level in wellbore to prevent freezing due to permafrost
- Cut and cap the casing strings with vented cap & install well sign

WELL HISTORY

The well was drilled by MGM Energy Ltd. Shell Canada farmed in, paying 100% of the cost to earn a WI in the well and subsequent SDL. MGM Energy (a subsidiary of Paramount Resources Ltd.) retains operatorship of the well.

The well was spudded January 27, 2013, and the drilling rig was released February 25, 2013. Substantial evaluation of the Bluefish and Canol shales were performed including electric logging and coring. The well was drilled to a total depth of 2001mKB and 178mm production casing was set @ 1988mKB and cemented to surface. A bond log run 20130222 showed excellent bond from TD to 1380mKB and very good bond up to 390mKB (above the surface casing shoe @ 403mKB).

The Bluefish (1946-1948mKB) and Canol (1882-1884mKB & 1869-1871mKB & 1840-1849mKB) shales were perforated and a completion string designed to permit separate hydraulic fracturing and testing to the Canol and Bluefish was run. Prior to setting the packers, the well was displaced to frac oil.

The Bluefish and Canol were separately hydraulically fractured and flow tested. Due to spring breakup, limited flow data was collected and the well was shut-in for buildup March 18 and recorders were set @ 1829mCF and left down hole.

A plug was set @ 1808mCF and a Cameron 2-way back pressure valve was set in the tubing hanger.

On September 19, 2013, the recorders were recovered, a second set of recorders were placed at 1832.3mCF and



a plug set @ 1812.3mCF. Recorders and plug remain in place.

August 15, 2018 - Shut-in Well Inspection.

SITP = TSTM – diesel to surface

SICP = slight vacuum – estimated 500mm water column

SCVF was conducted (bubble test) with no indications of flow

Gas migration test indicated no CH₄ above background (1ppm sensitivity).

The well remains shut in and secured.



SAFETY

A safety meeting is to be held with all service company personnel prior to each job. Wellsite supervisor must notify Contractors of known hazards of which Contractor(s) may be unaware. Wellsite supervisor must ensure that workers are aware of their responsibilities and duties under OH&S regulations and that workers comply with regulations. All service companies supplying materials will review Material Safety Data Sheets at this meeting for all products supplied and maintain these Material Safety Data Sheets available for worker's examination on location in compliance with WHIMIS regulations. All safety meetings will be recorded on the Paramount daily report and on the daily tour sheet.

Whenever possible, plan and conduct all workover procedures in a manner which will avoid the mixing of air & hydrocarbons in the well bore and connected surface piping. If mixing does occur, purge prior to pressurizing or exposing mixture to any other possible source of ignition.

Rig anchor locations if required will be approved by Paramount Wellsite Supervisor prior to installation.

REGULATIONS

All applicable regulations, including, but not limited to the specific approved OROGO ACW approval, OROGO Well Suspension and Abandonment Guidelines, Oil and Gas Occupational Safety and Health Regulations (NWT) and Occupational Health and Safety (OHS) Regulations (NWT) are to be strictly adhered to. Written instructions must be posted in doghouse or other conspicuous area prior to the wellsite supervisor leaving the lease. Wellsite supervisor must designate, in writing (see attached Form), a competent person to carry out principal contractor's responsibilities. All verbal notifications and approvals from government regulatory agencies will be recorded on Paramount's daily report sheet. The name of the individual contacted, and the subject matter of approval or notification should be recorded on same.

Paramount shall provide all staff and contractors for this program with the OROGO 24-hour incident reporting phone number (867-445-8551) prior to commencing any work or activity.

Paramount shall submit to OROGO an updated operator contact list for this program prior to any work or activity by email at orogo@gov.nt.ca.

Paramount shall submit to OROGO certificates and inspection documents for any service rig, well control and associated equipment (including boilers) at least 10 days prior to the rig commencing work by e mail at orogo@gov.nt.ca.

Paramount shall submit all reports required under the Oil and Gas Drilling and Production Regulations in a timely manner to OROGO by email at orogo@gov.nt.ca. Daily abandonment reports are to be submitted by 1 pm the following day.

Paramount shall submit to OROGO, completed Change of Well Status form 30 days after the service rig release date or when the abandonment operation has been finished.

WORK ORDERS/FIELD TICKETS

Delivery and field tickets for all work, services performed, or materials purchased must be signed by a Company wellsite supervisor. Record the AFE number and well location on all purchase and work tickets.

MATERIAL TRANSFERS

All materials shipped to this location that are not used must be transferred to an appropriate warehouse point.



Transfers of any tubular materials must include complete tally. Company wellsite supervisor will complete such transfers and forward both copies to Calgary office for approval and further handling.



MGM Shell East Mackay I-78 ABANDONMENT

WELL DATA AND WELLBORE CONFIGURATION

Well Name: MGM-Shell East Mackay I-78
Unit: I Section 78
Grid Area: 64°50', 125° 30'
WID: 2078
Unique Well ID: 300I786450125301
Exploration Lic: EL 466
Water License: S22L1-002
Land Use Permit: S22A-002
OA: OA-2019-002-MGM
AFE: 12D0006
TD: 2001mKB

Well Location: 64° 47' 42.42.1" N
125° 43 19.1" W
NAD 27 – Zone 10
GL elevation 155.1mASL
CF Elevation 155.9m ASL
KB elevation 160.7mASL (approx)

Well outline:

Conductor: 508 mm hole (auger) to approx. 20mGL
406 mm conductor pipe to 20mGL (cement to surface)
Surface: 311mm hole to 402 mKB
244mm casing to 402mKB (8m³ cement to surface)
Production: 222/216mm hole to 2001mKB
178mm casing to 1988mKB (8m³ cement to surface)
PBTD 1975mKB
Completion: 114/88mm tubing See attached schematic
Tubing plug & BVP installed – see schematic

PERFORATIONS:

Bluefish 1946-1948 mKB
Lower Canol 1882-1884 mKB
Lower Canol 1869-1871 mKB
Upper Canol 1847-1849 mKB
Upper Canol 1840-1842 mKB



Tubing/Casing Data:

	Surface Casing	Production	Tubing	Work String
Size O.D. (mm)	244.5	177.8	114.3/88.9	
Weight (kg/m)	59.5	38.7	20.09/13.84	
Grade	L-80	L-80	P-110/L-80	
Connection	T-Blue	T-Blue		
Drift I.D. (mm)	222.25	156.25		
I.D. (mm)				
Capacity (m ³ /m)				
Collapse (MPa)	21.3	37.3		
Burst (MPa)	39.6	49.9		
Tension (daN)	407 000	270 000		
Annular Volume (m ³ /m)				
Depth (mKB)	403	1988	1962	

Reservoir Data:

Formation	Canol shale	
Perforations		
Reservoir Pressure	14,300 kPa**	
Reservoir Temperature	74 °C	
Reservoir Gradient (1862mTVD)	7.6kPa/m	
H ₂ S	0ppm	

**From Static gradient – Not stabilized – formation extremely tight



ABANDONMENT PROGRAM

1. Submit certificates and inspection documents for any service rig, well control and associated equipment (including boilers) at least 10 days prior to the rig commencing work by e mail at orogo@gov.nt.ca.
2. Ensure application to alter well has been submitted and approved prior to commencing work. Ensure a copy of the approved application to alter is on site and available.
3. The Wellsite Supervisor is responsible to notify (or verify notification has been completed) the OROGO, a minimum of 24 hrs prior to any well servicing abandonment operation.
4. Flaring: No flaring is anticipated.
NOTE: Per the Operations Authorization the volume and composition of any gas flared or vented must be reported on the daily report and submitted to OROGO.
Any release of gas (vented) over 1m³ per day or flared over 0.040 E3m³/day (40m³) or a duration of over 4 hours must be reported to OROGO as an incident under section 75 of the NWT OGDPR.
5. Paramount shall provide all staff and contractors for this program with the OROGO 24-hour incident reporting phone number (867-445-8551) prior to commencing any work or activity.
6. Complete lease inspection. Note the condition of the lease, record any clean-up operations required and record any other noteworthy findings on the first morning report.
7. Prepare location for Service Rig. P-Tank and flare stack & support equipment. Source 2000m of 73mm, 9.67 kg/m J-55 EUE tubing for abandonment operations.
Ensure scrapers, and pressure test packer for 178mm 38.7 kg/m casing is available.

Haul in sufficient water for pressure testing and cement mixing.

Approximately 40m³ of fresh water will be needed to displace the well fluid and mix cement and a similar amount of fluid will have to be disposed of.

8. Ensure surface casing vent piping is exposed to determine if it is open and intact.
Perform SCVF bubble-test – report results to office for determination of potential perforate and squeeze.
Record SITP and SICP.
Check and monitor LEL and H₂S levels at wellhead.
Investigate for evidence of gas migration (GM) at surface.
Record SICP, SICP, SVCF and GM results on daily report.
Contact Calgary Office for program modification if SCVF or H₂S is detected.

Note: There are no flowlines present on location.

9. MIRU service rig complete with a 280mm 35 MPa (11" 5000#) Class III BOP stack. 114mm and 73 mm rams, kill spool, rig pump, clean tank, and related auxiliary equipment to OROGO, OH&S and PRL regulations and guidelines. Ensure Corporate Policies and Procedures are followed prior to commencing operations (see attached). Space out equipment in accordance with OROGO and OH&S requirements.
 - Ensure all necessary safety equipment is strategically positioned, on site and tested to ensure proper operating condition prior to commencing with the workover operations.
 - All personnel must be familiar with the operation of all emergency equipment. Safety and BOP drills are to be conducted on a regular basis and recorded on the "Daily Completion / Workover Report"
 - Conduct a complete inspection of the service rig per requirements of AER Directive 37 and PRL guideline policy. Identify and remediate any deficiencies prior to initiating completion operations
 - Conduct an operational and safety meeting prior to installing BOPs onto the wellhead and pressure testing.



10. Remove the Cameron Back Pressure Valve – note tubing pressure (if any)
Note: The tubing is filled with diesel fuel to 10mCF – resulting in approximated 14.3MPa BHP (essentially balancing the observed formation pressure) and there is a tubing plug at 1812mCF.
11. Rig up service rig lines to the wellhead.
Fill the tubing and pressure test the pump lines and connections and the tubing plug to 1400 kPa and 21 MPa high.
12. Install 114mm pipe rams in BOP. Install the working spool and BOPs onto the BOP test stump. If required warm up the BOP stack with steam. Function test the blind rams and pipe rams on the test stump. Close the blind rams and pressure test the working spool, the blind rams and BOP flange to **1.4MPa** and **21MPa** for **10 minutes** each. Install a ported tubing pup and stabbing valve through the BOPs on the BOP test stump. Pressure test the pipe rams and stabbing valve to **1.4MPa** and **21MPa** for **10 minutes** each. Pressure test the annular preventers to low of **1400 kPa** and a high of **7,000 kPa**.
Record results in daily report and tour book.
13. Conduct an accumulator function test.
Recharge the accumulator, shut off the pump and record the accumulator pressure.
Close each ram and record the start and end pressures and the time to close each ram.
Close annular on a tubing joint.
Rams must close in 30 seconds and annular in 60 seconds.
Final accumulator pressure must be 8400 kPa or greater.
Record results in daily report and tour book

Recharge the accumulator and record the time for the accumulator to recharge to the original pressure.
Accumulator must recharge in 5 minutes.
Record results in daily report and tour book

Ensure that hand wheels are available and are the correct type and size for all the BOP rams.
Record the number of turns to close each ram manually in tour book and on daily report.
14. Remove the Cameron Back Pressure Valve
Note: The tubing is filled with diesel fuel to 10mCF – resulting in approximated 14.3MPa BHP (essentially balancing the observed formation pressure) and there is a tubing plug at 1812mKB.
15. Rig up slick line. Pull R tubing plug @1812mKB and recover recorders @ 1833mKB.
Return recorders to Technip FMC for data download and reporting.
Send reports to Paramount Resources Attn: John Hawkins.
16. Set R plug in 93.68mm profile @ 1833 mKB.
Pressure test to 7MPa for 10 minutes.
17. Remove wellhead top section and nipple up the rig BOPs.
18. Fill casing with fresh water (if required) and pressure test the casing and BOP connection to 1400 kPa and 21 MPa for **ten minutes**.
Record results in Daily Report and in Tour Book.
Bleed off the wellbore to the rig tank.
19. Come off the Seal Latch Assembly (On-off connector) @ 1819mKB.
(Approximately 15 turns to the right.)
Pull up 1 meter.
If unable to release from the Seal Latch Assembly, chemical cut as close as practical above the Assembly (approximately 1815 mKB)
20. Reverse circulate well completely to fresh water.
Record of Daily Report and Tour sheet.
“Well circulated completely to fresh (non-saline) water.”



Use this exact wording.

Returns (37 m3 of diesel and water) must be disposed of at an approved location in Alberta or BC.

21. Pull out of hole and laydown 114mm tubing.
22. Change to 73mm pipe rams and pressure test to 1400kPa and 21Mpa for 10 minutes each.
23. RIH with bit and scraper or wireline gauge ring.
24. Set a permanent bridge plug as close as practical to the top of the Liner Top Packer @ 1819mKb, but at least 5m from a casing collar.
Wireline or tubing set is acceptable.
25. Pressure test the bridge plug to 7MPa for 10 minutes.
Record results on Daily Report and in Tour Book.
26. RIH with 73 mm tubing to bridge plug (approximately 1817mKB).
27. Spot a 1 m3 Class G balanced cement plug at PBTB. (approximately 50 linear meters)
Cementing company to advise on retarder (if any) for 75 degrees centigrade BHT.
28. Pull up 50m and back wash (reverse circulate) two tubing volumes.
29. When cement has set (per cement company), pressure test plug to 7MPa for 10 minutes.
Record results in Daily Report and in Tour Book.
30. RIH and tag cement top – minimum set down weight 1800Dan – top of cement must be 15 meters above bridge plug or higher.
Record results in Daily Report and in Tour Book.
31. Pull tubing from hole.
Install a water-tight cap on the end of tubing (e.g., a short piece of tubing with a steel plate welded on it).
32. RIH with tubing to 250m.
This will displace 1m3 of water to lower final fluid level to 50m to prevent freezing due to permafrost.
POOH.
Do not fill hole.
33. Remove BOPs and rig out.
Cover exposed flange securely if well is not to be immediately cut and capped.
34. Prepare “as built” downhole abandonment diagram – using attached proposed diagram as a guide.



Surface Abandonment:

Cut and cap the casing strings at least 1 m below ground level with vented cap as per the procedure below or with Hydro jet vented cap system.

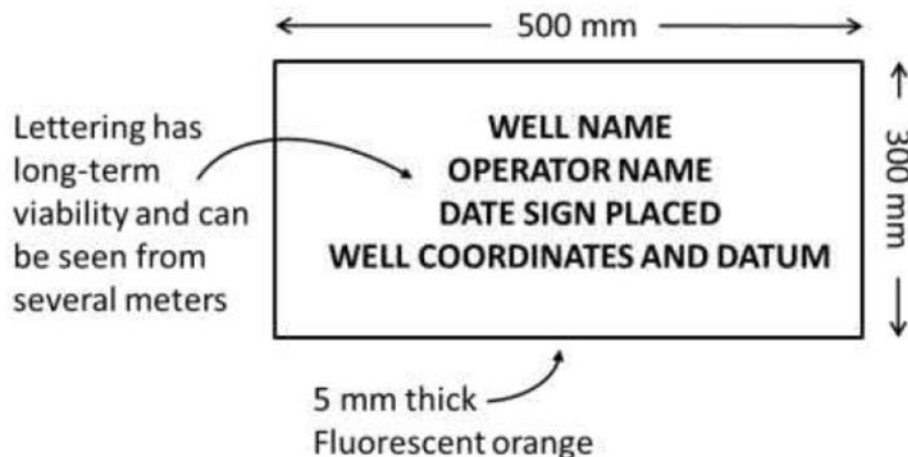
35. Confirm LEL and H2S are zero. Reconfirm no indications of gas migration.
36. Excavate a 2.5m deep bell hole around the wellhead ensuring that walls of the bell hole are sloped at a maximum of 45 degrees for safe entry and egress and to prevent sloughing in.
37. Confirm surface casing vent is open.
Cut a small hole 30 cm below the surface casing bowl and investigate for trapped gas and fluids. Check and monitor LEL and H2S levels.
Attach wellhead to lifting unit (rig, backhoe, picker, etc.). Pull slight tension
Weld cut three (3) windows in the surface casing to access the innermost casing string ensuring that 50% of the circumferential metal remains to prevent possible collapse of the surface casing from the weight of the wellhead. While exercising caution, weld cut the innermost string.

NOTE:

Innermost string can be expected to suddenly drop once completely cut.
Do not place pry bars, hands or fingers in the windows.

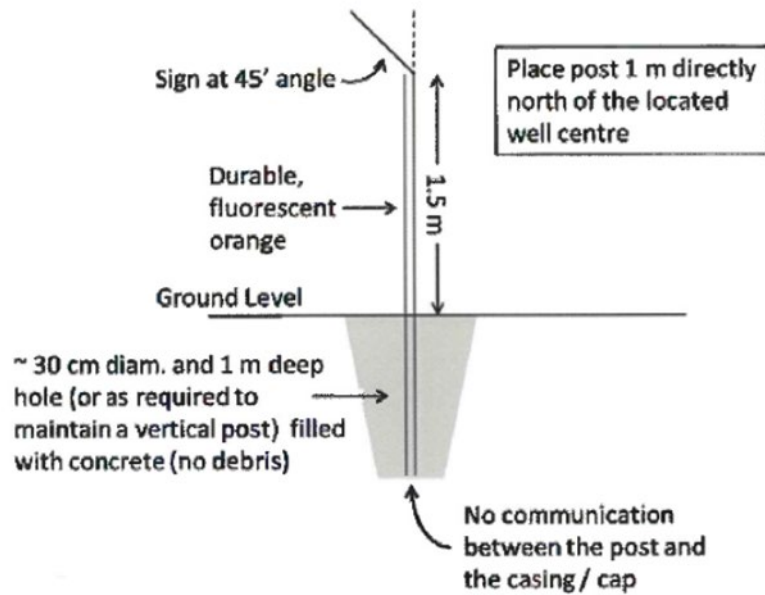
38. Complete weld cut of the surface casing, lift and remove wellhead from bell hole.
39. Stitch weld (non-sealing) steel plate "surface casing and production casing.
Weld inscribe the LSD on top of the steel plate and document with a digital photograph.
40. Install abandoned well sign as below.
Verify well coordinates (decimal format to 4 decimal places) in header with handheld GPS field measurement – use NAD 83 Datum
Record well coordinates on daily report.
A buried 5 gallon pail filled with cement may be helpful in supporting the well sign (as below)
DO NOT WELD SIGNPOST TO CASING.

Sign Requirements



Well Suspension and Abandonment Guidelines and Interpretation Notes

Post Requirements



41. Prepare field sketch of lease indicating well location, signpost (1 meter north of well) and any relevant features. Submit with daily report.
42. Backfill and compact the excavation, clean up lease and rig out and release all services.



CORPORATE CONTACTS

Paramount Resources Ltd.
2800, 421 - 7th Avenue, SW
Calgary, AB
T2P 4K9

ARO (Calgary):

	<u>Business</u>	<u>Cellular</u>	<u>Fax</u>
Corey Thomson Abandonment Engineer E-mail: corey.thomson@paramountres.com	(403) 261-1250	(403) 835-4447	(403) 261-1349
Richard Bean Abandonment Supt-Staff E-mail: richard.bean@paramountres.com	(403) 303-1929	(403) 793-4586	(403) 261-1349

MORNING REPORTS (Calgary):

	<u>Business</u>	<u>Cellular</u>	<u>Fax</u>
Corey Thomson Abandonment Engineer E-mail: corey.thomson@paramountres.com	(403) 261-1250	(403) 835-4447	(403) 261-1349
Richard Bean Abandonment Supt E-mail: richard.bean@paramountres.com	(403) 303-1929	(403) 793-4586	(403) 261-1349
Tim Wood Abandonment Manager E-mail: tim.wood@paramountres.com	(403) 290-2919	(403) 809-8410	(403) 261-1349



CORPORATE POLICY & PROCEDURES

- All operations carried out on behalf of the Operator shall be conducted in a safe and efficient manner in compliance with the Operator's safety regulations and all applicable acts and regulations.
- The Operator expects that all operations conducted will be designed to protect and maintain the quality and integrity of the environment and comply with all environmental acts and regulations.
- All contractors on location must have as a minimum a valid H₂S ticket (if necessary), WHMIS, and be fully covered by the NWT Worker's Compensation Board (WCB) where applicable, carry a minimum of \$5,000,000 liability insurance.
- Before commencing operations, the Wellsite Supervisor will complete a list of nearest available emergency services. This list along with a detailed and accurate description of directions to the location is to be posted in a conspicuous and accessible location known to all personnel.
- Any excavation or installation of anchors (if required) on location shall follow Paramount's Ground Disturbance Requirements:
 - a. Contact 1st Call (Review Paramount's Grey book)
 - b. Prior to excavation – obtain Ground Disturbance Permit
 - i. If pipeline in area, arrange for Hydrovac and hand expose lines within 5 meters of excavation.
- Prior to commencing operations, the Wellsite Supervisor shall:
 - Read and record SIP(s). Examine surface casing vent for blow or suction, record and report findings. Check and monitor LEL and H₂S levels at wellhead and investigate for evidence of gas migration at surface.
- Before commencing operations, the Wellsite Supervisor in conjunction with the Rig Manager will conduct an initial rig inspection using a CAODC or equivalent inspection form. A detailed rig inspection is to be completed weekly thereafter. Confirmation of these inspections is to be recorded on both the morning report and tour report.
- Have on-site access to the AER Drilling/ Servicing Regulations - Directive 36, Workplace Health and Safety Regulations, NWT Oil and Gas Operations Act, NWT Drilling and Production Regulations, OROGO Well Suspension and Abandonment Guidelines.
- The Wellsite Supervisor and Rig Manager will conduct daily walk-around inspections and complete a daily rig inspection report in an effort to identify deficiencies regarding well control and safety related items.
- The Wellsite Supervisor must ensure that all pertinent data (tubulars, logs, tests etc.) are properly recorded on the tour sheets and that samples, where required are collected as required by well licence. Also, the Wellsite Supervisor must ensure that trip sheets are properly completed and maintained.
- During cold weather operations, the Wellsite Supervisor must ensure that Precautions are taken to prevent freezing of the bleed-off and kill lines
- The Wellsite Supervisor must ensure that all personnel are advised and instructed not to trespass off the demised property.
- Safety meetings are to be held every day with wellsite personnel and recorded on both the morning reports and tour reports. Pre-job safety/orientation meetings are to be held prior to commencing new or non-routine work at which time the Wellsite Supervisor shall advise all personnel of known hazards, special precautions and procedures. Hazard assessments must be conducted in accordance to Workplace Health and Safety Regulations and documented accordingly.
- BOP equipment will be function tested at least once daily and any equipment found defective should be made serviceable before operations are resumed. Blowout prevention drills are to be performed weekly and are to be recorded on both the



morning reports and tour reports. **All appropriate Certifications for equipment used will be on-site and available for review.** Communicate this information with the contracted services.

- The Wellsite Supervisor will ensure that service companies supplying products and/or materials that require Material Safety Data Sheets review and advise wellsite personnel with the potential hazards associated and the appropriate emergency response to be undertaken when handling the same. As well, in compliance with WHMIS regulations, all MSDS are to be posted in a conspicuous and accessible place known to all personnel for their information and emergency reference. Site Specific Orientation to all personnel on-site must be given for all chemicals and materials used.
- The Wellsite Supervisor will ensure that dangerous goods shipped or received are classified, packaged, marked, labeled and documented in compliance with the Transportation of Dangerous Goods Regulations. If required, placards must be attached to vehicles transporting dangerous goods. All shipping documents must be forwarded to the Calgary office for filing.
- The Operator expects full compliance with all conditions detailed on the Land Use Permit and Water Permit, OA and ACW.
- During the absence of the Wellsite Supervisor, a qualified and competent alternate shall be designated, in writing, to carry out the principal Contractor's responsibilities. Written instructions must be posted in a conspicuous and accessible location known to all personnel prior to the Wellsite Supervisor leaving the location.
- All verbal notifications and approvals received on location from any regulatory agency must be documented and recorded on both morning reports and tour reports and should include a contact name from the agency, phone number and details of the subject matter.

Daily reports shall be prepared by the Wellsite Supervisor and e-mailed (faxed) to the Operator's Calgary office by 07:00Hrs. every morning.

- All field tickets and other supporting documentation submitted for materials purchased and/or services rendered require a correct AFE# and accurate identification of the well location along with the Wellsite Supervisor's signature indicating acceptance to the same.
- All rental equipment must be accounted for and returned promptly upon conclusion of operations. Rental Sheets must be utilized.
- All surplus material and/or equipment must be accounted for and either returned for credit or material transferred to the appropriate warehouse point accordingly. Disposition of scrap material must be documented.
- All Accidents or Incidents shall be reported immediately to the Calgary Office - Attention: Corey Thomson or Richard Bean Complete the Paramount Safe Incident Report and conduct the necessary Investigations immediately. Fax copy to Calgary within 6 hours of incident.
- Ensure that all garbage and debris has been removed from the location. and that any environmental concern has been addressed. Contact the Construction foreman with any concerns.
- Prepare a final wellbore diagram with all pertinent information recorded.
- Forward all paperwork including field logs and computer data files to the Calgary office including copies of all field logs. A paper and digital copy of all Paramount operation reports should be provided. All field tickets, Material Transfers, Incident Reports, well test reports, rig inspection reports and service reports shall be included with the operation report package.



Alternate Cut and Cap Operation

If available, a proprietary Hydrojet cut and cap system may be used to cut the casing(s) a minimum of 1 m below ground level and install a vented (non-sealing) cap on the casing stub below ground level once all downhole operations have been completed and tested as per the program.

In summary the steps are:

- Remove wellhead from the top of the well (down to surface casing bowl flange)
- Place the hydraulic pipe cutter inside the innermost casing
- Apply high-pressure water and abrasive to the cutting tip (typically 1-2m below grade).
- Rotate the cutting tip to sever the casing from the inside out.
(Typically it takes 20 minutes to an hour to complete the cut)
- Remove tool and pull the casing stub out of the ground.
- Compression fit vented cap to the below-ground casing strings.
(Welded options are available for jurisdictions where this is required)
- Backfill the hole (typically about the diameter of the surface casing drill bit)
- Install independent well signpost as per OROGO requirements (detailed above).





Weatherford®

MGM East MACKAY I-78

Final Well Completion

Company	Shell / MGM	Reference	ZS12852.JG Rev4
Prepared for	Clint Murray	Phone	(403)-648-0847
Prepared by	Jamie Godlonton	Sales Rep	Jamie G
Service Centre	Grande Prairie 1-888-844-0301	Drawn by	QuintenJohnson
		Date	3/1/2013
		Page	1

TUBULAR	Size (mm)	Weight (kg/m)	Grade	Thread	Notes
Casing	177.8	38.69	L-80	LT&C	1978
Liner	114.3/88.9	20.09/13.84	P-110/L-80	LT&C/EUE	1962.30
Frac String	114.3	20.09	P-110	LT&C	1818.80

ITEM	DESCRIPTION	I.D. (mm)	O.D. (mm)	Length (m)
B. C.	Lower Canol Casing Perforations 1869m-1871m Upper Canol Casing Perforations 1847m-1849m 1840m-1842m			
21.	114.3mm Weatherford ZS-XL ZoneSelect Ball Actuated Frac Sleeve #3 c/w 83.31mm Ball Seat ID and Requires a 85.85mm Ball	98.43	139.7	1.23
22.	114.3mm, 20.09kg/m P-110 LT&C Liner Casing #4	99.57	127.0	12.10
23.	114.3mm Weatherford "ARES™" Hydraulic Set Open/Cased Hole Packer c/w 20.09kg/m P-110 Mandrel and 1.51m Handling Pup 69MPa Rated.	99.57	147.32	3.57
24.	114.3mm, 20.09kg/m P-110 LT&C Liner Casing (2 x3.07, 1.86m)	99.57	127.0	8.0
25.	114.3mm Weatherford ZS-XL ZoneSelect Ball Actuated Frac Sleeve #4 c/w 86.49mm Ball Seat ID and Requires a 89.03mm Ball	98.43	139.7	1.23
26.	114.3mm, 20.09kg/m P-110 LT&C Liner Casing #5	99.57	127.0	12.00
27.	114.3mm Genuine Otis "R" Landing Nipple c/w 93.68mm Profile HARD KOTE – LT&C Box x Pin Connections – Gauges to be Hung off Lock after Frac	93.68	127.0	0.40
28.	114.3mm, 20.09kg/m P-110 LT&C Liner Casing Joint #6	99.57	127.0	12.09
29.	177.8mm x 114.3mm Weatherford "UltraPak HU" Upper Bore Hydraulic Set Double Grip Liner Top Packer c/w 120.65mm Upper Bore. P-110 Material – 69 MPa Rated. 114.3mm LT&C Pin Down	98.43	149.23	2.16
30.	Weatherford "LSA" Latch Seal Assembly c/w 120.65mm Seal OD and 99.57mm Min ID. 4 Bonded HNBR Seals. Right Hand Release 114.3mm LT&C Box Up Connection	99.57	146.05	2.17
31.	114.3mm, 20.09kg/m P-110 LT&C Liner Pup Joint (3.07m)	99.57	127.0	3.07
32.	114.3mm Genuine Otis "R" Landing Nipple c/w 93.68mm Profile HARD KOTE – LT&C Box x Pin Connections	93.68	127.0	0.40
33.	114.3mm, 20.09kg/m P-110 LT&C Liner Casing Joints 7-156	99.57	127.0	1808.49
34.	Tubing hanger			0.20
	15,000 daN Compression			-0.53
	KB- CHF			5.31

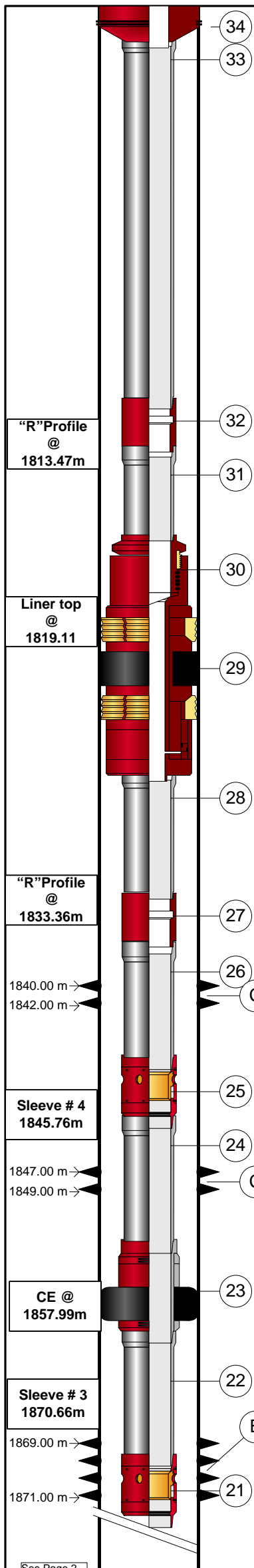
NOTES

Frac string landed in 15,000 daN of compression (0.53m)
Well circulated to 795 kg/m frac oil below line hanger and inside of liner to surface
1050 kg/m brine water in the annular of the tie back string.
Liner packed off to 22,000 kPa.
Annular pressure tested to 21,000 kPa.
Toe Sleeve to open @ 24,800 kPa.

Zone #1 displacement – 15.15 m3
Zone #2 displacement - 14.66 m3
Zone #3 displacement - 14.56 m3
Zone #4 displacement - 14.37 m3

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MGM East MACKAY I-78

Final Well Completion

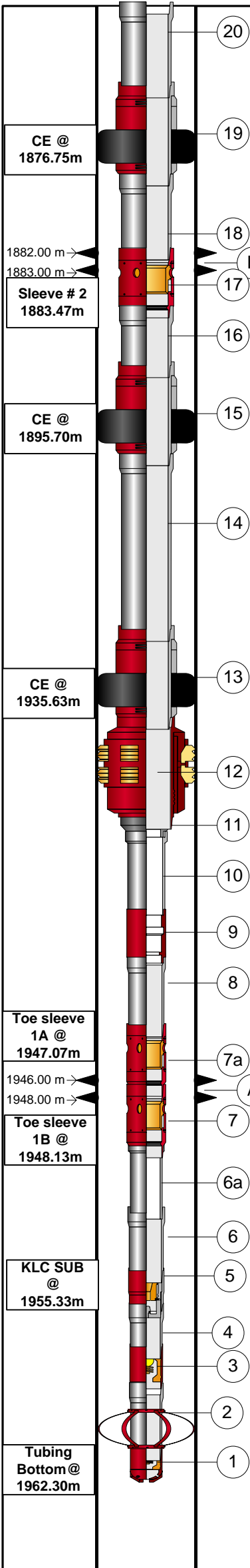
Company	Shell / MGM	Reference	ZS12852.JG Rev4
Prepared for	Clint Murray	Phone	(403) 648-0847
Prepared by	Jamie Godlonton	Sales Rep	Jamie G
Service Centre	Grande Prairie 1-888-844-0301	Drawn by	QuintenJohnson
		Date	3/1/2013
		Page	2

TUBULAR	Size (mm)	Weight (kg/m)	Grade	Thread	Notes
Casing	177.8	38.69	L-80	LT&C	1978.50
Liner	114.3/88.9	20.09/13.84	P-110/L-80	LT&C/EUE	±1950
Frac String	114.3	20.09	P-110	LT&C	±1790

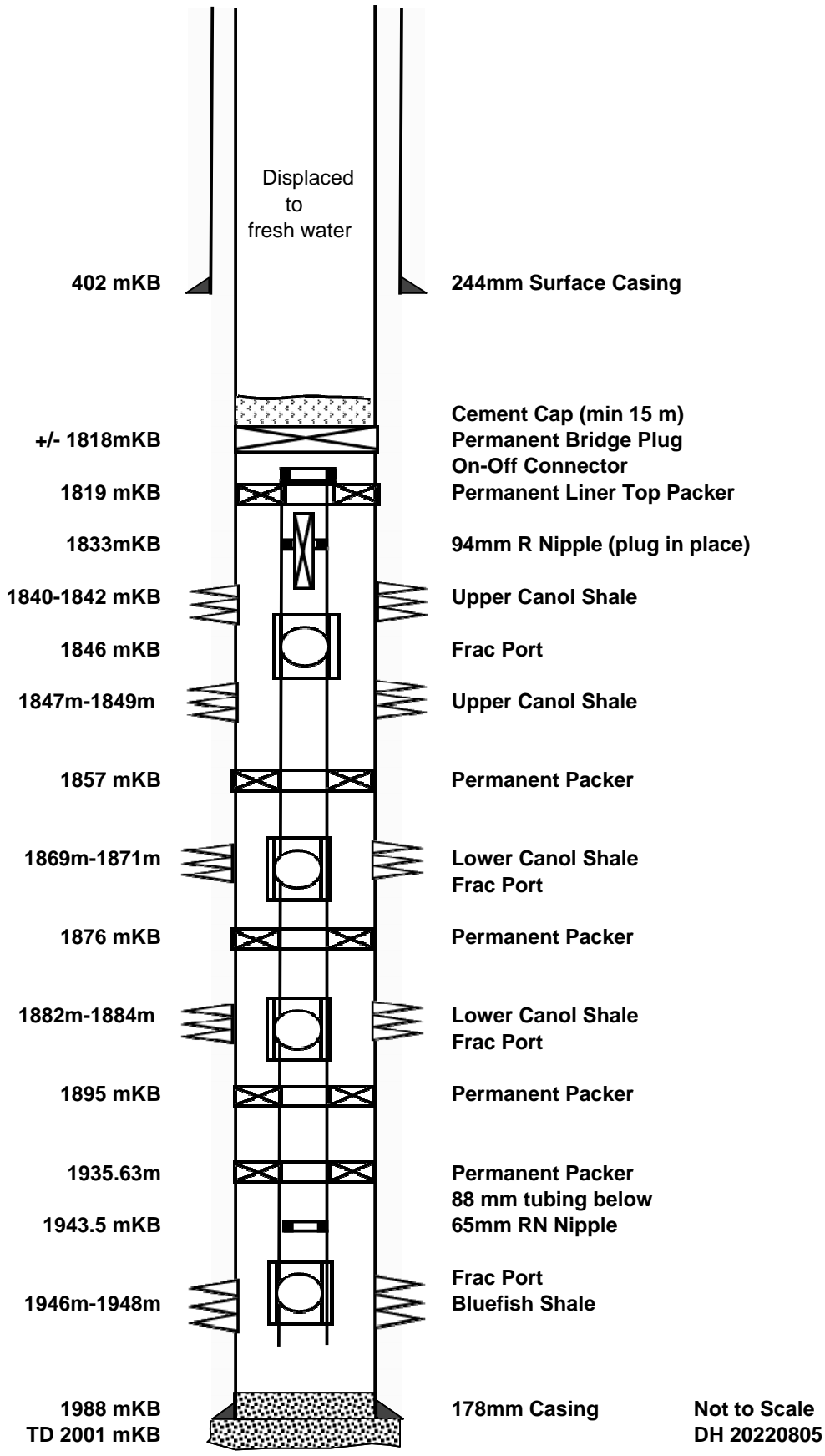
ITEM	DESCRIPTION	I.D. (mm)	O.D. (mm)	Length (m)
A.	Proposed Blue Fish Casing Perforations 1946m-1948m			
B.	Proposed Lower Canol Casing Perforations 1882m-1883m			
1.	88.9mm EUE Weatherford Single Valve Float Shoe (L-80 Material)		114.3	0.34
2.	88.9mm L-80 EUE Pup Joint	76.0	114.3	3.05
3.	88.9mm EUE Weatherford Single Valve Float Collar (L-80 Material)		114.3	0.25
4.	88.9mm L-80 EUE Pup Joint	76.0	114.3	3.05
5.	88.9mm Weatherford "KLC" Locking Landing Collar – 69MPa Rated L-80 EUE Box x Pin c/w 20.65mm Stainless Steel Ball	0.68	114.7	0.24
6.	88.9mm L-80 EUE Pup Joint	76.0	114.3	3.07
6a.	88.9mm L-80 EUE Pup Joint	76.0	114.3	3.07
7.	88.9mm Weatherford "ZTA" 1A Hydraulic Actuated Toe Sleeve c/w 24.8Mpa Differential Opening Pressure (10 Pins)	59.69	114.3	1.06
7a.	88.9mm Weatherford "ZTA" 1B Hydraulic Actuated Toe Sleeve c/w 24.8Mpa Differential Opening Pressure (10 Pins)	59.69	114.3	1.06
8.	88.9mm L-80 EUE Pup Joint	76.0	114.3	3.07
9.	88.9mm Genuine Otis "RN" Landing Nipple c/w 65.07mm Profile and 59.16mm No/Go - HARD KOTE. Gauges to be Hung off Lock	59.16	114.3	0.53
10.	88.9mm L-80 EUE Pup Joint c/w Bow Spring Centralizer	76.0	114.3	3.07
11.	88.9mm EUE Pin x 114.3mm LT&C Box Crossover Sub (Supplied by Weatherford)	76.0	127.0	0.27
12.	114.3mm x 177.8mm Weatherford "Atlas" Anchor Assembly c/w 16.1MPa Activation Pressure (6 Pins)	76.0	146.05	3.87
13.	114.3mm Weatherford "ARES™" Hydraulic Set Open/Cased Hole Packer c/w 20.09kg/m P-110 Mandrel and 1.57m Handling Pup 69MPa Rated. 14.0MPa Activation Pressure	99.57	147.32	3.63
14.	114.3mm, 20.09kg/m P-110 LT&C Liner Casing Joints 1-3	99.57	127.0	36.29
15.	114.3mm Weatherford "ARES™" Hydraulic Set Open/Cased Hole Packer c/w 20.09kg/m P-110 Mandrel and 1.58m Handling Pup 69MPa Rated.	99.57	147.32	3.64
16.	114.3mm, 20.09kg/m P-110 LT&C Liner Casing (2 x3.07m, 1.87m)	99.57	127.0	8.0
17.	114.3mm Weatherford ZS-XL ZoneSelect Ball Actuated Frac Sleeve #2 c/w 80.14mm Ball Seat ID and Requires a 82.68mm Ball	98.43	139.7	1.23
18.	114.3mm, 20.09kg/m P-110 LT&C Liner Casing (2x 3.07m)	99.57	127.0	6.14
19.	114.3mm Weatherford "ARES™" Hydraulic Set Open/Cased Hole Packer c/w 20.09kg/m P-110 Mandrel and 1.52m Handling Pup 69MPa Rated.	99.57	147.32	3.58
20.	114.3mm, 20.09kg/m P-110 LT&C Liner Casing (1.86m)	99.57	127.0	1.86

NOTES

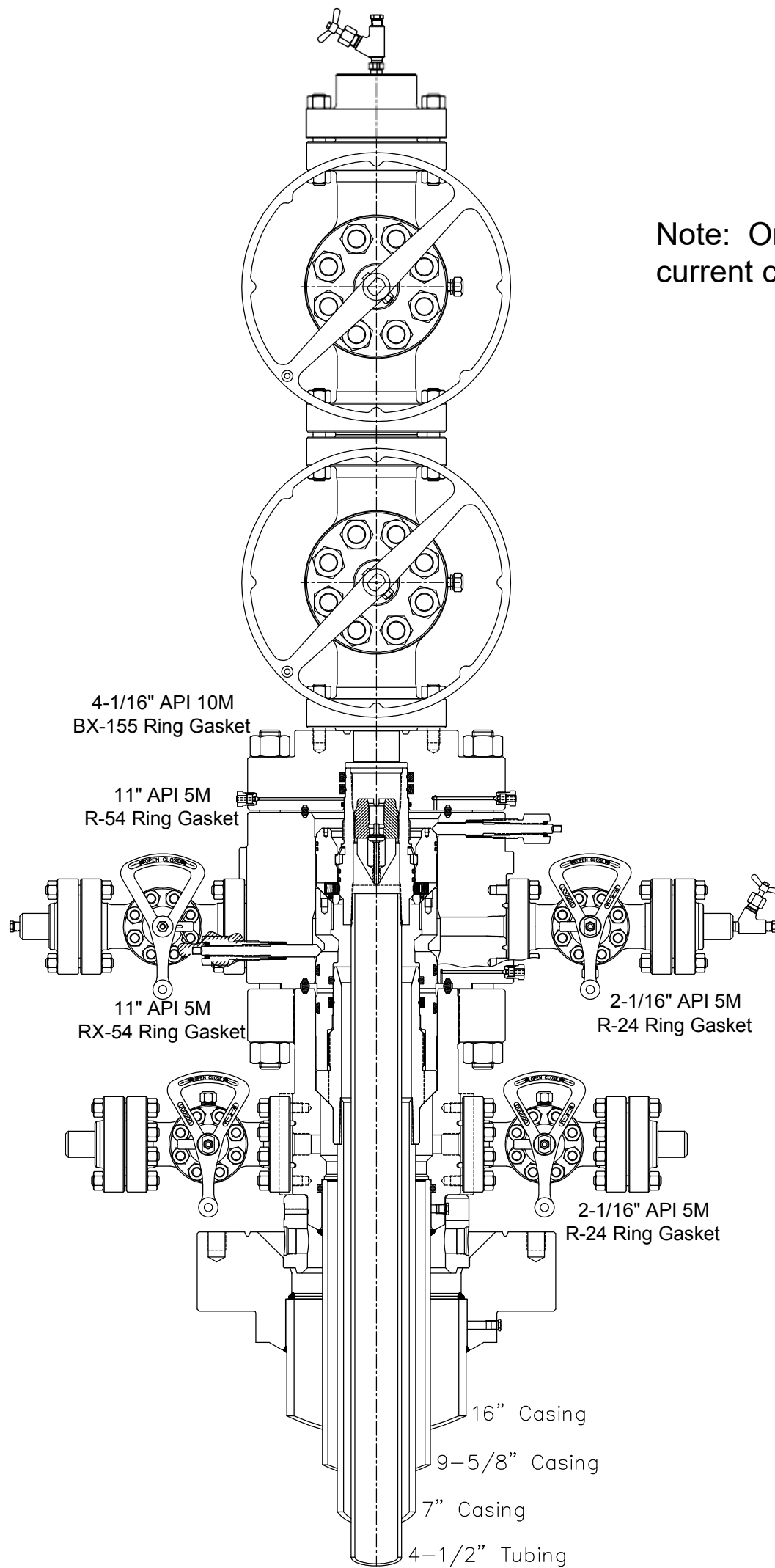
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East Mackay I-78 Proposed Abandonment



Not to Scale
DH 20220805



Note: Only one master valve in current configuration

4-1/16" API 10M
BX-155 Ring Gasket

11" API 5M
R-54 Ring Gasket

11" API 5M
RX-54 Ring Gasket

2-1/16" API 5M
R-24 Ring Gasket

2-1/16" API 5M
R-24 Ring Gasket

16" Casing

9-5/8" Casing

7" Casing

4-1/2" Tubing

NOTE:
THIS IS A PROPOSAL DRAWING AND DIMENSIONS SHOWN ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PROCESS.

Updated to indicate
removal of wing valves
D Heenan - 20131114



Cameron International
Surface Systems, DPS
PO Box 1212
Houston, TX 77251-1212

PROPOSAL DRAWING

MGM ENERGY CORP

11" 5K 'MBS' WELLHEAD FRAC SYSTEM

CASING PROGRAM: 16" X 9-5/8 X 7" X 4-1/2"

THIS DOCUMENT CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION WHICH IS THE PROPERTY OF CAMERON, A DIVISION OF COOPER CAMERON CORPORATION AND RECEIPT OR POSSESSION DOES NOT CONVEY ANY RIGHTS TO LOAN, SELL OR OTHERWISE DISCLOSE SAID INFORMATION. REPRODUCTION OR USE OF SAID INFORMATION FOR ANY PURPOSE OTHER THAN THE PURPOSE FOR WHICH SAID INFORMATION WAS SUPPLIED IS PROHIBITED WITHOUT EXPRESS WRITTEN PERMISSION FROM CAMERON. THIS DOCUMENT IS TO BE RETURNED TO CAMERON UPON REQUEST OR UPON COMPLETION OF THE PURPOSE FOR WHICH IT WAS SUPPLIED.

DO NOT SCALE	
DRAWN BY KEN REED	DATE 2013FEB07
CHECKED T. TAYLOR	DATE 2013FEB07
APPROVED	DATE

INITIAL USE B/M

40

SHEET
1 OF 1

SD-045856-11-01

01
REV

INFORMATION DISCLOSURE CONSENT FORM

Pursuant to subsection 91(3) of the *Petroleum Resources Act* (PRA)

Subject to its obligations under section 91 of the PRA and the objectives expressed by the Government of the Northwest Territories Oil and Gas Regulator (Regulator) in its *Information Disclosure Guidelines*, issued under section 18 of the *Oil and Gas Operations Act* (OGOA) on May 10, 2016, the Regulator wishes to facilitate public access to information about the regulation of oil and gas works and activities under OGOA, while protecting an applicant's right to maintain privilege over certain information.

Paramount Resources Ltd (the Applicant), requires authorizations, approvals, orders, or other consents from the Regulator in respect of the following works or activities:
South Liard Well Abandonment

The Applicant (please mark box or boxes):

- Does not consent** to the public disclosure of any information with respect to the above-noted works or activities, other than information or documentation that the Regulator is already permitted to disclose under section 91 of the PRA, and has provided a rationale for non-disclosure in the space provided on the reverse of this form.

or

Consents to the public disclosure of all the information indicated by the Applicant below with respect to the above-noted works or activities, with the exception of any information noted in the space provided on the reverse of this form where accompanied by a rationale for non-disclosure:

- This completed *Information Disclosure Consent* form
- A brief project description (approximately 1-5 pages) that includes the name of the applicant, the scope, purpose, location, timing and nature of the proposed work or activity. This project description may be used for the purposes of a preliminary screening under Part V of the *Mackenzie Valley Resource Management Act*.
- The contents of an application for an Authorization under section 10(1)(b) of OGOA, including but not limited to:
- The completed application for the Authorization;
 - All required documentation supporting the application, including the safety plan and environmental protection plan where applicable;
 - Correspondence and Information Requests between the Regulator and the Applicant;

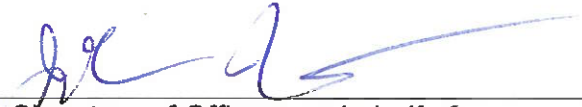
- The approved Authorization, including any conditions imposed by the Regulator;
- The completed application for any associated approvals (such as well approvals);
- Any associated approvals issued, including any conditions imposed by the Regulator;
- Subsequent amendments to any authorizations or approvals issued by the Regulator; and
- Any requests to vary or seek exemption from a regulatory requirement under section 54 of OGOA.

Classes of information or documentation obtained by the Regulator as a result of carrying on a work or activity that is authorized under OGOA, as described in subsection 91(8) of PRA, remain privileged for the periods of time described in that subsection.

By providing its consent to the disclosure of the above information, the Applicant hereby releases OROGO, its officers, agents or employees from any claims, demands, losses or liability arising out of or related to the disclosure of the information.

This consent remains in effect until it is revoked or amended by written notice to OROGO, in which case the amended consent would apply to information provided to the Regulator after the date of the written notice.

The Applicant hereby affirms that it has read and fully understands this Information Disclosure Consent Form and release of liability.

Paramount Resources Ltd	<i>September 17, 2021</i>
Name of Applicant Company	Date
	John Hawkins, Director Asset Management
Signature of Officer, on behalf of Applicant	Name of Officer (print)

Information the Applicant Does Not Consent to Disclose:

Rationale for Non-Disclosure (use additional paper if necessary):
