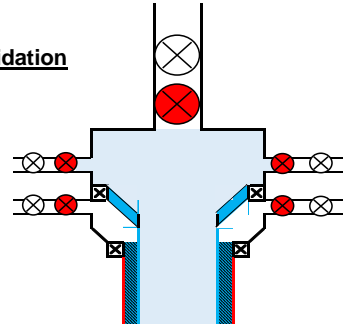


# Carpentaria 1

## Well Barrier Integrity Validation



Alluvium			
Gum Ridge Formation (Aquifer) 50 to 115mRT	TOC @ base of cellar (surface)	Stovepipe 20" ± 25mRT	
Bukalara Sandstone	TOC @ base of cellar (surface)	Conductor Casing 13-3/8" K55-61ppf-8TC ± 150mRT	
Kyalla Shale (Shallowest Hydrocarbon Bearing) 244 to 307mRT			
Moroak Sandstone			
Velkerri - Wyworrie Member	TOC @ base of cellar (surface)	Surface Casing 9-5/8" K55-36ppf-8TC ± 865mRT	
Velkerri Amungee Member			
Velkerri - Amungee - C Shale			
Velkerri - Amungee - Intra B / C			
Velkerri - Amungee - B Shale			
Velkerri - Amungee - Intra A / B			
Velkerri - Amungee - A Shale			
Velkerri - Amungee - Kalala Member			
Bessie Creek Sandstone	TOC @ base of cellar (surface)	Production Casing 7"-P110-29ppf-JFE Bear ± 1909mRT	

Well Information	
Well Name:	Carpentaria 1
Well Type:	Gas Exploration
Well Design Pressure:	10000psi
Well Status:	Suspended
Revision no. / Date:	Revision 4 06/07/2021
Prepared:	Latif Shareef
Verified/Approved/Date:	Bruce Richardson 06/07/21

PRIMARY WELL BARRIER ELEMENTS - INTERNAL		
ELEMENT	VERIFICATION	MONITORING
7" Shoe Track	Successful cement job execution (plug bumped / casing tested / floats holding)  Plug bumped with shoe track not over-displaced by more than 50% of shoe track volume prior to bump (3 x casing joint / 34m shoe track run)  Green cement pressure test performed to 4590 psi on 9.4ppg suspension fluid on 22/10/2020  Casing float valves holding differential pressure on bleed-off following green cement pressure test (estimated 1650 psi differential pressure)	Wellhead pressure monitoring
7" Production Casing	Green cement pressure test performed to 4590 psi on 22/10/2020 Pressure test performed to 10063 psi 03/06/2021  Overbalanced fluid column Cement displaced with 9.4 ppg inhibited suspension brine.	Wellhead pressure monitoring Wellhead pressure monitoring
2-9/16" 5M Lower Master Valve / 11" 5M x 2-9/16" Xmas Tree Companion Flange / 11" 5M wellhead flange / 2-1/16" 5M wellhead SOV (B-section valve) and 2-1/16" 5M side outlet companion flanges	2-9/16" 5M Lower Master Valve (LMV) and 2-9/16" LM valve x 2-9/16" x 11" 5M companion flange connection tested offline to 5000 psi on 8/4/2020  2-9/16" x 11" 5M Xmas Tree companion flange to 11" 5M wellhead flange connection tested to 5000 psi on 26/10/2020  2-1/16" 5M wellhead SOV gate valve (B-section valve) and wellhead companion flanges tested to 5000 during BOP test on 5/10/2020	Wellhead pressure monitoring  External observation of flange connections during monthly inspection
UNTESTED INTERNAL PRIMARY BARRIER		
6-3/4" x 2-7/8" EUE tubing hanger with 2-1/2" BPV installed	Tubing hanger seal void tested to 5000 psi x 15 mins and lockdown ring engaged and pull tested to 25 kips on 23/10/2020  2-1/2" BPV installed on 23/10/2020 not tested	Wellhead pressure monitoring
PRIMARY WELL BARRIER ELEMENTS - EXTERNAL		
7" Casing Hanger / Pack-Off Seal Assembly (External)	Upper and lower pack-off seal voids tested to 5000 psi x 15 mins and pull tested to 40 kips on 22/10/2020	Wellhead pressure monitoring
7" Production Casing Cement (External)	Job executed as per program with consistent density control, no losses recorded / fluid returns to surface on schedule (12 bbls 14.5 ppg cement returned to surface). Final displacement pressure approximated pre-job calculations. CBI-VDL-CCL-GR log conducted inside 7" casing on 23/10/2020. Good to excellent bond from TD to -275m. Fair to poor from -275m to surface. SonicScanner (CBI) log conducted inside 7" casing on 2/06/2021. Good to excellent bond from 1873 to 825m (log interval)	9-5/8" x 7" annulus pressure monitoring

SECONDARY WELL BARRIER ELEMENTS - INTERNAL		
ELEMENT	VERIFICATION	MONITORING
2-9/16" 5M Upper Master Valve	2-9/16" 5M Upper Master Valve (UMV) and 2-9/16" LM valve x 2-9/16" x 11" 5M companion flange connection tested offline to 5000 psi on 8/4/2020	Wellhead Pressure (WHP) monitoring
2-9/16" 5M Xmas Tree assembly (swab & wing valve / Bowen cap / flow tee / 2-1/16" 5M companion flange)	Xmas Tree assembly tested offline to 5000 psi on 8/4/2020	Wellhead Pressure (WHP) monitoring External observation at monthly inspection
SECONDARY WELL BARRIER ELEMENTS - External		
Wellhead / A-section annulus valve	Wellhead - 9-5/8" casing connection tested to 2800 psi x 5 mins on 9-5/8" casing green cement test on 5/10/2020  2" LP 5M A-section annulus SOV and 2" LP bull plug tested to 5000 psi x 15 mins against VR plug during BOP test on 5/10/2020	9-5/8" x 7" annulus pressure monitoring
9-5/8" surface casing	9-5/8" casing tested to 2800 psi x 5 mins on 9-5/8" casing green cement test on 5/10/2020	External observation at monthly inspection
9-5/8" surface casing cement	9-5/8" surface casing successfully cemented on 5/10/2020 with 65 bbls cement to surface. Job executed as per program (densities / volumes / displacement pressure as per pre-job calculations)	External observation during monthly wellhead inspection
Formation integrity at 9-5/8" shoe	Formation strength verified by LOT at 9-5/8" casing shoe at 848.1m to 23.8ppg EMW on 6/10/2020 (2150 psi on 8.9 ppg drilling fluid)	N/A

**HEALTHY WELL. NO OR MINOR ISSUE**

13-3/8" casing x 17-1/2" annulus cemented to surface with 15 ppg tail cement after total of 110 bbls top-up cement pumped following primary cement job on 28/9/2020

9-5/8" casing successfully cemented to surface with 13.5 ppg lead / 15.8 ppg tail cement with 65 bbls 13.5 ppg lead cement returned to surface on 5/10/2020

LOT performed at 9-5/8" casing shoe to 23.8 ppg EMW on 6/10/2020

7" casing successfully cemented to surface with 14.5 ppg single stage cement slurry with 12 bbls cement returned to surface on 22/10/2020

Integrity of 7" production casing verified by green cement pressure test to 4590 psi x 10 mins on 22/10/2020. Casing will be tested to higher pressure as required prior to future fracture stimulation operations. Maximum expected surface pressure based on full evacuation assuming 9.4ppg pore pressure at well total depth ~ 2400 psi.

Shoe track float valves verified by no flowback under 1650 psi static differential pressure inflow test following green cement test on 22/10/2020

Monthly wellhead inspections will be undertaken during well suspension period comprising monitoring of wellhead pressures (A and B annuli), external inspection of wellhead flanges and valves for leaks and functioning / greasing of valves as required

Needle valve with pressure gauge installed on Xmas Tree Bowen cap and Wing Valve side outlet

Needle valve with pressure gauge installed on A- and B-section side outlet valves

Needle valve with pressure gauge installed on B-section side outlet valve will read WHP (pressure inside 7" casing) with suspension tree master valves closed and BPV installed in tubing hanger

**Nomenclature:**  
 A-annulus = 9-5/8" x 7", B-annulus = 7" x 2-7/8" (2-7/8" not installed)  
 RT height = 5.2m  
 TVD = 1911mRT  
 PBTD = 1875mMD  
 TD = 1915 mMD

