



Gyro Orientation Report

Client: DBP

Well: TGS3

Field: Tubridgi L9

Latitude: 21° 46' 22.10" S.

Longitude: 114° 50' 21.40" E.

Survey Date: 12-Jan-17

Survey Engineer: J. Hollingworth

Event Summary Report

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Well Information			
Client DBP	Well Name TGS3	Field Tubridgi L9	Country Australia
State Western Australia	Local Coordinates Referenced To Well Head	Latitude 21° 46' 22.10" S.	Longitude 114° 50' 21.40" E.
Map Northing N 7,590,759.7 m	Map Easting E 277,757.4 m	Datum GDA94/MGA94	Zone 55
Survey Information			
Ref Datum Ground Level	Ground Level 0.00 m	Depth Reference RT	Depth Above Reference 3.00 m
Survey Date 12-Jan-17	Survey Instrument North Seeking Gyro	Survey Reference True North	Grid Convergence N/A
Company Rep M. Wayne	Survey Engineer J. Hollingworth	Conveyance Company Halliburton	Tools SN 13062
Comments			
Date	Time	Comments	
10-Jan-17	15:30	Depart Roma Perth	
	16:50	Arrive Perth	
11-Jan-17	6:30	Depart Perth to DBP.	
	14:00	Arrive DBP.	
	21:00	Safety meeting with crew and rig up wireline.	
	21:20	Program gyro and prepare to RIH.	
	22:05	Check gyro tool face at surface @270 deg Azimuth.	
	22:10	RIH with Gyro-Cast.	
	12-Jan-17	0:00	Perform Gyro Compass @511.6m after first pass. Log 6.
	0:20	Perform Gyro Compass @513.7m after second pass. Log 7.	
	0:40	Perform Gyro Compass @512.6m before third pass. Log 8.	
	2:15	POOH with Gyro-Cast.	
	2:30	OOH with tool, perform gyro tool face at surface @270 deg Azimuth.	
	2:45	Rig down gyro, check data and rig down CAST.	
	8:00	Picked up TCP Guns.	
	8:50	Scribed and aligned UBHO sub to TCP guns phased 0-180deg.	
	20:00	Rigged up wireline.	
	20:15	RIH with Gyro-GR-CCL to perform TCP UBHO orientation.	
	20:30	Perform orientation survey in UBHO sub @475m.	
	20:35	Perform orientation survey in UBHO sub @475m.	
	20:40	Perform orientation survey in UBHO sub @475m.	
	20:45	Correlated TCP guns.	
	22:00	OOH with Gyro-GR-CCL. Download data.	
13-Jan-17	0:15	RIH with Gyro-GR-CCL to perform TCP UBHO orientation.	
	0:30	Perform orientation survey in UBHO sub @481m.	
	0:35	Perform orientation survey in UBHO sub @481m.	
	0:40	Perform orientation survey in UBHO sub @481m.	
	0:45	Correlated TCP guns.	
	1:30	OOH with Gyro-GR-CCL. Download data.	

Gyro Orientation Survey - CAST



Well Information			
Client DBP	Well Name TGS3	Field Tubridgi L9	Country Australia
State Western Australia	Local Coordinates Referenced To Well Head	Latitude 21° 46' 22.10" S.	Longitude 114° 50' 21.40" E.
Map Northing N 7,590,756.8 m	Map Easting E 276,576.3 m	Datum GDA94/MGA94	Zone 50
Survey Information			
Ref Datum Ground Level	Ground Level 0.00 m	Depth Reference RT	Depth Above Reference 3.00 m
Survey Date 12-Jan-17	Survey Instrument North Seeking Gyro	Survey Reference True North	Grid Convergence N/A
Company Rep M. Wayne	Survey Engineer J. Hollingworth	Conveyance Company Halliburton	Tools SN 13062
Comments Gyro used to correlate Halliburton CAST Logging tool make-up key.			
Survey Information			
Depth of Anchor or Whipstock Survey Reference to True North		N/A	
Orientation Survey Information			
Survey 1 at 511.6m			
Time of Survey		12:00 AM	
Deviation		0.13°	
Well Azimuth from Tool		49.9°	
Gyroscopic Toolface Azimuth		108.5°	
Keyway Direction Gyro Toolface		108.5°	
Use Gyro Toolface Only!			
Survey 2 at 513.7m			
Time of Survey		12:20 AM	
Deviation		0.08°	
Well Azimuth from Tool		115.3°	
Gyroscopic Toolface Azimuth		82.2°	
Keyway Direction Gyro Toolface		82.2°	
Use Gyro Toolface Only!			
Survey 3 at 512.6m			
Time of Survey		12:40 AM	
Deviation		0.15°	
Well Azimuth from Tool		112.6°	
Gyroscopic Toolface Azimuth		53.3°	
Keyway Direction Gyro Toolface		53.3°	
Use Gyro Toolface Only!			

Gyro Orientation Survey - TCP UBHO Survey 1

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Well Information			
Client DBP	Well Name TGS3	Field Tubridgi L9	Country Australia
State Western Australia	Local Coordinates Referenced To Well Head	Latitude 21° 46' 22.10" S.	Longitude 114° 50' 21.40" E.
Map Northing N 7,590,759.7 m	Map Easting E 277,757.4 m	Datum GDA94/MGA94	Zone 55
Survey Information			
Ref Datum Ground Level	Ground Level 0.00 m	Depth Reference RT	Depth Above Reference 3.00 m
Survey Date 12-Jan-17	Survey Instrument North Seeking Gyro	Survey Reference True North	Grid Convergence N/A
Company Rep M. Wayne	Survey Engineer J. Hollingworth	Conveyance Company Halliburton	Tools SN 13062
Comments UBHO sub orientated to TCP Guns, phased 0-180deg.			
Survey Information			
Depth of UBHO Sub		475m	
Survey Reference to True North			
Orientation Survey Information			
Survey 1			
Time of Survey		8:25 PM	
Deviation		0.27°	
Gyroscopic Toolface Azimuth		148.4°	
Keyway Direction Gyro Toolface		148.4°	
Survey 2			
Time of Survey		8:30 PM	
Deviation		0.22°	
Gyroscopic Toolface Azimuth		144.4°	
Keyway Direction Gyro Toolface		144.4°	
Survey 3			
Time of Survey		8:35 PM	
Deviation		0.22°	
Gyroscopic Toolface Azimuth		144.8°	
Keyway Direction Gyro Toolface		144.8°	
Orientation Survey Averaged Data			
Average Hole Deviation at 475mm		0.24°	
Keyway Direction from Gyroscopic Toolface		145.8°	

Use Gyro Toolface Only!

Use Gyro Toolface Only!

Use Gyro Toolface Only!

Deviation to low to use gravity toolface

Gyro Orientation Survey - TCP UBHO Survey 2

HURACAN

Well Information			
Client DBP	Well Name TGS3	Field Tubridgi L9	Country Australia
State Western Australia	Local Coordinates Referenced To Well Head	Latitude 21° 46' 22.10" S.	Longitude 114° 50' 21.40" E.
Map Northing N 7,590,759.7 m	Map Easting E 277,757.4 m	Datum GDA94/MGA94	Zone 50
Survey Information			
Ref Datum Ground Level	Ground Level 0.00 m	Depth Reference RT	Depth Above Reference 3.00 m
Survey Date 12-Jan-17	Survey Instrument North Seeking Gyro	Survey Reference True North	Grid Convergence N/A
Company Rep M. Wayne	Survey Engineer J. Hollingworth	Conveyance Company Halliburton	Tools SN 13062
Comments UBHO sub orientated to TCP Guns, phased 0-180deg.			
Survey Information			
Depth of UBHO Sub		481 m	
Survey Reference to True North			
Orientation Survey Information			
Survey 1			
Time of Survey		12:25 AM	
Deviation		0.63°	
Gyroscopic Toolface Azimuth		241.9° Use Gyro Toolface Only!	
Keyway Direction Gyro Toolface		241.9°	
Survey 2			
Time of Survey		12:30 AM	
Deviation		0.74°	
Gyroscopic Toolface Azimuth		242.1° Use Gyro Toolface Only!	
Keyway Direction Gyro Toolface		242.1°	
Survey 3			
Time of Survey		12:35 AM	
Deviation		0.63°	
Gyroscopic Toolface Azimuth		243.1° Use Gyro Toolface Only!	
Keyway Direction Gyro Toolface		243.1°	
Orientation Survey Averaged Data			
Average Hole Deviation at 481m		0.67°	
Keyway Direction from Gyroscopic Toolface		242.4° Deviation to low to use gravity toolface	