TABU-B19

Report No: 19 **Progress:** 407.00
Reg Name:
Wellbore:
Rig Name: Sapura T-9
Phase: Drilling, Drill 8-1/2" Hole Section (216mm), Drill 8-1/2" Production Hole, Exclude: No

	Planned	Actual (Cum)
Days (original)	33.00	18.25
MD/TVD	3,158/	3,097/ 1,919
Cost (w/suppl)	13,700,000	4,377,985

Units: Mixed **Currency:** USD
Reference Datum: 32.07m - OTH - must be OTH!
Well Working Elev: 32.07 mKB1 - depths must match!

Rpt Period: 6/22/2020 00:00 to 6/23/2020 00:00

Well Information

Country	Field Name	Operating Facility	Slot/Conductor	Regulatory Well ID	
Malaysia	Tabu	TABU_B	27		
Territory/State	**Lease**		**Local Latitude (°)**	**Local Longitude (°)**	**Drilling Purpose**
	2008 PSC		5° 40' 33.443" N	104° 53' 50.564" E	Service
Original KB Elevation (m)	**Ground Elevation (m)**	**Working Elevation**	**Working-Ground Distanc…**	**Water Depth (m)**	**Spud Date**
32.07	0.00	32.07 mKB1	32.07	63.30	10/19/1995 00:00

Daily Operations Information

Rig / Unit (Names)	Days From Spud (days)	Days Ahead/Behind	Daily Cost Total (Cost)	Cum Percent NPT (%)
Sapura T-9	85		152,429	3.42

Daily Personnel Count	Daily Personnel (hr)	Drill Time (hr)
136.0	3,264.00	15.60

Activity at Report Time
Drill and survey 8-1/2" production hole section. Depth: 3097 m.

Next Activity
Drill and survey 8-1/2" production hole section to section TD +/- 3120 m. Circulate hole clean while R/B 5 stds. Short wiper trip back to bottom. Perform 10-10-10 and circulate out. Backream OOH to 9-5/8" casing shoe. Circulate hole clean inside casing. Wiper trip to bottom to simulate running lower completion.

Performance Limiter
Integrity / ECD

Mitigation Attempts/Results
Control ROP to 35 - 40 m/hr and backream.

Average Background Gas	Average Connection Gas	Average Trip Gas	Average Drilling Gas	Formation Description
0.35	0.00	0.00	0.40	40 % claystone 60 % sandstone.

Time Log (hr)	Last Casing String	Next Casing String	Last Mud Check Density (lb/gal)
24.00	9-5/8" 47 ppf L-80 VT HC at 1790.5 m.		10.30

Time Log

Start Time	Elapsed Time (hr)	End MD (mKB1)	Category	Comments
00:00	24.00	3,097.00	DRLG	Drill and survey 8-1/2" production hole with 10.3 ppg NAF from 2690 m to 3097 m. - 640 gpm, 3410 psi. - 150 rpm, Torque: 12 - 15 kft-lbs. - WOB: 10 - 18 klbs, Instantaneous ROP: 25 - 30 m/hr. Average ROP: 16.96 m/hr. - ECD: 11.72 - 11.89 ppg. Control ROP and backream 1 std for hole cleaning and reduce ECD. - P/U wt: 260 klbs, S/O wt: 148 klbs, Rot wt: 181 klbs. T&D FF: P/U 0.2, S/O 0.15. - Background gas: 0.3 - 0.4 %. Max gas 1.7 % at 3071 m. - Acoustic caliper: 8.69" - 8.81" - 1/4" PDC ribbons cutting structure. No signs of borehole instability. Average cutting weight: 10 - 30 kg/min. - MW out: 10.4 ppg. Run active centrifuge for solid control. - Take survey 1 jt off bottom prior making connection. - Last survey at 3074.56 mMD, 1907.53 mTVDDF. Inclination: 58.89 deg. Azimuthal: 349.58 deg. - Compare to plan: 0.66 m above. 0.1 m right. 0.66 m center-to-center. Reservoir - I-10 sand 1808 mMD 1427.1 mTVDDF 6.5 mTVD shallower - I-25 sand 1982.4 mMD 1489.4 mTVDDF 8.3 mTVD shallower - I-28 sand 2035 mMD 1509.1 mTVDDF 6.6 mTVD shallower - I-30 sand 2120 mMD 1538.7 mTVDDF 9.7 mTVD shallower - I-35 sand 2199.5 mMD 1567.3 mTVDDF 8.3 mTVD shallower - I-45 sand 2392.6 mMD 1636.0 mTVDDF 0.2 mTVD deeper - I-48/49 sand 2430.5 mMD 1649.7 mTVDDF 4.1 mTVD shallower - I-62 sand 2710.7 mMD 1749.2 mTVDDF 8.6TVD shallower - I-68 sand 2840 mMD 1797.4 mTVDDF 9.3 mTVD shallower - I-70FS2 sand 2882.2 mMD 1815 mTVDDF 11.6 mTVD shallower - I-70FS1 sand 2910.7 mMD 1827.4 mTVDDF 8.9 mTVD shallower - I-80 sand 3001.1 mMD 1870 mTVDDF 25 mTVD shallower - I-85 sand 3032.7 mMD 1886 mTVDDF 22.8 mTVD shallower Coal: - I-20 coal 1894 - 1897 mMD - I-37 coal 2276 - 2279 mMD - I-40 coal 2293 - 2295 mMD - I-60FS4 coal 2583 - 2587 mMD - I-60FS3 coal 2606 - 2608 mMD - I-60FS1 coal 2660 - 2663 mMD - Coal 1 2982 - 2984 mMD - Coal 2 2992 - 2993 mMD

Daily Offline Time Log Summary

Start Time	Dur (hr)	End Time	Category	Start Depth (TVD) (mKB1)	End Depth (mKB1)	Com

TABU-B19

Report No: 19 **Progress:** 407.00
Reg Name:
Wellbore:
Rig Name: Sapura T-9
Phase: Drilling, Drill 8-1/2" Hole Section (216mm), Drill 8-1/2" Production Hole, Exclude: No

	Planned	Actual (Cum)
Days (original)	33.00	18.25
MD/TVD	3,158/	3,097/ 1,919
Cost (w/suppl)	13,700,000	4,377,985

Units: Mixed **Currency:** USD
Reference Datum: 32.07m - OTH - must be OTH!
Well Working Elev: 32.07 mKB1 - depths must match!

Rpt Period: 6/22/2020 00:00 to 6/23/2020 00:00

Drilling Parameters (Fast Drill)

Start MD (mKB1)	End MD (mKB1)	Hole Made (Int) (m)	Avg ROP (Int) (m/hr)	Drill Time (hr)	Total Circ Time (hr)	WOB (1000lbf)	Total RPM (rpm)	Circ Rate (gpm)	Standpipe Pres (psi)	Rotating HL (1000lbf)	Pickup HL (1000lbf)	Slackoff HL (1000lbf)	Drilling Torque
2,690.00	3,097.00	407.00	26.1	15.60	22.54	22	150	658	3,400.0	181	260	148	15,000.0

Management Summary

Management Summary
Tabu-B 19 ST1: Continue drill and survey 8-1/2" production hole section to section from 2690 m to 3097 m.

Mud Checks

Source Pit	**Date** 6/22/2020 20:00	**Fluid Type** NAF	**Fluid Category** Low Toxicity Mineral Oil	**MD (mKB1)** 3,050	**Density (lb/gal)** 10.30	**ECD (lb/gal)** 11.77
Funnel Viscosity (s/qt) 60	**FL Temp (°C)** 77.0	**Plastic Viscosity (cP)** 34.0	**Yield Point (lbf/100ft²)** 14	**10-Sec Gel (lbf/100ft²)** 10	**10-Min Gel (lbf/100ft²)** 19	**30-Min Gel (lbf/100ft²)** 23
600 RPM Dial Reading 82	**300 RPM Dial Reading** 48	**200 RPM Dial Reading** 32	**100 RPM Dial Reading** 20	**6 RPM Dial Reading** 9	**3 RPM Dial Reading** 8	**Visc Temp (°C)** 48.9
API FL (mL/30min)	**API FC (1/32")**	**HTHP FL (mL/30min)** 3.6	**HTHP FC (1/32")** 2	**HTHP Temperature (°C)** 135.0	**HTHP Pressure (psi)** 500.0	**BHST (°C)** 117.0
Excess Lime (lb/bbl) 3.4	**Ca++ (mg/L)**	**Chlorides (mg/L)** 223,906	**n (Calc)** 0.26	**K (Calc)** 26.68	**Wellbore** TABU-B19ST1	
pH	**Pm (mL/mL)**	**Pf (mL/mL)**	**Mf (mL/mL)**	**Potassium (mg/L)**	**MBT (lb/bbl)**	**Activity** 0.67
Alkalinity (mL/mL) 0.7	**WPS (ppm)** 178,184	**Electrical Stability (V)** 684.0	**Filter Size (µm)**	**Iron Content (mg/L)**	**NTU**	**TCT (°C)**
Volume % Water (%) 17.0	**Volume % Oil (%)** 68.0	**Oil/Water Ratio** 80/20	**Sand Content (%)** 0.3	**Volume % Solids (%)** 15.0	**LGS (%)** 6.1	**HGS (%)** 6.8

Evaporation Volume Added (bbl)

Comments
Active Pit

Mud Volume Summary

Addition/Loss Addition	**Type** Additives	**Subtype**	**Volume (bbl)** 86.8
Addition/Loss Loss	**Type** Surface	**Subtype**	**Volume (bbl)** 168.8
Addition/Loss Loss	**Type** Tank 1	**Subtype**	**Volume (bbl)** 670.0

Active Volume (bbl) 2,393.0	**Var Active Volume (bbl)** -752.0	**Balance (bbl)** 0.0	**Tank Volume (bbl)** 1,703.5	**Additions (bbl)** 86.8	**Cum Additions (bbl)** 1,320.7
Losses (bbl) 838.8	**Cum Losses (bbl)** 1,566.7	**Additions - Losses (bbl)** -752.0	**Cum Additions - Losses (...** -246.0	**Hole Volume (bbl)** 689.5	**Var Hole Volume (bbl)** 94.1

Mud Additive Amounts

Function	Description	Sales Unit Size	Sales Unit	Consumption	Cum Consumption
Weighting Material	Barite	100.0	Pound	2.0	22.0
Base Fluid	BASE OIL MG3	42.0	US Gallon	60.0	380.0
Lost Circ Material	Calcium Carbonate 25	25.0	Kilogram	20.0	150.0
Lost Circ Material	Calcium Carbonate 50	25.0	Kilogram	20.0	180.0
Viscosifier	Carbo Drill	42.0	US Gallon	-670.0	2,814.0
Bridging Agent	CHEK-LOSS PLUS	25.0	Pound	20.0	120.0
Filtration Reducer	FL 1790	200.0	Liter	1.0	4.0
Alkalinity (pH)	Lime	25.0	Kilogram	28.0	52.0
Shale Inhibitor	SOLTEX	50.0	Pound	20.0	100.0
Emulsifier	TCM MUL HT PLUS	55.0	US Gallon	1.0	5.0
Emulsifier	TCM MUL S-HT	55.0	US Gallon	1.0	5.0

Daily Job Supply Summary

Type	Unit Sz	Unit Label	Consumed	Cum Consumed	Received	Cum Received	Returned	Cum Returned	On Loc
Barite	1	MT	0.0	10.0	0.0	310.0	0.0	152.0	148.0
Base Oil	1	bbl	66.0	596.0	0.0	817.0	0.0	817.0	-596.0
Bentonite	1	MT	0.0	0.0	0.0	20.0	0.0	20.0	0.0
Cement Blend	1	MT	0.0	39.0	0.0	213.0	0.0	144.0	30.0
Cement Neat	1	MT	0.0	7.0	0.0	105.0	0.0	0.0	98.0
Fuel - Diesel	1	bbl	123.0	1,401.0	0.0	8,731.0	0.0	4,344.0	2,986.0
Water - Fresh - Purchased Non-Potable	1	bbl	275.0	4,405.0	0.0	30,890.0	0.0	13,634.0	12,851.0
Water - Fresh - Purchased Potable	1	bbl	201.0	4,289.0	195.0	11,378.0	0.0	3,676.0	3,413.0

TABU-B19

	Planned	Actual (Cum)
Days (original)	33.00	18.25
MD/TVD	3,158/	3,097/ 1,919
Cost (w/suppl)	13,700,000	4,377,985

ExxonMobil Exploration & Production Malaysia, Inc
Proprietary

Report No: 19 **Progress:** 407.00
Reg Name:
Wellbore:
Rig Name: Sapura T-9
Phase: Drilling, Drill 8-1/2" Hole Section (216mm), Drill 8-1/2" Production Hole, Exclude: No

Units: Mixed **Currency:** USD
Reference Datum: 32.07m - OTH - must be OTH!
Well Working Elev: 32.07 mKB1 - depths must match!
Rpt Period: 6/22/2020 00:00 to 6/23/2020 00:00

String No. 3

Drill String Name	String Number	Date In	Dt Lst Drlg Parm	MD In (mKB1)	MD Lst Drlg Par (mKB1)
8 1/2" Drilling BHA	3	6/20/2020 00:00	6/23/2020 00:00	1,791.50	3,097.00

Min WOB (1000lbf)	Min Total RPM (rpm)	Min Circ Rate (gpm)	Min SPP (psi)	Min Pickup HL (1000lbf)	Min Slackoff HL (1000lbf)	Min Rotate HL (1000lbf)
22	150	658	2,930.0	220	133	162

Max WOB (1000lbf)	Max Total RPM (rpm)	Max Circ Rate (gpm)	Max SPP (psi)	Max Pickup HL (1000lbf)	Max Slackoff HL (1000lbf)	Max Rotate HL (1000lbf)
22	150	660	3,400.0	260	148	181

Comments

String No. 3 - Bit Information

Bit	Bit And Run Number	Bit Type	Nozzles (1/32")	Total Bit TFA (in²)
8 1/2in, Baker Hughes, TD505X, 5303488-RR1	B2R2	PDC		0.98

IADC Classification	Hole Made (Run) (m)	Hours Drl (Run) (hr)	ROP (m/hr)	IADC Dull Grade
___	1,305.50	38.03	34.3	-------

String Components

Item Des	Nominal OD (in)	Nominal ID (in)	Nominal Weight (lb/ft)	Grade	Btm Conn Size (in)	Btm Conn Thread	Length (m)	Serial Number	Blade OD (in)	Cum Len to Bit (m)	Cum Vol Disp (bbl)	Cum Weight (1000lbf)
HWDP	5	3.13	19.50		4 1/2	GPDS50	46.35	Rig T-9		135.25	9.6	3
Accelerator	6 1/2	3.00			4 1/2	IF	9.13	478-65085		88.90	7.3	0
HWDP	5	2.75			4 1/2	GPDS50	9.29	Rig T-9		79.77	6.3	0
Drilling Jars - Hydraulic	6 1/2	3.00			4 1/2	IF	9.96	W-1190696-1		70.48	5.8	0
HWDP	5	2.75			4 1/2	GPDS50	36.85	Rig T-9		60.52	4.8	0
Float Sub	6 3/4	3.00			4 1/2	IF	0.50	OSS11-010696		23.67	2.7	0
Downhole Filter Sub	6 3/4	2.81			4 1/2	IF	1.72	15124889		23.17	2.7	0
Orientation Sub	6 3/4	2.81			4 1/2	IF	0.40			21.45	2.4	0
Gyro MWD Sub	6 3/4	2.28			6 3/4	T2 MOD	1.31			21.05	2.4	0
LWD - Density/Neutron					6 3/4	T2 MOD	2.77			19.74	2.2	0
Drill Collar - Non Mag	6 3/4	2.26			6 3/4	T2 MOD	2.06			16.97	2.2	0
	6 3/4	2.30			6 3/4	T2 MOD	3.03			14.91	2.0	0
	6 3/4	1.88			6 3/4	T2 MOD	3.19			11.88	1.6	0
Gyro MWD Sub	6 3/4	2.17			6 3/4	T2 MOD	5.16			8.69	1.2	0
Rotary Steerable Tool	7.0241	1.43			6 3/4	REG	3.18	15149783		3.53	0.5	0

Daily Drilling Parameters and Hydraulics - If hydraulics are blank, check "String Detail by Job - Hydr & AV" report for errors

Start MD (mKB1)	End MD (mKB1)	Avg ROP (Int) (m/hr)	Drill Time (hr)	Total Circ Time (hr)	WOB (1000lbf)	Total RPM (rpm)	Circ Rate (gpm)	Standpipe Pres (psi)	Rotating HL (1000lbf)	Pickup HL (1000lbf)	Slackoff HL (1000lbf)	Drilling Torque	HP/Area (hp/in²)	Jet Vel (m/s)	Bit dP (psi)	% P @ bit (%)
2,690.00	3,097.00	26.1	15.60	22.54	22	150	658	3,400.0	181	260	148	15,000.0				

Wellbore Information

Wellbore Name	Purpose	Profile Type	Regulatory Name	Regulatory ID
TABU-B19ST1	Geologic Sidetrack	3D Designer Well		

Parent Wellbore	Starting MD (mKB1)	Job
TABU-B19		Drilling and Completion, 3/30/2020 00:00 - <dttmend>, <dttmstartplan>

Actual Directional Survey	Proposed Directional Survey	VS Azimuth (°)	VS EW Origin (m)	VS NS Origin (m)
TABU-B19 Actual Survey	Tabu-B19 ST1_Rev G.0 030620_Plan Listings	310.18		

Min Kick Off Depth (mKB1)	Method
660.00	Whipstock
Min Kick Off Depth (mKB1)	**Method**
660.00	

Wellbore (Hole) Sections

Start Date	End Date	Section	Diameter (in)	Actual Top MD (mKB1)	Bottom MD (mKB1)

Deviation Survey (Tie point) - TABU-B19 Actual Survey

Date	Description	Azimuth North Type	Job
6/12/2020 00:00	TABU-B19 Actual Survey	Grid North	Drilling and Completion, 3/30/2020 00:00 - <dttmend>, <dttmstartplan>

Tie-In MD (mKB1)	Tie-In Inclination (°)	Tie-In Azimuth (°)	Tie-In TVD (mKB1)	VS Tie In (m)	TieIn NS Offset...	TieIn EW Offset (m)
608.42	57.63	159.53	524.75	-198.93	-247.42	51.43

Declination (°)	Convergence (°)	Comments
-0.04	0.01	

Survey Data - Shows all surveys entered during the report period

MD (mKB1)	Inclination (°)	Azimuth (°)	TVD (mKB1)	VS (m)	NS Offset (m)	EW Offset (m)	DLS (°/30m)
2,690.00	69.17	326.06	1,741.80	683.87	295.39	-645.65	1.62

TABU-B19

Report No: 19 **Progress:** 407.00
Reg Name:
Wellbore:
Rig Name: Sapura T-9
Phase: Drilling, Drill 8-1/2" Hole Section (216mm), Drill 8-1/2" Production Hole, Exclude: No

	Planned	Actual (Cum)
Days (original)	33.00	18.25
MD/TVD	3,158/	3,097/ 1,919
Cost (w/suppl)	13,700,000	4,377,985

Units: Mixed **Currency:** USD
Reference Datum: 32.07m - OTH - must be OTH!
Well Working Elev: 32.07 mKB1 - depths must match!

Rpt Period: 6/22/2020 00:00 to 6/23/2020 00:00

Survey Data - Shows all surveys entered during the report period

MD (mKB1)	Inclination (°)	Azimuth (°)	TVD (mKB1)	VS (m)	NS Offset (m)	EW Offset (m)	DLS (°/30m)
2,727.91	69.17	326.56	1,755.28	717.91	324.88	-665.30	0.37
2,756.30	69.07	326.62	1,765.40	743.36	347.02	-679.91	0.12
2,785.88	67.96	326.65	1,776.23	769.75	370.01	-695.05	1.13
2,814.62	66.88	328.49	1,787.27	795.08	392.40	-709.28	2.10
2,843.43	66.06	330.51	1,798.77	820.00	415.16	-722.68	2.11
2,872.78	64.95	333.14	1,810.94	844.82	438.70	-735.29	2.70
2,901.17	63.82	335.97	1,823.22	868.14	461.81	-746.29	2.95
2,929.94	62.85	338.50	1,836.13	891.04	485.51	-756.24	2.57
2,958.58	61.84	340.78	1,849.42	913.12	509.29	-765.07	2.37
2,986.17	60.84	343.23	1,862.66	933.69	532.32	-772.55	2.58
3,017.13	59.70	346.09	1,878.01	955.85	558.24	-779.67	2.65
3,046.29	58.92	348.03	1,892.90	975.91	582.67	-785.28	1.89
3,074.56	58.89	349.58	1,907.50	994.82	606.42	-789.98	1.41
3,097.00	58.89	350.08	1,919.09	1,009.61	625.33	-793.38	0.57
3,107.70	58.89	350.08	1,924.62	1,016.64	634.35	-794.95	0.00

Casing Strings - Only shows information for the longest casing component in a string - for other components see casing detail report

Wellbore	Description	Nominal OD (in)	Nominal ID (in)	Nominal Weight (lb/ft)	Nominal Grade	Nom Top Conn	Length (m)	Leak Off Dens (lb/gal)	Top MD (mKB1)	Cut/Pull MD (mKB1)	Bottom MD (mKB1)
TABU-B19	Drive Pipe	26	24.500	202.50	L-80	BTC	191.00		0.00		191.00
TABU-B19	Surface Casing	13 3/8	12.615	54.50	K-55	BTC	1,173.00	11.67	0.00		1,173.00
TABU-B19	Production Casing	9 5/8	8.835	40.00	N-80	BTC	2,332.80		0.00	720.00	2,332.80
TABU-B19	Production Casing	9 5/8	8.681	47.00	N-80	BTC	605.20		2,332.80		2,938.00
TABU-B19ST1	Intermediate Casing	9 5/8	8.681	47.00	L-80	Top HC	1,774.60		15.90		1,790.50