



APA Partner Report

Well Name: WARHEAD 0405 A 5HM

REGION: Permian
TYPE: Operated

Legal Well Name: WARHEAD 0405 A 5HM

API/Surface Loc: 4246141214

Operator: Apache Corporation

Working Interest (%): 100.00

Rig: H&P 436, 9/1/2019 06:00

District: East District

Location Note:

Field Name: Spraberry Trend

State/Province: Texas

County: Upton

Target Depth (ftKB): 16,500

Target Formation: Wolfcamp_B4

Spud Date: 7/15/2019

AFE Number: 11-19-0268-DH

Supplemental AFE Number:

AFE Description: Permian - Horizontal

Total AFE + Supp Amount (Cost): \$2,737,500

Report Start Date: 9/4/2019

Report Number: 9

End Depth (ftKB): 8,140

End Depth (TVD) (ftKB):

Days From Spud (days): 3.04

Job Day (days): 55.0

Depth Progress (ft): 503

Rotating Hours (hr): 3.87

Last Mud Check Density (lb/gal): 9.10

Daily Field Est Total (Cost): \$109,400

Cum Field Est To Date (Cost): \$602,226

Current Status: Running 9 5/8" casing @ 4,650' MD

24 Hour Forecast: Run and Cement 9 5/8" casing, Install pack off N/D and skid

24 Hour Summary: Drill Intermediate F/ 7,637' T/ 8,140' MD, Circulate Hole Clean, Drop Gyro, TOH, Tx RRC notified @ 1:00 pm of casing & cement job, LD BHA, RU CRT, Casing Crew and Torq Turn, Run 9 5/8 casing F/ Surface T/975' MD, shim derrick.

Operations Summary

Start Time	End Time	Dur (hr)	Time Code	Op Type	Operation Details
00:00	04:30	4.50	Drilling	PP	Drill 12 1/4" Intermediate F/ 7,637' MD T/ 8,140' MD, 503'ft @ 112'/hr 40-50wob, 80rpms, 700gpm @ 2450psi off bottom P/U 270k, S/O 240k, Rot. 259k No flow on Connection/No losses-Minor Seepage Last Survey @ 8,071' MD, 8060.09'TVD, 1.05inc, 98.89azm, 54.44'ft east and 13.32'ft south of plan Note: T.D. 12 1/4" Intermediate @ 04:30hrs on 9/4/2019
04:30	06:00	1.50	Circulating	PP	Circulate Hole Clean.
06:00	07:00	1.00	Circulating	PP	Circ shakers clean - spot 100 bbl starch pill
07:00	07:30	0.50	Survey	PP	Drop Gyro tool - 20 min free fall No flow on flow check
07:30	14:30	7.00	TOOH	PP	TOH F/ 9 5/8 casing run F/ 8140' Md T/ 140' MD Flow check @ 3000' MD- No flow Pad Water Usage: Meter 1: 27,987 bbls Meter 2: 14,371 bbls Daily: 7,819 bbls Well: 16,804 bbls Pad: 42,358 bbls Note: Notice of intent to run 9 5/8 casing and cement given to Tx RRC San Angelo office @ 1:05 pm, 9/4/19 to lvey.
14:30	16:30	2.00	PU/LD BHA	PP	HSM: LD BHA #2 Bit had 5 delam cutters on gauge row; 3 chipped cutters on nose/ 1 broke depth cutter button Steel 12" IBS - 1/32" under gauge Non-mag 12" IBS - 1/2" under gauge Motor NBS - 1/4" under gauge
16:30	17:00	0.50	NU/ND WH/XT	PP	Pull Wear-bushing.
17:00	18:00	1.00	Casing	PP	HSM: RU CRT Dry run on landing jt
18:00	20:00	2.00	Casing	PP	HSM: RU Gabes casing crew and Premiere Torq Turn Dump test good
20:00	22:30	2.50	Casing	PP	Run 9 5/8", 40#, L-80HC & J-55, BTC casing F/ Surface T/ 975' MD Make up WWT reamer shoe, FC, 2 Jts, FC for shoe track, Pump through shoe track.
22:30	00:00	1.50	Rig Repair	PN	Casing collars hitting DS wellhead. Shim derrick. Wait on hydraulic pump.



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Location Note:

Field Name: Spraberry Trend

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Operator: Apache Corporation

District: East District

State/Province: Texas

Target Formation: Wolfcamp_B4

Working Interest (%): 100.00

County: Upton

Spud Date: 7/15/2019

AFE Number: 11-19-0268-DH

Supplemental AFE Number:

AFE Description: Permian - Horizontal

Total AFE + Supp Amount (Cost): \$2,737,500

Report Start Date: 9/5/2019

Report Number: 10

End Depth (ftKB): 8,140

End Depth (TVD) (ftKB):

Days From Spud (days): 4.04

Job Day (days): 56.0

Depth Progress (ft): 0

Rotating Hours (hr):

Last Mud Check Density (lb/gal): 9.10

Daily Field Est Total (Cost): \$324,570

Cum Field Est To Date (Cost): \$926,797

Current Status: Rig release @ 06:00 hrs 9/6/19.

24 Hour Forecast: R/D CRT, install pack off, N/D BOP, rig release.

24 Hour Summary: Shim derrick, run 9 5/8" casing F/ 975' T/ 4,024', rig repair- DW air, run 9 5/8" casing F/ 4,024' T/ 6,086', Rig repair- wait on belts for PDS and replace, Run 9 5/8 casing F/ 6086' MD T/ 8127' MD, Circ F/ cement job, Cement 1st stage, bump plug 19:25 hrs, energize packer, open DVT, circulate, cement 2nd stage, bump plug 23:25 hrs (84 bbls/ 173 sks to surface), flush BOP.

Operations Summary

Start Time	End Time	Dur (hr)	Time Code	Op Type	Operation Details
00:00	00:30	0.50	Rig Repair	PN	Casing collars hitting DS wellhead. Shim derrick.
00:30	04:30	4.00	Casing	PP	Run 9 5/8", 40#, L-80HC & J-55, BTC casing F/ 975' MD T/ 4,024' MD
04:30	05:00	0.50	Rig Repair	PN	Trouble shoot draw works low air pressure and e brake setting.
05:00	06:00	1.00	Casing	PP	Run 9 5/8", 40#, L-80HC & J-55, BTC casing F/ 4,024' MD T/ 4,650' MD
06:00	07:30	1.50	Casing	PP	Run 9 5/8", 40#, L-80HC & J-55, BTC casing F/ 4650' MD T/ 6088' MD
07:30	08:00	0.50	Circulating	PP	Circ - Fill casing - get psi and torq readings 225 psi @ 40 spm 10k torq @ 10 rpm
08:00	08:30	0.50	Rig Serv	PP	Rig service - grease PDS and fill oil level
08:30	12:00	3.50	Rig Repair	PN	Rig repair - Belt broke on PDS - wait on new belt from yard - replace belt Pad Water Usage: Meter 1: 27,987 bbls Meter 2: 14,371 bbls Daily: 0 bbls Well: 16,804 bbls Pad: 42,358 bbls
12:00	14:00	2.00	Casing	PP	Run 9 5/8", 40#, L-80HC & J-55, BTC casing F/ 6088' MD T/ 8027' MD No issue to bottom Ran 51 jts L-80HC and 148 jts J55, 40#, BTC casing w/ FS @ 8127', FC @ 8121', 2nd FC @ 8039', DVT/ECP @ 3924' MD; Ran 30 Centek centralizers below DVT/ECP and 26 Centek centralizers above DVT/ECP every 4th jt to 150' MD
14:00	16:00	2.00	Circulating	PP	Circ casing F/ cement job
16:00	20:00	4.00	Cmt-Primary	PP	HSM; RU CJ; Test lines to 4,600 psi. Pump 40 bbls FW spacer, Lead w/ 515 sx TXI Lite @ 11 ppg; Yield 2.74 ft³/sk; 219 bbl slurry; Tail w/ 320 sx TXI @ 13.6 ppg; Yield 1.26 ft³/sk; 71 bbl slurry. Displace w/ 300 bbls Reserve pit water & 309 bbls Slop mud; Bump plug @ 19:25 hr w/ 4 bpm 1,081 psi ; 655 psi prior; Inflated ECP to 2,208 psi; lost 0.5 bbl to inflation; floats held. Note: No returns during first stage. No Spills Reported
20:00	21:30	1.50	Circulating	PP	Drop bomb, open DVT with 607 psi. Returns to surface after 21 bbls, switch to rig pumps and circ. 1.5 x bottoms up, Note: No cement circ off DVT from 1st Stage. No Spills Reported
21:30	23:30	2.00	Cmt-Primary	PP	Pump 2nd stage: 40 bbl FW spacer; Lead w / 625 sx TXI @ 11.0 PPG; Yield 2.73 ft³/sk; 303 bbl slurry; Tail w/ 235 sx Class 'C' @ 14.8 ppg; Yield 1.33 ft³/sk; 55 bbl slurry; Drop plug & Displace w/ 297 bbl water; Bump & close DVT @ 23:25 on 09/05/2019 w/ 1,825 psi; Prior 966 psi @ 4 bpm; 84 bbl / 173 sks cement to surface. 100% returns throughout 2nd stage. Flow check after bumping plug- No flow. No Spills Reported
23:30	00:00	0.50	RU/RD	PP	Flush surface lines and BOP.



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End Depth (TVD) (ftKB):

Days From Spud (days): 5.04

Job Day (days): 57.0

Depth Progress (ft): 0

Rotating Hours (hr):

Last Mud Check Density (lb/gal): 9.10

Daily Field Est Total (Cost): \$19,810

Cum Field Est To Date (Cost): \$946,607

Current Status: Released to Warhead 0504 A 1HA

24 Hour Forecast: Rig released

24 Hour Summary: ND BOP, Install/test 9 5/8 packoff, Install dust cap, Release Rig @ 6:00 am, 9/6/19 ato Warhead 0405 A 1HA

Operations Summary

Start Time	End Time	Dur (hr)	Time Code	Op Type	Operation Details
00:00	02:30	2.50	RU/RD	PP	R/D C & J cementers, L/D landing joint, rig down CRT, install elevators.
02:30	06:00	3.50	NU/ND BOP	PP	Install 9 5/8" pack off, pull test, test upper and lower seals to 5,000 psi. N/D BOP, install dry cap, Note: Rig released @ 06:00 hrs, 09/06/2019.
06:00	06:00				See Warhead 0405 A 1HA