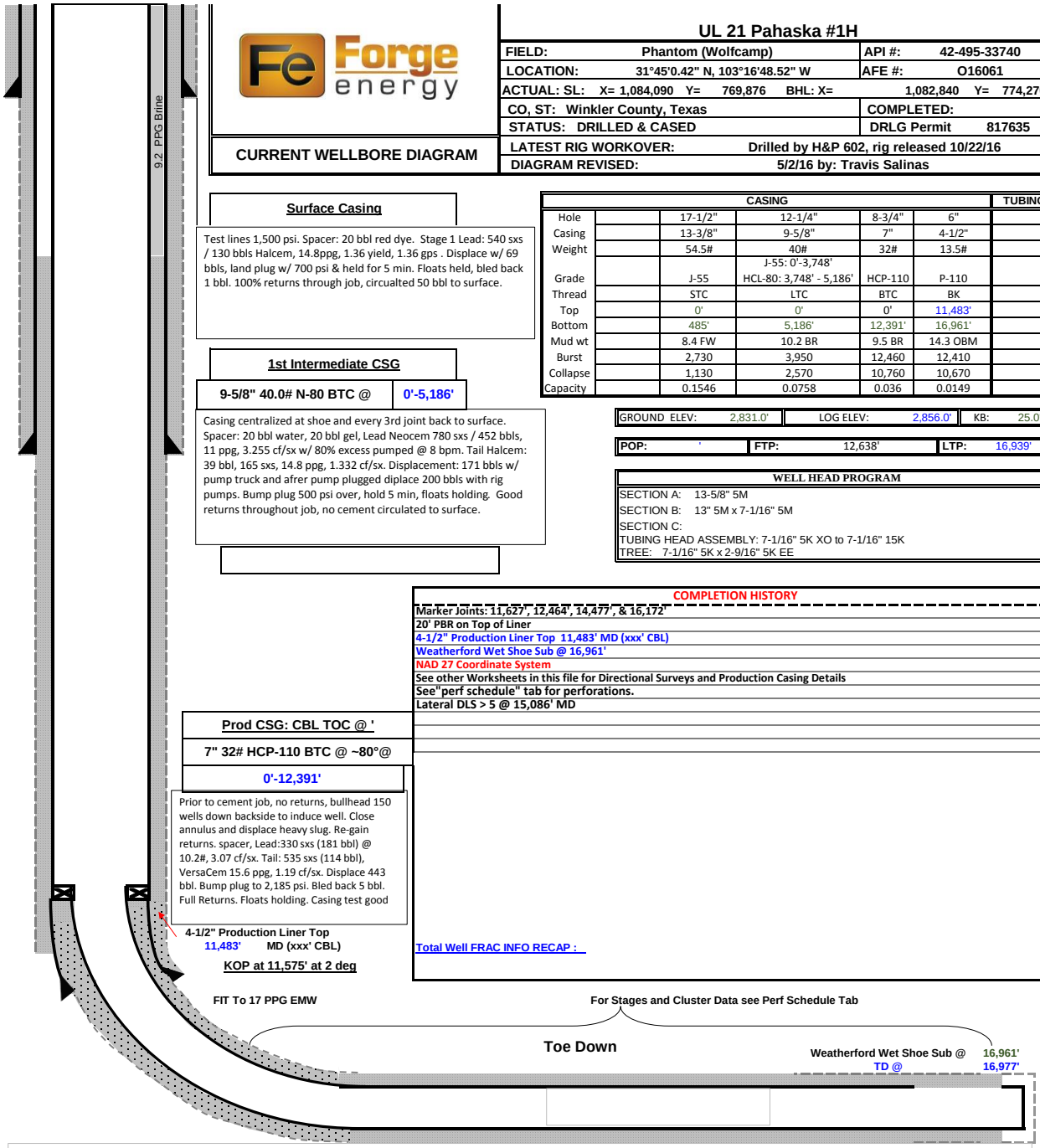
UL 21 Pahaska #1H

FIELD:	Phantom (Wolfcamp)	API #:	42-495-33740
LOCATION:	31°45'0.42" N, 103°16'48.52" W	AFE #:	O16061
ACTUAL: SL:	X= 1,084,090 Y= 769,876 BHL: X=	1,082,840	Y= 774,270
CO, ST:	Winkler County, Texas	COMPLETED:	
STATUS:	DRILLED & CASED	DRLG Permit	817635
LATEST RIG WORKOVER:	Drilled by H&P 602, rig released 10/22/16		
DIAGRAM REVISED:	5/2/16 by: Travis Salinas		

Forge energy

CURRENT WELLBORE DIAGRAM



Surface Casing

Test lines 1,500 psi. Spacer: 20 bbl red dye. Stage 1 Lead: 540 sxs / 130 bbls Halcem, 14.8ppg, 1.36 yield, 1.36 gps . Displace w/ 69 bbls, land plug w/ 700 psi & held for 5 min. Floats held, bled back 1 bbl. 100% returns through job, circualted 50 bbl to surface.

1st Intermediate CSG

9-5/8" 40.0# N-80 BTC @ 0'-5,186'

Casing centralized at shoe and every 3rd joint back to surface. Spacer: 20 bbl water, 20 bbl gel, Lead Neocem 780 sxs / 452 bbls, 11 ppg, 3.255 cf/sx w/ 80% excess pumped @ 8 bpm. Tail Halcem: 39 bbl, 165 sxs, 14.8 ppg, 1.332 cf/sx. Displacement: 171 bbls w/ pump truck and afrer pump plugged diplace 200 bbls with rig pumps. Bump plug 500 psi over, hold 5 min, floats holding. Good returns throughout job, no cement circulated to surface.

Prod CSG: CBL TOC @ '

7" 32# HCP-110 BTC @ ~80°@

0'-12,391'

Prior to cement job, no returns, bullhead 150 wells down backside to induce well. Close annulus and displace heavy slug. Re-gain returns. spacer, Lead:330 sxs (181 bbl) @ 10.2#, 3.07 cf/sx. Tail: 535 sxs (114 bbl), VersaCem 15.6 ppg, 1.19 cf/sx. Displace 443 bbl. Bump plug to 2,185 psi. Bled back 5 bbl. Full Returns. Floats holding. Casing test good

CASING						TUBING
Hole		17-1/2"	12-1/4"	8-3/4"	6"	
Casing		13-3/8"	9-5/8"	7"	4-1/2"	
Weight		54.5#	40#	32#	13.5#	
Grade		J-55	J-55: 0'-3,748' HCL-80: 3,748' - 5,186'	HCP-110	P-110	
Thread		STC	LTC	BTC	BK	
Top		0'	0'	0'	11,483'	
Bottom		485'	5,186'	12,391'	16,961'	
Mud wt		8.4 FW	10.2 BR	9.5 BR	14.3 OBM	
Burst		2,730	3,950	12,460	12,410	
Collapse		1,130	2,570	10,760	10,670	
Capacity		0.1546	0.0758	0.036	0.0149	

GROUND ELEV:	2,831.0'	LOG ELEV:	2,856.0'	KB:	25.0'
POP:	'	FTP:	12,638'	LTP:	16,939'

WELL HEAD PROGRAM

SECTION A: 13-5/8" 5M
SECTION B: 13" 5M x 7-1/16" 5M
SECTION C:
TUBING HEAD ASSEMBLY: 7-1/16" 5K XO to 7-1/16" 15K
TREE: 7-1/16" 5K x 2-9/16" 5K EE

COMPLETION HISTORY

Marker Joints: 11,627', 12,464', 14,477', & 16,172'
20' PBR on Top of Liner
4-1/2" Production Liner Top 11,483' MD (xxx' CBL)
Weatherford Wet Shoe Sub @ 16,961'
NAD 27 Coordinate System
See other Worksheets in this file for Directional Surveys and Production Casing Details
See"perf schedule" tab for perforations.
Lateral DLS > 5 @ 15,086' MD

Total Well FRAC INFO RECAP :

Test lines to 8,000 psi. Pump 30 bbls of 14.3 ppg tuned spacer, LEAD: Versacem 106 bbls (485 sx) 14.3 ppg, 1.223 Yield, 5.56 gal/Sk WaterDP Wiper dart, pump 20 bbls MMCR & 55 bbls of 2% KCL Substitute & 108 bbls of OBM. Bump plug on time and @ 1,900 psis @ 2 bpm . Pressured up to 2,440 psi , held 5 min. Bled bac k 1.5 bbls. Floats holding. Full returns througout cement job. Pressure up to 3,280 psi, Wet Shoe Ruptured and pump 2.5 bbl @ 1,280 psi. Shut down and held 920 psi for 10 min. flowed back 1/2 bbl. Floats holding. All pump rates @ 2 BPM to maintain low ECD. Set Liner hanger packer and pressure test to 3,000 psi . Circulated 30 bbls / 138 sxs of cement off liner top.