

**EP WELLS DAILY OPERATIONS REPORT**

Report 13

02/15/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	12.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	11.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Theron Knight	Measured Depth(ft)	11,108.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,061.89
Other Supervisor	Cade Pilcher	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	8.750
THF Datum			
Daily NPT(hr/%)	0/0	Last Casing MD	9.625in@5,033.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	7.625in@12,500.00ft
Actual cost to date/AFE	1,501,462/3,425,497.41	Current MW / BH EMW(ppg)	13.50/
Actual divided by AFE	0.44	LOT/FIT EMW(ppg)	
Daily Cost	6,739	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	856	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)

**Safety Comments:**

No HSE issues  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Shell and Rig Crew during preskid inspection; Driller assigned roles and responsibilities as the plan was discussed; radios to be utilised for communications and repeat back for confirmation to driller; OSR recommended getting light plants staged and running prior to start due time of day and rig power was isolated; Rig Manager and Driller confirmed LO/TO in place for rig power isolation.

AAR:

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill
Last Derrick Inspection			
Last BOP function test	11/05/2018	102	12
Last BOP Test	11/05/2018	102	
Next BOP Test	11/19/2018		

**Operations Summary**

<b>24 Hour Summary</b>
Walked rig 30 feet from 2706H to 2705H; Install suitcase and terminate cables lines and hoses; NU BOPs and test connection upper and lower seals 10K psi; Accept rig @ 2300 HRS
<b>Update Since Report Time</b>
0400 HRS: TIH w/ 6.75 Curve drilling assembly @ 1791'
<b>24 Hour Forecast</b>
Complete RU; Pull TA Plug and install wear bushing; PU curve BHA & TIH to 10850'; Wash and ream to top float collar; Conduct choke drill; Displace from brine to OBM; drill shoe track at reduced parameters; Drill curve following roadmap parameters

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Time Summary									
Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description	
18:00	2.00	MNH1	WLK		11,108.00	0		Step 7 discussion on walking rig from 2706H to 2705H; Walk rig 30 feet to 2705H	
20:00	1.00	MNH1	WLK		11,108.00	0		Install suitcase and terminate lines cables and hoses; Hook up hydraulic lines; Power up rig floor;	
21:00	2.00	MNH1	RUP		11,108.00	0		Step 7 discussion with Cameron; NU and test BOP upper and lower SRL seals to 10K psi 15 min as per procedure;  *** NOTE *** ACCEPT RIG @ 2300 HRS  Offline: Vac truck clean out sand traps and transfer tanks.	
23:00	1.00	MNH1	RUP		11,108.00	0		RU catwalk, V door and jeronimo line; Stage Directional tools on catwalk; set up buffer zones	
<b>Total</b>	<b>6.00</b>								

Deepest 5 Surveys									
MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool	
10,878.00	1.45	42.54	10,831.93	-485.63	-22.32	-92.15	1.03	PTW MWD+HDGM_2016	
10,878.00	1.45	42.54	10,831.91	-485.81	-22.49	-92.03	1.03	PTW MWD+HDGM_2016	
11,045.00	0.27	271.32	10,998.91	-484.06	-21.28	-92.79	0.98	PTW MWD+HDGM_2016	
11,045.00	0.27	271.32	10,998.90	-484.25	-21.46	-92.67	0.98	PTW MWD+HDGM_2016	
11,108.00	1.00	270.00	11,061.89	-484.24	-22.15	-91.99	1.16	PTW MWD+HDGM_2016	

Fluid Details					
Mud type	Invermul	Oil/Water (%)		POM (cc)	
MD (ft)		TS/HGS/LGS (%)		CaCl2 (%)	
Mud Density (ppg)	13.50	Sand (%)		Caom/Clom (ppm)	
Vis (s/qt)		Oil/Water Ratio (%)		ACT	
PV/YP (cp/lbf/100ft²)		LCM (lbm/bbl)		XS Lime(lbm/bbl)	
Gels 10 s/m (lbf/100ft²)		ECD (ppg)		ES (Volts)	
API/HTHP WL (cc/30min)		H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")		KCl (%)		R200/100 (°)	
WPS (ppm)		Ditch Magnet in Last 24hrs/Cum. (gm)		R6/3 (°)	
FL temp. (°F)					

Gas Concentrations and Fluid Losses			
Avg Connection Gas (gas unit)		Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...
Max. connection gas (gas unit)		Max. trip gas (gas unit)	Surface Losses (bbl) /0.00
Avg. background gas (gas unit)		Avg H2S Gas (gas unit)	Sub Surface Losses (bbl) /0.00
Max. background gas (gas unit)		Max H2S Gas (gas unit)	Total Losses 0.00/0.00
			End vol. (bbl) 0.00

Bulks Summary			
Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	11,374.00	Gallon	0.00
Lng	3,109.65	Gallon	0.00

Bit Details										
Bit no.	Size (in)	Manufacturer	Model no.	Class	IADC code	Serial no.	Size (32nd")	MD in (ft)	MD out (ft)	IADC Dull Grade
3	8.750	NATIONAL OILWE	TKC76			A253916	7x11	10,395.00		-----

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**Bit Operations**

MD (ft)	WOB Min/Max (kip)	Current RPM (rpm)	Flow rate (gpm)	SPP (psi)	P bit (psi)	% @ Bit	HHP (hp)	Hours (hr)	Footage (ft)	ROP (ft/hr)	Hours cum (hr)	Footage cum. (ft)	ROP cum. (ft/hr)

**Drillstring Components**

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
5.5" DP	1	10,254.21	5.500			GPDS55			RIG
HWDP	12	366.65	5.000		2.880	GPDS55			RIG
GPDS55 Box x 4 1/2IF Pin Crossover	1	2.95	6.690		2.810	4 1/2 IF			SXO1153
DC's	12	366.16	6.500		2.880	4 1/2 IF			RIG
Rental Crossover 650	1	2.95	6.690		2.810	4-1/2 XH			DR9030
Rental Screen Sub	1	3.25	6.380		3.250	4-1/2 XH			DR30029
Non Mag IBS w/ 8.5" Blades	1	5.72	8.500		2.880	4-1/2 XH			SD20448
Slick Collar Non-Mag - 6 1/2in 4 1/2XH Pin x Box	1	28.43	6.310		2.810	4-1/2 XH			DR9123
Non Mag IBS w/ 8.5" Blades	1	6.45	8.380		2.810	4-1/2 XH			SD604308
650 Gap Sub Assembly	1	3.58	6.630		3.780	4-1/2 XH			VG650224P TS
650 Centralizer Collar Assembly Velocity	1	8.54	6.560		4.490	4 1/2 IF			VC650310
650 Grounding Sub Assembly PHX (VI 650216)	1	3.52	6.630		3.780	4 1/2 IF			VL650216
650 Crossover Sub PHX Velocity Crossover Sub	1	1.56	6.500		2.750	4-1/2 XH			VX650063
Pony Slick Collar Non-Mag - 6 1/2in 4 1/2 XH Pin x Box	1	13.47	6.380		2.880	4-1/2 XH			DR38328
Non Mag IBS w/ 8.5" blades	1	6.78	8.000		2.750	4-1/2 XH			SD604558
Mud Motor 675 NOV 24XH	1	32.63	8.000			4-1/2 XH			24XH-67551 9-PTS
RUN #1 BIT #3 8.75" NOV TKC76 (7X11's) SN : A253916	1	1.15	8.750	8.750		4 1/2 IF			A253916

**Drillstring Details**

Date/Time in	Date/Time out	BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
11/09/2018 09:30		3	853.79		DRILL 8.75" INTERMEDIATE HOLE

**Remarks**

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115  
Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285  
Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18  
AFE: \$2.3 under  
Days: 5.1 day under

University 20 PW 2705H Well Specific:  
AFE: \$ 1.7M under  
Days: 9.4 days under

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Report 14

02/16/2019

Company PERMIAN  
 Well Type Development  
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 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	13.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	12.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Theron Knight	Measured Depth(ft)	11,585.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,505.07
Other Supervisor	Cade Pilcher	24 Hr Progress(ft)	477.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	6.750
THF Datum			
Daily NPT(hr/%)	0/0	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@
Actual cost to date/AFE	1,585,189/3,425,497.41	Current MW / BH EMW(ppg)	13.30/
Actual divided by AFE	0.46	LOT/FIT EMW(ppg)	
Daily Cost	83,322	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	857	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)

**Safety Comments:**

No HSE issues  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Shell, Drill Crew and Phoenix on PU 6.75" Curve BHA; Directional Driller went over the order in which to pick up the assembly for best efficiency; Driller had marked up the paper copy of BHA and reviewed with Floor hands; Motorman and DD had confirmed ODs and IDs of assembly prior to discussion; Floor hands and DD communicated during the handling of BHA while staying out of the line of fire and also maintaining eye contact with the Driller;

AAR: Drill Crew slipped and cut drill line; Day crew staged and inspected all tools prior to job; SSE was on rig floor and told to observe his mentor and learn steps in performing job; SSE used tally book to make notes and during post job discussion told Driller what role he could fill next time during cutting drill line operations.

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks	Days Since Last Drill
Last Derrick Inspection				
Last BOP function test	11/05/2018	103		13
Last BOP Test	11/05/2018	103		
Next BOP Test	11/19/2018			

**Operations Summary**

<b>24 Hour Summary</b>
Pull TA plug; Set wear bushing; PU 6.75" Curve BHA and TIH to 10,832'; Slip & cut drill line; Displace well to 13.2+ oil base mud; Ream and wash to 10,986' tagged float collar; drill shoe track @ reduced parameters; Drill out from 11,082' to 11,585' at optimal rates as per Dart; (Kick off point at 11,209)
<b>Update Since Report Time</b>
0400 HRS Drilling curve as per DART @ 11925'

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Wellbore UNIVERSITY 20 TG UNIT 2705H

**24 Hour Forecast**

Drill to end of curve as per DART following roadmap parameters; Circulate bottoms up at TD; Flow check; Pump slug and POOH; LD Curve BHA and PU lateral BHA; TIH W/ lateral BHA to end of curve; Commence drilling 6.75" lateral hole section;

**Time Summary**

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	1.50	MNH1	PUP		11,108.00	0		Step 7 discussion with Cameron and Drill Crew; Pulled TA plug. Inspected and installed wearbushing.
1:30	1.50	MNH1	BHA		11,108.00	0		Step 7 discussion with Drill Crew and Phoenix; Pick up 6.75" Directional Curve BHA, MU 6.75" Security GTD63C, Serial # 13155689 bit W/ TFA .66 , JET's 6-12's, Mud Motor, Fixed 1.75° bend, REV/GAL .80
3:00	3.00	MNH1	TIH		11,108.00	0		TIH W/ 6.75" Curve BHA F/ 100.43' T/ 3210' on 4.5" drill pipe
6:00	3.50	MNH1	TIH		11,108.00	0		TIH W/ 6.75" Curve BHA F/ 3210' T/ 10832' filling drill pipe every 30 stands
9:30	0.50	MNH1	TIH		11,108.00	0		Step 7 discussion, Install new rotating head
10:00	1.00	MNH1	CUT		11,108.00	0		Slip and cut 90' feet of drill line.
11:00	1.50	MNH1	TIH		11,108.00	0		Displace well form brine to 13.2+ oil base mud @ 175 GPM reciprocating pipe 90 FPM @ 5 RPMs
12:30	0.50	MNH1	TIH		11,108.00	0		Reamed F/ 10832' T/ 10,986' through light cement stringers.
13:00	2.00	MNH1	DCM		11,108.00	0		Tagged Float collar @ 10986'; Drilled shoe track and tagged shoe @ 11,082'
15:00	0.50	MNH1	SVC		11,108.00	0		General Rig Service;
15:30	2.50	MNH1	DRL		11,170.00	0		Drill F/ 11,082 T/ 11,170'
18:00	6.00	MNH1	DRL		11,585.00	0		Drill F/ 11,170 T/ 11,585' Kick off point 11,209'  *** 0000 - XXXX ***
<b>Total</b>	<b>24.00</b>							

**Deepest 5 Surveys**

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
11,157.00	0.38	278.52	11,110.89	-484.18	-22.09	2.92	0.10	PTW MWD+HDGM_2016
11,252.00	7.54	328.91	11,205.61	-478.79	-25.62	6.66	7.69	PTW MWD+HDGM_2016
11,346.00	22.99	337.27	11,296.03	-456.44	-35.96	17.88	16.56	PTW MWD+HDGM_2016
11,440.00	29.67	339.31	11,380.23	-417.70	-51.29	34.73	7.17	PTW MWD+HDGM_2016
11,534.00	28.99	336.36	11,462.18	-375.07	-68.65	53.76	1.70	PTW MWD+HDGM_2016

**Fluid Details**

Mud type	Invermul	Oil/Water (%)	54.00/20.00	POM (cc)	
MD (ft)	11,110.00	TS/HGS/LGS (%)	24.00//	CaCl2 (%)	
Mud Density (ppg)	13.30	Sand (%)	0.10	Caom/Clom (ppm)	
Vis (s/qt)	77.00	Oil/Water Ratio (%)	73.00/27.00	ACT	
PV/YP (cp/lbf/100ft²)	23.00/16.000	LCM (lbm/bbl)		XS Lime(lbm/bbl)	2.59
Gels 10 s/m (lbf/100ft²)	12.000/16.000	ECD (ppg)	13.300	ES (Volts)	413.0
API/HTHP WL (cc/30min)		H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")	/2.0	KCl (%)		R200/100 (°)	
WPS (ppm)	250,336			R6/3 (°)	
FL temp. (°F)		Ditch Magnet in Last 24hrs/Cum. (gm)			

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02/16/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

**Gas Concentrations and Fluid Losses**

Avg Connection Gas (gas unit)	Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...	
Max. connection gas (gas unit)	Max. trip gas (gas unit)	Surface Losses (bbl)	/0.00
Avg. background gas (gas unit)	Avg H2S Gas (gas unit)	Sub Surface Losses (bbl)	/0.00
Max. background gas (gas unit)	Max H2S Gas (gas unit)	Total Losses	0.00/0.00
		End vol. (bbl)	0.00

**Bulks Summary**

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	9,149.00	Gallon	1,574.00
CNG	4,497.01	Gallon	1,242.64

**Bit Details**

Bit no.	Size (in)	Manufacturer	Model no.	Class	IADC code	Serial no.	Size (32nd")	MD in (ft)	MD out (ft)	IADC Dull Grade
4	6.750	SECURITY DBS	GTD63C			13155689	6x12	11,108.00		-----

**Bit Operations**

MD (ft)	WOB Min/Max (kip)	Current RPM (rpm)	Flow rate (gpm)	SPP (psi)	P bit (psi)	% @ Bit	HHP (hp)	Hours (hr)	Footage (ft)	ROP (ft/hr)	Hours cum (hr)	Footage cum. (ft)	ROP cum. (ft/hr)

**Drillstring Components**

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
Drill Pipe	335	9,786.34	4.500		4.000	DELTA 425			RIG
HWDP	15	474.16	5.250		2.810	DELTA 425			RIG
Drill Pipe (Drill Pipe)	39	1,224.07	5.250		3.000	DELTA 425			RIG
Delta 425 Box x 3 1/2 IF Pin Crossover	1	3.61	5.500		2.250	DELTA 425			WS26-11774
475 Filter Sub	1	3.38	4.750		2.250	3 1/2 IF			DR35230
475 Float Sub	1	3.47	4.750		2.380	3 1/2 IF			DR37619
475 NM Slick Collar	1	30.25	4.690		2.750	3 1/2 IF			DR31172PF A
475 Velocity Gap Sub	1	3.77	5.060		2.380	3 1/2 IF			VG475154P TS
475 Velocity Centralizer Sub	1	8.32	5.060		3.630	4.3 ACME			VC475129
475 Velocity Landing Sub	1	3.41	5.250		3.140	4.3 ACME			VL475144
475 Velocity Crossover	1	1.62	5.000		2.380	3 1/2 IF			VX475091
475 Flex Pony	1	9.58	5.060		2.440	DS38			P518005
CROSSOVER	1	2.14	5.000			DS38			MX475166
Mud Motor 513 24XH - PHX 5" 6/7 8.0 Sta. FBH @ 1.75" w 6.5 NB	1	29.83	6.250			3 1/2 IF			24XH51304 4
RUN #1 BIT #4 6.75" SECURITY GTD63C (6X12's) SN: 13155689	1	1.05	6.750	6.750		3 1/2 REG			13155689

**Drillstring Details**

Date/Time in	Date/Time out	BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
02/16/2019 01:30		4	574.59		DRILL 6.75" PRODUCTION SECTION

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Well	UNIVERSITY 20 TG UNIT 2705H
Wellbore	UNIVERSITY 20 TG UNIT 2705H

## Remarks

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115

Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285

Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18

AFE: \$1.7 under

Days: 4 day under

University 20 PW 2705H Well Specific:

AFE: \$ 1.7M under

Days: 8.4 days under

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Report 16

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Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Theron Knight	Measured Depth(ft)	14,050.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,697.56
Other Supervisor	Cade Pilcher	24 Hr Progress(ft)	2,031.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	6.750
THF Datum			
Daily NPT(hr/%)	0/0	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@
Actual cost to date/AFE	1,731,720/3,425,497.41	Current MW / BH EMW(ppg)	13.30/
Actual divided by AFE	0.51	LOT/FIT EMW(ppg)	
Daily Cost	81,323	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	859	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)

**Safety Comments:**

No HSE issues  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Motorman and Pilot Truck driver prior to taking on fuel. Motorman spotted fuel truck and help driver chock wheels; Motorman and driver went over the plan to use catch pan under hose and confirm valve alignments together. Motorman called Driller on radio to inform of fuel transfer;  
 Pilot driver had on his viton gloves to handle hose when hooking and unhooking hose. Motorman confirmed safety clips on hoses while driver connected ground; Both agreed the biggest hazard of the task was loss of containment.  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Mud Engineer, Derrickman and Bulk Tank Truck driver on taking on barite; Mud Engineer spotted truck and drive chocked wheels. Derrickman dawned proper PPE for dust and Mud engineer ask driver for the proper MSD sheets; all discussed the simple operation and agreed the biggest hazard could be overpressure; Derrickman and Mud Engineer confirmed proper valves lined up and inspected transfer hose prior to blowing barite into P tank.

AAR: Drill crew discussed the importance of trying to keep oil base mud off the rig floor as much as possible and also off of themselves; When breaking out a connection oil base mud sprayed out from the mud bucket and Floor hands had to clean it up and clean off the iron roughneck; The all agreed that they should have checked the condition of the rubber seals in the mud bucket before using it.

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill
Last Derrick Inspection			
Last BOP function test	02/15/2019	3	1
Last BOP Test	02/05/2019	13	
Next BOP Test	02/26/2019		

**Operations Summary**

EP WELLS DAILY OPERATIONS REPORT

Report 16

02/18/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

24 Hour Summary

Rotary / Slide drill 6.75" lateral hole section following roadmap parameters F/ 12019' T/ 14050'

Update Since Report Time

0400 HRS: Drill 6.75" lateral hole section following roadmap parameters @ 14462' depth.

24 Hour Forecast

Drill 6.75" lateral hole section following roadmap parameters to estimated 20380' target TD

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	5.50	MNH1	DRL		12,582.00	0		Rotary /Slide drill 6.75" lateral F/ 12019' T/ 12582' following road map parameters
5:30	0.50	MNH1	SVC		12,582.00	0		General rig service
6:00	11.00	MNH1	DRL		13,525.00	0		Rotary / Slide drill F/ 12582' T/ 13525'
17:00	0.50	MNH1	SVC		13,525.00	0		Rig service
17:30	0.50	MNH1	DRL		13,600.00	0		Rotary / Slide drill F/ 13525' T/ 13600'
18:00	6.00	MNH1	DRL		14,050.00	0		Rotary / Slide drill F/ 13600' T/ 14050'  *** 0000 - 0500 *** Rotary /Slide drill 6.75" lateral F/ 14050' T/ 1XXXX' following road map parameters
<b>Total</b>	<b>24.00</b>							

Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
13,656.00	89.50	340.79	11,689.64	1,599.99	-587.97	1,704.58	2.25	PTW MWD+HDGM_2016
13,750.00	87.42	339.61	11,692.17	1,688.40	-619.79	1,798.54	2.54	PTW MWD+HDGM_2016
13,844.00	88.36	340.03	11,695.63	1,776.57	-652.20	1,892.48	1.10	PTW MWD+HDGM_2016
13,938.00	89.93	341.46	11,697.03	1,865.29	-683.19	1,986.46	2.26	PTW MWD+HDGM_2016
14,032.00	89.59	340.39	11,697.42	1,954.13	-713.91	2,080.44	1.19	PTW MWD+HDGM_2016

Fluid Details

Mud type	Invermul	Oil/Water (%)	55.50/19.00	POM (cc)	
MD (ft)	13,300.00	TS/HGS/LGS (%)	23.70/17.50/6.10	CaCl2 (%)	
Mud Density (ppg)	13.30	Sand (%)		Caom/Clom (ppm)	
Vis (s/qt)	68.00	Oil/Water Ratio (%)	74.50/25.50	ACT	
PV/YP (cp/lbf/100ft²)	22.00/13.000	LCM (lbm/bbl)		XS Lime(lbm/bbl)	2.59
Gels 10 s/m (lbf/100ft²)	11.000/14.000	ECD (ppg)	13.300	ES (Volts)	500.0
API/HTHP WL (cc/30min)	/7.0	H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")	/2.0	KCl (%)		R200/100 (°)	
WPS (ppm)	237,551	Ditch Magnet in Last 24hrs/Cum. (gm)		R6/3 (°)	
FL temp. (°F)					

Gas Concentrations and Fluid Losses

Avg Connection Gas (gas unit)	Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...
Max. connection gas (gas unit)	Max. trip gas (gas unit)	Surface Losses (bbl) /0.00
Avg. background gas (gas unit)	Avg H2S Gas (gas unit)	Sub Surface Losses (bbl) /0.00
Max. background gas (gas unit)	Max H2S Gas (gas unit)	Total Losses 0.00/0.00
		End vol. (bbl) 0.00

Bulks Summary

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	11,971.00	Gallon	2,655.00
CNG	6,623.06	Gallon	1,455.00

EP WELLS DAILY OPERATIONS REPORT

Report 16 02/18/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Bit Details										
Bit no.	Size (in)	Manufacturer	Model no.	Class	IADC code	Serial no.	Size (32nd")	MD in (ft)	MD out (ft)	IADC Dull Grade
5	6.750	BAKER HUGHES	D406T			5295353	6x12	11,962.00		-----

Bit Operations													
MD (ft)	WOB Min/Max (kip)	Current RPM (rpm)	Flow rate (gpm)	SPP (psi)	P bit (psi)	% @ Bit	HHP (hp)	Hours (hr)	Footage (ft)	ROP (ft/hr)	Hours cum (hr)	Footage cum. (ft)	ROP cum. (ft/hr)

Drillstring Components										
Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.	
Drill Pipe	493	8,806.23	4.500		4.000	DELTA 425			RIG	
CROSSOVER	1	4.45	5.250		2.690	DELTA 425			WS2611735	
SHOCK SUB	1	10.46	4.880		2.500	XT-39			1586716-6	
CROSSOVER	1	4.09	5.500		2.690	XT-39			WS26-11725	
DRILL PIPE	102	3,199.62	5.260		3.000	DELTA 425			RIG	
AGITATOR/SHOCK SUB	1	22.68	5.250		2.250	DELTA 425			AGHF0525-006/178-001 2HE	
DRILL PIPE	51	1,600.94	5.260		3.000	DELTA 425			RIG	
DRILL N REAM	1	8.53	5.250		2.250	XT-39			DTI-DNR-49 2	
Drill Pipe (Drill Pipe)	9	282.52	5.250		3.000	DELTA 425			RIG	
Delta 425 Box x 3 1/2 IF Pin Crossover	1	3.61	5.500		2.250	DELTA 425			WS26-11774	
475 Filter Sub	1	3.38	4.750		2.250	3 1/2 IF			DR35230	
475 Float Sub	1	3.47	4.750		2.380	3 1/2 IF			DR7619	
475 NM Slick Collar	1	30.25	4.690		2.750	3 1/2 IF			DR31172PFA	
ROLLER REAMER	1	5.29	4.690		2.310	3 1/2 IF			XM2757	
475 Velocity Gap Sub	1	3.75	5.060		2.380	3 1/2 IF			VG475081PTS	
475 Velocity Centralizer Sub	1	8.33	5.060		3.630	4.3 ACME			VC475161	
475 Velocity Landing Sub	1	3.43	5.250		3.140	4.3 ACME			VL475160	
475 Velocity Crossover	1	2.28	5.000		2.380	3 1/2 IF			VX475147	
PONY SLICK COLLAR	1	9.60	5.130		2.880	DS38			P513003	
ROLLER REAMER	1	4.23	4.690		2.310	DS38			XM2147	
BICO FBH Mud Motor 7/8 LOBE, STAGE 8.2 SET @ 1.75° RPG:	1	31.82	6.250			3 1/2 IF			G547	
RUN #1 BIT #5 6.75" BAKER D406T(6X12's) SN: 5295353	1	1.04	6.750	6.750		3 1/2 REG			5295353	

Drillstring Details					
Date/Time in	Date/Time out	BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
02/17/2019 13:00		5	160.69		DRILL 6.75" PRODUCTION SECTION

**Remarks**

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115  
Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

## EP WELLS DAILY OPERATIONS REPORT

Report 16

02/18/2019

Well	UNIVERSITY 20 TG UNIT 2705H
Wellbore	UNIVERSITY 20 TG UNIT 2705H

From Pecos- From Major Intersection Hwy 302 at Hwy 285

Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18

AFE: \$1.4 under

Days: 2.3 days under

University 20 PW 2705H Well Specific:

AFE: \$1.5M under

Days: 6.7 days under

**EP WELLS DAILY OPERATIONS REPORT**

Report 17

02/19/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	16.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	15.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Theron Knight	Measured Depth(ft)	16,120.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,690.42
Other Supervisor	Cade Pilcher	24 Hr Progress(ft)	2,070.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	6.750
THF Datum			
Daily NPT(hr/%)	0/0	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@
Actual cost to date/AFE	1,803,054/3,425,497.41	Current MW / BH EMW(ppg)	13.40/
Actual divided by AFE	0.53	LOT/FIT EMW(ppg)	
Daily Cost	71,334	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	860	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)

**Safety Comments:**

No HSE issues  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Shell, Flatbed Truck Drivers and Motorman on offloading casing operations; Reviled and documented hazards of the plan when trucks entered location and where to stop and chock wheels; Motorman told truck drivers once load is unsecured to stay at front of truck and away from any line of fire; once last joints of casing was removed from flatbed they agreed the drivers could secure their rigging and exit location before next truck was allowed to come on location;  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Shell; Driller and Floor hands on what is the meaning of Hard Shut In and Soft Shut in; Driller explained and made a simple diagram of the lines and flow path of where the choke would close on the well stream and the annular closing on drill pipe; After the briefing the Floor Hands walked the lines and followed the flow path through the choke manifold to get a full visual of how the system functioned; The Floor Hands agreed to walk the lines and be able to explain the system to the OSR and Toolpusher in the near days to come.  
 AAR: Day Drill Rig Conducted BOP drill with very good response time of all hands reporting to stations and communicating to driller; OSR noted the Construction and Production people on the pony pad were reporting to their appointed muster station; OSR communicated to team at muster on pony pad to stand down; OSR told the team they did a great job responding to RIG BOP drill. Driller and SSE Floor hand discussed roles and responsibilities in a well control event; SSE was very receptive in learning his duties;

**Drills**

Drill Category	Drill Type	Detection (sec)	Complete (sec)	Crew drilled	Pass / Fail	PIC	Comments
Well Control Crew	BOP	5.00	220.00	Day	Pass	Henry	Driller sounded rig

**EP WELLS DAILY OPERATIONS REPORT**

Report 17

02/19/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill	
Last Derrick Inspection	02/15/2019	4	0	
Last BOP function test	02/05/2019	14		
Last BOP Test	02/26/2019			
Next BOP Test				

**Operations Summary**

<b>24 Hour Summary</b>
Rotary / Slide drill 6.75" lateral hole section following roadmap parameters F/ 14050' T/ 16120'; Conducted weekly drill; Offloaded 4.5" and 5.5" production casing.
<b>Update Since Report Time</b>
0400 HRS: Drill 6.75" lateral hole section following roadmap parameters @ 16457' depth.
<b>24 Hour Forecast</b>
Drill 6.75" lateral hole section following roadmap parameters to estimated +- 20380' target TD

**Time Summary**

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	5.50	MNH1	DRL		14,654.00	0		Rotary / Slide drill F/14050' T/14654'
5:30	0.50	MNH1	SVC		14,654.00	0		General rig service; Grease and inspect top drive.
6:00	5.00	MNH1	DRL		15,125.00	0		Rotary / Slide drill F/14654' T/15125'
11:00	0.50	MNH1	SVC		15,125.00	0		Rig Service
11:30	6.50	MNH1	DRL		15,172.00	0		Rotary / Slide drill F/15125' T/15752'  Conducted BOP drill; All personal responded to designated stations and assumed roles and responsibilities.  Offline: Offloaded 188 joints 4.5" casing 227 joints 5.5" casing
18:00	6.00	MNH1	DRL		16,120.00	0		Rotary / Slide drill F/15752' T/ 16120'  *** 0000 - 0500 *** Rotary / Slide drill F/16120' T/ 16550'
<b>Total</b>	<b>24.00</b>							

**Deepest 5 Surveys**

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
15,727.00	91.04	346.31	11,687.56	3,581.59	-1,181.01	3,771.21	1.01	PTW MWD+HDGM_2016
15,821.00	89.45	344.82	11,687.16	3,672.62	-1,204.44	3,865.03	2.32	PTW MWD+HDGM_2016
15,915.00	89.25	343.86	11,688.23	3,763.12	-1,229.82	3,958.96	1.04	PTW MWD+HDGM_2016
16,008.00	89.96	343.98	11,688.87	3,852.48	-1,255.57	4,051.91	0.77	PTW MWD+HDGM_2016
16,102.00	88.65	343.47	11,690.01	3,942.70	-1,281.91	4,145.86	1.50	PTW MWD+HDGM_2016

**Fluid Details**

Mud type	Invermul	Oil/Water (%)	57.00/16.50	POM (cc)	
MD (ft)	15,400.00	TS/HGS/LGS (%)	24.60/17.30/7.30	CaCl2 (%)	
Mud Density (ppg)	13.40	Sand (%)	0.10	Caom/Clom (ppm)	
Vis (s/qt)	65.00	Oil/Water Ratio (%)	77.60/22.40	ACT	
PV/YP (cp/lbf/100ft²)	20.00/11.000	LCM (lbm/bbl)		XS Lime(lbm/bbl)	3.76
Gels 10 s/m (lb/100ft²)	10.000/13.000	ECD (ppg)		ES (Volts)	497.0
API/HTHP WL (cc/30min)	/6.0	H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")	/2.0	KCl (%)		R200/100 (°)	
WPS (ppm)	278,139			R6/3 (°)	
FL temp. (°F)		Ditch Magnet in Last 24hrs/Cum. (gm)			

EP WELLS DAILY OPERATIONS REPORT

Report 17

02/19/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Gas Concentrations and Fluid Losses

Avg Connection Gas (gas unit)	Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...	
Max. connection gas (gas unit)	Max. trip gas (gas unit)	Surface Losses (bbl)	/0.00
Avg. background gas (gas unit)	Avg H2S Gas (gas unit)	Sub Surface Losses (bbl)	/0.00
Max. background gas (gas unit)	Max H2S Gas (gas unit)	Total Losses	0.00/0.00
		End vol. (bbl)	0.00

Bulks Summary

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	6,954.00	Gallon	5,017.00
CNG	8,294.06	Gallon	3,589.00

Bit Details

Bit no.	Size (in)	Manufacturer	Model no.	Class	IADC code	Serial no.	Size (32nd")	MD in (ft)	MD out (ft)	IADC Dull Grade
5	6.750	BAKER HUGHES	D406T			5295353	6x12	11,962.00		-----

Bit Operations

MD (ft)	WOB Min/Max (kip)	Current RPM (rpm)	Flow rate (gpm)	SPP (psi)	P bit (psi)	% @ Bit	HHP (hp)	Hours (hr)	Footage (ft)	ROP (ft/hr)	Hours cum (hr)	Footage cum. (ft)	ROP cum. (ft/hr)

Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
Drill Pipe	493	10,876.23	4.500		4.000	DELTA 425			RIG
CROSSOVER	1	4.45	5.250		2.690	DELTA 425			WS2611735
SHOCK SUB	1	10.46	4.880		2.500	XT-39			1586716-6
CROSSOVER	1	4.09	5.500		2.690	XT-39			WS26-11725
DRILL PIPE	102	3,199.62	5.260		3.000	DELTA 425			RIG
AGITATOR/SHOCK SUB	1	22.68	5.250		2.250	DELTA 425			AGHF0525-006/178-001 2HE
DRILL PIPE	51	1,600.94	5.260		3.000	DELTA 425			RIG
DRILL N REAM	1	8.53	5.250		2.250	XT-39			DTI-DNR-49 2
Drill Pipe (Drill Pipe)	9	282.52	5.250		3.000	DELTA 425			RIG
Delta 425 Box x 3 1/2 IF Pin Crossover	1	3.61	5.500		2.250	DELTA 425			WS26-11774
475 Filter Sub	1	3.38	4.750		2.250	3 1/2 IF			DR35230
475 Float Sub	1	3.47	4.750		2.380	3 1/2 IF			DR7619
475 NM Slick Collar	1	30.25	4.690		2.750	3 1/2 IF			DR31172PF A
ROLLER REAMER	1	5.29	4.690		2.310	3 1/2 IF			XM2757
475 Velocity Gap Sub	1	3.75	5.060		2.380	3 1/2 IF			VG475081P TS
475 Velocity Centralizer Sub	1	8.33	5.060		3.630	4.3 ACME			VC475161
475 Velocity Landing Sub	1	3.43	5.250		3.140	4.3 ACME			VL475160
475 Velocity Crossover	1	2.28	5.000		2.380	3 1/2 IF			VX475147
PONY SLICK COLLAR	1	9.60	5.130		2.880	DS38			P513003

## EP WELLS DAILY OPERATIONS REPORT

Report 17

02/19/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

## Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
ROLLER REAMER	1	4.23	4.690		2.310	DS38			XM2147
BICO FBH Mud Motor 7/8 LOBE, STAGE 8.2 SET @ 1.75° RPG:	1	31.82	6.250			3 1/2 IF			G547
RUN #1 BIT #5 6.75" BAKER D406T(6X12's) SN: 5295353	1	1.04	6.750	6.750		3 1/2 REG			5295353

## Drillstring Details

Date/Time in	Date/Time out	BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
02/17/2019 13:00		5	160.69		DRILL 6.75" PRODUCTION SECTION

## Remarks

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115

Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285

Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18

AFE: \$1.3 under

Days: 1.3 days under

University 20 PW 2705H Well Specific:

AFE: \$1.4M under

Days: 5.7 days under

**EP WELLS DAILY OPERATIONS REPORT**

Report 18

02/20/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	17.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	16.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Theron Knight	Measured Depth(ft)	17,864.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,697.48
Other Supervisor	Cade Pilcher	24 Hr Progress(ft)	1,744.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	6.750
THF Datum			
Daily NPT(hr/%)	0/0	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@
Actual cost to date/AFE	1,886,944/3,425,497.41	Current MW / BH EMW(ppg)	13.45/
Actual divided by AFE	0.55	LOT/FIT EMW(ppg)	
Daily Cost	83,357	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	861	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)

**Safety Comments:**

No HSE issues  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Shell, Rig Crew and End Dump Truck Driver and Operator on taking cuttings out of open tops with excavator; Motorman told Truck driver to come around location and he would spot him close to shaker open top tank, Excavator Operator could be inspecting the excavator but do not start operations until truck was secured and driver was standing in front of truck; Derrickman and Floorhand had moved 3" transfer hoses far out of the way to avoid getting run over; Derrickman talked to operator and instructed him when finished cleaning out open top tank under shakers to stand by until End Dump was secured beside open top under centrifuge before proceeding to that area and load the end dump; Derrickman and Motor man reiterated to Operator not to get in a hurry and spill any cuttings on the ground.

AAR: Day & Night Crew discussing methods of well control with OSR's; Drillers and Toolpushers knowledgeable of the Drillers Method and Wait and Weight method; Will be teaching the basics to the Floorhands and SSE on a daily basis for them to be knowledgeable well kill fundamentals; Will be an ongoing process

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks	Days Since Last Drill
Last Derrick Inspection	02/15/2019	5	JSA's/Toolbox Talks	1
Last BOP function test	02/05/2019	15		
Last BOP Test	02/26/2019			
Next BOP Test				

**Operations Summary**

24 Hour Summary
Rotary / Slide drill 6.75" lateral hole section following roadmap parameters F/ 16120' T/ 17864';
Update Since Report Time

EP WELLS DAILY OPERATIONS REPORT

Report 18

02/20/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

0400 HRS: Drill 6.75" lateral hole section following roadmap parameters @ 18112' depth.

24 Hour Forecast

Drill 6.75" lateral hole section following roadmap parameters to estimated +/- 20380' target TD

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	5.50	MNH1	DRL		16,563.00	0		Rotary / Slide drill F/16120' T/ 16536'
5:30	0.50	MNH1	SVC		16,536.00	0		General rig maintenance; Inspect and grease top drive
6:00	11.50	MNH1	DRL		17,478.00	0		Rotary / Slide drill F/16536' T/ 17478'
17:30	0.50	MNH1	DRL		17,478.00	0		General rig maintenance; Inspect and grease top drive;
18:00	6.00	MNH1	DRL		18,112.00	0		Rotary / Slide drill F/17478' T/17864'
								*** 0000 - 0400 *** Rotary / Slide drill F/17864' T/ 18112'
<b>Total</b>	<b>24.00</b>							

Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
17,421.00	89.93	344.66	11,694.47	5,211.61	-1,640.70	5,463.72	2.00	PTW MWD+HDGM_2016
17,515.00	88.84	345.20	11,695.48	5,302.37	-1,665.14	5,557.65	1.29	PTW MWD+HDGM_2016
17,610.00	88.96	345.27	11,697.30	5,394.22	-1,689.35	5,652.54	0.15	PTW MWD+HDGM_2016
17,703.00	89.88	345.63	11,698.25	5,484.23	-1,712.71	5,745.44	1.06	PTW MWD+HDGM_2016
17,797.00	90.56	345.73	11,697.88	5,575.31	-1,735.96	5,839.31	0.73	PTW MWD+HDGM_2016

Fluid Details

Mud type	Invermul	Oil/Water (%)	56.00/16.00	POM (cc)	
MD (ft)	16,347.00	TS/HGS/LGS (%)	26.40/15.90/10.5	CaCl2 (%)	
Mud Density (ppg)	13.45	Sand (%)	0.10	Caom/Clom (ppm)	
Vis (s/qt)	67.00	Oil/Water Ratio (%)	77.80/22.20	ACT	
PV/YP (cp/lbf/100ft <sup>2</sup> )	21.00/13.000	LCM (lbm/bbl)		XS Lime(lbm/bbl)	2.59
Gels 10 s/m (lbf/100ft <sup>2</sup> )	11.000/13.000	ECD (ppg)	16.530	ES (Volts)	491.0
API/HTHP WL (cc/30min)	/6.0	H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")	/2.0	KCl (%)		R200/100 (°)	
WPS (ppm)	257,037			R6/3 (°)	
FL temp. (°F)		Ditch Magnet in Last 24hrs/Cum. (gm)			

Gas Concentrations and Fluid Losses

Avg Connection Gas (gas unit)	Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...	
Max. connection gas (gas unit)	Max. trip gas (gas unit)	Surface Losses (bbl)	/0.00
Avg. background gas (gas unit)	Avg H2S Gas (gas unit)	Sub Surface Losses (bbl)	/0.00
Max. background gas (gas unit)	Max H2S Gas (gas unit)	Total Losses	0.00/0.00
		End vol. (bbl)	0.00

Bulks Summary

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	11,862.00	Gallon	2,192.00
CNG	7,959.06	Gallon	2,965.00

Bit Details

Bit no.	Size (in)	Manufacturer	Model no.	Class	IADC code	Serial no.	Size (32nd")	MD in (ft)	MD out (ft)	IADC Dull Grade
5	6.750	BAKER HUGHES	D406T			5295353	6x12	11,962.00		-----

EP WELLS DAILY OPERATIONS REPORT

Report 18

02/20/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Bit Operations

MD (ft)	WOB Min/Max (kip)	Current RPM (rpm)	Flow rate (gpm)	SPP (psi)	P bit (psi)	% @ Bit	HHP (hp)	Hours (hr)	Footage (ft)	ROP (ft/hr)	Hours cum (hr)	Footage cum. (ft)	ROP cum. (ft/hr)

Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
Drill Pipe	493	12,620.23	4.500		4.000	DELTA 425			RIG
CROSSOVER	1	4.45	5.250		2.690	DELTA 425			WS2611735
SHOCK SUB	1	10.46	4.880		2.500	XT-39			1586716-6
CROSSOVER	1	4.09	5.500		2.690	XT-39			WS26-11725
DRILL PIPE	102	3,199.62	5.260		3.000	DELTA 425			RIG
AGITATOR/SHOCK SUB	1	22.68	5.250		2.250	DELTA 425			AGHF0525-006/178-001 2HE
DRILL PIPE	51	1,600.94	5.260		3.000	DELTA 425			RIG
DRILL N REAM	1	8.53	5.250		2.250	XT-39			DTI-DNR-49 2
Drill Pipe (Drill Pipe)	9	282.52	5.250		3.000	DELTA 425			RIG
Delta 425 Box x 3 1/2 IF Pin Crossover	1	3.61	5.500		2.250	DELTA 425			WS26-11774
475 Filter Sub	1	3.38	4.750		2.250	3 1/2 IF			DR35230
475 Float Sub	1	3.47	4.750		2.380	3 1/2 IF			DR7619
475 NM Slick Collar	1	30.25	4.690		2.750	3 1/2 IF			DR31172PF A
ROLLER REAMER	1	5.29	4.690		2.310	3 1/2 IF			XM2757
475 Velocity Gap Sub	1	3.75	5.060		2.380	3 1/2 IF			VG475081P TS
475 Velocity Centralizer Sub	1	8.33	5.060		3.630	4.3 ACME			VC475161
475 Velocity Landing Sub	1	3.43	5.250		3.140	4.3 ACME			VL475160
475 Velocity Crossover	1	2.28	5.000		2.380	3 1/2 IF			VX475147
PONY SLICK COLLAR	1	9.60	5.130		2.880	DS38			P513003
ROLLER REAMER	1	4.23	4.690		2.310	DS38			XM2147
BICO FBH Mud Motor 7/8 LOBE, STAGE 8 2 SET @ 1.75° RPG:	1	31.82	6.250			3 1/2 IF			G547
RUN #1 BIT #5 6.75" BAKER D406T(6X12's) SN: 5295353	1	1.04	6.750	6.750		3 1/2 REG			5295353

Drillstring Details

Date/Time in	Date/Time out	BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
02/17/2019 13:00		5	160.69		DRILL 6.75" PRODUCTION SECTION

Remarks

Trash Disposal: 640 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115  
Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285  
Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18

**EP WELLS DAILY OPERATIONS REPORT**

Report 18

02/20/2019

Well	UNIVERSITY 20 TG UNIT 2705H
Wellbore	UNIVERSITY 20 TG UNIT 2705H

AFE: \$1.3 under  
Days: 1 days under

University 20 PW 2705H Well Specific:  
AFE: \$1.3M under  
Days: 5.2 days under

**EP WELLS DAILY OPERATIONS REPORT**

Report 19

02/21/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	18.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	17.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Theron Knight	Measured Depth(ft)	18,279.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,692.12
Other Supervisor	Cade Pilcher	24 Hr Progress(ft)	415.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	6.750
THF Datum			
Daily NPT(hr/%)	14.50/60.42	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@
Actual cost to date/AFE	1,945,258/3,425,497.41	Current MW / BH EMW(ppg)	13.40/
Actual divided by AFE	0.57	LOT/FIT EMW(ppg)	
Daily Cost	58,313	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	862	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)

**Safety Comments:**

No HSE issues  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Shell, Rig Crew and, Stringer on cleaning, drifting, strapping and numbering 4.5" & 5.5" production casing; OSR and Stringer Forman reviewed the plan and order in which way to go; Stringer staged and inspected tools and equipment preparing for the job; Rig Crew had established the zones in which for Stringer to stay out of and Stringer established the zones for all others to stay out of; Stringer reiterated to the crew pressure washing to have all the proper PPE; Stringer Foreman confirmed the right size drifts were ready to be used by the hands; Motorman and Derrickman rigged up drill water hose for Stringer to top off tanks with when needed. All agreed to be aware of each others surroundings at all times and watch out for each other.

AAR: Both night and day crews revived the fatality report on overseas land rig that involved in Floor hand being caught in line of fire during lifting operations on rig down to move; Discussed the process of guiding a moving load on our locations, the only way we attempt to help guide a load is with correct tag lines or push poles hands free tools these task will be risk accessed and hazards documented with mitigation on JSA; Safety discussion about the importance of never walk out on frac tank or any above heights object without safety provided hand rails of being tied off. The mitigation to hazard discussed is to use approved man lift basket.

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks	Days Since Last Drill
Last Derrick Inspection	02/15/2019	6	2	
Last BOP function test	02/05/2019	16		
Last BOP Test	02/26/2019			
Next BOP Test				

**Operations Summary**

24 Hour Summary
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**EP WELLS DAILY OPERATIONS REPORT**

Report 19

02/21/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Rotary / Slide drill F/17864' T/ 18279'; Motor stalled and observed 500 psi drop in pressure; Discussions with Shell, DART, Engineer and DD; Decision made to POOH; Performed cleanup cycles, pumped slug and POOH to 2002'; Monitor well on trip tank for proper fill.  
Offline: clean, drift, strap and number 4.5" and 5.5" production casing

**Update Since Report Time**

0400 HRS: PU new 6.75" BHA and TIH currently @ 110'

**24 Hour Forecast**

Perform diagnostics on agitator, POOH, breakout and LD 6.75" BHA; PU new 6.75" PDC bit and directional drilling assembly & TIH to 18279; monitor well on trip tank for proper displacement; Commence drilling lateral to estimated +/- 20380' target TD

**Time Summary**

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	5.50	MNH1	DRL		18,168.00	0		Rotary / Slide drill F/17864' T/ 18168'
5:30	0.50	MNH1	SVC		18,168.00	0		Rig service top drive
6:00	3.50	MNH1	DRL		18,279.00	0		Rotary / Slide drill F/18168' T/ 18279'; Motor stalled and notice 500 psi drop in pressure; Discussions W/ DART, Engineer and DD; decision made to POOH
9:30	2.50	MNH1	CBU		18,279.00	1		***NOTE NPT*** Performed clean up cycles; Circulate 2 bottoms up while reciprocating
12:00	0.50	MNH1	TOH		18,279.00	1		***NOTE NPT*** Step 7 discussion with Drill Crew on tripping out of the hole; POOH F/ 18231' wet T/ 17760'; 5 stds
12:30	0.50	MNH1	TOH		18,279.00	1		***NOTE NPT*** Flow Check; well static; pumped slug;
13:00	0.50	MNH1	TOH		18,279.00	1		***NOTE NPT*** POOH F/ 17760' T/ 15972; 19 stds; Hole not taking proper fill last 5 stands; Flow check well 2 finger flow
13:30	1.50	MNH1	CDM		18,279.00	1		***NOTE NPT*** Circulate & condition raise Mud Weight F/ 13.4 ppg T/ 13.5 ppg all way around
15:00	0.50	MNH1	TOH		18,279.00	1		***NOTE NPT*** Shut down pumps and flow check; Well static; Pumped slug  Offline: Stringer, cleaned, drifted, strapped and numbered 4.5" and 5.5" production casing
15:30	0.50	MNH1	TOH		18,279.00	1		***NOTE NPT*** POOH F/ 15972' T/ 15442'; Encounter tight spot; worked pipe free
16:00	1.00	MNH1	TOH		18,279.00	1		***NOTE NPT*** Back ream F/ 15442' T/ 15125'
17:00	0.50	MNH1	TOH		18,279.00	1		***NOTE NPT*** POOH F/ 15125' wet T/ 13713'; 15 stands
17:30	0.50	MNH1	TOH		18,279.00	1		*** NOTE NPT*** Attempt to pump slug no success;
18:00	0.50	MNH1	TOH		18,279.00	1		***NOTE NPT*** Step 7 discussion with night Drill Crew on tripping out of the hole *** Check mud weights in and out; made correct valve alignmnets
18:30	5.50	MNH1	TOH		18,279.00	1		***NOTE NPT*** Pumped 30 bbl 15.5 ppg slug and chased w/ 8 bbls 13.5 ppg POOH F/ 13713' T/ 2213'; Performed pressure test diagnostics on agitator; 4404 psi @ 350 GPM; LD agitator 3150 @ 350 GPM.  ***NOTE NPT*** *** 0000 - 0130 *** POOH F/ 2205' T/ 110' Flow check well static  *** 0130 - 0300 *** Step 7 discussion with Phoenix and Drill crew ; Break out and LD 6.75" BHA  *** 0300 - 0400 *** PU and MU 6.75" BHA  *** 0400 - 0500 *** TIH F/ 110' T/1600 monitoring well on trip tank for proper displacement
<b>Total</b>	<b>24.00</b>							

EP WELLS DAILY OPERATIONS REPORT

Report 19 02/21/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

NPT Summary

Start Date/Time	Responsible Company	NPT Code	Failure MD (ft)	Ops Code	Type*	Equipment Type	Net time (hr)	Gross time (hr)	Severity	Status	
02/21/2019 18:00	SHELL	Drill Bits, Under-Runners & SWRD	18,279.00	TOH	N		0.00	0.00		OPEN	
<b>Description:</b> Performed clean up cycles; Circulate 2 bottoms up while reciprocating. Step 7 discussion with Drill Crew on tripping out of the hole; POOH F/ 18231' wet T/ 17760'; 5 stds. Flow Check; well static; pumped slug. POOH F/ 17760' T/ 15972; 19 stds; Hole not taking proper fill last 5 stands; Flow check well 2 finger flow. Circulate & condition raise Mud Weight F/ 13.4 ppg T/ 13.5 ppg all way around. Shut down pumps and flow check; Well static; Pumped slug Offline: Stringer, cleaned, drifted, strapped and numbered 4.5" and 5.5" production casing. POOH F/ 15972' T/ 15442'; Encounter tight spot; worked pipe free. Back ream F/ 15442' T/ 15125'. POOH F/ 15125' wet T/ 13713'; 15 stands. Attempt to pump slug no success. Step 7 discussion with night Drill Crew on tripping out of the hole *** Check mud weights in and out; made correct valve alignments. Pumped 30 bbl 15.5 ppg slug and chased w/ 8 bbls 13.5 ppg POOH F/ 13713' T/ 2213'; Performed pressure test diagnostics on agitator; 4404 psi @ 350 GPM; LD agitator 3150 @ 350 GPM. POOH F/ 2205' T/ 110' Flow check well static. Step 7 discussion with Phoenix and Drill crew ; Break out and LD 6.75" BHA. PU and MU 6.75" BHA. TIH F/ 110' T/1600 monitoring well on trip tank for proper displacement.							<b>Title:</b> POOH TO CHANGE BHA.				
<b>Total</b>							<b>0.00</b>	<b>0.00</b>			

Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
17,797.00	90.56	345.73	11,697.88	5,575.31	-1,735.96	5,839.31	0.73	PTW MWD+HDGM_2016
17,891.00	89.95	344.39	11,697.47	5,666.13	-1,760.19	5,933.23	1.57	PTW MWD+HDGM_2016
17,985.00	90.35	343.29	11,697.22	5,756.41	-1,786.35	6,027.22	1.25	PTW MWD+HDGM_2016
18,080.00	91.39	343.69	11,695.78	5,847.48	-1,813.35	6,122.20	1.17	PTW MWD+HDGM_2016
18,174.00	90.95	344.66	11,693.86	5,937.90	-1,838.98	6,216.15	1.13	PTW MWD+HDGM_2016

Fluid Details

Mud type	Invermul	Oil/Water (%)	56.00/16.00	POM (cc)	
MD (ft)	17,948.00	TS/HGS/LGS (%)	26.20/15.70/10.4	CaCl2 (%)	
Mud Density (ppg)	13.40	Sand (%)	0.10	Caom/Clom (ppm)	
Vis (s/qt)	66.00	Oil/Water Ratio (%)	77.80/22.20	ACT	
PV/YP (cp/lbf/100ft <sup>2</sup> )	22.00/13.000	LCM (lbm/bbl)		XS Lime(lbm/bbl)	2.85
Gels 10 s/m (lbf/100ft <sup>2</sup> )	10.000/14.000	ECD (ppg)	13.400	ES (Volts)	490.0
API/HTHP WL (cc/30min)	/6.0	H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")	/2.0	KCl (%)		R200/100 (°)	
WPS (ppm)	269,862	Ditch Magnet in Last 24hrs/Cum. (gm)			
FL temp. (°F)					

Gas Concentrations and Fluid Losses

Avg Connection Gas (gas unit)	Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...	
Max. connection gas (gas unit)	Max. trip gas (gas unit)	Surface Losses (bbl)	/0.00
Avg. background gas (gas unit)	Avg H2S Gas (gas unit)	Sub Surface Losses (bbl)	/0.00
Max. background gas (gas unit)	Max H2S Gas (gas unit)	Total Losses	0.00/0.00
		End vol. (bbl)	0.00

Bulks Summary

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	11,657.00	Gallon	205.00
CNG	7,657.06	Gallon	2,932.00

EP WELLS DAILY OPERATIONS REPORT

Report 19 02/21/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Bit Details										
Bit no.	Size (in)	Manufacturer	Model no.	Class	IADC code	Serial no.	Size (32nd")	MD in (ft)	MD out (ft)	IADC Dull Grade
5	6.750	BAKER HUGHES	D406T			5295353	6x12	11,962.00		-----

Bit Operations													
MD (ft)	WOB Min/Max (kip)	Current RPM (rpm)	Flow rate (gpm)	SPP (psi)	P bit (psi)	% @ Bit	HHP (hp)	Hours (hr)	Footage (ft)	ROP (ft/hr)	Hours cum (hr)	Footage cum. (ft)	ROP cum. (ft/hr)

Drillstring Components										
Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.	
Drill Pipe	493	13,035.23	4.500		4.000	DELTA 425			RIG	
CROSSOVER	1	4.45	5.250		2.690	DELTA 425			WS2611735	
SHOCK SUB	1	10.46	4.880		2.500	XT-39			1586716-6	
CROSSOVER	1	4.09	5.500		2.690	XT-39			WS26-11725	
DRILL PIPE	102	3,199.62	5.260		3.000	DELTA 425			RIG	
AGITATOR/SHOCK SUB	1	22.68	5.250		2.250	DELTA 425			AGHF0525-006/178-001 2HE	
DRILL PIPE	51	1,600.94	5.260		3.000	DELTA 425			RIG	
DRILL N REAM	1	8.53	5.250		2.250	XT-39			DTI-DNR-49 2	
Drill Pipe (Drill Pipe)	9	282.52	5.250		3.000	DELTA 425			RIG	
Delta 425 Box x 3 1/2 IF Pin Crossover	1	3.61	5.500		2.250	DELTA 425			WS26-11774	
475 Filter Sub	1	3.38	4.750		2.250	3 1/2 IF			DR35230	
475 Float Sub	1	3.47	4.750		2.380	3 1/2 IF			DR7619	
475 NM Slick Collar	1	30.25	4.690		2.750	3 1/2 IF			DR31172PFA	
ROLLER REAMER	1	5.29	4.690		2.310	3 1/2 IF			XM2757	
475 Velocity Gap Sub	1	3.75	5.060		2.380	3 1/2 IF			VG475081PTS	
475 Velocity Centralizer Sub	1	8.33	5.060		3.630	4.3 ACME			VC475161	
475 Velocity Landing Sub	1	3.43	5.250		3.140	4.3 ACME			VL475160	
475 Velocity Crossover	1	2.28	5.000		2.380	3 1/2 IF			VX475147	
PONY SLICK COLLAR	1	9.60	5.130		2.880	DS38			P513003	
ROLLER REAMER	1	4.23	4.690		2.310	DS38			XM2147	
BICO FBH Mud Motor 7/8 LOBE, STAGE 8.2 SET @ 1.75° RPG:	1	31.82	6.250			3 1/2 IF			G547	
RUN #1 BIT #5 6.75" BAKER D406T(6X12's) SN: 5295353	1	1.04	6.750	6.750		3 1/2 REG			5295353	

Drillstring Details					
Date/Time in	Date/Time out	BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
02/17/2019 13:00		5	160.69		DRILL 6.75" PRODUCTION SECTION

**Remarks**

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115  
Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

## EP WELLS DAILY OPERATIONS REPORT

Report 19

02/21/2019

Well	UNIVERSITY 20 TG UNIT 2705H
Wellbore	UNIVERSITY 20 TG UNIT 2705H

From Pecos- From Major Intersection Hwy 302 at Hwy 285

Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18

AFE: \$1.2 under

Days: 1.0 days under

University 20 PW 2705H Well Specific:

AFE: \$1.3M under

Days: 3.5 days under

**EP WELLS DAILY OPERATIONS REPORT**

Report 20

02/22/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	19.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	18.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Theron Knight	Measured Depth(ft)	18,656.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,704.81
Other Supervisor	Cade Pilcher	24 Hr Progress(ft)	377.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	6.750
THF Datum			
Daily NPT(hr/%)	24.00/100.00	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@
Actual cost to date/AFE	2,030,981/3,425,497.41	Current MW / BH EMW(ppg)	13.90/
Actual divided by AFE	0.59	LOT/FIT EMW(ppg)	
Daily Cost	85,723	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	863	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)

**Safety Comments:**

No HSE issues  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Shell, Rig Crew and, Phoenix Directional Driller on LD BHA and PU new BHA and TIH; DD went over BHA sheet and marked up where to break out the assembly on the sheet; DD had new BHA sheet marked up to reflect the order and how to pick it up efficient manner; Floor hands hand proper tools ready on the floor; Motorman had staged the strapped BHA on the side of catwalk; New bit was staged on rig floor; Driller told the Floorhands what to have prepared to break bit off and be ready; The team communicated very well with each other and maintained eye contact with the driller also; Floor hands and Phoenix confirmed torques on BHA ;  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Rig Crew prior to slip and cut drill line; Driller had the SSE gather the tools for the job while tripping in the hole; The Rig Crew followed the plan they have in place to be most efficient and Motorman checks off the check list to confirm all steps completed. SSE observed and learned as Driller explained what each step was and why they could not take any shortcuts.

AAR: Day Crew and Night Crew reviewed the 3 first lines of defence of well control; the SSE's answered the questions correctly, Mud weight, BOP and Competent People; PD Rig manger discussed with crews the incident involving a Roughneck on another PD rig working to secure BOP in the wrangler severed fingers between the mechanical arm that secures BOP in the wrangler; We have the same wrangler on 559. The accident could have been prevented; Night crew discussed preparing for high winds coming before midnight; Close all doors and secure trash cans;

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill
Last Derrick Inspection	02/15/2019	7	3
Last BOP function test	02/05/2019	17	
Last BOP Test	02/26/2019		
Next BOP Test			

**EP WELLS DAILY OPERATIONS REPORT**

Report 20

02/22/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

**Operations Summary**

**24 Hour Summary**

Perform diagnostics on agitator, POOH, breakout and LD 6.75" BHA; PU new 6.75" PDC bit and directional drilling assembly & TIH T/ 11077'; Slip and cut drill line; TIH T/ 18279'; monitor well on trip tank for proper displacement; Commence drilling lateral to estimated +- 20380' target TD

**Update Since Report Time**

0400 HRS: Drill 6.75" lateral hole section following roadmap parameters @ 18930' depth.

**24 Hour Forecast**

Drill 6.75" lateral hole section following roadmap parameters to estimated +- 20380' target TD; perform cleanup cycles; Flow check; Pull 5 stands wet observe drag; Pump slug and POOH.

**Time Summary**

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	1.50	MNH1	TOH		18,279.00	1		***NOTE NPT*** POOH F/ 2205' T/ 110' Flow check well static
1:30	1.50	MNH1	BHA		18,279.00	1		***NOTE NPT*** Step 7 discussion with Phoenix and Drill crew ; Break out and LD 6.75" BHA
3:00	1.00	MNH1	BHA		18,279.00	1		***NOTE NPT*** PU and MU 6.75" BHA
4:00	2.00	MNH1	TIH		18,279.00	1		***NOTE NPT*** TIH F/ 110' T/ 1600 monitoring well on trip tank for proper displacement
6:00	4.00	MNH1	TIH		18,279.00	1		***NOTE NPT*** TIH F/ 3300' T/ 11077'; filling every 30 stands; PU shock sub @5524'; Monitoring well on trip tank for proper displacement
10:00	1.00	MNH1	CUT		18,279.00	1		***NOTE NPT*** Step 7 discussion with rig crew; Slip and cut 60' of drill line; Monitor well on trip tank.
11:00	0.50	MNH1	SVC		18,279.00	1		***NOTE NPT*** Service and inspect top drive; grease iron roughneck;
11:30	0.50	MNH1	SVC		18,279.00	1		***NOTE NPT*** Change out swivel packing
12:00	0.50	MNH1	TIH		18,279.00	1		*** NOTE NPT*** TIH F/ 11077' T/ 11266'; filling every 30 stands; Monitoring well on trip tank for proper displacement; orientate tool face to high side as per DD
12:30	4.00	MNH1	TIH		18,279.00	1		*** NOTE NPT*** TIH F/ 11266' T/ 18136'; filling every 30 stands; Monitoring well on trip tank for proper displacement; (Wash and ream from 15125' to 15444' tight spots observed on trip out)
16:30	0.50	MNH1	TIH		18,279.00	1		*** NOTE NPT*** Wash and ream from 18136' T/ 18279';
17:00	1.00	MNH1	DRL		18,325.00	1		Resume Rotary / Slide drilling operations of 6.75" lateral F/ 18279' - 18325'
18:00	6.00	MNH1	DRL		18,656.00	1		Step 7 discussion with Shell & Rig Crew; Perform hazard hunt; Continue rotary slide / drilling 6.75" lateral F/ 18325' T/ 18656' as per road map with DART & Phoenix DD.  *** 0000 - 0500 *** Rotary / Slide drilling operations of 6.75" lateral F/ 18656' - 18969'
<b>Total</b>	<b>24.00</b>							

**Deepest 5 Surveys**

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
18,268.00	89.18	344.22	11,693.75	6,028.45	-1,864.19	6,310.10	1.94	PTW MWD+HDGM_2016
18,362.00	88.18	345.16	11,695.92	6,119.09	-1,889.00	6,404.02	1.46	PTW MWD+HDGM_2016
18,456.00	87.40	343.92	11,699.54	6,209.62	-1,914.04	6,497.91	1.56	PTW MWD+HDGM_2016
18,550.00	88.28	343.93	11,703.08	6,299.88	-1,940.05	6,591.83	0.94	PTW MWD+HDGM_2016
18,644.00	89.68	343.92	11,704.76	6,390.19	-1,966.07	6,685.80	1.49	PTW MWD+HDGM_2016

EP WELLS DAILY OPERATIONS REPORT

Report 20

02/22/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Fluid Details

Mud type	Invermul	Oil/Water (%)	55.00/16.00	POM (cc)	
MD (ft)	18,279.00	TS/HGS/LGS (%)	27.20/18.50/8.70	CaCl2 (%)	
Mud Density (ppg)	13.90	Sand (%)		Caom/Clom (ppm)	
Vis (s/qt)	76.00	Oil/Water Ratio (%)	77.50/22.50	ACT	
PV/YP (cp/lbf/100ft <sup>2</sup> )	26.00/10.000	LCM (lbm/bbl)		XS Lime(lbm/bbl)	2.59
Gels 10 s/m (lbf/100ft <sup>2</sup> )	11.000/15.000	ECD (ppg)	16.850	ES (Volts)	484.0
API/HTHP WL (cc/30min)	/6.0	H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")	/2.0	KCl (%)		R200/100 (°)	
WPS (ppm)	269,259	Ditch Magnet in Last 24hrs/Cum. (gm)		R6/3 (°)	
FL temp. (°F)					

Gas Concentrations and Fluid Losses

Avg Connection Gas (gas unit)		Avg. trip gas (gas unit)		Losses Last 24 Hours/Cumulative...	
Max. connection gas (gas unit)		Max. trip gas (gas unit)		Surface Losses (bbl)	/0.00
Avg. background gas (gas unit)		Avg H2S Gas (gas unit)		Sub Surface Losses (bbl)	/0.00
Max. background gas (gas unit)		Max H2S Gas (gas unit)		Total Losses	0.00/0.00
				End vol. (bbl)	0.00

Bulks Summary

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	10,407.00	Gallon	1,250.00
CNG	7,885.06	Gallon	2,402.00

Bit Details

Bit no.	Size (in)	Manufacturer	Model no.	Class	IADC code	Serial no.	Size (32nd")	MD in (ft)	MD out (ft)	IADC Dull Grade
6	6.750	BAKER HUGHES	D406T			5290559	6x12	18,279.00		-----

Bit Operations

MD (ft)	WOB Min/Max (kip)	Current RPM (rpm)	Flow rate (gpm)	SPP (psi)	P bit (psi)	% @ Bit	HHP (hp)	Hours (hr)	Footage (ft)	ROP (ft/hr)	Hours cum (hr)	Footage cum. (ft)	ROP cum. (ft/hr)

Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
Drill Pipe	1	13,412.74	4.500		4.000	DELTA 425			RIG
CROSSOVER	1	4.45	5.250		2.690	DELTA 425			WS2611735
SHOCK SUB	1	10.46	5.380		2.750	XT-39			1586716-6
CROSSOVER	1	4.09	5.250		2.690	XT-39			WS26-11725
DRILL PIPE	102	3,199.62	5.260		3.000	DELTA 425			RIG
AGITATOR/SHOCK SUB	1	22.68	5.300		2.750	DELTA 425			AGHF0525-006/178-001 2HE
DRILL PIPE	51	1,600.94	5.260		3.000	DELTA 425			RIG
DRILL N REAM	1	8.53	0.650		2.500	XT-39			DTI-DNR-49 2
Drill Pipe (Drill Pipe)	9	282.52	5.260		3.000	DELTA 425			RIG
Delta 425 Box x 3 1/2 IF Pin Crossover	1	3.61	5.500		2.250	DELTA 425			WS26-11774
Filter Sub	1	3.38	4.690		2.310	3 1/2 IF			DR35230
Float Sub	1	3.47	4.690		2.250	3 1/2 IF			DR7619

## EP WELLS DAILY OPERATIONS REPORT

Report 20

02/22/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

## Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
Slick Collar	1	30.25	5.030		2.690	3 1/2 IF			DR31172PF A
NON MAG ROLLER REAMER	1	5.29	6.630		2.000	3 1/2 IF			XM2757
475 Velocity Gap Sub	1	3.77	5.130		3.130	3 1/2 IF			VG475154P TS
475 Velocity Centralizer Sub	1	8.32	5.190		3.630	4.3 ACME			VC475129
475 Velocity Landing Sub	1	3.41	5.190		3.140	4.3 ACME			VL475144
475 Velocity Crossover	1	1.62	5.120		0.244	3 1/2 IF			VX475091
PONY SLICK COLLAR	1	9.60	5.130		2.440	DS38			P513003
ROLLER REAMER	1	4.23	6.630		2.000	DS38			XM2147
5" 7/8 8.2 STG. FBH @ 1.75° TRUE SLICK RPG: 0.69	1	31.97	5.110			3 1/2 IF			G2139
RUN #1 BIT #6 6.75" BAKER D406T(6X12's) SN: 5290559	1	1.05	6.750	6.750		3 1/2 REG			5290559

## Drillstring Details

Date/Time in	Date/Time out	BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
02/22/2019 03:00		6	160.18		DRILL 6.75" PRODUCTION HOLE

## Bit Details

Bit no.	Size (in)	Manufacturer	Model no.	Class	IADC code	Serial no.	Size (32nd")	MD in (ft)	MD out (ft)	IADC Dull Grade
5	6.750	BAKER HUGHES	D406T			5295353	6x12	11,962.00	18,279.00	-----

## Bit Operations

MD (ft)	WOB Min/Max (kip)	Current RPM (rpm)	Flow rate (gpm)	SPP (psi)	P bit (psi)	% @ Bit	HHP (hp)	Hours (hr)	Footage (ft)	ROP (ft/hr)	Hours cum (hr)	Footage cum. (ft)	ROP cum. (ft/hr)

## Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
Drill Pipe	493	13,035.23	4.500		4.000	DELTA 425			RIG
CROSSOVER	1	4.45	5.250		2.690	DELTA 425			WS2611735
SHOCK SUB	1	10.46	4.880		2.500	XT-39			1586716-6
CROSSOVER	1	4.09	5.500		2.690	XT-39			WS26-11725
DRILL PIPE	102	3,199.62	5.260		3.000	DELTA 425			RIG
AGITATOR/SHOCK SUB	1	22.68	5.250		2.250	DELTA 425			AGHF0525-006/178-001 2HE
DRILL PIPE	51	1,600.94	5.260		3.000	DELTA 425			RIG
DRILL N REAM	1	8.53	5.250		2.250	XT-39			DTI-DNR-49 2
Drill Pipe (Drill Pipe)	9	282.52	5.250		3.000	DELTA 425			RIG
Delta 425 Box x 3 1/2 IF Pin Crossover	1	3.61	5.500		2.250	DELTA 425			WS26-11774
475 Filter Sub	1	3.38	4.750		2.250	3 1/2 IF			DR35230
475 Float Sub	1	3.47	4.750		2.380	3 1/2 IF			DR7619
475 NM Slick Collar	1	30.25	4.690		2.750	3 1/2 IF			DR31172PF A

**EP WELLS DAILY OPERATIONS REPORT**

Report 20

02/22/2019

Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H

**Drillstring Components**

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
ROLLER REAMER	1	5.29	4.690		2.310	3 1/2 IF			XM2757
475 Velocity Gap Sub	1	3.75	5.060		2.380	3 1/2 IF			VG475081P TS
475 Velocity Centralizer Sub	1	8.33	5.060		3.630	4.3 ACME			VC475161
475 Velocity Landing Sub	1	3.43	5.250		3.140	4.3 ACME			VL475160
475 Velocity Crossover	1	2.28	5.000		2.380	3 1/2 IF			VX475147
PONY SLICK COLLAR	1	9.60	5.130		2.880	DS38			P513003
ROLLER REAMER	1	4.23	4.690		2.310	DS38			XM2147
BICO FBH Mud Motor 7/8 LOBE, STAGE 8.2 SET @ 1.75° RPG:	1	31.82	6.250			3 1/2 IF			G547
RUN #1 BIT #5 6.75" BAKER D406T(6X12's) SN: 5295353	1	1.04	6.750	6.750		3 1/2 REG			5295353

**Drillstring Details**

Date/Time in	Date/Time out	BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
02/17/2019 13:00	02/22/2019 03:00	5	320.87		DRILL 6.75" PRODUCTION SECTION

**Remarks**

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115  
 Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285  
 Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18  
 AFE: \$1.1 under  
 Days: 1.9 days over

University 20 PW 2705H Well Specific:  
 AFE: \$1.2M under  
 Days: 2.6 days under

**EP WELLS DAILY OPERATIONS REPORT**

Report 21

02/23/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	20.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	19.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Theron Knight	Measured Depth(ft)	19,876.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,699.95
Other Supervisor	Cade Pilcher	24 Hr Progress(ft)	1,220.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	6.750
THF Datum			
Daily NPT(hr/%)	24.00/100.00	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@
Actual cost to date/AFE	2,110,873/3,425,497.41	Current MW / BH EMW(ppg)	13.55/
Actual divided by AFE	0.62	LOT/FIT EMW(ppg)	
Daily Cost	78,448	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	864	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)

**Safety Comments:**

No HSE issues  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Motorman and BJ Bulk Truck driver; Motorman informed Driver that he would not have to back up but he would flag him to pull alongside the cement silos; Driver chocked wheels and Motorman assisted him handling hoses; Driver and Motorman checked tank valve alignments and confirmed proper vent was open; Driver thanked the motorman for giving him an UnCAPP card to use in the future.

AAR: Teaching SSE what the flare is and what its purpose is; Discussed the importance of testing the igniter a minimum of once per tour. SSE understood the concepts.

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill
Last Derrick Inspection	02/15/2019	8	4
Last BOP function test	02/05/2019	18	
Last BOP Test	02/26/2019		
Next BOP Test			

**Operations Summary**

<b>24 Hour Summary</b>
Rotary / Slide drill 6.75" lateral hole section following roadmap parameters F/ 18656' T/ 19876'.
<b>Update Since Report Time</b>
0400 HRS: Drill 6.75" lateral hole section following roadmap parameters @ 20070' depth.
<b>24 Hour Forecast</b>

**EP WELLS DAILY OPERATIONS REPORT**

Report 21

02/23/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Drill 6.75" lateral hole section to 20335' target TD; Perform cleanup cycles; Flow check; Pull 5 stands wet observe drag; Pump slug and TOH to 7.625 shoe @ 11082'; Flowcheck; POOH LD singles and BHA; TIH W/ 4.5" DP, POOH LD singles; RU & run prod. casing.

**Time Summary**

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	5.50	MNH1	DRL		19,015.00	1		Rotary / Slide drilling operations of 6.75" lateral F/ 18656' - 19015'
5:30	0.50	MNH1	SVC		19,015.00	1		General rig service.
6:00	11.50	MNH1	DRL			1		Rotary / Slide drilling operations of 6.75" lateral F/ 119015' - 19738' Offline: Take on 1000 sks of cement
17:30	0.50	MNH1	SVC		19,738.00	1		General rig service; Grease and inspect top drive;
18:00	6.00	MNH1	DRL		19,876.00	1		Rotary / Slide drilling operations of 6.75" lateral F/ 19738' - 19876'  *** 0000 - 0500 *** Rotary / Slide drilling operations of 6.75" lateral F/ 19876' - 20150'
<b>Total</b>	<b>24.00</b>							

**Deepest 5 Surveys**

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
19,492.00	89.76	343.12	11,701.14	7,197.57	-2,224.97	7,533.62	1.28	PTW MWD+HDGM_2016
19,586.00	89.98	343.66	11,701.35	7,287.64	-2,251.84	7,627.61	0.62	PTW MWD+HDGM_2016
19,681.00	91.65	343.68	11,700.00	7,378.80	-2,278.54	7,722.59	1.76	PTW MWD+HDGM_2016
19,775.00	89.93	343.64	11,698.71	7,468.99	-2,304.99	7,816.57	1.83	PTW MWD+HDGM_2016
19,869.00	88.73	343.22	11,699.80	7,559.08	-2,331.79	7,910.56	1.35	PTW MWD+HDGM_2016

**Fluid Details**

Mud type	Invermul	Oil/Water (%)	54.00/18.00	POM (cc)	
MD (ft)	19,549.00	TS/HGS/LGS (%)	26.00/16.60/9.40	CaCl2 (%)	
Mud Density (ppg)	13.55	Sand (%)	0.10	Caom/Clom (ppm)	
Vis (s/qt)	66.00	Oil/Water Ratio (%)	75.00/25.00	ACT	
PV/YP (cp/lbf/100ft <sup>2</sup> )	23.00/13.000	LCM (lbm/bbl)		XS Lime(lbm/bbl)	2.59
Gels 10 s/m (lbf/100ft <sup>2</sup> )	10.000/14.000	ECD (ppg)	17.040	ES (Volts)	460.0
API/HTHP WL (cc/30min)	/6.0	H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")	/2.0	KCl (%)		R200/100 (°)	
WPS (ppm)	261,832			R6/3 (°)	
FL temp. (°F)		Ditch Magnet in Last 24hrs/Cum. (gm)			

**Gas Concentrations and Fluid Losses**

Avg Connection Gas (gas unit)	Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...
Max. connection gas (gas unit)	Max. trip gas (gas unit)	Surface Losses (bbl) /0.00
Avg. background gas (gas unit)	Avg H2S Gas (gas unit)	Sub Surface Losses (bbl) /0.00
Max. background gas (gas unit)	Max H2S Gas (gas unit)	Total Losses 0.00/0.00
		End vol. (bbl) 0.00

**Bulks Summary**

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	11,554.00	Gallon	2,053.00
CNG	8,553.06	Gallon	1,962.00

**Bit Details**

Bit no.	Size (in)	Manufacturer	Model no.	Class	IADC code	Serial no.	Size (32nd")	MD in (ft)	MD out (ft)	IADC Dull Grade
6	6.750	BAKER HUGHES	D406T			5290559	6x12	18,279.00		-----

EP WELLS DAILY OPERATIONS REPORT

Report 21

02/23/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Bit Operations

MD (ft)	WOB Min/Max (kip)	Current RPM (rpm)	Flow rate (gpm)	SPP (psi)	P bit (psi)	% @ Bit	HHP (hp)	Hours (hr)	Footage (ft)	ROP (ft/hr)	Hours cum (hr)	Footage cum. (ft)	ROP cum. (ft/hr)

Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
Drill Pipe	1	14,632.74	4.500		4.000	DELTA 425			RIG
CROSSOVER	1	4.45	5.250		2.690	DELTA 425			WS2611735
SHOCK SUB	1	10.46	5.380		2.750	XT-39			1586716-6
CROSSOVER	1	4.09	5.250		2.690	XT-39			WS26-11725
DRILL PIPE	102	3,199.62	5.260		3.000	DELTA 425			RIG
AGITATOR/SHOCK SUB	1	22.68	5.300		2.750	DELTA 425			AGHF0525-006/178-001 2HE
DRILL PIPE	51	1,600.94	5.260		3.000	DELTA 425			RIG
DRILL N REAM	1	8.53	0.650		2.500	XT-39			DTI-DNR-49 2
Drill Pipe (Drill Pipe)	9	282.52	5.260		3.000	DELTA 425			RIG
Delta 425 Box x 3 1/2 IF Pin Crossover	1	3.61	5.500		2.250	DELTA 425			WS26-11774
Filter Sub	1	3.38	4.690		2.310	3 1/2 IF			DR35230
Float Sub	1	3.47	4.690		2.250	3 1/2 IF			DR7619
Slick Collar	1	30.25	5.030		2.690	3 1/2 IF			DR31172PF A
NON MAG ROLLER REAMER	1	5.29	6.630		2.000	3 1/2 IF			XM2757
475 Velocity Gap Sub	1	3.77	5.130		3.130	3 1/2 IF			VG475154P TS
475 Velocity Centralizer Sub	1	8.32	5.190		3.630	4.3 ACME			VC475129
475 Velocity Landing Sub	1	3.41	5.190		3.140	4.3 ACME			VL475144
475 Velocity Crossover	1	1.62	5.120		0.244	3 1/2 IF			VX475091
PONY SLICK COLLAR	1	9.60	5.130		2.440	DS38			P513003
ROLLER REAMER	1	4.23	6.630		2.000	DS38			XM2147
5" 7/8 8.2 STG. FBH @ 1.75° TRUE SLICK RPG: 0.69	1	31.97	5.110			3 1/2 IF			G2139
RUN #1 BIT #6 6.75" BAKER D406T(6X12's) SN: 5290559	1	1.05	6.750	6.750		3 1/2 REG			5290559

Drillstring Details

Date/Time in	Date/Time out	BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
02/22/2019 03:00		6	160.18		DRILL 6.75" PRODUCTION HOLE

Remarks

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115  
Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285  
Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18

**EP WELLS DAILY OPERATIONS REPORT**

Report 21

02/23/2019

Well	UNIVERSITY 20 TG UNIT 2705H
Wellbore	UNIVERSITY 20 TG UNIT 2705H

AFE: \$1.0M under  
Days: 3 days over

University 20 PW 2705H Well Specific:  
AFE: \$1.1M under  
Days: 1.5 days under

\*\*\*NOTE\*\*\*

Notified Texas Rail Road Commision of up coming production casing run and cement job  
2/22/19 2030 HRS  
Operator #5 Sandy

**EP WELLS DAILY OPERATIONS REPORT**

Report 22

02/24/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	21.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	20.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Theron Knight	Measured Depth(ft)	20,335.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,702.07
Other Supervisor	Cade Pilcher	24 Hr Progress(ft)	459.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	6.750
THF Datum			
Daily NPT(hr/%)	0/0	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@
Actual cost to date/AFE	2,171,470/3,425,497.41	Current MW / BH EMW(ppg)	13.70/
Actual divided by AFE	0.63	LOT/FIT EMW(ppg)	
Daily Cost	60,786	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	865	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)

**Safety Comments:**

No HSE issues  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Shell, Halliburton Solids control and Motorman about demobing centrifuges; Halliburton and Motorman went over plan and completed LO /TO of the equipment; Motorman notified Shell OSR of LO/TO; OSR and Halliburton attempted to run the equipment, NO POWER; Motorman and Halliburton unhooked the power supply to the units and rolled up cables; Halliburton disassembled the lines and packages and made ready to demob  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Shell and Drill Crew on tripping out of hole and lay down singles while monitoring well on trip tank; All of rig crew involved with a role and responsibility; Motorman on ground prepared pipe racks and set up lighting; Floor hands staged 4.5" drill pipe protectors on rig floor to be put on; Derrickman running the skate on catwalk and driller monitoring the trip tank while running the rig; Eye contact and hand signals for communication around the rotary and radio use for all the other communication; all agreed each others safety was first priority and ensuring the well was static was second.

AAR: SSE went over his learning's in pre tour from day before. He explained the draw works and their primary function and the pumps and their primary function. He had read the equipment manuals overview on the rig floor while driller was sliding and shared his learning's with the team. Good job.

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill
Last Derrick Inspection			
Last BOP function test	02/15/2019	9	5
Last BOP Test	02/05/2019	19	
Next BOP Test	02/26/2019		

**Operations Summary**

**EP WELLS DAILY OPERATIONS REPORT**

Report 22

02/24/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

**24 Hour Summary**

Drill 6.75" lateral hole section to 20335' target TD; Perform cleanup cycles; Flow check; Pull 5 stands wet observe no drag; Pump slug and TOH to 11574'; Flowcheck well; POOH LD singles F/ 11574' T/ 10921'; Flowcheck well gained 1 bbl in 30 minutes; Decision to TIH F/ 10921' T/ 11548; Pump mud cap; TOH wet F/ 11548 T/ 9950; Pump slug & POOH LD in singles to 6301.

**Update Since Report Time**

0400 HRS: POOH W/ 4.5" drill pipe LD singles and BHA; Monitoring well on trip tank for proper fill.

**24 Hour Forecast**

POOH F/ 6301' LD singles and BHA; TIH W/ 4.5" DP, POOH LD singles twenty stands at a time; Pull, wear bushing; RU casing handling tools & equipment; PU & run 5.5" X 4.5" production casing;

**Time Summary**

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	5.50	MNH1	DRL		20,114.00	0		Rotary / Slide drilling operations of 6.75" lateral F/ 19876' - 20114'
5:30	0.50	MNH1	SVC		20,114.00	0		Rig service: Grease and inspect top drive; grease iron roughneck
6:00	2.00	MNH1	DRL		20,335.00	0		Rotary / Slide drilling operations of 6.75" lateral F/ 20114' - 20335' TD of well.
8:00	3.00	MNH1	CBU		20,335.00	0		Perform end of drilling cleanup cycles as per procedure
11:00	0.50	MNH1	TOH		20,335.00	0		TOH F/ 20335' T/ 19863' W/ 5 stands wet; No drag observed
11:30	0.50	MNH1	TOH		20,335.00	0		Flow check well static; Pumped slug
12:00	2.50	MNH1	TOH		20,335.00	0		TOH F/ 19863' T/ 11574' moniotring well on trip tank for proper fill.
14:30	0.50	MNH1	TOH		20,335.00	0		Flow check well; No flow
15:00	0.50	MNH1	TOH		20,335.00	0		Step 7 discussion with Shell and Rig Crew on well monitoring while POOH W/ 6.75" Drilling assembly LD 4.5" drill pipe in singles F/ 11574' to T/ 10921'
15:30	0.50	MNH1	TOH		20,335.00	0		Step 7 discussion about change out hose on catwalk; Moniotr well on trip tank observed gain of 1 barrel in 30 minutes; Desicion made to trip in hole and pump mud cap.
16:00	0.50	MNH1	TIH		20,335.00	0		TIH F/ 10921' to 11548'; moniotr well on trip tank for proper displacement
16:30	1.00	MNH1	TOH		20,335.00	0		Step 7 discussion with Drill Crew about pumping a kill weigh mud cap; Circulated bottoms up and pumped 60 barrels kill weight mud; Peformed flow check; Observed No Flow.
17:30	0.50	MNH1	TOH		20,335.00	0		TOH wet F/ 11548' T/ 10795';
18:00	1.00	MNH1	TOH		20,335.00	0		TOH wet F/ 10795' T/ 9950'
19:00	0.50	MNH1	TOH		20,335.00	0		Flowcheck well; No flow; Pump slug
19:30	4.00	MNH1	TOH		20,335.00	0		Step 7 discussion with Shell and Rig Crew on well monitoring; POOH W/ 6.75" Drilling assembly LD 4.5" drill pipe in singles F/ 9550' to T/ 6301'
23:30	0.50	MNH1	TOH		20,335.00	0		Flow check well on trip tank with pump off; No flow;  *** 0000 - 0500 ***POOH W/ 6.75" Drilling assembly LD 4.5" drill pipe in singles F/ 6301' to T/ 110'
<b>Total</b>	<b>24.00</b>							

**Deepest 5 Surveys**

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
19,963.00	90.64	343.62	11,700.32	7,649.17	-2,358.61	8,004.55	2.08	PTW MWD+HDGM_2016
20,057.00	89.12	344.28	11,700.52	7,739.50	-2,384.60	8,098.53	1.76	PTW MWD+HDGM_2016
20,151.00	88.12	344.76	11,702.78	7,830.06	-2,409.68	8,192.46	1.18	PTW MWD+HDGM_2016
20,278.00	91.33	345.60	11,703.39	7,952.82	-2,442.16	8,319.34	2.61	PTW MWD+HDGM_2016
20,335.00	91.32	345.60	11,702.07	8,008.01	-2,456.33	8,376.26	0.02	PTW MWD+HDGM_2016

**EP WELLS DAILY OPERATIONS REPORT**

Report 22

02/24/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Fluid Details					
Mud type	Invermul	Oil/Water (%)	54.00/17.00	POM (cc)	2.59 489.0
MD (ft)	20,335.00	TS/HGS/LGS (%)	27.20/16.80/10.5	CaCl2 (%)	
Mud Density (ppg)	13.70	Sand (%)	0.10	Caom/Clom (ppm)	
Vis (s/qt)	66.00	Oil/Water Ratio (%)	76.10/23.90	ACT	
PV/YP (cp/lbf/100ft <sup>2</sup> )	22.00/13.000	LCM (lbm/bbl)		XS Lime(lbm/bbl)	
Gels 10 s/m (lbf/100ft <sup>2</sup> )	9.000/14.000	ECD (ppg)	13.700	ES (Volts)	
API/HTHP WL (cc/30min)	/6.0	H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")	/2.0	KCl (%)		R200/100 (°)	
WPS (ppm)	257,401	Ditch Magnet in Last 24hrs/Cum. (gm)		R6/3 (°)	
FL temp. (°F)					

Gas Concentrations and Fluid Losses			
Avg Connection Gas (gas unit)		Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...
Max. connection gas (gas unit)		Max. trip gas (gas unit)	Surface Losses (bbl) /0.00
Avg. background gas (gas unit)		Avg H2S Gas (gas unit)	Sub Surface Losses (bbl) /0.00
Max. background gas (gas unit)		Max H2S Gas (gas unit)	Total Losses 0.00/0.00
			End vol. (bbl) 0.00

Bulks Summary			
Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	10,514.00	Gallon	1,040.00
CNG	8,244.06	Gallon	2,939.00

Bit Details										
Bit no.	Size (in)	Manufacturer	Model no.	Class	IADC code	Serial no.	Size (32nd")	MD in (ft)	MD out (ft)	IADC Dull Grade
6	6.750	BAKER HUGHES	D406T			5290559	6x12	18,279.00		-----

Bit Operations													
MD (ft)	WOB Min/Max (kip)	Current RPM (rpm)	Flow rate (gpm)	SPP (psi)	P bit (psi)	% @ Bit	HHP (hp)	Hours (hr)	Footage (ft)	ROP (ft/hr)	Hours cum (hr)	Footage cum. (ft)	ROP cum. (ft/hr)

Drillstring Components										
Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.	
Drill Pipe	1	15,091.74	4.500		4.000	DELTA 425			RIG	
CROSSOVER	1	4.45	5.250		2.690	DELTA 425			WS2611735	
SHOCK SUB	1	10.46	5.380		2.750	XT-39			1586716-6	
CROSSOVER	1	4.09	5.250		2.690	XT-39			WS26-11725	
DRILL PIPE	102	3,199.62	5.260		3.000	DELTA 425			RIG	
AGITATOR/SHOCK SUB	1	22.68	5.300		2.750	DELTA 425			AGHF0525-006/178-001 2HE	
DRILL PIPE	51	1,600.94	5.260		3.000	DELTA 425			RIG	
DRILL N REAM	1	8.53	0.650		2.500	XT-39			DTI-DNR-49 2	
Drill Pipe (Drill Pipe)	9	282.52	5.260		3.000	DELTA 425			RIG	
Delta 425 Box x 3 1/2 IF Pin Crossover	1	3.61	5.500		2.250	DELTA 425			WS26-11774	
Filter Sub	1	3.38	4.690		2.310	3 1/2 IF			DR35230	
Float Sub	1	3.47	4.690		2.250	3 1/2 IF			DR7619	

## EP WELLS DAILY OPERATIONS REPORT

Report 22

02/24/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

## Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
Slick Collar	1	30.25	5.030		2.690	3 1/2 IF			DR31172PFA
NON MAG ROLLER REAMER	1	5.29	6.630		2.000	3 1/2 IF			XM2757
475 Velocity Gap Sub	1	3.77	5.130		3.130	3 1/2 IF			VG475154PTS
475 Velocity Centralizer Sub	1	8.32	5.190		3.630	4.3 ACME			VC475129
475 Velocity Landing Sub	1	3.41	5.190		3.140	4.3 ACME			VL475144
475 Velocity Crossover	1	1.62	5.120		0.244	3 1/2 IF			VX475091
PONY SLICK COLLAR	1	9.60	5.130		2.440	DS38			P513003
ROLLER REAMER	1	4.23	6.630		2.000	DS38			XM2147
5" 7/8 8.2 STG. FBH @ 1.75° TRUE SLICK RPG: 0.69	1	31.97	5.110			3 1/2 IF			G2139
RUN #1 BIT #6 6.75" BAKER D406T(6X12's) SN: 5290559	1	1.05	6.750	6.750		3 1/2 REG			5290559

## Drillstring Details

Date/Time in	Date/Time out	BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
02/22/2019 03:00		6	160.18		DRILL 6.75" PRODUCTION HOLE

## Remarks

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115

Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285

Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18

AFE: \$996150K under

Days: 4 days over

University 20 PW 2705H Well Specific:

AFE: \$1.1M under

Days: 1.0 days under

**EP WELLS DAILY OPERATIONS REPORT**

Report 24

02/26/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	23.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	22.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Theron Knight	Measured Depth(ft)	20,335.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,704.94
Other Supervisor	Cade Pilcher	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	6.750
THF Datum			
Daily NPT(hr/%)	0/0	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@20,314.00ft
Actual cost to date/AFE	2,330,950/3,425,497.41	Current MW / BH EMW(ppg)	13.60/
Actual divided by AFE	0.68	LOT/FIT EMW(ppg)	
Daily Cost	65,291	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	867	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)

**Safety Comments:**

No HSE issues  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Shell & BJ Cement crew on spot equipment and rig up iron; Shell OSR and BJ reviewed the plan on lay out of iron to edge of buffer zone; Shell OSR inspected and NO GO all 2" 1502 iron; BJ erected soft barricades to establish buffer zone; BJ discussed hazards and documented on JSA prior to handling iron and rig up operations;

AAR:

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks	Days Since Last Drill
Last Derrick Inspection	02/15/2019	11	7	
Last BOP function test	02/05/2019	21		
Last BOP Test	02/26/2019			
Next BOP Test				

**Operations Summary**

<b>24 Hour Summary</b>
PU and RIH W/ 4.5" 13.5# x 5.5" 23# production casing F/ 1985' T/ 19408'; Observed flow on fill up of joint #440; Shut in well with annular and monitor casing pressure; Begin circulation of KW mud;
<b>Update Since Report Time</b>
0400 update: Circulating at max 3 BPM without losses; attempt to rotate max 10K torque and S/O 142K down no success in freeing pipe.
<b>24 Hour Forecast</b>

EP WELLS DAILY OPERATIONS REPORT

Report 24

02/26/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Continue circulation of 14.0 ppg mud surface to surface; Monitor well on trip tank; Well static; Attempt to resume casing running operations; Unable to move pipe; Made conservative attempts to free casing, Consulted with Shell Engineer and Wells Team Lead.

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	1.00	MNH1	RIC		20,335.00	0		Step 7 discussion with Shell Drill Crew and Franks; Inspected, rigged up casing handling tools and equipment;
1:00	0.50	MNH1	CLR		20,335.00	0		PU 4.5" 13.5# casing shoe track and MU W/ Baker lock; Test float equipment;
1:30	4.00	MNH1	CLR		20,335.00	0		PU & RIH W/ 4.5" production casing to 4147' filling on the fly, monitoring on trip tank for proper displacement; Top off with fill up line every 30 joints
5:30	0.50	MNH1	SVC		20,335.00	0		General Rig Service
6:00	11.50	MNH1	CLR		20,335.00	0		Step 7 discussion with Rig Crew and Franks Casing; PU & RIH W/ 4.5" production casing to F/ 4147' T/ 19408' filling on the fly, monitoring on trip tank for proper displacement; Top off with fill up line every 30 joints
17:30	0.50	MNH1	CLR		20,335.00	0		Pumping out trip tank and topping off casing; Observed flow in trip tank; Monitor 5.4 bbl gain;
18:00	1.75	MNH1	WCP		20,335.00	0		Shut in well with annular; Monitor and record casing pressure every 5 minutes; SICP 220 psi @ 1805 HRS Condition mud in pits to 14.0 ppg SICP 843 psi @ 1945 HRS
19:45	4.25	MNH1	WCP		20,335.00	0		Commence Circulating 14.0 ppg mud through choke holding Constant BHP; ICP 1125 PSI CP 310 ( 48 SPM ) ( 3 BPM ) (126 GPM ) MAX GAS 3740 UNITS; MINIMUM MUD WEIGHTS 12.5 ppg  *** 0000 - 0200 *** Circulated 14.0 ppg surface to surface @ ( 48 SPM ) ( 3 BPM ) ( 126 GPM ) FCP 1180 psi CP 44 psi Monitor well on trip tank well static  *** 0200 - 0230 *** Step 7 discussion with Rig Crew and Franks Casing crew on PU & RIH W/ remaining 5.5" production casing F/ 19408' T/ 20319' Break off FOSV and crossover; PU joint # 441 and MU with casing tongs. Unable to RIH with Joint # 441 LD joint #141 and MU 5.5" crossover and FOSV to top drive; start pump @ (15 SPM) (.9 BPM) (605 PSI) Took 100K overpull (302K); S/O to 88K 114K down several attempts Unable to free casing; Consult with Shell Engineer and Wells Team Lead;
<b>Total</b>	<b>24.00</b>							

Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
20,151.00	88.12	344.76	11,705.65	7,830.04	-2,410.22	8,192.60	1.18	PTW MWD+HDGM+AXIAL_2016
20,278.00	91.33	345.60	11,706.26	7,952.80	-2,442.70	8,319.48	2.61	PTW MWD+HDGM+AXIAL_2016
20,278.00	91.33	345.60	11,703.39	7,952.82	-2,442.16	8,319.34	2.61	PTW MWD+HDGM_2016
20,335.00	91.33	345.60	11,704.94	8,007.99	-2,456.87	8,376.40	0.00	PTW MWD+HDGM+AXIAL_2016
20,335.00	91.32	345.60	11,702.07	8,008.01	-2,456.33	8,376.26	0.02	PTW MWD+HDGM_2016

**EP WELLS DAILY OPERATIONS REPORT**

Report 24

02/26/2019

Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H

**Fluid Details**

Mud type	Invermul	Oil/Water (%)	54.00/17.00	POM (cc)	
MD (ft)	20,335.00	TS/HGS/LGS (%)	27.20//	CaCl2 (%)	
Mud Density (ppg)	13.60	Sand (%)		Caom/Clom (ppm)	
Vis (s/qt)	73.00	Oil/Water Ratio (%)	76.10/23.90	ACT	
PV/YP (cp/lbf/100ft <sup>2</sup> )	22.00/13.000	LCM (lbm/bbl)		XS Lime(lbm/bbl)	2.59
Gels 10 s/m (lbf/100ft <sup>2</sup> )	9.000/14.000	ECD (ppg)	13.600	ES (Volts)	489.0
API/HTHP WL (cc/30min)		H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")	/2.0	KCl (%)		R200/100 (°)	
WPS (ppm)	257,401	Ditch Magnet in Last 24hrs/Cum. (gm)		R6/3 (°)	
FL temp. (°F)					

**Gas Concentrations and Fluid Losses**

Avg Connection Gas (gas unit)		Avg. trip gas (gas unit)		Losses Last 24 Hours/Cumulative...	
Max. connection gas (gas unit)		Max. trip gas (gas unit)		Surface Losses (bbl)	/0.00
Avg. background gas (gas unit)		Avg H2S Gas (gas unit)		Sub Surface Losses (bbl)	/0.00
Max. background gas (gas unit)		Max H2S Gas (gas unit)		Total Losses	0.00/0.00
				End vol. (bbl)	0.00

**Bulks Summary**

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	9,492.00	Gallon	608.00
CNG	9,896.06	Gallon	1,288.00

**Remarks**

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115  
 Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285  
 Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18  
 AFE: \$ 835,568K under  
 Days: 6.0 days over

University 20 PW 2705H Well Specific:  
 AFE: \$941,119K under  
 Days: 1.3 days over

**EP WELLS DAILY OPERATIONS REPORT**

Report 25 02/27/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	24.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	23.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Theron Knight	Measured Depth(ft)	20,335.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,704.94
Other Supervisor	Cade Pilcher	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	6.750
THF Datum			
Daily NPT(hr/%)	21.50/89.58	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@20,314.00ft
Actual cost to date/AFE	2,380,473/3,425,497.41	Current MW / BH EMW(ppg)	13.60/
Actual divided by AFE	0.69	LOT/FIT EMW(ppg)	
Daily Cost	45,383	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	868	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)

**Safety Comments:**

No HSE issues  
 UnCAAP / Assist & Assure conversation: \* Step 7 discussion with Shell & Drill crew on working stuck casing and pumping various rates. Driller reviewed plan on spotting 25 bbl diesel pill and assigned roles and responsibilities; Driller reiterated no one allowed on rig floor during over pulling on pipe; Radios to communicate and Pit Hand to go behind  
 Derrickman to confirm valve alignments; Many fluid transfers have been and will be made to keep mud weight and properties; All agreed to own their zone and communicate effectively

AAR: Superior on location to inspect 4.5" drill pipe offline; Superior crew was working on north end of location with each other doing a great job until darkness; Superior shut down operations due to darkness; OSR apologized to Superior for not having additional light plant ready and available for Superior to continue working;  
 Shell OSR's and Drill crew working with stuck casing in well and was unaware that Superior would have worked 14 hours if lighting was provided. Superior will come back to location and finish up in daylight hours.

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks	Days Since Last Drill
Last Derrick Inspection	02/15/2019	12	8	
Last BOP function test	02/05/2019	22		
Last BOP Test	02/26/2019			
Next BOP Test				

**Operations Summary**

**24 Hour Summary**  
 Stuck casing @ 19408' Circulate and condition various mud weights while working pipe. Spotted 25 bbl diesel pill and worked pipe MAX pull 447K; S/O 55K hook load; No success; Consulted with Shell Engineer and Wells Team Lead.

**EP WELLS DAILY OPERATIONS REPORT**

Report 25

02/27/2019

Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H

**Update Since Report Time**

Circulate out diesel pill at various rates and pipe weights documenting pressures and rates and weight indicator; preparing to pump second diesel pill;

**24 Hour Forecast**

Pumped to push the 25 bbl diesel pill to top of KOP 11209'; Work pipe aggressively within the set parameters; Circulate out pill if no succeeds and prepare to pump second pill.

**Time Summary**

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	2.00	MNH1	CDM		20,335.00	0		Circulated 14.0 ppg surface to surface @ ( 48 SPM ) ( 3 BPM ) ( 126 GPM ) FCP 1180 psi CP 44 psi Monitor well on trip tank well static
2:00	0.50	MNH1	CLR		20,335.00	0		Step 7 discussion with Rig Crew and Franks Casing crew on PU & RIH W/ remaining 5.5" production casing F/ 19408' T/ 20319' Break off FOSV and crossover; PU joint # 441 and MU with casing tongs. Unable to RIH with Joint # 441 LD joint #141 and MU 5.5" crossover and FOSV to top drive; start pump @ (15 SPM) (.9 BPM) (605 PSI) Took 100K overpull (302K); S/O to 88K 114K down several attempts Unable to free casing; Consult with Shell Engineer and Wells Team Lead;
2:30	3.50	MNH1	CLR		20,335.00	1		***NOTE*** NPT Circulate and condition mud for consistent 13.9; Work pipe and attempt to free stuck casing
6:00	12.00	MNH1	CLR		20,335.00	1		***NOTE*** NPT Work stuck casing pumping at 1 barrel per minute MAX pull 360K; 10.5 Torque Circulate and condition mud down to 13.5 ppg while continually working stuck casing;
18:00	2.00	MNH1	CLR		20,335.00	1		***NOTE*** NPT Work stuck casing pumping F/1 BPM T/3 BPM; Max Straight pull 447K no torque Max torque 11.5K working pipe down to 55K H/L pumping 3 BPM; Release torque on overpull to 447K No success
20:00	4.00	MNH1	CLR		20,335.00	1		***NOTE*** NPT Pump 25 bbl diesel and spot F/13800' T /12300' in 4.5" casing X open hole annulus @ 3 BPM as per procedure; Stand pipe pressure of 1335 psi. Pull to 419K holding in tension as pill was spotted into place; No indications of flow or freeing of pipe; Continue to work stuck casing with pill in place; Max torque 11.5K working pipe down to 55K H/L Release torque and pull to 447K; No success  *** 0000 - 0100 ***  Pumped to push the 25 bbl diesel pill up lateral F/ 12700 T/ 11200' in 4.5" casing X open hole annulus @ 3 BPM as per procedure; Stand pipe pressure of 1435 psi. Held stuck casing at neutral weight of 220K while spotting pill was spotted into place; Slack off to 55K H/L w/ max torque 11.5K working pipe down to no pumps Max Straight pull 447K no torque Continue to work stuck casing with pill in place; No indications of flow or freeing of pipe; Release torque and pull to 447K; No success  Consult with Shell on plan forward.
<b>Total</b>	<b>24.00</b>							

EP WELLS DAILY OPERATIONS REPORT

Report 25

02/27/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

NPT Summary

Start Date/Time	Responsible Company	NPT Code	Failure MD (ft)	Ops Code	Type*	Equipment Type	Net time (hr)	Gross time (hr)	Severity	Status
02/27/2019 02:30	SHELL	BH Stuck Pipe	20,335.00	CLR	N		0.00	0.00		OPEN
<b>Description:</b> Work pipe and attempt to free stuck casing						<b>Title:</b> Work stuck casing				
<b>Total</b>							<b>0.00</b>	<b>0.00</b>		

Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
20,151.00	88.12	344.76	11,705.65	7,830.04	-2,410.22	8,192.60	1.18	PTW MWD+HDGM+AXIAL_2016
20,278.00	91.33	345.60	11,706.26	7,952.80	-2,442.70	8,319.48	2.61	PTW MWD+HDGM+AXIAL_2016
20,278.00	91.33	345.60	11,703.39	7,952.82	-2,442.16	8,319.34	2.61	PTW MWD+HDGM_2016
20,335.00	91.33	345.60	11,704.94	8,007.99	-2,456.87	8,376.40	0.00	PTW MWD+HDGM+AXIAL_2016
20,335.00	91.32	345.60	11,702.07	8,008.01	-2,456.33	8,376.26	0.02	PTW MWD+HDGM_2016

Fluid Details

Mud type	Invermul	Oil/Water (%)	55.00/17.00	POM (cc)	
MD (ft)	20,335.00	TS/HGS/LGS (%)	26.60//	CaCl2 (%)	
Mud Density (ppg)	13.60	Sand (%)		Caom/Clom (ppm)	
Vis (s/qt)	60.00	Oil/Water Ratio (%)	76.40/23.60	ACT	
PV/YP (cp/lbf/100ft²)	23.00/7.000	LCM (lbm/bbl)		XS Lime(lbm/bbl)	1.42
Gels 10 s/m (lbf/100ft²)	6.000/8.000	ECD (ppg)	14.840	ES (Volts)	360.0
API/HTHP WL (cc/30min)		H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")	/2.0	KCl (%)		R200/100 (°)	
WPS (ppm)	219,125	Ditch Magnet in Last 24hrs/Cum. (gm)			
FL temp. (°F)					

Gas Concentrations and Fluid Losses

Avg Connection Gas (gas unit)	Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...
Max. connection gas (gas unit)	Max. trip gas (gas unit)	Surface Losses (bbl) /0.00
Avg. background gas (gas unit)	Avg H2S Gas (gas unit)	Sub Surface Losses (bbl) /0.00
Max. background gas (gas unit)	Max H2S Gas (gas unit)	Total Losses 0.00/0.00
		End vol. (bbl) 0.00

Bulks Summary

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	13,331.00	Gallon	3,211.00
CNG	9,035.06	Gallon	861.00

Remarks

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115  
Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285  
Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18  
AFE: \$ 774,483K under  
Days: 7.0 days over

**EP WELLS DAILY OPERATIONS REPORT**

Report 25

02/27/2019

Well	UNIVERSITY 20 TG UNIT 2705H
Wellbore	UNIVERSITY 20 TG UNIT 2705H

University 20 PW 2705H Well Specific:  
AFE: \$891,596K under  
Days: 2.2 days over

**EP WELLS DAILY OPERATIONS REPORT**

Report 26

02/28/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	25.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	24.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Dennis Morgan	Measured Depth(ft)	20,335.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,704.94
Other Supervisor	Justin Kibbey / Jerel Jallorina	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	6.750
THF Datum			
Daily NPT(hr/%)	18.00/75.00	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@19,404.00ft
Actual cost to date/AFE	3,270,180/3,425,497.41	Current MW / BH EMW(ppg)	13.60/
Actual divided by AFE	0.95	LOT/FIT EMW(ppg)	
Daily Cost	634,228	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's	
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	869	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)	1

Safety Comments:  
 No HSE issues

Assist & Assure: Held 7 step conversation cementing and rig Crew on rig up, pressure test and perform cementing operations. Cementers reviewed the procedure and steps to be taken. Driller assigned roles and responsibilities. Shell and cementers checked the cement head rig up, confirmed restraints, and confirmed proper plugs were ready. Rig crew confirmed displacement line ups to cement unit. Cementers put up the red tape to establish the No Go zone. Radios to be used to communicate during the operation, and driller assigned floorhand to be the runner if radio comm's were lost. Discussed how everyone has the right to stop the job.

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill	
Last Derrick Inspection	02/15/2019	13	9	
Last BOP function test	02/05/2019	23		
Last BOP Test	02/05/2019			
Next BOP Test	02/26/2019			

**Operations Summary**

<b>24 Hour Summary</b>
Attempt to free casing by pumping two diesel pills and working casing. Decision made to cement casing in place, shoe at 19408' and float at 19312'. Perform production cement job, pump 50bbl spacer, 301bbl 14.5ppg Class H, and displace with 354bbl of brine, lost returns 190bbl in. Bump plug with 500psi over and test casing for 15min (good) . Shut in well and monitor pressures while transfer mud and prep for rig move.
<b>Update Since Report Time</b>
Start cleaning tanks and rig.
<b>24 Hour Forecast</b>

**EP WELLS DAILY OPERATIONS REPORT**

Report 26

02/28/2019

Well	UNIVERSITY 20 TG UNIT 2705H
Wellbore	UNIVERSITY 20 TG UNIT 2705H

Wait on cement and set emergency slips. Finish cleaning tanks and start rigging down.

EP WELLS DAILY OPERATIONS REPORT

Report 26

02/28/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	1.00	MNH1	CLR		20,335.00	1		<p>***NPT***</p> <p>Resumed pumping to push the 25 bbl diesel pill up lateral from 12,700' to 11,200' in 4.5" casing by open hole annulus @ 3 BPM as per procedure. Stand pipe pressure of 1435 psi. Held stuck casing at neutral weight of 220K while pill was spotted into place. Slack off to 55,000 lbs hookload with max torque 11,500 lbs working pipe down. No pumps Max Straight pull 447K. No torque. Continue to work stuck casing with pill in place. No indications of flow or freeing of pipe.</p>
1:00	0.50	MNH1	CLR		20,335.00	1		<p>***NPT***</p> <p>Consult with Shell on plan forward. Decision made to pump diesel pill into vertical section of well. Continue working stuck 4.5" casing with no success.</p>
1:30	0.50	MNH1	CLR		20,335.00	1		<p>***NPT***</p> <p>Resumed pumping to push the 25 bbl diesel pill up lateral from 11,200' to 9,800' into vertical @ 3 BPM leaving tail of pill @ 11,300'.</p>
2:00	1.00	MNH1	CLR		20,335.00	1		<p>***NPT***</p> <p>Stuck casing at neutral weight of 220K while pill was spotted into place. Slack off to 55K hookload with max torque 11.5K working pipe down. No pumps. Max straight pull 447K. No torque. Continue to work stuck casing with pill in place. No indications of flow or freeing of pipe. No success.</p>
3:00	3.00	MNH1	CLR		20,335.00	1		<p>***NPT***</p> <p>Circulate diesel pill to surface. Stage up pump rates and record stand pipe pressures from 1195 psi @ 3 BPM to 5 BPM @ 1697 psi with no losses.</p>
6:00	5.00	MNH1	CLR		20,335.00	1		<p>***NPT***</p> <p>Held 7 step conversation with rig crew on pumping and attempting to free stuck casing. Pump the second 25 bbl diesel and spot from 13,800' to 12,300' in 4.5" casing by open hole annulus @ 3 BPM as per procedure. Stand pipe pressure at 1335 psi. Hook load at 220K neutral weight as pill was spotted into place. Continue to work stuck casing with pill in place. Max torque 11.5K working pipe down to 55K hookload. Worked pipe aggressively down attempting to free. Max pull to 447K no torque. Resumed pumping to push the second 25 bbl diesel pill up lateral from 12,700' to 11,200' in 4.5" casing by open hole annulus @ 3 BPM as per procedure. Stand pipe pressure at 1550 psi. Held stuck casing at neutral weight of 220K while pill was spotted into place. Slack off to 35K hookload with max torque 11.5K working pipe down. No pumps. Max straight pull 447K. No torque. No success of free pipe or signs of under balanced well flow at surface. Resumed pumping to push the second 25 bbl diesel pill up lateral from 11,200' to 9,800' into vertical @ 3 BPM leaving tail of pill @ 11,300'. Stuck casing at neutral weight of 220K while pill was spotted into place. Slack off to 35K hookload with max torque 11.5K working pipe down. No pumps. Max straight pull 447K. No torque. Continue to work stuck casing with pill in place. No indications of flow or freeing of pipe.</p>
11:00	2.50	MNH1	CLR		20,335.00	1		<p>***NPT***</p> <p>Circulated bottoms up to get diesel out; Circulated unit 13.6 ppg in and 13.6 ppg out</p>
13:30	1.00	MNH1	CLR		20,335.00	1		<p>***NPT***</p> <p>Held 7 step conversation with casing, cementing, and rig crew. Break out and lay down joint #441 of 5.5" 23# HDY 563 casing. Make up 5.5" cement head.</p>
14:30	1.50	MNH1	RCC		20,335.00	1		<p>***NPT***</p> <p>Circulate bottoms up. Rig down casing handling equipment.</p>

EP WELLS DAILY OPERATIONS REPORT

Report 26

02/28/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
16:00	5.50	MNH1	CEM		20,335.00	0		Held 7 step conversation with rig crew and cementers.  Perform cement job as per following schedule:  Pressure test lines. Low: 250 psi High: 8000 psi. Pump spacer: 50 bbl of 14.0 ppg of IntegraGuard Ultra HV. Pump lead cement: 301 bbl of 14.5 ppg of class H.  Drop plug. Pump displacement: 354 bbls of 9.3 ppg brine. Lost returns at 190bbls into displacement, slowed to 1.5 bpm. Never regained returns. Bumped plug on schedule at 500 psi over circulating pressure. Casing test: held 5100 psi for 15 min. Floats held, 4.5 bbl back.  TRRC Notified 2/22/19 at 20:30, Spoke with Sandy #5
21:30	0.50	MNH1	LCH		20,335.00	0		Rig down cement lines.
22:00	2.00	MNH1	SLP		20,335.00	1		NPT-Wait on cement. Shut in well and monitor pressures. Casing pressure at 430 psi.
<b>Total</b>	<b>24.00</b>							

NPT Summary

Start Date/Time	Responsible Company	NPT Code	Failure MD (ft)	Ops Code	Type*	Equipment Type	Net time (hr)	Gross time (hr)	Severity	Status
02/28/2019 22:00	SHELL	Wait On Decision	20,335.00	SLP	N		2.00	2.00	2	OPEN
<b>Description:</b> Shut in well and monitor pressures.						<b>Title:</b> Wait on cement due to emergency slips.				
<b>Total</b>							<b>2.00</b>	<b>2.00</b>		

Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
20,151.00	88.12	344.76	11,705.65	7,830.04	-2,410.22	8,191.77	1.18	PTW MWD+HDGM+AXIAL_2016
20,278.00	91.33	345.60	11,706.26	7,952.80	-2,442.70	8,318.70	2.61	PTW MWD+HDGM+AXIAL_2016
20,278.00	91.33	345.60	11,703.39	7,952.82	-2,442.16	8,318.57	2.61	PTW MWD+HDGM_2016
20,335.00	91.33	345.60	11,704.94	8,007.99	-2,456.87	8,375.66	0.00	PTW MWD+HDGM+AXIAL_2016
20,335.00	91.32	345.60	11,702.07	8,008.01	-2,456.33	8,375.52	0.02	PTW MWD+HDGM_2016

Fluid Details

Mud type	Invermul	Oil/Water (%)	56.00/17.00	POM (cc)	
MD (ft)	20,335.00	TS/HGS/LGS (%)	25.20//	CaCl2 (%)	
Mud Density (ppg)	13.60	Sand (%)		Caom/Clom (ppm)	
Vis (s/qt)	61.00	Oil/Water Ratio (%)	76.70/23.30	ACT	
PV/YP (cp/lbf/100ft²)	23.00/9.000	LCM (lbm/bbl)		XS Lime(lbm/bbl)	
Gels 10 s/m (lbf/100ft²)	7.000/9.000	ECD (ppg)	13.600	ES (Volts)	
API/HTHP WL (cc/30min)		H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")	/2.0	KCl (%)		R200/100 (°)	
WPS (ppm)	252,702			R6/3 (°)	
FL temp. (°F)		Ditch Magnet in Last 24hrs/Cum. (gm)			

**EP WELLS DAILY OPERATIONS REPORT**

Report 26

02/28/2019

Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H

**Gas Concentrations and Fluid Losses**

Avg Connection Gas (gas unit)	Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...	
Max. connection gas (gas unit)	Max. trip gas (gas unit)	Surface Losses (bbl)	/0.00
Avg. background gas (gas unit)	Avg H2S Gas (gas unit)	Sub Surface Losses (bbl)	/0.00
Max. background gas (gas unit)	Max H2S Gas (gas unit)	Total Losses	0.00/0.00
		End vol. (bbl)	0.00

**Bulks Summary**

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	11,347.00	Gallon	1,984.00
CNG	10,724.06	Gallon	941.00

**Remarks**

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115

Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285

Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18

AFE: \$ 774,483K under

Days: 7.0 days over

University 20 PW 2705H Well Specific:

AFE: \$891,596K under

Days: 2.2 days over

**EP WELLS DAILY OPERATIONS REPORT**

Report 27

03/01/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	26.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	25.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Dennis Morgan	Measured Depth(ft)	20,335.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,704.94
Other Supervisor	Justin Kibbey / Jerel Jallorina	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	
THF Datum			
Daily NPT(hr/%)	24.00/100.00	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@19,404.00ft
Actual cost to date/AFE	3,379,769/3,425,497.41	Current MW / BH EMW(ppg)	13.60/
Actual divided by AFE	0.99	LOT/FIT EMW(ppg)	
Daily Cost	83,262	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's	
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	870	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)	2

**Safety Comments:**

No HSE issues to report.

Assist & Assure: Held 7 step conversation with rig crew before bullheading through backside. Discussed the importance of communication and properly preparing for next step given that this is an unusual operation. Also discussed how to mitigate lone worker scenarios with radio check-ins and buddy systems.

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill
Last Derrick Inspection			
Last BOP function test	02/15/2019	14	10
Last BOP Test	02/05/2019	24	
Next BOP Test	02/26/2019		

**Operations Summary**

<b>24 Hour Summary</b>
Wait on cement and clean out mud tanks. Perform 3 cycles of shutting in well and opening well to observe gains. Bullhead well with 93 barrels of 16.5 ppg mud.
<b>Update Since Report Time</b>
Bullhead with another 50 bbls of 16.5 ppg mud and perform flow check. Bullhead with 20 bbls of 16.5 ppg mud, no flow.
<b>24 Hour Forecast</b>
Rig down and prep for rig move to Roosterfish 53-2-43 LOV Unit 1H

EP WELLS DAILY OPERATIONS REPORT

Report 27

03/01/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	6.00	MNH1	WCP		20,335.00	1		***NPT*** Wait on cement. Clean out mud tanks. Shut in well with 670 psi casing pressure.
6:00	4.50	MNH1	WCP		20,335.00	1		NPT-Continue wait on cement, well shut in with 723 psi casing pressure.
10:30	2.00	MNH1	WCP		20,335.00	1		NPT-Open well. Monitor gains and losses on trip tank. Total gain noted at 3.45 barrels.
12:30	1.00	MNH1	WCP		20,335.00	1		NPT-Shut in well and casing pressure rose to 284 psi.
13:30	1.50	MNH1	WCP		20,335.00	1		NPT-Open well. Monitor gains and losses on trip tank. Total gain noted at 2.91 barrels.
15:00	3.00	MNH1	WCP		20,335.00	1		NPT-Shut in well with 571 psi casing pressure and monitor.
18:00	2.00	MNH1	WCP		20,335.00	1		NPT-Well built to 629 psi casing pressure. Build 16.5 ppg kill mud in preparation for bullheading.
20:00	4.00	MNH1	WCP		20,335.00	1		NPT-Bullhead well by pumping 93 barrels of 16.5 ppg mud. Casing pressure hit maximum of 2170 psi and dropped to an initial injection pressure of around 1800 psi. Casing pressure continued to decrease and reached minimum of 889 psi at 93 barrels pumped. Well was flowing and shut back in to 410 psi.  Decision made to build another 50 bbls of kill mud and continue bullheading.
<b>Total</b>	<b>24.00</b>							

Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
20,151.00	88.12	344.76	11,705.65	7,830.04	-2,410.22	8,191.77	1.18	PTW MWD+HDGM+AXIAL_2016
20,278.00	91.33	345.60	11,706.26	7,952.80	-2,442.70	8,318.70	2.61	PTW MWD+HDGM+AXIAL_2016
20,278.00	91.33	345.60	11,703.39	7,952.82	-2,442.16	8,318.57	2.61	PTW MWD+HDGM_2016
20,335.00	91.33	345.60	11,704.94	8,007.99	-2,456.87	8,375.66	0.00	PTW MWD+HDGM+AXIAL_2016
20,335.00	91.32	345.60	11,702.07	8,008.01	-2,456.33	8,375.52	0.02	PTW MWD+HDGM_2016

Fluid Details

Mud type	Invermul	Oil/Water (%)	POM (cc)
MD (ft)		TS/HGS/LGS (%)	CaCl2 (%)
Mud Density (ppg)	13.60	Sand (%)	Caom/Clom (ppm)
Vis (s/qt)		Oil/Water Ratio (%)	ACT
PV/YP (cp/lbf/100ft <sup>2</sup> )		LCM (lbm/bbl)	XS Lime(lbm/bbl)
Gels 10 s/m (lbf/100ft <sup>2</sup> )		ECD (ppg)	ES (Volts)
API/HTHP WL (cc/30min)		H2S (gas unit)	R600/300 (°)
FC/HTHP FC (32nd")		KCl (%)	R200/100 (°)
WPS (ppm)			R6/3 (°)
FL temp. (°F)		Ditch Magnet in Last 24hrs/Cum. (gm)	

Gas Concentrations and Fluid Losses

Avg Connection Gas (gas unit)	Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...	
Max. connection gas (gas unit)	Max. trip gas (gas unit)	Surface Losses (bbl)	/0.00
Avg. background gas (gas unit)	Avg H2S Gas (gas unit)	Sub Surface Losses (bbl)	/0.00
Max. background gas (gas unit)	Max H2S Gas (gas unit)	Total Losses	0.00/0.00
		End vol. (bbl)	0.00

**EP WELLS DAILY OPERATIONS REPORT**

Report 27

03/01/2019

Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H

**Bulks Summary**

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	9,190.00	Gallon	2,157.00
CNG	9,865.02	Gallon	859.04

**Remarks**

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115

Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285

Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18

AFE: \$ 774,483K under

Days: 7.0 days over

University 20 PW 2705H Well Specific:

AFE: \$87K over

Days: 5.2 days over

**EP WELLS DAILY OPERATIONS REPORT**

Report 28

03/02/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	27.25
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	26.38
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Dennis Morgan	Measured Depth(ft)	20,335.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,704.94
Other Supervisor	Justin Kibbey / Jerel Jallorina	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	
THF Datum			
Daily NPT(hr/%)	18.00/75.00	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@19,404.00ft
Actual cost to date/AFE	3,427,853/3,425,497.41	Current MW / BH EMW(ppg)	/
Actual divided by AFE	1.00	LOT/FIT EMW(ppg)	
Daily Cost	81,482	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's	
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	871	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)	2

**Safety Comments:**

No HSE issues to report:

Assist & Assure: Held 7 step conversation before nipping down BOP and breaking bottom flange off speed head. Focal points of discussion include maintaining awareness of pinch points (between bottom flange once broken) and line of fire (especially with hammer usage while in cellar). Ensured that all 3rd party representatives understood Assist & Assure and 7 step process, as well as the right by anyone to stop work at any time.

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill	
Last Derrick Inspection	02/15/2019	15	11	
Last BOP function test	02/05/2019	25		
Last BOP Test	02/26/2019			
Next BOP Test				

**Operations Summary**

<b>24 Hour Summary</b>
Bullhead well with 50 barrels of 16.5 ppg kill mud. Well still flowing, so bullhead with another 20 barrels. Well determined to be static. Bleed off and rig down accumulator. Lift BOP and set emergency casing slips. Cut and mill casing.
<b>Update Since Report Time</b>
Clean tanks. Begin rig down process.
<b>24 Hour Forecast</b>
Continue rigging down and begin moving to Roosterfish 53-2-43 LOV Unit 1H.

EP WELLS DAILY OPERATIONS REPORT

Report 28

03/02/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	0.50	MNH1	WCP		20,335.00	1		***NPT***  Build 16.5 ppg kill mud. Casing pressure increased to 422 psi while well still shut in.
0:30	1.50	MNH1	WCP		20,335.00	1		NPT-Bullhead well by pumping 50 barrels of 16.5 ppg mud resulting in an injection pressure around 974 psi. Casing pressure continued to decrease and reached minimum of 586 psi at 50 barrels pumped.
2:00	1.00	MNH1	WCP		20,335.00	1		NPT-Open well. Monitor gains and losses on trip tank. Well still flowing. Build 16.5 ppg kill mud.
3:00	1.00	MNH1	WCP		20,335.00	1		NPT-Bullhead well by pumping 20 barrels of 16.5 ppg mud resulting in an injection pressure of around 573 psi. Casing pressure continued to decrease and reached minimum of 448 psi at 20 barrels pumped.
4:00	1.50	MNH1	WCP		20,335.00	1		NPT-Open well. Monitor gains and losses on trip tank. Noted 4.5 bbls/hr of losses. Bullhead determined successful.
5:30	0.50	MNH1	RDP		20,335.00	1		NPT-Bleed off accumulator. Rig down accumulator lines. Install BOP wrangler on BOP.
6:00	2.50	MNH1	RDP		20,335.00	1		NPT-Held pre-job safety meeting for nipping down BOP and breaking bottom flange off speed head. Break off kill line and HCR. Lift BOP to set casing slips.
8:30	1.00	MNH1	RDP		20,335.00	1		NPT-Install and set emergency casing slips with 267,000 lbs.
9:30	1.50	MNH1	RDP		20,335.00	1		NPT-Lift BOP with BOP wrangler. Install casing cutting tool and cut casing.  AAR: Good zone management and communication between rig crew and 3rd parties (Frontier, Cameron, and vacuum truck). Need to improve pre-emptive equipment service, as the BOP wrangler needed grease on slide and had problems hoisting BOP due to low lubricator on slides.
11:00	1.00	MNH1	RDP		20,335.00	1		NPT-Nipple down BOP. Disconnect flow line. Clean catch pan and BOP static lines.
12:00	5.00	MNH1	RDP		20,335.00	1		NPT-Install milling tool. Mill 3 inches off top of casing. Change out dies of milling tool and bevel top of casing for pack off assembly. Install pack off assembly. Install back pressure valve. Pressure test inner seal at 12,500 psi for 15 minutes. Pressure test outer seal at 10,000 psi for 15 minutes.
17:00	1.00	MNH1	RDP		20,335.00	1		NPT-Lower BOP. Stab speed head. Unlatch hoist and install nuts and bolts.
18:00	2.00	MNH1	RDP		20,335.00	0		Remove accumulator lines. Reinstall speed head on wellhead. Lay down BOP to remove SRL seal. Install dust cap.
20:00	4.00	RIGM	RGD		20,335.00	0		Flush and blow down lines. Clean mud tanks. Rig down flare and panic lines.
<b>Total</b>	<b>24.00</b>							

Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
20,151.00	88.12	344.76	11,705.65	7,830.04	-2,410.22	8,191.77	1.18	PTW MWD+HDGM+AXIAL_2016
20,278.00	91.33	345.60	11,706.26	7,952.80	-2,442.70	8,318.70	2.61	PTW MWD+HDGM+AXIAL_2016
20,278.00	91.33	345.60	11,703.39	7,952.82	-2,442.16	8,318.57	2.61	PTW MWD+HDGM_2016
20,335.00	91.33	345.60	11,704.94	8,007.99	-2,456.87	8,375.66	0.00	PTW MWD+HDGM+AXIAL_2016
20,335.00	91.32	345.60	11,702.07	8,008.01	-2,456.33	8,375.52	0.02	PTW MWD+HDGM_2016

**EP WELLS DAILY OPERATIONS REPORT**

Report 28

03/02/2019

Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H

**Fluid Details**

Mud type	Invermul	Oil/Water (%)	POM (cc)
MD (ft)		TS/HGS/LGS (%)	CaCl2 (%)
Mud Density (ppg)		Sand (%)	Caom/Clom (ppm)
Vis (s/qt)		Oil/Water Ratio (%)	ACT
PV/YP (cp/lbf/100ft <sup>2</sup> )		LCM (lbm/bbl)	XS Lime(lbm/bbl)
Gels 10 s/m (lbf/100ft <sup>2</sup> )		ECD (ppg)	ES (Volts)
API/HTHP WL (cc/30min)		H2S (gas unit)	R600/300 (°)
FC/HTHP FC (32nd")		KCl (%)	R200/100 (°)
WPS (ppm)			R6/3 (°)
FL temp. (°F)			
		Ditch Magnet in Last 24hrs/Cum. (gm)	

**Gas Concentrations and Fluid Losses**

Avg Connection Gas (gas unit)	Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...	
Max. connection gas (gas unit)	Max. trip gas (gas unit)	Surface Losses (bbl)	/0.00
Avg. background gas (gas unit)	Avg H2S Gas (gas unit)	Sub Surface Losses (bbl)	/0.00
Max. background gas (gas unit)	Max H2S Gas (gas unit)	Total Losses	0.00/0.00
		End vol. (bbl)	0.00

**Bulks Summary**

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	9,190.00	Gallon	0.00
CNG	9,039.29	Gallon	825.73

**Remarks**

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115  
 Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285  
 Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18  
 AFE: \$ 774,483K under  
 Days: 7.0 days over

University 20 PW 2705H Well Specific:  
 AFE: \$143K over  
 Days: 6.2 days over

**EP WELLS DAILY OPERATIONS REPORT**

Report 29

03/03/2019

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 20 TG UNIT 2705H  
 Wellbore UNIVERSITY 20 TG UNIT 2705H  
 WBS No/API No 30288059 / 4249534171.00



**Event Summary**

Event Type	Drilling only	Event Start Date	10/31/2018	Days on Location	27.67
Objective	Drill - 3 BSPG Sand B	Original Spud Date	10/31/2018	Days Since Spud	26.79
Est. Days	22.95	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Dennis Morgan	Measured Depth(ft)	20,335.00
Engineer	Yermek Tynyshbayev	TVD(ft)	11,704.94
Other Supervisor	Justin Kibbey / Jerel Jallorina	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,801.30 / 2,775.30	Hole size(in)	
THF Datum			
Daily NPT(hr/%)	0/0	Last Casing MD	7.625in@11,092.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@19,404.00ft
Actual cost to date/AFE	3,548,197/3,425,497.41	Current MW / BH EMW(ppg)	/
Actual divided by AFE	1.04	LOT/FIT EMW(ppg)	
Daily Cost	120,429	Lithology	
		Formation/MD Top	

**HSE Summary**

Last Incident	Date	Days	Last Incident	Date	Days	KPI's	
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	872	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)	2

**Safety Comments:**

No HSE issues to report.

Assist & Assure: Held 7 step conversation with truck drivers before loading trucks for rig move. Discussed the importance of hand placement, backed by an anecdote from Deepwell truck pusher who had an incident years ago as a young driver. Also discussed line of fire and stop work authority, which was especially important since there were many other third parties on location that did not participate in this PJSM. Ensured that Deepwell's SSE had an assigned mentor.

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill	
Last Derrick Inspection	02/15/2019	16	12	
Last BOP function test	02/05/2019	26		
Last BOP Test	02/26/2019			
Next BOP Test				

**Operations Summary**

<b>24 Hour Summary</b>
Clean mud tanks and rig down choke, mud, and accumulator lines. Clear mud tanks. Rig release at 10:00.
Update Since Report Time
<b>24 Hour Forecast</b>

EP WELLS DAILY OPERATIONS REPORT

Report 29

03/03/2019

Well UNIVERSITY 20 TG UNIT 2705H  
Wellbore UNIVERSITY 20 TG UNIT 2705H

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	6.00	RIGM	RGD		20,335.00	0		Clean mud tanks. Rig down choke, accumulator, and mud lines.
6:00	4.00	RIGM	RGD		20,335.00	0		Continue cleaning mud tanks. Rig release at 10:00.
<b>Total</b>	<b>10.00</b>							

Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
20,151.00	88.12	344.76	11,705.65	7,830.04	-2,410.22	8,191.77	1.18	PTW MWD+HDGM+AXIAL_2016
20,278.00	91.33	345.60	11,706.26	7,952.80	-2,442.70	8,318.70	2.61	PTW MWD+HDGM+AXIAL_2016
20,278.00	91.33	345.60	11,703.39	7,952.82	-2,442.16	8,318.57	2.61	PTW MWD+HDGM_2016
20,335.00	91.33	345.60	11,704.94	8,007.99	-2,456.87	8,375.66	0.00	PTW MWD+HDGM+AXIAL_2016
20,335.00	91.32	345.60	11,702.07	8,008.01	-2,456.33	8,375.52	0.02	PTW MWD+HDGM_2016

Fluid Details

Mud type	Invermul	Oil/Water (%)		POM (cc)	
MD (ft)		TS/HGS/LGS (%)		CaCl2 (%)	
Mud Density (ppg)		Sand (%)		Caom/Clom (ppm)	
Vis (s/qt)		Oil/Water Ratio (%)		ACT	
PV/YP (cp/lbf/100ft <sup>2</sup> )		LCM (lbm/bbl)		XS Lime(lbm/bbl)	
Gels 10 s/m (lbf/100ft <sup>2</sup> )		ECD (ppg)		ES (Volts)	
API/HTHP WL (cc/30min)		H2S (gas unit)		R600/300 (°)	
FC/HTHP FC (32nd")		KCl (%)		R200/100 (°)	
WPS (ppm)		Ditch Magnet in Last 24hrs/Cum. (gm)		R6/3 (°)	
FL temp. (°F)					

Gas Concentrations and Fluid Losses

Avg Connection Gas (gas unit)		Avg. trip gas (gas unit)		Losses Last 24 Hours/Cumulative...	
Max. connection gas (gas unit)		Max. trip gas (gas unit)		Surface Losses (bbl)	/0.00
Avg. background gas (gas unit)		Avg H2S Gas (gas unit)		Sub Surface Losses (bbl)	/0.00
Max. background gas (gas unit)		Max H2S Gas (gas unit)		Total Losses	0.00/0.00
				End vol. (bbl)	0.00

Bulks Summary

Product	Quantity Onboard	Units	Daily Usage
Diesel: Rig	1,790.00	Gallon	0.00
CNG	8,304.69	Gallon	734.60

Remarks

Trash Disposal: 0 ft3

From Kermit- From Major Intersection Hwy 302 at State Hwy 115  
Continue ahead on Hwy 302, 15.8 miles turn left at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road

From Pecos- From Major Intersection Hwy 302 at Hwy 285  
Turn right off Hwy 285 at Hwy 302, continue ahead 19.4 miles turn right at A-3 lease road and continue a head 6.5 miles, road will curve to the left for 1 mile and then back to the right, then continue ahead for a 1 mile. Turn right onto location access road.

University 20 27 Pad Performance Project: Update with new targets on 11-21-18  
AFE: \$ 774,483K under  
Days: 7.0 days over

**EP WELLS DAILY OPERATIONS REPORT**

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03/03/2019

Well	UNIVERSITY 20 TG UNIT 2705H
Wellbore	UNIVERSITY 20 TG UNIT 2705H

University 20 PW 2705H Well Specific:

AFE: \$171K over

Days: 6.5 days over