

Daily Drilling Report

API/UWI 42-461-41084-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)									
SSN ID00020067	Property Sub	KB-Grd (ft) 26.50	Orig KB Elev (ft) 2,734.50	Ground Elevation (ft) 2,708.00	Spud Date 5/24/2019	TD Date									
Safety Checks															
Time	Type	Des	Tour	Com											
06:00	MEETING	PRE-TOUR	DAY	Upcoming Operations; Drill & Land Curve, Circ hole clean & TOOHP, Safety Concerns: H2S gas, Complete all JSA reviews and use compass cards. Transfer sheets to be used when making transfers, complete all checklists prior to starting operations, Watch out for one another and identify potential pinch points and body placement, overhead hazards. R2LB: Confined Space Entry, Safety Principles: All incidents, injuries, and occupational illnesses are preventable, Core Values: Safety. We are diligent in protecting the safety of our people and the environment.											
06:01	PROACTIVE MEASURES	WEEKLY TRENDS REVIEWED	DAY	'Classification: Injury/Illness (low) Description: While making up bit with tongs, the derrickman was approaching the tongs as they were being slacked off and contacted him on the L-shin. He did not receive any first aid or medical treatment and returned to work.											
18:00	MEETING	PRE-TOUR	NIGHT	Upcoming Operations; Drill & Land Curve, Circ hole clean & TOOHP, CO BHA, TIH, PU Agitator (Test before and after), TIH Relog & Survey Management. Safety Concerns: Complete all JSA reviews and use compass cards. Transfer sheets to be used when making transfers, complete all checklists prior to starting operations, Watch out for one another and identify potential pinch points and body placement, overhead hazards. R2LB: Confined Space Entry, Safety Principles: All incidents, injuries, and occupational illnesses are preventable, Core Values: Safety. We are diligent in protecting the safety of our people and the environment.											
18:02	PROACTIVE MEASURES	WEEKLY TRENDS REVIEWED	NIGHT	'Classification: Injury/Illness (low) Description:While making up bit with tongs, the derrickman was approaching the tongs as they were being slacked off and contacted him on the L-shin. He did not receive any first aid or medical treatment and returned to work.											
01:45	PROACTIVE MEASURES	STOP CARD - PNR	NIGHT	While laying down BHA, observed RTM attempt to install a collar clamp with 9 segments on a 6 3/4" NMDC. Stopped job and held discussion with rig crew about the importance of utilizing the proper equipment and making sure checklists are done correctly. Had them look and they found the other collar clamp with 8 segments in it.											
Jobs															
Responsible Grp 2		Responsible Grp 3		Job Type	Start Date	End Date		Job Status							
DRL ENG - ATWELL GOINS		AREA TEAM 4		ODR	5/24/2019 10:00			IN PROGRESS							
Job Dates (ex. Estimated Pad Release, TXRRC Calls)															
Type			Subtype		Date	Note									
MILESTONE			ESTIMATED PAD RELEASE		10/4/2019	Drilling Production 3rd well of 4 well pad, Sequential Drilling, Updated 9/3/2019									
Daily Operations															
Footage/Meterage (ft) 631.00		Drilling Hours (hr) 14.00		% Rotating Time (%) 41.07		End Depth (ftKB) 8,824.0		Target Depth (ftKB) 15,875.9		Daily Field Est Total (Cost) 56,309.03		Cum Field Est To Date (Cost) 1,460,512.71			
24 HR ROP (ft/hr) 45.1		Circulating Hours (hr) 1.75		% Sliding Time (%) 58.93		End Depth (TVD) (ftKB) 8,447.2		Target Depth (TVD) (ftKB) 8,373.0		Daily Mud Field Est (Cost) 5,164.50		Cum Mud Field Est (Cost) 49,848.53		Total AFE + Sup (Cost) 2,694,116.82	
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 567.0				Daily Goal - Next 24 1,650.0				Goal Comments Goal Met			
Backbuild		Lateral Inclination		Last Casing String INTERMEDIATE, 7,867.0ftKB						Next Casing String PROPOSED PRODUCTION, 16,138.0ftKB					
Avg Connection Gas 264.00		Avg Trip Gas 0.00		Avg Background Gas 241.00		Max Connection Gas 372.00		Max Trip Gas 0.00		Max Drill Gas 432.00					
Operations Summary Build Curve F/8,193' - 8,824', (58.93% Sliding, Inc - 90.1°, Curve Landed, 11.21' High, 8.17' Left), Circ. Shakers Clean, TOOHP, CO BHA, TIH, PU Agitator, TIH T/3,538'															
Operations Next Report Period TIH, Survey Mgmt., TIH, Drill 8 1/2" Prod Lateral T/10,474'															
Operations at Report Time TIH @ 3,538'															
Remarks No Accidents, Incidents or Spills Reported Rig NPT this Well: 12.25 hrs. Intermediate : 100% Complete Production: (Curve) 100% Complete Production: Lateral 0% Complete															
Time Log															
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com	Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #					
06:00	9.75	15:45	PROD, DRL CURVE	DRL	NORMAL	Drill 8 1/2" Prod Curve F/8,193' - 8,634' (441' @ 45.2 fph) WOB:25k, RPM:10, DIFF:350, MMRPM:148, GPM:550, SPP:2600, TQ:7k, 100% Returns.	8,193.0	8,634.0							
15:45	0.5	16:15	PROD, DRL CURVE	RIG_SVC	NORMAL	Service Rig & Top Drive, Clean Inline Screen	8,634.0	8,634.0							
16:15	4.25	20:30	PROD, DRL CURVE	DRL	NORMAL	Drill 8 1/2" Prod Curve F/8,634' - 8,824' (441' @ 45.2 fph) WOB:25k, RPM:10, DIFF:350, MMRPM:148, GPM:550, SPP:2600, TQ:9k, 100% Returns. Curve Landed 8,824', 20:30 hrs, 9/4/2019 Last Survey @ 8772' Inc-83.98°, Azm-359.68°, 11.21' high & 8.17' left to plan #2, Gamma-71.8°, CBHT-152.7°F.	8,634.0	8,824.0							
Daily Drilling Report															

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Time Log																		
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com	Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #								
20:30	1	21:30	PROD, DRL LAT	CIRC	NORMAL	Circulate Shakers Clean, Full Returns	8,824.0	8,824.0										
21:30	0.25	21:45	PROD, DRL LAT	FLOW_CHK	NORMAL	Flow check to trip tank, Well static.	8,824.0	8,824.0										
21:45	0.75	22:30	PROD, DRL LAT	TOOH_ELEV	NORMAL	Pump Slug & TOOH F/Lateral Assy F/8,824' - 7,751', with no issues, Hole taking proper fill from trip tanks. LD single off top to rotate breaks.	8,824.0	8,824.0										
22:30	0.25	22:45	PROD, DRL LAT	HDL_ROTHTD	NORMAL	Pull Rotating Head & Install Trip Nipple	8,824.0	8,824.0										
22:45	2.75	01:30	PROD, DRL LAT	TOOH_ELEV	NORMAL	TOOH F/Lateral Assy F/7,657' - BHA, with no issues, Hole taking proper fill from trip tanks.	8,824.0	8,824.0										
01:30	0.25	01:45	PROD, DRL LAT	SFTY	NORMAL	PJSM W/Baker Hughes, PNR & H&P Rig Crew over LD BHA, discussed hazards and assigned roles and responsibilities.	8,824.0	8,824.0										
01:45	0.75	02:30	PROD, DRL LAT	LD_DIR	NORMAL	LD Accelglide, Rack back 1 stand 5" HWDP, LD MWD, Drain Motor & Break Bit, LD Motor. Motor was tight and drained well, no visible radial or axial play	8,824.0	8,824.0										
02:30	0.25	02:45	PROD, DRL LAT	SFTY	NORMAL	PJSM W/Baker Hughes, PNR & H&P Rig Crew over PU BHA, discussed hazards and assigned roles and responsibilities.	8,824.0	8,824.0										
02:45	1	03:45	PROD, DRL LAT	PU_DIR	NORMAL	PU 6 3/4", 1.8°, 5:6, 6.0 Stage Motor & 8" IBS, MU Baker Hughes DD 506 TX Bit, PU MWD & Scribe to motor.	8,824.0	8,824.0										
03:45	1	04:45	PROD, DRL LAT	TIH_ELEV	NORMAL	TIH F/BHA - 2,673', with no issues, hole giving proper closed end displacement to trip tanks.	8,824.0	8,824.0										
04:45	0.5	05:15	PROD, DRL LAT	HDL_AGITATOR	NORMAL	Check Pressure, PU Agitator, Check Pressure @ 550 gpm. Before Agitator - 1600 PSI After Agitator - 2100 PSI	8,824.0	8,824.0										
05:15	0.5	05:45	PROD, DRL LAT	RIG_SVC	NORMAL	Service rig & Top Drive.	8,824.0	8,824.0										
05:45	0.25	06:00	PROD, DRL LAT	TIH_ELEV	NORMAL	TIH F/2,673' - 3,538', with no issues, hole giving proper closed end displacement to trip tanks.	8,824.0	8,824.0										
Drill Strings																		
BHA #4 , PRODUCTION - CURVE																		
Bit Run 4			Drill Bit 8 1/2in, GTD64DCHE, 13208403			Bit Type PDC		Make HALLIBURTON										
Nozzles (1/32") 13/13/13/13/13			Bit Total Fluid Area (nozzles) (in²) 0.78		IADC Bit Dull 0-1-BT-G-X-0-NO-BHA		Hours Drilled By Bit (hr) 22.50		Depth Drilled By Bit (ft) 932.00									
BHA Drilling Time (hr) 22.50			BHA Depth Drilled (ft) 932.00		BHA ROP (ft/hr) 41.4		Depth In (ftKB) 7,892.0		Depth Out (ftKB) 8,824.0									
Drill String Components																		
Jts	Item Des			OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make								
273	DRILL PIPE			5	4.28	8,619.16	8,824.00	194,448.2	209	RIG								
1	ACCELERATOR			6 3/4	3.50	6.17	204.84	494.3	15	DRILLING TOOLS INTERNATIONAL								
3	HWDP - SPIRALED			6 1/2	3.13	91.75	198.67	4,404.0	14	OTHER (PROVIDE DESCRIPTION)								
1	SUB - FILTER			6 9/16	3.50	3.80	106.92	312.7	10	GE/BAKER HUGHES								
1	DRILL COLLAR - NON MAG			6 3/4	3.25	30.40	103.12	2,841.2	9	GE/BAKER HUGHES								
1	MWD TOOL			6 5/8	3.25	41.95	72.72	3,733.1	7	GE/BAKER HUGHES								
1	MOTOR - STABILIZER SLEEVE			6 3/4	3.00	29.82	30.77	2,911.6	3	GE/BAKER HUGHES								
Mud Motors																		
SN		Bend Angle		Bearing Type		Lobe Config		# Stages		Bit To Bend								
13506244		2.1		NOT SEALED		7:8		6		4.48								
Sensors																		
Sensor Type			Sensor-Bit (ft)			Note												
DIRECTIONAL			52.00															
GAMMA			54.77															
Drilling Parameters																		
Start Time	End Time	Start Depth (ftKB)	Int Depth (ft)	Int ROP (ft/hr)	WOB (1000lbf)	RPM (rpm)	dP (SPP) (psi)	Q Flow (gpm)	SPP (psi)	ROP Average (ft/hr)	Drill Str Wt (1000lbf)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Off-Btm Str Wt (1000lbf)	Drill Tq	Off Btm Tq	TFO (°)	
06:00	06:45	8,193.0	29.00	38.7	35	0	300.0	555	2,900.0	45.0	205	215	188	205	0.0	0.0	20	
06:45	07:30	8,222.0	34.00	45.3	20	10	200.0	550	2,900.0	45.0	205	215	188	205	7,200.0	2,200.0	0	
07:30	08:15	8,256.0	34.00	45.3	35	0	200.0	550	2,865.0	50.0	202	220	185	202	0.0	0.0	340	
Daily Drilling Report											Page 2/5		Printed: Thursday, September 5, 2019					

Daily Drilling Report

H & P #637

Accept: 8/27/2019	Release:
Days Since LTI: 237.00	Days Since RI: 189.00

PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	9/5/2019
Report #:	12
DFS:	11
AFE #:	9004184
Total AFE + Sup:	\$2,694,116.82
Daily Field Est. (Cost):	\$56,309.03

Drilling Parameters																			
Start Time	End Time	Start Depth (ftKB)	Int Depth (ft)	Int ROP (ft/hr)	WOB (1000lbf)	RPM (rpm)	dP (SPP) (psi)	Q Flow (gpm)	SPP (psi)	ROP Average (ft/hr)	Drill Str Wt (1000lbf)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Off-Btm Str Wt (1000lbf)	Drill Tq	Off Btm Tq	TFO (°)		
08:15	09:00	8,290.0	30.00	40.0	25	10	250.0	550	2,925.0	40.0	202	220	185	202	6,800.0	4,000.0	0		
09:00	09:15	8,320.0	15.00	60.0	30	0	200.0	550	2,925.0	60.0	202	220	185	202	0.0	0.0	0		
09:15	09:30	8,335.0	16.00	64.0	25	10	200.0	550	2,900.0	65.0	202	220	185	202	7,300.0	4,000.0	0		
09:30	11:00	8,351.0	74.00	49.3	35	0	350.0	550	2,925.0	50.0	202	220	185	202	0.0	0.0	0		
11:00	12:00	8,425.0	30.00	30.0	25	10	200.0	550	2,900.0	40.0	202	220	185	202	7,600.0	4,000.0	0		
12:00	13:45	8,455.0	70.00	40.0	35	0	300.0	550	2,940.0	41.0	202	220	185	202	0.0	0.0	0		
13:45	14:00	8,525.0	15.00	60.0	24	10	300.0	550	2,950.0	40.0	202	220	185	202	9,700.0	4,000.0	0		
14:00	15:30	8,540.0	85.00	56.7	44	0	350.0	550	2,900.0	40.0	202	220	185	202	0.0	0.0	0		
15:30	15:45	8,625.0	9.00	36.0	25	10	300.0	550	2,950.0	40.0	202	220	185	202	9,700.0	4,500.0	0		
15:45	16:15	8,634.0	0.00	0.0	0	0	0.0	550	2,600.0	0.0	202	220	185	202	0.0	0.0	0		
16:15	16:30	8,634.0	16.00	64.0	30	0	300.0	550	2,900.0	40.0	202	220	185	202	0.0	0.0	0		
16:30	17:30	8,650.0	40.00	40.0	25	10	350.0	550	2,950.0	40.0	205	225	190	205	8,900.0	4,000.0	0		
17:30	18:00	8,690.0	15.00	30.0	30	0	300.0	550	2,950.0	30.0	205	225	190	205	0.0	0.0	0		
18:00	19:15	8,705.0	54.00	43.2	25	10	350.0	550	2,900.0	40.0	205	225	190	205	8,900.0	4,000.0	0		
19:15	20:15	8,759.0	50.00	50.0	30	0	350.0	550	2,950.0	40.0	205	225	190	205	0.0	0.0	0		
20:15	20:30	8,809.0	15.00	60.0	25	10	300.0	550	2,900.0	40.0	205	225	190	205	9,000.0	4,000.0	0		
20:30	21:30	8,824.0	0.00		0	10	0.0	550	2,600.0	0.0	205	225	190	205	0.0	4,000.0	0		
BHA #5 , PRODUCTION - LATERAL																			
Bit Run 5			Drill Bit 8 1/2in, DD506TX, 5295284							Bit Type PDC			Make GE/BAKER HUGHES						
Nozzles (1/32") 13/13/13/13/13			Bit Total Fluid Area (nozzles) (in²) 0.78				IADC Bit Dull -----			Hours Drilled By Bit (hr)			Depth Drilled By Bit (ft)						
BHA Drilling Time (hr)			BHA Depth Drilled (ft)				BHA ROP (ft/hr)			Depth In (ftKB) 8,824.0			Depth Out (ftKB) 8,824.0						
Drill String Components																			
Jts	Item Des					OD (in)		ID (in)		Len (ft)		Cum Len (ft)		Wt (lbf)		Cum Wt (1000lbf)		Make	
194	DRILL PIPE					5		4.28		6,124.56		8,824.00		138,170.1		209		RIG	
1	AGITATOR					6 1/2		2.50		26.32		2,699.44		2,530.1		71		SCOUT	
81	DRILL PIPE					5		4.28		2,558.52		2,673.12		57,720.2		68		RIG	
1	SUB - FILTER					6 9/16		3.50		3.80		114.60		312.7		11		GE/BAKER HUGHES	
1	DRILL COLLAR - NON MAG					6 3/4		3.25		30.40		110.80		2,841.2		10		GE/BAKER HUGHES	
1	MWD TOOL					6 5/8		3.25		41.95		80.40		3,733.1		7		GE/BAKER HUGHES	
1	STABILIZER					6 3/4		2.88		5.73		38.45		622.9		4		GE/BAKER HUGHES	
1	MOTOR - STABILIZER SLEEVE					6 3/4		3.00		31.54		32.72		3,079.6		3		GE/BAKER HUGHES	
Mud Motors																			
SN		Bend Angle			Bearing Type		Lobe Config			# Stages			Lwr DefIn Type			Bit To Bend			
13506244		1.8			NOT SEALED		5:6			6.0						6.7			
Sensors																			
Sensor Type				Sensor-Bit (ft)						Note									
DIRECTIONAL				60.00						Mud Pulse									
GAMMA				62.45						Mud Pulse									
Drilling Parameters																			
Start Time	End Time	Start Depth (ftKB)	Int Depth (ft)	Int ROP (ft/hr)	WOB (1000lbf)	RPM (rpm)	dP (SPP) (psi)	Q Flow (gpm)	SPP (psi)	ROP Average (ft/hr)	Drill Str Wt (1000lbf)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Off-Btm Str Wt (1000lbf)	Drill Tq	Off Btm Tq	TFO (°)		
04:45	05:00	8,824.0	0.00		0	0	0.0	550	1,600.0	0.0	105	107	104	106	0.0	0.0	0		
Hydraulic Calculations																			
Dens Mud (lb/gal)		ECD End (lb/gal)		Bit Hydraulic Power (hp)		HP/Area (hp/in²)		Jet Vel (ft/s)		Bit dP (psi)		Min Open Hole AV (ft/min)		Max Open Hole AV (ft/min)		Vol DrillString (bbl)		Vol Bit to Shoe (bbl)	Vol Shoe to Top (bbl)
9.00		9.30		134.6		2.4		226.9		419.7		15.4		505.1		155.78		42.82 405.67	
Daily Drilling Report																			
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Daily Drilling Report

UNIVERSITY W3-169D 4H

H & P #637

Accept: 8/27/2019 Release:

Days Since LTI: 237.00 Days Since RI: 189.00

PERMIAN - JV SOUTHERN WOLFCAMP

Job: ODR

Report Date: 9/5/2019

Report #: 12

DFS: 11

AFE #: 9004184

Total AFE + Sup: \$2,694,116.82

Daily Field Est. (Cost): \$56,309.03

Mud Checks											
Time 23:00		Mud Company PIONEER DRILLING FLUIDS			Type OIL BASE		Depth (ftKB) 8,824.0		Density (lb/gal) 9.00	Funnel Viscosity (s/qt) 51	T Flowline (°F) 128.0
PV (cP) 15.0	YP (lb/100ft²) 13.000	Vis 3rpm 7	Vis 6rpm 8	Filtrate (mL/30min)		HTHP Filtrate (mL/30min) 6.4		HTHP Temperature (°F) 250.0		HTHP Pressure (psi) 500.0	
Solids (%) 10.0		Low Gravity Solids (%) 7.4		Sand (%) 0.0		MBT (lb/bbl) 0.0		Pm (mL/mL) 2.000		Pf (mL/mL)	
Chlorides (ppm) 280,475.000		Calcium (ppm) 20,000.000		CaCl (ppm) 23	Oil Water Ratio 72.2/27.8		Electric Stab (V) 692.0		Lime (lb/bbl) 2.6	pH 0.0	
Gel 10 sec (lb/100ft²) 9.000				Gel 10 min (lb/100ft²) 12.000				Gel 30 min (lb/100ft²) 14.000			
Comment Maintained 9.0 ppg MW as per mud program.											
Diesel at 3 bbl/hr, Water at 1.4 bbl/hr, Lime at 1 sx/hr, Bentone 990 at 1 sx/hr, Calcium chloride 1 sx/hr, emulsifiers as needed.											
Drilled from 7913' to 8824'. Maintained 9.0 ppg MW. Landed curve. Circulated hole clean. Flowcheck. Pumped slug. TOOH to pick up lateral assembly.											
Last BOP Test											
Date	Test Type			Item Tested			Next Test Date	Com			
8/28/2019	BOP			BOP'S, 8/27/2019 20:00, <class>			9/18/2019	Full BOP Test using PNR Procedures, 250 low/5000 high .Test Annular @ 250 low/3500 psi high, Tested Mudlines back to pump 250 low/6324 high, Tested with 5" pipe - Good Test.			
Leak Off and Formation Integrity Tests											
Test Type				Depth (ftKB)				Dens Fluid (lb/gal)			
FORMATION INTEGRITY				1,252.0				12.56			
FORMATION INTEGRITY				7,867.0				11.00			
Casing Pressure Test											
Test Type		Test Subtype			Date		Item Tested		Failed?	Time (min)	P (psi)
CASING		STANDARD			5/30/2019		SURFACE, 1,252.0ftKB		No	30.00	1,000.0
CASING		STANDARD			9/3/2019		INTERMEDIATE, 7,867.0ftKB		No	30.00	2,500.0
Kick Offs & Key Depths											
Date				Type				Top Depth (ftKB)			
9/3/2019 23:45				KICK OFF				7,935.0			
9/4/2019 20:30				HEEL				8,824.0			
Casing Strings											
Description	Set Depth (ftKB)	Set Depth (TVD) (ftKB)	OD (in)	Grade	Wt/Len (lb/ft)	Top Thread		P LeakOff (psi)			
CONDUCTOR	146.5	146.5	20	H40	78.67						
SURFACE	1,252.0	1,251.6	13 3/8	J55	54.50	BTC		816.7			
INTERMEDIATE	7,867.0	7,839.7	9 5/8	L80-IC	29.70	BTC		4,480.0			
Job Supply Amounts											
Supply Item Des		Type	Unit Label	Received	Consumed	Returned	Note	Cum On Loc	Cum Consumed		
DIESEL		MUD	GAL	0	4,662	0		11,214	6,175.0		
DIESEL		FUEL	GAL	0	1,929	0		10,201	15,380.0		
DIESEL		FUEL	GAL	0	0	0	0 gallons used to fill auxillary equipment Orange Tank	9,380	1,673.0		
WATER		FRESH	BBL	0	0	0	Meter 119323	0	4,897.0		
Mud Additive Amounts											
Des		Type	Units	Rec	Consumed	On Loc		Cum Cons			
BARITE		WEIGHTING MATERIAL	TON	0	2	38.0		40			
BENTONE 990		OIL MUD ADDITIVE	SACK	158	24	214.0		24			
CALCIUM CHLORIDE PWDR		SALT	LB	0	20	246.0		20			
LIME		ALKALINITY CONTROL	SACK	0	25	283.0		187			
PAC LV		FLUID LOSS ADDITIVES	SACK	80	0	88.0		127			
PECAN NUT PLUG MEDIUM		LOST CIRCULATION	SACK		10	122.0		10			
SHRINK WRAP		MISCELLANEOUS	EA	10	10	0.0		21			
SODA ASH		ALKALINITY CONTROL	SACK	100	0	219.0		251			
STELLAR MUL MOD		OIL MUD ADDITIVE	DRUM	4	1	7.0		1			
STELLAR MUL O/W		OIL MUD ADDITIVE	DRUM	4	1	9.0		1			
STELLAR MUL P		OIL MUD ADDITIVE	DRUM	4	1	9.0		1			
STELLAR TROL		FLUID LOSS ADDITIVES	SACK	100	1	250.0		1			
Pump Operations											
Pump #	Make			Model	Liner Size (in)	Stroke (in)	Vol/Stk (bbl/stk)	P Max (psi)			
1	GARDNER-DENVER			PZ-11-1600	5 1/2	11.00	0.081	6,324.0			
2	GARDNER-DENVER			PZ-11-1600	5 1/2	11.00	0.081	6,324.0			
3	GARDNER-DENVER			PZ-11-1600	5 1/2	11.00	0.081	6,324.0			
Daily Drilling Report					Page 4/5		Printed: Thursday, September 5, 2019				

Daily Drilling Report

H & P #637	
Accept: 8/27/2019	Release:
Days Since LTI: 237.00	Days Since RI: 189.00

PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	9/5/2019
Report #:	12
DFS:	11
AFE #:	9004184
Total AFE + Sup:	\$2,694,116.82
Daily Field Est. (Cost):	\$56,309.03

Pump #	Depth (ftKB)	Time	P (psi)	Strokes (spm)	Q Flow (gpm)	Eff (%)
1	8,634.0	15:45	600.0	30	97	95
1	8,634.0	15:46	680.0	40	129	95
1	8,634.0	15:47	760.0	50	161	95
2	8,634.0	15:48	600.0	30	97	95
2	8,634.0	15:49	680.0	40	129	95
2	8,634.0	15:50	760.0	50	161	95
3	8,634.0	15:51	610.0	30	97	95
3	8,634.0	15:52	690.0	40	129	95
3	8,634.0	15:53	770.0	50	161	95

Date	Description FINAL SURVEY	Job
Date 5/26/2019	Description AS DRILL SURVEY	Job ODR, 5/24/2019 10:00

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
8,204.00	34.67	358.59	8,157.86	-191.62	-193.99	112.39	10.44
8,299.00	40.33	4.42	8,233.22	-133.87	-136.27	114.09	7.03
8,393.00	47.83	2.18	8,300.71	-68.57	-71.03	117.77	8.15
8,488.00	56.12	359.32	8,359.18	6.18	3.72	118.64	9.04
8,582.00	68.55	0.38	8,402.74	89.25	86.81	118.47	13.26
8,677.00	78.34	1.24	8,429.78	180.20	177.75	119.77	10.34
8,772.00	83.89	359.68	8,444.45	274.01	271.56	120.51	6.06

Formation Name	Prog Top (TVD SS) Override (ft(elv))	Prog Top MD (ftKB)	Prog Top (TVD) (ftKB)	Final Top MD (ftKB)	Final Top (TVD) (ftKB)
INTENDED LANDING POINT (ILP)	-5,730.0		8,464.5		
TARGET #1	-5,715.0		8,449.5		
TARGET #2	-5,735.0		8,469.5		

Job Contact	Title	Office	Mobile	Email
FIZER, LARRY, VICE PRESIDENT	VICE PRESIDENT	972-969-4578	214-674-5483	LARRY.FIZER@PXD.COM
POLYA, JOE, AREA DRILLING SUPERINTENDENT	AREA DRILLING SUPERINTENDENT	432-413-6147	432-352-3155	JOE.POLYA@PXD.COM
VOGEL, WILLIS, SUPERINTENDENT	SUPERINTENDENT		432-301-6784	WILLIS.VOGEL@PXD.COM
GOINS, ATWELL, ENGINEER	ENGINEER		903-641-9824	ATWELL.GOINS@PXD.COM
PEARCE, JIMMY, WELLSITE SUPERVISOR	WELLSITE SUPERVISOR		661-667-7023	JIMMY.PEARCE@PXD.COM
KEETH, BERNARD, WELLSITE SUPERVISOR	WELLSITE SUPERVISOR		405-850-9583	BERNARD.KEETH@PXD.COM
BRYANT, CONNOR, ENGINEER	ENGINEER		432-234-6863	CONNOR.BRYANT@PXD.COM
RIG-H&P 637, RIG PHONE	RIG PHONE	432-360-1022	432-250-9812	

Company	Count
PIONEER NATURAL RESOURCES USA INC	3
HELMERICH & PAYNE INTERNATIONAL DRILLING CO	13
BAKER HUGHES OILFIELD OPERATIONS, INC	3
GISLER BROTHERS LOGGING CO INC	2
DYNAMIC OILFIELD SERVICES INC	0

Daily Drilling Report

UNIVERSITY W3-169D 4H

H & P #637

Accept: 8/27/2019 Release:

Days Since LTI: 238.00 Days Since RI: 190.00

PERMIAN - JV SOUTHERN WOLFCAMP
Job: ODR
Report Date: 9/6/2019
Report #: 13
DFS: 12
AFE #: 9004184
Total AFE + Sup: \$2,694,116.82
Daily Field Est. (Cost): \$93,695.03

API/UWI 42-461-41084-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)									
SSN ID00020067	Property Sub	KB-Grd (ft) 26.50	Orig KB Elev (ft) 2,734.50	Ground Elevation (ft) 2,708.00	Spud Date 5/24/2019	TD Date									
Safety Checks															
Time	Type	Des	Tour	Com											
06:00	MEETING	PRE-TOUR	DAY	Upcoming Operations; TIH and Drill Lateral section, Safety Concerns: H2S gas, Complete all JSA reviews and use compass cards. Transfer sheets to be used when making transfers, complete all checklists prior to starting operations, Watch out for one another and identify potential pinch points and body placement, overhead hazards. R2LB: Energy Isolation, Safety Principles: Management safety observations are a must, Core Values: Personal Accountability We are disciplined and personally accountable for our decisions, Actions, Attitude and Results.											
06:01	PROACTIVE MEASURES	WEEKLY TRENDS REVIEWED	DAY	Classification: Contractor – Injury/Illness Description: While utilizing the rest-room on location; team-member noticed a slight pain on inner thigh. Upon investigation, he noticed a small yellow scorpion on inner thigh. Team-member was transported to X-Treme MD and evaluated by Physician. He was then released to full-duty.											
18:00	MEETING	PRE-TOUR	NIGHT	Upcoming Operations; Drill Lateral section. Safety Concerns: Complete all JSA reviews and use compass cards. Transfer sheets to be used when making transfers, complete all checklists prior to starting operations, Watch out for one another and identify potential pinch points and body placement, overhead hazards. R2LB: Energy Isolation, Safety Principles: Management safety observations are a must, Core Values: Personal Accountability We are disciplined and personally accountable for our decisions, Actions, Attitude and Results.											
18:02	PROACTIVE MEASURES	WEEKLY TRENDS REVIEWED	NIGHT	Classification: Contractor – Injury/Illness Description: While utilizing the rest-room on location; team-member noticed a slight pain on inner thigh. Upon investigation, he noticed a small yellow scorpion on inner thigh. Team-member was transported to X-Treme MD and evaluated by Physician. He was then released to full-duty.											
23:45	PROACTIVE MEASURES	STOP CARD - PNR	NIGHT	Observed RTM's washing in sub utilizing manlift. Both were wearing all required PPE including faceshields and using 100% tie-off. Later I stopped them and thanked them for for working safely and that I did notice their good work habits.											
Jobs															
Responsible Grp 2		Responsible Grp 3		Job Type	Start Date	End Date		Job Status							
DRL ENG - ATWELL GOINS		AREA TEAM 4		ODR	5/24/2019 10:00			IN PROGRESS							
Job Dates (ex. Estimated Pad Release, TXRRRC Calls)															
Type			Subtype		Date	Note									
MILESTONE			ESTIMATED PAD RELEASE		9/28/2019	Drilling Production 3rd well of 4 well pad, Sequential Drilling, Updated 9/5/2019									
Daily Operations															
Footage/Meterage (ft) 3,250.00		Drilling Hours (hr) 18.75		% Rotating Time (%) 81.33		End Depth (ftKB) 12,074.0		Target Depth (ftKB) 15,875.9		Daily Field Est Total (Cost) 93,695.03		Cum Field Est To Date (Cost) 1,554,311.74			
24 HR ROP (ft/hr) 173.3		Circulating Hours (hr) 2.50		% Sliding Time (%) 18.67		End Depth (TVD) (ftKB) 8,447.9		Target Depth (TVD) (ftKB) 8,373.0		Daily Mud Field Est (Cost) 4,361.62		Cum Mud Field Est (Cost) 54,314.15		Total AFE + Sup (Cost) 2,694,116.82	
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 1,650.0				Daily Goal - Next 24 3,300.0				Goal Comments Goal Exceeded by 97%, Underestimated ROP			
Backbuild Yes		Lateral Inclination		Last Casing String INTERMEDIATE, 7,867.0ftKB				Next Casing String PROPOSED PRODUCTION, 16,138.0ftKB							
Avg Connection Gas 901.00		Avg Trip Gas 123.00		Avg Background Gas 967.00		Max Connection Gas 1,256.00		Max Trip Gas 123.00		Max Drill Gas 2,131.00					
Operations Summary TIH, Survey Mgmt., TIH, Drill 8 1/2" Prod Lateral T/12,074', (18.67% Sliding, Avg. Lateral DLS 1.63°, 23.63' High, 6.52' Right)															
Operations Next Report Period Drill 8 1/2" Prod Lateral T/15,374'															
Operations at Report Time Drilling 8 1/2" Prod. Lateral @ 12,074'															
Remarks No Accidents, Incidents or Spills Reported Rig NPT this Well: 12.25 hrs. Intermediate : 100% Complete Production: (Curve) 100% Complete Production: Lateral 45% Complete															
Time Log															
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com			Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #			
06:00	1.75	07:45	PROD, DRL LAT	TIH_ELEV	NORMAL	Trip in hole f/ 3,500' t/7,941' Taking proper displacement to the trip tanks			8,824.0	8,824.0					
07:45	0.5	08:15	PROD, DRL LAT	HDL_ROT HD	NORMAL	Remove trip nipple and install rotating head.			8,824.0	8,824.0					
08:15	0.5	08:45	PROD, DRL LAT	RIG_SVC	NORMAL	Serviced rig and top drive			8,824.0	8,824.0					
08:45	1	09:45	PROD, DRL LAT	SRVY_MGMT	NORMAL	Took six axis surveys at 7,941', 8,003', 8,097', 8,192' and 8,287'			8,824.0	8,824.0					
09:45	0.5	10:15	PROD, DRL LAT	LWD_ GAMMA	NORMAL	Re-logged gamma from 8,224' to 8,287' for tie in.			8,824.0	8,824.0					
10:15	0.25	10:30	PROD, DRL LAT	TIH_ELEV	NORMAL	Trip in hole F/8,287' - 8,630' Taking displacement to the trip tanks with proper displacement.			8,824.0	8,824.0					
10:30	0.25	10:45	PROD, DRL LAT	TIH_NONELEV	NORMAL	Wash and Ream Tight Spot F/8,630' T/8,824', GPM-500, RPM-40, with Full Returns.			8,824.0	8,824.0					
Daily Drilling Report															

Daily Drilling Report

Time Log																	
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com	Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #							
10:45	15.75	02:30	PROD, DRL LAT	DRL	NORMAL	Drill 8 1/2" Prod Lateral F/8,824' - 11,411' (2587' @ 164 fph) WOB: 35 - 40, RPM: 60 - 70, DIFF: 900 - 1000, MMRPM: 206, GPM: 625, SPP: 4500, TQ:17, 100% Returns. RPM Step Test: 2 10,690' W/35k WOB, F/60 - 80 RPM, 5 RPM Steps @ 5' Intervals Result: 80 RPM best ROP and lowest MSE Limiter 60 RPM F/Dir. Control. WOB Step Test @ 10,740' W/60 RPM, F/35 - 40k WOB, 1k Steps @ 5' Intervals Result: 40k WOB best ROP and lowest MSE Limiter: 1000 psi Differential	8,824.0	11,411.0									
02:30	0.5	03:00	PROD, DRL LAT	RIG_SVC	NORMAL	Service Rig & Top Drive	11,411.0	11,411.0									
03:00	3	06:00	PROD, DRL LAT	DRL	NORMAL	Drill 8 1/2" Prod Lateral F/11,411' - 12,074', (663' @ 221 fph) WOB: 35 - 40, RPM: 60 - 70, DIFF: 900 - 1000, MMRPM: 206, GPM: 625, SPP: 4500, TQ:17, 100% Returns. Last Survey @ 11824' Inc-90.06°, Azm-3.31°, 23.63' high & 6.52' right to plan #2, Gamma-121.2°, CBHT-179.7°F.	11,411.0	12,074.0									
Drill Strings																	
BHA #5 , PRODUCTION - LATERAL																	
Bit Run 5			Drill Bit 8 1/2in, DD506TX, 5295284				Bit Type PDC		Make GE/BAKER HUGHES								
Nozzles (1/32") 13/13/13/13/13/13			Bit Total Fluid Area (nozzles) (in²) 0.78		IADC Bit Dull -----		Hours Drilled By Bit (hr) 18.75		Depth Drilled By Bit (ft) 3,250.00								
BHA Drilling Time (hr) 18.75			BHA Depth Drilled (ft) 3,250.00		BHA ROP (ft/hr) 173.3		Depth In (ftKB) 8,824.0		Depth Out (ftKB) 12,074.0								
Drill String Components																	
Jts	Item Des				OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make						
297	DRILL PIPE				5	4.28	9,374.56	12,074.00	211,490.1	282	RIG						
1	AGITATOR				6 1/2	2.50	26.32	2,699.44	2,530.1	71	SCOUT						
81	DRILL PIPE				5	4.28	2,558.52	2,673.12	57,720.2	68	RIG						
1	SUB - FILTER				6 9/16	3.50	3.80	114.60	312.7	11	GE/BAKER HUGHES						
1	DRILL COLLAR - NON MAG				6 3/4	3.25	30.40	110.80	2,841.2	10	GE/BAKER HUGHES						
1	MWD TOOL				6 5/8	3.25	41.95	80.40	3,733.1	7	GE/BAKER HUGHES						
1	STABILIZER				6 3/4	2.88	5.73	38.45	622.9	4	GE/BAKER HUGHES						
1	MOTOR - STABILIZER SLEEVE				6 3/4	3.00	31.54	32.72	3,079.6	3	GE/BAKER HUGHES						
Mud Motors																	
SN		Bend Angle		Bearing Type		Lobe Config		# Stages		Lwr DefIn Type		Bit To Bend					
13506244		1.8		NOT SEALED		5:6		6.0				6.7					
Sensors																	
Sensor Type				Sensor-Bit (ft)				Note									
DIRECTIONAL				60.00				Mud Pulse									
GAMMA				62.45				Mud Pulse									
Drilling Parameters																	
Start Time	End Time	Start Depth (ftKB)	Int Depth (ft)	Int ROP (ft/hr)	WOB (1000lbf)	RPM (rpm)	dP (SPP) (psi)	Q Flow (gpm)	SPP (psi)	ROP Average (ft/hr)	Drill Str Wt (1000lbf)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Off-Btm Str Wt (1000lbf)	Drill Tq	Off Btm Tq	TFO (°)
08:45	10:45	8,824.0	0.00		5	0	50.0	400	1,800.0	0.0	0	250	160	200	0.0	0.0	0
10:45	17:15	8,824.0	1,091.00	167.8	38	60	1,020.0	625	4,490.0	181.0	158	220	190	200	16,000.0	7,000.0	0
17:15	17:45	9,915.0	20.00	40.0	20	0	350.0	625	3,760.0	80.0	173	220	190	200	0.0	0.0	290
17:45	18:00	9,935.0	65.00	260.0	38	60	1,000.0	625	4,390.0	200.0	158	220	190	200	16,000.0	7,000.0	0
18:00	18:15	10,000.0	20.00	80.0	15	0	350.0	625	3,720.0	80.0	175	220	190	200	0.0	0.0	290
18:15	20:00	10,020.0	350.00	200.0	35	60	1,000.0	625	4,450.0	200.0	158	220	190	200	16,000.0	7,000.0	0
20:00	20:30	10,370.0	25.00	50.0	25	0	300.0	625	3,700.0	80.0	158	220	190	200	0.0	0.0	260
20:30	21:15	10,395.0	164.00	218.7	38	60	1,000.0	625	4,400.0	200.0	158	220	190	200	17,000.0	7,500.0	0
21:15	21:30	10,559.0	21.00	84.0	25	0	300.0	625	3,700.0	100.0	158	220	190	200	0.0	0.0	340
21:30	22:00	10,580.0	74.00	148.0	40	60	1,000.0	625	4,400.0	200.0	158	220	190	200	17,000.0	7,000.0	0
22:00	22:30	10,654.0	30.00	60.0	25	0	300.0	625	3,700.0	100.0	158	220	190	200	0.0	0.0	0
Daily Drilling Report												Page 2/5		Printed: Friday, September 6, 2019			

Daily Drilling Report

Drilling Parameters																			
Start Time	End Time	Start Depth (ftKB)	Int Depth (ft)	Int ROP (ft/hr)	WOB (1000lbf)	RPM (rpm)	dP (SPP) (psi)	Q Flow (gpm)	SPP (psi)	ROP Average (ft/hr)	Drill Str Wt (1000lbf)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Off-Btm Str Wt (1000lbf)	Drill Tq	Off Btm Tq	TFO (°)		
22:30	23:15	10,684.0	159.00	212.0	40	60	1,000.0	625	4,400.0	200.0	158	220	170	200	17,000.0	8,000.0	0		
23:15	23:45	10,843.0	35.00	70.0	25	0	300.0	625	3,700.0	100.0	158	220	170	200	0.0	0.0	10		
23:45	00:45	10,878.0	249.00	249.0	40	60	1,000.0	625	4,400.0	200.0	158	220	170	200	18,000.0	7,500.0	0		
00:45	01:15	11,127.0	23.00	46.0	25	0	300.0	625	3,700.0	100.0	158	220	170	196	0.0	0.0	160		
01:15	02:00	11,150.0	180.00	240.0	40	70	1,000.0	625	4,400.0	200.0	158	220	170	196	18,000.0	8,000.0	0		
02:00	02:15	11,330.0	20.00	80.0	25	0	300.0	625	3,700.0	100.0	160	220	170	196	0.0	0.0	70		
02:15	02:30	11,350.0	61.00	244.0	40	60	1,000.0	625	4,400.0	200.0	160	220	170	196	19,000.0	8,000.0	0		
02:30	03:00	11,411.0	0.00		0	0	0.0	625	3,400.0	85.0	160	220	170	196	0.0	0.0	0		
03:00	03:30	11,411.0	189.00	378.0	40	60	1,000.0	625	4,400.0	200.0	160	220	170	196	19,000.0	8,000.0	0		
03:30	03:45	11,600.0	15.00	60.0	20	0	300.0	625	3,700.0	85.0	160	220	170	196	0.0	0.0	270		
03:45	06:00	11,615.0	459.00	204.0	40	60	1,000.0	625	4,400.0	200.0	160	220	170	196	16,000.0	8,000.0	0		
Hydraulic Calculations																			
Dens Mud (lb/gal)	ECD End (lb/gal)	Bit Hydraulic Power (hp)	HP/Area (hp/in²)	Jet Vel (ft/s)	Bit dP (psi)	Min Open Hole AV (ft/min)	Max Open Hole AV (ft/min)	Vol DrillString (bbl)	Vol Bit to Shoe (bbl)	Vol Shoe to Top (bbl)									
9.00	9.55	197.6	3.5	257.8	541.9	17.5	574.0	213.62	191.55	406.11									
Mud Checks																			
Time 23:00		Mud Company PIONEER DRILLING FLUIDS				Type OIL BASE		Depth (ftKB) 10,783.0		Density (lb/gal) 9.00		Funnel Viscosity (s/qt) 51		T Flowline (°F) 130.0					
PV (cP) 17.0		YP (lb/100ft²) 12.000		Vis 3rpm 7		Vis 6rpm 8		Filtrate (mL/30min)		HTHP Filtrate (mL/30min) 11.5		HTHP Temperature (°F) 250.0		HTHP Pressure (psi) 500.0					
Solids (%) 10.0				Low Gravity Solids (%) 7.9				Sand (%) 0.0		MBT (lb/bbl) 0.0		Pm (mL/mL) 2.400		Pf (mL/mL)					
Chlorides (ppm) 230,979.000				Calcium (ppm) 18,000.000				CaCl (ppm) 20		Oil Water Ratio 70/30		Electric Stab (V) 751.0		Lime (lb/bbl) 3.1		pH 0.0			
Gel 10 sec (lb/100ft²) 9.000						Gel 10 min (lb/100ft²) 13.000						Gel 30 min (lb/100ft²) 14.000							
Comment																			
Monitor 9.0 mud weight while tripping pipe. Start conditioning mud while performing 6 axis surveys. Then start back drilling and sliding as needed.																			
Diesel @ 30 bbls/hr, Water @ 2 bbls/hr, Lime @ 3 sks/30min, Bentone 990 @ 3 sks/30min, Stellar Trol @ 3 sacks/30 min, Emulsifiers added as needed.																			
Drill from 8824' to 10783'. Maintaining mud properties as per mud program, drilling ahead at report time.																			
Last BOP Test																			
Date		Test Type				Item Tested				Next Test Date		Com							
8/28/2019		BOP				BOP'S, 8/27/2019 20:00, <class>				9/18/2019		Full BOP Test using PNR Procedures, 250 low/5000 high . Test Annular @ 250 low/3500 psi high, Tested Mudlines back to pump 250 low/6324 high, Tested with 5" pipe - Good Test.							
Leak Off and Formation Integrity Tests																			
Test Type						Depth (ftKB)						Dens Fluid (lb/gal)							
FORMATION INTEGRITY						1,252.0						12.56							
FORMATION INTEGRITY						7,867.0						11.00							
Casing Pressure Test																			
Test Type				Test Subtype				Date		Item Tested				Failed?	Time (min)		P (psi)		
CASING				STANDARD				5/30/2019		SURFACE, 1,252.0ftKB				No	30.00		1,000.0		
CASING				STANDARD				9/3/2019		INTERMEDIATE, 7,867.0ftKB				No	30.00		2,500.0		
Kick Offs & Key Depths																			
Date								Type						Top Depth (ftKB)					
9/3/2019 23:45								KICK OFF						7,935.0					
9/4/2019 20:30								HEEL						8,824.0					
Casing Strings																			
Description		Set Depth (ftKB)		Set Depth (TVD) (ftKB)		OD (in)		Grade		Wt/Len (lb/ft)		Top Thread		P LeakOff (psi)					
CONDUCTOR		146.5		146.5		20		H40		78.67									
SURFACE		1,252.0		1,251.6		13 3/8		J55		54.50		BTC		816.7					
INTERMEDIATE		7,867.0		7,839.7		9 5/8		L80-IC		29.70		BTC		4,480.0					
Job Supply Amounts																			
Supply Item Des				Type		Unit Label		Received		Consumed		Returned		Note		Cum On Loc		Cum Consumed	
DIESEL				MUD		GAL		7,442		1,688		0		Rec'd 7,442 gal Mud Diesel @ \$2.2123/gal Tax \$7.442		16,968		7,863.0	
DIESEL				FUEL		GAL		0		2,092		0				8,109		17,472.0	
DIESEL				FUEL		GAL		0		197		0		197 gallons used to fill auxillary equipment Orange Tank		9,183		1,870.0	
WATER				FRESH		BBL		0		0		0		Meter 119323		0		4,897.0	
Daily Drilling Report																			
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Printed: Friday, September 6, 2019																			

Daily Drilling Report

H & P #637

Accept: 8/27/2019	Release:
Days Since LTI: 238.00	Days Since RI: 190.00

PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	9/6/2019
Report #:	13
DFS:	12
AFE #:	9004184
Total AFE + Sup:	\$2,694,116.82
Daily Field Est. (Cost):	\$93,695.03

Daily Drilling Report

Daily Drilling Report

H & P #637

Release:

Days Since RI: 190.00

Daily Field Est. (Cost): **\$93,695.03**

Daily Contacts

Personnel Log