

DRILLING REPORT

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DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H										CONTRACTOR: Cactus										RIG: Cactus 139		
RPT DATE: March 24, 2017										SPUD DATE: 3/23/17					CASING			OD	WT	GRD	MD	TVD
API #: 42475371420000										DFS: 1					Conductor			20	94	J-55	105	105
										REPORT NO: 2					Surface			13-3/8	55	J-55	1,184	1,184
FIELD: Phantom (Wolfcamp)										DOL: 2												
ELEV: MD: 1,200										RKB: TVD: 1,199					LAST BOP TEST: 3/21/17							
24 HR FTG: 1,095										HRS DRLG: 3.5					CSGHD:							
DRILLING FLUID																		SHOE TEST:				
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)	PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP				
21:00	8.5	27.0	120.0	20	20	7.0	0	1	1	1	1	1	2,100	0.10	0.10		2.65					
										REDUCED PUMP RATES												
										PUMP			SPM			PRESS			DEPTH			
										#1												
										#2												
BIT DATA																						
NO.	SIZE			MAKE			TYPE			SER NO.	NOZZLES		RE-RUN	IN	OUT	FEET	HRS	WOB	RPM	ROP		
1	17.50			Ulterra			U616S			34444	9 x 22			105	1,200	1,095	3.5	35	109	313		
BIT NO. 1 INNER 1 OUTER 1 DULL None LOC All Areas SEAL N/A GAUGE IG OTHER None RP TD																						
HYDRAULICS DATA																						
PUMP	MAKE			MODEL			LINER	STK	SPM	PSI	GPM	GPS	EFF %	ECD	AV DP	AV DC	BIT HHP	PUMP HHP				
1	HHF			1600			6.000	12.000	98	2600	420	4.25	97	8.5	46	176	8.3	1600				
2	HHF			1600			6.000	12.000	98	2600	420	4.25	97	8.5	46	176	8.3	1600				
BHA																						
DESCRIPTION:		Surface BHA																				
LENGTH		1,200.00			BHA WT. AIR			60,000			BHA WT. MUD			62,000			HRS. ON JARS		3.5			
ROT. WT.		62,000			P.U. WT.			62,000			S.O. WT.			61,000			TORQUE		2,500			
TIME MADE UP		12:00			DATE MADE UP			3/23/2017			TIME PULLED			21:00			DATE PULLED		3/23/2017			
SURVEY DATA																						
MD		ANGLE			AZIMUTH			TVD			N/S	COORDINATES			E/W	V. SECTION		DLS				
771		2.86			80.60			771			8.2			10.3			-3.5		1.0			
863		3.12			88.41			863			8.6			15.0			-2.0		0.5			
955		2.93			100.10			955			8.3			19.8			0.2		0.7			
1,138		2.77			86.46			1,137			7.8			28.9			4.3		0.4			
CONSUMABLES		DIESEL FUEL (gal) Rcvd/Used/On Hand:																DRILL H2O (gal) Rcvd/Used/On Hand:				
OPERATIONS TIME LOG																						
FROM	TO	HRS	CODE													Start MD	End MD					
06:00	09:00	3.0	Rig Up & Tear Down	Finish change swivel packing & prepare to P/U BHA												105	105					
09:00	09:30	0.5	Lubricate Rig	Rig Service												105	105					
09:30	12:00	2.5	Trips	P/U surface BHA - 9-5/8" Sperry MM 6/7 Lobe, 5 stg, 1.83 Adj bend, 0.13 RPG & Ulterra 17.5" U616S w/ 9 x 22's												105	105					
12:00	12:30	0.5	Cond Mud & Circ	B/C & establish flow parameters - Adjust Gonzo pump for drilling rates												105	105					
12:30	16:00	3.5	Drilling	Spud well & drill surface hole to 1,200' - Pump sweeps & add soap as needed WOB 28 - 35K * PP 2,600 * SPM 196 * GPM 840 * Diff 850 - 1,200 * Torq 18 - 23K												105	1200					
16:00	16:30	0.5	Cond Mud & Circ	Pump sweep & circ out prior to short trip												1200	1200					
16:30	18:00	1.5	Trips	Short trip 1,200' - 253' *No problems												1200	1200					
18:00	19:00	1.0	Cond Mud & Circ	Pump sweep & circ hole clean												1200	1200					
19:00	21:00	2.0	Trips	TOOH to run 13-3/8" surface casing - Hole slick - L/D 17" stab & break bit												1200	1200					
21:00	22:00	1.0	Run Csg & Cement	PJSM - R/U Frank's casing crew												1200	1200					
22:00	01:00	3.0	Run Csg & Cement	PJSM - M/U 1 Jt shoe track & check Flts (OK) - Run 13-3/8" J-55 STC 54.5# casing to 1,181' - 27 jts & landing jt with welded SOW Ran 8 BSC as per Prog - No mud loss while running pipe												1200	1200					
01:00	02:00	1.0	Run Csg & Cement	Orient & land Head on 20" conductor - Install packing pins & circ 1.5 x casing volume prior to cementing (275 bbls / 2,700 stks)												1200	1200					
02:00	05:00	3.0	Run Csg & Cement	R/U Halliburton cementers & test lines to 2,000 psi - Mix, pump & displace cement as follows: 20 bbl Gel spacer @ 8.4 ppg 915 sxs (319 bbl slurry) Lead NeoCem TM cement @ 12.5 ppg w/ 1.96 yld + additives 500 sxs (118 bbl slurry) Tail HALCEM (TM) SYSTEM @ 14.8 ppg w/ 1.332 yld Displaced w/ 176 bbls fresh water & bump plug w/ 1,100 psi (Lift pressure = 525 psi) Held 3 minutes & released pressure - 1 bbl back - Flts held - Full returns thru-out job 215 bbls cement back to surface - R/D cementers .												1200	1200					
05:00	06:00	1.0	Other	Unbolt & remove landing jt - Install "B" & "C" section Wellheads												1200	1200					
TOTAL HRS		24.0																				
WEATHER																						
GEN. CONDITIONS:		Good / Windy			WIND SPEED:		12 - 18			WIND DIRECTION:		WSW			TEMP:		54					
COMMENTS:																						
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DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H				CONTRACTOR: Cactus				RIG: Cactus 139				
RPT DATE: March 25, 2017				SPUD DATE: 3/23/17		CASING		OD	WT	GRD	MD	TVD
		API #:	42475371420000	DFS: 2		Conductor		20	94	J-55	105	105
				REPORT NO: 3		Surface		13-3/8	55	J-55	1,181	1,180
FIELD: Phantom (Wolfcamp)				DOL: 3								
ELEV:		RKB:		LAST BOP TEST: 3/21/17								
MD: 1,339		TVD:		1,338								
24 HR FTG: 139		HRS DRLG: 1.5		CSGHD:								

DRILLING FLUID																SHOE TEST:				
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)			PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP
18:00	9.8	28.0		1	1	8.0	0	1	1	1	1	1	#####		0.20	0.30			8.52	

REDUCED PUMP RATES			
PUMP	SPM	PRESS	DEPTH
#1			
#2			

BIT DATA

EXP DATA																																	
NO.		SIZE		MAKE		TYPE		SER NO.		NOZZLES		RE-RUN		IN		OUT		FEET		HRS		WOB		RPM		ROP							
2		12.25		Smith		SDSI516MEPX		JM2978		2x22, TFA=				1,200		1,339		139		0.5		25				278							
BIT NO.				INNER				OUTER				DULL				LOC				SEAL				GAUGE				OTHER				RP	

HYDRAULICS DATA

[illegible]

BHA

BHA							
DESCRIPTION:	1st Intermediate, Run #1						
LENGTH	2,075.09	BHA WT. AIR	175,300	BHA WT. MUD	148,496	HRS. ON JARS	
ROT. WT.	110	P.U. WT.	120	S.O. WT.	100	TORQUE	13
TIME MADE UP	23:30	DATE MADE UP	3/24/2017	TIME PULLED		DATE PULLED	

SURVEY DATA

[illegible]

CONSUMABLES	DIESEL FUEL (gal) Rcvd/Used/On Hand:	DRILL H2O (gal) Rcvd/Used/On Hand:
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OPERATIONS TIME LOG

FROM	TO	HRS	CODE		Start MD	End MD
06:00	22:00	16.0	Nipple Up B.O.P.	NU BOP to well head, orbit valve, Top drive to 4" on mud pumps, fix leak on casing valve, fix leak on super choke. retest test good. Finish nipple/up on flowline.	1200	1200
22:00	22:30	0.5	Nipple Up B.O.P.	Install wear bushing.	1200	1200
22:30	01:30	3.0	Dir Work	Pick up BHA #2, make up 12.25" drill bit, scribe MWD tool to motor, re-torque all 8" drill collars, pick up an additional 3-6.5" drill collars as per prog.	1200	1200
01:30	02:30	1.0	Trips	Install rotating head and lay down 1 stand of HWDP due to bent jnt., adjust turnbuckles on stack to bring into center after installing rotating head.	1200	1200
02:30	03:00	0.5	Trips	TIH 6 stands HWDP	1200	1200
03:00	03:30	0.5	Other	Test casing to 1,500 PSI for 30min	1200	1200
03:30	04:30	1.0	Drilling	Drill shoe track, rathole & 10' of new hole 1,132' - 1,210'	1200	1210
04:30	05:00	0.5	Cond Mud & Circ	Circ prior to FIT - Mud wt in & out = 9.5 ppg	1210	1210
05:00	05:30	0.5	Other	Preform FIT to 12.0 EMW - 9.5 ppg @ 1,209' TVD + 157 psi = 12.0 EMW	1210	1210
05:30	06:00	0.5	Drilling	Drill F/ 1,210' to 1,339' (Rot. SPP-2200, Diff-375, WOB-25, RPM-70, Torque-6K-13K)	1210	1339
TOTAL HRS		24.0				

WEATHER

GEN. CONDITIONS:	Good	WIND SPEED:	5	WIND DIRECTION:	NW	TEMP:	47
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COMMENTS:

DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H				CONTRACTOR: Cactus				RIG: Cactus 139	
RPT DATE: March 26, 2017		API #: 42475371420000		SPUD DATE: 3/23/17		CASING		OD	WT
				DFS: 3		Conductor		20	94
				REPORT NO: 4		Surface		13-3/8	55
FIELD: Phantom (Wolfcamp)				DOL: 4					
ELEV:		RKB:		LAST BOP TEST: 3/21/17					
MD:	3,212	TVD:	3,199						
24 HR FTG:	1,873	HRS DRLG:	15	CSGHD:					

DRILLING FLUID																SHOE TEST:				
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)			PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP
10:30	9.7	28.0		2	2	9.5	0	2	2	2	2	7	#####		0.20	0.30			5.22	

REDUCED PUMP RATES			
PUMP	SPM	PRESS	DEPTH
#1	30	250	2,260
#2	30	225	2,260

BIT DATA														
NO.		SIZE	MAKE	TYPE	SER NO.	NOZZLES	RE-RUN	IN	OUT	FEET	HRS	WOB	RPM	ROP
3		12.25	Security	MM55MD	12890338	7x15 TFA=1		2,098	3,212	1,114	15.0	35	105	74
2		12.25	Smith	SDSI516MEPX	JM2978	2x22, TFA=	N	1,339	2,098	759	5.0	25		152
BIT NO.		INNER	OUTER	DULL	LOC	SEAL	GAUGE	OTHER	RP					

HYDRAULICS DATA														
PUMP	MAKE	MODEL	LINER	STK	SPM	PSI	GPM	GPS	EFF %	ECD	AV DP	AV DC	BIT HHP	PUMP HHP
1	HHF	1600	6.000	12.000	92	3250	393	0.10177	97	9.94	116	141	59	1600
2	HHF	1600	6.000	12.000	93	3250	397	0.10177	97	9.94	116	141	59	1600

BHA							
DESCRIPTION:	1st Intermediate, Run #2						
LENGTH	2,073.81	BHA WT. AIR		BHA WT. MUD	108,000	HRS. ON JARS	
ROT. WT.	165,000	P.U. WT.	175,000	S.O. WT.	155,000	TORQUE	5,000
TIME MADE UP	17:30	DATE MADE UP	3/25/2017	TIME PULLED		DATE PULLED	

SURVEY DATA									
MD	ANGLE	AZIMUTH	TVD	N/S	COORDINATES		E/W	V. SECTION	DLS
2,775	6.43	60.34	2,764	106.5	161.2			-34.3	0.3
2,870	6.51	55.26	2,858	112.2	170.2			-36.0	0.6
2,965	6.79	55.08	2,953	118.4	179.3			-38.2	0.3
3,060	6.83	56.61	3,047	124.8	188.6			-40.4	0.2

CONSUMABLES	DIESEL FUEL (gal) Rcvd/Used/On Hand:	DRILL H2O (gal) Rcvd/Used/On Hand:
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OPERATIONS TIME LOG

[illegible]

WEATHER

WEATHER							
GEN. CONDITIONS:	Clear	WIND SPEED:	4 mph	WIND DIRECTION:	E	TEMP:	58

COMMENTS:	Wind expected to pick up throughout the day (25 mph) high of 84
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DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H										CONTRACTOR: Cactus										RIG: Cactus 139																
RPT DATE: March 28, 2017										SPUD DATE: 3/23/17					CASING			OD	WT	GRD	MD	TVD														
API #: 42475371420000										DFS: 5					Conductor			20	94	J-55	105	105														
										REPORT NO: 6					Surface			13-3/8	55	J-55	1,184	1,184														
FIELD: Phantom (Wolfcamp)										DOL: 6																										
ELEV:					RKB:					LAST BOP TEST: 3/21/17																										
MD: 5,060					TVD: 5,033																															
24 HR FTG: 315					HRS DRLG: 4					CSGHD:																										
DRILLING FLUID																			SHOE TEST:																	
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)	PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP																		
11:00	10.1	27.0		2	2	9.5	0	2	2	2	4		0.20	0.40			1.34																			
											REDUCED PUMP RATES																									
											PUMP		SPM		PRESS		DEPTH																			
											#1		30		200		4,062																			
											#2		30		200		4,062																			
BIT DATA																																				
NO.		SIZE		MAKE		TYPE		SER NO.		NOZZLES		RE-RUN		IN		OUT		FEET		HRS		WOB		RPM		ROP										
3		12.25		Security		MM55MD		12890338		7x15				4,745		5,060		315		4.0		35		105		79										
BIT NO.		3		INNER		1		OUTER		1		DULL		CT		LOC		Gauge		SEAL		N/A		GAUGE		IG		OTHER		None		RP		TD		
HYDRAULICS DATA																																				
PUMP		MAKE		MODEL		LINER		STK		SPM		PSI		GPM		GPS		EFF %		ECD		AV DP		AV DC		BIT HHP		PUMP HHP								
1		HHF		1600		6.000		12.000		94		3700		404		4.28		97		10.3		158		195		60		1600								
2		HHF		1600		6.000		12.000		94		3700		404		4.28		97		10.3		158		195		60		1600								
BHA																																				
DESCRIPTION:				1st Intermediate, Run #2																																
LENGTH				4,750.00				BHA WT. AIR								BHA WT. MUD				108,000				HRS. ON JARS												
ROT. WT.				195,000				P.U. WT.				210,000				S.O. WT.				175,000				TORQUE				17,000								
TIME MADE UP				17:30				DATE MADE UP				3/25/2017				TIME PULLED				22:30				DATE PULLED				3/27/2017								
SURVEY DATA																																				
MD				ANGLE				AZIMUTH				TVD				N/S		COORDINATES				E/W		V. SECTION				DLS								
4,767				7.42				52.04				4,742				236.3		354.7						-77.4				1.2								
4,862				7.19				51.71				4,836				243.7		364.2						-80.5				0.3								
4,957				6.84				54.36				4,931				250.7		373.4						-83.3				0.5								
CONSUMABLES				DIESEL FUEL (gal) Rvcd/Used/On Hand:															DRILL H2O (gal) Rvcd/Used/On Hand:																	
OPERATIONS TIME LOG																																				
FROM		TO		HRS		CODE														Start MD		End MD														
06:00		10:00		4.0		Drilling		Drill 12.25" Vertical hole 4,745' - 5,060' (315' @ 78.75 FPH) Rotate Ftg = 288' * Slide Ftg = 27' * Slide Hrs = 1.17 Rotate = WOB 38 * GPM 808 * SPP 3,700 * Diff 400 - 450 psi * SPM 188 * TD RPM 70 MTR. RPM 105 * Total RPM 175 * Torq 17K Sliding = WOB 18 * GPM 808 * SPP 3,400 * Diff 50 - 75 psi * SPM 188 * Mtr RPM 105												4745		5060														
10:00		10:30		0.5		Lubricate Rig		Lubricate Rig												5060		5060														
10:30		13:00		2.5		Cond Mud & Circ		Circulate shakers Clean bottoms/up x2 build slug												5060		5060														
13:00		15:00		2.0		Trips		Short trip out 31 Stands and RIH back to bottom/ hole slick hole taking proper fill log trip sheet												5060		5060														
15:00		17:30		2.5		Cond Mud & Circ		Circulate shakers Clean bottoms/up x2 build slug - Flow check well & pump slug												5060		5060														
17:30		22:30		5.0		Trips		TOH to run casing, Drain Mtr & break bit - LD HOS, X-O, NMDC, & Mtr												5060		5060														
22:30		00:00		1.5		Run Csg & Cement		Pull wear bushing & RU Frank's casing crew												5060		5060														
00:00		03:00		3.0		Run Csg & Cement		MU 1 Jt shoe track & check Flts - Run 10.75" 45.5# J-55 BTC casing to 1,447' - Hit bridge *No mud lost to hole												5060		5060														
03:00		05:00		2.0		Run Csg & Cement		Wash thru tight hole 1,447' - 1,643'												5060		5060														
05:00		06:00		1.0		Run Csg & Cement		Continue to run 10.75" 45.5# J-55 BTC casing 1,643' - 2,612' *No mud lost to hole												5060		5060														
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DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H										CONTRACTOR: Cactus										RIG: Cactus 139														
RPT DATE: March 29, 2017										SPUD DATE: 3/23/17					CASING			OD	WT	GRD	MD	TVD												
API #: 42475371420000										DFS: 6					Conductor			20	94	J-55	105	105												
										REPORT NO: 7					Surface			13-3/8	55	J-55	1,184	1,184												
FIELD: Phantom (Wolfcamp)										DOL: 7					Intermediate			10-3/4	46	J-55	5,047	4,930												
ELEV: 5,100										RKB: 4,930					LAST BOP TEST: 3/21/17																			
MD: 5,100										TVD: 4,930																								
24 HR FTG: 40										HRS DRLG: 0.5					CSGHD:																			
DRILLING FLUID																		SHOE TEST:																
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)	PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP																
18:00	9.1	26.0		1	1	7.0	0	1	1	1	1	52,000		0.10																				
											REDUCED PUMP RATES																							
											PUMP		SPM		PRESS		DEPTH																	
											#1																							
											#2																							
BIT DATA																																		
NO.		SIZE		MAKE		TYPE		SER NO.		NOZZLES		RE-RUN		IN		OUT		FEET		HRS		WOB		RPM		ROP								
4		9.88		Ulterra		U516S		34488		7x11				5,060		5,100		40		0.5						80								
BIT NO.																			INNER		OUTER		DULL		LOC		SEAL		GAUGE		OTHER		RP	
HYDRAULICS DATA																																		
PUMP		MAKE		MODEL		LINER		STK		SPM		PSI		GPM		GPS		EFF %		ECD		AV DP		AV DC		BIT HHP		PUMP HHP						
1		HHF		1600		6.000		12.000		80				342		4.28		97										1600						
2		HHF		1600		6.000		12.000		80				342		4.28		97										1600						
BHA																																		
DESCRIPTION:										2nd Intermediate, Run #1																								
LENGTH										1,933.32		BHA WT. AIR				BHA WT. MUD		108,000		HRS. ON JARS														
ROT. WT.												P.U. WT.				S.O. WT.				TORQUE														
TIME MADE UP										23:30		DATE MADE UP		3/28/2017		TIME PULLED				DATE PULLED														
SURVEY DATA																																		
MD				ANGLE				AZIMUTH				TVD				N/S		COORDINATES		E/W		V. SECTION		DLS										
CONSUMABLES										DIESEL FUEL (gal) Rcvd/Used/On Hand:										DRILL H2O (gal) Rcvd/Used/On Hand:														
OPERATIONS TIME LOG																																		
FROM		TO		HRS		CODE												Start MD		End MD														
06:00		10:00		4.0		Run Csg & Cement		Continue to run 10.75' 45.5# J-55 BTC casing 2.612' - 4.929' - Wash last 2 Jts & landing Jt down 4.929' - 5,047' (Shoe depth) - Land & verify with GE hand Total Jts ran = 119 (5,011.03) Shoe (1.50) & Fit collar (1.50) + landing Jt w/ hanger (38.50' - 5.50' Stick-up) = Csg set @ 5,047' No mud lost to hole while running pipe										5060		5060														
10:00		13:30		3.5		Cond Mud & Circ		Circ & wait on Halliburton cements										5060		5060														
13:30		16:30		3.0		Run Csg & Cement		R/U Halliburton cements & test lines - Mix, pump & displace cement as follows: 20 bbl Gel spacer @ 8.4 ppg 655 sxs (327 bbl slurry) Lead NeoCem TM cement @ 11.0 ppg w/ 2.806 yld + additives 195 sxs (45 bbl slurry) Tail HALCEM (TM) SYSTEM @ 14.8 ppg w/ 1.333 yld Displaced w/ 481 bbbls fresh water & bump plug w/ 1,600 psi (Lift pressure = 975 psi) Held 3 minutes & released pressure - 3 bbl back - Flts held - Full returns thru-out job 71 bbls cement back to surface - R/D cements										5060		5060														
16:30		18:00		1.5		Run Csg & Cement		Install & test pack-off to 5,000 psi - OK										5060		5060														
18:00		18:30		0.5		Other		Set wear bushing										5060		5060														
18:30		20:00		1.5		Other		Remove csg elevators & bails & put on 5" elevators - Remove csg equipment from rig floor & reconnect 2" line to trip tank, Get bit & subs to rig floor										5060		5060														
20:00		21:30		1.5		Trips		L/D 2 stds 8" DC's from derrick										5060		5060														
21:30		23:30		2.0		Trips		M/U BHA - Sperry MM (8", 7/8 Lobe, 3.4 Stg, 0.09 rev) & Ulterra 9.875" U516S Bit w/ 7 x 11's (0.650 TFA) - Surface test same - OK										5060		5060														
23:30		02:30		3.0		Trips		TIH to 4,873																										

[illegible]

DRILLING REPORT

WELL:	UL Echo Canyon 20-17 2H				CONTRACTOR:				Cactus			RIG:		Cactus 139	
RPT DATE:	March 31, 2017				SPUD DATE:		3/23/17		CASING		OD	WT	GRD	MD	TVD
	API #:		42475371420000		DFS:		8		Conductor		20	94	J-55	105	105
					REPORT NO:		9		Surface		13-3/8	55	J-55	1,184	1,184
FIELD:	Phantom (Wolfcamp)				DOL:		9		Intermediate		10-3/4	46	j-55	5,047	4,930
ELEV:			RKB:			LAST BOP TEST:		3/21/17							
MD:	8,281		TVD:	8,090											
24 HR FTG:	1,344		HRS DRLG:	23		CSGHD:									

DRILLING FLUID																SHOE TEST:					
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)			PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP	
18:00	9.1	26.0		1	1	9.5	0	1	1	1	1	1	51,000		0.20	0.40					
												REDUCED PUMP RATES									
												PUMP		SPM		PRESS		DEPTH			
												#1		30		224		7,809			
												#2		30		213		7,809			

BIT DATA														
NO.		SIZE	MAKE	TYPE	SER NO.	NOZZLES	RE-RUN	IN	OUT	FEET	HRS	WOB	RPM	ROP
4		9.88	Ultrara	U516S	34488	7x11		6,937	8,281	1,344	22.0	35	80	61
BIT NO.		INNER	OUTER	DULL	LOC	SEAL		GAUGE		OTHER		RP		

HYDRAULICS DATA														
PUMP	MAKE	MODEL	LINER	STK	SPM	PSI	GPM	GPS	EFF %	ECD	AV DP	AV DC	BIT HHP	PUMP HHP
1	HHF	1600	6.000	12.000	88	3705	750	4.28	95	9.32	158	195	468	1600
2	HHF	1600	6.000	12.000	88	3705	750	4.28	95	9.32	158	195	468	1600

BHA						
DESCRIPTION:	2nd Intermediate, Run #1					
LENGTH	1,933.32	BHA WT. AIR		BHA WT. MUD	108,000	HRS. ON JARS
ROT. WT.	240	P.U. WT.	280	S.O. WT.	190	TORQUE
TIME MADE UP	23:30	DATE MADE UP	3/28/2017	TIME PULLED		DATE PULLED

SURVEY DATA								
MD	ANGLE	AZIMUTH	TVD	N/S	COORDINATES	E/W	V. SECTION	DLS
7,844	0.97	357.10	7,806	380.1		545.5	-134.3	0.1
7,939	1.24	357.89	7,901	381.9		545.4	-136.0	0.3
8,033	1.58	3.01	7,995	384.2		545.5	-138.1	0.4
8,128	1.51	13.41	8,090	386.7		545.8	-140.3	0.3

CONSUMABLES	DIESEL FUEL (gal) Rcvd/Used/On Hand:	DRILL H2O (gal) Rcvd/Used/On Hand:
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<i>OPERATIONS TIME LOG</i>						
FROM	TO	HRS	CODE		Start MD	End MD
06:00	15:00	9.0	Drilling	Drill 9.785" Vertical hole 6,937' - 7,530' (593' @ 66 FPH) Rotate = WOB- 30 * GPM -750 * SPP- 3440 * Diff 100 - 150 psi * SPM -176 * TD RPM- 80 MTR. RPM- 120 * Total RPM- 200 * Torq- 13K	6937	7530
15:00	15:30	0.5	Other	Trouble shoot TDS grabber,	7530	7530
15:30	16:00	0.5	Lubricate Rig	Change out saver sub and grabber dies on TDS	7530	7530
16:00	06:00	14.0	Drilling	Drill 9.785 Vertical hole 7,530' - 8,281' (751' @ 53 FPH) Rotate = WOB- 35 * GPM -750 * SPP- 3760 * Diff 100 - 175 psi * SPM -176 * TD RPM- 60 MTR. RPM- 120 * Total RPM- 180 * Torq- 16K	7530	8281
TOTAL HRS		24.0				

WEATHER							
GEN. CONDITIONS:	Clear	WIND SPEED:	7	WIND DIRECTION:	SSE	TEMP:	53
COMMENTS:							

DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H				CONTRACTOR: Cactus					RIG: Cactus 139			
RPT DATE: April 1, 2017				SPUD DATE: 3/23/17		CASING		OD	WT	GRD	MD	TVD
		API #:	42475371420000	DFS: 9		Conductor		20	94	J-55	105	105
				REPORT NO: 10		Surface		13-3/8	55	J-55	1,184	1,184
FIELD: Phantom (Wolfcamp)				DOL: 10		Intermediate		10-3/4	46	j-55	5,047	4,930
ELEV:			RKB:	LAST BOP TEST: 3/21/17								
MD:		8,537	TVD:									
24 HR FTG:		256	HRS DRLG:	7	CSGHD:							

DRILLING FLUID																SHOE TEST:				
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)			PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP
18:00	9.2	26.0		1	1	10.0	0	1	1	1	1	1	52,000		0.40	0.70			2.07	

REDUCED PUMP RATES			
PUMP	SPM	PRESS	DEPTH
#1	30	224	8,377
#2	30	215	8,377

BIT DATA

NO.		SIZE	MAKE		TYPE		SER NO.		NOZZLES	RE-RUN	IN	OUT	FEET	HRS	WOB	RPM	ROP
5		9.88	Ulterra		U513S		34805		7x11		8,472	8,537	65	1.0	30		65
4		9.88	Ulterra		U516S		34488		7x11	N	8,281	8,472	191	6.0	35	80	32
BIT NO.	4	INNER	2	OUTER	3	DULL	Chipped	LOC	All	SEAL	GAUGE		IG	OTHER	N/A	RP	ROP

HYDRAULICS DATA

PUMP	MAKE	MODEL	LINER	STK	SPM	PSI	GPM	GPS	EFF %	ECD	AV DP	AV DC	BIT HHP	PUMP HHP
1	HHF	1600	6.000	12.000			750	4.28	95		158	195	600	1600
2	HHF	1600	6.000	12.000			600	4.28	95		158	195		1600

BHA

DESCRIPTION:	2nd Intermediate, Run #2						
LENGTH	2,393.16	BHA WT. AIR		BHA WT. MUD	108,000	HRS. ON JARS	
ROT. WT.		P.U. WT.		S.O. WT.		TORQUE	17
TIME MADE UP	17:30	DATE MADE UP	3/31/2017	TIME PULLED	12:00	DATE PULLED	3/31/2017

SURVEY DATA

MD	ANGLE	AZIMUTH	TVD	N/S	COORDINATES	E/W	V. SECTION	DLS
8,223	1.82	17.02	8,185	389.4	546.6	-142.5	0.4	
8,317	1.64	24.91	8,279	392.0	547.6	-144.5	0.3	

CONSUMABLES

OPERATIONS TIME LOG

FROM	TO	HRS	CODE		Start MD	End MD
06:00	12:00	6.0	Drilling	Drill 9.875 Vertical hole 8,281'- 8,472' (191' @ 31.8 FPH) Rotate = WOB- 35 * GPM -750 * SPP- 3760 * Diff 100 - 175 psi * SPM -176 * TD RPM- 60 MTR. RPM- 120 * Total RPM- 180 * Torq- 16K	8281	8472
12:00	15:30	3.5	Trips	TOOH due to ROP F/8472' To/ BHA	8472	8472
15:30	17:30	2.0	Dir Work	Lay down BHA and pick up Chert Assembly	8472	8472
17:30	18:00	0.5	Lubricate Rig	Change out link tilt cylinders on TD bails, Service TD	8472	8472
18:00	18:30	0.5	Other	Clean and organize floor after Trip/BHA	8472	8472
18:30	22:00	3.5	Trips	Test MWD , TIH TO/ 4,491' Filling DP every 30 STD'S	8472	8472
22:00	23:00	1.0	Cut off Drill Line	Slip and cut Drill Line	8472	8472
23:00	02:00	3.0	Trips	Cont to TIH F/4,491' TO/ 8,457', Filling every 30 STD'S, Washing last Joint down	8472	8472
02:00	05:00	3.0	Other	Change out Rotating head , Change out rubbers, & Top and bottom	8472	8472
05:00	06:00	1.0	Drilling	Drill 9.875 Vertical hole 8,472'-8,537' (65' @ 65 FPH) Rotate = WOB- 30 * GPM -650 * SPP- 3154 * Diff 100 - 175 psi * SPM -152 * TD RPM- 30 MTR. RPM- 56 * Total RPM-86 *	8472	8537
TOTAL HRS		24.0				

WEATHER

WEATHER							
GEN. CONDITIONS:	Partly Cloudy	WIND SPEED:	7	WIND DIRECTION:	WSW	TEMP:	55

COMMENTS:

COMMENTS:		
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DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H										CONTRACTOR: Cactus										RIG: Cactus 139															
RPT DATE: April 2, 2017										SPUD DATE: 3/23/17					CASING			OD	WT	GRD	MD	TVD													
API #: 42475371420000										DFS: 10					Conductor			20	94	J-55	105	105													
FIELD: Phantom (Wolfcamp)										REPORT NO: 11					Surface			13-3/8	55	J-55	1,184	1,184													
ELEV: RKB:										DOL: 11					Intermediate			10-3/4	46	j-55	5,047	4,930													
MD: 9,044										LAST BOP TEST: 3/21/17																									
TVD: 8,926																																			
24 HR FTG: 507										HRS DRLG: 13					CSGHD:																				
DRILLING FLUID																				SHOE TEST:															
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)			PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP															
18:00	9.2	26.0		1	1	10.0	0	1	1	1	1	1	52,000		0.50	0.90			2.63																
												REDUCED PUMP RATES																							
												PUMP		SPM		PRESS		DEPTH																	
												#1		30		213		8,836																	
												#2		30		220		8,836																	
BIT DATA																																			
NO.		SIZE		MAKE		TYPE		SER NO.		NOZZLES		RE-RUN		IN	OUT	FEET	HRS	WOB	RPM	ROP															
6		9.88		HDBS		MMD55DC		12854764		7x11				8,900	9,044	144	3.0	30	57	48															
5		9.88		Ulterra		U513S		34805		7x11		N		8,537	8,900	363	10.0	30	57	36															
BIT NO.		5		INNER		3		OUTER		5		DULL		Chipped	LOC	All	SEAL		GAUGE	IG	OTHER	N/A	RP	ROP											
HYDRAULICS DATA																																			
PUMP		MAKE		MODEL		LINER		STK		SPM		PSI		GPM	GPS	EFF %	ECD	AV DP	AV DC	BIT HHP		PUMP HHP													
1		HHF		1600		6.000		12.000		76		3180		650	4.28	95	9.49	158	195	320		1600													
2		HHF		1600		6.000		12.000		76		3180		650	4.28	95	9.49	158	195	320		1600													
BHA																																			
DESCRIPTION:				2nd Intermediate, Run #2																															
LENGTH				2,393.16				BHA WT. AIR				BHA WT. MUD				108,000				HRS. ON JARS															
ROT. WT.				265				P.U. WT.				320				S.O. WT.				210				TORQUE				17							
TIME MADE UP				17:30				DATE MADE UP				3/31/2017				TIME PULLED				DATE PULLED															
SURVEY DATA																																			
MD				ANGLE				AZIMUTH				TVD				N/S		COORDINATES				E/W		V. SECTION		DLS									
8,681				1.35				30.05				8,643				397.5		553.9				-147.0		0.5											
8,775				1.65				20.89				8,737				399.7		555.0				-148.6		0.4											
8,870				0.89				39.08				8,832				401.5		555.9				-150.0		0.9											
8,965				0.56				54.96				8,927				402.4		556.8				-150.4		0.4											
CONSUMABLES				DIESEL FUEL (gal) Rvcd/Used/On Hand:																DRILL H2O (gal) Rcvd/Used/On Hand:															
OPERATIONS TIME LOG																																			
FROM	TO	HRS	CODE															Start MD	End MD																
06:00	16:00	10.0	Drilling	Drill 9,875 Vertical hole 8,472'-8,900' (363 @ 36.3 FPH) Rotate = WOB- 30 * GPM -650 * SPP- 3154 * Diff 100 - 175 psi * SPM -152 * TD RPM- 30 MTR. RPM- 56 * Total RPM-86 *														8537	8900																
16:00	17:00	1.0	Cond Mud & Circ	Circ and condition mud build slug for dry job, prep rig floor for TOOH due to ROP														8900	8900																
17:00	19:30	2.5	Trips	Flow CHK, Pump Slug- TOOH F/8,900' TO/4,469'														8900	8900																
19:30	20:00	0.5	Trips	Hole was flowing - Pumped old slug out of pipe and spotted second slug @ 4,469'														8900	8900																
20:00	21:30	1.5	Trips	Cont. to TOOH F/ 4,469' TO/BHA, Hole was ballooning While Tripping out of hole														8900	8900																
21:30	22:30	1.0	Dir Work	Change out BIT- Function BOP Componts														8900	8900																
22:30	03:00	4.5	Trips	TIH TO/8,900' Washing down the last joint														8900	8900																
03:00	06:00	3.0	Drilling	Drill 9,875 Vertical hole 8,900'-9,044' (144 @ 48 FPH) Rotate = WOB- 30 * GPM -650 * SPP- 3230 * Diff 100 - 175 psi * SPM -152 * TD RPM- 30 MTR. RPM- 57 * Total RPM-88 * Torq-														8900	9044																

DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H				CONTRACTOR: Cactus				RIG: Cactus 139				
RPT DATE: April 3, 2017				SPUD DATE: 3/23/17		CASING		OD	WT	GRD	MD	TVD
		API #:	42475371420000	DFS: 11		Conductor		20	94	J-55	105	105
				REPORT NO: 12		Surface		13-3/8	55	J-55	1,184	1,184
FIELD: Phantom (Wolfcamp)				DOL: 12		Intermediate		10-3/4	46	j-55	5,047	4,930
ELEV:				RKB:				LAST BOP TEST: 3/21/17				
MD:		10,164		TVD:		9,969						
24 HR FTG:		1,120		HRS DRLG:		23.5		CSGHD:				

DRILLING FLUID																SHOE TEST:				
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)			PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP
18:00	9.2	26.0		1	1	10.0	0	1	1	1	1	2	52.000		0.50	0.90			0.60	

REDUCED PUMP RATES			
PUMP	SPM	PRESS	DEPTH
#1	30	240	9,214
#2	30	240	9,214

BIT DATA

NO.	SIZE	MAKE	TYPE	SER NO.	NOZZLES	RE-RUN	IN	OUT	FEET	HRS	WOB	RPM	ROP
6	9.88	HDBS	MMD55DC	12854764	7x11		9,044	10,164	1,120	22.0	34	57	51
BIT NO.		INNER	OUTER	DULL	LOC	SEAL	GAUGE	OTHER	RP				

HYDRAULICS DATA

PUMP	MAKE	MODEL	LINER	STK	SPM	PSI	GPM	GPS	EFF %	ECD	AV DP	AV DC	BIT HHP	PUMP HHP
1	HHF	1600	6.000	12.000	88	3890	750	4.28	95	9.32	158	195	65	1600
2	HHF	1600	6.000	12.000	88	3890	750	4.28	95	9.32	158	195	65	1600

BHA

BHA							
DESCRIPTION:	2nd Intermediate, Run #3						
LENGTH	2,393.16	BHA WT. AIR		BHA WT. MUD	108,000	HRS. ON JARS	
ROT. WT.	290	P.U. WT.	350	S.O. WT.	240	TORQUE	18
TIME MADE UP	17:30	DATE MADE UP	3/31/2017	TIME PULLED		DATE PULLED	

SURVEY DATA

MD	ANGLE	AZIMUTH	TVD	N/S	COORDINATES	E/W	V. SECTION	DLS
9,724	1.89	126.41	9,686	402.9	554.4		-151.8	0.7
9,819	2.23	103.41	9,781	401.6	557.5		-149.4	0.9
9,914	1.81	76.11	9,876	401.5	560.8		-148.0	1.1
10,008	1.22	46.97	9,970	402.5	562.9		-148.1	1.0

CONSUMABLES	DIESEL FUEL (gal) Rcvd/Used/On Hand:	DRILL H2O (gal) Rcvd/Used/On Hand:
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OPERATIONS TIME LOG

FROM	TO	HRS	CODE		Start MD	End MD
06:00	16:30	10.5	Drilling	Drill 9.875" Vertical hole 9,044' - 9,596' (552' @ 52.57FPH) Rotate = WOB- 30 * GPM -650 * SPP- 3230 * Diff 100 - 175 psi * SPM -152 * TD RPM- 30 MTR. RPM- 57 * Total RPM-88	9044	9596
16:30	17:00	0.5	Repair Rig	Rig service	9596	9596
17:00	06:00	13.0	Drilling	Drill 9.875" Vertical hole 9,596' - 10,164' (568' @ 43 FPH) Rotate = WOB- 35 * GPM -750 * SPP- 3,878 * Diff 100 - 175 psi * SPM -176 * TD RPM- 45 MTR. RPM- 65 * Total RPM-110 * Torq- 17-20 K, Sliding = WOB-44 * GPM -750 * SPP -3,908 * Diff- 150-165 psi *	9596	10164
TOTAL HRS		24.0				

WEATHER

WEATHER							
GEN. CONDITIONS:	Partly Cloudy	WIND SPEED:	9 MPH	WIND DIRECTION:	W	TEMP:	52
COMMENTS:							

DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H										CONTRACTOR: Cactus										RIG: Cactus 139																	
RPT DATE: April 4, 2017										SPUD DATE: 3/23/17										CASING				OD	WT	GRD	MD	TVD									
API #: 42475371420000										DFS: 12										Conductor				20	94	J-55	105	105									
FIELD: Phantom (Wolfcamp)										REPORT NO: 13										Surface				13-3/8	55	J-55	1,184	1,184									
ELEV: RKB:										DOL: 13										Intermediate				10-3/4	46	j-55	5,047	4,930									
MD: 10,456										TVD: 10,417																											
24 HR FTG: 292										HRS DRLG: 7.5										CSGHD:																	
DRILLING FLUID																												SHOE TEST:									
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)			PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP																	
18:00	9.2	26.0		1	1	10.0	0	1	1	1	1	2	52,000		0.50	1.10			0.77																		
												REDUCED PUMP RATES																									
												PUMP				SPM				PRESS				DEPTH													
												#1				30				285				10,353													
												#2				30				280				10,353													
BIT DATA																																					
NO.		SIZE		MAKE		TYPE		SER NO.		NOZZLES		RE-RUN		IN	OUT	FEET	HRS	WOB	RPM	ROP																	
6		9.88		HDBS		MMD55DC		12854764		7x11				10,164	10,456	292	7.5	34	57	39																	
BIT NO.		INNER		OUTER		DULL		LOC		SEAL		GAUGE		OTHER		RP																					
HYDRAULICS DATA																																					
PUMP		MAKE		MODEL		LINER		STK		SPM		PSI		GPM		GPS		EFF %		ECD		AV DP		AV DC		BIT HHP		PUMP HHP									
1		HHF		1600		6.000		12.000		88		3840		750		4.28		95		9.22		158		195		65		1600									
2		HHF		1600		6.000		12.000		88		3840		750		4.28		95		9.22		158		195		65		1600									
BHA																																					
DESCRIPTION:				2nd Intermediate, Run #3																																	
LENGTH				2,393.16				BHA WT. AIR				BHA WT. MUD				108,000				HRS. ON JARS																	
ROT. WT.				290				P.U. WT.				350				S.O. WT.				240				TORQUE				18									
TIME MADE UP				17:30				DATE MADE UP				3/31/2017				TIME PULLED				DATE PULLED																	
SURVEY DATA																																					
MD				ANGLE				AZIMUTH				TVD				N/S		COORDINATES				E/W		V. SECTION				DLS									
CONSUMABLES										DIESEL FUEL (gal) Rvcd/Used/On Hand:																		DRILL H2O (gal) Rcvd/Used/On Hand:									
OPERATIONS TIME LOG																																					
FROM		TO		HRS		CODE																		Start MD		End MD											
06:00		13:30		7.5		Drilling		Drill 9.875" Vertical hole 10,164' - 10,456' (292' @ 40FPH) Rotate = WOB- 35 * GPM -750 * SPP- 3.878 * Diff 100 - 175 psi * SPM -176 * TD RPM- 45 MTR. RPM- 65 * Total RPM-110 * Torq- 17-20 K, Sliding = WOB-44 * GPM -750 * SPP -3,908 * Diff- 150-165 psi * SPM-																10164		10456											
13:30		15:00		1.5		Cond Mud & Circ		CBU 2x, Build Slug (Hole Is Clean)																10456		10456											
15:00		17:30		2.5		Trips		Short Trip T/ 8,900', Hole Conditions are good So Started Laying Down DP T/8,180' (Broke																10456		10456											
17:30		18:00		0.5		Lubricate Rig		Screwed into DP and Pumped 136-GPM While Trouble Shooting DW Chain																10456		10456											
18:00		19:00		1.0		Repair Rig		Changed Out DW Chain on DW While Monitoring well 139-GPM																10456		10456											
19:00		20:30		1.5		Trips		Cont to Lay Down 4.5" DP F/8,180' T/ 7,187', Set off H2S Alarms @ 20:00 hrs for Drill																10456		10456											
20:30		21:00		0.5		Lubricate Rig		Service Rig																10456		10456											
21:00		21:30		0.5		Repair Rig		Link Tilt Cylinders Bent While Laying Out DP. Changed Out Both Cylinders																10456		10456											
21:30		06:00		8.5		Trips		LDDP F/ 7,187' T/ 915', Hole was ballooning till 2,300' Then hole started taking proper fill																10456		10456											

DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H										CONTRACTOR: Cactus										RIG: Cactus 139			
RPT DATE: April 5, 2017										SPUD DATE: 3/23/17					CASING			OD	WT	GRD	MD	TVD	
API #: 42475371420000										DFS: 13					Conductor			20	94	J-55	105	105	
										REPORT NO: 14					Surface			13-3/8	55	J-55	1,184	1,184	
FIELD: Phantom (Wolfcamp)										DOL: 14					Intermediate			10-3/4	46	j-55	5,047	4,930	
ELEV: RKB:										LAST BOP TEST: 3/21/17					Intermediate 2			7-5/8	30	P-110HC	10,443	10,349	
MD: 10,456										TVD: 10,349													
24 HR FTG:										HRS DRLG:					CSGHD:								
DRILLING FLUID																				SHOE TEST:			
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)	PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP					
18:00	9.2	26.0		1	1	10.0	0	1	1	1	2	52,000	0.40	0.80			0.77						
											REDUCED PUMP RATES												
											PUMP		SPM		PRESS		DEPTH						
											#1		30		285		10,353						
											#2		30		280		10,353						
BIT DATA																							
NO.		SIZE		MAKE		TYPE		SER NO.		NOZZLES		RE-RUN		IN	OUT	FEET	HRS	WOB	RPM	ROP			
6		9.88		HDBS		MMD55DC		12854764		7x11				10,164	10,456	292	7.5	34	57	39			
BIT NO.		INNER		OUTER		DULL		LOC		SEAL		GAUGE		OTHER		RP							
HYDRAULICS DATA																							
PUMP		MAKE		MODEL		LINER		STK		SPM		PSI		GPM	GPS	EFF %	ECD	AV DP	AV DC	BIT HHP	PUMP HHP		
1		HHF		1600		6.000		12.000															
2		HHF		1600		6.000		12.000															
BHA																							
DESCRIPTION:			2nd Intermediate, Run #3																				
LENGTH			2,393.16		BHA WT. AIR						BHA WT. MUD			108,000		HRS. ON JARS							
ROT. WT.			290		P.U. WT.			350			S.O. WT.			240		TORQUE			18				
TIME MADE UP			17:30		DATE MADE UP			3/31/2017			TIME PULLED					DATE PULLED							
SURVEY DATA																							
MD			ANGLE			AZIMUTH			TVD			N/S		COORDINATES			E/W		V. SECTION		DLS		



DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H				CONTRACTOR: Cactus				RIG: Cactus 139											
RPT DATE: April 6, 2017				SPUD DATE: 3/23/17		CASING		OD	WT	GRD	MD	TVD							
API #: 42475371420000		DFS: 14		Conductor		20	94	J-55	105	105									
REPORT NO: 15		Surface		13-3/8	55	J-55	1,184	1,184											
DOL: 15		Intermediate		10-3/4	46	J-55	5,047	4,930											
FIELD: Phantom (Wolfcamp)		LAST BOP TEST: 3/21/17		Intermediate 2		7-5/8	30	P-110HC	10,443	10,349									
ELEV: 10,488		RKB: 10,404																	
MD: 10,488		TVD: 10,404																	
24 HR FTG: 32		HRS DRLG: 2		CSGHD:															
DRILLING FLUID												SHOE TEST:							
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)	PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP	
18:00	9.2	26.0		1	1	10.5	0	1	1	1	2	52,000		0.40	0.80		0.60		
REDUCED PUMP RATES																			
PUMP												SPM		PRESS		DEPTH			
#1												30		285		10,353			
#2												30		280		10,353			
BIT DATA																			
NO.	SIZE		MAKE		TYPE		SER NO.	NOZZLES	RE-RUN	IN	OUT	FEET	HRS	WOB	RPM	ROP			
7	6.75		HDBS		MMD63C		12826153	6x14		10,443	10,488	45	1.0	22	60	45			
BIT NO.		INNER		OUTER		DULL		LOC		SEAL		GAUGE		OTHER		RP			
HYDRAULICS DATA																			
PUMP	MAKE		MODEL		LINER	STK	SPM	PSI	GPM	GPS	EFF %	ECD	AV DP	AV DC	BIT HHP	PUMP HHP			
1	HHF		1600		5.000	12.000	51	4230	300	2.97	95	9.36	261	311	8.4	1600			
2	HHF		1600		5.000	12.000	51	4230	300	2.97	95	9.36	261	311	8.4	1600			
BHA																			
DESCRIPTION:		Drill Out BHA																	
LENGTH		1,728.82		BHA WT. AIR				BHA WT. MUD		108,000		HRS. ON JARS							
ROT. WT.		220		P.U. WT.		240		S.O. WT.		200		TORQUE		10					
TIME MADE UP		14:00		DATE MADE UP		4/5/2017		TIME PULLED				DATE PULLED							
SURVEY DATA																			
MD		ANGLE		AZIMUTH		TVD		N/S		COORDINATES		E/W		V. SECTION		DLS			
CONSUMABLES				DIESEL FUEL (gal) Rcvd/Used/On Hand:								DRILL H2O (gal) Rcvd/Used/On Hand:							
OPERATIONS TIME LOG																			
FROM	TO	HRS	CODE											Start MD	End MD				
06:00	08:00	2.0	Run Csg & Cement	Begin Stage 2 on Cement job- 20 BBL Spacer with red die, 184.9 BBL Lead Cement, 21.3 BBL Tail, Displace- 215.6 BBLs Fresh water, 205 BBL Slow rate, Land Plug at 757 psi, Total Fluid Pumped- 442 BBL										10443	10443				
08:00	10:00	2.0	Run Csg & Cement	Retrieved Landing Joint, Install pack off and test to 5k, Set wear bushing										10443	10443				
10:00	10:30	0.5	Lubricate Rig	Service Rig										10443	10443				
10:30	13:00	2.5	Other	Remove all 5" Equipment off rig floor, Remove 5" saver sub and install 4.5" saver sub										10443	10443				
13:00	14:00	1.0	Other	Fill Rig Pre-Mix with water, Move diesel pump and misc for pit cleaning crew										10443	10443				
14:00	15:30	1.5	Dir Work	Pick up 4.5" BHA for Drill Out										10443	10443				
15:30	17:30	2.0	Trips	TIH T/ 4,266', Returns are diverted to half round.										10443	10443				
17:30	18:00	0.5	Other	Test CSG to 1500 psi for 15 min above DV Tool to insure Tool is closed										10443	10443				
18:00	20:00	2.0	Other	Drill out cement above DV Tool, Drill out DV Tool WOB-10, RPM-20, Diff-200, GPM-150										10443	10443				
20:00	21:30	1.5	Trips	TIH F/ 4,713' T/ 8,765'. Taking returns to the half round.										10443	10443				
21:30	22:00	0.5	Lubricate Rig	Service Rig										10443	10443				
22:00	23:00	1.0	Repair Rig	Replace 2 Hoses on ST-80										10443	10443				
23:00	23:30	0.5	Trips	TIH F/ 8,765' T/ 9,664', Returns to half round										10443	10443				
23:30	00:00	0.5	Other	Load up Pipe Racks with DP and Strap										10443	10443				
00:00	01:00	1.0	Trips	TIH picking up DP T/ 10,318' , Tagged Cement										10443	10443				
01:00	01:30	0.5	Other	Test CSG to 1500 PSI for 30 min										10443	10443				
01:30	04:00	2.5	Trips	Drill Cement and shoe track F/10,328' T/ 10,443' WOB- 10, RPM- 20, GPM-150										10443	10443				
04:00	05:00	1.0	Drilling	Drill 10' New Hole F/ 10,456' T/ 10,466' , Preformed a FIT test to EMW-14 / 811 PSI										10443	10466				
05:00	06:00	1.0	Drilling	Drilled F/10,466' T/ 10,448' WOB- 22, GPM-300, RPM-60, SPP-4230 Torq- 10										10466	10488				
TOTAL HRS		24.0																	
WEATHER																			
GEN. CONDITIONS:		Clear		WIND SPEED:		6 MPH		WIND DIRECTION:		SE		TEMP:		41					
COMMENTS:																			
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DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H										CONTRACTOR: Cactus										RIG: Cactus 139												
RPT DATE: April 7, 2017										SPUD DATE: 3/23/17										CASING				OD	WT	GRD	MD	TVD				
API #: 42475371420000										DFS: 15										Conductor				20	94	J-55	105	105				
FIELD: Phantom (Wolfcamp)										REPORT NO: 16										Surface				13-3/8	55	J-55	1,184	1,184				
ELEV:										DOL: 16										Intermediate				10-3/4	46	j-55	5,047	4,930				
MD: 10,926										LAST BOP TEST: 3/21/17										Intermediate 2				7-5/8	30	P-110HC	10,443	10,349				
TVD: 10,867																																
24 HR FTG: 438										HRS DRLG: 12										CSGHD:												
DRILLING FLUID																									SHOE TEST:							
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)				PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP											
18:00	12.5	53.0	20.0	5	6		2	6	12	15	18	9	38,000					20,000	60.50	9.80	250.00											
												REDUCED PUMP RATES																				
												PUMP				SPM				PRESS				DEPTH								
												#1				30				600				10,600								
												#2				30				665				10,600								
BIT DATA																																
NO.		SIZE			MAKE			TYPE			SER NO.		NOZZLES		RE-RUN		IN	OUT	FEET	HRS	WOB	RPM	ROP									
8		6.75			Ulterra			U611S			34852		6x14				10,896	10,915	19	1.0	18	30	19									
7		6.75			HDBS			MMD63C			12826153		6x14		N		10,488	10,896	408	11.0	24	60	37									
BIT NO.		7		INNER		1		OUTER		2		DULL		Cutters	LOC	Shoulder	SEAL	GAUGE		IG	OTHER	RP	KOP									
HYDRAULICS DATA																																
PUMP		MAKE			MODEL			LINER			STK		SPM		PSI		GPM		GPS		EFF %		ECD		AV DP		AV DC		BIT HHP		PUMP HHP	
1		HHF			1600			5.000			12.000		54		4288		300		2.97		95		13.34		309		381		812		1600	
2		HHF			1600			5.000			12.000		54		4288		300		2.97		95		13.34		309		381		812		1600	
BHA																																
DESCRIPTION:				Drill Out BHA																												
LENGTH				1,755.86			BHA WT. AIR						BHA WT. MUD			108,000			HRS. ON JARS													
ROT. WT.				218			P.U. WT.			250			S.O. WT.			180			TORQUE			10										
TIME MADE UP				22:30			DATE MADE UP			4/6/2017			TIME PULLED			18:30			DATE PULLED			4/6/2017										
SURVEY DATA																																
MD				ANGLE			AZIMUTH			TVD			N/S		COORDINATES			E/W		V. SECTION			DLS									
10,519				2.18			217.85			10,480			408.9		557.1			-156.3			2.8											
10,646				4.69			197.98			10,607			402.1		554.0			-151.2			2.2											
10,740				3.89			194.91			10,701			395.3		552.0			-145.8			0.9											
10,833				3.76			190.36			10,794			389.3		550.7			-140.8			0.4											
CONSUMABLES				DIESEL FUEL (gal) Rvcd/Used/On Hand:											DRILL H2O (gal) Rcvd/Used/On Hand:																	
OPERATIONS TIME LOG																																
FROM	TO	HRS	CODE																	Start MD	End MD											
06:00	17:00	11.0	Drilling	Drill 6.75 Hole Section F/ 10,488'- T/ 10,896' (408 @ 37' FPH) WOB- 22-24K * GPM- 320 * SPP- 4350 * Diff 200 - 300 psi * SPM -108 * TD RPM- 60 MTR. RPM- 259 * Total RPM-																10488	10896											
17:00	18:30	1.5	Cond Mud & Circ	Pump a 50 BBL High vis sweep and cir out																10896	10896											
18:30	22:30	4.0	Trips	TOH F/10,896' TO/ BHA (Trip Sheet was utilized - Hole took proper fluid)																10896	10896											
22:30	00:30	2.0	Dir Work	Lay Down BHA and pick up Curve Assembly , Function Tested BOP'S																10896	10896											
00:30	05:00	4.5	Trips	TIH T/ 10,896' Washing down last joint, Filling every 30 Joints																10896	10896											
05:00	06:00	1.0	Drilling	Rot 6.7" Hole Section F/ 10,896' T/ 10,915' (19' @ 19' FPH) WOB-18, DIFF-320, GPM-300, SPP-4288 psi, TD RPM-30, MTR. RPM- 237 Total RPM-267																10896	10926											



DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H		CONTRACTOR: Cactus				RIG: Cactus 139													
RPT DATE: April 8, 2017		SPUD DATE: 3/23/17		CASING		OD	WT	GRD	MD	TVD									
API #: 42475371420000		DFS: 16		Conductor		20	94	J-55	105	105									
FIELD: Phantom (Wolfcamp)		REPORT NO: 17		Surface		13-3/8	55	J-55	1,184	1,184									
ELEV: 11,685		DOL: 17		Intermediate		10-3/4	46	J-55	5,047	4,930									
MD: 11,685		RKB: 11,382		LAST BOP TEST: 3/21/17		Intermediate 2	7-5/8	30	P-110HC	10,443									
24 HR FTG: 759		HRS DRLG: 11		CSGHD:															
DRILLING FLUID										SHOE TEST:									
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)	PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP	
18:00	12.5	50.0	21.0	4	5		2	6	13	15	16	7	36,500			17,000	61.50	9.75	250.00
										REDUCED PUMP RATES									
										PUMP		SPM		PRESS		DEPTH			
										#1		30		720		11,555			
										#2		30		740		11,555			
BIT DATA																			
NO.	SIZE		MAKE		TYPE		SER NO.	NOZZLES		RE-RUN	IN	OUT	FEET	HRS	WOB	RPM	ROP		
9	6.75		Ulterra		U611S		34732	6x14			11,685								
8	6.75		Ulterra		U611S		34852	6x14		N	10,915	11,685	770	11.0	18	30	70		
BIT NO.	8	INNER	1	OUTER	1	DULL	Chipped	LOC	Sides	SEAL		GAUGE	IG	OTHER	RP	Curve TD			
HYDRAULICS DATA																			
PUMP	MAKE		MODEL		LINER	STK	SPM	PSI	GPM	GPS	EFF %	ECD	AV DP	AV DC	BIT HHP	PUMP HHP			
1	HHF		1600		5.000	12.000	55	4238	320	2.97	95	13.41	309	311	28.6	1600			
2	HHF		1600		5.000	12.000	55	4238	300	2.97	95	13.41	309	311	28.6	1600			
BHA																			
DESCRIPTION:		Drill Out BHA																	
LENGTH		7,181.53		BHA WT. AIR				BHA WT. MUD		108,000		HRS. ON JARS							
ROT. WT.		224		P.U. WT.		255		S.O. WT.		190		TORQUE		10					
TIME MADE UP		00:30		DATE MADE UP		4/8/2017		TIME PULLED		20:30		DATE PULLED		4/7/2017					
SURVEY DATA																			
MD		ANGLE		AZIMUTH		TVD		N/S		COORDINATES		E/W		V. SECTION		DLS			
11,548		66.01		161.96		11,356		27.2		684.2		244.6		23.6					
11,579		72.77		160.73		11,367		-0.2		693.5		273.5		22.1					
11,610		79.01		161.09		11,375		-28.6		703.3		303.5		20.2					
11,642		83.67		161.26		11,380		-58.6		713.6		335.0		14.6					
CONSUMABLES		DIESEL FUEL (gal) Rvcd/Used/On Hand:										DRILL H2O (gal) Rcvd/Used/On Hand:							
OPERATIONS TIME LOG																			
FROM	TO	HRS	CODE											Start MD	End MD				
06:00	17:00	11.0	Drilling	Rotate & Slide Drill 6.75" Curve Section F/ 10,926' T/ 11,685' Landed Curve (759' @ 69' FPH) WOB-24-26, GPM- 315, SPP-4750, DIFF-600, TD RPM-30, MTR. RPM- 255 Total RPM-283,										10926	11685				
17:00	18:30	1.5	Cond Mud & Circ	Pump A 50 BBL High Vis Sweep and Cir out 350-GPM										11685	11685				
18:30	19:30	1.0	Trips	Short Trip to top of Curve @ 10,926'										11685	11685				
19:30	20:30	1.0	Cond Mud & Circ	Pump a 20 BBL High Vis Sweep And Cir Out , 350-GPM										11685	11685				
20:30	00:30	4.0	Trips	TOOH For Lateral Assembly F/11,685' , Pulled Rotating head at the Shoe (Trip Sheet was utilized - Hole took proper fluid)										11685	11685				
00:30	03:00	2.5	Dir Work	Lay out Curve BHA and Pick up Lateral Assembly- Function Test BOP'S										11685	11685				
03:00	06:00	3.0	Trips	TIH To/ 9,532' Filling 4.5" DP every 30 Stands										11685	11685				
TOTAL HRS		24.0																	
WEATHER																			
GEN. CONDITIONS:		Mostly Clear		WIND SPEED:		7 MPH		WIND DIRECTION:		SSE		TEMP:		57					
COMMENTS:																			
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DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H				CONTRACTOR: Cactus					RIG:		Cactus 139	
RPT DATE: April 9, 2017				SPUD DATE: 3/23/17		CASING		OD	WT	GRD	MD	TVD
		API #:	42475371420000	DFS: 17		Conductor		20	94	J-55	105	105
				REPORT NO: 18		Surface		13-3/8	55	J-55	1,184	1,184
FIELD: Phantom (Wolfcamp)				DOL: 18		Intermediate		10-3/4	46	j-55	5,047	4,930
ELEV:		RKB:		LAST BOP TEST: 3/21/17		Intermediate 2		7-5/8	30	P-110HC	10,443	10,349
MD:		13,549	TVD:	11,377								
24 HR FTG:		1,864	HRS DRLG:	21		CSGHD:						

DRILLING FLUID															SHOE TEST:					
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)			PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP
18:00	12.7	58.0	19.0	6	7		2	7	15	17	17	11	37,500				17,000	60.50	9.28	250.00

										REDUCED PUMP RATES			
										PUMP	SPM	PRESS	DEPTH
										#1	30	760	13,062
										#2	30	765	13,062

BIT DATA													
NO.	SIZE	MAKE	TYPE	SER NO.	NOZZLES	RE-RUN	IN	OUT	FEET	HRS	WOB	RPM	ROP
9	6.75	Ulterra	U611S	34732	6x14		11,685	13,549	1,864	21.0	26	80	89
BIT NO.	INNER	OUTER	DULL	LOC	SEAL	GAUGE	OTHER	RP					

HYDRAULICS DATA														
PUMP	MAKE	MODEL	LINER	STK	SPM	PSI	GPM	GPS	EFF %	ECD	AV DP	AV DC	BIT HHP	PUMP HHP
1	HHF	1600	5.000	12.000	61	5432	350	2.97	95	13.64	338	417	27.4	1600
2	HHF	1600	5.000	12.000	61	5432	350	2.97	95	13.64	338	417	27.4	1600

BHA							
DESCRIPTION:	Drill Out BHA						
LENGTH	7,181.53	BHA WT. AIR		BHA WT. MUD	108,000	HRS. ON JARS	
ROT. WT.	210	P.U. WT.	280	S.O. WT.	180	TORQUE	10
TIME MADE UP	00:30	DATE MADE UP	4/8/2017	TIME PULLED		DATE PULLED	

SURVEY DATA								
MD	ANGLE	AZIMUTH	TVD	N/S	COORDINATES	E/W	V. SECTION	DLS
13,109	91.69	161.84	11,378	-1,471.3	1,092.1		1,782.6	1.5
13,203	90.43	165.99	11,376	-1,561.6	1,118.1		1,875.8	4.6
13,296	90.52	166.97	11,375	-1,652.0	1,139.9		1,967.5	1.1
13,389	88.80	163.78	11,376	-1,742.0	1,163.3		2,059.4	3.9

CONSUMABLES		DIESEL FUEL (gal) Rcvd/Used/On Hand:				DRILL H2O (gal) Rcvd/Used/On Hand:			
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OPERATIONS TIME LOG						
FROM	TO	HRS	CODE		Start MD	End MD
06:00	06:30	0.5	Trips	Cont tih w/ lateral assy t/ 10,400'	11685	11685
06:30	07:30	1.0	Cut off Drill Line	Cut and slip 120' drill line, and recalibrate block height	11685	11685
07:30	08:00	0.5	Trips	Cont tih t/ 11,600' wash & ream f/ 11,600' t/ 11,685'	11685	11685
08:00	17:00	9.0	Drilling	Rotate & Slide Drill 6.75" Lateral Section F/ 11,685' T/ 12,315' (630" @ 70' FPH) WOB-24-26, GPM- 350, SPP-5100, DIFF-800-850, TD RPM-60, MTR. RPM- 238 Total RPM-298, Toqr-	11685	12315
17:00	17:30	0.5	Lubricate Rig	Service Rig- Grease TD and Chk Fluid Levels	12315	12315
17:30	05:30	12.0	Drilling	Drill 6.75" Lateral Section F/ 12,315' TO/13,549' (1,203' @ 100 FPH) Rotate = WOB-26 * GPM- 350* SPP-5,432 * Diff - 600-800psi * SPM- 122 * TD RPM- 80 * MTR. RPM-238 * Total RPM-318 * Torq- 14.5KSliding = WOB-60 * GPM-350 * SPP-4,855 * Diff- 250 psi *	12315	13549
05:30	06:00	0.5	Lubricate Rig	Service Rig	13549	13549

DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H										CONTRACTOR: Cactus										RIG: Cactus 139									
RPT DATE: April 10, 2017										SPUD DATE: 3/23/17					CASING			OD	WT	GRD	MD	TVD							
API #: 42475371420000										DFS: 18					Conductor			20	94	J-55	105	105							
										REPORT NO: 19					Surface			13-3/8	55	J-55	1,184	1,184							
FIELD: Phantom (Wolfcamp)										DOL: 19					Intermediate			10-3/4	46	J-55	5,047	4,930							
ELEV:										LAST BOP TEST: 3/21/17					Intermediate 2			7-5/8	30	2-110HC	10,443	10,349							
MD: 14,317										RKB:																			
TVD: 11,396																													
24 HR FTG: 768										HRS DRLG: 17					CSGHD:														
DRILLING FLUID																				SHOE TEST:									
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)	PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP											
18:00	12.9	54.0	16.0	7	8		2	8	16	18	19	12	35,000		#####	61.00	9.13	250.00											
											REDUCED PUMP RATES																		
											PUMP		SPM		PRESS		DEPTH												
											#1		30		775		14,089												
											#2		30		705		14,089												
BIT DATA																													
NO.		SIZE		MAKE		TYPE		SER NO.		NOZZLES		RE-RUN		IN		OUT		FEET		HRS		WOB		RPM		ROP			
9		6.75		Ulterra		U611S		34732		6x14				13,549		14,317		768		16.0		28		80		48			
BIT NO.		INNER		OUTER		DULL		LOC		SEAL		GAUGE		OTHER		RP													
HYDRAULICS DATA																													
PUMP		MAKE		MODEL		LINER		STK		SPM		PSI		GPM		GPS		EFF %		ECD		AV DP		AV DC		BIT HHP		PUMP HHP	
1		HHF		1600		5.000		12.000		61		5432		350		2.97		95		13.99		338		417		28		1600	
2		HHF		1600		5.000		12.000		61		5432		350		2.97		95		13.99		338		417		28		1600	
BHA																													
DESCRIPTION:		Drill Out BHA																											
LENGTH		7,181.53		BHA WT. AIR				BHA WT. MUD		108,000		HRS. ON JARS																	
ROT. WT.		214		P.U. WT.		280		S.O. WT.		170		TORQUE		16															
TIME MADE UP		00:30		DATE MADE UP		4/8/2017		TIME PULLED		23:30		DATE PULLED		4/9/2017															
SURVEY DATA																													
MD		ANGLE		AZIMUTH		TVD		N/S		COORDINATES		E/W		V. SECTION		DLS													
13,949		87.23		165.11		11,384		-2,285.3		1,297.5		2,611.7		3.8															
14,043		85.62		164.13		11,390		-2,375.7		1,322.4		2,704.6		2.0															
14,136		87.78		161.57		11,395		-2,464.4		1,349.8		2,796.9		3.6															
14,230		90.43		159.63		11,397		-2,553.1		1,381.0		2,890.7		3.5															
CONSUMABLES										DIESEL FUEL (gal) Rcvd/Used/On Hand:										DRILL H2O (gal) Rcvd/Used/On Hand:									
OPERATIONS TIME LOG																													
FROM	TO	HRS	CODE															Start MD	End MD										
06:00	17:30	11.5	Drilling	Drill 6.75" Lateral Section F/ 13,549' TO/14,182' (633' @ 55 FPH) Rotate = WOB-28 * GPM-350* SPP-5,432 * Diff - 600-800psi * SPM- 122 * TD RPM- 80 * MTR. RPM-238 * Total RPM-318 * Torq- 14.5KSliding = WOB-60 * GPM-350 * SPP-4,855 * Diff- 250 psi * SPM-														13549	14182										
17:30	18:00	0.5	Lubricate Rig	Service Rig, Grease DW and Floor Tools														14182	14182										
18:00	23:30	5.5	Drilling	Drill 6.75" Lateral Section F/ 14,182' TO/14,317' (135' @ 24 FPH) Rotate = WOB-28 * GPM- 350* SPP-5,432 * Diff - 600-800psi * SPM- 122 * TD RPM- 80 * MTR. RPM-238 * Total RPM-318 * Torq- 14.5KSliding = WOB-60 * GPM-350 * SPP-4,855 * Diff- 250 psi * SPM-														14182	14317										
23:30	00:00	0.5	Cond Mud & Circ	10 MIN Flow CHK, Pump 30 BBL Slug , Pulling out of hole due to ROP (Once we got out of hole found two jets plugged with stator rubber causing shale to build up in junk slot area and														14317	14317										
00:00	00:30	0.5	Trips	TOOH F/14,317' TO/ 13,859' - Tight Hole (Once we got out of hole found two jets plugged with stator rubber causing shale to build up in junk slot area and weakening motor)														14317	14317										
00:30	01:30	1.0	Trips	Pulled tight at 13,859' , Could not go up or down, Kelley up at neutral weight and broke Circulation, Staged Pumps up to 350- GPM, Rot- 30 and worked up To/13,807', Washed Stand down Rotating, Cont to pull out wet F/13,807' T/ 13,435', No issues pulling (Once we got out of hole found two jets plugged with stator rubber causing shale to build up in junk slot														14317	14317										
01:30	03:00	1.5	Trips	Pumped 25 BBL Slug and TOH F/ 13,435' T/ 10,372' (Trip Sheet was Utilized and hole took Proper Fluid) (Once we got out of hole found two jets plugged with stator rubber causing shale to build up in junk slot area and														14317	14317										
03:00	03:30	0.5	Other	10 Min Flow CHK, Remove Rotating Head and Install Trip Nipple (Once we got out of hole found two jets plugged with stator rubber causing shale to build up in junk slot area and														14317	14317										
03:30	06:00	2.5	Trips	TOH F/ 10,372' T/1,667' (Trip Sheet was Utilized and hole took Proper Fluid) (Once we got out of hole found two jets plugged with stator rubber causing shale to build up in junk slot area														14317	14317										

DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H										CONTRACTOR: Cactus										RIG: Cactus 139											
RPT DATE: April 11, 2017										SPUD DATE: 3/23/17					CASING			OD	WT	GRD	MD	TVD									
					API #:		42475371420000			DFS: 19					Conductor			20	94	J-55	105	105									
										REPORT NO: 20					Surface			13-3/8			55	J-55	1,184	1,184							
FIELD: Phantom (Wolfcamp)										DOL: 20					Intermediate			10-3/4			46	J-55	5,047	4,930							
ELEV:					RKB:					LAST BOP TEST: 3/21/17					Intermediate 2			7-5/8			30	P-110HC	10,443	10,349							
MD: 15,126					TVD: 11,364																										
24 HR FTG: 809					HRS DRLG:		14.5			CSGHD:																					
DRILLING FLUID																			SHOE TEST:												
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)			PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP											
18:00	13.0	57.0	15.0	6	7		2	8	16	17	19	11	36,000				#####	61.50	9.80	250.00											
												REDUCED PUMP RATES																			
												PUMP			SPM			PRESS			DEPTH										
												#1			30			880			14,940										
												#2			30			820			14,940										
BIT DATA																															
NO.		SIZE		MAKE		TYPE		SER NO.		NOZZLES		RE-RUN		IN	OUT	FEET	HRS	WOB	RPM	ROP											
10		6.75		Ulterra		U613S		34731		6x14				14,317	15,126	809	14.0	28	80	58											
9		6.75		Ulterra		U613S		34732		6x14		N		13,549	14,317	768	16.0	28	80	48											
BIT NO.		9		INNER		3		OUTER		4		DULL		Cutters	LOC	All	SEAL		GAUGE	IG	OTHER	Ring Out	ROP								
HYDRAULICS DATA																															
PUMP		MAKE		MODEL		LINER		STK		SPM		PSI		GPM		GPS		EFF %		ECD		AV DP		AV DC		BIT HHP		PUMP HHP			
1		HHF		1600		5.000		12.000		60		5620		350		2.75		95		14.31		338		417		36.8		1600			
2		HHF		1600		5.000		12.000		60		5620		350		2.75		95		14.31		338		417		36.8		1600			
BHA																															
DESCRIPTION:				Drill Out BHA																											
LENGTH				7,181.53				BHA WT. AIR								BHA WT. MUD				108,000				HRS. ON JARS							
ROT. WT.				213				P.U. WT.				285				S.O. WT.				150				TORQUE				14			
TIME MADE UP				06:30				DATE MADE UP				4/10/2017				TIME PULLED								DATE PULLED							
SURVEY DATA																															
MD				ANGLE				AZIMUTH				TVD				N/S		COORDINATES				E/W		V. SECTION				DLS			
14,698				92.13				162.49				11,370				-2,991.6		1,541.5						3,357.0				1.1			
14,791				91.48				164.69				11,367				-3,080.8		1,567.7						3,449.3				2.5			
14,884				90.34				164.70				11,365				-3,170.5		1,592.3						3,541.4				1.2			
14,978				90.52				163.49				11,364				-3,260.9		1,618.0						3,634.6				1.3			
CONSUMABLES				DIESEL FUEL (gal) Rvcd/Used/On Hand:										DRILL H2O (gal) Rcvd/Used/On Hand:																	
OPERATIONS TIME LOG																															
FROM		TO		HRS		CODE																Start MD		End MD							
06:00		06:30		0.5		Trips		Cont. TOO H T/ BHA (Once we got out of hole found two jets plugged with stator rubber causing shale to build up in junk slot area and weakening motor)														14317		14317							
06:30		08:00		1.5		Trips		L/dn Bha #9, p/up bha #10 scribe mtr to mwd and shallow test same (Once we got out of hole found two jets plugged with stator rubber causing shale to build up in junk slot area and														14317		14317							
08:00		14:30		6.5		Trips		TIH W/ BHA #10 T/ 14,317' Filling pipe @ 30 std intervals														14317		14317							
14:30		17:00		2.5		Drilling		Drill 6.75" Lateral Section F/ 14,317' TO/14,472' (155' @ 62 FPH) Rotate = WOB-22 * GPM-350* SPP-5,432 * Diff - 600-800psi * SPM- 122 * TD RPM- 60 * MTR. RPM-238 * Total RPM-318 * Torq- 14.5KSliding = WOB-42 * GPM-350 * SPP-4,855 * Diff- 250 psi * SPM-														14317		14472							
17:00		17:30		0.5		Lubricate Rig		Service Rig- TD														14472		14472							
17:30		02:00		8.5		Drilling		Drill 6.75" Lateral Section F/ 14,472' TO/14,940' (468' @ 55' FPH) Rotate = WOB-26* GPM-350* SPP-5,438 * Diff - 300-450 psi * SPM- 122 * TD RPM- 80 * MTR. RPM-238 * Total RPM-318 * Torq- 13 K Sliding = WOB-45 * GPM-350 * SPP-4,855 * Diff- 250 psi * SPM-														14472		14940							
02:00		02:30		0.5		Lubricate Rig		Service Rig- Grease TD and CHK fluid levels, Get SPR's														14940		14940							
02:30		06:00		3.5		Drilling		Drill 6.75" Lateral Section F/ 14,940' TO/15,126' (186' @ 53' FPH) Rotate = WOB-28* GPM-350* SPP-5,620 * Diff - 300-650 psi * SPM- 122 * TD RPM- 80 * MTR. RPM-238 * Total RPM-318 * Torq- 13 K Sliding = WOB-45 * GPM-350 * SPP-4,855 * Diff- 250 psi * SPM-														14940		15126							



DRILLING REPORT

WELL:	UL Echo Canyon 20-17 2H				CONTRACTOR:				Cactus				RIG:		Cactus 139	
RPT DATE:	April 12, 2017				SPUD DATE:		3/23/17		CASING		OD	WT	GRD	MD	TVD	
		API #:	42475371420000		DFS:		20		Conductor		20	94	J-55	105	105	
					REPORT NO:		21		Surface		13-3/8	55	J-55	1,184	1,184	
FIELD:	Phantom (Wolfcamp)				DOL:		21		Intermediate		10-3/4	46	J-55	5,047	4,930	
ELEV:		RKB:			LAST BOP TEST:		3/21/17		Intermediate 2		7-5/8	30	P-110HC	10,443	10,349	
MD:	16,125	TVD:	11,356													
24 HR FTG:	999	HRS DRLG:	22		CSGHD:											

DRILLING FLUID																SHOE TEST:				
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)			PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP
18:00	13.0	54.0	15.0	7	8		2	8	16	17	18	14	42,500				#####	60.50	10.24	250.00
												REDUCED PUMP RATES								
												PUMP		SPM		PRESS		DEPTH		
												#1		30		900		15,781		
												#2		30		920		15,781		

BIT DATA																			
NO.	SIZE		MAKE		TYPE		SER NO.		NOZZLES		RE-RUN		IN	OUT	FEET	HRS	WOB	RPM	ROP
10	6.75		Ulterra		U613S		34731		6x14				15,126			22.0	28	80	
BIT NO.			INNER		OUTER		DULL		LOC		SEAL		GAUGE		OTHER		RP		

HYDRAULICS DATA														
PUMP	MAKE	MODEL	LINER	STK	SPM	PSI	GPM	GPS	EFF %	ECD	AV DP	AV DC	BIT HHP	PUMP HHP
1	HHF	1600	5.000	12.000	60	5520	350	2.97	95	14.23	386	411	36.8	1600
2	HHF	1600	5.000	12.000		5520	350	2.97	95	14.23	386	411	36.8	1600

BHA							
DESCRIPTION:	Drill Out BHA						
LENGTH	7,181.53	BHA WT. AIR		BHA WT. MUD	108,000	HRS. ON JARS	
ROT. WT.	210	P.U. WT.	290	S.O. WT.	150	TORQUE	14
TIME MADE UP	06:30	DATE MADE UP	4/10/2017	TIME PULLED	04:30	DATE PULLED	4/12/2017

SURVEY DATA																	
MD		ANGLE		AZIMUTH		TVD		N/S		COORDINATES		E/W		V. SECTION		DLS	
15,725		89.41		163.43		11,358		-3,975.7		1,834.5		4,376.9		1.2			
15,818		90.00		162.50		11,358		-4,064.6		1,861.7		4,469.4		1.2			
15,912		92.62		161.36		11,356		-4,154.0		1,890.9		4,563.0		3.0			
16,005		94.07		161.39		11,351		-4,241.9		1,920.5		4,655.5		1.6			

CONSUMABLES				DIESEL FUEL (gal) Rvcd/Used/On Hand:								DRILL H2O (gal) Rvcd/Used/On Hand:					
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OPERATIONS TIME LOG						
FROM	TO	HRS	CODE		Start MD	End MD
06:00	17:30	11.5	Drilling	Drill 6.75" Lateral Section F/ 15,126' T/15,781' (655' @ 57' FPH) Rotate = WOB-26" GPM-350" SPP-5,617 * Diff - 300-650 psi * SPM- 122 * TD RPM- 80 * MTR. RPM-238 * Total RPM-318 * Torq- 13 K Sliding = WOB-45 * GPM-350 * SPP-4,855 * Diff- 250 psi * SPM-	15126	15781
17:30	18:00	0.5	Drilling	Service Rig- Grease TD	15781	15781
18:00	04:00	10.0	Drilling	Drill 6.75" Lateral Section F/ 15,781' T/16,125' (344' @ 34.4' FPH) Rotate = WOB-28" GPM-350" SPP-5,451 * Diff - 250-450 psi * SPM- 122 * TD RPM- 80 * MTR. RPM-238 * Total RPM-318 * Torq- 13 K Sliding = WOB-46 * GPM-350 * SPP-5,282 * Diff-80- 250 psi * SPM-	15781	16125
04:00	05:00	1.0	Trips	Pump slug/Flow check/TOH for low ROP to 15,684' (pulled tight)	16125	16125
05:00	05:30	0.5	Reaming	Ream tight hole F/15,684' to 15,590'	15684	15590
05:30	06:00	0.5	Trips	TOH t/14,300'	16125	16125

DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H										CONTRACTOR: Cactus										RIG: Cactus 139										
RPT DATE: April 13, 2017										SPUD DATE: 3/23/17					CASING			OD	WT	GRD	MD	TVD								
					API #: 42475371420000					DFS: 21					Conductor			20	94	J-55	105	105								
										REPORT NO: 22					Surface			13-3/8			55	J-55	1,184	1,184						
FIELD: Phantom (Wolfcamp)										DOL: 22					Intermediate			10-3/4			46	J-55	5,047	4,930						
ELEV:					RKB:					LAST BOP TEST: 3/21/17					Intermediate 2			7-5/8			30	2-110H	10,443	10,349						
MD: 16,544					TVD: 11,317																									
24 HR FTG: 419					HRS DRLG: 7					CSGHD:																				
DRILLING FLUID																			SHOE TEST:											
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)			PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP										
18:00	13.2	66.0	11.0	7	8		2	9	17	18	20	13	43,000				#####	60.00	9.89	250.00										
												REDUCED PUMP RATES																		
												PUMP		SPM		PRESS		DEPTH												
												#1		30		900		16,125												
												#2		30		870		16,125												
BIT DATA																														
NO.		SIZE		MAKE		TYPE		SER NO.		NOZZLES		RE-RUN		IN	OUT	FEET	HRS	WOB		RPM	ROP									
11		6.75		HDBS		MMD64DM		12836040		14 TFA=0.9				16,125																
10		6.75		Ulterra		U613S		34731		6x14		N		15,126		16,125		999		22.0	80	45								
BIT NO.		10		INNER		4		OUTER		4		DULL		CR	LOC	C-N	SEAL	X	GAUGE	IG	OTHER	WT	RP	Low ROP						
HYDRAULICS DATA																														
PUMP		MAKE		MODEL		LINER		STK		SPM		PSI		GPM		GPS		EFF %		ECD	AV DP	AV DC	BIT HHP		PUMP HHP					
1		HHF		1600		5.000		12.000				5875		163		0.0017		95		14.4	316	364	37		1600					
2		HHF		1600		5.000		12.000				5875		163		0.0017		95		14.4	316	364	37		1600					
BHA																														
DESCRIPTION:				Lateral Section, Run #5, BHA #11																										
LENGTH				7,192.37				BHA WT. AIR								BHA WT. MUD				200,000				HRS. ON JARS						
ROT. WT.				210				P.U. WT.				290				S.O. WT.				180				TORQUE				14		
TIME MADE UP				13:30				DATE MADE UP				4/12/2017				TIME PULLED								DATE PULLED						
SURVEY DATA																														
MD				ANGLE				AZIMUTH				TVD				N/S		COORDINATES				E/W		V. SECTION				DLS		
16,285				93.27				163.82				11,336				-4,509.4		2,002.0						4,933.4				1.2		
16,378				93.67				162.53				11,331				-4,598.2		2,028.9						5,025.7				1.5		
16,472				94.72				161.38				11,324				-4,687.4		2,058.0						5,119.1				1.7		
16,544				94.72				161.38				11,318				-4,755.4		2,080.9						5,190.6						
CONSUMABLES				DIESEL FUEL (gal) Rcvd/Used/On Hand:																										
				DRILL H2O (gal) Rcvd/Used/On Hand:																										
OPERATIONS TIME LOG																														
FROM		TO		HRS		CODE														Start MD		End MD								
06:00		12:00		6.0		Trips		Cont tooh f/ 14,100' t/ Bha #10												16125		16125								
12:00		13:30		1.5		Trips		L/dn Bha #10, p/up Bha #11 scribe mtr to mwd & shallow test same												16125		16125								
13:30		14:00		0.5		Lubricate Rig		Rig Service												16125		16125								
14:00		21:00		7.0		Trips		TIH to 16,125'												16125		16125								
21:00		04:00		7.0		Drilling		Drill 6.75" Lateral hole F/16,125' 16,544' (419' @ 60 FPH) Rotate Ftg = 389' * Slide Ftg = 30' * Slide Hrs = 2.33 Drilling Parameters: Rotate = WOB 22 * GPM 330 * SPP 5875 * Diff 410 - 525 psi * SPM 112 * TD RPM 80 Mtr RPM 225 * Total RPM 305 * Torq 15-16K Sliding = WOB 35 * GPM 330 * SPP 5450 * Diff 50 - 150 psi * SPM 112 * Mtr RPM 225 . Circulate @350 GPM, rotate @80 RPM and reciprocate pipe 90' until hole is clean, pump high viscosity sweep x2												16125		16544								
04:00		06:00		2.0		Cond Mud & Circ														16544		16544								

DRILLING REPORT

[illegible]

DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H										CONTRACTOR: Cactus										RIG: Cactus 139									
RPT DATE: April 16, 2017										SPUD DATE: 3/23/17					CASING					OD	WT	GRD	MD	TVD					
API #: 42475371420000										DFS: 24					Conductor					20	94	J-55	105	105					
FIELD: Phantom (Wolfcamp)										REPORT NO: 25					Surface					13-3/8	55	J-55	1,184	1,184					
ELEV: 16,544										DOL: 25					Intermediate					10-3/4	46	J-55	5,047	4,930					
MD: 16,544										LAST BOP TEST: 3/21/17					Intermediate 2					7-5/8	30	2-110HC	10,443	10,349					
24 HR FTG:										HRS DRLG:					CSGHD:														
DRILLING FLUID																		SHOE TEST:											
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)	PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP											
23:00	12.1	63.0	25.0	6	7		2	9	15	17	22	10	38,000		15,000	57.50	10.59	250.00											
											REDUCED PUMP RATES																		
											PUMP		SPM		PRESS		DEPTH												
											#1		30		750		7,939												
#2		30		700		7,939																							
BIT DATA																													
NO.		SIZE		MAKE		TYPE		SER NO.		NOZZLES		RE-RUN		IN	OUT	FEET	HRS	WOB	RPM	ROP									
11		6.75		HDBS		MMD64DM		12836040		6x14				16,125	16,544	419	7.0	22	238	60									
BIT NO.		11		INNER		1		OUTER		2		DULL		CT	LOC	G	SEAL	X	GAUGE	IG	OTHER	WT	RP	TD					
HYDRAULICS DATA																													
PUMP		MAKE		MODEL		LINER		STK		SPM		PSI		GPM	GPS	EFF %	ECD	AV DP	AV DC	BIT HHP	PUMP HHP								
1		HHF		1600		5.000		12.000																					
2		HHF		1600		5.000		12.000																					
BHA																													
DESCRIPTION:		Lateral Section, Run #5, BHA #11																											
LENGTH		7,192.37		BHA WT. AIR				BHA WT. MUD		200,000		HRS. ON JARS																	
ROT. WT.		210		P.U. WT.		290		S.O. WT.		180		TORQUE		14															
TIME MADE UP		13:30		DATE MADE UP		4/12/2017		TIME PULLED				DATE PULLED																	
SURVEY DATA																													
MD		ANGLE		AZIMUTH		TVD		N/S		COORDINATES		E/W		V. SECTION		DLS													
CONSUMABLES																													
DIESEL FUEL (gal) Rcvd/Used/On Hand:				DRILL H2O (gal) Rcvd/Used/On Hand:																									
OPERATIONS TIME LOG																													
FROM	TO	HRS	CODE															Start MD	End MD										
06:00	13:30	7.5	Run Csg & Cement	Run 5.5" 23# P-110 Geo Conn casing to 10,421', filling csg @ 40 jt. intervals														16544	16544										
13:30	14:30	1.0	Run Csg & Cement	Fill csg and circ. btm's/up @ 10421'														16544	16544										
14:30	16:30	2.0	Run Csg & Cement	Cont. Running 5 1/2" 23# P-110 Geo Conn. casing f/ 10,421' t/ 12,262', @ 1600'+/- intervals due to obm being contaminated with salt water														16544	16544										
16:30	18:00	1.5	Cond Mud & Circ	Circ. & Cond. mud due to salt water contamination @ 12,262' (MW: IN=13.4/74 vis. OUT=12.6/94 vis.)														16544	16544										
18:00	19:30	1.5	Run Csg & Cement	Cont. to stage in hole with 5.5" 23# P-110 Geo Conn casing to 13,700'														16544	16544										
19:30	21:30	2.0	Cond Mud & Circ	Circ. & Cond. mud due to salt water contamination @ 13,700', 1 B/ U (MW: IN=13.1/74 vis. OUT=12.0/112 vis.)														16544	16544										
21:30	22:00	0.5	Run Csg & Cement	Cont. to stage in hole with 5.5" 23# P-110 Geo Conn casing to 14,165'														16544	16544										
22:00	23:00	1.0	Cond Mud & Circ	Circulate out gas bubble @ 14,165' circulating through buster, 10' flare, ~800 units of gas (MW: IN=13.1/81 vis. OUT=13.2/97 vis.)														16544	16544										
23:00	01:00	2.0	Run Csg & Cement	Run 5.5" 23# P-110 Geo Conn casing to TD @16,544'														16544	16544										
01:00	06:00	5.0	Cond Mud & Circ	Circ. & Cond. mud due to salt water contamination. 116 GPM, 10 RPM, 12-18K Torque. Salt water & gas continued to enter wellbore (1300 units of gas while on buster "5'-10' flare). Decision was made to cement wellbore after spotting kill pill. Spot 200 bbls of 13.7 ppg kill mud.														16544	16544										

[illegible]

DRILLING REPORT

WELL: UL Echo Canyon 20-17 2H				CONTRACTOR: Cactus					RIG:		Cactus 139		
RPT DATE: April 20, 2017				SPUD DATE: 3/23/17		CASING		OD	WT	GRD	MD	TVD	
		API #:	42475371420000		DFS: 28		Conductor		20	94	J-55	105	105
				REPORT NO: 29		Surface		13-3/8	55	J-55	1,184	1,184	
FIELD: Phantom (Wolfcamp)				DOL: 29		Intermediate		10-3/4	46	j-55	5,047	4,930	
ELEV:		RKB:			LAST BOP TEST: 3/21/17		Intermediate 2		7-5/8	30	2-110HC	10,443	10,349
MD:	16,544	TVD:	11,318				Production		5-1/2	23	P-110	16,541	11,318
24 HR FTG:		HRS DRLG:			CSGHD:								

DRILLING FLUID																SHOE TEST:					
TIME	MW	FV	WL	3RPM	6RPM	PH	CAKE	GELS (10s/10m/30m)				PV	YP	CL	K	Pf	Mf	Ca	OIL	LGS	HTHP
23:00	12.1	63.0	25.0				2	9	15	17	22	10	38,000					15,000	57.50	10.59	250.00

REDUCED PUMP RATES			
PUMP	SPM	PRESS	DEPTH
#1	30	750	7,939
#2	30	700	7,939

BIT DATA

NO.		SIZE		MAKE		TYPE		SER NO.		NOZZLES		RE-RUN		IN		OUT		FEET		HRS		WOB		RPM		ROP					
BIT NO.				INNER				OUTER				DULL				LOC				SEAL				GAUGE				OTHER		RP	

HYDRAULICS DATA

[illegible]

BHA

DESCRIPTION:	Lateral Section, Run #5, BHA #11						
LENGTH	7,192.37	BHA WT. AIR		BHA WT. MUD	200,000	HRS. ON JARS	
ROT. WT.	210	P.U. WT.	290	S.O. WT.	180	TORQUE	14
TIME MADE UP	13:30	DATE MADE UP	4/12/2017	TIME PULLED		DATE PULLED	

SURVEY DATA

[illegible]

CONSUMABLES	DIESEL FUEL (gal) Rcvd/Used/On Hand:	DRILL H2O (gal) Rcvd/Used/On Hand:
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OPERATIONS TIME LOG

FROM	TO	HRS	CODE		Start MD	End MD
06:00	18:00	12.0	Rig Up & Tear Down	MIRU - Cont. Moving Rig to Kilpacker 20 -27 2H * 100% off locations.	16544	16544
18:00	06:00	12.0	Rig Up & Tear Down	100% Off location, Location turned over to completions @ 0600 hrs. 04-20-2017	16544	16544
TOTAL HRS		24.0				

WEATHER

WEATHER							
GEN. CONDITIONS:		WIND SPEED:		WIND DIRECTION:		TEMP:	

COMMENTS: