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Detailed Drilling Report										
Lease: University 1-37 unit 4H Operator: Zarvona Energy				API #: 42-003-47682 Spud Date:				Report #: 3 Report Date: 4/25/18		
GL	3,086	Depth (MD)	1,682	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	1,682	State	Texas	Toolpusher	Rene Samora (325)-450-1134			
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715			
				Co Supv	R. Kidd					
PRESENT OPERATIONS										
Running surface casing										
Drill to TD 1,682', CBU, short trip, CBU, POH, R/U and run casing										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
10	435	5	19.5	S-195	4.1/2 IF		Bit 17.5		1.50	
							Mud motor		31.50	
							Shock sub		15.00	
							IBS		6.00	
LAST CASING STRINGS							5-8" DC's		148.68	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		X-O		2.71	
20"	0	80					18-6.1/4 DC's		529.64	
							X-O		2.35	
							TOTAL		737.38	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	8:00	2.00		Unplug flowine and R/U and jet out cellar.						
8:00	16:30	8.50		Drill f/ 1,172' t/1,680' (508 ft @ 59.76 fph) WOB 15/24 , Rpm 65 , Gpm 705 , Spp 1800 , Diff psi 350 , (drop one soap stick and sap stick every connection and pump 10 bbls starch / gal sweep every 100')						
16:30	18:00	1.50		CBU, pump 3 starch/gel sweeps.						
18:00	19:30	1.50		Short Trip, Back ream @ 1447' , 1296' , 1218' , 1150'						
19:30	20:30	1.00		Trip in hole , No drag						
20:30	21:30	1.00		CBU, pump 2 starch/gel sweeps.						
21:30	22:30	1.00		Trip out , Back ream @ 1286' 1150' @ drill collar						
22:30	0:30	2.00		Stand back drill collars (6 stands 6.1/4 dc's , 2 stands 8" dc's)						
0:30	2:00	1.50		Lay down IBS , Shock sub , mud motor , bit						
2:00	2:30	0.50		Clean rig floor						
2:30	3:00	0.50		PJS/M						
3:00	5:00	2.00		Rig up casing tools						
5:00	6:00	1.00		Make up shoe track , check float , Run 13.3/8 csg						
TOTAL		24.0		Contacted TRRC @ 1915 hrs on upcoming csg/cmt job. Audrey operator #2						
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING		Bkgd Gas		Start	8569	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP		Conn Gas		Received		Surface	0	Make/Model	FB-1600	FB-1600/P210
DOWN		Trip Gas		End	6900	Hole	0	SPR (SPM)		
TORQUE		Max Gas		Used	1669	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)				Stroke, in.	12"	12"/ 10"
				Total Cost (\$)	\$16,874.00			Liner / gal sks	5.5	5.5/6.5
BIT RECORD		MUD						S.P.M.	100	100
Number	1	Type	WBM	Solids				Rate, G.P.M.	350	350
Size, in.	17.1/2	Time		O/W Cont.				Press, psi	2000	2000
Type	CF616	Company		O/W Ratio		Notes				
code		FL Temp (deg F)		Alk P mud						
Serial No.	32573	Depth		Lime						
Jets, 32nds	9x18	Density ppg	9.5	Salt						
W.O.B., lb.	20	Viscosity	36	600/300			Days Crew:	5	BOP DRILLS	
R.P.M.	65	PV/YP		Chlorides			Nights Crew:	5	BOP DRILLS	
Depth out, ft	1682	Gels: I/10		El. Stab						
Depth in, ft	94	API W/L		WPS						
Footage	1588	HTHP W/L		Calcium						
Hours	19.5	Cake API/HTH		LGS						
Mlgr	Ultrera	PH					Days from spud:	1.6		

Detailed Drilling Report									
Lease: University 1-37 unit 4H Operator: Zarvona Energy				API #: 42-003-47682 Spud Date:				Report #: Report Date: 4/26/18	
GL	3,086	Depth (MD)	1,682	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H
KB-GL	26	TVD	1,682	State	Texas	Toolpusher	Rene Samora (325)-450-1134		
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715		
				Co Supv	R. Kidd				
PRESENT OPERATIONS									
N/U BOP									
Run 13.3/8 csg to 1669' , Circ b/u , Pump Cement , WOC , Cut off conductor & 13.3/8 csg , Dress & install well head , N/U BOPE, Run gyro survey									
DRILL PIPE							BHA		
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT	LENGTH	
10	435	5	19.5	S-195	4.1/2 IF				
LAST CASING STRINGS									
SIZE	TOP	BOTTOM	WT	GRADE	CONN				
20"	0	80							
13.375	0	1673	54.5	J-55	BTC				
							TOTAL	--	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS					
6:00	10:00	4.00		Run 13.375" 54.5#/ft J-55 BTC csg. Shoe, 2jnts, FC+ 37 jnts to 1,669'. Bowspring centralizer every 3rd jnt.					
10:00	11:30	1.50		Circulate hole clean.					
				PISM, Test lines to Switch to BJ cement lines. Test same to 2,500 psi. Pump 40 bbls fresh water, followed by 1404 sks, 441 bbls, 12.8 ppg, 1.76 Yld. lead , 385 sks,91 bbls of 14.8 ppg, 1.33 Yld, tail cement @ 5 to 7 BPM.Displaced with 245 bbls water @ 6.5 BPM. Full returns. Bumped plug @ 1424hrs with 500 psi over FCP of 450. (950 psi) @ 3 BPM. Floats held. 1.0 bbl back. 285 bbls= 907 sks of cement returned to surface.					
11:30	14:30	3.00		Test csg to 1500 psi, 30 min chart.					
14:30	15:00	0.50		R/D BJ, flush thru conductor and fline. WOCmt.					
15:00	19:00	4.00		Cut off conductor , 13 3/8 csg lay down same					
19:00	21:00	2.00		Dress off 13.625 csg , Heat and weld 13.625" x 3m x 13.375" SOW C-22 casing head. Test to 900 psi					
21:00	23:30	2.50		Remove DSA from BOP and install Drilling spool and BOP stack on well head , rig up and Run gyro					
23:30	4:30	5.00		N/U BOPE					
4:30	6:00	1.50							
				TRRC Mr. David Hill on location.					
TOTAL		24.0		Contacted TRRC @ 1915 hrs on upcoming csg/cmt job. Audrey operator #2					
STRING WEIGHT		GAS	DIESEL (GAL)			TOTAL OBM LOSS		HYDRAULICS	
ROTATING		Bkgd Gas	Start	6900	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP		Conn Gas	Received		Surface	0	Make/Model	FB-1600	FB-1600/PZ10
DOWN		Trip Gas	End	5700	Hole	0	SPR (SPM)		
TORQUE		Max Gas	Used	1200	Centrifuge	0	@ # (psi)		
			Rate (\$/gal)				Stroke, in.	12"	12"/ 10"
			Total Cost (\$)	\$16,874.00			Liner / gal sks	5 1/4"	5 1/4" & 6 1/4"
BIT RECORD			MUD				S.P.M.		
Number	1	Type	WBM	Solids			Rate, G.P.M.		
Size, in.	17.1/2	Time		O/W Cont.			Press, psi		
Type	CF616	Company		O/W Ratio		Notes			
code		FL Temp (deg F)		Alk P mud					
Serial No.	32573	Depth		Lime					
Jets, 32nds	9x18	Density ppg	9.5	Salt					
W.O.B., lb.	20	Viscosity	36	600/300					
R.P.M.	65	PV/YP		Chlorides					
Depth out, ft	1682	Gels: I/10		El. Stab					
Depth in, ft	94	API W/L		WPS					
Footage	1588	HTHP W/L		Calcium					
Hours	19.5	Cake API/HTH		LGS					
Mlgr	Ulterra	PH							
						Days from spud:	2.6		

Detailed Drilling Report										
Lease: University 1-37 unit 4H		API #: 42-003-47682		Report #: 5						
Operator: Zarvona Energy		Spud Date:		Report Date: 4/27/18						
GL	3,086	Depth (MD)	2,150	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	2,150	State	Texas	Toolpusher	Rene Samora (325)-450-1134			
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715			
				Co Supv	R. Kidd					
PRESENT OPERATIONS										
DRILLING @ 2150										
N/U BOP, TEST BOP, P/U DIR TOOLS, TRIP IN, CUT DRILL LINE, R/S, DRILL OUT SHOE TRACK, DRILL TO 2150										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
29	1328	5	19.5	S-195	4.1/2 IF		BIT 10.5/8 XS716S		1.00	
							MUD MOTOR 7/8 4.0 FBH @ 1.5 10.1/8" STB		30.07	
							SHOCK SUB		13.07	
							NORTRAK STB		4.42	
LAST CASING STRINGS							NMPC		11.48	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		UBHO SUB		2.78	
20"	0	80					NMDC MWD		30.57	
13.375	0	1673	54.5	J-55	BTC		NMDC		30.99	
							STB		7.89	
							8" DC W/ X-O		153.45	
							6.1/4 DC'S W/ X-O		536.46	
							TOTAL		822.18	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	8:30	2.50		N/u BOP						
8:30	11:30	3.00		Test BOP all rams 1500 psi, Hydrill 1000 psi, choke manifold valves 1500 psi						
11:30	16:00	4.50		Pick up BHA, Mud motor 7/8 4.0 fbh 1.5 w/ 10.1/8" ubhs, Shock sub, Stb, Nmpc, Ubho sub, Nmdc-MWD, Stb, - Test MWD / Motor, Make up Bit # 2						
16:00	18:30	2.50		Trip in with drill collars 2- stand 8", 6- stands 6.1/4"						
18:30	19:00	0.50		Trip in with drill pipe to 1540'						
19:00	21:00	2.00		Cut drill line						
21:00	22:00	1.00		Weekly top drive service						
22:00	22:30	0.50		Install Rotating head						
22:30	0:00	1.50		Drill Shoe Track (wob 12, rpm 20, gpm 350)						
0:00	2:30	2.50		Drill 10.5/8 hole from 1682 to 1837 (155 ft @ 62 fph) WOB 25, RPM 40/65, GPM 650, DIFF 250, SPP 1950						
2:30	3:00	0.50		Slide from 1837 to 1862 (25 ft @ 50 fph) WOB 10, GPM 650, Diff 125						
3:00	6:00	3.00		Drill / Slide from 1862 to 2150 (288 ft @ 96 fph) WOB 30, RPM 65, GPM 650, DIFF 250, SPP 1950						
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING		Bkgd Gas		Start	5700	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP		Conn Gas		Received		Surface	0	Make/Model	FB-1600	FB-1600/P210
DOWN		Trip Gas		End	4626	Hole	0	SPR (SPM)		
TORQUE		Max Gas		Used	1074	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)				Stroke, in.	12"	12" / 10"
				Total Cost (\$)	\$16,874.00			Liner / gal sks	5 1/2"	5 1/2 " & 6 1/2"
BIT RECORD		MUD						S.P.M.	93	93
Number	1	2	Type	BR	Solids			Rate, G.P.M.	320	320
Size, in.	17.1/2	10.5/8	Time		O/W Cont.			Press, psi	1800	1800
Type	CF616	XS716S	Company		O/W Ratio		Notes			
code			FL Temp (deg F)		Alk P mud					
Serial No.	32573	5665	Depth		Lime					
Jets, 32nds	9x18	7X16	Density ppg	9.2	Salt					
W.O.B., lb.	20	35	Viscosity	28	600/300					
R.P.M.	65	65	PV/YP		Chlorides					
Depth out, ft	1682		Gels: I/10		El. Stab					
Depth in, ft	94	1682	API W/L		WPS					
Footage	1588	468	HTHP W/L		Calcium					
Hours	19.5	6	Cake API/HTH		LGS					
Mfgr	Ultrerra	SMITH	PH							
Days from spud:		3.6								

Detailed Drilling Report

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Detailed Drilling Report										
Lease: University 1-37 unit 4H		API #: 42-003-47682		Report #: 9						
Operator: Zarvona Energy		Spud Date: 04/23/18 1700hrs		Report Date: 5/1/18						
GL	3,086	Depth (MD)	5,668	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	5,658	State	Texas	Toolpusher	Rene Samora (325)-450-1134			
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715			
				Co Supv	R. Kidd					
PRESENT OPERATIONS										
DRILLING @ 5668										
TRIP IN , WASH DOWN TAG FISH GET OVER FISH , TRIP OUT , L/D FISHING TOOLS & FISH , P/U DIR TOOL , WO NEW SHOCT SUB , M/U DIR TOOLS , TRIP IN , WASH TO BOTTOM , DRILL										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
105	4546	5	19.5	S-195	4.1/2 IF		BIT 10.5/8 XS716S		1.00	
							MUD MOTOR 7/8 4.0 FBH @ 1.5 10.1/8" STB		29.77	
							SHOCK SUB		13.07	
							NORTRAK STB		4.42	
LAST CASING STRINGS							NMPC		11.48	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		UBHO SUB		2.78	
20"	0	80					NMDC MWD		30.57	
13.375	0	1673	54.5	J-55	BTC		NMDC		30.99	
							STB		7.89	
							8" DC W/ X-O		153.45	
							6.1/4 DC'S W/ X-O		536.46	
							TOTAL		821.88	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	8:30	2.50	AIM	TIH						
8:30	10:00	1.50	AIM	Pick up std #59 and record string wt 140k and pump pressure @ 155 gpm and 130 psi, tag fish and rotate @ 5 rpm pressure increase to 600. stop tra and pick up with 25k drag and kept 400 psi.,						
10:00	14:00	4.00	AIM	Pump slug and POH.						
14:00	16:00	2.00	AIM	Lay down fishing tools , Break out bit , remove over shot from fish , lay down over shot & fish						
16:00	16:30	0.50	AIM	Clean rig floor						
16:30	17:30	1.00	AIM	Pick up new mud motor , p/u shock sub Found snap ring & oil seal came apart out from the manual , call for new shock sub						
17:30	20:00	2.50		W.O New shock sub						
20:00	21:00	1.00		Off load , CK OD / ID , Pick up new shock sub						
21:00	22:30	1.50	AIM	P/u directional assembly. Scribe & orient , Mud Motor and MWD. Surface Test same.M/U XS716S RR#2 bit.						
22:30	1:00	2.50	AIM	Trip in with Drill collars						
1:00	3:30	2.50	AIM	Trip in with drill pipe , fill up every 30 std's						
3:30	4:30	1.00	AIM	Check shot @ 5526' , Wash to bottom , wash bottom						
4:30	6:00	1.50		Slide from 5637 to 5668 (31 ft @ 20.6 fph) WOB 25 , RPM 0 , GPM 613 , SPP 2893 , DIFF 75						
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING		Bkgd Gas		Start	8075	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP		Conn Gas		Received		Surface	0	Make/Model	FB-1600	FB-1600/P210
DOWN		Trip Gas		End	7238	Hole	0	SPR (SPM)		
TORQUE		Max Gas		Used	837	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)		<div>Notes</div>				
				Total Cost (\$)	\$37,957.00					
BIT RECORD		MUD								
Number	2	RR 2	Type	obm	Solids					
Size, in.	10.5/8	10.5/8	Time	9:00 PM	O/W Cont.			Stroke, in.	12"	12"/ 10"
Type	XS716S	XS716S	Company	AES	O/W Ratio	58/42		Liner / gal sks	5 1/2"	5 1/2 " & 6%
code			FL Temp (deg F)	97	Alk P mud	3.5		S.P.M.	90	90
Serial No.	5665	5665	Depth	5637	Lime	4.6		Rate, G.P.M.	305	305
Jets, 32nds	7X16	7X16	Density ppg	8.9	Salt			Press, psi	3050	3050
W.O.B., lb.	35	35	Viscosity	68	600/300		Days Crew:	5	BOP DRILLS	
R.P.M.	65	65	PV/YP	29/11	Chlorides	42000	Nights Crew:	5	BOP DRILLS	
Depth out, ft			Gels: I/10	7/10	El. Stab	243				
Depth in, ft	1682	1682	API W/L	12	WPS	147714				
Footage	3955	3986	HTHP W/L	10	Calcium					
Hours	55	56.5	Cake API/HTH	3	LGS					
Mfgr	SMITH	SMITH	PH				Days from spud:	7.6		

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Detailed Drilling Report										
Lease: University 1-37 unit 4H		API #: 42-003-47682		Report #: 13						
Operator: Zarvona Energy		Spud Date: 04/23/18 1700hrs		Report Date: 5/5/18						
GL	3,086	Depth (MD)	8,314	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	8,192	State	Texas	Toolpusher	Rene Samora (325)-450-1134			
				Co Supv	R.Kidd		Daniel Vickers (325) 450-7715			
				Co Supv	S. Velazquez					
PRESENT OPERATIONS										
Drilled Intermediate hole to 8,314'. Working on MP's.										
Reprogrammed TDS VFD. Slide & rotate drill F/ 7,736' to 8,314'. Repairing Mud Pumps.										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
164	7565	5	19.5	S-195	4.1/2 IF		BIT 10.5/8 XS716S		1.00	
							MUD MTR 7/8 4.0 FBH @ 1.5 10.1/8" STB, .17rev/gl		29.77	
							SHOCK SUB		13.07	
							NORTRAK STB		4.42	
LAST CASING STRINGS							NMPC		11.48	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		UBHO SUB		2.78	
20"	0	80					NMDC MWD		30.57	
13.375	0	1673	54.5	J-55	BTC		NMDC		30.99	
							STB		7.89	
							8" DC W/ X-O		153.45	
							6.1/4 DC'S W/ X-O		536.46	
							TOTAL		821.88	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	9:30	3.50	VFD TDS	Repair rig. TDS VFD lost program. Reloading program.						
9:30	13:30	4.00		Rotate & Slide drill F/ 7736' to / 7,832' (96' @ 24 fph) 17-27K wob,0- 45 rpm, Off Bott Torq-9.5k, On Bott- 16K Torq, 680-610 gpm, 3500-3375 spp, 50-375 # diff. MW-9.3 ppg.						
13:30	14:00	0.50		Rig Service						
14:00	18:00	4.00		Rotate & Slide drill F/ 7,832' to / 8,058' (226' @ 56.5 fph) 17-27K wob,0- 45 rpm, Off Bott Torq-9.5k, On Bott- 16K Torq, 680-610 gpm, 3500-3375 spp, 50-375 # diff. MW-9.3 ppg.						
18:00	21:00	3.00		Rotate drill F/ 8,058' to / 8,209' (151' @ 50 fph) 33K wob, 45 rpm, Off Bott Torq-10k, On Bott- 16.2K Torq, 624 gpm, 3300 spp, 375 # diff. MW-9.25 ppg. Pumped 5 bbls lcm pill @ 8,110' & 8,180'.						
21:00	0:00	3.00		Slide drill F/ 8,209' to / 8,228' (19' @ 6.5 fph) 17K wob, 0 rpm, 675 gpm, 3550 spp, 100 # diff. MW-9.3 ppg. Pumped 5 bbls lcm pill @ 8,220'. GTF: 15 to 90R						
0:00	1:30	1.50		Rotate drill F/ 8,228' to / 8,304' (76' @ 51 fph) 33K wob, 45 rpm, Off Bott Torq-10k, On Bott- 16.2K Torq, 624 gpm, 3300 spp, 375 # diff. MW-9.3 ppg.						
1:30	2:00	0.50		Rig Service						
2:00	4:00	2.00		Slide drill F/ 8,304' to / 8,314' (10' @ 5 fph) 14K wob, 0 rpm, 665 gpm, 3475 spp, 150 # diff. MW-9.3 ppg. GTF: 40R						
4:00	4:30	0.50	Pumps	Rig Repair. Swab out on #2 MP middle pod. Switched pumps and then swab went out on #3 MP right pod. Isolate pumps.						
4:30	6:00	1.50	Pumps	Circulating @ 416 GPM w/ 1470 SPP, 10 RPM, off bottom, while repairing #2 & #3 MP. DD were not able to slide with one pump. C/O middle liner & swab on #2 MP.						
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING	226	Bkgd Gas		Start	6562	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP	250	Conn Gas		Received		Surface	0	Make/Model	FB-1600	FB-1600/P210
DOWN	190	Trip Gas		End	3891	Hole	0	SPR (SPM)		
TORQUE	10-16K	Max Gas		Used	2671	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)				Stroke, in.	12"	12"/ 10"
				Total Cost (\$)	\$55,477.00			Liner / gal sks	5 1/2"	5 1/2 " & 6 1/2"
BIT RECORD		MUD				<div>Notes</div> <div>Days Crew: 5 BOP DRILLS</div> <div>Nights Crew: 5 BOP DRILLS</div>				
Number	RR 2	Type	AES VERT	Solids	11.8%					
Size, in.	10.5/8	Time	5:00 PM	O/W Cont.	57/30					
Type	XS716S	Company	AES	O/W Ratio	66/34					
code		FL Temp (deg F)	123	Alk P mud	2.9					
Serial No.	5665	Depth	8011	Lime	3.8					
Jets, 32nds	7X16(1.374)	Density ppg	9.3	Salt						
W.O.B., lb.	27	Viscosity	61	600/300	46/27					
R.P.M.	40	PV/YP	19/8	Chlorides	35000					
Depth out, ft	8314	Gels: I/10	7/10	El. Stab	316v					
Depth in, ft	1682	API W/L		WPS	154651					
Footage	6632	HTHP W/L	8	Calcium						
Hours	143.5	Cake API/HTH	3	LGS	11.80%					
Mfgr	SMITH	PH				Days from spud:	11.6			

Detailed Drilling Report									
Lease: University 1-37 unit 4H		API #: 42-003-47682		Report #: 14					
Operator: Zarvona Energy		Spud Date: 04/23/18 1700hrs		Report Date: 5/6/18					
GL	3,086	Depth (MD)	8,614	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H
KB-GL	26	TVD	8,490	State	Texas	Toolpusher	Rene Samora (325)-450-1134		
				Co Supv	R.Kidd		Daniel Vickers (325) 450-7715		
				Co Supv	S. Velazquez				
PRESENT OPERATIONS									
POOH for BHA change @ DC's.									
Slide & rotate drill F/ 8,314' to 8,614'. Trouble sliding and keeping TF. CBU. POOH for bit & BHA change.									
DRILL PIPE							BHA		
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH
170	7842	5	19.5	S-195	4.1/2 IF		BIT 10.5/8 XS716S		1.00
							MUD MTR 7/8 4.0 FBH @ 1.5 10.1/8" STB, .17rev/gl		29.77
							SHOCK SUB		13.07
							NORTRAK STB		4.42
LAST CASING STRINGS							NMPC		
SIZE	TOP	BOTTOM	WT	GRADE	CONN		UBHO SUB		2.78
20"	0	80					NMDC MWD		30.57
13.375	0	1673	54.5	J-55	BTC		NMDC		30.99
							STB		7.89
							8" DC W/ X-O		153.45
							6.1/4 DC'S W/ X-O		536.46
							TOTAL		821.88
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS					
6:00	6:30	0.50		Drill F/ 8314' to / 8323 (9' @ 18fph) 25 wob, 45 rpm, 425 gpm, 1800 spp, 250 diff. MW-9.3 ppg.					
6:30	7:00	0.50		Circ with pump 1 , While Fixing pop off on pump 2					
7:00	7:30	0.50		Drill F/ 8323 to / 8340 (17 ' @ 34 fph) 25 wob, 45 rpm, 665 gpm, 3475 spp, 250 diff. MW-9.3 ppg.					
7:30	9:00	1.50		Slide from 8340 to 8358 (18 @ 12 fph) wob 8/10 , 665 gpm , 3380 spp , diff 85					
9:00	12:00	3.00		Drill from 8358 to 8484 (126 @ 42 fph) wob 27 , gpm 630 , 3500 spp , diff 350					
12:00	3:00	3.00		Slide from 8484 to 8510 (26 @ 8.5 fph) wob 8/10 , 665 gpm , 3380 spp , diff 85					
3:00	4:30	1.50		Drill from 8510 to 8571 (61 @ 41 fph) wob 27 , gpm 630 , 3500 spp , diff 350					
4:30	5:30	1.00		Weekly Top Drive service					
17:30	18:00	0.50		Rotate drill F/ 8,571' to / 8,591' (20' @ 40 fph) 27K wob, 45 rpm, Off Bott Torq-10.2k, On Bott- 17K Torq, 620 gpm, 3365 spp, 375 # diff. MW-9.25 ppg.					
18:00	23:00	5.00		Slide drill F/ 8,591' to / 8,614' (23' @ 4.5 fph) 14K wob, 0 rpm, 680 gpm, 3500 spp, 50 # diff. MW-9.25 ppg. GTF: 40R. DD tools not keeping tool face.					
23:00	0:00	1.00		Pump 15 bbls LCM sweep & Circulate while building slug & filling trip tank. Check flow. OK.					
0:00	6:00	6.00		Slug.POOH for Bit. DD not able to keep tool face on corrective slides. Hole taking proper fill. Normal drag.					
TOTAL		24.0							
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS	
ROTATING	234	Bkgd Gas		Start	4291	Cuttings	0	Pump No.	No. 1
UP	275	Conn Gas		Received	400	Surface	0	Make/Model	FB-1600
DOWN	175	Trip Gas		End	2068	Hole	0	SPR (SPM)	
TORQUE	10-17K	Max Gas		Used	2223	Centrifuge	0	@ # (psi)	
				Rate (\$/gal)	\$2.65	<div> <div>Stroke, in.</div> <div>12"</div> </div> <div> <div>Liner / gal sks</div> <div>5 1/2"</div> </div> <div> <div>S.P.M.</div> <div>94</div> </div> <div> <div>Rate, G.P.M.</div> <div>332</div> </div> <div> <div>Press, psi</div> <div>3325</div> </div>			
				Total Cost (\$)	\$56,537.00				
BIT RECORD		MUD							
Number	RR 2	Type	AES VERT	Solids	10.3%				
Size, in.	10.5/8	Time	5:00 PM	O/W Cont.	60/28				
Type	XS716S	Company	AES	O/W Ratio	68/32				
code		FL Temp (deg F)	122	Alk P mud	3.1				
Serial No.	5665	Depth	8568	Lime	4				
Jets, 32nds	7X16(1.374)	Density ppg	9.2	Salt					
W.O.B., lb.	27	Viscosity	56	600/300	46/26				
R.P.M.	45	PV/YP	20/6	Chlorides	45000				
Depth out, ft	8614	Gels: 1/10	7/9	El. Stab	396v				
Depth in, ft	1682	API W/L		WPS	201287				
Footage	6932	HTHP W/L	8	Calcium					
Hours	159	Cake API/HTH	3	LGS	9.90%				
Mfgr	SMITH	PH							
Notes						<div> <div>Days Crew:</div> <div>5</div> </div> <div> <div>Nights Crew:</div> <div>5</div> </div> <div> <div>BOP DRILLS</div> <div>BOP DRILLS</div> </div>			
Days from spud:						12.6			

Detailed Drilling Report										
Lease: University 1-37 unit 4H		API #: 42-003-47682		Report #: 15						
Operator: Zarvona Energy		Spud Date: 04/23/18 1700hrs		Report Date: 5/7/18						
GL	3,086	Depth (MD)	8,767	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	8,642	State	Texas	Toolpusher	Rene Samora (325)-450-1134			
				Co Supv	R.Kidd		Daniel Vickers (325) 450-7715			
				Co Supv	S. Velazquez					
PRESENT OPERATIONS										
Drilled intermediate to 8,767'.										
POOH & L/D BHA,P/U new BHA. TIH to shoe. Workon TDS encoders.TIH to 5,500'. Ream F/ 5,500' to 5,800'.TIH to 8,614'. Slide & rotate drill F/ 8,614' to 8,767'.										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
174	8028	5	19.5	S-195	4.1/2 IF		BIT 10.5/8 MM75DM		1.00	
							MUD MTR 7/8 4.0 FBH @ 1.5 10.1/8" STB, .17rev/gl		29.53	
							SHOCK SUB		12.43	
							NORTRAK STB		4.42	
LAST CASING STRINGS							NMPC		11.48	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		UBHO SUB		4.12	
20"	0	80					NMDC MWD		30.57	
13.375	0	1673	54.5	J-55	BTC		NMDC		30.99	
							STB		7.89	
							8" DC W/ X-O		153.45	
							6.1/4 DC'S W/ X-O		536.46	
							TOTAL		822.34	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	7:00	1.00		Trip out						
7:00	8:30	1.50		Lay down shock sub , Ubho , MWD , Mud motor						
8:30	9:00	0.50		Clean rig floor						
9:00	11:00	2.00		Pick up Directional tools Scribe motor, new ubho , install MWD Test same , Make up Bit # 3						
11:00	13:00	2.00		Trip in hole to 1652'						
13:00	13:30	0.50		Rig service						
13:30	17:30	4.00	top drive	Work on top drive , Replace A Belt , Trouble shoot encoders , Change out Encoder on motor # 4						
17:30	18:00	0.50		TIH to shoe.						
18:00	20:00	2.00		TIH to 5,500'.						
20:00	22:00	2.00		Ream F/ 5,500' to 5,800' to mitigate section DLS w/ 550 GPM, 5-10k WOB, & 50 RPM. Max 15k Torque reaming @ 5657'.						
22:00	23:30	1.50		Continue TIH F/ 5,800' to 8,614'.						
23:30	2:30	3.00		Slide drill F/ 8,614' to / 8,634' (20' @ 6.5 fph) 16K wob, 0 rpm, 669 gpm, 3555 spp, 140 # diff. MW-9.2 ppg. GTF: HS						
2:30	6:00	3.50		Rotate drill F/ 8,634' to / 8,767' (133' @ 38 fph) 27-29K wob, 40 rpm, Off Bott Torq-10.5k, On Bott- 17.5K Torq, 627 gpm, 3350 spp, 325 # diff. MW-9.2 ppg.						
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING	235	Bkgd Gas		Start	9068	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP	275	Conn Gas		Received	7000	Surface	0	Make/Model	FB-1600	FB-1600/PZ10
DOWN	192	Trip Gas		End	7742	Hole	0	SPR (SPM)		
TORQUE	10-17K	Max Gas		Used	1326	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)	\$2.60			Stroke, in.	12"	12"/ 10"
				Total Cost (\$)	\$74,800.00			Liner / gal sks	5 1/2"	5 1/2 " & 6%
BIT RECORD		MUD						S.P.M.	89	89
Number	RR 2	3	Type	AES VERT	Solids	10.2%				
Size, in.	10.5/8	10.625	Time	5:00 PM	O/W Cont.	60/28				
Type	XS716S	MM75DM	Company	AES	O/W Ratio	68/32				
code			FL Temp (deg F)	118	Alk P mud	2.7				
Serial No.	5665	37358	Depth	8614	Lime	3.5				
Jets, 32nds	7X16(1.374)	7x18(1.739)	Density ppg	9.2	Salt					
W.O.B., lb.	27		Viscosity	58	600/300	43/25				
R.P.M.	45		PV/YP	18/7	Chlorides	49000				
Depth out, ft	8614		Gels: I/10	6/8	El. Stab	396v				
Depth in, ft	1682	8614	API W/L		WPS	201287				
Footage	6932	153	HTHP W/L	8	Calcium					
Hours	159	6.5	Cake API/HTH	3	LGS	9.90%				
Mfr	SMITH	Halliburton	PH							
Days from spud:							13.6			

Detailed Drilling Report										
Lease: University 1-37 unit 4H		API #: 42-003-47682		Report #: 16						
Operator: Zarvona Energy		Spud Date: 04/23/18 1700hrs		Report Date: 5/8/18						
GL	3,086	Depth (MD)	9,258	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	9,128	State	Texas	Toolpusher	Rene Samora (325)-450-1134			
				Co Supv	R.Kidd		Daniel Vickers (325) 450-7715			
				Co Supv	S. Velazquez					
PRESENT OPERATIONS										
POOH to P/U 2-7/8" tubing for cement plug.										
Slide & rotate drill F/ 8,767' to 9,258'. Notified from office to stop drilling. CBU. POOH.										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
184	8487	5	19.5	S-195	4.1/2 IF		BIT 10.5/8 MM75DM		1.00	
							MUD MTR 7/8 4.0 FBH @ 1.5 10.1/8" STB, .17rev/gl		29.53	
							SHOCK SUB		12.43	
							NORTRAK STB		4.42	
LAST CASING STRINGS							NMPC		11.48	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		UBHO SUB		4.12	
20"	0	80					NMDC MWD		30.57	
13.375	0	1673	54.5	J-55	BTC		NMDC		30.99	
							STB		7.89	
							8" DC W/ X-O		153.45	
							6.1/4 DC'S W/ X-O		536.46	
							TOTAL		822.34	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	12:30	6.50		Rotate drill F/ 8767' to / 9021' (254' @ 39.0 fph) 27-29K wob, 40 rpm, Off Bott Torq-10.5k, On Bott- 17.5K Torq, 627 gpm, 3350 spp, 325 # diff. MW-9.2 ppg.						
12:30	13:30	1.00	Motors	Generators motor's got hot and died & cool down same & restart same and put back on line , power up top drive VFD						
13:30	14:00	0.50		Rotate drill F/ 9021' to / 9040' (19' @ 38 fph) 27-29K wob, 40 rpm, Off Bott Torq-10.5k, On Bott- 17.5K Torq, 627 gpm, 3350 spp, 325 # diff. MW-9.2 ppg.						
14:00	16:00	2.00		Slide drill F/ 9,040' to / 9,058' (18' @ 9 fph) 22K wob, 0 rpm, 615 gpm, 3160 spp, 95 # diff. MW-9.25 ppg. GTF: 10R						
16:00	18:30	2.50		Rotate drill F/ 9058' to / 9139' (81' @ 32.5 fph) 27-29K wob, 40 rpm, Off Bott Torq-11k, On Bott- 16K Torq, 620 gpm, 3230 spp, 225 # diff. MW-9.25 ppg.						
18:30	19:00	0.50	Motors	All 3 Generator motors got hot and went off line, let cool down & restart same. Put back on line.						
19:00	23:00	4.00		Rotate drill F/ 9,139' to / 9,258' with 1 MP while cooling motors. (119' @ 30 fph) 28K wob, 50 rpm, Off Bott Torq-10k, On Bott- 16.2K Torq, 405 gpm, 1785 spp, 305 # diff. MW-9.25 ppg. Stop drilling.						
23:00	1:00	2.00		Circulate. Build slug & fill trip tank. Check flow.OK. Pump slug.						
1:00	6:00	5.00		POOH. Slightly high pull of 35-40K over string weight on first 2 stands. Pulled 43K over St Wt @ 5,888'. At DL F/ 5700' to 5500' pulled Max 35k over St Wt in few spots. Continue POOH with proper hole fill.						
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING	250	Bkgd Gas		Start	11542	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP	295	Conn Gas		Received	3800	Surface	0	Make/Model	FB-1600	FB-1600/PZ10
DOWN	215	Trip Gas		End	9450	Hole	0	SPR (SPM)		
TORQUE	13.5-17K	Max Gas		Used	2092	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)	\$2.65			Stroke, in.	12"	12"/ 10"
				Total Cost (\$)	\$84,885.00			Liner / gal sks	5 1/2"	5 1/2" & 6"
BIT RECORD		MUD						S.P.M.	115	
Number	3	Type	AES VERT	Solids	10.1%	Notes		Rate, G.P.M.	407	
Size, in.	10.625	Time	5:00 PM	O/W Cont.	58/30			Press, psi	1500	
Type	MM75DM	Company	AES	O/W Ratio	66/34					
code		FL Temp (deg F)	122	Alk P mud	2.8					
Serial No.	37358	Depth	9094	Lime	3.6					
Jets, 32nds	7x18(1.739)	Density ppg	9.2	Salt		Days Crew:	5	BOP DRILLS		
W.O.B., lb.	28k	Viscosity	56	600/300	47/27	Nights Crew:	5	BOP DRILLS		
R.P.M.	40-50	PV/YP	20/7	Chlorides	50000					
Depth out, ft	9258	Gels: I/10	7/9	EL. Stab	396v					
Depth in, ft	8614	API W/L		WPS	207197					
Footage	644	HTHP W/L	8	Calcium						
Hours	22	Cake API/HTH	3	LGS	10.10%					
Mfr	Halliburton	PH				Days from spud:	14.6			

Detailed Drilling Report											
Lease: University 1-37 unit 4H		API #: 42-003-47682		Report #: 17							
Operator: Zarvona Energy		Spud Date: 04/23/18 1700hrs		Report Date: 5/9/18							
GL	3,086	Depth (MD)	4,350	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H		
KB-GL	26	TVD	4,325	State	Texas	Toolpusher	Rene Samora (325)-450-1134				
				Co Supv	R.Kidd		Daniel Vickers (325) 450-7715				
				Co Supv	S. Velazquez						
PRESENT OPERATIONS											
Circulating @ 4,350'.											
POOH & L/D BHA.P/U 2-7/8" tubing & TIH to 5,991'.CBU & spot 75 bbl gel pill. POOH to 5,262'. CBU. R/U BJ. Pump and set 1st cement plug. POOH to 4,350'. Circulate WOC.											
DRILL PIPE							BHA				
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH		
184	8487	5	19.5	S-195	4.1/2 IF		XO- 4-1/2 IF x 3-1/2 IF		3.65		
							XO- 3-1/2 IF x PH6		2.90		
							47 Joints 2-7/8" PH6 Tubing		1456.50		
							Mule Shoe		5.08		
LAST CASING STRINGS											
SIZE	TOP	BOTTOM	WT	GRADE	CONN						
20"	0	80									
13.375	0	1673	54.5	J-55	BTC						
							TOTAL		1468.13		
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS							
6:00	8:00	2.00		Trip out to Directional tools							
8:00	10:30	2.50		Lay down All Directional tools							
10:30	11:00	0.50		Clean rig floor							
11:00	14:00	3.00		Cut drill line / Rig service							
14:00	17:00	3.00		P/U tubing handling tools to floor. Strap 2-7/8 tubing & P/U and RIH 47 joints. Total 1,468' of tubing.							
17:00	20:00	3.00		RIH tubing with 49 stands (4,523') of 5" DP to 5,991'.							
20:00	22:30	2.50		CBU @ 335 gpm with 1235 SPP. St Wt @ 132K, while building 80 Bbls of 105 viscosity Gel Pill. Start to pump & Pump screen was plugging up. Removed screen and pumped 75 bbls of pill and spotted on bottom with 82 bbls displacement.							
22:30	23:00	0.50		POOH 8 stds F/ 5,991' to 5,262'.							
23:00	0:30	1.50		CBU.BJ finished mixing spacer. P/U cementing steel lines & swage to floor.							
0:30	1:00	0.50		Held PJSM w/ BJ & Sendero. Shut down pump. R/U steel lines. Test steel lines to 2,000 psi. OK.							
1:00	2:00	1.00		Cement 1st plug .Pump 43 bbls Barite Spacer, (498 sacks) 88 Bbls Class H, Tail Slurry @ 17.0 ppg, .09912 Yld, 2 Bbls of Barite Spacer, Displace with 64 bbls of 9.3 OBM @ 4 BPM with 165 psi.							
2:00	2:30	0.50		POOH 10 stands to 4,350'.							
2:30	6:00	3.50		Drop nerf ball and circulate @ 95 SPM with 1195 SPP while WOC to harden. Reciprocate pipe. P/U-112K & S/O-104k							
TOTAL		24.0									
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS			
ROTATING		Bkgd Gas		Start	9450	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3	
UP	112k	Conn Gas		Received		Surface	0	Make/Model	FB-1600	FB-1600/P210	
DOWN	104k	Trip Gas		End	8405	Hole	0	SPR (SPM)			
TORQUE		Max Gas		Used	1045	Centrifuge	0	@ # (psi)			
				Rate (\$/gal)				Stroke, in.	12"	12"/ 10"	
				Total Cost (\$)	\$84,885.00			Liner / gal sks	5 1/2"	5 1/2 " & 6%	
BIT RECORD		MUD				<div>Notes</div> <div> <div>Days Crew:</div> <div>5</div> <div>BOP DRILLS</div> </div> <div> <div>Nights Crew:</div> <div>5</div> <div>BOP DRILLS</div> </div>					
Number	3	Type	AES VERT	Solids	11.3%						
Size, in.	10.625	Time	5:00 PM	O/W Cont.	58/28						
Type	MM75DM	Company	AES	O/W Ratio	67/33						
code		FL Temp (deg F)		Alk P mud	3.6						
Serial No.	37358	Depth	9258	Lime	4.7						
Jets, 32nds	7x18(1.739)	Density ppg	9.6	Salt							
W.O.B., lb.	28k	Viscosity	56	600/300	46/26						
R.P.M.	40-50	PV/YP	20/6	Chlorides	67000						
Depth out, ft	9258	Gels: I/10	6/8	El. Stab	318v						
Depth in, ft	8614	API W/L		WPS	272844						
Footage	644	HTHP W/L	8	Calcium							
Hours	22	Cake API/HTH	3	LGS	10.60%						
Mfgr	Halliburton	PH				Days from spud:	15.6				

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Detailed Drilling Report									
Lease: University 1-37 unit 4H ST01			API #: 42-003-47682					Report #:	24
Operator: Zarvona Energy			Spud Date: 04/23/18 1700hrs					Report Date:	5/16/18
GL	3,086	Depth (MD)	7,917	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H
KB-GL	26	TVD	7,848	State	Texas	Toolpusher	Rene Samora (325)-450-1134		
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715		
				Co Supv	S. Velazquez				
PRESENT OPERATIONS									
Drilling tangent hole @ 7,917'									
Slide & rotate drill Intermediate hole F/ 7,613' to 7,917'									
DRILL PIPE							BHA		
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH
154	7104	5	19.5	5-19S	4.1/2 IF		BIT 10.5/8 MM7SDM		1.00
							MUD MTR 7/8 4.0 ABH @ 1.5 10.1/8" STB, .17rev/gl		30.00
							SHOCK SUB		12.43
							NORTRAK STB		5.51
LAST CASING STRINGS							NMPC		
SIZE	TOP	BOTTOM	WT	GRADE	CONN		UBHO SUB		4.12
20"	0	80					NMDC MWD		30.59
13.375	0	1673	54.5	J-55	BTC		NMDC		31.04
							8" DC W/ X-O		153.45
							6.1/4 DC'S W/ X-O		536.46
							TOTAL		813.83
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS					
6:00	9:30	3.50		POH due to ROP					
9:30	11:00	1.50		Laydown directional tools					
11:00	12:30	1.50		P/U directional tools					
12:30	1:00	0.50		Surface test MWD					
1:00	6:00	5.00		M/U bit #4 and TIH, Function test BOPE. Cont TIH. Tight spot @ 4,439'. Work pipe through. Cont TIH.					
18:00	20:00	2.00		TIH to 7,547'					
20:00	20:30	0.50		Safety wash & ream to bottom @ 40 RPM, 420 GPM, & 5k WOB. No fill.					
20:30	2:30	6.00		Rotate & Slide drill f/7,613' t/ 7,823' (210' @ 35 fph)27- 30K wob, 0-40 rpm, Off Bott Torq-7k, On Bott- 13K Torq, 610-605 gpm, 2870-3035 spp, 70-365 # diff. MW-9.3 ppg. ROP decreasing when rotating. GTF: 50R					
2:30	3:00	0.50		Rig Service					
3:00	4:00	1.00		Rotate & Slide drill f/7,823' t/ 7,852' (29' @ 38 fph)27- 30K wob, 0-40 rpm, Off Bott Torq-7k, On Bott- 13K Torq, 610-605 gpm, 2870-3035 spp, 70-365 # diff. MW-9.3 ppg. ROP decreasing when rotating. GTF: 50R					
4:00	4:30	0.50	SCR	P/U for MWD check shot & SCR blew fuse. Could not run 1 & 2 pump at same time. Line up #3 MP. C/O fuse.					
4:30	6:00	1.50		Rotate & Slide drill f/7,852' t/ 7,917' (65' @ 43 fph)27- 30K wob, 0-40 rpm, Off Bott Torq-7k, On Bott- 13K Torq, 610-605 gpm, 2870-3035 spp, 70-365 # diff. MW-9.3 ppg. ROP decreasing when rotating.					
TOTAL		24.0							
STRING WEIGHT			GAS	DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS	
ROTATING	223	Bkgd Gas	Start	12126	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP	265	Conn Gas	Received	7000	Surface	0	Make/Model	FB-1600	FB-1600/PZ10
DOWN	208	Trip Gas	End	10716	Hole	0	SPR (SPM)		
TORQUE	12.5k	Max Gas	Used	1410	Centrifuge	0	@ # (psi)		
			Rate (\$/gal)	\$2.66			Stroke, in.	12"	12"/ 10"
			Total Cost (\$)	\$145,644.00			Liner / gal sks	5½"	5½ " & 6½ "
BIT RECORD			MUD				S.P.M.	86	86
Number	RR3	4	Type	AES VERT	Solids	8.4%	Rate, G.P.M.	305	305
Size, in.	10.625	10.626	Time	5:00 PM	O/W Cont.	60/29	Press, psi	3000	3000
Type	MM7SDM	MM7SDM	Company	AES	O/W Ratio	67/33	Notes Changed out pump module on pump 3 right side Install new thermostats on motor 2		
code			FL Temp (deg F)	100	Chlorides	66000	Days Crew:	5	BOP DRILLS
Serial No.	37358	12992480	Depth	7613	WPS	263012	Nights Crew:	5	BOP DRILLS
Jets, 32nds	7x18(1.739)	7x18(1.739)	Density ppg	9.3	Salt				
W.O.B., lb.	30k	30	Viscosity	62	Alk P mud	4.6			
R.P.M.	40	40	PV/YP	22/10	Lime	6			
Depth out, ft	7613	7917	Gels: I/10	7/9	El. Stab	361v			
Depth in, ft	3904	7613	API W/L						
Footage	3709	304	HTHP W/L	7.2	Calcium				
Hours	96.5	8.5	Cake API/HTH	3	LGS	8.70%			
Mfgr	Halliburton	Halliburton	PH		600/300	54/32	Days from spud:	22.6	

Detailed Drilling Report										
Lease: University 1-37 unit 4H ST01				API #: 42-003-47682				Report #: 28		
Operator: Zarvona Energy				Spud Date: 04/23/18 1700hrs				Report Date: 5/20/18		
GL	3,086	Depth (MD)	9,685	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	9,585	State	Texas	Toolpusher	Rene Samora (325)-450-1134			
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715			
				Co Supv	S. Velazquez					
PRESENT OPERATIONS										
R/U casing crew equipment.										
Slide & rotate drill Intermediate hole f/9,578' t/9,685'. Csg.Pt.CBU. POOH to 8" BHA. R/U L/D machine. L/D BHA. R/U casing crew.										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
194	8949	5	19.5	S-195	4.1/2 IF					
LAST CASING STRINGS										
SIZE	TOP	BOTTOM	WT	GRADE	CONN					
20"	0	80								
13.375	0	1673	54.5	J-55	BTC					
							TOTAL		--	
DAILY OPERATIONS										
START TIME	END TIME	HOURS	NPT							
6:00	10:30	4.50		Rotate drill f/9,578' t/9,670' (92' @ 20.44 fph) with #1 MP & #3 MP. 32K wob, 40 rpm, Off Bott Torq-9k, On Bott- 16K Torq, 620 gpm, 3500 spp, 310 # diff. MW-9.2 ppg.						
10:30	11:00	0.50	Pumps	Work on MP#3, WO parts.						
11:00	12:00	1.00		Rotate drill f/9,670' t/9,685' at reduce ROP (15' @ 15 fph) with #1 MP, 25K wob, 40 rpm, Off Bott Torq-9k, On Bott- 16K Torq, 420 gpm, 1580 spp, 100 # diff. MW-9.2 ppg. Casing Point.						
12:00	13:30	1.50		Circulate @ SPR 420gpm, waiting on batteries for MP#3						
13:30	15:00	1.50		CBU w/ MP#1 and MP#3 @ 600gpm, slow down rate to 510 due to MP#3 air leak on trottle.						
15:00	15:30	0.50		Ck flow and pump slug.						
15:30	18:00	2.50		POH with normal pull of 5-15K over.						
18:00	19:00	1.00		POOH to 4,526' and encountered tight spot. Pulling 45k over.						
19:00	21:00	2.00		Connect to TD & backream spot. Cleared up. Mix 25 bbls water sweep. Pump & displace sweep. Backream up through tight section while circulating out water pill F/ 4,526' to 4,176'. Stop @ 4,169' and finish displacing sweep out. Shut pump.						
21:00	1:30	4.50		TIH F/4,169' to 4,535' with no down drag. POOH straight pull F/ 4,535' with no tight spots. Overpull @ 5-20k. Continue POOH to 8" BHA. Hole taking proper fill.						
1:30	3:00	1.50		S/M w/ Sendero & Butch's L/D. R/U lay down machine.						
3:00	4:30	1.50		L/D 8" DC's & directional tools. Break #4 bit & MMTR. Bit was green. Noticed AIM MMTR bearing had excessive slack.						
4:30	5:00	0.50		Clear floor. Wait on storm to pass.						
5:00	6:00	1.00		S/M & R/U D&D casing crew tools.						
TOTAL		24.0		** Notified TRRC @ 23:35 Hrs. 5/19/2018. Talked to Naomi #18. **						
STRING WEIGHT		GAS		DIESEL (GAL)			TOTAL OBM LOSS		HYDRAULICS	
ROTATING	255	Bkgd Gas		Start	9748	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP	275	Conn Gas		Received	6800	Surface	0	Make/Model	FB-1600	FB-1600/PZ10
DOWN	240	Trip Gas		End	7909	Hole	0	SPR (SPM)		
TORQUE	14.5k	Max Gas		Used	1839	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)				Stroke, in.	12"	12"/ 10"
				Total Cost (\$)	\$145,644.00			Liner / gal sks	5 1/2"	5 1/2 " & 6%
BIT RECORD			MUD					S.P.M.	92	
Number	4		Type	AES VERT	Solids	9.0%		Rate, G.P.M.	324	
Size, in.	10.626		Time	5:00 PM	O/W Cont.	61.8/27		Press, psi	725	
Type	MM75DM		Company	AES	O/W Ratio	70/30	Notes			
code			FL Temp (deg F)	110	Chlorides	57000				
Serial No.	12992480		Depth	9685	WPS	248708				
Jets, 32nds	7x18(1.739)		Density ppg	9.3	Salt		Days Crew:	5	BOP DRILLS	
W.O.B., lb.	32		Viscosity	57	Alk P mud	3.8	Nights Crew:	5	BOP DRILLS	
R.P.M.	40		PV/YP	19/7	Lime	4.9				
Depth out, ft	9685		Gels: I/10	5/7	El. Stab	401v				
Depth in, ft	7613		API W/L		LGS	8.40%				
Footage	2072		HTHP W/L	6.5	600/300	45/26				
Hours	74		Cake API/HTH	3						
Mlgr	Halliburton		PH				Days from spud:	26.6		

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Detailed Drilling Report

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Detailed Drilling Report										
Lease: University 1-37 unit 4H ST01				API #: 42-003-47682				Report #: 33		
Operator: Zarvona Energy				Spud Date: 04/23/18 1700hrs				Report Date: 5/25/18		
GL	3,086	Depth (MD)	9,709	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	9,609	State	Texas	Tool pusher	Rene Samora (325)-450-1134			
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715			
				Co Supv	Ron Kidd					
PRESENT OPERATIONS										
Tripping in hole										
<p>Tripp in to 9360' , Test casing to 1500 psi good test , Work on top drive , Displace hole with 10.8 ppg obm , Drill F/C , Shoe , MWD tool not working , Drill to 9709' , Trip out for MWD , Change out MWD , Trip in</p>										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
194	8949	5	19.5	S-195	4.1/2 IF		BIT # 5 7.7/8 XS616		1.00	
							MUD MOTOR 6.1/2 7/8 5.0 FBH 1.5		26.43	
							X-O		2.14	
							NMPC		10.19	
LAST CASING STRINGS							NMDC / MWD		30.98	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		MWD HF SUB		4.11	
20"	0	80					NMDC		30.69	
13.375	0	1673	54.5	J-55	BTC		X-O		3.02	
9.625	0	9625	32	HCL-80/K55	BTC/LTC		DRILL COLLARS 6.25		533.08	
							X-O		3.38	
							TOTAL		645.02	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	7:00	1.00		TIH						
7:00	7:30	0.50		Attempt to test csg. 2" valve on stand pipe washed out.						
7:30	9:00	1.50	TDS	Work on TDS, showing failure codes and reading misinterpretation Tq reading. WO Warrior tech.						
9:00	9:30	0.50		Test 8.625 32#/ft casing to 1500psi. 30 minute chart on Pason recorder.						
9:30	12:00	2.50	TDS	WO TDS, misinterpretation and erratum Tq reading. Change driller console RPM card and Tq card.						
12:00	12:30	0.50		POH and rotate at slow rpm, no problems						
12:30	14:00	1.50		Displace well 9.2ppg with 10.8ppg OBM while washing down to FC and checking Tq.						
14:00	17:00	3.00		Drill out FC, Cmt and shoe @ 9625' & Wash down to 9685' bottom , Warrior Tech found faulty encoder reading in VFD house. (Note: MWD Not working)						
17:00	17:30	0.50		Recycle mud pumps MWD still not working						
17:30	18:30	1.00		Drill from 9685 to 9709 with both pumps , MWD still not working						
18:30	1:30	7.00	Alm	Pump slug & Trip out for MWD						
1:30	2:00	0.50		Lay down MWD tool , (Note: Top of MWD tool was pack off with small size drill cutting this new design tool got inlet ports on top of tool so mud can inner into the tool to activate internal valves for the pulseless)						
2:00	3:30	1.50		pull up and check bit , Bit is good , install old style MWD , Test same - Test good						
3:30	4:00	0.50		Clean rig floor						
4:00	6:00	2.00		Trip in hole						
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING		Bkgd Gas		Start	5042	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP		Conn Gas		Received	6500	Surface	0	Make/Model	FB-1600	FB-1600/PZ10
DOWN		Trip Gas		End	10442	Hole	0	SPR (SPM)		
TORQUE		Max Gas		Used	1100	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)				Stroke, in.	12"	12"/ 10"
				Total Cost (\$)	\$167,551.00			Liner / gal sks	5 1/2"	5 1/2 " & 6%
BIT RECORD		MUD						S.P.M.	115	
Number	5	RR 5	Type	AES VERT	Solids	8.7%		Rate, G.P.M.	365	
Size, in.	7.7/8	7.7/8	Time	6:00 PM	O/W Cont.	58.7/30		Press, psi	2700	
Type	XS616	SK616	Company	AES	O/W Ratio	66/34	Notes			
code			FL Temp (deg F)		Chlorides	67000				
Serial No.	JN8836	JN8836	Depth	9685	WPS	259372				
Jets, 32nds	6X18'S	6X18	Density ppg	9.4	Salt		Days Crew:	5	BOP DRILLS	
W.O.B., lb.			Viscosity	60	Alk P mud	4	Nights Crew:	4	BOP DRILLS	
R.P.M.			PV/YP	19/8	Lime	5.2	MP's #1&2- 5 new liners, 6 new pistons and 6 new liner wear			
Depth out, ft	9709		Gels: I/10	5/7	El. Stab	308v	Plates			
Depth in, ft	9685	9709	API W/L		LGS	8.40%				
Footage			HTHP W/L	7	600/300	46/27				
Hours	1		Cake API/HTH	3						
Mfgr	SMITH	SMITH	PH				Days from spud:	31.6		

Detailed Drilling Report										
Lease: University 1-37 unit 4H ST01				API #: 42-003-47682				Report #: 34		
Operator: Zarvona Energy				Spud Date: 04/23/18 1700hrs				Report Date: 5/26/18		
GL	3,086	Depth (MD)	10,300	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	10,186	State	Texas	Tool pusher	Rene Samora (325)-450-1134			
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715			
				Co Supv	Ron Kidd					
PRESENT OPERATIONS										
Tripping out										
Trip in to 9597 , install RCH , Wash to 9709' , Drill to 10300' , Circ b/u @ 10300'										
DRILL PIPE										
# JTS	LENGTH	OD	WT	GRADE	CONN	BHA				
214	9655	5	19.5	S-195	4.1/2 IF	EQUIPMENT			LENGTH	
						BIT # 5 7/8 XS616			1.00	
						MUD MOTOR 6.1/2 7/8 5.0 FBH 1.5			26.43	
						X-O			2.14	
						NMPC			10.19	
LAST CASING STRINGS						NMDC / MWD			30.98	
SIZE	TOP	BOTTOM	WT	GRADE	CONN	MWD HF SUB			4.11	
20"	0	80				NMDC			30.69	
13.375	0	1673	54.5	J-55	BTC	X-O			3.02	
9.625	0	9625	32	HCL-80/K55	BTC/LTC	DRILL COLLARS 6.25			533.08	
						X-O			3.38	
						TOTAL			645.02	
DAILY OPERATIONS										
START TIME	END TIME	HOURS	NPT							
6:00	9:30	3.50		TIH to 9,597"						
9:30	10:00	0.50		Pull trip nipple and install RCH						
10:00	10:30	0.50		Ream to btm 9,597" to 9,709'						
10:30	15:30	5.00		Drill & slide from 9709 to 9881 (172 ft @ 34.4 fph) WOB 25 , RPM 40 , GPM 473 , SPP 3050 , DIFF 250 / 300 , DRILL TORQ 12K						
15:30	16:00	0.50	pumps	Work on liner washer pump 1						
16:00	18:30	2.50		Drill & slide from 9881 to 9943 (62 ft @ 24.8 fph) WOB 25 , RPM 40 , GPM 473 , SPP 3050 ,DIFF 250 / 300 , DRILL TORQ 12K						
18:30	19:00	0.50	pumps	Clean out mud pumps suction screens on pump 1 & 2						
19:00	21:00	2.00		Drill from 9943 to 10020 (77 ft @ 38.5 fph) WOB 27 , RPM 40 , GPM 400 , SPP 2500 , DIFF 250 / 300 , DRILL TORQ 12K						
21:00	21:30	0.50	pumps	Clean out mud pump suction screen on pump 2 , Pump # 1 changing out Swab						
21:30	3:30	6.00		Drill from 10020 to 10239 (219 ft @ 36.5 fph) WOB 27 , RPM 40 , GPM 400 , SPP 2500 ,DIFF 250 / 300 , DRILL TORQ 12K , MW 10.7 PPG						
3:30	4:00	0.50		Rig service						
4:00	5:00	1.00		Drill from 10239 to 10300' (61 ft @ 61 fph) WOB 27 , RPM 40 , GPM 400 , SPP 2540 , DIFF 250 / 300 , DRILL TORQ 12K , MW 10.7 PPG						
5:00	6:00	1.00		Circ b/u @ 10300' & pump slug						
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING	246	Bkgd Gas		Start	10442	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP	260	Conn Gas		Received		Surface	0	Make/Model	FB-1600	FB-1600/PZ10
DOWN	234	Trip Gas		End	7992	Hole	0	SPR (SPM)		
TORQUE	8450	Max Gas		Used	2450	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)		<div>Notes</div>				
				Total Cost (\$)	\$167,551.00					
BIT RECORD		MUD								
Number	RR 5	Type	AES VERT	Solids	8.7%					
Size, in.	7.7/8	Time	6:00 PM	O/W Cont.	58.7/30					
Type	SX616	Company	AES	O/W Ratio	66/34					
code		FL Temp (deg F)		Chlorides	67000					
Serial No.	JN8836	Depth	9685	WPS	259372					
Jets, 32nds	6X18	Density ppg	9.4	Salt						
W.O.B., lb.	27	Viscosity	60	Alk P mud	4					
R.P.M.	40	PV/YP	19/8	Lime	5.2					
Depth out, ft	10300	Gels: I/10	5/7	El. Stab	308v					
Depth in, ft	9709	API W/L		LGS	8.40%					
Footage	591	HTHP W/L	7	600/300	46/27					
Hours	17.5	Cake API/HTH	3							
Mfr	SMITH	PH								
Days from spud:						32.6				

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Detailed Drilling Report

Lease: University 1-37 unit 4H ST01

Operator: Zarvona Energy

API #: 42-003-47682

Spud Date: 04/23/18 1700hrs

Report #: 41

Report Date: 6/2/18

GL3086Depth (MD)17,447CountyAndrewsRigSendero Rig #15

KB-GL26TVD10,923StateTexasTool pusherRene Samora (325)-450-1134

Co SupvDC TorresDaniel Vickers (325) 450-7715

Co SupvRon Kidd

AFE #SA 1-37-4H

PRESENT OPERATIONS

Drilling @ 17447

Drill to 16893' , R/S , Drill to 17018' , Repair 2" valve on stand pipe , Drill to 17447

DRILL PIPE

JTSLENGTHODWTGRADECONN

24210930519.5S-1954.1/2 IF

BHA

EQUIPMENTLENGTH

BIT # 7 MM54DM1.00

MUD MOTOR 6.1/2 7/8 5.0 FBH 1.5 NOV 36B00725.71

X-O2.14

NMPC10.19

LAST CASING STRINGS

SIZETOPBOTTOMWTGRADECONN

20"080

13.3750167354.5J-55BTC

9.6250962532HCL-80/K55BTC/LTC

UBHO SUB3.27

NMDC / MWD30.98

NMDC29.63

DRILL PIPE 5" (27 std's)2490.81

AGITATOR 23.80 + 2-JTS 31.70' 5" DP (63.41)87.21

TOTAL2680.94

START TIMEEND TIMEHOURS

6:0015:009.00

15:0015:300.50

15:3018:002.50

18:0020:302.50

20:3021:301.00

21:306:008.50

NPT

DAILY OPERATIONS

Rotate/Slide drill lateral hole section f/16,373' t/ 16,893' (520' @ 57.77 fph) wob 22/27k, rpm 65/0, gpm 420, spp 3800psi , differential pressure 350/450psi

Service rig and TDS

Rotate/Slide drill lateral hole section f/16,893' t/ 17018' (125' @ 50 fph) wob 22/27k, rpm 65/0, gpm 420, spp 3800psi , differential pressure 350/450psi (NOTE: 2" VALVE ON STAND PIPE WASH OUT)

W.O Rebuild kit , TP did not have a spare rebuild kit for the 2" valve (work pipe & rotate slow)

Rebuild 2" valve

Rotate/Slide drill lateral hole section f/ 17018' t/ 17447 ' (429' @ 50.4 fph) wob 22/27k, rpm 65/0, gpm 420, spp 3800psi , differential pressure 350/450psi

TOTAL24.0

STRING WEIGHTGASDIESEL (GAL)TOTAL OBM LOSSHYDRAULICS

ROTATING246Bkgd GasStart8731Cuttings0

UP260Conn GasReceivedSurface0

DOWN234Trip GasEnd6581Hole0

TORQUE9000Max GasUsed2150Centrifuge0

Rate (\$/gal)

Total Cost (\$)\$203,498.00

Stroke, in.12"12" / 10"

Liner / gal sks5½"5½ " & 6½"

S.P.M.115

Rate, G.P.M.420

Press, psi4000

BIT RECORDMUD

Number7TypeAES VERTSolids8.7%

Size, in.7.7/8Time6:00 PMO/W Cont.59/25

TypeMM54DMCompanyAESO/W Ratio70/30

codeFL Temp (deg F)Chlorides67000

Serial No.12529915Depth13750WPS259372

Jets, 32nds5X18Density ppg10.8Salt

W.O.B., lb.27Viscosity60Alk P mud4

R.P.M.65PV/YP19/8Lime2.3

Depth out, ftGels: I/105/7El. Stab395

Depth in, ft11039API W/LLGS5.90%

Footage6408HTHP W/L7600/30056/32

Hours90Cake API/HTH3

MfgrHALLIBURTONPH

Days Crew:5BOP DRILLS

Nights Crew:5BOP DRILLS

Days from spud:39.6

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Detailed Drilling Report									
Lease: University 1-37 unit 4H ST01				API #: 42-003-47682				Report #: 47	
Operator: Zarvona Energy				Spud Date: 04/23/18 1700hrs				Report Date: 6/8/18	
GL	3,086	Depth (MD)	21,097	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H
KB-GL	26	TVD	10,994	State	Texas	Tool pusher	Rene Samora (325)-450-1134		
				Co Supv	Ron Kidd		Daniel Vickers (325) 450-7715		
				Co Supv	S. Velazquez				
PRESENT OPERATIONS									
Pumping slug.									
Circulate to clean hole.Pump out of hole F/ 14,667' to Shoe @ 9,625'.									
DRILL PIPE							BHA		
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT	LENGTH	
454	20913	5	19.5	S-195	4.1/2 IF		BIT # 7 MM54DM	1.00	
							MUD MOTOR 6.1/2 7/8 5.0 FBH 1.5 NOV 36B007	25.71	
							X-O	2.14	
							NMPC	10.19	
LAST CASING STRINGS							UBHO SUB	3.27	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		NMDC / MWD	30.98	
20"	0	80					NMDC	29.63	
13.375	0	1673	54.5	J-55	BTC		DRILL PIPE 5" (27 std's)	2490.81	
9.625	0	9625	32	HCL-80/K55	BTC/LTC		AGITATOR 23.80 + 2-JTS 31.70 5" DP (63.41)	87.21	
							TOTAL	2680.94	

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TOTAL		24.0									
STRING WEIGHT		GAS		DIESEL (GAL)			TOTAL OBM LOSS		HYDRAULICS		
ROTATING		Bkgd Gas		Start	9835	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3	
UP	345	Conn Gas		Received		Surface	0	Make/Model	FB-1600	FB-1600/P210	
DOWN		Trip Gas		End	8158	Hole	0	SPR (SPM)			
TORQUE		Max Gas		Used	1677	Centrifuge	0	@ # (psi)			
				Rate (\$/gal)					Stroke, in.	12"	12" / 10"
				Total Cost (\$)	\$244,721.00				Liner / gal sks	5½"	5½" & 6%
BIT RECORD			MUD						S.P.M.	92	
Number	7	Type	AES VERT	Solids	17.8%				Rate, G.P.M.	330	
Size, in.	7.7/8	Time	5:00 PM	O/W Cont.	59.8/21	Notes	Press, psi	1606			
Type	MM54DM	Company	AES	O/W Ratio	74/26						
code		FL Temp (deg F)	135	Chlorides	37000						
Serial No.	12529915	Depth	21097	WPS	216474						
Jets, 32nds	5X18	Density ppg	10.9	Salt		Days Crew:	4	BOP DRILLS			
W.O.B., lb.	28	Viscosity	66	Alk P mud	2	Nights Crew:	4	BOP DRILLS			
R.P.M.	65	PV/YP	29/8	Lime	2.6						
Depth out, ft	21097	Gels: I/10	7/10	El. Stab	489v						
Depth in, ft	11039	API W/L		LGS	12.80%						
Footage	10058	HTHP W/L	7	600/300	56/32						
Hours	162.5	Cake API/HTH	3								
M/gr	HALLIBURTON	PH				Days from spud:	45.6				

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Detailed Drilling Report									
Lease: University 1-37 unit 4H ST01		API #: 42-003-47682		Report #: 49					
Operator: Zarvona Energy		Spud Date: 04/23/18 1700hrs		Report Date: 6/10/18					
GL	3,086	Depth (MD)	21,097	County	Andrews	Rig	Sendero Rig #15		AFE #
KB-GL	26	TVD	10,994	State	Texas	Tool pusher	Rene Samora (325)-450-1134		SA 1-37-4H
				Co Supv	Ron Kidd		Daniel Vickers (325) 450-7715		
				Co Supv	S. Velazquez				
PRESENT OPERATIONS									
Washing down hole to clear any rubble, currently @ 10,354'.									
POOH wet with plugged mule shoe.L/D tubing. Break & clean out MS. M/U mule shoe & TIH with 2-7/8" tubing to 10,300'. Ream f/ 10,300' to 10,354'									
DRILL PIPE									
# JTS	LENGTH	OD	WT	GRADE	CONN	BHA EQUIPMENT		LENGTH	
454	20913	5	19.5	S-195	4.1/2 IF	Mule shoe		3.70	
						2-7/8",P110,7.9#,PH6 Tubing		1450.13	
						X-O, 2-7/8, PH6 X 3-1/2IF		2.90	
						X-O, 3-1/2 IF x 4-1/2 IF		3.45	
LAST CASING STRINGS						96 Stds 5" DP		8856.34	
SIZE	TOP	BOTTOM	WT	GRADE	CONN	IBOP		2.52	
20"	0	80				13 Stds 5" DP		1200.00	
13.375	0	1673	54.5	J-55	BTC				
9.625	0	9625	32	HCL-80/K55	BTC/LTC				
						TOTAL		11519.04	
START TIME END TIME HOURS NPT DAILY OPERATIONS									
6:00	6:30	0.50		Attempt to circulate @ 12513' , attempt failed					
6:30	7:30	1.00		Trip out to 11400'					
7:30	8:30	1.00		Attempt to circulate @ 11400' , attempt failed , trip out to 10200'					
8:30	9:00	0.50		Attempt to circulate @ 10200' , attempt to surge drill string multiple times					
9:00	10:00	1.00		Trip out to 9500' and attempt to circulate					
10:00	11:00	1.00		Trip out to unplug 2.7/8 tubing - wet pipe					
11:00	12:00	1.00		work on trash pump , cellar full and running over					
12:00	12:30	0.50		Trip out / wet					
12:30	13:30	1.00		Trash pump not working & Change out trash pump (Note: driller over fill trip tank)					
13:30	16:30	3.00		Trip out wet F/ 8,284' to 3,802'.					
16:30	17:00	0.50		Rigging up new mud bucket					
17:00	18:30	1.50		Trip out wet F/ 3,802' to 1,520'.At 2-7/8" tubing.					
18:30	21:30	3.00		L/D tubing to racks. Break out muleshoe and 1st tubing joint. MS & 1st pipe were plugged up with rubble. Cleaned out MS. Left joint out due to packed up the full length.					
21:30	22:00	0.50		Rig Service					
22:00	4:30	6.50		P/U muleshoe & 46 joints 2-7/8" tubing plus XO's from racks and M/U. Connect to TDS and pump through tubing to check for any obstructions. OK. TIH with 5" DP to shoe @ 9,625'. Break circulation & stage pump to 120 SPM, 420 GPM, & 2,860 SPP. PU/WT-195K SO/WT-166K.					
4:30	5:00	0.50		Continue TIH @ 75 FPM to 10,300'.					
5:00	6:00	1.00		Start washing to plugging point of 11,519' at 30 minutes a stand. Wash f/ 10,300' to 10,354' @347 GPM, 2222 SPP.					
TOTAL		24.0							
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS	
ROTATING		Bkgd Gas		Start	7069	Cuttings	0	Pump No.	No. 1
UP		Conn Gas		Received		Surface	0	Make/Model	FB-1600
DOWN		Trip Gas		End	5714	Hole	0	SPR (SPM)	FB-1600/PZ10
TORQUE		Max Gas		Used	1355	Centrifuge	0	@ # (psi)	
				Rate (\$/gal)				Stroke, in.	12"
				Total Cost (\$)	\$244,721.00			Liner / gal sks	5½"
BIT RECORD		MUD						S.P.M.	100
Number		Type	AES VERT	Solids	18.5%			Rate, G.P.M.	347
Size, in.		Time	5:00 PM	O/W Cont.	60/20.5			Press, psi	2196
Type		Company	AES	O/W Ratio	75/25	Notes			
code		FL Temp (deg F)	118	Chlorides	28000				
Serial No.		Depth	21097	WPS	176397				
Jets, 32nds		Density ppg	11.1	Salt					
W.O.B., lb.		Viscosity	78	Alk P mud	2.2				
R.P.M.		PV/YP	35/11	Lime	2.9				
Depth out, ft		Gels: I/10	7/10	EL. Stab	509v				
Depth in, ft		API W/L		LGS	11.90%				
Footage		HTHP W/L	10.8	600/300	81/46				
Hours		Cake API/HTH	3						
Mfgr		PH							
Days from spud:						47.6			

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Detailed Drilling Report										
Lease: University 1-37 unit 4H ST01				API #: 42-003-47682				Report #: 51		
Operator: Zarvona Energy				Spud Date: 04/23/18 1700hrs				Report Date: 6/12/18		
GL	3,086	Depth (MD)	10,642	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	10,512	State	Texas	Tool pusher	Rene Samora (325)-450-1134			
				Co Supv	Ron Kidd		Daniel Vickers (325) 450-7715			
				Co Supv	S. Velazquez					
PRESENT OPERATIONS										
Sidetracking @ 10,642'										
P/U curve assy.TIH. P/U agitator.TIH to shoe.C/O drill line.TIH to 10,332'. Install RCD. Wash to 10,530' Tag hard cement. Drill cement to 10,623'.Build trough. Slide drill cement and sidetrack F/ 10,623' to 10,642'. Holding 90R GTF.										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
227	10428	5	19.5	S-195	4.1/2 IF		Bit 7 7/8 GX 30C		1.00	
							MOTOR 7/8 5.7 FBH 2.25 AIM M65S8 0.24 rev/gl		32.15	
							NMDC		8.83	
							UBHO		3.10	
LAST CASING STRINGS							NMDC / MWD		29.58	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		NMDC		29.11	
20"	0	80					X-O		2.70	
13.375	0	1673	54.5	J-55	BTC		DRILL PIPE (31 STDS)		2860.81	
9.625	0	9625	32	HCL-80/K55	BTC/LTC		AGITATOR		26.16	
							DP 2-31.50		62.98	
							TOTAL		3056.42	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	8:30	2.50		P/U, scribe & orient directional curve assembly and surface test MWD , Make up #8 bit.						
8:30	11:00	2.50		Trip in hole to 3000'						
11:00	11:30	0.50		Fill pipe & P/U agitator @ 2,970' and PSI test before & after (BF > 1775 @ 410 GPM , AF > 2248 @ 410 GPM = 475 PSI)						
11:30	13:30	2.00		Trip in hole to 9,500'						
13:30	19:00	5.50	xx	Change out drill line. Re spool new line.						
19:00	19:30	0.50		Rig Service						
19:30	20:30	1.00		TIH to 10,332'.						
20:30	21:30	1.00		Take check shot with MWD. Install RCD element.						
21:30	22:30	1.00		Wash to 10,530'. Tag cement. Stack 15k on cement.						
22:30	23:00	0.50		Drill cement to 10,623' with 15k WOB, 396 GPM, 3,235 SPP, 15 RPM, 6600 TORQ.						
23:00	2:00	3.00		Work pipe F/ 10,623' to 10,580' building trough with AIM DD.						
2:00	6:00	4.00		Slide drill cement sidetracking curve section f/10,623' t/10,642' (19' @ 4.75 fph) WOB 10-25k , GPM 415 , SPP 3500 DIFF 75. GTF: 90R. Cuttings sample F/ 10,635'= 100% formation with some large cuttings.						
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING	195	Bkgd Gas		Start	11179	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP	220	Conn Gas		Received	6800	Surface	0	Make/Model	FB-1600	FB-1600/P210
DOWN	185	Trip Gas		End	9835	Hole	0	SPR (SPM)		
TORQUE	8k	Max Gas		Used	1344	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)	\$2.82			Stroke, in.	12"	12"/ 10"
				Total Cost (\$)	\$263,960.00			Liner / gal sks	5 1/2"	5 1/2 " & 6"
BIT RECORD		MUD								
Number	8	Type	AES VERT	Solids	19.1%					
Size, in.	7.7/8	Time	5:00 PM	O/W Cont.	55.5/24.5					
Type	GX 30C	Company	AES	O/W Ratio	69/31					
code	547	FL Temp (deg F)	115	Chlorides	25000					
Serial No.	5279019	Depth	10332	WPS	137937					
Jets, 32nds	3X18	Density ppg	11.2	Salt						
W.O.B., lb.	25	Viscosity	68	Alk P mud	1.8					
R.P.M.	0-15	PV/YP	33/9	Lime	2.3					
Depth out, ft	10642	Gels: I/10	6/9	El. Stab	400v					
Depth in, ft	10530	API W/L		LGS	12.70%					
Footage	112	HTHP W/L	11	600/300	75/42					
Hours	4.5	Cake API/HTH	3							
Mfgr	HUGHES	PH								
Days from spud:		49.6								

Detailed Drilling Report										
Lease: University 1-37 unit 4H ST01				API #: 42-003-47682				Report #: 53		
Operator: Zarvona Energy				Spud Date: 04/23/18 1700hrs				Report Date: 6/14/18		
GL	3,086	Depth (MD)	10,875	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	10,680	State	Texas	Tool pusher	Rene Samora (325)-450-1134			
				Co Supv	Ron Kidd		Daniel Vickers (325) 450-7715			
				Co Supv	S. Velazquez					
PRESENT OPERATIONS										
POOH @ 5,350'										
Slide building curve F/10,792' to 10,875'. Hole started to pack off. Work free and regain circulation. CBU. POOH. Tight f/ 10,770' to 10,350' at spots. Hole slick after 10,325' to shoe. Circulate @ shoe. Do 2 short trips from shoe to 13,302' with cleaning cycles. CBU @10,302'. Slug & POOH.										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
232	10704	5	19.5	S-195	4.1/2 IF		Bit 7 7/8 GX 30C		1.00	
							MOTOR 7/8 5.7 FBH 2.25 AIM M6558 0.24 rev/gl		32.15	
							NMDC		8.83	
							UBHO		3.10	
LAST CASING STRINGS							NMDC / MWD		29.58	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		NMDC		29.11	
20"	0	80					X-O		2.70	
13.375	0	1673	54.5	J-55	BTC		DRILL PIPE (31 STDS)		2860.81	
9.625	0	9625	32	HCL-80/K55	BTC/LTC		AGITATOR		26.16	
							DP 2-31.50		62.98	
							TOTAL		3056.42	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	10:00	4.00		Slide building ST2 curve section f/ 10,792' t/ 10,855' (63' @ 15.75 fph) WOB 38k, RPM 0 , GPM 420 , SPP 3,180 , DIFF PSI 100, MW @ 11.0 ppg. GTF: 330L to HS						
10:00	10:30	0.50		MWD Check shot.						
10:30	12:00	1.50		Slide building ST2 curve section f/ 10,855' t/ 10,875' (20' @ 13 fph) WOB 38k, RPM 0 , GPM 420 , SPP 3,180 , DIFF PSI 100, MW @ 11.0 ppg. GTF: 330L to HS						
12:00	12:30	0.50	MP	Plugged suction screen on #2 MP. Washed valve & seat on #1 MP.						
12:30	13:00	0.50		Hole started to pack off after shutting down to work on pumps. Work pipe free and establish circulation.						
13:00	14:00	1.00		CBU. Clean hole. Mix and pump slug.						
14:00	15:00	1.00		POOH and tight @ 10,770'. Start pump, wash and work pipe free. POOH to 10,575'.						
15:00	16:30	1.50		CBU. Work pipe F/ 10,575' to 10,534'. Perform cleaning cycle. Mix and pump slug.						
16:30	18:30	2.00		POOH and tight @ 10,500'. Start pump, wash and work pipe free. POOH to 10,350' with tight spots. Pipe pulling slick F/ 10,325 to shoe.						
18:30	20:00	1.50		CBU (2) 8,400 strokes @ 9698'. No large cuttings noticed at shakers. All were around 3/16" pieces.						
20:00	20:30	0.50		TIH to 10,302'. Normal 10 -15k down drag noticed.						
20:30	22:30	2.00		CBU. Total 15,000 strokes pumped. Worked pipe F/ 10,302' to 10,253'. Perform cleaning cycle. Mix slug. Cuttings at shakers same as last B/U ,around 1/8" to 3/16", but also some 1"x 3/8" long pieces were present.						
22:30	23:30	1.00		Short trip to shoe (wet). St weight 225K. Pulling 235-240K (10-15K overpull). TIH also 10-15K down drag noticed F/ St Wt of 190K down.						
23:30	2:00	2.50		CBU. Total 16,000 strokes pumped. Worked pipe F/ 10,302' to 10,253'. Perform cleaning cycle. Minimal cuttings seen across shaker screens on B/U. Pump slug.						
2:00	6:00	4.00		POOH. Up drag at steady 10-15K over pulling WT of 225K through open hole. Pulled inside casing to 9,350' and remove RCD rubber & install trip nipple. Continue POOH @ 5,350'. Hole taking proper fill.						
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING	190	Bkgd Gas		Start	7742	Cuttings	0	Pump No.	No. 1 No. 2/ No. 3	
UP	225	Conn Gas		Received		Surface	0	Make/Model	FB-1600 FB-1600/P210	
DOWN	175	Trip Gas		End	5968	Hole	0	SPR (SPM)		
TORQUE	8k	Max Gas		Used	1774	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)				Stroke, in.	12" 12" / 10"	
				Total Cost (\$)	\$263,960.00			Liner / gal sks	5 1/2" 5 1/2 " & 6 1/2"	
BIT RECORD			MUD							
Number	8	Type	AES VERT	Solids	17.7%					
Size, in.	7.7/8	Time	5:00 PM	O/W Cont.	58.5/22					
Type	GX 30C	Company	AES	O/W Ratio	72/28	Notes				
code	547	FL Temp (deg F)	144	Chlorides	36000					
Serial No.	5279019	Depth	10875	WPS	200571					
Jets, 32nds	3X18	Density ppg	11	Salt						
W.O.B., lb.	38	Viscosity	59	Alk P mud	3					
R.P.M.	0-15	PV/YP	24/9	Lime	3.9					
Depth out, ft	10875	Gels: l/10	7/11	El. Stab	529v					
Depth in, ft	10530	API W/L		LGS	11.80%					
Footage	345	HTHP W/L	6.5	600/300	57/33					
Hours	23	Cake API/HTH	2							
Mfgr	HUGHES	PH				Days from spud:	51.6			

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Detailed Drilling Report										
Lease: University 1-37 unit 4H ST01		API #: 42-003-47682		Report #: 59						
Operator: Zarvona Energy		Spud Date: 04/23/18 1700hrs		Report Date: 6/20/18						
GL	3,086	Depth (MD)	9,448	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD		State	Texas	Tool pusher	Rene Samora (325)-450-1134			
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715			
				Co Supv	S. Velazquez					
PRESENT OPERATIONS										
At 9,233'. Working on top drive.										
Mill window & new formation to 9,448'. CBU. POOH with mills & MWD/UBHO.M/U directional assembly. RIH to 2,964'. P/U agitator. Cut drill line. TIH with 5" DP.										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
196	9041	5	19.5	S-195	4.1/2 IF		PDC , 7/8, MM54DM		1.00	
							MOTOR,7/8, 5.0 ABH@1.50" AIM M6-579 .29rev/gl		26.61	
							NMDC		8.83	
							UBHO		3.10	
LAST CASING STRINGS							NMDC / MWD		29.58	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		NMDC		30.90	
20"	0	80					X-O		2.70	
13.375	0	1673	54.5	J-55	BTC		DRILL PIPE (31 STDS)		2860.81	
9.625	0	9625	32	HCL-80/K55	BTC/LTC		SAFETY JT/AGITATOR/SHOCK SUB		26.16	
							DP 2-31.50		62.98	
							TOTAL		3052.67	
START TIME		END TIME		HOURS		NPT		DAILY OPERATIONS		
6:00		13:00		7.00				Mill window f/9,441' t, 9,443', drill new formation f/9,443' t/9,448' let wt drill off.		
13:00		14:00		1.00				CBU, work mill thru window.		
14:00		18:00		4.00				POOH to mills.		
18:00		18:30		0.50				L/D mills & MWD/UBHO. Gauge mills. In gauge.		
18:30		19:00		0.50				Lay out to ground mills and P/U directional tools.		
19:00		21:30		2.50				M/U Directional tools. Scribe motor, new ubho , install MWD Test same , Make up Bit # 12. RIH with BHA.		
21:30		23:30		2.00				TIH with 5" DP to 2964' & Check psi @ 410 GPM= 1,540 SPP. P/U agitator and check psi @ 410 GPM= 2,080 SPP.		
23:30		1:00		1.50				Set slips & Pin blocks to cut 108' drill line.		
1:00		1:30		0.50				Rig Service		
1:30		4:30		3.00				TIH with 5" DP to 9,233'. Filling every 35 stands.		
4:30		5:00		0.50				Remove trip nipple.install RCD rubber.		
5:00		6:00		1.00		Top drive		Warrior tech working on top drive. Replacing #2 slew motor.		
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING		Bkgd Gas		Start	6138	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP		Conn Gas		Received		Surface	0	Make/Model	FB-1600	FB-1600/PZ10
DOWN		Trip Gas		End	4709	Hole	0	SPR (SPM)		
TORQUE		Max Gas		Used	1429	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)				Stroke, in.	12"	12"/ 10"
				Total Cost (\$)	\$263,960.00			Liner / gal sks	5 1/2"	5 1/2 " & 6%
BIT RECORD		MUD						S.P.M.		
Number	9	Type	AES VERT	Solids	16.4%			Rate, G.P.M.		
Size, in.	7.875	Time	5:00 PM	O/W Cont.	56/26			Press, psi		
Type	MM54DM	Company	AES	O/W Ratio	68/32	Notes				
code		FL Temp (deg F)	116	Chlorides	43000					
Serial No.	12622614	Depth	9447	WPS	205931					
Jets, 32nds	5x18	Density ppg	11.1	Salt		Days Crew:		5	BOP DRILLS	
W.O.B., lb.		Viscosity	72	Alk P mud	5.1	Nights Crew:		5	BOP DRILLS	
R.P.M.		PV/YP	28/10	Lime	6.6					
Depth out, ft		Gels: I/10	6/10	El. Stab	368v					
Depth in, ft	9448	API W/L		LGS	8.90%					
Footage		HTHP W/L	5	600/300	66/38					
Hours		Cake API/HTH	2							
Mfgr	Halliburton	PH				Days from spud:		57.6		

Detailed Drilling Report													
Lease: University 1-37 unit 4H ST01 Operator: Zarvona Energy				API #: 42-003-47682 Spud Date: 04/23/18 1700hrs				Report #: 60 Report Date: 6/21/18					
GL	3,086	Depth (MD)	9,802	County	Andrews	Rig	Sendero Rig #15		AFE #	SA 1-37-4H			
KB-GL	26	TVD	9,695	State	Texas	Tool pusher	Rene Samora (325)-450-1134						
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715						
				Co Supv	S. Velazquez								
PRESENT OPERATIONS													
Drilling tangent @ 9,802'													
Work on TDS.TIH through window. Slide & rotate drill tangent hole F/ 9,447' to 9,802'													
DRILL PIPE							BHA						
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH				
210	9688	5	19.5	S-195	4.1/2 IF		PDC, 7/8, MM54DM		1.00				
							MOTOR,7/8, 5.0 ABH@1.50" AIM M6-579 .29rev/gl		26.61				
							NMDC		8.83				
							UBHO		3.10				
LAST CASING STRINGS							NMDC / MWD		29.58				
SIZE	TOP	BOTTOM	WT	GRADE	CONN		NMDC		30.90				
20"	0	80					X-O		2.70				
13.375	0	1673	54.5	J-55	BTC		DRILL PIPE (31 STDS)		2860.81				
9.625	0	9625	32	HCL-80/K55	BTC/LTC		SAFETY JT/AGITATOR/SHOCK SUB		26.16				
							DP 2-31.50		62.98				
							TOTAL		3052.67				
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS									
6:00	8:30	2.50	TDS	Trouble shoot #2 slewing mtr on TDS, did not find anything wrong with mtr. Shrink wrap splice had water inside, tech did not have material to repair. Will repair next trip									
8:30	9:00	0.50		R/S									
9:00	9:30	0.50		TIH									
9:30	10:00	0.50		Orientate mtr thru window.									
10:00	13:00	3.00		Slide building ST3 tangent section f/ 9,447' t/ 9,467' (20' @ 6.7 fph) WOB 10k, RPM 0 , GPM 420 , SPP 3,018, DIFF PSI 160, MW @ 11.1 ppg. GTF: 90L									
13:00	13:30	0.50	MP	Work on #1 MP cap gasket.									
13:30	14:00	0.50		Slide building ST3 tangent section f/ 9,467' t/ 9,469' (2' @ 4 fph) WOB 10k, RPM 0 , GPM 420 , SPP 3,018, DIFF PSI 160, MW @ 11.1 ppg.									
14:00	14:30	0.50	MP	Work on #1 MP cap gasket.									
14:30	15:00	0.50		Slide building ST3 tangent section f/ 9,469' t/ 9,477' (8' @ 16 fph) WOB 10k, RPM 0 , GPM 420 , SPP 3,130, DIFF PSI 160, MW @ 11.1 ppg.									
15:00	15:30	0.50	MP	Swap pumps. #1 MP cap gasket out.									
15:30	18:00	2.50		Rotate & Slide building ST3 tangent section f/ 9,477' t/ 9,560' (83' @ 33 fph) WOB 10-20k, RPM 35 , GPM 425 , SPP 3,130-3320, DIFF PSI 160-340, MW @ 10.9 ppg. GTF: 130-150									
18:00	19:30	1.50		Rotate & Slide building ST3 tangent section f/ 9,560' t/ 9,602' (42' @ 28 fph) WOB 10-20k, RPM 35 , GPM 425 , SPP 3,130-3320, DIFF PSI 160-340, MW @ 11.0 ppg. GTF: 130-150									
19:30	20:00	0.50		C/O RCD element. Leaking.									
20:00	6:00	10.00		Rotate & Slide building ST3 tangent section f/ 9,602' t/ 9,802' (200' @ 20 fph) WOB 10-20k, RPM 45 , GPM 425 , SPP 3,240-3320, DIFF PSI 130-310, MW @ 11.1+ ppg. GTF: 210 to 270									
TOTAL		24.0											
STRING WEIGHT			GAS			DIESEL (GAL)			TOTAL OBM LOSS		HYDRAULICS		
ROTATING	190	Bkgd Gas	Start			4709			Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP	210	Conn Gas	Received						Surface	0	Make/Model	FB-1600	FB-1600/PZ10
DOWN	175	Trip Gas	End			3101			Hole	0	SPR (SPM)		
TORQUE		Max Gas	Used			1608			Centrifuge	0	@ # (psi)		
			Rate (5/gal)						Notes		Stroke, in.	12"	12"/ 10"
			Total Cost (\$)			\$263,960.00					Liner / gal sks	5 1/2"	5 1/2 " & 6 1/2"
											S.P.M.		123
BIT RECORD			MUD								Rate, G.P.M.		432
Number	9		Type	AES VERT	Solids	16.4%					Press, psi		3245
Size, in.	7.875		Time	5:00 PM	O/W Cont.	57.5/24.5							
Type	MM54DM		Company	AES	O/W Ratio	70/30							
code			FL Temp (deg F)	124	Chlorides	42000							
Serial No.	12622614		Depth	9555	WPS	211863							
Jets, 32nds	5x18		Density ppg	11	Salt					Days Crew:	5	BOP DRILLS	
W.O.B., lb.	25k		Viscosity	59	Alk P mud	3.5				Nights Crew:	5	BOP DRILLS	
R.P.M.	45		PV/YP	24/6	Lime	4.6							
Depth out, ft	9802		Gels: 1/10	6/9	El. Stab	494v							
Depth in, ft	9448		API W/L		LGS	11.40%							
Footage	354		HTHP W/L	5	600/300	54/30							
Hours	18		Cake API/HTH	2									
Mlgr	Halliburton		PH							Days from spud:	58.6		

[illegible]

[illegible]

[illegible]

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Detailed Drilling Report

Lease: University 1-37 unit 4H ST01

Operator: Zarvona Energy

API #: 42-003-47682

Spud Date: 04/23/18 1700hrs

Report #: 67

Report Date: 6/28/18

GL3086Depth (MD)14,500CountyAndrewsRigSendero Rig #15

KB-GL26TVD10,851StateTexasTool pusherRene Samora (325)-450-1134

Co SupvDC TorresDaniel Vickers (325) 450-7715

Co SupvRE Kidd

PRESENT OPERATIONS

Drilling @ 14500

Drill to 13760 , clean suction screen , Drill to 14036 , R/S , Work on top drive , Drill to 14500

DRILL PIPE

# JTS	LENGTH	OD	WT	GRADE	CONN	BHA	EQUIPMENT	LENGTH
251	11313	5	19.5	S-195	4.1/2 IF		Bit 7.7/8 MM54DM	1.00
							Motor 7/8 5.7 FBH 1.5 NOV 4223-1	31.27
							NMDC	8.83
							UBHO	3.10
LAST CASING STRINGS							NMDC / MWD	29.58
SIZE	TOP	BOTTOM	WT	GRADE	CONN		NMDC FLEX	29.11
20"	0	80					X-O	2.70
13.375	0	1673	54.5	J-55	BTC		DRILL PIPE (31 STDS)	2860.81
8.625	0	9443	32	HCL-80/K55	BTC/LTC		SAFETY JT/AGITATOR/SHOCK SUB	26.16
							DP 2-31.50	62.98
							TOTAL	3055.54

START TIMEEND TIMEHOURSNPTDAILY OPERATIONS

6:0010:304.50

10:3011:000.50

11:0011:300.50MP's

11:3017:306.00

17:3018:000.50

18:0019:301.50TDS

19:304:008.50

4:004:300.50

4:306:001.50

Rotate/Slide drill lateral hole section f/13,500' t/ 13,760' (260' @ 57.77 fph) wob 20/33k, rpm 0/60, tq 13/15.5k, gpm 425, spp 3500/3800 psi , differential pressure 200/350psi, MW @ 11.2ppg.

Made connection and conn started leaking between TD and Std., L/D top single.

Clean MP#2 suction screen.

Rotate/Slide drill lateral hole section f/13,760' t/ 14036' (276' @ 46 fph) wob 20/33k, rpm 0/60, tq 13/15.5k, gpm 425, spp 3500/3800 psi , differential pressure 200/350psi, MW @ 11.2ppg.

Service rig, TDS down.

Install pump in sub and circulate @ SPR, replace slew motors drive belts.

Rotate/Slide drill lateral hole section from 14036' to 14453' (417' @ 49.0 fph) wob 20/33k, rpm 0/60, tq 13/15.5k, gpm 425, spp 3500/3800 psi , differential pressure 200/350psi, MW @ 11.2ppg (Pump 20 bbls sweep)

Rig service

Rotate/Slide drill lateral hole section from 14453' to 14500' (47' @ 31.33 fph) wob 20/33k, rpm 0/60, tq 13/15.5k, gpm 425, spp 3500/3800 psi , differential pressure 200/350psi, MW @ 11.2ppg (Pump 20 bbls sweep)

Replace R&L piston on MP1 with green duo urethane pistons???

Pump wellbore strengthening sweeps 20 bbls every 300', Sweep 80bbls, Shaletex=5sks, CalCarb 5sks, FlrPlus=5sks, GXM=5sks.

Replace MP2 #5 pot, valve, valve cap gasket and plunger.

Replace MP1 #1 pot valve cap gasket.

TOTAL24.0

STRING WEIGHTGASDIESEL (GAL)

ROTATING205Bkgd GasStart6222

UP250Conn GasReceived

DOWN175Trip GasEnd3890

TORQUE11KMax GasUsed2332

Rate (\$/gal)

Total Cost (\$)\$328,794.00

BIT RECORDMUD

Number	11	Type	AES VERT	Solids	18.7%
Size, in.	7.875	Time	5:00 PM	O/W Cont.	59.5/22.5
Type	MM54DM	Company	AES	O/W Ratio	74/26
code		FL Temp (deg F)	119	Chlorides	46000
Serial No.	12954445	Depth	14020	WPS	207197
Jets, 32nds	5X18	Density ppg	11.3	Salt	
W.O.B., lb.	30	Viscosity	58	Alk P mud	3.7
R.P.M.	60	PV/YP	21/9	Lime	4.8
Depth out, ft		Gels: I/10	6/10	El. Stab	517
Depth in, ft	11105	API W/L		LGS	8.80%
Footage	3395	HTHP W/L	5	600/300	51/30
Hours	76.5	Cake API/HTH	2		
Mfgr	HALLIBURTON	PH			

Notes

Days Crew:5

Nights Crew:6

BOP DRILLS

BOP DRILLS

Days from spud:65.6

Detailed Drilling Report											
Lease: University 1-37 unit 4H ST01				API #: 42-003-47682				Report #:		68	
Operator: Zarvona Energy				Spud Date: 04/23/18 1700hrs				Report Date:		6/29/18	
GL	3,086	Depth (MD)	15,514	County	Andrews	Rig	Sendero Rig #15		AFE #	SA 1-37-4H	
KB-GL	26	TVD	10,881	State	Texas	Tool pusher	Rene Samora (325)-450-1134				
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715				
				Co Supv	RE Kidd						
PRESENT OPERATIONS											
Drilling @ 15514											
Drill to 14870' , Work on pumps , Drill to 14962' ,R/S , Drill to 15514											
DRILL PIPE							BHA				
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT			LENGTH	
340	15337	5	19.5	S-195	4.1/2 IF		Bit 7.7/8 MM54DM			1.00	
							Motor 7/8 5.7 FBH 1.5 NOV 4223-1			31.27	
							NMDC			8.83	
							UBHO			3.10	
LAST CASING STRINGS							NMDC / MWD			29.58	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		NMDC FLEX			29.11	
20"	0	80					X-O			2.70	
13.375	0	1673	54.5	J-55	BTC		DRILL PIPE (31 STD5)			2860.81	
8.625	0	9443	32	HCL-80/K55	BTC/LTC		SAFETY JT/AGITATOR/SHOCK SUB			26.16	
							DP 2-31.50			62.98	
							TOTAL			3055.54	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS							
6:00	13:00	7.00		Rotate/Slide drill lateral hole section f/14,500' t/ 14,870' (370' @ 52.85 fph) wob 20/33k, rpm 0/60, tq 13/15.5k, gpm 425, spp 3500/3800 psi , differential pressure 200/350psi, MW @ 11.2ppg.							
13:00	14:00	1.00	Pumps	WO MP#2 vibrator hose after repairing 4" valve.							
14:00	16:00	2.00		Rotate/Slide drill lateral hole section f/14,870' t/ 14,962' (92' @ 46.0 fph) wob 20/33k, rpm 0/60, tq 13/15.5k, gpm 425, 61/61 spm, spp 3500/3950 psi , differential pressure 200/350psi, MW @ 11.2ppg.							
16:00	16:30	0.50		Service rig							
16:30	6:00	13.50		Rotate/Slide drill lateral hole section f/14962' t/ 15514 ' (552" @ 40.8 fph) wob 20/33k, rpm 0/60, tq 13/15.5k, gpm 425, spp 3500/3950 psi , differential pressure 200/350psi, MW @ 11.2ppg.							
				Clean all 4 radiators as per rig manager.							
				Pump wellbore strengthening sweeps 20 bbls every 300' , Sweep 80bbls, Shaletex=5sks,CalCarb 5sks,FlrPlus=5sks, GXM=5sks.							
TOTAL		24.0									
STRING WEIGHT		GAS		DIESEL (GAL)			TOTAL OBM LOSS		HYDRAULICS		
ROTATING	205	Bkgd Gas		Start	10690		Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP	250	Conn Gas		Received	6800		Surface	0	Make/Model	FB-1600	FB-1600/P210
DOWN	175	Trip Gas		End	8487		Hole	0	SPR (SPM)		
TORQUE	11K	Max Gas		Used	2203		Centrifuge	0	@ # (psi)		
				Rate (\$/gal)					Stroke, in.	12"	12"/ 10"
				Total Cost (\$)	\$346,947.00				Liner / gal sks	5½"	5½" & 6½"
BIT RECORD			MUD							S.P.M.	125
Number	11		Type	AES VERT	Solids	18.7%			Rate, G.P.M.	436	
Size, in.	7.875		Time	5:00 PM	O/W Cont.	59.5/22.5			Press, psi	3900	
Type	MM54DM		Company	AES	O/W Ratio	74/26	Notes				
code			FL Temp (deg F)	119	Chlorides	46000					
Serial No.	12954445		Depth	14020	WPS	207197					
Jets, 32nds	5X18		Density ppg	11.3	Salt		Days Crew:		6	BOP DRILLS	
W.O.B., lb.	30		Viscosity	58	Alk P mud	3.7	Nights Crew:		6	BOP DRILLS	
R.P.M.	60		PV/YP	21/9	Lime	4.8					
Depth out, ft			Gels: I/10	6/10	El. Stab	517					
Depth in, ft	11105		API W/L		LGS	8.80%					
Footage	4409		HTHP W/L	5	600/300	51/30					
Hours	99		Cake API/HTH	2							
Mfgr	HALLIBURTON		PH				Days from spud:		66.6		

Detailed Drilling Report									
Lease: University 1-37 unit 4H ST01				API #: 42-003-47682				Report #: 69	
Operator: Zarvona Energy				Spud Date: 04/23/18 1700hrs				Report Date: 6/30/18	
GL	3,086	Depth (MD)	16,560	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H
KB-GL	26	TVD	10,917	State	Texas	Tool pusher	Rene Samora (325)-450-1134		
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715		
				Co Supv	RE Kidd				
PRESENT OPERATIONS									
Drilling @ 16560'									
Drill to 16071 , R/S , Drill to 16560'									
DRILL PIPE							BHA		
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH
340	15337	5	19.5	S-195	4.1/2 IF		Bit 7.7/8 MMS4DM		1.00
							Motor 7/8 5.7 FBH 1.5 NOV 4223-1		31.27
							NMDC		8.83
							UBHO		3.10
LAST CASING STRINGS							NMDC / MWD		29.58
SIZE	TOP	BOTTOM	WT	GRADE	CONN		NMDC FLEX		29.11
20"	0	80					X-O		2.70
13.375	0	1673	54.5	J-55	BTC		DRILL PIPE (31 STDS)		2860.81
8.625	0	9443	32	HCL-80/K55	BTC/LTC		SAFETY JT/AGITATOR		26.16
							DP 2-31.50		62.98
							TOTAL		3055.54
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS					
6:00	17:00	11.00		Rotate/Slide drill lateral hole section f/15,514' t/ 16,071' (557' @ 50.63 fph) wob 20/33k, rpm 0/70, tq 13/16.5k, gpm 435, spp 3500/4050 psi , differential pressure 200/350psi, MW @ 11.1ppg.					
17:00	17:30	0.50		Service rig					
17:30	1:00	7.50		Rotate/Slide drill lateral hole section f/ 16071' t/ 16375' (304' @ 40.5 fph) wob 20/33k, rpm 0/70, tq 13/16.5k, gpm 435, spp 3500/4050 psi , differential pressure 200/350psi, MW @ 11.1ppg.					
1:00	1:30	0.50		Service rig (Note: working on pump 2)					
1:30	6:00	4.50		Rotate/Slide drill lateral hole section f/ 16375' t/ 16560' (185' @ 41.11 fph) wob 20/33k, rpm 0/70, tq 13/16.5k, gpm 435, spp 3500/4050 psi , differential pressure 200/350psi, MW @ 11.1ppg.					
				Pump wellbore strengthening sweeps 20 bbls every 300', Sweep 80bbls, Shaletex=5sks, CalCarb 5sks, FlrPlus=5sks, GXM=5sks.					
				Chg valve cap gaskets #3 pot MP1 (new module) #5 pot MP#2. 4" valve on MP#2 washed out, WO welder.					
TOTAL		24.0							
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS	
ROTATING	205	Bkgd Gas		Start	8487	Cuttings	0	Pump No.	No. 1
UP	250	Conn Gas		Received		Surface	0	Make/Model	FB-1600
DOWN	175	Trip Gas		End	5883	Hole	0	SPR (SPM)	FB-1600/PZ10
TORQUE	11K	Max Gas		Used	2604	Centrifuge	0	@ # (psi)	
				Rate (\$/gal)				Stroke, in.	12"
				Total Cost (\$)	\$346,947.00			Liner / gal sks	5 1/4"
BIT RECORD		MUD						S.P.M.	125
Number	11	Type	AES VERT	Solids	18.7%			Rate, G.P.M.	436
Size, in.	7.875	Time	5:00 PM	O/W Cont.	59.5/22.5			Press, psi	4000
Type	MMS4DM	Company	AES	O/W Ratio	74/26	Notes			
code		FL Temp (deg F)	119	Chlorides	46000				
Serial No.	12954445	Depth	16075	WPS	207197				
Jets, 32nds	5X18	Density ppg	11.3	Salt		Days Crew:		6	BOP DRILLS
W.O.B., lb.	30	Viscosity	58	Alk P mud	3.7	Nights Crew:		6	BOP DRILLS
R.P.M.	60	PV/YP	21/9	Lime	4.8				
Depth out, ft		Gels: I/10	6/10	El. Stab	517				
Depth in, ft	11105	API W/L		LGS	8.80%				
Footage	5455	HTHP W/L	5	600/300	51/30				
Hours	122	Cake API/HTH	2						
Mfgr	HALLIBURTON	PH				Days from spud:		67.6	

Detailed Drilling Report										
Lease: University 1-37 unit 4H ST01				API #: 42-003-47682				Report #: 72		
Operator: Zarvona Energy				Spud Date: 04/23/18 1700hrs				Report Date: 7/3/18		
GL	3,086	Depth (MD)	18,880'	County	Andrews	Rig	Sendero Rig #15		AFE #	SA 1-37-4H
KB-GL	26	TVD	10,984	State	Texas	Tool pusher	Rene Samora (325)-450-1134			
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715			
				Co Supv	RE Kidd					
PRESENT OPERATIONS										
Drilling @18,880'										
Drill to 18,470' , Work on pumps , Drill to 18,681' , Work on stand pipe valve , Drill to 18,838' , R/S , Drill to 18,880'										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
398	17938	5	19.5	S-195	4.1/2 IF		Bit 7.7/8 MM54DM		1.00	
							Motor 7/8 5.7 FBH 1.5 NOV 4223-1		31.27	
							NMDC		8.83	
							UBHO		3.10	
LAST CASING STRINGS							NMDC / MWD		29.58	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		NMDC FLEX		29.11	
20"	0	80					X-O		2.70	
13.375	0	1673	54.5	J-55	BTC		DRILL PIPE (31 STDS)		2860.81	
8.625	0	9443	32	HCL-80/K55	BTC/LTC		SAFETY JT/AGITATOR		26.16	
							DP 2-31.50		62.98	
							TOTAL		3055.54	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	16:30	10.50		Rotate/Slide drill lateral hole section f/18,045' t/ 18,470' (425' @ 40.47fph) wob 20/33k, rpm 0/70, tq 13/16.5k, gpm 435, spp 3500/4050 psi , differential pressure 200/350psi, MW @ 11.1ppg. Pump sweep EVERY 300'						
16:30	17:30	1.00	MP's	Put MPH1 on line and liner gasket leaked, put MP2 on line and apperantly 4" valve was close and blew popoff						
17:30	21:30	4.00		Rotate/Slide drill lateral hole section f/18,470' t/ 18,681' (211 @ 52.7 fph) wob 20/33k, rpm 0/70, tq 13/16.5k, gpm 435, spp 3500/4050 psi , differential pressure 200/350psi, MW @ 11.1ppg. Pump sweep EVERY 300'						
21:30	22:30	1.00	mud line	Put mud pump # 1 on the hole , Run pump did not get the correct off bottom pump pressure 300 psi off , check pump 1 , pump ok , but the 2" bleed off lines coming off from pumps are building up pressure on the 2" hose remove the 2" bleed off lines from mud tank to check the 2" valves on the pumps , valve not lacking by check the 2" valve on the stand pipe the valve was lacking by.						
22:30	11:30	1.00	stand pipe	No spars parts to repair the 2" valve , can not fine a 2" bull plug had to remove a 5000 psi ball valve to make a bull plug , install same , now the body on the 2" stand pipe valve is leaking , W.O repair kit for the 2" valve						
11:30	12:30	1.00	stand pipe	W.O repair kit to repair the 2" stand pipe valve (while W.O Parts we installed the mud line hose back on to the mud pump # 3)						
12:30	1:30	1.00	stand pipe	Repair 2" stand pipe valve & Test same , The 4" mud line valve on Pump # 3 Leaking around the body of the valve Tight up bolts on valve.						
1:30	4:00	2.50		Rotate/Slide drill lateral hole section f/ 18,681' t/ 18,838' (157' @ 62.8 fph) wob 20/33k, rpm 0/70, tq 13/16.5k, gpm 435, spp 3500/4050 psi , differential pressure 200/350psi, MW @ 11.2ppg. Pump sweep EVERY 300'						
4:00	4:30	0.50		Rig Service						
4:30	5:30	1.00		Rotate/Slide drill lateral hole section f/ 18,838' t/ 18,880' (42' @ 28 fph) wob 20/33k, rpm 0/70, tq 13/16.5k, gpm 435, spp 3500/4050 psi , differential pressure 200/350psi, MW @ 11.2ppg. Pump sweep EVERY 300'						
5:30	6:00	0.50		Check shot and Recycle pump 4 time						
				Pump wellbore strengthening sweeps 20 bbls every 300' @12.2ppg, Sweep 80bbls, Shaletex=5sks,CalCarb 5sks,FlrPlus=5sks, GXM=5sks.						
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING	205	Bkgd Gas		Start	7909	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP	250	Conn Gas		Received		Surface	0	Make/Model	FB-1600	FB-1600/PZ10
DOWN	175	Trip Gas		End	5545	Hole	0	SPR (SPM)		
TORQUE	11K	Max Gas		Used	2364	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)				Stroke, in.	12"	12"/ 10"
				Total Cost (\$)	\$365,632.00			Liner / gal sks	5 1/2"	5 1/2 " & 6%
BIT RECORD		MUD								
Number	11	Type	AES VERT	Solids	18.7%					
Size, in.	7.875	Time	5:00 PM	O/W Cont.	59.5/22.5					
Type	MM54DM	Company	AES	O/W Ratio	74/26					
code		FL Temp (deg F)	119	Chlorides	46000					
Serial No.	12954445	Depth	17650	WPS	207197					
Jets, 32nds	5X18	Density ppg	11.2	Salt						
W.O.B., lb.	30	Viscosity	58	Alk P mud	3.7					
R.P.M.	60	PV/YP	21/9	Lime	4.8					
Depth out, ft		Gels: I/10	6/10	El. Stab	517					
Depth in, ft	11105	API W/L		LGS	8.80%					
Footage	7775	HTHP W/L	5	600/300	51/30					
Hours	184	Cake API/HTH	2							
Mfr	HALLIBURTON	PH								
Days from spud:						69.6				

Detailed Drilling Report										
Lease: University 1-37 unit 4H ST01				API #: 42-003-47682				Report #: 73		
Operator: Zarvona Energy				Spud Date: 04/23/18 1700hrs				Report Date: 7/4/18		
GL	3,086	Depth (MD)	19,321	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	10,996	State	Texas	Tool pusher	Rene Samora (325)-450-1134			
				Co Supv	DC Torres		Daniel Vickers (325) 450-7715			
				Co Supv	RE Kidd					
PRESENT OPERATIONS										
Drilling @19,321'										
Slide & rotate drill lateral hole F/ 18,880' to 19,321'										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
416	19196	5	19.5	S-195	4.1/2 IF		Bit 7.7/8 MM54DM		1.00	
							Motor 7/8 5.7 FBH 1.5 NOV 4223-1		31.27	
							NMDC		8.83	
							UBHO		3.10	
LAST CASING STRINGS							NMDC / MWD		29.58	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		NMDC FLEX		29.11	
20"	0	80					X-O		2.70	
13.375	0	1673	54.5	J-55	BTC		DRILL PIPE (31 STDS)		2860.81	
8.625	0	9443	32	HCL-80/K55	BTC/LTC		SAFETY JT/AGITATOR		26.16	
							DP 2-31.50		62.98	
							TOTAL		3055.54	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	7:00	1.00	Aim	Recycle pumps						
7:00	14:00	7.00		Rotate/Slide drill lateral hole section f/18,880' t/ 19,023' (143' @ 20.42fph) wob 20/33k, rpm 0/70, tq 13/16.5k, gpm 435, spp 3500/4050 psi, differential pressure 200/350psi, MW @ 11.1ppg. Pump sweep @ 18,900'						
14:00	15:00	1.00	Aim	Connection, chg Transducer, #1 & 2 engine overheated.						
15:00	16:30	1.50		Rotate/Slide drill lateral hole section f/19,023' t/19,069' (46' @ 30.6 fph) wob 20/33k, rpm 0/70, tq 13/16.5k, gpm 435, spp 3500/4050 psi, differential pressure 200/350psi, MW @ 11.1ppg.						
16:30	17:00	0.50	Eng	All engines died, cool down and restart.						
17:00	18:00	1.00		Rotate/Slide drill lateral hole section f/19,069' t/19,080' (11' @11 fph) wob 25/28k, rpm 0/70, tq 13/16.5k, gpm 440, spp 3600/3800 psi, differential pressure 100/250psi, MW @ 11.2ppg.						
18:00	4:00	10.00		Rotate/Slide drill lateral hole section f/19,080' t/19,256' (176' @17.6 fph) wob 25/28k, rpm 0/70, tq 13/16.5k, gpm 440, spp 3600/3800 psi, differential pressure 100/250psi, MW @ 11.2ppg. GTF: 1351 -120						
4:00	4:30	0.50	MP's	#2 MP shut down. Sparks flying out of traction motor. Change to #1 MP. Not building correct PSI. Check valves and close 2" relief valves. Appears 4" valve was leaking.						
4:30	6:00	1.50		Rotate drill lateral hole section f/19,256' t/19,321' (65' @ 43.3 fph) wob 32k, rpm 70, tq 13/16.5k, gpm 444, spp 4270 psi, differential pressure 440psi, MW @ 11.2ppg.						
				Pump wellbore strengthening sweeps 20 bbls every 300' @12.2ppg, Sweep 80bbls, Shaletex=5sks, CalCarb 5sks, FlrPlus=5sks, GXM=5sks.						
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING	200	Bkgd Gas		Start	5545	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP	275	Conn Gas		Received		Surface	0	Make/Model	FB-1600	FB-1600/PZ10
DOWN	130	Trip Gas		End	3101	Hole	0	SPR (SPM)	50/810	
TORQUE	17k	Max Gas		Used	2444	Centrifuge	0	@ # (psi)	19,298'	
				Rate (\$/gal)				Stroke, in.	12"	12"/ 10"
				Total Cost (\$)	\$365,632.00			Liner / gal sks	5½"	5½" & 6½"
BIT RECORD		MUD								
Number	11		Type	AES VERT	Solids	17.9%				
Size, in.	7.875		Time	5:00 PM	O/W Cont.	59.5/21				
Type	MM54DM		Company	AES	O/W Ratio	74/26				
code			FL Temp (deg F)	143	Chlorides	42000				
Serial No.	12954445		Depth	19069	WPS	238743				
Jets, 32nds	5X18		Density ppg	11.2	Salt					
W.O.B., lb.	30		Viscosity	52	Alk P mud	5.4				
R.P.M.	70		PV/YP	25/6	Lime	7				
Depth out, ft	19321		Gels: I/10	6/11	El. Stab	607v				
Depth in, ft	11105		API W/L		LGS	10.60%				
Footage	8216		HTHP W/L	6	600/300	56/31				
Hours	205		Calc API/HTH	2						
Mfr	HALLIBURTON		PH							
Days from spud:							70.6			

Detailed Drilling Report											
Lease: University 1-37 unit 4H ST01				API #: 42-003-47682				Report #: 74		74	
Operator: Zarvona Energy				Spud Date: 04/23/18 1700hrs				Report Date: 7/5/18			
GL	3,086	Depth (MD)	19,742	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H		
KB-GL	26	TVD	11,021	State	Texas	Tool pusher	Rene Samora (325)-450-1134				
				Co Supv	RE Kidd		Daniel Vickers (325) 450-7715				
				Co Supv	S. Velazquez						
PRESENT OPERATIONS											
Performing clean up cycle in prep for trip.											
Slide & rotate drill f/ 19,321' to 19,742'. ROP & Diff Psi dropping. Pump HV sweeps and circulate hole clean.											
DRILL PIPE							BHA				
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH		
424	19566	5	19.5	S-19S	4.1/2 IF		Bit 7/8 MM54DM		1.00		
							Motor 7/8 5.7 FBH 1.5 NOV 4223-1		31.27		
							NMDC		8.83		
							UBHO		3.10		
LAST CASING STRINGS							NMDC / MWD		29.58		
SIZE	TOP	BOTTOM	WT	GRADE	CONN		NMDC FLEX		29.11		
20"	0	80					X-O		2.70		
13.375	0	1673	54.5	J-55	BTC		DRILL PIPE (31 STDs)		2860.81		
8.625	0	9443	32	HCL-80/K55	BTC/LTC		SAFETY JT/AGITATOR		26.16		
							DP 2-31.50		62.98		
							TOTAL		3055.54		
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS							
6:00	15:30	9.50		Rotate drill lateral hole section f/19,321' t/ 19,480' (159' @ 16.7 fph) wob 35-38k, rpm 0-70, tq 13/16.5k, gpm 440, spp 4200 psi , differential pressure 50-380psi, MW @ 11.2ppg.GTF: 50L							
15:30	16:00	0.50		Rig Service							
16:00	18:00	2.00		Rotate drill lateral hole section f/19,480' t/ 19,570' (90' @ 45 fph) wob 35-38k, rpm 0-70, tq 13/16.5k, gpm 440, spp 4200 psi , differential pressure 50-380psi, MW @ 11.2ppg.GTF: 50L							
18:00	1:30	7.50		Rotate drill lateral hole section f/19,570' t/ 19,742' (172' @ 23 fph) wob 35-41k, rpm 0-70, tq 15/18.5k, gpm 440, spp 4190 psi , differential pressure 80-170psi, MW @ 11.2ppg.GTF: 20L							
1:30	2:00	0.50		Stand back stand from mousehole & L/D top joint from drill string. Pump 1st high vis pill.							
2:00	6:00	4.00		Perform clean up cycles. Work pipe full stand and rotate @ 100 RPM, 440 GPM, & 3890 SPP. Pump 2nd & 3rd high vis pills and continue circulating around. No excess cuttings noticed at shakers form 1st & 2nd sweeps. Torque started at 12-13k while working pipe, down to 10.5k at relief. Rotating down Wt @ 182K. Rot P/U Wt @ 222-226K.							

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Detailed Drilling Report										
Lease: University 1-37 unit 4H ST01				API #: 42-003-47682				Report #: 77		
Operator: Zarvona Energy				Spud Date: 04/23/18 1700hrs				Report Date: 7/8/18		
GL	3,086	Depth (MD)	19,742	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	11,021	State	Texas	Tool pusher	Rene Samora (325)-450-1134			
				Co Supv	RE Kidd		Daniel Vickers (325) 450-7715			
				Co Supv	S. Velazquez					
PRESENT OPERATIONS										
Performing cleaning cycles @ 17,600'.										
C/O swivel packing.Work on VFD & SCR ECM.TIH. Ream tight hole to 18,346'. Hole trying to pack off .POOH to 17,600'.										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
424	19566	5	19.5	S-195	4.1/2 IF		Bit 7.7/8 MMS4DM		1.00	
							Motor 7/8 5.7 FBH 1.5 AIM M6559		26.61	
							NMDC		8.83	
							UBHO		2.71	
LAST CASING STRINGS							NMDC / MWD		29.58	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		NMDC FLEX		29.11	
20"	0	80					X-O		2.70	
13.375	0	1673	54.5	J-55	BTC		DRILL PIPE (31 STDS)		2860.81	
8.625	0	9443	32	HCL-80/K55	BTC/LTC		SAFETY JT/AGITATOR/SHOCK SUB		28.48	
							DP 2-31.50		62.98	
							DRILL PIPE (27 STDS= 2496')		4.37	
							TOTAL		3057.18	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	7:30	1.50	WP	Attempt to test washpipe. Leaking. Tried to break connection to rotate quill to grease. Top drive could not break. Resetting top drive.						
7:30	8:30	1.00	VFD	Reinstall program in VFD						
8:30	9:30	1.00	SCR	Test swivel packing to 1000 psi , good - test run mud pump # 3 -ok , test run mud pump # 1 -ok , test run top drive -ok						
9:30	10:00	0.50	SCR	Ran traveling blocks up to get a stand , inside the scr house the ECM reverse power for the DW traction motor shorted out. Causing all 4 gen motor to shut down						
10:00	13:00	3.00	SCR	Electrician working on the ECM to bypass the ECM (3 weeks for new parts to repair the ECM) Test run traveling block 4 time -ok , test run mud pump #1 -ok						
13:00	18:00	5.00		Trip in hole fill up every 30 stds , Tight @ 16736' (8' slide point 16738 to 16746)						
18:00	22:30	4.50		Ream from 16736' to 18,287' @ 10k WOB, 350 GPM, 2880 SPP, & 50 RPM. Tagging ledges from directional slides @ 16,730',16,906', & 17,379'. At 18,215' to 18,220' taking 10-15k weight & not drilling off. Work through with rotary off and backream up. Pass through knot.						
22:30	0:00	1.50		Remove trip nipple and attempt to install RCD rubber. Could not stab on to stand. Remove and replace with another rubber.						
0:00	0:30	0.50		Circulate @ 18,265'. Clean hole.						
0:30	1:00	0.50		Cont. TIH reaming, tag ledge @ 18,285' and well packing off slightly. Rotary stalled out. Work and free string. Resume reaming in hole.Again at 18,346' rotary stalled and SPP increased and flow dropped.Work pipe and free. Pull up to 18,321' to circulate.						
1:00	2:00	1.00		Circulate @ 18,321'. Clean hole.						
2:00	3:00	1.00		Stand back stands to 18,184'.						
3:00	4:30	1.50		Circulate clean hole.						
4:30	6:00	1.50		Backream & then straight pull F/ 18,184' to 17,600'. Pulling good F/ 17,990' W/O pump or rotary.						
TOTAL		24.0								
STRING WEIGHT		GAS		DIESEL (GAL)		TOTAL OBM LOSS		HYDRAULICS		
ROTATING		Bkgd Gas		Start	10574	Cuttings	0	Pump No.	No. 1	No. 2/ No. 3
UP	290	Conn Gas		Received		Surface	0	Make/Model	FB-1600	FB-1600/P210
DOWN	175	Trip Gas		End	9231	Hole	0	SPR (SPM)		
TORQUE		Max Gas		Used	1343	Centrifuge	0	@ # (psi)		
				Rate (\$/gal)				Stroke, in.	12"	12" / 10"
				Total Cost (\$)	\$400,113.00			Liner / gal sks	5 1/2"	5 1/2 " & 6"
BIT RECORD		MUD				<div>Notes</div> <div>Days Crew: 5 BOP DRILLS</div> <div>Nights Crew: 5 BOP DRILLS</div> <div>Days from spud: 74.6</div>				
Number	12	Type	AES VERT	Solids	17.0%					
Size, in.	7.875	Time	5:00 PM	O/W Cont.	63.8/17.5					
Type	MMS4DM	Company	AES	O/W Ratio	78/22					
code		FL Temp (deg F)	104	Chlorides	44000					
Serial No.	12936725	Depth	19742	WPS	282774					
Jets, 32nds	5x18	Density ppg	11.3	Salt						
W.O.B., lb.		Viscosity	57	Alk P mud	4.5					
R.P.M.		PV/YP	20/8	Lime	5.9					
Depth out, ft		Gels: 1/10	5/8	El. Stab	715v					
Depth in, ft	19742	API W/L		LGS	3.36%					
Footage		HTHP W/L	5	600/300	48/28					
Hours		Cake API/HTH	2							
Mfgr	Halliburton	PH								

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Detailed Drilling Report										
Lease: University 1-37 unit 4H ST01			API #: 42-003-47682					Report #: 79		
Operator: Zarvona Energy			Spud Date: 04/23/18 1700hrs					Report Date: 7/10/18		
GL	3,086	Depth (MD)	18,000	County	Andrews	Rig	Sendero Rig #15	AFE #	SA 1-37-4H	
KB-GL	26	TVD	10,965	State	Texas	Tool pusher	Rene Samora (325)-450-1134			
				Co Supv	RE Kidd		Daniel Vickers (325) 450-7715			
				Co Supv	S. Velazquez					
PRESENT OPERATIONS										
RIH with production casing to 16,620'.										
L/D directional tools. Pull wear bushing.R/U casing equipment. M/U shoe track & toe sleeve.RIH with 5-1/2" production casing.										
DRILL PIPE							BHA			
# JTS	LENGTH	OD	WT	GRADE	CONN		EQUIPMENT		LENGTH	
424	19566	5	19.5	5-195	4.1/2 IF		FS		2.25	
							Pup JT		9.90	
							FC		1.79	
							Pup JT		10.22	
LAST CASING STRINGS							LC(1.35) Pup Jt(10.26)		1.39	
SIZE	TOP	BOTTOM	WT	GRADE	CONN		Pup JT		10.22	
20"	0	80					Toe Sleeve		5.63	
13.375	0	1673	54.5	J-55	BTC		167 Jts 5-1/2 Casing		7468.25	
8.625	0	9443	32	HCL-80/K55	BTC/LTC		KOP Marker		10.12	
							203 Jts 5-1/2 Casing		9100.23	
							TOTAL		16620	
START TIME	END TIME	HOURS	NPT	DAILY OPERATIONS						
6:00	7:30	1.50		Trip out of hole						
7:30	9:00	1.50		Lay down Directional tools , sub , load tools on truck						
9:00	9:30	0.50		Clean rig floor , remove rig elevators						
9:30	10:00	0.50		pull wear bushing						
10:00	12:00	2.00		Rig up casing tools , PISM						
12:00	13:00	1.00		Make up shoe track , check float-ok						
13:00	18:00	5.00		Run 5.1/2 casing to 5,396'. Fill every 30 joints with CRT. Torquing connections to 19,000 ft/lbs.						
18:00	21:30	3.50		Run 5.1/2 casing F/ 5,396' to 9,361' & CBU.Fill every 30 joints with CRT. P/U 180K, S/O 158K.						
21:30	22:30	1.00		Connect to Valant CRT & CBU. 7 BPM, 285 GPM, 495 SPP.						
22:30	1:00	2.50		Run 5.1/2 casing F/ 9,361' to 12,149'. Fill every 30 joints with CRT. P/U 220K, S/O 175K.						
1:00	2:00	1.00	BL CRT	CRT leaked while filling pipe. Rebuild CRT stinger packing. Circ @ 240 GPM, 495 SPP with swage.						
2:00	6:00	4.00		Run 5.1/2 casing F/ 12,149' to 16620'. Fill every 35 joints with CRT. P/U 220K, S/O 175K.						

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