

SURVEY CALCULATION REPORT



Job #	63333	Declination:	6.91
Client:	Conoco Phillips	Dip angle:	59.80
Well:	Zia Hills 25E Federal Com 402H	TMF:	0.4771
Field:	Bone Springs	TGF:	1.000
Rig:	Nabors 891	Target TVD:	10696.00
Phoenix Rep:	Lindsey Cantrell/ Ryan Finley	Proposed Dir:	179.60

Date	Time	Bit Depth	Bit to DU	Depth (ft)	INC.	AZM	C.L.	T.V.D.	V.S.	N/S	E/W	DLS	B/D.	BHA#
xxx	xxx	xxx	xxx	4770.00	8.00	74.69	0	4740.86	179.60	100.51 N	438.50 E	0.00	0.00	0.00
11-Sep	11:35			4860	8.33	74.18	90	4829.95	-100.79	103.94 N	450.81 E	0.38	0.37	1
11-Sep	12:00			4954	8.35	72.88	94	4922.95	-104.57	107.81 N	463.89 E	0.20	0.02	1
11-Sep	12:25			5049	8.40	70.72	95	5016.94	-108.80	112.13 N	477.03 E	0.34	0.05	1
11-Sep	13:17			5143	8.16	71.57	94	5109.96	-113.08	116.50 N	489.84 E	0.29	-0.26	1
11-Sep	14:07			5237	8.16	78.55	94	5203.01	-116.43	119.94 N	502.71 E	1.05	0.00	1
11-Sep	14:26			5332	8.18	77.50	95	5297.05	-119.13	122.74 N	515.91 E	0.16	0.02	1
11-Sep	15:12			5427	8.16	75.85	95	5391.08	-122.15	125.85 N	529.05 E	0.25	-0.02	1
11-Sep	15:45			5522	7.71	72.39	95	5485.17	-125.64	129.43 N	541.66 E	0.69	-0.47	1
11-Sep	16:40			5616	6.62	76.28	94	5578.44	-128.76	132.62 N	552.93 E	1.27	-1.16	1
11-Sep	17:15			5710	6.09	75.69	94	5671.86	-131.20	135.14 N	563.03 E	0.57	-0.58	1
11-Sep	17:45			5805	6.09	72.44	95	5768.33	-133.90	137.90 N	572.72 E	0.36	0.00	1
11-Sep	18:21			5900	5.97	71.24	95	5860.80	-136.94	141.01 N	582.20 E	0.18	-0.13	1
11-Sep	18:55			5994	5.96	68.23	94	5954.29	-140.26	144.39 N	591.36 E	0.33	-0.01	1
11-Sep	19:46			6088	6.98	74.47	94	6047.69	-143.53	147.73 N	601.39 E	1.32	1.09	1
11-Sep	20:16			6183	7.22	75.32	95	6141.96	-146.51	150.79 N	612.73 E	0.28	0.25	1
11-Sep	20:50			6277	7.07	74.49	94	6235.23	-149.47	153.84 N	624.02 E	0.19	-0.16	1
11-Sep	21:23			6372	6.87	72.61	95	6329.53	-152.66	157.10 N	635.08 E	0.32	-0.21	1
11-Sep	22:09			6466	6.50	71.54	94	6422.89	-155.95	160.46 N	645.49 E	0.42	-0.39	1
11-Sep	22:49			6560	6.50	69.92	94	6516.29	-159.39	163.97 N	655.53 E	0.20	0.00	1
11-Sep	23:29			6654	6.18	68.34	94	6609.71	-163.02	167.67 N	665.23 E	0.39	-0.34	1
12-Sep	0:53			6748	6.97	74.58	94	6703.10	-166.33	171.05 N	675.43 E	1.13	0.84	1
12-Sep	1:27			6842	7.03	76.07	94	6796.40	-169.16	173.95 N	686.51 E	0.20	0.06	1
12-Sep	2:19			6936	6.40	74.98	94	6889.75	-171.82	176.70 N	697.16 E	0.68	-0.67	1
12-Sep	3:24			7030	7.01	82.26	94	6983.11	-173.88	178.83 N	707.90 E	1.11	0.65	1
12-Sep	4:07			7124	6.74	83.97	94	7076.43	-175.15	180.18 N	719.07 E	0.36	-0.29	1
12-Sep	4:46			7218	6.47	82.12	94	7169.81	-176.38	181.48 N	729.80 E	0.37	-0.29	1
12-Sep	5:45			7312	5.83	81.82	94	7263.27	-177.72	182.89 N	739.77 E	0.68	-0.68	1
12-Sep	6:30			7406	5.49	79.61	94	7356.81	-179.15	184.38 N	748.92 E	0.43	-0.36	1
12-Sep	7:40			7500	6.94	81.49	94	7450.25	-180.73	186.03 N	758.96 E	1.56	1.54	1
12-Sep	9:00			7594	6.73	83.45	94	7543.59	-182.12	187.50 N	770.05 E	0.33	-0.22	1
12-Sep	10:15			7689	7.18	79.94	95	7637.89	-183.71	189.17 N	781.42 E	0.65	0.47	1
12-Sep	11:15			7783	6.71	79.35	94	7731.20	-185.67	191.21 N	792.61 E	0.51	-0.50	1
12-Sep	12:15			7877	6.37	78.59	94	7824.59	-187.65	193.26 N	803.11 E	0.37	-0.36	1
12-Sep	13:55			7971	7.76	79.78	94	7917.87	-189.73	195.42 N	814.47 E	1.49	1.48	1
12-Sep	14:55			8065	7.49	78.60	94	8011.04	-191.98	197.75 N	826.72 E	0.33	-0.29	1
12-Sep	16:00			8159	7.06	77.13	94	8104.28	-194.39	200.25 N	838.36 E	0.50	-0.46	1
12-Sep	17:45			8254	6.64	76.83	95	8198.60	-196.87	202.80 N	849.40 E	0.44	-0.44	1
12-Sep	19:11			8348	6.20	77.77	94	8292.01	-199.11	205.12 N	859.65 E	0.48	-0.47	1
12-Sep	21:23			8442	6.76	78.21	94	8385.41	-201.24	207.32 N	870.03 E	0.60	0.60	1
12-Sep	23:32			8536	6.95	71.49	94	8478.74	-204.10	210.26 N	880.84 E	0.88	0.20	1
13-Sep	1:04			8631	6.20	71.52	95	8573.12	-207.48	213.71 N	891.15 E	0.79	-0.79	1
13-Sep	3:30			8725	6.84	69.83	94	8666.51	-210.95	217.25 N	901.22 E	0.71	0.68	1
13-Sep	5:05			8819	5.75	67.08	94	8759.94	-214.65	221.01 N	910.81 E	1.20	-1.16	1
13-Sep	7:40			8913	5.08	75.86	94	8853.52	-217.44	223.86 N	919.17 E	1.14	-0.73	1
13-Sep	10:20			9007	4.12	70.35	94	8947.22	-219.53	226.01 N	926.37 E	1.10	-1.00	1
13-Sep	13:40			9101	4.31	74.90	94	9040.97	-221.54	228.06 N	932.96 E	0.41	0.20	1
13-Sep	15:45			9196	4.26	79.27	95	9135.70	-223.08	229.65 N	939.87 E	0.35	-0.05	1
13-Sep	18:35			9290	3.90	75.28	94	9229.46	-224.50	231.11 N	946.40 E	0.49	-0.38	1
13-Sep	21:51			9384	4.89	76.52	94	9323.19	-226.20	232.86 N	953.38 E	1.06	1.05	1
13-Sep	23:42			9478	5.24	76.30	94	9416.82	-228.09	234.81 N	961.45 E	0.37	0.37	1
14-Sep	0:48			9572	4.31	80.74	94	9510.49	-229.62	236.39 N	969.11 E	1.06	-0.99	1
14-Sep	3:16			9666	2.16	89.71	94	9604.34	-230.16	236.97 N	974.36 E	2.34	-2.29	1
14-Sep	5:20			9760	0.45	193.05	94	9698.31	-229.80	236.62 N	976.05 E	2.45	-1.82	1
14-Sep	7:10			9854	0.69	158.16	94	9792.31	-228.91	235.73 N	976.18 E	0.44	0.26	1
14-Sep	8:30			9948	0.99	169.11	94	9886.30	-227.59	234.41 N	976.54 E	0.36	0.32	1
15-Sep	7:50			10002	1.73	175.33	54	9940.28	-226.32	233.14 N	976.70 E	1.40	1.37	2
15-Sep	9:30			10045	6.09	173.07	43	9983.17	-223.40	230.23 N	977.03 E	10.14	10.14	2

15-Sep	11:40		10092	10.87	175.18	47	10029.66	-216.58	223.41 N	977.70 E	9.76	9.74	2
15-Sep	13:50		10139	13.74	177.70	47	10075.59	-206.66	213.50 N	978.29 E	6.63	6.53	2
15-Sep	15:45		10186	16.57	177.35	47	10120.95	-194.39	201.23 N	978.82 E	6.02	6.02	2
15-Sep	17:45		10233	19.94	176.09	47	10165.58	-179.69	186.53 N	979.68 E	7.22	7.17	2
15-Sep	19:54		10280	22.24	174.00	47	10209.43	-162.83	169.69 N	981.15 E	5.15	4.89	2
15-Sep	23:33		10327	24.32	174.62	47	10252.60	-144.34	151.20 N	982.99 E	4.46	4.43	2
16-Sep	3:01		10374	27.74	174.64	47	10294.83	-123.79	130.67 N	984.92 E	7.28	7.28	2
16-Sep	6:05		10421	32.58	174.38	47	10335.45	-100.28	107.17 N	987.18 E	10.30	10.30	2
16-Sep	7:40		10468	36.40	176.09	47	10374.19	-73.75	80.66 N	989.37 E	8.38	8.13	2
16-Sep	9:00		10515	39.45	177.26	47	10411.26	-44.90	51.82 N	991.04 E	6.67	6.49	2
16-Sep	10:15		10562	43.02	176.34	47	10446.60	-13.97	20.90 N	992.77 E	7.70	7.60	2
16-Sep	11:40		10609	46.43	177.27	47	10479.98	19.06	12.12 S	994.61 E	7.39	7.26	2
16-Sep	13:10		10656	48.92	180.03	47	10511.63	53.80	46.85 S	995.41 E	6.85	5.30	2
16-Sep	14:40		10704	51.80	179.92	48	10542.25	90.76	83.81 S	995.43 E	6.00	6.00	2
16-Sep	16:45		10751	53.96	178.67	47	10570.61	128.23	121.28 S	995.89 E	5.06	4.60	2
16-Sep	18:24		10798	58.21	178.03	47	10596.83	167.22	160.26 S	997.02 E	9.11	9.04	2
16-Sep	20:45		10845	62.21	177.56	47	10620.18	207.98	201.01 S	998.59 E	8.55	8.51	2
16-Sep	23:55		10893	65.56	178.91	48	10641.30	251.06	244.08 S	999.91 E	7.42	6.98	2
17-Sep	1:38		10940	69.78	179.75	47	10659.16	294.52	287.54 S	1000.42 E	9.13	8.98	2
17-Sep	3:06		10987	75.88	181.21	47	10673.11	339.38	332.40 S	1000.03 E	12.90	12.55	2
17-Sep	4:25		11034	79.04	180.78	47	10683.39	385.22	378.25 S	999.24 E	7.20	7.15	2
17-Sep	6:20		11082	80.32	180.23	48	10691.99	432.43	425.47 S	998.82 E	2.90	2.67	2
17-Sep	9:11		11129	85.29	180.08	47	10697.87	479.05	472.08 S	998.70 E	10.58	10.57	2
17-Sep	10:05		11176	89.78	180.59	47	10699.89	525.99	519.03 S	998.42 E	9.61	9.55	2
17-Sep	12:15		11271	92.24	181.04	95	10698.22	620.94	614.00 S	997.07 E	2.63	2.59	2
17-Sep	13:45		11366	90.76	181.54	95	10695.73	715.87	708.94 S	994.93 E	1.64	-1.56	2
17-Sep	15:10		11461	90.06	181.87	95	10695.05	810.80	803.90 S	992.27 E	0.75	-0.74	2
17-Sep	16:40		11555	90.28	182.15	94	10694.77	904.73	897.84 S	989.14 E	0.56	0.23	2
17-Sep	17:55		11649	88.23	180.87	94	10696.00	998.66	991.80 S	986.83 E	2.69	-2.18	2
17-Sep	18:43		11744	87.84	179.91	95	10699.25	1093.60	1086.74 S	986.35 E	0.90	-0.41	2
17-Sep	20:04		11838	91.74	180.32	94	10699.60	1187.58	1180.72 S	986.16 E	4.17	4.15	2
17-Sep	21:15		11932	93.11	180.21	94	10695.62	1281.49	1274.64 S	985.72 E	1.46	1.46	2
17-Sep	23:05		12027	92.50	179.05	95	10690.97	1376.37	1369.52 S	986.34 E	1.38	-0.64	2
18-Sep	0:20		12121	91.49	179.09	94	10687.70	1470.31	1463.45 S	987.86 E	1.08	-1.07	2
18-Sep	1:35		12215	89.91	178.45	94	10686.55	1564.29	1557.41 S	989.88 E	1.81	-1.68	2
18-Sep	2:38		12310	87.50	178.13	95	10688.70	1659.23	1652.34 S	992.71 E	2.56	-2.54	2
18-Sep	3:45		12404	87.14	177.39	94	10693.09	1753.08	1746.17 S	996.38 E	0.87	-0.38	2
18-Sep	5:31		12498	88.43	177.43	94	10696.73	1846.94	1840.00 S	1000.63 E	1.37	1.37	2
18-Sep	7:15		12592	88.12	177.80	94	10699.58	1940.84	1933.87 S	1004.54 E	0.51	-0.33	2
18-Sep	9:15		12687	90.34	177.91	95	10700.83	2035.78	2028.79 S	1008.09 E	2.34	2.34	2
18-Sep	10:05		12781	89.21	177.88	94	10701.20	2129.74	2122.73 S	1011.54 E	1.20	-1.20	2
18-Sep	11:50		12876	92.21	177.91	95	10700.02	2224.68	2217.64 S	1015.03 E	3.16	3.16	2
18-Sep	12:50		12971	92.55	177.36	95	10696.08	2319.54	2312.48 S	1018.95 E	0.68	0.36	2
18-Sep	14:40		13065	91.54	179.20	94	10692.72	2413.45	2406.37 S	1021.77 E	2.23	-1.07	2
18-Sep	15:35		13160	91.68	179.63	95	10690.06	2508.41	2501.33 S	1022.74 E	0.48	0.15	2
18-Sep	16:30		13254	90.87	179.14	94	10687.96	2602.38	2595.30 S	1023.75 E	1.01	-0.86	2
18-Sep	17:20		13349	90.89	178.87	95	10686.50	2697.37	2690.28 S	1025.40 E	0.28	0.02	2
18-Sep	18:52		13443	90.14	181.01	94	10685.66	2791.38	2784.27 S	1025.49 E	2.41	-0.80	2
18-Sep	20:01		13537	88.82	181.01	94	10686.51	2885.32	2878.24 S	1023.84 E	1.40	-1.40	2
18-Sep	20:57		13632	87.79	180.11	95	10689.32	2980.26	2973.20 S	1022.91 E	1.44	-1.08	2
18-Sep	22:20		13726	90.03	180.67	94	10691.11	3074.23	3067.17 S	1022.27 E	2.46	2.38	2
18-Sep	23:32		13821	91.12	181.19	95	10690.18	3169.20	3162.15 S	1020.73 E	1.27	1.15	2
20-Sep	1:06		13913	92.04	180.53	92	10687.62	3261.14	3254.10 S	1019.35 E	1.23	1.00	3
20-Sep	2:05		14008	92.75	180.37	95	10683.65	3356.05	3349.02 S	1018.60 E	0.77	0.75	3
20-Sep	4:01		14103	92.16	180.71	95	10679.58	3450.95	3443.93 S	1017.71 E	0.72	-0.62	3
20-Sep	5:27		14198	89.50	181.26	95	10678.21	3545.90	3538.89 S	1016.07 E	2.86	-2.80	3
20-Sep	6:20		14292	88.83	181.59	94	10679.58	3639.84	3632.85 S	1013.74 E	0.79	-0.71	3
20-Sep	7:05		14387	88.49	181.67	95	10681.80	3734.76	3727.79 S	1011.04 E	0.37	-0.36	3
20-Sep	9:00		14481	90.00	179.89	94	10683.04	3828.72	3821.77 S	1009.76 E	2.48	1.61	3
20-Sep	10:00		14575	90.00	180.11	94	10683.04	3922.72	3915.77 S	1009.76 E	0.23	0.00	3
20-Sep	10:50		14670	89.97	179.71	95	10683.06	4017.72	4010.77 S	1009.91 E	0.42	-0.03	3
20-Sep	11:40		14764	90.81	180.20	94	10682.42	4111.71	4104.76 S	1009.98 E	1.03	0.89	3
20-Sep	12:30		14859	91.09	180.27	95	10680.85	4206.69	4199.75 S	1009.59 E	0.30	0.29	3
20-Sep	13:30		14953	91.99	180.65	94	10678.32	4300.65	4293.71 S	1008.84 E	1.04	0.96	3
20-Sep	16:20		15048	92.10	180.11	95	10674.93	4395.58	4388.65 S	1008.21 E	0.58	0.12	3
20-Sep	18:55		15142	91.65	180.41	94	10671.85	4489.52	4482.60 S	1007.78 E	0.58	-0.48	3
20-Sep	20:05		15236	90.87	179.22	94	10669.79	4583.50	4576.57 S	1008.08 E	1.51	-0.83	3
20-Sep	20:55		15331	91.40	178.58	95	10667.91	4678.47	4671.53 S	1009.91 E	0.87	0.56	3
20-Sep	21:55		15425	92.35	178.60	94	10664.83	4772.40	4765.45 S	1012.22 E	1.01	1.01	3
20-Sep	23:30		15519	90.59	178.51	94	10662.42	4866.35	4859.39 S	1014.59 E	1.87	-1.87	3
21-Sep	0:38		15613	90.95	179.00	94	10661.15	4960.33	4953.36 S	1016.63 E	0.65	0.38	3
21-Sep	2:35		15708	89.72	179.40	95	10660.60	5055.33	5048.34 S	1017.96 E	1.36	-1.29	3
21-Sep	3:38		15802	88.80	179.94	94	10661.81	5149.32	5142.33 S	1018.50 E	1.13	-0.98	3
21-Sep	4:45		15896	87.56	179.66	94	10664.80	5243.27	5236.28 S	1018.83 E	1.35	-1.32	3

21-Sep	6:15		15990	87.62	179.90	94	10668.75	5337.19	5330.20 S	1019.19 E	0.26	0.06	3
21-Sep	9:30		16084	88.04	179.40	94	10672.31	5431.12	5424.13 S	1019.76 E	0.69	0.45	3
21-Sep	11:35		16179	89.52	178.76	95	10674.33	5526.09	5519.09 S	1021.28 E	1.70	1.56	3
21-Sep	12:30		16273	89.94	178.64	94	10674.78	5620.08	5613.07 S	1023.42 E	0.46	0.45	3
21-Sep	13:00		16367	90.03	178.21	94	10674.80	5714.06	5707.03 S	1026.00 E	0.47	0.10	3
21-Sep	14:35		16461	89.52	178.81	94	10675.17	5808.04	5801.00 S	1028.45 E	0.84	-0.54	3
21-Sep	16:15		16556	91.26	179.37	95	10674.52	5903.03	5895.98 S	1029.95 E	1.92	1.83	3
21-Sep	17:30		16651	91.84	180.46	95	10671.95	5997.99	5990.94 S	1030.09 E	1.30	0.61	3
21-Sep	18:45		16745	91.40	180.78	94	10669.30	6091.94	6084.90 S	1029.08 E	0.58	-0.47	3
21-Sep	20:00		16839	91.57	181.84	94	10666.86	6185.86	6178.84 S	1026.93 E	1.14	0.18	3
21-Sep	21:07		16933	90.39	181.53	94	10665.25	6279.78	6272.79 S	1024.17 E	1.30	-1.26	3
21-Sep	22:15		17028	90.25	181.14	95	10664.72	6374.74	6367.76 S	1021.95 E	0.44	-0.15	3
21-Sep	23:46		17123	89.69	180.46	95	10664.77	6469.72	6462.75 S	1020.63 E	0.93	-0.59	3
22-Sep	1:07		17217	90.00	179.14	94	10665.03	6563.71	6556.75 S	1020.95 E	1.44	0.33	3
22-Sep	2:17		17311	88.99	178.36	94	10665.85	6657.70	6650.72 S	1023.01 E	1.38	-1.07	3
22-Sep	5:21		17405	90.70	177.99	94	10666.11	6751.66	6744.67 S	1026.00 E	1.86	1.82	3
22-Sep	7:05		17500	90.73	177.91	95	10664.92	6846.62	6839.60 S	1029.40 E	0.09	0.03	3
22-Sep	8:35		17594	90.95	177.17	94	10663.55	6940.55	6933.50 S	1033.43 E	0.82	0.23	3
22-Sep	9:45		17688	91.15	177.01	94	10661.82	7034.44	7027.36 S	1038.20 E	0.27	0.21	3
22-Sep	11:00		17790	91.26	176.37	102	10659.68	7136.29	7129.17 S	1044.09 E	0.64	0.11	3
		PTB	17845	91.26	176.37	55	10658.47	7191.19	7184.05 S	1047.57 E	0.00	0.00	3



7821 Will Rogers Blvd.
Fort Worth, Texas 76140
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MS Directional Survey Data Certification

MS Directional Job Number: DDMO-180603
Survey Type: MWD
Operating Company: ConocoPhillips Company
Well Name & Number: Zia Hills 25E FED COM 402H
Location: Lea County, NM
API Number: 30-025-43364
Tie In Depth: Surface
Surveyed Depths: 205' – 4,770' MD
Projected TD Survey: 4,829' MD
Dates Performed: 06/29/2018 – 07/10/2018

I certify that the data is true, correct and complete and within the limitations of the tool set forth by MS Directional; that I am authorized and qualified to make this report and that I have reviewed this report and find it conforms to the principles and procedures as set forth by MS Directional.

Fallon Kosechata

Digitally signed by: _____

MWD Surveyor Name: Fallon Kosechata

Date: 09-07-2018 _____

Email: fkosechata@msdir.com

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V09.04.02

Company:	ConocoPhillips Company
Well Name:	Zia Hills 25E FED COM 402H
Location:	Lea County, NM
Rig:	Nabors #891
Job Number:	DDMO-180603
API #:	30-025-43364

Magnetic Declination: 6.53 REFERENCED TO GRID NORTH ▼

Vertical Section Azimuth: 179.60 Proposed Direction: 179.60

Survey Calculation Method: Minimum Curvature

PTB:	MD	INC	AZM	TVD	N/S	E/W	VS
	4,829	8	74.1	4799.28	102.72	446.41	-99.6

#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance	Azm	DLS/ 100	BUR/ 100'
TIE IN	0	0.00	0.00	0.00	0.00	0.00			0.00		
1	205	0.10	277.93	205.00	0.02	-0.18	-0.03	0.18	277.93	0.05	0.05
2	392	0.90	296.30	391.99	0.70	-1.66	-0.71	1.80	292.86	0.43	0.43
3	581	1.40	275.93	580.95	1.59	-5.28	-1.63	5.52	286.79	0.34	0.26
4	770	1.00	238.49	769.91	0.97	-8.99	-1.03	9.04	276.17	0.45	-0.21
5	864	1.10	222.72	863.90	-0.12	-10.30	0.05	10.30	269.33	0.32	0.11
6	975	1.60	60.42	974.89	-0.14	-9.67	0.07	9.67	269.18	2.40	0.45
7	1,067	2.80	63.65	1066.82	1.49	-6.54	-1.54	6.71	282.86	1.31	1.30
8	1,161	5.20	72.13	1160.58	3.82	-0.43	-3.82	3.84	353.60	2.62	2.55
9	1,255	7.50	74.49	1254.00	6.77	9.54	-6.70	11.70	54.65	2.46	2.45
10	1,350	7.90	76.23	1348.14	9.98	21.85	-9.83	24.02	65.46	0.49	0.42
11	1,445	7.80	76.34	1442.25	13.06	34.46	-12.81	36.85	69.25	0.11	-0.11
12	1,539	7.20	67.04	1535.45	16.86	46.08	-16.54	49.07	69.90	1.44	-0.64
13	1,633	6.40	87.46	1628.80	19.39	56.74	-18.99	59.96	71.13	2.69	-0.85
14	1,728	6.50	87.05	1723.20	19.90	67.40	-19.43	70.28	73.55	0.12	0.11
15	1,822	7.00	81.75	1816.55	21.00	78.38	-20.45	81.15	75.00	0.85	0.53
16	1,917	7.50	72.37	1910.79	23.71	90.02	-23.08	93.09	75.25	1.35	0.53
17	2,011	7.70	70.31	2003.97	27.69	101.80	-26.97	105.49	74.79	0.36	0.21
18	2,105	7.70	70.26	2097.12	31.93	113.65	-31.14	118.05	74.31	0.01	0.00
19	2,200	7.80	69.80	2191.25	36.31	125.69	-35.43	130.83	73.89	0.12	0.11
20	2,294	7.70	69.26	2284.39	40.74	137.57	-39.78	143.48	73.50	0.13	-0.11
21	2,388	8.00	76.53	2377.52	44.50	149.82	-43.45	156.29	73.46	1.10	0.32
22	2,482	8.20	77.38	2470.58	47.48	162.72	-46.35	169.51	73.73	0.25	0.21
23	2,577	8.40	76.60	2564.58	50.57	176.08	-49.34	183.20	73.98	0.24	0.21
24	2,671	8.80	76.98	2657.53	53.78	189.77	-52.46	197.24	74.18	0.43	0.43
25	2,766	7.70	83.84	2751.54	56.10	203.18	-54.68	210.78	74.56	1.55	-1.16
26	2,860	6.70	85.18	2844.80	57.24	214.90	-55.74	222.40	75.09	1.08	-1.06
27	2,955	5.60	80.49	2939.25	58.47	225.00	-56.90	232.47	75.43	1.27	-1.16
28	3,049	5.40	81.12	3032.82	59.91	233.89	-58.28	241.44	75.63	0.22	-0.21
29	3,144	5.10	81.98	3127.42	61.19	242.49	-59.50	250.09	75.84	0.33	-0.32
30	3,239	6.00	73.79	3221.98	63.17	251.44	-61.41	259.25	75.90	1.26	0.95
31	3,333	6.50	72.66	3315.42	66.12	261.23	-64.30	269.47	75.80	0.55	0.53
32	3,428	6.50	74.14	3409.81	69.20	271.54	-67.30	280.22	75.70	0.18	0.00
33	3,523	6.30	72.84	3504.22	72.20	281.69	-70.24	290.80	75.62	0.26	-0.21

V09.04.02

Company:	ConocoPhillips Company
Well Name:	Zia Hills 25E FED COM 402H
Location:	Lea County, NM
Rig:	Nabors #891
Job Number:	DDMO-180603
API #:	30-025-43364

Magnetic Declination: 6.53 REFERENCED TO GRID NORTH ▼

Vertical Section Azimuth: 179.60 Proposed Direction: 179.60

Survey Calculation Method: Minimum Curvature

PTB:	MD	INC	AZM	TVD	N/S	E/W	VS				
	4,829	8	74.1	4799.28	102.72	446.41	-99.6				
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance	Azm	DLS/ 100	BUR/ 100'
34	3,616	7.10	72.69	3596.58	75.42	292.05	-73.38	301.64	75.52	0.86	0.86
35	3,711	7.20	73.69	3690.84	78.84	303.37	-76.72	313.45	75.43	0.17	0.11
36	3,805	6.60	71.78	3784.16	82.18	314.16	-79.99	324.73	75.34	0.68	-0.64
37	3,900	7.40	77.25	3878.45	85.24	325.31	-82.97	336.29	75.32	1.10	0.84
38	3,994	8.10	80.91	3971.59	87.62	337.75	-85.26	348.94	75.46	0.91	0.74
39	4,089	8.10	83.35	4065.65	89.45	351.01	-87.00	362.23	75.70	0.36	0.00
40	4,184	7.60	84.32	4159.76	90.85	363.91	-88.31	375.08	75.98	0.54	-0.53
41	4,278	7.70	87.65	4252.92	91.72	376.39	-89.09	387.40	76.30	0.48	0.11
42	4,373	7.60	91.92	4347.08	91.77	389.03	-89.06	399.70	76.73	0.61	-0.11
43	4,467	7.50	82.01	4440.26	92.42	401.31	-89.62	411.82	77.03	1.39	-0.11
44	4,562	7.30	77.70	4534.47	94.57	413.35	-91.68	424.03	77.11	0.62	-0.21
45	4,657	6.60	77.52	4628.78	97.03	424.58	-94.07	435.53	77.13	0.74	-0.74
46	4,770	8.00	74.69	4740.86	100.51	438.50	-97.45	449.88	77.09	1.28	1.24
PTB:	4,829	8.00	74.10	4799.28	102.72	446.41	-99.60	458.08	77.04	0.14	0.00