



DIRECTIONAL REPORT

WELLNAME: RED SAUCE STATE #1H

FIELD: WILDCAT

AFE NO.:

WELL ID NO.: 30-015-37299

API NO.: 30-015-37299

SURVEY TYPE: TSS-0

MD:

ANGLE: 0.00

AZIMUTH: 0.00

TVD:

N/S: 0.00

E/W: 0.00

VS: 0.00

TARGET: 180.00

MEASURED DEPTH	INCLINATION ANGLE	AZIMUTH ANGLE	TVD	+NORTH -SOUTH	+EAST -WEST	VERTICAL SECTION	DOGLEG SEVERITY
371	1.40	180.00	371	-4.53	0.00	4.53	0.38
640	2.50	180.00	640	-13.69	0.00	13.69	0.41
852	3.20	180.00	852	-24.23	0.00	24.23	0.33
1,042	1.90	180.00	1,041	-32.68	0.00	32.68	0.68
1,515	0.70	180.00	1,514	-43.41	0.00	43.41	0.25
1,795	1.40	180.00	1,794	-48.54	0.00	48.54	0.25
1,893	2.10	85.60	1,892	-49.60	1.79	49.60	2.67
1,939	2.30	94.00	1,938	-49.60	3.55	49.60	0.82
2,018	3.70	180.00	2,017	-58.46	0.00	58.46	1.03
2,034	2.10	67.60	2,033	-49.07	7.06	49.07	1.08
2,081	4.30	180.00	2,080	-62.86	0.00	62.86	0.95
2,129	1.00	58.50	2,128	-47.97	9.38	47.97	1.18
2,205	4.70	180.00	2,203	-72.59	0.00	72.59	0.32
2,224	0.30	238.30	2,223	-47.67	9.87	47.67	1.37
2,381	1.10	51.80	2,380	-46.96	10.71	46.96	0.89
2,390	4.90	180.00	2,388	-88.07	0.00	88.07	0.11
2,472	6.70	180.00	2,469	-96.35	0.00	96.35	2.19
2,475	3.10	54.90	2,474	-44.94	13.50	44.94	2.13
2,537	3.50	54.60	2,536	-42.88	16.41	42.88	0.65
2,599	3.90	54.10	2,598	-40.54	19.66	40.54	0.65
2,662	2.20	47.60	2,661	-38.47	22.29	38.47	2.75
2,693	1.00	37.20	2,692	-37.85	22.89	37.85	3.97
2,852	0.70	311.10	2,851	-36.11	23.00	36.11	0.74
3,039	1.30	22.80	3,038	-33.40	22.96	33.40	0.68
3,132	0.60	31.70	3,131	-32.02	23.63	32.02	0.77
3,317	0.50	353.80	3,316	-30.39	24.05	30.39	0.20
3,510	0.40	299.80	3,509	-29.22	23.37	29.22	0.22
3,930	0.30	180.00	3,929	-29.59	22.10	29.59	0.14
4,430	1.00	180.00	4,428	-35.26	22.10	35.26	0.14
4,900	0.60	180.00	4,898	-41.82	22.10	41.82	0.09
5,400	1.00	180.00	5,398	-48.80	22.10	48.80	0.08
5,900	0.87	219.63	5,898	-56.09	19.68	56.09	0.13
6,400	1.03	215.00	6,398	-62.70	14.68	62.70	0.04
6,900	1.32	207.79	6,898	-71.47	9.42	71.47	0.07
7,192	1.53	197.14	7,190	-78.17	6.70	78.17	0.12



SURVEY CALCULATION PROGRAM

v1.00.02

TARGET DETAILS

OPERATOR:	COG	Supervisors:	TARGET N-S	Directional
WELL:	Red Sauce State #1H	Joe Hargrove	TARGET E-W	
LOCATION:	Eddy Co, NM	Derek Sawyer	TARGET RADIUS	
JOB NUMBER:	WT-11166	Bill Kaspar	TARGET DISPLACEMENT	
COMMENTS:			TARGET CLOSURE	
			TARGET TVD	Horizontal
			DIP AZ	7967.00
			DIP DEG UP+/DN-	269.24
			TARGET INCLINATION	0.00
DATE:	01/20/12	TIME:	9:19 AM	

MINIMUM CURVATURE CALCULATIONS(SPE-3362)									PROPOSED DIRECTION		269.24	TARGET TRACKING TO CENTER		CLOSURE DIR (DEG AZ)	CLOSURE DISTANCE (FEET)	BUILD RATE/ %/100'	WALK RATE/ %/100'
SVY NUM	MD	INC	TRUE AZM	TVD	SECT	N-S	E-W	DLS/ 100	ABOVE(+)	RIGHT(+)	BELOW(-)	LEFT(-)					
Tie	7192	1.5	197.1	7189.65		-39.30	-17.54		777.35	0.00			204.05	43.04			
1	7317	1.8	187.5	7314.60	18.85	-42.84	-18.29	0.31	652.40	-42.59			203.12	46.58	0.22		-7.71
2	7412	1.8	202.1	7409.55	19.65	-45.70	-19.04	0.48	557.45	-45.45			202.62	49.51	0.00		15.37
3	7444	4.3	246.0	7441.51	20.95	-46.66	-20.33	10.16	525.49	-46.38			203.54	50.89	7.81		137.19
4	7475	8.7	255.0	7472.30	24.29	-47.74	-23.66	14.53	494.70	-47.42			206.36	53.28	14.19		29.03
5	7507	13.6	261.5	7503.69	30.37	-48.92	-29.72	15.78	463.31	-48.52			211.28	57.24	15.31		20.31
6	7539	19.0	265.2	7534.39	39.30	-49.91	-38.64	17.18	432.61	-49.40			217.74	63.12	16.87		11.56
7	7571	23.7	265.0	7564.19	50.91	-50.91	-50.24	14.69	402.81	-50.24			224.62	71.53	14.69		-0.62
8	7603	27.2	264.8	7593.08	64.62	-52.13	-63.94	10.94	373.92	-51.28			230.81	82.50	10.94		-0.62
9	7634	29.2	266.1	7620.40	79.24	-53.29	-78.54	6.75	346.60	-52.24			235.84	94.91	6.45		4.19
10	7666	31.5	268.5	7648.01	95.40	-54.04	-94.69	8.12	318.99	-52.78			240.29	109.02	7.19		7.50
11	7698	34.7	271.0	7674.81	112.86	-54.10	-112.16	10.87	292.19	-52.61			244.25	124.52	10.00		7.81
12	7730	38.3	271.2	7700.53	131.88	-53.73	-131.18	11.26	266.47	-51.99			247.73	141.76	11.25		0.62
13	7762	42.2	269.7	7724.95	152.55	-53.58	-151.85	12.56	242.05	-51.56			250.56	161.03	12.19		-4.69
14	7793	46.2	267.6	7747.17	174.16	-54.10	-173.45	13.74	219.83	-51.80			252.68	181.70	12.90		-6.77
15	7825	49.7	267.1	7768.60	197.90	-55.21	-197.19	11.00	198.40	-52.59			254.36	204.77	10.94		-1.56
16	7857	51.5	267.5	7788.91	222.61	-56.37	-221.88	5.71	178.09	-53.42			255.75	228.93	5.62		1.25
17	7888	53.7	268.5	7807.74	247.23	-57.23	-246.49	7.55	159.26	-53.95			256.93	253.05	7.10		3.23
18	7919	55.7	269.2	7825.66	272.53	-57.73	-271.79	6.71	141.34	-54.12			258.01	277.85	6.45		2.26
19	7951	57.8	270.1	7843.20	299.29	-57.89	-298.55	6.97	123.80	-53.93			259.03	304.11	6.56		2.81
20	7983	59.5	271.5	7859.85	326.60	-57.51	-325.87	6.49	107.15	-53.18			259.99	330.91	5.31		4.37
21	8015	61.4	272.4	7875.63	354.41	-56.56	-353.69	6.42	91.37	-51.86			260.91	358.18	5.94		2.81
22	8047	62.8	272.9	7890.60	382.64	-55.25	-381.94	4.59	76.40	-50.18			261.77	385.91	4.37		1.56
23	8078	63.8	272.9	7904.53	410.28	-53.85	-409.60	3.23	62.47	-48.41			262.51	413.12	3.23		0.00
24	8110	66.0	271.9	7918.11	439.21	-52.64	-438.55	7.43	48.89	-46.82			263.16	441.70	6.88		-3.13
25	8141	69.9	270.3	7929.74	467.92	-52.09	-467.27	13.46	37.26	-45.89			263.64	470.16	12.58		-5.16
26	8172	73.7	269.7	7939.42	497.36	-52.09	-496.71	12.40	27.58	-45.50			264.01	499.44	12.26		-1.94



SURVEY CALCULATION PROGRAM

v1.00.02

TARGET DETAILS

OPERATOR:	COG	Supervisors:		TARGET N-S	Directional	
WELL:	Red Sauce State #1H	Joe Hargrove		TARGET E-W		
LOCATION:	Eddy Co, NM	Derek Sawyer		TARGET RADIUS		
JOB NUMBER:	WT-11166	Bill Kaspar		TARGET DISPLACEMENT		
COMMENTS:				TARGET CLOSURE		
			MAG DEC.(-/+)	7.67	TARGET TVD	Horizontal 7967.00
			GRID CORR.(-/+)		DIP AZ	269.24
			TOTAL CORR.(-/+)	7.67	DIP DEG UP+/DN-	0.00
DATE:	01/20/12	TIME:	9:19 AM	TARGET INCLINATION		90.00

MINIMUM CURVATURE CALCULATIONS(SPE-3362)									PROPOSED DIRECTION		269.24	TARGET TRACKING		CLOSURE DIR (DEG AZ)	CLOSURE DISTANCE (FEET)	BUILD RATE/ °/100'	WALK RATE/ °/100'
SVY NUM	MD	INC	TRUE AZM	TVD	SECT	N-S	E-W	DLS/ 100	ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)							
27	8203	76.0	269.2	7947.52	527.28	-52.38	-526.63	7.58	19.48	-45.39		264.32	529.23	7.42	-1.61		
28	8235	78.8	269.4	7954.50	558.51	-52.76	-557.86	8.77	12.50	-45.36		264.60	560.35	8.75	0.62		
29	8266	82.3	269.9	7959.59	589.08	-52.95	-588.43	11.40	7.41	-45.14		264.86	590.81	11.29	1.61		
30	8297	85.8	269.4	7962.81	619.91	-53.14	-619.26	11.40	4.19	-44.92		265.10	621.53	11.29	-1.61		
31	8329	87.9	268.9	7964.56	651.86	-53.61	-651.20	6.75	2.44	-44.97		265.29	653.41	6.56	-1.56		
32	8360	90.0	268.9	7965.13	682.85	-54.21	-682.19	6.77	1.87	-45.15		265.46	684.34	6.77	0.00		
33	8392	90.6	268.9	7964.96	714.85	-54.82	-714.18	1.88	2.04	-45.34		265.61	716.29	1.87	0.00		
34	8424	90.3	268.5	7964.71	746.85	-55.55	-746.17	1.56	2.29	-45.65		265.74	748.24	-0.94	-1.25		
35	8488	90.2	267.6	7964.43	810.83	-57.73	-810.14	1.41	2.57	-46.97		265.92	812.19	-0.16	-1.41		
36	8551	89.4	268.0	7964.65	873.81	-60.14	-873.09	1.42	2.35	-48.56		266.06	875.16	-1.27	0.63		
37	8614	90.2	268.7	7964.87	936.80	-61.96	-936.06	1.69	2.13	-49.54		266.21	938.11	1.27	1.11		
38	8678	90.4	268.9	7964.54	1000.80	-63.30	-1000.05	0.44	2.46	-50.03		266.38	1002.05	0.31	0.31		
39	8741	90.4	268.7	7964.10	1063.79	-64.62	-1063.03	0.32	2.90	-50.51		266.52	1064.99	0.00	-0.32		
40	8837	90.0	269.6	7963.76	1159.79	-66.04	-1159.02	1.03	3.24	-50.66		266.74	1160.90	-0.42	0.94		
41	8932	91.8	270.1	7962.27	1254.77	-66.29	-1254.00	1.97	4.73	-49.65		266.97	1255.75	1.89	0.53		
42	8995	90.0	269.7	7961.28	1317.76	-66.40	-1316.99	2.93	5.72	-48.93		267.11	1318.66	-2.86	-0.63		
43	9059	89.4	269.9	7961.62	1381.75	-66.62	-1380.99	0.99	5.38	-48.30		267.24	1382.60	-0.94	0.31		
44	9123	89.0	269.9	7962.51	1445.74	-66.74	-1444.98	0.63	4.49	-47.56		267.36	1446.52	-0.62	0.00		
45	9218	90.4	269.7	7963.01	1540.73	-67.07	-1539.98	1.49	3.99	-46.63		267.51	1541.44	1.47	-0.21		
46	9281	90.0	269.7	7962.79	1603.73	-67.40	-1602.98	0.63	4.21	-46.13		267.59	1604.39	-0.63	0.00		
47	9345	89.5	269.6	7963.07	1667.73	-67.79	-1666.98	0.80	3.93	-45.67		267.67	1668.35	-0.78	-0.16		
48	9409	89.3	269.7	7963.74	1731.72	-68.18	-1730.97	0.35	3.26	-45.21		267.74	1732.31	-0.31	0.16		
49	9504	88.7	269.4	7965.40	1826.71	-68.92	-1825.95	0.71	1.60	-44.70		267.84	1827.25	-0.63	-0.32		
50	9599	89.3	269.4	7967.05	1921.69	-69.92	-1920.93	0.63	-0.05	-44.43		267.92	1922.21	0.63	0.00		
51	9694	88.9	268.9	7968.55	2016.68	-71.33	-2015.91	0.67	-1.55	-44.58		267.97	2017.17	-0.42	-0.53		
52	9790	90.1	268.3	7969.38	2112.67	-73.67	-2111.88	1.40	-2.38	-45.65		268.00	2113.16	1.25	-0.62		
53	9853	89.8	268.0	7969.44	2175.66	-75.71	-2174.84	0.67	-2.44	-46.85		268.01	2176.16	-0.48	-0.48		

		SURVEY CALCULATION PROGRAM								v1 00.02						TARGET DETAILS			
OPERATOR:		COG			Supervisors:					TARGET N-S		Directional							
WELL:		Red Sauce State #1H			Joe Hargrove					TARGET E-W									
LOCATION:		Eddy Co, NM			Derek Sawyer					TARGET RADIUS									
JOB NUMBER:		WT-11166			Bill Kaspar					TARGET DISPLACEMENT									
COMMENTS:										TARGET CLOSURE									
					MAG DEC.(-/+)			7.67		TARGET TVD		Horizontal		7967.00					
					GRID CORR.(-/+)					DIP AZ				269.24					
					TOTAL CORR.(-/+)			7.67		DIP DEG UP+/DN-				0.00					
DATE: 01/20/12		TIME: 9:19 AM								TARGET INCLINATION				90.00					
MINIMUM CURVATURE CALCULATIONS(SPE-3362)				PROPOSED DIRECTION				269.24		TARGET TRACKING TO CENTER		CLOSURE DIR (DEG AZ)		CLOSURE DISTANCE (FEET)		BUILD RATE/ %/100'		WALK RATE/ %/100'	
SVY NUM	MD	INC	TRUE AZM	TVD	SECT	N-S	E-W	DLS/ 100	ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)									
54	9917	89.4	268.2	7969.89	2239.64	-77.83	-2238.81	0.70	-2.89	-48.13	268.01	2240.16	-0.62	0.31					
55	9980	90.6	268.9	7969.89	2302.64	-79.42	-2301.78	2.21	-2.89	-48.89	268.02	2303.15	1.90	1.11					
56	10044	89.7	268.3	7969.72	2366.63	-80.99	-2365.76	1.69	-2.72	-49.60	268.04	2367.15	-1.41	-0.94					
57	10076	89.7	268.5	7969.89	2398.63	-81.88	-2397.75	0.62	-2.89	-50.07	268.04	2399.15	0.00	0.62					
58	10171	91.5	270.6	7968.89	2493.61	-82.63	-2492.73	2.91	-1.89	-49.56	268.10	2494.10	1.89	2.21					
59	10234	92.1	271.0	7966.91	2556.56	-81.75	-2555.70	1.14	0.09	-47.84	268.17	2557.00	0.95	0.63					
60	10298	91.5	271.3	7964.90	2620.49	-80.46	-2619.65	1.05	2.10	-45.71	268.24	2620.89	-0.94	0.47					
61	10361	91.8	272.4	7963.09	2683.40	-78.43	-2682.59	1.81	3.91	-42.84	268.33	2683.74	0.48	1.75					
62	10425	92.0	272.6	7960.97	2747.26	-75.64	-2746.50	0.44	6.03	-39.20	268.42	2747.54	0.31	0.31					
63	10488	95.1	272.6	7957.07	2810.02	-72.79	-2809.30	4.92	9.93	-35.52	268.52	2810.25	4.92	0.00					
64	10552	95.6	272.6	7951.10	2873.63	-69.90	-2872.96	0.78	15.90	-31.78	268.61	2873.81	0.78	0.00					
65	10615	93.4	274.0	7946.15	2936.27	-66.28	-2935.65	4.14	20.85	-27.34	268.71	2936.40	-3.49	2.22					
66	10679	92.5	273.8	7942.86	2999.98	-61.93	-2999.42	1.44	24.14	-22.14	268.82	3000.06	-1.41	-0.31					
67	10742	92.3	272.9	7940.22	3062.76	-58.26	-3062.26	1.46	26.78	-17.63	268.91	3062.81	-0.32	-1.43					
68	10806	93.3	273.1	7937.10	3126.55	-54.91	-3126.09	1.59	29.90	-13.44	268.99	3126.57	1.56	0.31					
69	10878	93.6	272.9	7932.76	3198.26	-51.15	-3197.86	0.50	34.24	-8.73	269.08	3198.27	0.42	-0.28					
bit	10930	93.6	272.9	7929.50	3250.05	-48.52	-3249.69	0.00	37.50	-5.42	269.14	3250.06	0.00	0.00					