

30-015-39141



MOBBS OCD

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Cimarex Energy

Eddy County, NM (NAD83 NME)

Gadwall "18" Federal Com #2H

Gadwall "18" Federal Com #2H (150' FNL & 2310' FWL)

OH

Design: Actual

Standard Survey Report

24 October, 2011



Scientific Drilling
Directional Drilling Operations



Scientific Drilling

Survey Report



Company: Cimarex Energy
 Project: Eddy County, NM (NAD83 NME)
 Site: Gadwall "18" Federal Com #2H
 Well: Gadwall "18" Federal Com #2H (150' FNL & 2310' FWL)
 Wellbore: OH
 Design: Actual

Local Co-ordinate Reference: Site Gadwall "18" Federal Com #2H
 TVD Reference: KB Elev (20') @ 3215 00usft (Key #880)
 MD Reference: KB Elev (20') @ 3215 00usft (Key #880)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM-Julio

Project	Eddy County, NM (NAD83 NME)		
Map System	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum.	North American Datum 1983		
Map Zone.	New Mexico Eastern Zone		

Site	Gadwall "18" Federal Com #2H				
Site Position	Map	Northing.	413,530 80 usft	Latitude	32° 8' 12 599 N
From:		Easting.	573,169 00 usft	Longitude.	104° 13' 49 779 W
Position Uncertainty	0 00 usft	Slot Radius:	0 "	Grid Convergence.	0 05 °

Well	Gadwall "18" Federal Com #2H (150' FNL & 2310' FWL)					
Well Position	+N/-S	0 00 usft	Northing:	413,530 80 usft	Latitude:	32° 8' 12 599 N
	+E/-W	0 00 usft	Easting	573,169 00 usft	Longitude:	104° 13' 49 779 W
Position Uncertainty	0 00 usft	Wellhead Elevation:	usft	Ground Level:	3,195 00 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/10/08	7.84	59 98	48,459

Design	Actual				
Audit Notes					
Version.	1 0	Phase:	ACTUAL	Tie On Depth:	0 00
Vertical Section	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0 00	0 00	0 00	181 33	

Survey Program	Date	2011/10/21			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
121 20	7,375 50	Gyro Survey (OH)	Keeper	Standard Wireline Keeper ver 1 0 2	
7,409 00	12,379 00	MWD Survey (OH)	MWD	MWD - Standard	

Survey	Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
	121 20	0 25	186 80	121 20	-0 26	-0 03	0 26	0 21	0 21	0 00
	184 50	0 62	205 01	184 50	-0 71	-0 19	0 71	0 62	0 58	28 77
	247 90	0 91	209 84	247 89	-1 46	-0 59	1 47	0 47	0 46	7 62
	309 20	0 99	192 77	309 18	-2 40	-0 95	2 42	0 48	0 13	-27 85
	370 50	0 62	170 65	370 48	-3 24	-1 01	3 26	0 78	-0 60	-36 08
	431 90	0 87	123 92	431 87	-3 83	-0 57	3 84	1 03	0 41	-76 11
	493 20	0 95	113 21	493 17	-4 29	0 28	4 28	0 31	0 13	-17 47
	556 60	0 66	117 01	556 56	-4 66	1 09	4 63	0 46	-0 46	5 99



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617 90	0 75	106 89	617 85	-4 94	1 79	4 89	0 25	0 15	-16 51
679 20	0 72	98 47	679 15	-5 11	2 56	5 05	0 18	-0 05	-13 74
741 30	0 76	79 49	741 24	-5 09	3 35	5 01	0 40	0 06	-30 56
804 90	0 68	76 77	804 84	-4 93	4 13	4 83	0 14	-0 13	-4 28
867 40	0 22	68 32	867 34	-4 80	4 60	4 69	0 74	-0 74	-13 52
928 00	0 04	30 20	927 94	-4 74	4 72	4 63	0 31	-0 30	-62 90
988 50	0 11	272 32	988 44	-4 72	4 67	4 61	0 22	0 12	-194 84
1,050 10	0 26	276 19	1,050 04	-4 70	4 47	4 60	0 24	0 24	6 28
1,112 60	0 15	358 67	1,112 54	-4 60	4 33	4 50	0 45	-0 18	131 97
1,173 20	1 10	69 60	1,173 13	-4 32	4 87	4 21	1 75	1 57	117 05
1,235 70	2 13	76 32	1,235 61	-3 84	6 57	3 69	1 67	1 65	10 75
1,297 30	2 61	79 72	1,297 15	-3 32	9 06	3 11	0 81	0 78	5 52
1,360 80	2 38	73 43	1,360 59	-2 68	11 74	2 41	0 56	-0 36	-9 91
1,421 40	2 89	69 86	1,421 13	-1 80	14 38	1 46	0 88	0 84	-5 89
1,483 90	3 55	72 89	1,483 53	-0 69	17 71	0 28	1 09	1 06	4 85
1,545 50	3 94	75 13	1,545 00	0 42	21 58	-0 92	0 68	0 63	3 64
1,606 00	4 19	81 92	1,605 35	1 26	25 78	-1 86	0 90	0 41	11 22
1,668 60	4 59	85 07	1,667 76	1 80	30 54	-2 51	0 75	0 64	5 03
1,732 10	4 80	85 92	1,731 05	2 21	35 72	-3 03	0 35	0 33	1 34
1,796 70	3 82	85 47	1,795 47	2 57	40 56	-3 51	1 52	-1 52	-0 70
1,859 20	2 99	85 75	1,857 86	2 85	44 26	-3 88	1 33	-1 33	0 45
1,923 80	2 38	82 94	1,922 38	3 14	47 27	-4 24	0 97	-0 94	-4 35
1,986 30	1 88	80 03	1,984 84	3 48	49 57	-4 63	0 82	-0 80	-4 66
2,049 90	1 56	81 78	2,048 41	3 78	51 46	-4 98	0 51	-0 50	2 75
2,113 40	1 44	80 12	2,111 89	4 04	53 10	-5 28	0 20	-0 19	-2 61
2,177 00	1 25	79 25	2,175 47	4 31	54 57	-5 58	0 30	-0 30	-1 37
2,239 50	1 08	81 20	2,237 96	4 53	55 82	-5 82	0 28	-0 27	3 12
2,302 10	0 89	81 95	2,300 55	4 69	56 88	-6 01	0 30	-0 30	1 20
2,365 60	0 77	79 56	2,364 04	4 83	57 79	-6 17	0 20	-0 19	-3 76
2,429 20	0 65	83 44	2,427 64	4 95	58 57	-6 31	0 20	-0 19	6 10
2,492 70	0 50	86 12	2,491 14	5 01	59 20	-6 38	0 24	-0 24	4 22
2,556 30	0 35	77 06	2,554 73	5 07	59 67	-6 46	0 26	-0 24	-14 25
2,619 80	0 29	85 85	2,618 23	5 13	60 02	-6 52	0 12	-0 09	13 84
2,682 40	0 24	87 67	2,680 83	5 15	60 31	-6 54	0 08	-0 08	2 91
2,745 90	0 14	93 03	2,744 33	5 15	60 52	-6 55	0 16	-0 16	8 44
2,809 50	0 10	112 59	2,807 93	5 12	60 65	-6 53	0 09	-0 06	30 75
2,873 00	0 11	141 41	2,871 43	5 05	60 74	-6 46	0 08	0 02	45 39
2,936 60	0 12	137 51	2,935 03	4 96	60 82	-6 37	0 02	0 02	-6 13
2,999 10	0 09	146 86	2,997 53	4 87	60 89	-6 28	0 06	-0 05	14 96
3,063 00	0 07	102 65	3,061 43	4 82	60 96	-6 23	0 10	-0 03	-69 19
3,126 90	0 04	87 02	3,125 33	4 81	61 02	-6 22	0 05	-0 05	-24 46
3,190 70	0 04	261 31	3,189 13	4 81	61 02	-6 22	0 13	0 00	273 18



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3 253 60	0 09	248 13	3,252 03	4 78	60 95	-6 20	0 08	0 08	-20 95
3 316 40	0 13	238 61	3,314 83	4 73	60 84	-6 14	0 07	0 06	-15 16
3 380 30	0 21	241 51	3,378 73	4 64	60 68	-6 04	0 13	0 13	4 54
3 443 20	0 27	235 53	3,441 63	4 50	60 45	-5 90	0 10	0 10	-9 51
3 507 00	0 32	232 64	3,505 43	4 30	60 19	-5 70	0 08	0 08	-4 53
3 570 90	0 42	234 14	3,569 33	4 06	59 86	-5 45	0 16	0 16	2 35
3 634 70	0 43	235 33	3,633 13	3 78	59 47	-5 16	0 02	0 02	1 87
3 698 60	0 44	232 42	3,697 03	3 50	59 08	-4 87	0 04	0 02	-4 55
3 761 50	0 44	224 77	3,759 92	3 18	58 72	-4 54	0 09	0 00	-12 16
3 825 30	0 46	233 27	3,823 72	2 85	58 34	-4 21	0 11	0 03	13 32
3 888 20	0 46	228 18	3,886 62	2 53	57 95	-3 88	0 06	0 00	-8 09
3 951 00	0 59	229 11	3,949 42	2 15	57 52	-3 49	0 21	0 21	1 48
4 015 90	0 69	244 42	4,014 31	1 77	56 91	-3 09	0 30	0 15	23 59
4 078 80	0 70	243 01	4,077 21	1 43	56 23	-2 73	0 03	0 02	-2 24
4 142 60	0 68	242 92	4,141 00	1 08	55 54	-2 37	0 03	-0 03	-0 14
4 206 50	0 66	241 01	4,204 90	0 73	54 88	-2 00	0 05	-0 03	-2 99
4 269 30	0 59	236 20	4,267 70	0 37	54 30	-1 63	0 14	-0 11	-7 66
4 333 20	0 54	238 25	4,331 59	0 03	53 77	-1 28	0 08	-0 08	3 21
4 396 10	0 48	238 19	4,394 49	-0 26	53 29	-0 97	0 10	-0 10	-0 10
4 460 90	0 44	232 27	4,459 29	-0 56	52 87	-0 67	0 10	-0 06	-9 14
4 524 80	0 45	225 72	4,523 19	-0 88	52 49	-0 33	0 08	0 02	-10 25
4 587 60	0 38	215 47	4,585 98	-1 23	52 19	0 01	0 16	-0 11	-16 32
4 650 50	0 39	204 24	4,648 88	-1 59	51 98	0 38	0 12	0 02	-17 85
4 714 40	0 61	211 22	4,712 78	-2 08	51 72	0 88	0 36	0 34	10 92
4 777 20	0 67	216 43	4,775 58	-2 66	51 33	1 47	0 13	0 10	8 30
4 840 10	0 71	208 27	4,838 47	-3 30	50 93	2 12	0 17	0 06	-12 97
4 904 90	0 71	203 12	4,903 27	-4 02	50 58	2 85	0 10	0 00	-7 95
4 967 80	0 70	213 94	4,966 16	-4 70	50 21	3 53	0 21	-0 02	17 20
5 030 70	0 68	208 82	5,029 06	-5 35	49 82	4 19	0 10	-0 03	-8 14
5 094 50	0 73	206 91	5,092 85	-6 04	49 45	4 89	0 09	0 08	-2 99
5 158 40	0 72	215 08	5,156 75	-6 73	49 03	5 59	0 16	-0 02	12 79
5 221 20	0 76	218 00	5,219 54	-7 38	48 55	6 25	0 09	0 06	4 65
5 285 10	0 65	209 74	5,283 44	-8 03	48 11	6 91	0 23	-0 17	-12 93
5 349 00	0 72	206 50	5,347 33	-8 71	47 75	7 59	0 13	0 11	-5 07
5 411 80	0 88	219 83	5,410 13	-9 43	47 27	8 33	0 39	0 25	21 23
5 538 50	0 21	152 25	5,536 82	-10 38	46 75	9 29	0 65	-0 53	-53 34
5 601 40	0 49	73 89	5,599 72	-10 41	47 06	9 31	0 78	0 45	-124 58
5 665 30	0 22	44 45	5,663 62	-10 25	47 41	9 14	0 50	-0 42	-46 07
5 728 10	0 20	7 43	5,726 42	-10 05	47 51	8 95	0 21	-0 03	-58 95
5 793 00	0 60	330 19	5,791 32	-9 64	47 36	8 54	0 70	0 62	-57 38
5 855 80	1 85	321 08	5,854 10	-8 57	46 56	7 49	2 01	1 99	-14 51
5 919 70	2 93	315 76	5,917 94	-6 60	44 77	5 56	1 72	1 69	-8 33
5 982 60	1 99	322 43	5,980 79	-4 58	42 98	3 58	1 56	-1 49	10 60



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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,045 40	0 62	118 81	6,043 58	-3 88	42 61	2 89	4 09	-2 18	249 01
6,109 30	1 63	126 14	6,107 46	-4 58	43 65	3 57	1 59	1 58	11 47
6,172 10	1 95	125 44	6,170 23	-5 73	45 24	4 68	0 51	0 51	-1 11
6,236 00	2 25	125 52	6,234 09	-7 09	47 15	5 99	0 47	0 47	0 13
6,299 90	2 61	125 99	6,297 93	-8 67	49 35	7 52	0 56	0 56	0 74
6,362 70	2 82	128 99	6,360 66	-10 48	51 70	9 28	0 40	0 33	4 78
6,425 60	2 97	140 74	6,423 48	-12 72	53 94	11 46	0 97	0 24	18 68
6,489 40	2 57	146 13	6,487 21	-15 19	55 78	13 89	0 75	-0 63	8 45
6,552 30	2 17	146 97	6,550 05	-17 36	57 22	16 02	0 64	-0 64	1 34
6,615 20	1 72	152 18	6,612 92	-19 19	58 31	17 83	0 77	-0 72	8 28
6,679 00	1 43	156 27	6,676 69	-20 76	59 07	19 39	0 49	-0 45	6 41
6,742 90	1 46	159 00	6,740 57	-22 25	59 69	20 86	0 12	0 05	4 27
6,806 70	1 62	164 85	6,804 35	-23 88	60 21	22 48	0 35	0 25	9 17
6,871 60	1 97	164 88	6,869 22	-25 85	60 74	24 43	0 54	0 54	0 05
6,932 50	2 15	162 25	6,930 08	-27 94	61 37	26 51	0 33	0 30	-4 32
6,996 30	2 26	166 40	6,993 83	-30 31	62 03	28 86	0 30	0 17	6 50
7,059 20	2 40	166 75	7,056 68	-32 79	62 62	31 33	0 22	0 22	0 56
7,122 00	2 36	156 04	7,119 42	-35 26	63 45	33 77	0 71	-0 06	-17 05
7,186 90	2 48	140 14	7,184 27	-37 55	64 89	36 04	1 05	0 18	-24 50
7,249 80	2 44	132 08	7,247 11	-39 50	66 75	37 94	0 55	-0 06	-12 81
7,312 60	2 31	135 41	7,309 86	-41 29	68 64	39 69	0 30	-0 21	5 30
7,375 50	2 21	138 98	7,372 71	-43 11	70 32	41 47	0 27	-0 16	5 68
7,409 00	2 00	142 73	7,406 18	-44 06	71 10	42 40	0 75	-0 63	11 19
7,441 00	3 71	162 53	7,438 14	-45 50	71 75	43 82	6 09	5 34	61 88
7,473 00	9 28	170 94	7,469 93	-49 03	72 47	47 34	17 61	17 41	26 28
7,505 00	14 64	172 52	7,501 22	-55 60	73 40	53 88	16 78	16 75	4 94
7,537 00	19 90	175 44	7,531 77	-65 04	74 36	63 30	16 65	16 44	9 13
7,568 00	24 73	178 83	7,560 44	-76 79	74 91	75 03	16 12	15 58	10 94
7,600 00	29 34	181 57	7,588 94	-91 33	74 83	89 57	14 92	14 41	8 56
7,632 00	33 90	182 02	7,616 18	-108 09	74 30	106 34	14 27	14 25	1 41
7,664 00	38 78	181 93	7,641 95	-127 04	73 65	125 29	15 25	15 25	-0 28
7,696 00	44 22	180 77	7,665 90	-148 23	73 16	146 49	17 17	17 00	-3 63
7,727 00	49 54	180 83	7,687 09	-170 85	72 85	169 11	17 16	17 16	0 19
7,759 00	55 31	180 79	7,706 59	-196 19	72 49	194 46	18 03	18 03	-0 13
7,791 00	60 92	181 49	7,723 49	-223 35	71 94	221 62	17 63	17 53	2 19
7,822 00	66 41	181 93	7,737 24	-251 11	71 11	249 39	17 76	17 71	1 42
7,854 00	71 90	182 53	7,748 62	-280 98	69 95	279 28	17 25	17 16	1 88
7,886 00	74 69	181 86	7,757 82	-311 60	68 77	309 92	8 95	8 72	-2 09
7,918 00	77 02	180 67	7,765 64	-342 62	68 09	340 95	8 13	7 28	-3 72
7,949 00	78 64	179 91	7,772 17	-372 92	67 94	371 25	5 75	5 23	-2 45
7,981 00	80 75	179 08	7,777 89	-404 40	68 22	402 71	7 07	6 59	-2 59
8,012 00	83 36	179 00	7,782 18	-435 10	68 73	433 39	8 42	8 42	-0 26



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8.044 00	85 79	179 13	7.785 20	-466 95	69 25	465 22	7 60	7 59	0 41
8.076 00	88 09	180 38	7.786 91	-498 90	69 39	497 16	8 18	7 19	3 91
8.107 00	88 82	181 01	7.787 75	-529 89	69 01	528 14	3 11	2 35	2 03
8.139 00	88 99	181 13	7.788 36	-561 88	68 41	560 14	0 65	0 53	0 38
8.171 00	89 39	181 18	7.788 81	-593 87	67 77	592 13	1 26	1 25	0 16
8.203 00	90 00	181 75	7.788 98	-625 86	66 95	624 13	2 61	1 91	1 78
8.235 00	90 40	181 91	7.788 87	-657 84	65 93	656 13	1 35	1 25	0 50
8.266 00	90 54	181 78	7.788 62	-688 82	64 93	687 13	0 62	0 45	-0 42
8.330 00	90 94	181 76	7.787 79	-752 79	62 95	751 12	0 63	0 63	-0 03
8.394 00	90 57	182 44	7.786 95	-816 74	60 61	815 11	1 21	-0 58	1 06
8.457 00	91 35	182 69	7.785 89	-879 66	57 79	878 09	1 30	1 24	0 40
8.520 00	89 76	182 37	7.785 28	-942 60	55 01	941 07	2 57	-2 52	-0 51
8.584 00	90 34	182 32	7.785 22	-1,006 54	52 39	1,005 06	0 91	0 91	-0 08
8.647 00	90 77	182 23	7.784 61	-1,069 49	49 89	1,068 04	0 70	0 68	-0 14
8.711 00	91 55	182 13	7.783 32	-1,133 43	47 46	1,132 02	1 23	1 22	-0 16
8.774 00	90 34	182 25	7.782 28	-1,196 38	45 05	1,195 01	1 93	-1 92	0 19
8.837 00	90 91	182 16	7.781 59	-1,259 32	42 62	1,258 00	0 92	0 90	-0 14
8.901 00	90 47	183 02	7.780 82	-1,323 25	39 73	1,321 98	1 51	-0 69	1 34
8.964 00	88 76	183 38	7.781 25	-1,386 15	36 22	1,384 94	2 77	-2 71	0 57
9.027 00	88 52	183 38	7.782 74	-1,449 02	32 50	1,447 88	0 38	-0 38	0 00
9.091 00	89 09	183 15	7.784 08	-1,512 91	28 86	1,511 83	0 96	0 89	-0 36
9.154 00	89 53	183 14	7.784 83	-1,575 81	25 40	1,574 79	0 70	0 70	-0 02
9.218 00	90 10	183 14	7.785 04	-1,639 71	21 90	1,638 76	0 89	0 89	0 00
9.281 00	89 19	183 02	7.785 43	-1,702 62	18 51	1,701 73	1 46	-1 44	-0 19
9.345 00	89 19	182 73	7.786 34	-1,766 53	15 30	1,765 70	0 45	0 00	-0 45
9.408 00	89 73	182 58	7.786 93	-1,829 46	12 38	1,828 68	0 89	0 86	-0 24
9.472 00	90 57	182 41	7.786 76	-1,893 40	9 60	1,892 67	1 34	1 31	-0 27
9.535 00	89 70	182 32	7.786 61	-1,956 34	7 00	1,955 65	1 39	-1 38	-0 14
9.599 00	89 70	181 71	7.786 95	-2,020 30	4 75	2,019 65	0 95	0 00	-0 95
9.662 00	88 89	181 59	7.787 72	-2,083 27	2 93	2,082 64	1 30	-1 29	-0 19
9.726 00	89 36	181 39	7.788 70	-2,147 24	1 27	2,146 63	0 80	0 73	-0 31
9.789 00	89 93	181 06	7.789 09	-2,210 23	-0 08	2,209 63	1 05	0 90	-0 52
9.853 00	88 99	181 72	7.789 69	-2,274 20	-1 63	2,273 63	1 79	-1 47	1 03
9.916 00	89 33	181 73	7.790 62	-2,337 17	-3 53	2,336 62	0 54	0 54	0 02
9.979 00	88 82	182 57	7.791 64	-2,400 11	-5 89	2,399 60	1 56	-0 81	1 33
10.042 00	89 06	182 53	7.792 80	-2,463 04	-8 69	2,462 58	0 39	0 38	-0 06
10.106 00	89 02	182 24	7.793 87	-2,526 98	-11 35	2,526 56	0 46	-0 06	-0 45
10.169 00	89 09	181 84	7.794 91	-2,589 93	-13 60	2,589 55	0 64	0 11	-0 63
10.233 00	89 76	182 62	7.795 55	-2,653 88	-16 09	2,653 53	1 61	1 05	1 22
10.296 00	89 93	182 66	7.795 72	-2,716 81	-18 99	2,716 52	0 28	0 27	0 06
10.360 00	90 74	182 79	7.795 35	-2,780 73	-22 03	2,780 50	1 28	1 27	0 20
10.423 00	90 84	182 59	7.794 48	-2,843 66	-24 99	2,843 47	0 35	0 16	-0 32
10.486 00	90 97	182 34	7.793 49	-2,906 59	-27 70	2,906 45	0 45	0 21	-0 40



Scientific Drilling

Survey Report



Company: Cimarex Energy
 Project: Eddy County, NM (NAD83 NME)
 Site: Gadwall "18" Federal Com #2H
 Well: Gadwall "18" Federal Com #2H (150' FNL & 2310' FWL)
 Wellbore: OH
 Design: Actual

Local Co-ordinate Reference: Site Gadwall "18" Federal Com #2H
 TVD Reference: KB Elev (20') @ 3215 00usft (Key #880)
 MD Reference: KB Elev (20') @ 3215 00usft (Key #880)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM-Julio

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10 550 00	89 87	182 45	7 793 02	-2,970 53	-30 37	2,970 44	1 73	-1 72	0 17
10,613 00	90 17	182 20	7 793 00	-3,033 48	-32 93	3,033 43	0 62	0 48	-0 40
10,676 00	90 27	181 74	7 792 75	-3,096 44	-35 09	3,096 42	0 75	0 16	-0 73
10,740 00	89 93	180 82	7 792 64	-3,160 43	-36 52	3,160 42	1 53	-0 53	-1 44
10,803 00	88 89	180 28	7 793 29	-3,223 42	-37 13	3,223 41	1 86	-1 65	-0 86
10 866 00	89 29	181 02	7 794 29	-3,286 41	-37 84	3,286 40	1 34	0 63	1 17
10,930 00	89 70	181 50	7 794 86	-3,350 39	-39 25	3,350 40	0 99	0 64	0 75
10 993 00	90 77	182 66	7 794 60	-3,413 35	-41 54	3,413 39	2 50	1 70	1 84
11 057 00	91 14	182 35	7 793 53	-3,477 28	-44 33	3,477 37	0 75	0 58	-0 48
11,120 00	90 91	182 52	7 792 40	-3,540 21	-47 01	3,540 35	0 45	-0 37	0 27
11 184 00	91 78	182 75	7 790 90	-3,604 12	-49 95	3,604 31	1 41	1 36	0 36
11,247 00	90 34	182 82	7 789 74	-3,667 04	-53 01	3,667 28	2 29	-2 29	0 11
11,311 00	88 92	182 14	7 790 15	-3,730 97	-55 78	3,731 26	2 46	-2 22	-1 06
11,374 00	88 79	181 49	7 791 41	-3,793 93	-57 77	3,794 25	1 05	-0 21	-1 03
11,438 00	89 26	181 16	7 792 50	-3 857 90	-59 25	3,858 24	0 90	0 73	-0 52
11 501 00	89 60	180 89	7 793 12	-3,920 89	-60 38	3,921 23	0 69	0 54	-0 43
11,564 00	89 53	180 80	7 793 60	-3,983 88	-61 31	3,984 23	0 18	-0 11	-0 14
11,628 00	88 89	181 70	7 794 48	-4,047 86	-62 71	4,048 22	1 73	-1 00	1 41
11,691 00	89 26	181 49	7 795 50	-4,110 82	-64 46	4,111 21	0 68	0 59	-0 33
11 754 00	89 60	181 22	7 796 13	-4,173 80	-65 95	4,174 21	0 69	0 54	-0 43
11,818 00	90 17	181 05	7 796 26	-4,237 79	-67 22	4,238 21	0 93	0 89	-0 27
11,882 00	89 29	181 14	7 796 56	-4,301 78	-68 44	4,302 21	1 38	-1 38	0 14
11,945 00	89 09	182 04	7 797 45	-4,364 75	-70 19	4,365 20	1 46	-0 32	1 43
12,008 00	89 53	182 42	7 798 21	-4,427 69	-72 64	4,428 19	0 92	0 70	0 60
12,072 00	89 90	182 24	7 798 53	-4,491 64	-75 24	4,492 18	0 64	0 58	-0 28
12,135 00	90 30	181 99	7 798 42	-4,554 60	-77 57	4,555 17	0 75	0 63	-0 40
12,199 00	90 71	181 91	7 797 85	-4,618 56	-79 74	4,619 16	0 65	0 64	-0 13
12 262 00	90 77	181 83	7 797 04	-4,681 52	-81 80	4,682 16	0 16	0 10	-0 13
12,331 00	91 01	181 74	7 795 97	-4,750 48	-83 95	4,751 14	0 37	0 35	-0 13
Last MWD Survey									
12,379 00	91 01	181 74	7 795 12	-4,798 45	-85 41	4,799 14	0 00	0 00	0 00
Projection to Bit									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12 331 00	7 795 97	-4,750 48	-83 95	Last MWD Survey
12 379 00	7,795 12	-4,798 45	-85 41	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____



Scientific Drilling for Cimarex Energy
Site: Eddy County, NM (NAD83 NME)
Well: Gadwall "18" Federal Com #2H (150' FNL & 2310' FWL)
Wellbore OH
Design: Plan #2 vs Actual - 6-3/4" Hole



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	7375.50	2.21	138.98	7372.71	-43.11	70.32	0.00	0.00	41.46	
2	7431.00	2.21	138.98	7428.17	-44.73	71.73	0.00	0.00	43.05	
3	7992.82	90.00	182.32	7782.00	-408.84	66.37	15.73	43.36	407.18	
4	2409.49	90.00	182.32	7782.00	-4821.89	-112.16	0.00	0.00	4823.19	PBHL-#2H (330' FSL & 2200' FWL)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL-#2H (330' FSL & 2200' FWL)	7782.00	-4821.89	-112.16	408708.91	573056.84	32° 7' 24.882 N 104° 13' 51.137 W	Rectangle (Sides L20.00 W100.00)	

WELL DATA S Gadwall "18" Federal Com #2H (150' FNL & 2310' FWL)

Ground Level 3195.00			
+N/-S	+E/-W	Northing	Easting
0.00	0.00	413530.80	573169.00

Latitude 32° 8' 12.599 N Longitude 104° 13' 4.9779 W

Gadwall "18" Federal Com #2H (150' FNL & 2310' FWL)

Created By Julio Pina Date 08-Oct-11

Checked _____ Date _____

Reviewed _____ Date _____

PROJECT DETAILS Eddy County, NM (NAD83 NME)

Geodetic System	US State Plane 1983
Datum	North American Datum 1983
Ellipsoid	GRS 1980
Zone	New Mexico Eastern Zone
System Datum	Mean Sea Level

