

Results of Directional Survey

API number:	30-025-40257		
OGRID:		Operator:	EOG RESOURCES INC
		Property:	CHOLLA 18 FEDERAL COM # 1H

surface	ULSTR:	I	18	T	18S	R	33E
				1660	FSL	330	FEL

BH Loc	ULSTR:	L	18	T	18S	R	33E
12900	MD	8480.2	TVD	1934	FSL	312	FWL
						4968	FEL

Top Perf/OH	ULSTR:	I	18	T	18S	R	33E
8919	MD	8557.5	TVD	1696	FSL	998	FEL

Bot Perf/OH	ULSTR:	L	18	T	18S	R	33E
12860	MD	8478.3	TVD	1932	FSL	351	FWL
						4929	FEL

	MD	N/S	E/W	VD
	8902	33.67	-650.78	8557.18
TOP PERFS/OH	8919	35.53	-667.67	8557.53
	8934	37.18	-682.58	8557.83
	12838	270.62	-4576.62	8477.26
BOT PERFS/OH	12860	271.66	-4598.57	8478.30
	12900	273.54	-4638.48	8480.18

NEXT TO LAST	12838	270.62	-4576.62	8477.26
LAST READING	12900	273.54	-4638.48	8480.18
TD	12900	273.54	-4638.48	8480.18

Surface Location	1660	FS	330	FE
Projected BHL	1934	FS	4968	FE
Location of				
Top Perfs/OH	1696	FS	998	FE
Bottom Perfs/OH	1932	FS	4929	FE

SUMMARY of Subsurface Locations

Surface Location	I-18-18S-33E	1660	FS	330	FE	Vert. Depth
Top Perfs/OH	I-18-18S-33E	1696	FS	998	FE	8557.53
Bottom Perfs/OH	L-18-18S-33E	1932	FS	4929	FE	8478.30
Projected TD	L-18-18S-33E	1934	FS	4968	FE	8480.18

MAY 08 2012

EOG Resources

Lea County, NM (Nad27)
Cholla 18 Federal Com
Cholla 18 Fed. Com 1H
Wellbore #1

Design: Wellbore #1

EOG Resources

13 January, 2012

HOBBS OCD

APR 26 2012

RECEIVED

SUR: I-18-18s-33e, 1660/S & 330/E
BHL: L-18-18s-33e, 1934/S & 4968/E
API # 30-025-40257



PHOENIX
TECHNOLOGY SERVICES

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Cholla 18 Fed. Com 1H
Project:	Lea County, NM (Nad27)	TVD Reference:	WELL @ 3889.70usft (Original Well Elev + 30' KB)
Site:	Cholla 18 Federal Com	MD Reference:	WELL @ 3889.70usft (Original Well Elev + 30' KB)
Well:	Cholla 18 Fed. Com 1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	GCR DB v5000

Project	Lea County, NM (Nad27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Cholla 18 Federal Com		
Site Position:		Northing:	635,199.80 usft
From:	Map	Easting:	696,442.50 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 44' 40.6683 N
		Longitude:	103° 41' 39.9313 W
		Grid Convergence:	0.35 °

Well	Cholla 18 Fed. Com 1H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010_14	12/06/11	(°)
			7.62
			Dip Angle
			(°)
			60.64
			Field Strength
			(nT)
			48,866

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			273.53

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Design: Wellbore #1

Local Co-ordinate Reference: Well, Cholla 18 Fed Com 1H
TVD Reference: WELL @ 3889 70usft (Original Well Elev + 30' KB)
MD Reference: WELL @ 3889.70usft (Original Well Elev + 30' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Survey Program		Date	01/13/12		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100 00	7,947.00	Phoenix MWD Surveys (Wellbore #1)	MWD	MWD - Standard	
8,041 00	12,900 00	Phoenix ST MWD Surveys (Wellbore #1)	MWD	MWD - Standard	

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0 00	0.00	0.00	-3,889.70	0.00	0 00	0.00	0 00	0 00	635,199 80	696,442 50
100.00	0.28	275.41	-3,789.70	100 00	0.02	-0 24	0 24	0.28	635,199 82	696,442.26
200.00	0.41	278.52	-3,689.70	200 00	0 10	-0.84	0 84	0.13	635,199.90	696,441.66
300.00	0.29	272.59	-3,589.70	300 00	0.16	-1 45	1 45	0 13	635,199.96	696,441.05
400.00	0.36	277.54	-3,489.71	399 99	0.22	-2 01	2.02	0.08	635,200.02	696,440 49
500.00	0.15	258.42	-3,389.71	499.99	0 23	-2 45	2.46	0 22	635,200.03	696,440 05
600 00	0 47	311 19	-3,289.71	599.99	0.47	-2.89	2.91	0 40	635,200.27	696,439.61
700 00	0.42	293.24	-3,189 71	699 99	0.89	-3 53	3 58	0 15	635,200 69	696,438 97
800.00	0.28	294.73	-3,089.71	799.99	1.14	-4.09	4.15	0 14	635,200 94	696,438 41
900 00	0.44	254.25	-2,989 71	899.99	1.13	-4 68	4.74	0 29	635,200 93	696,437 82
1,000.00	0.29	294.34	-2,889.72	999 98	1.13	-5 28	5 34	0 29	635,200 93	696,437 22
1,100.00	0.26	277 78	-2,789.72	1,099 98	1 27	-5.74	5 81	0 08	635,201 07	696,436.76
1,200.00	0.28	297 36	-2,689.72	1,199 98	1 41	-6.18	6 26	0 09	635,201.21	696,436.32
1,300.00	0.40	284.77	-2,589.72	1,299.98	1 61	-6.74	6 82	0 14	635,201.41	696,435 76
Last Gyro Survey										
1,395 00	0.21	314 35	-2,494.72	1,394 98	1 82	-7.18	7 28	0 25	635,201.62	696,435 32
First Phoenix MWD Survey										
1,526 00	0.30	341.60	-2,363.72	1,525.98	2 31	-7.46	7 59	0 11	635,202.11	696,435.04
1,716.00	0.10	13.30	-2,173.72	1,715.98	2.95	-7.58	7.75	0 12	635,202 75	696,434 92
1,905.00	0.40	67 90	-1,984.73	1,904 97	3 36	-6.93	7 12	0.19	635,203 16	696,435 57
2,097 00	0.70	69 10	-1,792.74	2,096.96	4 03	-5 21	5 45	0.16	635,203 83	696,437 29
2,286.00	1 30	81 80	-1,603 76	2,285 94	4 74	-2.01	2.30	0 34	635,204.54	696,440 49

Phoenix Technology Services
EOG Resources



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Project: Lea County, NM (Nad27)
Site: Cholla 18 Federal Com
Well: Cholla 18 Fed. Com 1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well-Cholla 18 Fed. Com 1H
TVD Reference: WELL @ 3889.70usft (Original Well Elev + 30' KB)
MD Reference: WELL @ 3889.70usft (Original Well Elev + 30' KB)
North Reference: Gnd
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,478.00	0.80	122.60	-1,411.80	2,477.90	4.33	1.27	-1.00	0.45	635,204.13	696,443.77
2,669.00	0.70	122.20	-1,220.81	2,668.89	2.99	3.38	-3.19	0.05	635,202.79	696,445.88
2,860.00	0.70	103.50	-1,029.83	2,859.87	2.10	5.50	-5.36	0.12	635,201.90	696,448.00
2,997.00	0.40	81.60	-892.83	2,996.87	1.97	6.79	-6.66	0.26	635,201.77	696,449.29
3,172.00	1.00	294.30	-717.84	3,171.86	2.69	6.00	-5.83	0.77	635,202.49	696,448.50
3,363.00	0.70	274.60	-526.86	3,362.84	3.47	3.32	-3.10	0.22	635,203.27	696,445.82
3,554.00	0.80	267.80	-335.88	3,553.82	3.51	0.83	-0.61	0.07	635,203.31	696,443.33
3,746.00	1.00	271.90	-143.90	3,745.80	3.52	-2.19	2.40	0.11	635,203.32	696,440.31
3,936.00	1.10	267.60	46.07	3,935.77	3.49	-5.67	5.87	0.07	635,203.29	696,436.83
4,128.00	0.90	279.80	238.04	4,127.74	3.67	-8.99	9.20	0.15	635,203.47	696,433.51
4,319.00	1.00	285.90	429.01	4,318.71	4.39	-12.08	12.32	0.07	635,204.19	696,430.42
4,510.00	1.10	278.70	619.98	4,509.68	5.12	-15.49	15.78	0.09	635,204.92	696,427.01
4,701.00	1.10	279.65	810.95	4,700.65	5.70	-19.11	19.42	0.01	635,205.50	696,423.39
4,892.00	0.60	338.90	1,001.93	4,891.63	6.94	-21.28	21.66	0.50	635,206.74	696,421.22
5,083.00	0.40	331.60	1,192.92	5,082.62	8.46	-21.95	22.43	0.11	635,208.26	696,420.55
5,274.00	0.50	315.40	1,383.91	5,273.61	9.64	-22.86	23.41	0.08	635,209.44	696,419.64
5,465.00	0.80	287.70	1,574.90	5,464.60	10.64	-24.71	25.32	0.22	635,210.44	696,417.79
5,656.00	0.30	29.40	1,765.89	5,655.59	11.48	-25.74	26.40	0.48	635,211.28	696,416.76
5,847.00	0.40	3.50	1,956.89	5,846.59	12.59	-25.45	26.18	0.10	635,212.39	696,417.05
6,038.00	0.60	301.90	2,147.89	6,037.59	13.78	-26.26	27.06	0.28	635,213.58	696,416.24
6,229.00	0.20	278.30	2,338.88	6,228.58	14.36	-27.44	28.27	0.22	635,214.16	696,415.06
6,420.00	0.50	236.60	2,529.88	6,419.58	13.95	-28.46	29.27	0.20	635,213.75	696,414.04
6,611.00	1.10	220.70	2,720.86	6,610.56	12.10	-30.35	31.04	0.33	635,211.90	696,412.15
6,802.00	0.40	239.30	2,911.84	6,801.54	10.37	-32.12	32.70	0.38	635,210.17	696,410.38
6,993.00	0.30	236.20	3,102.84	6,992.54	9.75	-33.11	33.65	0.05	635,209.55	696,409.39
7,184.00	0.50	47.10	3,293.83	7,183.53	10.04	-32.92	33.47	0.42	635,209.84	696,409.58
7,375.00	0.20	48.50	3,484.83	7,374.53	10.82	-32.06	32.66	0.16	635,210.62	696,410.44

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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
7,565.00	0.00	213.90	3,674.83	7,564.53	11.04	-31.81	32.43	0.11	635,210.84	696,410.69
7,756.00	1.00	159.40	3,865.82	7,755.52	9.48	-31.22	31.75	0.52	635,209.28	696,411.28
7,947.00	0.90	172.20	4,056.79	7,946.49	6.44	-30.43	30.77	0.12	635,206.24	696,412.07
8,063.00	8.20	276.70	4,172.41	8,062.11	6.50	-38.54	38.87	7.30	635,206.30	696,403.96
8,094.00	14.90	282.00	4,202.76	8,092.46	7.59	-44.64	45.02	21.86	635,207.39	696,397.86
8,126.00	20.50	283.10	4,233.23	8,122.93	9.72	-54.13	54.63	17.53	635,209.52	696,388.37
8,158.00	25.20	280.20	4,262.72	8,152.42	12.19	-66.30	66.92	15.10	635,211.99	696,376.20
8,190.00	29.10	276.60	4,291.19	8,180.89	14.30	-80.74	81.47	13.22	635,214.10	696,361.76
8,222.00	31.20	273.70	4,318.86	8,208.56	15.72	-96.74	97.53	7.98	635,215.52	696,345.76
8,253.00	33.00	271.90	4,345.12	8,234.82	16.52	-113.20	114.00	6.57	635,216.32	696,329.30
8,285.00	36.00	270.50	4,371.49	8,261.19	16.89	-131.31	132.11	9.70	635,216.69	696,311.19
8,317.00	38.90	269.40	4,396.89	8,286.59	16.87	-150.77	151.52	9.30	635,216.67	696,291.73
8,349.00	41.20	268.50	4,421.38	8,311.08	16.49	-171.36	172.05	7.41	635,216.29	696,271.14
8,380.00	44.40	269.20	4,444.13	8,333.83	16.07	-192.41	193.03	10.44	635,215.87	696,250.09
8,412.00	46.60	270.30	4,466.55	8,356.25	15.98	-215.23	215.81	7.30	635,215.78	696,227.27
8,444.00	48.70	271.20	4,488.11	8,377.81	16.29	-238.88	239.43	6.88	635,216.09	696,203.62
8,476.00	51.90	270.20	4,508.55	8,398.25	16.58	-263.49	264.01	10.28	635,216.38	696,179.01
8,508.00	54.70	269.50	4,527.67	8,417.37	16.51	-289.15	289.62	8.92	635,216.31	696,153.35
8,539.00	57.00	268.80	4,545.07	8,434.77	16.13	-314.80	315.19	7.65	635,215.93	696,127.70
8,571.00	58.50	268.80	4,562.15	8,451.85	15.56	-341.85	342.16	4.69	635,215.36	696,100.65
8,603.00	59.80	269.50	4,578.56	8,468.26	15.16	-369.32	369.55	4.48	635,214.96	696,073.18
8,634.00	61.60	271.00	4,593.73	8,483.43	15.28	-396.35	396.54	7.18	635,215.08	696,046.15
8,666.00	64.10	271.90	4,608.33	8,498.03	16.00	-424.82	425.00	8.20	635,215.80	696,017.68
8,698.00	66.80	272.40	4,621.62	8,511.32	17.10	-453.90	454.09	8.56	635,216.90	695,988.60
8,730.00	69.90	273.80	4,633.43	8,523.13	18.71	-483.59	483.83	10.51	635,218.51	695,958.91
8,761.00	72.60	274.90	4,643.39	8,533.09	20.94	-512.86	513.18	9.34	635,220.74	695,929.64
8,793.00	76.00	274.90	4,652.05	8,541.75	23.57	-543.55	543.97	10.62	635,223.37	695,898.95

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8,839.00	80 90	275 40	4,661.26	8,550.96	27 61	-588.42	589.01	10.71	635,227.41	695,854 08
8,871.00	84 50	275.40	4,665 32	8,555 02	30 60	-620.02	620 72	11 25	635,230 40	695,822 48
8,902.00	87 50	276.00	4,667.48	8,557.18	33 67	-650.78	651.62	9 87	635,233.47	695,791.72
8,934.00	90 20	276.60	4,668 13	8,557.83	37 18	-682.58	683 58	8.64	635,236.98	695,759.92
8,966.00	91.60	276.70	4,667.62	8,557 32	40.89	-714.36	715.52	4.39	635,240.69	695,728.14
8,997.00	92.00	276.80	4,666.65	8,556.35	44.53	-745.13	746.46	1.33	635,244.33	695,697.37
9,093.00	92 50	276.40	4,662.88	8,552.58	55.55	-840.42	842 25	0 67	635,255 35	695,602 08
9,188.00	92 40	274.60	4,658.82	8,548.52	64 65	-934 89	937 10	1.90	635,264.45	695,507 61
9,284.00	92 80	274 40	4,654 46	8,544.16	72 17	-1,030 50	1,032 99	0.47	635,271.97	695,412.00
9,379.00	93.50	274.50	4,649 24	8,538 94	79 53	-1,125 07	1,127 83	0 74	635,279.33	695,317.43
9,475.00	92 60	273.40	4,644.14	8,533 84	86 14	-1,220 70	1,223 69	1 48	635,285.94	695,221.80
9,571.00	92.10	273 30	4,640 20	8,529.90	91.74	-1,316.46	1,319.61	0 53	635,291 54	695,126.04
9,666.00	90.80	272 70	4,637.80	8,527 50	96.71	-1,411.29	1,414.57	1 51	635,296 51	695,031.21
9,762 00	91.40	272 40	4,635 95	8,525.65	100.98	-1,507.18	1,510.54	0 70	635,300 78	694,935 32
9,857.00	90.40	272.60	4,634 46	8,524.16	105.13	-1,602 08	1,605.51	1 07	635,304.93	694,840 42
9,971 00	90.60	272 10	4,633.47	8,523 17	109 80	-1,715 98	1,719 48	0 47	635,309.60	694,726 52
10,066.00	90.70	272.20	4,632.39	8,522 09	113 36	-1,810 90	1,814 45	0.15	635,313.16	694,631.60
10,161.00	90.50	272.00	4,631 39	8,521.09	116 85	-1,905.84	1,909 41	0 30	635,316 65	694,536 66
10,257 00	91.20	273 30	4,629 97	8,519.67	121 28	-2,001.72	2,005 39	1.54	635,321.08	694,440.78
10,353 00	91 10	273.10	4,628 04	8,517.74	126 64	-2,097.55	2,101 37	0 23	635,326.44	694,344.95
10,448.00	92.00	273.90	4,625.47	8,515 17	132 44	-2,192 34	2,196 33	1 27	635,332.24	694,250.16
10,543.00	91.70	273 90	4,622.41	8,512.11	138.90	-2,287.07	2,291 28	0 32	635,338 70	694,155 43
10,639.00	92.80	274.30	4,618.64	8,508.34	145.75	-2,382.75	2,387.20	1 22	635,345 55	694,059 75
10,734.00	93 00	274 20	4,613 83	8,503 53	152 79	-2,477 36	2,482 07	0 24	635,352 59	693,965.14
10,829 00	93.40	273.90	4,608.53	8,498 23	159 48	-2,571 98	2,576.92	0.53	635,359 28	693,870 52
10,925.00	91.80	273.70	4,604.17	8,493 87	165.84	-2,667.67	2,672 82	1 68	635,365 64	693,774 83
11,020.00	92.00	273.60	4,601.02	8,490 72	171 88	-2,762.42	2,767 76	0 24	635,371.68	693,680 08

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Well: Cholla 18 Fed. Com 1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Cholla 18 Fed. Com 1H
TVD Reference: WELL @ 3889.70usft (Original Well Elev + 30' KB)
MD Reference: WELL @ 3889 70usft (Original Well Elev + 30' KB)
North Reference: Grid.
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V-Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
11,116.00	92.40	273.30	4,597.34	8,487.04	177.66	-2,858.18	2,863.69	0.52	635,377.46	693,584.32	
11,211.00	93.00	272.20	4,592.86	8,482.56	182.21	-2,952.96	2,958.58	1.32	635,382.01	693,489.54	
11,307.00	91.90	273.40	4,588.76	8,478.46	186.90	-3,048.75	3,054.48	1.69	635,386.70	693,393.75	
11,402.00	92.00	273.10	4,585.53	8,475.23	192.28	-3,143.55	3,149.42	0.33	635,392.08	693,298.95	
11,498.00	92.70	273.10	4,581.59	8,471.29	197.47	-3,239.32	3,245.34	0.73	635,397.27	693,203.18	
11,593.00	91.40	273.60	4,578.19	8,467.89	203.01	-3,334.10	3,340.27	1.47	635,402.81	693,108.40	
11,688.00	91.50	273.20	4,575.79	8,465.49	208.65	-3,428.90	3,435.24	0.43	635,408.45	693,013.60	
11,784.00	91.70	272.90	4,573.11	8,462.81	213.75	-3,524.73	3,531.20	0.38	635,413.55	692,917.77	
11,879.00	92.00	272.40	4,570.04	8,459.74	218.14	-3,619.58	3,626.14	0.61	635,417.94	692,822.92	
11,975.00	91.70	273.00	4,566.94	8,456.64	222.66	-3,715.42	3,722.08	0.70	635,422.46	692,727.08	
11,990.00	91.62	273.05	4,566.51	8,456.21	223.45	-3,730.39	3,737.07	0.61	635,423.25	692,712.11	
Top of 1st BS Sand											
12,071.00	91.20	273.30	4,564.51	8,454.21	227.94	-3,811.24	3,818.05	0.61	635,427.74	692,631.26	
12,167.00	88.90	273.30	4,564.43	8,454.13	233.46	-3,907.08	3,914.04	2.40	635,433.26	692,535.42	
12,262.00	88.80	273.20	4,566.34	8,456.04	238.85	-4,001.91	4,009.02	0.15	635,438.65	692,440.59	
12,357.00	88.10	273.40	4,568.90	8,458.60	244.31	-4,096.71	4,103.98	0.77	635,444.11	692,345.79	
12,453.00	87.80	273.20	4,572.34	8,462.04	249.84	-4,192.49	4,199.92	0.38	635,449.64	692,250.01	
12,548.00	87.10	272.80	4,576.57	8,466.27	254.80	-4,287.27	4,294.82	0.85	635,454.60	692,155.23	
12,643.00	88.10	273.50	4,580.54	8,470.24	260.02	-4,382.04	4,389.73	1.28	635,459.82	692,060.46	
12,739.00	88.10	273.10	4,583.73	8,473.43	265.54	-4,477.83	4,485.68	0.42	635,465.34	691,964.67	
12,834.00	87.50	272.80	4,587.37	8,477.07	270.43	-4,572.63	4,580.60	0.71	635,470.23	691,869.87	
12,838.00	87.30	272.70	4,587.56	8,477.26	270.62	-4,576.62	4,584.60	5.59	635,470.42	691,865.88	
Last Phoenix MWD Survey											
12,900.00	87.30	272.70	4,590.48	8,480.18	273.54	-4,638.48	4,646.52	0.00	635,473.34	691,804.02	
Projection to TD											

Phoenix Technology Services
EOG Resources



Company: EOG Resources
Project: Lea County, NM (Nad27)
Site: Cholla 18 Federal Com
Well: Cholla 18 Fed. Com 1H
Wellbore: Wellbore #1
Design: Wellbore #1

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Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Formations

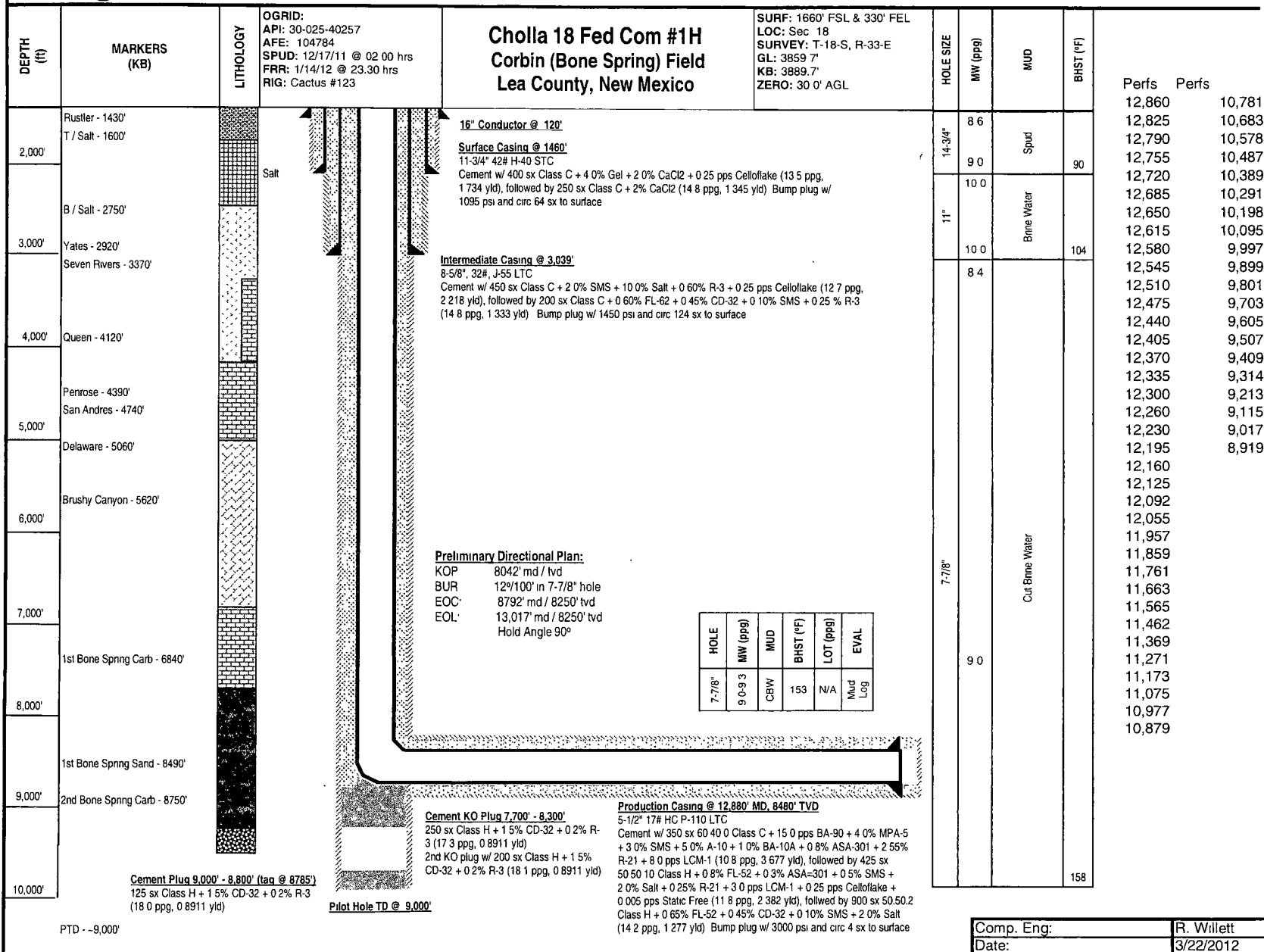
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (%)	Dip Direction (°)
11,990.00	8,456.21	Top of 1st BS Sand		0.00	

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,300.00	1,299.98	1.61	-6.74	Last Gyro Survey
1,395.00	1,394.98	1.82	-7.18	First Phoenix MWD Survey
12,838.00	8,477.26	270.62	-4,576.62	Last Phoenix MWD Survey
12,900.00	8,480.18	273.54	-4,638.48	Projection to TD

Checked By: _____ Approved By: _____ Date: _____

COMPLETED WELL SKETCH



Directions to Location:

From Loco Hills, New Mexico, Go east on Hwy 82 towards Maljamar for 6.5 miles. Turn right on Hwy 529 and continue southeast for 7 miles to CR 126. Turn right (south) on CR 126 and continue for 10 miles. Turn left through cattle guard (east) onto lease road. Stay on main traveled road for 2.5 miles to Lusk sign on right. Turn right for 1 mile, then left for 0.5 mile to location - Cactus #123

Stage Number	Cluster Top	Cluster Bottom	Plug Depth	Perf Length
1	12,860	12,861	12,875	246
1	12,825	12,826	12,875	
1	12,790	12,791	12,875	
1	12,755	12,756	12,875	
1	12,720	12,721	12,875	
1	12,685	12,686	12,875	
1	12,650	12,651	12,875	
1	12,615	12,616	12,875	
2	12,580	12,581	12,595	246
2	12,545	12,546	12,595	
2	12,510	12,511	12,595	
2	12,475	12,476	12,595	
2	12,440	12,441	12,595	
2	12,405	12,406	12,595	
2	12,370	12,371	12,595	
2	12,335	12,336	12,595	
3	12,300	12,301	12,315	246
3	12,260	12,261	12,315	
3	12,230	12,231	12,315	
3	12,195	12,196	12,315	
3	12,160	12,161	12,315	
3	12,125	12,126	12,315	
3	12,092	12,093	12,315	
3	12,055	12,056	12,315	
4	11,957	11,958	12,015	295
4	11,859	11,860	12,015	
4	11,761	11,762	12,015	
4	11,663	11,664	12,015	
5	11,565	11,566	11,623	295
5	11,462	11,463	11,623	
5	11,369	11,370	11,623	
5	11,271	11,272	11,623	
6	11,173	11,176	11,231	297
6	11,075	11,078	11,231	
6	10,977	10,980	11,231	
6	10,879	10,882	11,231	
7	10,781	10,784	10,839	297
7	10,683	10,686	10,839	
7	10,578	10,581	10,839	
7	10,487	10,490	10,839	
8	10,389	10,392	10,447	297
8	10,291	10,294	10,447	
8	10,198	10,201	10,447	
8	10,095	10,098	10,447	
9	9,997	10,000	10,055	297
9	9,899	9,902	10,055	
9	9,801	9,804	10,055	
9	9,703	9,706	10,055	
10	9,605	9,608	9,655	294
10	9,507	9,510	9,655	
10	9,409	9,412	9,655	
10	9,314	9,317	9,655	
11	9,213	9,216	9,271	297
11	9,115	9,118	9,271	
11	9,017	9,020	9,271	
11	8,919	8,922	9,271	

Stage Number	Acid type descr	Acid Volume	Acid Flush Volume	BBL Load	Frac fld type descr	Fracture Volume	Fracture Flush Volume	Total BBLs	Total Load	16/35 Sand	20/40 RCS	Total Numbers All Prop
1	7 1/2 % HCL	36	430	466	7 1/2 % HCL	915	379	1,294	1,760			0
2	7 1/2 % HCL	36	288	324	7 1/2 % HCL	882	302	1,184	1,508			0
3	7 1/2 % HCL	36	326	362	7 1/2 % HCL	730	302	1,032	1,394			0
4	7 1/2 % HCL	96	275	371	X-LINK	3,172	287	3,459	3,830			244,360
5	7 1/2 % HCL	96	302	398	X-LINK	3,422	279	3,701	4,099	See additive schedule for detail		243,060
6	7 1/2 % HCL	96	260	356	X-LINK	3,033	266	3,299	3,655			244,120
7	7 1/2 % HCL	124	752	876	X-LINK	3,047	263	3,310	4,186			242,740
8	7 1/2 % HCL	62	252	314	X-LINK	3,045	252	3,297	3,611			241,720
9	7 1/2 % HCL	84	220	304	X-LINK	3,090	245	3,335	3,639			246,280
10	7 1/2 % HCL	84	223	307	X-LINK	3,009	233	3,242	3,549			241,560
11	7 1/2 % HCL	104	215	319	X-LINK	2,991	206	3,197	3,516			240,460
		Total Acid	Total Flush	Total Acid BBLs		Total Frac Vol	Total Frac Flush	Total Frac BBLs	Total Load	16/35 Sand	20/40 RCS	Total Prop
	7 1/2 % HCL	854	3,543	4,397	7 1/2 % HCL and X-Link	27,336	3,014	30,350	34,747	1,366,640	577,660	1,944,300