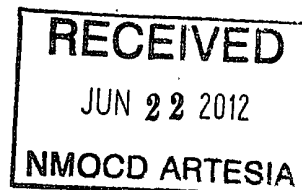


OPERATOR _____ COG _____
WELL/LEASE _____ Skelly Unit 794 _____
COUNTY _____ Eddy _____



STATE OF NEW MEXICO
DEVIATION REPORT

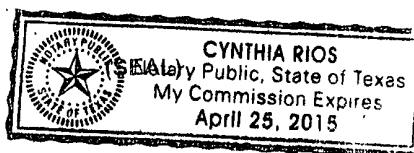
30-015-39700

137	0.41
231	0.63
319	0.87
409	0.90
499	0.53
574	0.42
740	0.65
1185	0.45
1628	1.76
1754	1.81
1932	1.84
1996	2.35
2059	2.92
2123	3.20
2187	3.43
2250	3.79
2314	4.24
2510	4.03
2605	3.92
2697	4.06
2887	3.62
2982	3.63
3076	4.32
3171	4.47
3267	4.37
3362	4.71
3457	4.89
3743	4.79
3839	4.86
4028	4.57
4123	4.37
4218	4.54
4313	4.37
4408	4.65
4501	3.99
4596	3.74
4691	3.64
4787	3.21
4882	2.33
4946	1.59
5010	0.91
5105	0.29
5200	0.30
5391	0.65
5486	0.95
5582	0.57
5677	0.47
5722	0.54
5867	0.38
5962	0.48
6058	0.54
6247	0.68
6342	0.98
6438	0.17
6533	0.34
6627	0.27
6691	0.24

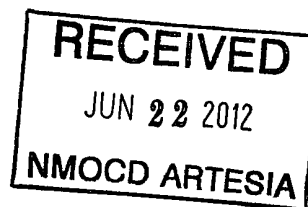
SIGNED BY: 
RON SCANDOLARI, VP-CONTRACT DRILLING

STATE OF TEXAS
COUNTY OF MIDLAND

ON THIS 29 DAY OF March, 2012, BEFORE ME, C RIOS, A NOTARY
PUBLIC, PERSONALLY APPEARED RON SCANDOLARI, WHO ACKNOWLEDGED AND EXECUTED
THIS DOCUMENT. WITNESS MY HAND AND OFFICIAL SEAL.




NOTARY PUBLIC



COG Operating LLC

Eddy County, NM (NAN27 NME)

Skelly Unit #794

Skelly Unit #794

OH - Job #32D0312319

Survey: MWD

SDI Standard Survey Report

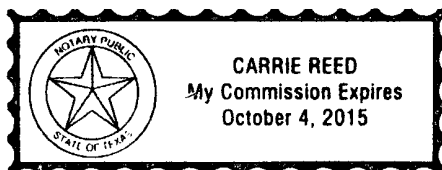
This survey is correct to the best of my knowledge and is supported by actual field data.

Wharton

Notarized this date 25th of April, 2012.

Carrie Reed

Notary Signature
County of Midland
State of Texas





Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Skelly Unit #794
Project:	Eddy County, NM (NAN27 NME)	TVD Reference:	RF @ 3900 00usft (Basic #35)
Site:	Skelly Unit #794	MD Reference:	RF @ 3900 00usft (Basic #35)
Well:	Skelly Unit #794	North Reference:	Grid
Wellbore:	OH - Job #32D0312319	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Regulatory

Project	Eddy County, NM (NAN27 NME)		
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	Skelly Unit #794		
Site Position:		Northing:	663,389.70 usft
From:	Map	Easting:	653,668.80 usft
Position Uncertainty:	0 00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 49' 21 886 N
		Longitude:	103° 49' 59 173 W
		Grid Convergence:	0 27 °

Well	Skelly Unit #794		
Well Position	+N/-S	0 00 usft	Northing:
	+E/-W	0 00 usft	Easting:
Position Uncertainty	0 00 usft	Wellhead Elevation:	usft
		Latitude:	32° 49' 21 886 N
		Longitude:	103° 49' 59 173 W
		Ground Level:	3,888 00 usft

Wellbore	OH - Job #32D0312319		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	03/21/12	7 66
			Dip Angle
			(°)
			60 68
			Field Strength
			(nT)
			48,868

Design	Actual		
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
			(°)
			92 26

Survey Program	Date 04/24/12		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100 00	1,820 00	Gyro (OH - Job #32D0312319)	Keeper
1,932 00	6,724 00	MWD (OH - Job #32D0312319)	MWD
			Description
			Standard Wireline Keeper ver 1 0 2
			MWD - Standard

Survey			
Measured Depth	Inclination	Azimuth	True Vertical
(usft)	(°)	(°)	Depth
0 00	0 00	0 00	0 00
100 00	0 07	133 33	100 00
200 00	0 05	44 58	200 00
300 00	0 12	81 77	300 00
400 00	0 28	148 65	400 00
500 00	0 13	116 90	500 00
600 00	0 23	116 64	600 00
700 00	0 16	93 58	700 00
800 00	0 12	25 36	800 00
900 00	0 01	345 81	900 00
1,000 00	0 31	308 22	1,000 00
			North/South
			(usft)
			0 00
			-0 04
			-0 05
			-0 01
			-0 20
			0 71
			0 99
			1 31
			1 50
			1 54
			1 32
			East/West
			(usft)
			0 00
			133 33
			113 82
			91 51
			112 47
			122 86
			121 20
			118 09
			112 33
			108 38
			104 22
			Closure Azimuth
			(°)
			0 00
			0 06
			0 13
			0 25
			0 52
			0 85
			1 16
			1 49
			1 62
			1 62
			1 37



Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Skelly Unit #794
Project:	Eddy County, NM (NAN27 NME)	TVD Reference:	RF @ 3900 00usft (Basic #35)
Site:	Skelly Unit #794	MD Reference:	RF @ 3900 00usft (Basic #35)
Well:	Skelly Unit #794	North Reference:	Grid
Wellbore:	OH - Job #32D0312319	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,100 00	0 27	348 10	1,100 00	0 06	1 06	86 64	1 07
1,200 00	0 36	337 32	1,199 99	0 58	0 89	56 89	1 07
1,300 00	0 60	16 12	1,299 99	1 38	0 92	33 71	1 65
1,400 00	0 84	39 60	1,399 98	2 44	1 53	32 06	2 88
1,500 00	1 45	46 04	1,499 96	3 89	2 91	36 81	4 85
1,600 00	1 98	45 82	1,599 92	5 97	5 06	40 28	7 82
1,700 00	2 03	46 04	1,699 86	8 40	7 57	42 02	11 31
1,800 00	1 81	51 12	1,799 80	10 62	10 08	43 49	14 64
1,820 00	1 92	48 34	1,819 79	11 04	10 57	43 75	15 29
PBHL-Skelly #794 - TG1-Skelly #794							



Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Skelly Unit #794
Project:	Eddy County, NM (NAN27 NME)	TVD Reference:	RF @ 3900 00usft (Basic #35)
Site:	Skelly Unit #794	MD Reference:	RF @ 3900 00usft (Basic #35)
Well:	Skelly Unit #794	North Reference:	Grid
Wellbore:	OH - Job #32D0312319	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Regulatory

Project	Eddy County, NM (NAN27 NME)		
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	Skelly Unit #794		
Site Position:		Northing:	663,389 70 usft
From:	Map	Easting:	653,668 80 usft
Position Uncertainty:	0 00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 49' 21 886 N
		Longitude:	103° 49' 59 173 W
		Grid Convergence:	0 27 °

Well	Skelly Unit #794		
Well Position	+N/-S	0 00 usft	Northing:
	+E/-W	0 00 usft	Easting:
Position Uncertainty	0 00 usft	Wellhead Elevation:	usft
		Latitude:	32° 49' 21 886 N
		Longitude:	103° 49' 59 173 W
		Ground Level:	3,888 00 usft

Wellbore	OH - Job #32D0312319		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	03/21/12	7 66
			Dip Angle
			(°)
			60 68
			Field Strength
			(nT)
			48,868

Design	Actual		
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
			(°)
			92 26

Survey Program	Date 04/24/12		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100 00	1,820 00	Gyro (OH - Job #32D0312319)	Keeper
1,932 00	6,724 00	MWD (OH - Job #32D0312319)	MWD
			Description
			Standard Wireline Keeper ver 1 0 2
			MWD - Standard

Survey							
Measured Depth	Inclination	Azimuth	True Vertical	North/South	East/West	Closure Azimuth	Closure Distance
(usft)	(°)	(°)	Depth	(usft)	(usft)	(°)	(usft)
1,820 00	1 92	48 34	1,819 79	11 04	10 57	43 75	15 29
Gyro Tie-in							
1,932 00	1 84	51 15	1,931 73	13 42	13 37	44 91	18 95
1,996 00	2 35	59 94	1,995 69	14 72	15 31	46 12	21 24
2,059 00	2 92	69 14	2,058 62	15 94	17 93	48 36	23 99
2,123 00	3 20	73 44	2,122 53	17 03	21 16	51 18	27 16
2,187 00	3 43	85 42	2,186 42	17 69	24 78	54 48	30 45
2,250 00	3 79	96 87	2,249 30	17 59	28 73	58 52	33 69
2,314 00	4 24	102 68	2,313 14	16 82	33 14	63 09	37 16
2,409 00	4 25	106 35	2,407 88	15 06	39 94	69 34	42 69
2,510 00	4 03	105 81	2,508 62	13 04	46 95	74.48	48 72



Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Skelly Unit #794
Project:	Eddy County, NM (NAN27 NME)	TVD Reference:	RF @ 3900 00usft (Basic #35)
Site:	Skelly Unit #794	MD Reference:	RF @ 3900 00usft (Basic #35)
Well:	Skelly Unit #794	North Reference:	Grid
Wellbore:	OH - Job #32D0312319	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
2,605 00	3 92	102 31	2,603 39	11 44	53 33	77 90	54 54
2,697 00	4 06	99 95	2,695 17	10 20	59 61	80 29	60 48
2,792 00	3 74	97 85	2,789 95	9 20	65 99	82 07	66 63
2,887 00	3 62	98 84	2,884 75	8 31	72 03	83 42	72 51
2,982 00	3 63	96 37	2,979 56	7 52	77 98	84 49	78 34
3,076 00	4 32	95 97	3,073 33	6 82	84 46	85 38	84 73
3,171 00	4 44	95 06	3,168 06	6 12	91 68	86 18	91 88
3,267 00	4 37	94 99	3,263 77	5 48	99 02	86 83	99 18
3,362 00	4 71	94 99	3,358 47	4 82	106 52	87 41	106 63
3,457 00	4 89	97 78	3,453 14	3 94	114 41	88 03	114 48
3,552 00	4 95	95 92	3,547 79	2 97	122 50	88 61	122 54
3,647 00	5 34	97 64	3,642 41	1 96	130 96	89 14	130 97
3,743 00	4 79	100 29	3,738 03	0 65	139 33	89 73	139 33
3,839 00	4 86	104 13	3,833 69	-1 06	147 22	90 41	147 22
3,934 00	4 26	104 21	3,928 39	-2 91	154 54	91 08	154 57
4,028 00	4 57	104 51	4,022 11	-4 71	161 55	91 67	161 62
4,123 00	4 37	104 28	4,116 82	-6 55	168 72	92 22	168 85
4,218 00	4 54	107 19	4,211 54	-8 55	175 82	92 78	176 03
4,313 00	4 37	99 57	4,306 25	-10 26	182 98	93 21	183 27
4,408 00	4 65	98 99	4,400 96	-11 47	190 36	93 45	190 70
4,501 00	3 99	102 83	4,493 69	-12 78	197 23	93 71	197 65
4,596 00	3 74	104 02	4,588 48	-14 26	203 46	94 01	203 96
4,691 00	3 64	105 68	4,683 28	-15 83	209 37	94 32	209 97
4,787 00	3 21	104 76	4,779 11	-17 33	214 91	94 61	215 60
4,882 00	2 33	101 86	4,873 99	-18 41	219 37	94 80	220 14
4,907 62	2 03	99 72	4,899 60	-18 59	220 32	94 82	221 11
TG1-Skelly #794							
4,946 00	1 59	95 03	4,937 96	-18 75	221 53	94 84	222 32
5,010 00	0 91	83 82	5,001 94	-18 78	222 92	94 81	223 70
5,105 00	0 29	45 91	5,096 94	-18 53	223 84	94 73	224 60
5,200 00	0 30	82 25	5,191 93	-18 33	224 26	94 67	225 00
5,295 00	0 31	39 29	5,286 93	-18 10	224 67	94 60	225 39
5,391 00	0 65	39 29	5,382 93	-17 47	225 18	94 44	225 85
5,486 00	0 95	39 29	5,477 92	-16 45	226 02	94 16	226 61
5,582 00	0 57	46 87	5,573 91	-15 50	226 87	93 91	227 40
5,677 00	0 47	50 08	5,668 91	-14 93	227 51	93 75	228 00
5,772 00	0 54	34 80	5,763 90	-14 31	228 07	93 59	228 51
5,867 00	0 38	31 10	5,858 90	-13 68	228 48	93 43	228 89
5,962 00	0 48	32 88	5,953 90	-13 07	228 86	93 27	229 24
6,058 00	0 54	37 44	6,049 90	-12 37	229 36	93 09	229 69
6,152 00	0 72	15 83	6,143 89	-11 45	229 79	92 85	230 07
6,247 00	0 68	24 82	6,238 88	-10 37	230 19	92 58	230 42
6,342 00	0 98	14 02	6,333 87	-9 07	230 62	92 25	230 80
6,438 00	0 17	43 04	6,429 87	-8 17	230 92	92 03	231 06
6,533 00	0 34	53 73	6,524 87	-7 90	231 24	91 96	231 37



Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Skelly Unit #794
Project:	Eddy County, NM (NAN27 NME)	TVD Reference:	RF @ 3900 00usft (Basic #35)
Site:	Skelly Unit #794	MD Reference:	RF @ 3900 00usft (Basic #35)
Well:	Skelly Unit #794	North Reference:	Grid
Wellbore:	OH - Job #32D0312319	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
6,627 00	0 29	39 71	6,618 86	-7 55	231 62	91 87	231 74
6,674 00	0 24	19 82	6,665 86	-7 37	231 73	91 82	231 84
Last MWD Survey							
6,708 10	0 24	19 82	6,699 96	-7 23	231 77	91 79	231 89
PBHL-Skelly #794							
6,724 00	0 24	19 82	6,715 86	-7 17	231 80	91 77	231 91
Projection to Bit							

Survey Annotations

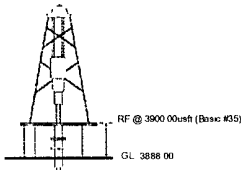
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,820 00	1,819 79	11 04	10 57	Gyro Tie-in
6,674 00	6,665 86	-7 37	231 73	Last MWD Survey
6,724 00	6,715 86	-7 17	231 80	Projection to Bit



Skelly Unit #794
Eddy County, NM (NAN27 NME)
Northing (Y) 663389.70
Easting (X) 653668.80
Plan #2 vs Actual 7-7/8" Hole



Azimuth to Grid North
True North -0.27°
Magnetic North 7.30°
Magnetic Field
Strength 48668 Oersted
Dip Angle 60.68°
Date 03/21/2012
Model KGRF2010
To convert Magnetic North to Grid Add 7.30°
To convert True North to Grid Subtract 0.27°



WELL DETAILS

Skelly Unit #794
+N-S +E-W Northing Easting Ground Level 3888 00
0 00 0 00 663389 70 653668 80 32° 49' 21 889 N 103° 49' 56 173 W Slot

SITE DETAILS

Skelly Unit #794
Site Center Northing 663389 70
Easting 653668 80
Positional Uncertainty 0 00
Convergence 0 27
Local North Grid

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSecl	Target
1	1820 00	1 92	48 34	1819 79	11 04	10 57	0 00	0 00	10 13	
2	1950 00	1 92	48 34	1949 72	13 94	13 83	0 00	0 00	13 27	
3	2106 22	4 04	97 04	2105 74	15 00	21 24	2 00	76 15	20 63	
4	4705 14	4 04	97 04	4698 20	-7 43	262 84	0 00	0 00	203 07	
5	4907 11	0 00	0 00	4900 00	-8 30	210 00	2 00	180 00	210 16	TG1 Skelly #794
6	6707 11	0 00	0 00	6700 00	-8 30	210 00	0 00	0 00	210 16	PBHL-Skelly #794

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
TG1-Skelly #794	4900 00	-8 30	210 00	663381 40	653878 8032* 49	21 794 N	103* 49' 56 712 W	Point
-plan has target center								
PBHL-Skelly #794	6700 00	-8 30	210 00	663381 40	653878 8032* 49	21 794 N	103* 49' 56 712 W	Circle (Radius 50 00)
-plan has target center								

FORMATION TOP DETAILS

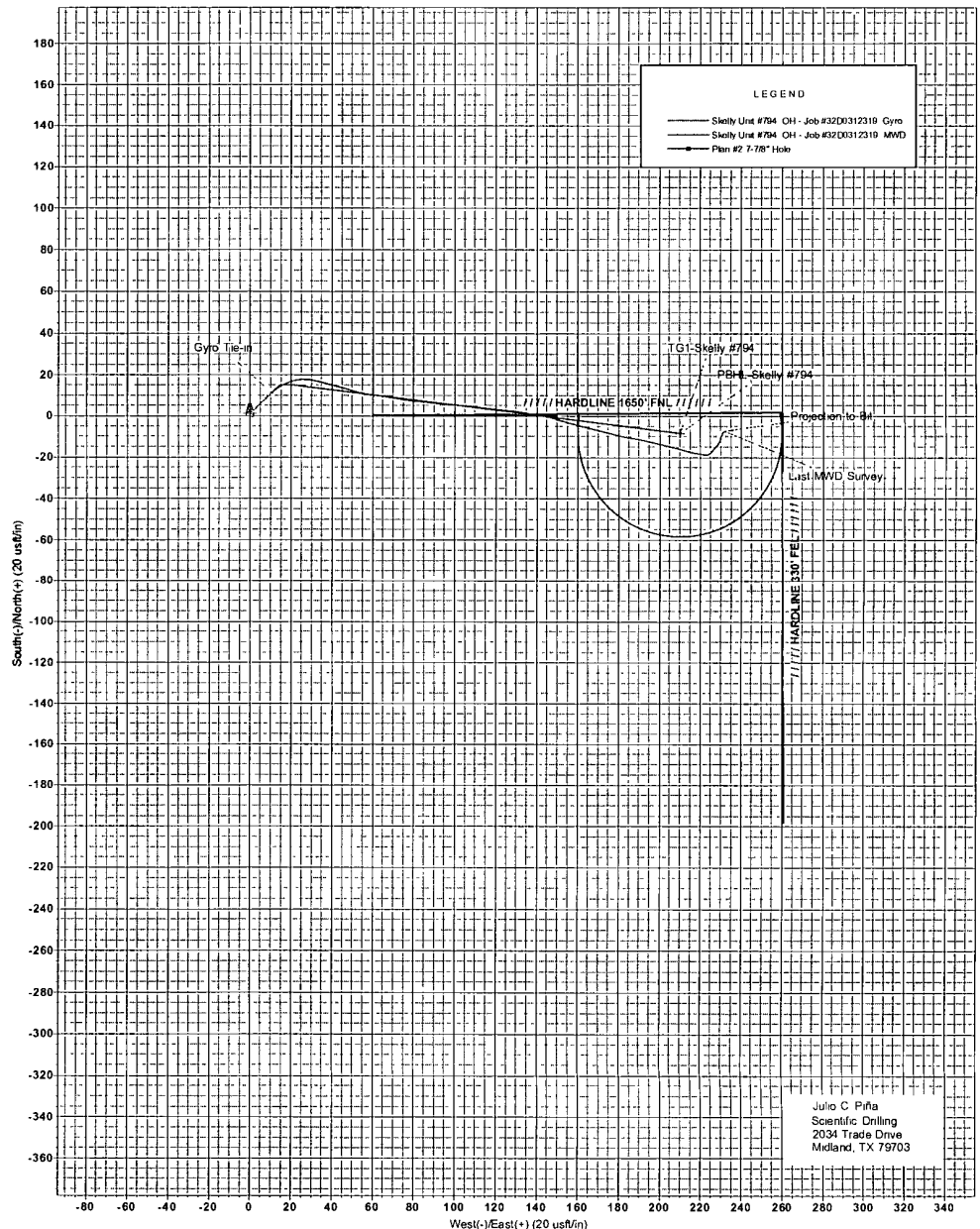
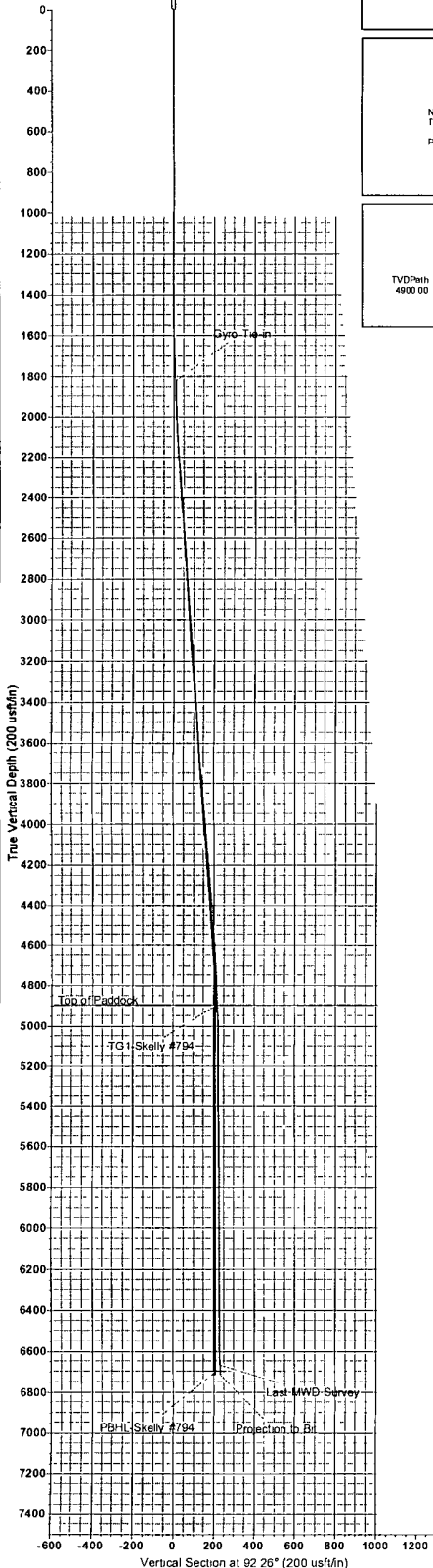
TVDPath	MDPath	Formation	DipAngle	DipDir
4900 00	4907 11	Top of Paddock	0 00	

CASING DETAILS

TVD	MD	Name	Size
1850 00	1850 23	8-5/8" Casing	8-5/8"

PROJECT DETAILS

Eddy County, NM (NAN27 NME)
Geodetic System US State Plane 1927 (Exact solution)
Datum NAD 1927 (NADCON CONUS)
Elevation Clarke 1866
Zone New Mexico East 3001
System Datum Mean Sea Level



Julio C. Pifia
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