

gyro/data

PCUPD-0012306
OIL CONS. DIV.
DIST. 3

Gyrodatta Incorporated
3811 S. Co. Rd. 1285
Odessa, TX. 79765

432/561-8458
Fax: 432/563-7982

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H

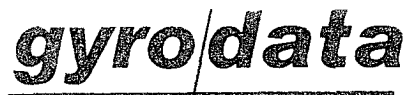
Deviation Survey - OK

SURVEY REPORT

**Williams Production Company, LLC
Rosa Unit No. 362 (KFE)
Aws #473
Rio Arriba County, New Mexico
MD0706G_229**

24 Jul 2006

H



Gyrodata Incorporated
3811 S. Co. Rd. 1285
Odessa, TX. 79765

432/561-8458
Fax: 432/563-7982

July 26, 2006

Williams Production
Attn: Drilling Department
P.O. Box 3102 MS 25-3
Tulsa, Oklahoma 74101

Re: **Rosa Unit No. 362 (KFE)**
Rio Arriba County, New Mexico

Enclosed, please find one (1) original and one (1) disk of the completed survey for the above referenced well.

We would like to take this opportunity to thank you for using Gyrodata, and we look forward to serving you in the future.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jena Tumlin", written over a horizontal line.

Jena Tumlin
Operations

A Gyrodata Directional Survey

for

WILLIAMS PRODUCTION COMPANY, LLC

Lease: Rosa Unit Well: No. 362 (KFE), 2-7/8" Drillpipe
Location: Aws #473, Rio Arriba County, New Mexico

Job Number: MD0706G_229

Run Date: 24 Jul 2006

Surveyor: Richard Costarella; James Butler

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 36.853420 deg. N Longitude: 107.316880 deg. W

Azimuth Correction:

Gyro: Bearings are Relative to True North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

A Gyrodata Directional Survey

Williams Production Company, Llc
 Lease: Rosa Unit Well: No. 362 (KFE), 2-7/8" Drillpipe
 Location: Aws #473, Rio Arriba County, New Mexico
 Job Number: MD0706G_229

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	N 0 0 E	0.00	0.00	0.0 0.0	0.00 N 0.00 E
0 TO 3580 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 2-7/8" DRILLPIPE ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO AWS #473 R.K.B.							
100.00	0.47	88.35	N 88 21 E	0.47	100.00	0.4 88.3	0.01 N 0.41 E
200.00	0.39	104.60	S 75 24 E	0.15	200.00	1.1 93.1	0.06 S 1.15 E
300.00	0.22	173.93	S 6 4 E	0.37	299.99	1.5 102.7	0.34 S 1.49 E
400.00	0.22	164.84	S 15 9 E	0.04	399.99	1.7 114.6	0.72 S 1.57 E
500.00	0.19	164.38	S 15 37 E	0.04	499.99	2.0 122.6	1.06 S 1.66 E
600.00	0.18	162.56	S 17 26 E	0.01	599.99	2.2 128.0	1.37 S 1.75 E
700.00	0.27	168.82	S 11 11 E	0.09	699.99	2.5 133.5	1.75 S 1.85 E
800.00	0.27	180.80	S 0 48 W	0.06	799.99	2.9 139.6	2.22 S 1.89 E
900.00	0.28	131.87	S 48 8 E	0.23	899.99	3.3 141.7	2.62 S 2.07 E
1000.00	0.33	135.69	S 44 19 E	0.05	999.99	3.9 140.7	2.99 S 2.45 E
1100.00	0.47	141.69	S 38 19 E	0.15	1099.99	4.6 140.4	3.52 S 2.91 E
1200.00	0.55	130.90	S 49 6 E	0.13	1199.98	5.5 139.7	4.16 S 3.53 E
1300.00	0.53	131.11	S 48 54 E	0.03	1299.98	6.4 138.4	4.78 S 4.24 E
1400.00	0.60	136.76	S 43 15 E	0.09	1399.97	7.4 137.8	5.46 S 4.94 E
1500.00	0.40	141.74	S 38 15 E	0.21	1499.97	8.2 137.9	6.11 S 5.52 E
1600.00	0.25	145.82	S 34 11 E	0.15	1599.97	8.8 138.3	6.56 S 5.85 E
1700.00	0.08	259.16	S 79 10 W	0.29	1699.97	9.0 138.9	6.75 S 5.90 E
1800.00	0.16	220.57	S 40 34 W	0.11	1799.97	9.0 140.2	6.87 S 5.74 E
1900.00	0.33	183.41	S 3 25 W	0.23	1899.97	9.2 142.2	7.27 S 5.63 E
2000.00	0.70	162.44	S 17 33 E	0.40	1999.96	10.0 144.5	8.14 S 5.80 E

A Gyrodata Directional Survey

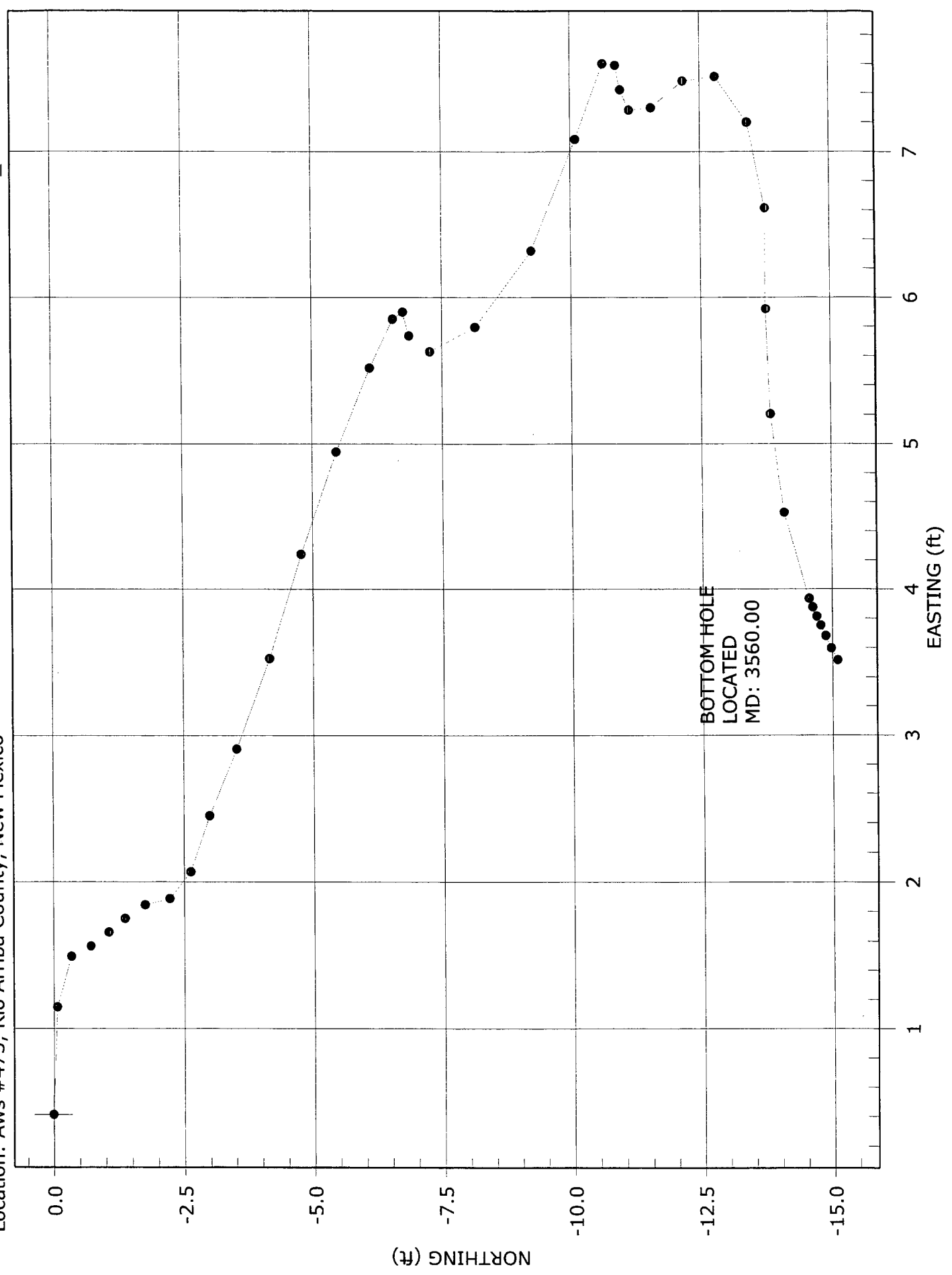
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 Location: Aws #473, Rio Arriba County, New Mexico
 Job Number: MD0706G_229

MEASURED DEPTH feet	I N C L deg.	A Z I M U T H deg.	B O R E H O L E B E A R I N G deg. min.	D O G L E G S E V E R I T Y deg./ 100 ft.	V E R T I C A L D E P T H feet	C L O S U R E D I S T. A Z I M U T H feet deg.	H O R I Z O N T A L C O O R D I N A T E S feet
2100.00	0.71	146.31	S 33 41 E	0.20	2099.95	11.2 145.6	9.23 S 6.32 E
2200.00	0.63	130.22	S 49 47 E	0.20	2199.95	12.3 145.0	10.10 S 7.08 E
2300.00	0.24	151.69	S 28 19 E	0.42	2299.94	13.1 144.4	10.63 S 7.60 E
2400.00	0.14	241.55	S 61 33 W	0.28	2399.94	13.3 145.1	10.87 S 7.59 E
2500.00	0.08	240.07	S 60 4 W	0.07	2499.94	13.2 145.9	10.97 S 7.42 E
2600.00	0.18	210.70	S 30 42 W	0.12	2599.94	13.3 146.8	11.14 S 7.28 E
2700.00	0.34	161.32	S 18 41 E	0.27	2699.94	13.7 147.7	11.56 S 7.30 E
2800.00	0.39	165.33	S 14 40 E	0.05	2799.94	14.3 148.4	12.17 S 7.48 E
2900.00	0.35	190.46	S 10 27 W	0.17	2899.94	14.8 149.6	12.80 S 7.51 E
3000.00	0.47	219.04	S 39 2 W	0.23	2999.94	15.2 151.8	13.41 S 7.20 E
3100.00	0.38	266.57	S 86 34 W	0.35	3099.93	15.3 154.3	13.75 S 6.61 E
3200.00	0.42	272.26	N 87 44 W	0.06	3199.93	15.0 156.7	13.76 S 5.92 E
3300.00	0.41	255.77	S 75 46 W	0.12	3299.93	14.8 159.4	13.83 S 5.20 E
3400.00	0.42	243.69	S 63 41 W	0.09	3399.93	14.8 162.2	14.08 S 4.53 E
3500.00	0.46	220.26	S 40 15 W	0.18	3499.92	15.1 164.9	14.55 S 3.93 E
3510.00	0.56	221.55	S 41 33 W	0.96	3509.92	15.1 165.1	14.62 S 3.88 E
3520.00	0.59	218.13	S 38 8 W	0.49	3519.92	15.2 165.5	14.70 S 3.81 E
3530.00	0.57	214.26	S 34 16 W	0.46	3529.92	15.2 165.8	14.78 S 3.75 E
3540.00	0.77	222.20	S 42 12 W	2.25	3539.92	15.3 166.1	14.87 S 3.68 E
3550.00	0.80	214.15	S 34 9 W	1.13	3549.92	15.4 166.5	14.98 S 3.59 E
3560.00	0.88	212.06	S 32 4 W	0.86	3559.92	15.5 166.9	15.10 S 3.52 E

Final Station Closure: Distance: 15.50 ft Az: 166.90 deg.

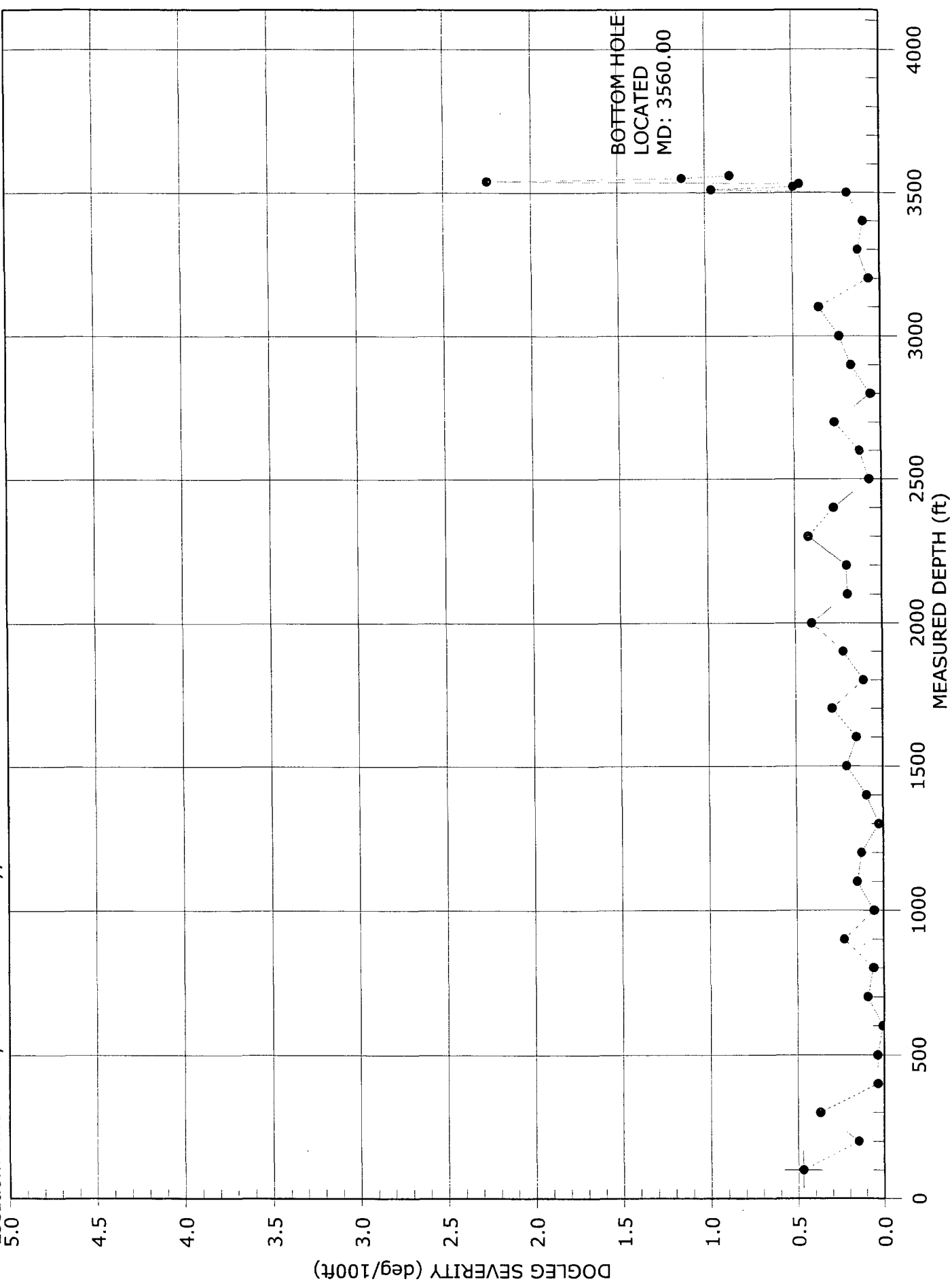
Williams Production Company, Llc
Well: Rosa Unit No. 362 (KFE) 2-7/8" Drillpipe
Location: Aws #473, Rio Arriba County, New Mexico

Inrun
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