

Bakersfield (661-746-0511)
Calgary (403-234-7692)
Houston - Headquarters
(281-495-1100)



Midland (432-697-2228)
Oklahoma (405-677-0567)
Lufkin Automation Website
<http://www.lufkinautomation.com>

SROD v6.8.6 - PREDICTION OF ROD PUMPING SYSTEM PERFORMANCE

WELL NAME : Well 5B 6.5 SPM DATE/TIME : 9/10/2014 8:19:51 PM
ANALYST : Scott Malone COMPANY : Sandia Data
DATA FILE : Sandia Data Well 5B (SnapOn).inp6e (BA WELL TYPE : Deviated
COMMENTS : Test Number: 5A. Test Date July/Aug 1996
Tubing pressure: 205 psi on 8/4/96
Casing pressure: 180 psi (Buildup 10.2 psi in 2 minutes) on 8/4/96
Production: 71 bopd, 340 bwpd, 407.3 mcfpd, 5737 GOR scfph on 8/4/96
Fluid Properties: 35 degree API oil, water specific gravity = 1.01

WARNINGS/NOTIFICATIONS (Please see Input Data Summary Report)

**** PRIME MOVER ****

Mfgr and Type : ROBBINS & MYERS 60 HP (FRAME 444U) (OLD TYPE)
Max Speed (rpm) : 1217 Speed Variation (%) : 4.8
Min Speed (rpm) : 1159 Cyclic Load Factor : 2.197
Power Required (hp) : 23.19 Peak Regenerative Power (hp) : -18.86
Motor Load (% of Rating) : 38.7 Prime Mover Output (hp) : 9.77
Sheave Ratio (Unit/ Prime Mover) : 6.395

**** PUMPING UNIT ****

Mfgr and Type : LUFKIN C640-305-168 WITH 94110B CRANKS (4 pins) (CC'WISE)
Actual Max Load (lbs) : 15257 Actual Min Load (lbs) : 8303
Average Pumping Speed (spm) : 6.5 Max Load (% of Rating) : 50
Polished Rod Power (hp) : 8.79 Unit and Drive Train Loss (hp) : 0.98
Computed Surface Stroke (in) : 169.8

**** SUMMARY OF REDUCER LOADING ****

	<u>IN BALANCE</u>
Max Torque (m in-lbs)	356.8
Min Torque (m in-lbs)	-166.2
Counterbalance Moment (m in-lbs)	1070.9
Counterbalance Effect (X100 lbs)	118.37
Percent of Reducer Rating	55.8

**** ROD LOADING ****

	<u>Diameter (in)</u>	<u>Length (ft)</u>	<u>Modulus (MM psi)</u>	<u>Fr Coeff</u>	<u>Guides</u>	<u>Loading</u>
1)	1 *	1510	30.5	0.2	N (0)	36
2)	0.875	1600	30.5	0.2	N (0)	35
3)	0.75	1700	30.5	0.3	M (0)	32
4)	1.5	250	30.5	0.2	N (0)	5

* Requires slimhole couplings

Norris PPS-Standard guide weights has been considered

Max Stress (surf.) (psi) : 19299 Min Stress (surf.) (psi) : 10699

ROD LOADING AT SURFACE AS % OF RATING

<u>Service Factor</u>	<u>Class C,K</u>	<u>Class D</u>	<u>API D</u>
1	48	36	36
0.9	57	42	42
0.8	71	50	50
0.7	93	63	63

**** DOWNHOLE PERFORMANCE ****

	<u>Stroke (in)</u>	<u>BPD at 100% eff.</u>	<u>BPD at 85% eff.</u>
Gross:	168.7	511 (24h/d)	434 (24h/d)
Net:	168.6	511 (24h/d)	434 (24h/d)

Tubing Stretch (in)	: 0.1	Lost Displacement (bpd)	: 0
Loss Along Rod String (hp)	: 3.95	Pump Power (hp)	: 4.84
Tubing Size (in)	: 2.875	Tubing Anchor Location (ft)	: 4970
Pump Spacing Guide (in)	: N/A	Pump Fillage (%)	: 100

**** Non-Dimensional Variables ****

Fo/S/Kr	: 0.03	N/No'	: 0.13
---------	--------	-------	--------

**** OTHER BASIC DATA ****

Reducer Rating (in-lbs) : 640
Overall Speed Ratio : 182.9
Min/Max Tubing Head Press. (psi) : N/A
Total Load on Pump (lbs) : 1459
Pump Load Adjustment (lbs) : 0
Pump Depth (ft) : 5060
Pump Friction (lbs) : 200
TV Load (lbs) : 12373

Crank Rotation : (CC'WISE) - Well to right
Rod Damping Factors (up/down) : 0.05 / 0.15
Buoyant Rod Weight (lbs) : 10614
Pump Bore Size (in) : 2
Tubing Gradient (psi/ft) : 0.433
Pump Intake Pressure (psi) : 1932
SV Load (lbs) : 10314

**** ROD LOADING AT SPECIAL DEPTHS (Top of Lower Interval) ****

WELL NAME : Well 5B 6.5 SPM DATE/TIME : 9/10/2014 8:19:51 PM
 ANALYST : Scott Malone COMPANY : Sandia Data
 DATA FILE : Sandia Data Well 5B (SnapOn).inp6e (BA WELL TYPE : Deviated
 COMMENTS : Test Number: 5A. Test Date July/Aug 1996
 Tubing pressure: 205 psi on 8/4/96
 Casing pressure: 180 psi (Buildup 10.2 psi in 2 minutes) on 8/4/96
 Production: 71 bopd, 340 bwpd, 407.3 mcfpd, 5737 GOR scfph on 8/4/96
 Fluid Properties: 35 degree API oil, water specific gravity = 1.01

Interval : 1

Depth (ft) : 0 Rod Diameter (in) : 1 *
 Max Stress (psi) : 19299 Min Stress (psi) : 10699
 Min Stress at Bottom (psi) : 5787 Rod Weight (lbs/ft) : 2.904

ROD LOADING AS % OF RATING

<u>Service Factor</u>	<u>Class C,K</u>	<u>Class D</u>	<u>API D</u>
1	48	36	36
0.9	57	42	42
0.8	71	50	50
0.7	93	63	63

Interval : 2

Depth (ft) : 1510 Rod Diameter (in) : 0.875
 Max Stress (psi) : 16731 Min Stress (psi) : 7821
 Min Stress at Bottom (psi) : 3063 Rod Weight (lbs/ft) : 2.224

ROD LOADING AS % OF RATING

<u>Service Factor</u>	<u>Class C,K</u>	<u>Class D</u>	<u>API D</u>
1	47	35	35
0.9	54	40	40
0.8	65	48	48
0.7	81	58	58

Interval : 3

Depth (ft) : 3110 Rod Diameter (in) : 0.75
 Max Stress (psi) : 13295 Min Stress (psi) : 4729
 Min Stress at Bottom (psi) : 95 Rod Weight (lbs/ft) : 1.634

ROD LOADING AS % OF RATING

<u>Service Factor</u>	<u>Class C,K</u>	<u>Class D</u>	<u>API D</u>
1	42	32	32
0.9	48	36	36
0.8	56	42	42
0.7	66	50	50

Interval : 4

Depth (ft) : 4810 Rod Diameter (in) : 1.5
 Max Stress (psi) : -585 Min Stress (psi) : -1692
 Min Stress at Bottom (psi) : -2509 Rod Weight (lbs/ft) : 6

ROD LOADING AS % OF RATING

<u>Service Factor</u>	<u>Class C,K</u>	<u>Class D</u>	<u>User Defined API C</u>
1	5	4	5
0.9	5	4	5
0.8	6	5	6
0.7	7	5	7

Note: if this section is a sinker bar, the rod loading at elevator neck 1" at 1 service factor will be 10%

* Slimhole couplings are required for this rod section.

**** SUGGESTED ROD GUIDES ****

WELL NAME : Well 5B 6.5 SPM DATE/TIME : 9/10/2014 8:19:51 PM
 ANALYST : Scott Malone COMPANY : Sandia Data
 DATA FILE : Sandia Data Well 5B (SnapOn).inp6e (BA WELL TYPE : Deviated
 COMMENTS : Test Number: 5A. Test Date July/Aug 1996
 Tubing pressure: 205 psi on 8/4/96
 Casing pressure: 180 psi (Buildup 10.2 psi in 2 minutes) on 8/4/96
 Production: 71 bopd, 340 bwpd, 407.3 mcfpd, 5737 GOR scfpb on 8/4/96
 Fluid Properties: 35 degree API oil, water specific gravity = 1.01

Rod Number	Interval	Max Side Load	Molded Guides	Wheeled Guides	Rod Taper
From Surface	From (ft) - To (ft)	in Interval	(number/rod)	(number/rod)	Index
		(lbs/rod)			

**** ROD GUIDE DESIGN ****

WELL NAME : Well 5B 6.5 SPM DATE/TIME : 9/10/2014 8:19:51 PM
 ANALYST : Scott Malone COMPANY : Sandia Data
 DATA FILE : Sandia Data Well 5B (SnapOn).inp6e (BA WELL TYPE : Deviated
 COMMENTS : Test Number: 5A. Test Date July/Aug 1996
 Tubing pressure: 205 psi on 8/4/96
 Casing pressure: 180 psi (Buildup 10.2 psi in 2 minutes) on 8/4/96
 Production: 71 bopd, 340 bwpd, 407.3 mcfpd, 5737 GOR scfpb on 8/4/96
 Fluid Properties: 35 degree API oil, water specific gravity = 1.01

Rod Number From Surface	Interval From (ft) - To (ft)		Max Side Load in Interval (lbs/rod)	Molded Guides (number/rod)	Wheeled Guides (number/rod)	Rod Taper Index
1	0	10	0	0	0	1
2	10	35	0	0	0	1
3	35	60	0	0	0	1
4	60	85	0	0	0	1
5	85	110	0	0	0	1
6	110	135	0	0	0	1
7	135	160	0	0	0	1
8	160	185	0	0	0	1
9	185	210	0	0	0	1
10	210	235	0	0	0	1
11	235	260	0	0	0	1
12	260	285	0	0	0	1
13	285	310	0	0	0	1
14	310	335	0	0	0	1
15	335	360	0	0	0	1
16	360	385	0	0	0	1
17	385	410	0	0	0	1
18	410	435	0	0	0	1
19	435	460	0	0	0	1
20	460	485	0	0	0	1
21	485	510	0	0	0	1
22	510	535	0	0	0	1
23	535	560	0	0	0	1
24	560	585	0	0	0	1
25	585	610	0	0	0	1
26	610	635	0	0	0	1
27	635	660	0	0	0	1
28	660	685	0	0	0	1
29	685	710	0	0	0	1
30	710	735	0	0	0	1
31	735	760	0	0	0	1
32	760	785	0	0	0	1
33	785	810	0	0	0	1
34	810	835	0	0	0	1
35	835	860	0	0	0	1
36	860	885	0	0	0	1
37	885	910	0	0	0	1
38	910	935	0	0	0	1
39	935	960	0	0	0	1
40	960	985	0	0	0	1
41	985	1010	0	0	0	1
42	1010	1035	0	0	0	1
43	1035	1060	0	0	0	1
44	1060	1085	0	0	0	1
45	1085	1110	0	0	0	1
46	1110	1135	0	0	0	1
47	1135	1160	0	0	0	1
48	1160	1185	0	0	0	1
49	1185	1210	0	0	0	1
50	1210	1235	0	0	0	1
51	1235	1260	0	0	0	1
52	1260	1285	0	0	0	1
53	1285	1310	0	0	0	1
54	1310	1335	0	0	0	1
55	1335	1360	0	0	0	1
56	1360	1385	0	0	0	1
57	1385	1410	0	0	0	1

58	1410	1435	0	0	0	1
59	1435	1460	0	0	0	1
60	1460	1485	0	0	0	1
61	1485	1510	0	0	0	1
62	1510	1535	0	0	0	2
63	1535	1560	0	0	0	2
64	1560	1585	0	0	0	2
65	1585	1610	0	0	0	2
66	1610	1635	0	0	0	2
67	1635	1660	0	0	0	2
68	1660	1685	0	0	0	2
69	1685	1710	0	0	0	2
70	1710	1735	0	0	0	2
71	1735	1760	0	0	0	2
72	1760	1785	0	0	0	2
73	1785	1810	0	0	0	2
74	1810	1835	0	0	0	2
75	1835	1860	0	0	0	2
76	1860	1885	0	0	0	2
77	1885	1910	0	0	0	2
78	1910	1935	0	0	0	2
79	1935	1960	0	0	0	2
80	1960	1985	0	0	0	2
81	1985	2010	0	0	0	2
82	2010	2035	0	0	0	2
83	2035	2060	0	0	0	2
84	2060	2085	0	0	0	2
85	2085	2110	0	0	0	2
86	2110	2135	0	0	0	2
87	2135	2160	0	0	0	2
88	2160	2185	0	0	0	2
89	2185	2210	0	0	0	2
90	2210	2235	0	0	0	2
91	2235	2260	0	0	0	2
92	2260	2285	0	0	0	2
93	2285	2310	0	0	0	2
94	2310	2335	0	0	0	2
95	2335	2360	0	0	0	2
96	2360	2385	0	0	0	2
97	2385	2410	0	0	0	2
98	2410	2435	0	0	0	2
99	2435	2460	0	0	0	2
100	2460	2485	0	0	0	2
101	2485	2510	0	0	0	2
102	2510	2535	0	0	0	2
103	2535	2560	0	0	0	2
104	2560	2585	0	0	0	2
105	2585	2610	0	0	0	2
106	2610	2635	0	0	0	2
107	2635	2660	0	0	0	2
108	2660	2685	0	0	0	2
109	2685	2710	0	0	0	2
110	2710	2735	0	0	0	2
111	2735	2760	0	0	0	2
112	2760	2785	0	0	0	2
113	2785	2810	0	0	0	2
114	2810	2835	0	0	0	2
115	2835	2860	0	0	0	2
116	2860	2885	0	0	0	2
117	2885	2910	0	0	0	2
118	2910	2935	0	0	0	2
119	2935	2960	0	0	0	2
120	2960	2985	0	0	0	2
121	2985	3010	0	0	0	2
122	3010	3035	0	0	0	2
123	3035	3060	0	0	0	2
124	3060	3085	0	0	0	2
125	3085	3110	0	0	0	2
126	3110	3135	0	0	0	3
127	3135	3160	0	0	0	3
128	3160	3185	0	0	0	3
129	3185	3210	0	0	0	3
130	3210	3235	0	0	0	3
131	3235	3260	0	0	0	3
132	3260	3285	0	0	0	3
133	3285	3310	0	0	0	3
134	3310	3335	0	0	0	3
135	3335	3360	0	0	0	3
136	3360	3385	0	0	0	3

137	3385	3410	0	0	0	3
138	3410	3435	0	0	0	3
139	3435	3460	0	0	0	3
140	3460	3485	0	0	0	3
141	3485	3510	0	0	0	3
142	3510	3535	0	0	0	3
143	3535	3560	0	0	0	3
144	3560	3585	0	0	0	3
145	3585	3610	0	0	0	3
146	3610	3635	0	0	0	3
147	3635	3660	0	0	0	3
148	3660	3685	0	0	0	3
149	3685	3710	0	0	0	3
150	3710	3735	0	0	0	3
151	3735	3760	0	0	0	3
152	3760	3785	0	0	0	3
153	3785	3810	0	0	0	3
154	3810	3835	0	0	0	3
155	3835	3860	0	0	0	3
156	3860	3885	0	0	0	3
157	3885	3910	0	0	0	3
158	3910	3935	0	0	0	3
159	3935	3960	0	0	0	3
160	3960	3985	0	0	0	3
161	3985	4010	0	0	0	3
162	4010	4035	0	0	0	3
163	4035	4060	0	0	0	3
164	4060	4085	0	0	0	3
165	4085	4110	0	0	0	3
166	4110	4135	0	0	0	3
167	4135	4160	0	0	0	3
168	4160	4185	0	0	0	3
169	4185	4210	0	0	0	3
170	4210	4235	0	0	0	3
171	4235	4260	0	0	0	3
172	4260	4285	0	0	0	3
173	4285	4310	0	0	0	3
174	4310	4335	0	0	0	3
175	4335	4360	0	0	0	3
176	4360	4385	0	0	0	3
177	4385	4410	0	0	0	3
178	4410	4435	0	0	0	3
179	4435	4460	0	0	0	3
180	4460	4485	0	0	0	3
181	4485	4510	0	0	0	3
182	4510	4535	0	0	0	3
183	4535	4560	0	0	0	3
184	4560	4585	0	0	0	3
185	4585	4610	0	0	0	3
186	4610	4635	0	0	0	3
187	4635	4660	0	0	0	3
188	4660	4685	0	0	0	3
189	4685	4710	0	0	0	3
190	4710	4735	0	0	0	3
191	4735	4760	0	0	0	3
192	4760	4785	0	0	0	3
193	4785	4810	0	0	0	3
194	4810	4835	0	0	0	4
195	4835	4860	0	0	0	4
196	4860	4885	0	0	0	4
197	4885	4910	0	0	0	4
198	4910	4935	0	0	0	4
199	4935	4960	0	0	0	4
200	4960	4985	0	0	0	4
201	4985	5010	0	0	0	4
202	5010	5035	0	0	0	4
203	5035	5060	0	0	0	4

WELL NAME : Well 5B 6.5 SPM DATE/TIME : 9/10/2014 8:19:52 PM
ANALYST : Scott Malone COMPANY : Sandia Data
DATA FILE : Sandia Data Well 5B (SnapOn).inp6e (BA WELL TYPE : Deviated
COMMENTS : Test Number: 5A. Test Date July/Aug 1996
Tubing pressure: 205 psi on 8/4/96
Casing pressure: 180 psi (Buildup 10.2 psi in 2 minutes) on 8/4/96
Production: 71 bopd, 340 bwpd, 407.3 mcfpd, 5737 GOR scfcpb on 8/4/96
Fluid Properties: 35 degree API oil, water specific gravity = 1.01

WELL NAME	: Well 5B	6.5 SPM
ANALYST	: Scott Malone	
COMPANY	: Sandia Data	
PUMPING UNIT ID	: LC640-305-168	
(Description)	(LUFKIN C640-305-168 WITH 94110B CRANKS (4 pins))	
MOTOR ID	: RM60HP	
(Description)	(ROBBINS & MYERS 60 HP (FRAME 444U) (OLD TYPE))	
C'BAL OPTION	: SROD Defined	
COUNTERBALANCE MOMENT (in-lbs)	: 0	
CRANK HOLE	: 1 - 169.8 (in)	
ROTATION OF UNIT	: CC'WISE	
SPEED VARIATION	: VARIED	
PUMP DEPTH (ft)	: 5060	
PUMP DIAMETER (in)	: 2	
PUMP INTAKE PRESSURE (psi)	: 1931.5	
PERCENT COMPLETE PUMP FILLAGE	: 100	
PUMPING SPEED (SPM)	: 6.5	
TUBINGHEAD PRESSURE (psi)	: 205	
TUBING ANCHOR DEPTH (ft)	: 4970	
TUBING GRADIENT (psi/ft)	: 0.433	
TUBING SIZE	: 3 - 2 7/8 in.	

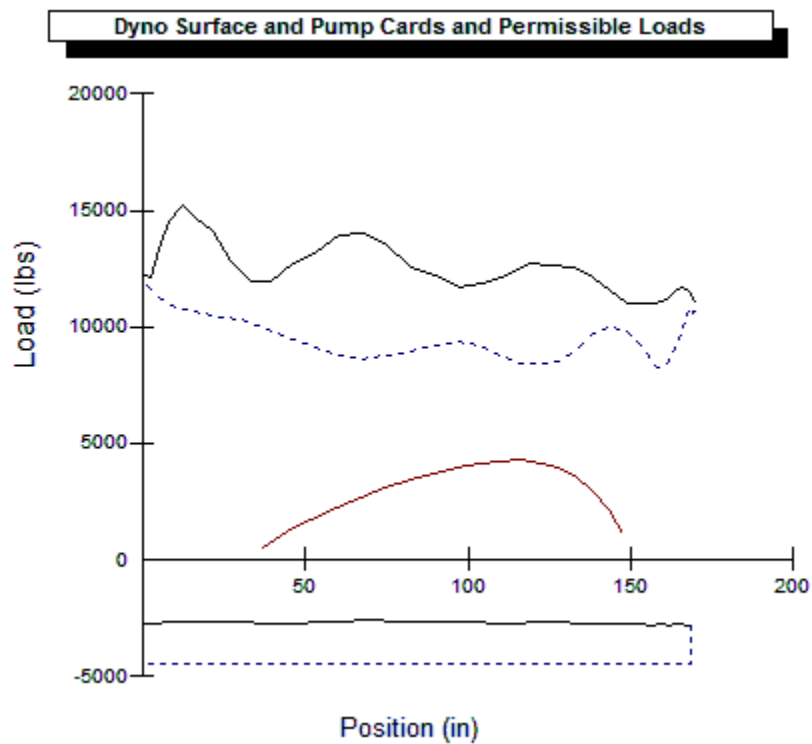
ROD	STRING DESIGN OPTION			SPECIFY ROD DESIGN		
	Diameter (in)	Length (ft)	Tensile (psi)	Modulus (MM psi)	Weight (lbs/ft)	Guide Type
1)	API D					
	1	1510	115000	30.5	2.904	N
2)	API D					
	0.875	1600	115000	30.5	2.224	N
3)	API D					
	0.75	1700	115000	30.5	1.634	M
4)	API C					
	1.5	250	90000	30.5	6	N
SERVICE FACTOR				:	1.	
ELECTRIC COST (cents/kwh)				:	10	
UPSTROKE DAMPING FACTOR				:	0.05	
DOWNSTROKE DAMPING FACTOR				:	0.15	
PUMP FRICTION (lbs)				:	200	
STUFFING BOX FRICTION (lbs)				:	100	
PUMP LOAD ADJUSTMENT (lbs)				:	0	
BUOYANT WEIGHT ADJUSTMENT (lbs)				:	0	
PUMP LOAD COEFFICIENT (lbs/ft/sec)				:	5	
Run Time (h/d)				:	24	
MAX SIDE LOAD FOR BASE ROD (lbs/rod)				:	50	
MAX SIDE LOAD FOR MOLDED GUIDE (lbs/rod)				:	40	
MAX SIDE LOAD FOR WHEELED GUIDE (lbs/rod)				:	200	
ROD FRICTION COEFFICIENT				:	0.2	
MOLDED GUIDE FRICTION RATIO				:	1.5	
WHEELED GUIDE FRICTION RATIO				:	0.1	
OTHER GUIDE FRICTION RATIO				:	2	
WELL DEVIATION SURVEY				:	See Well Deviation Report	
Auto Add Rod Guide Weights						

**** WARNINGS / NOTIFICATIONS ****

Slimhole couplings have been added.

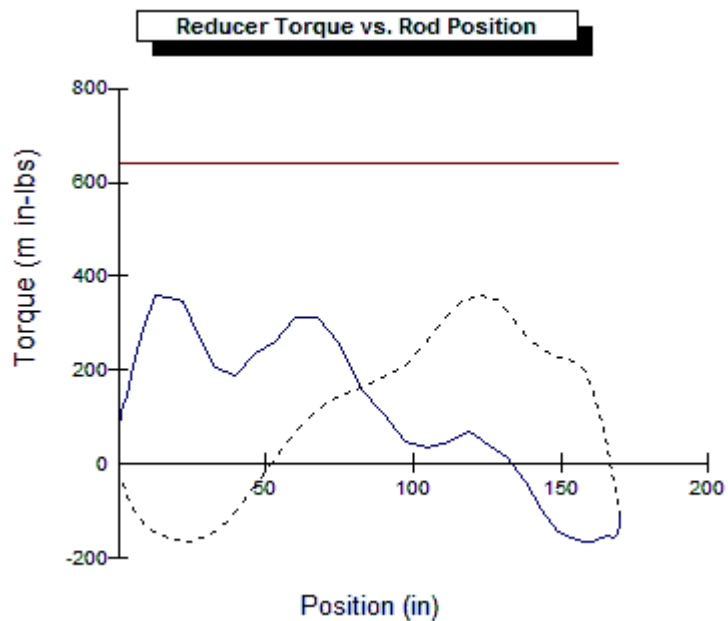
**** DYNO GRAPH ****

WELL NAME : Well 5B 6.5 SPM
ANALYST : Scott Malone
DATE/TIME : 9/10/2014 8:19:52 PM
DATA FILE : Sandia Data Well 5B (SnapOn).inp6e (BA WELL TYPE : Deviated
COMPANY : Sandia Data
COMMENTS : Test Number: 5A. Test Date July/Aug 1996
Tubing pressure: 205 psi on 8/4/96
Casing pressure: 180 psi (Buildup 10.2 psi in 2 minutes) on 8/4/96
Production: 71 bopd, 340 bwpd, 407.3 mcfpd, 5737 GOR scfpb on 8/4/96
Fluid Properties: 35 degree API oil, water specific gravity = 1.01



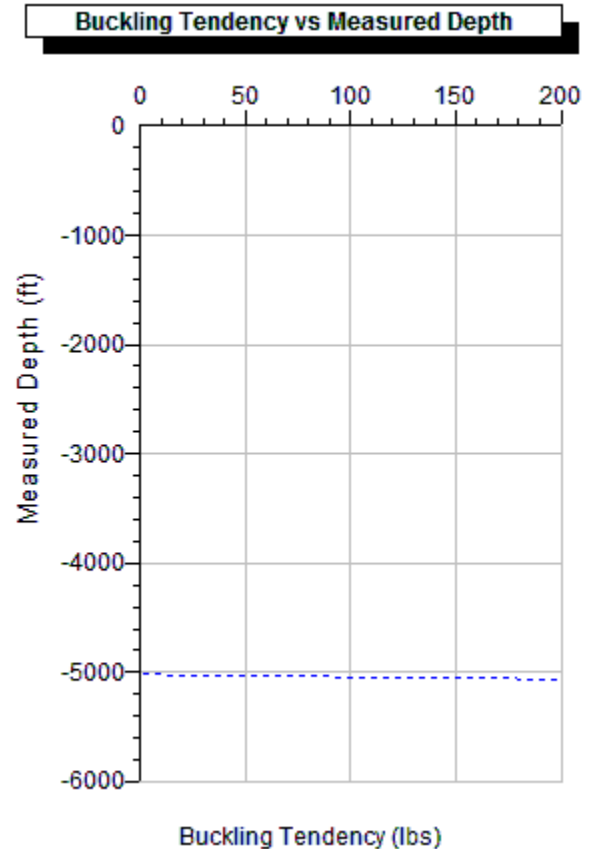
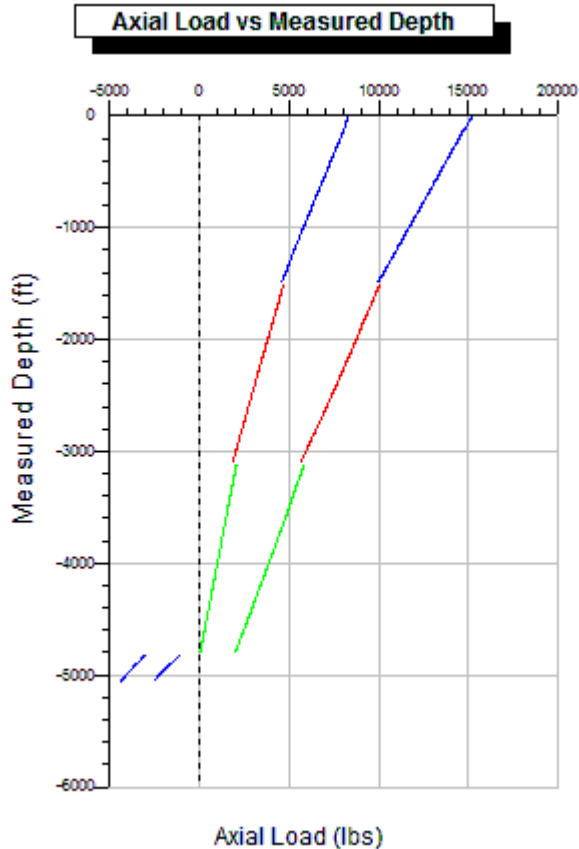
**** REDUCER TORQUE ****

WELL NAME : Well 5B 6.5 SPM
ANALYST : Scott Malone
DATE/TIME : 9/10/2014 8:19:52 PM
DATA FILE : Sandia Data Well 5B (SnapOn).inp6e (BA WELL TYPE : Deviated
COMPANY : Sandia Data
COMMENTS : Test Number: 5A. Test Date July/Aug 1996
Tubing pressure: 205 psi on 8/4/96
Casing pressure: 180 psi (Buildup 10.2 psi in 2 minutes) on 8/4/96
Production: 71 bopd, 340 bwpd, 407.3 mcfpd, 5737 GOR scfpb on 8/4/96
Fluid Properties: 35 degree API oil, water specific gravity = 1.01



**** AXIAL LOAD ~ BUCKLING TENDENCY ****

WELL NAME : Well 5B 6.5 SPM
 ANALYST : Scott Malone
 DATA FILE : Sandia Data Well 5B (SnapOn).inp6e (BA WELL TYPE : Deviated
 COMMENTS : Test Number: 5A. Test Date July/Aug 1996
 Tubing pressure: 205 psi on 8/4/96
 Casing pressure: 180 psi (Buildup 10.2 psi in 2 minutes) on 8/4/96
 Production: 71 bopd, 340 bwpd, 407.3 mcfpd, 5737 GOR scfpb on 8/4/96
 Fluid Properties: 35 degree API oil, water specific gravity = 1.01



Rod Type	Rod Diam in (in)	Max Load (lbs)	Min Load (lbs)	Max Stress (psi)	Min Stress (psi)	Rod Load @ 1 %
1. API D	1	15157	8403	19299	10699	36
2. API D	0.875	10061	4703	16731	7821	35
3. API D	0.75	5873	2089	13295	4729	32
4. API C	1.5	-1033	-2991	-585	-1692	5

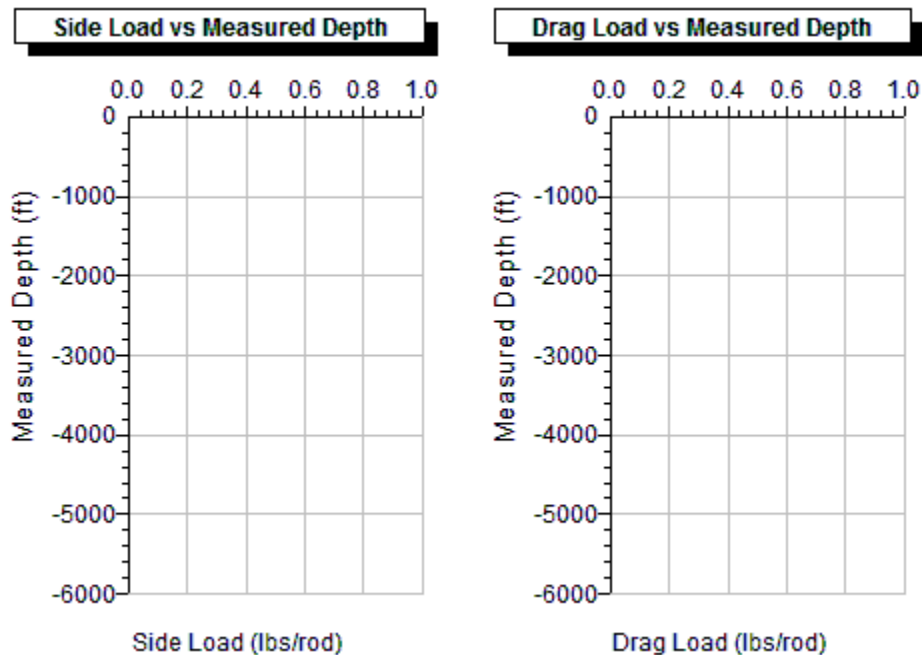
Max Buckling (lbs) : 199
 Location of Max Buckling (ft) : 5060
 Buckling Starts at (ft) : 5026
 Buckling tendency does not include buoyancy forces because buoyancy forces do not cause buckling.

*** Neutral Point in Rod String (Buoyancy Considered) ***

Measured Depth (ft) : 4815
 Rod Diameter (in) : 1.5
 Max/Min Load (lbs) : -1065/-3018
 Buckling Tendency (lbs) : 0

**** SIDE/DRAG LOAD ****

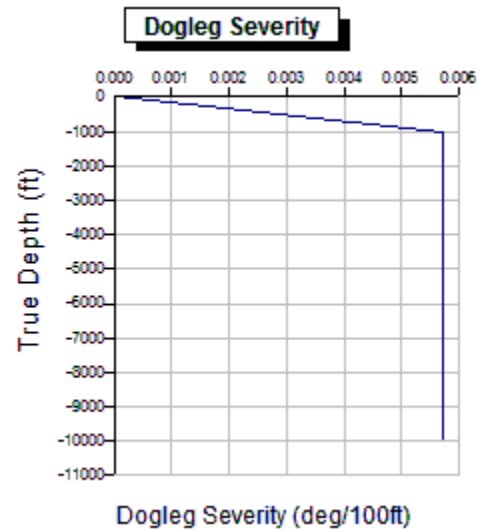
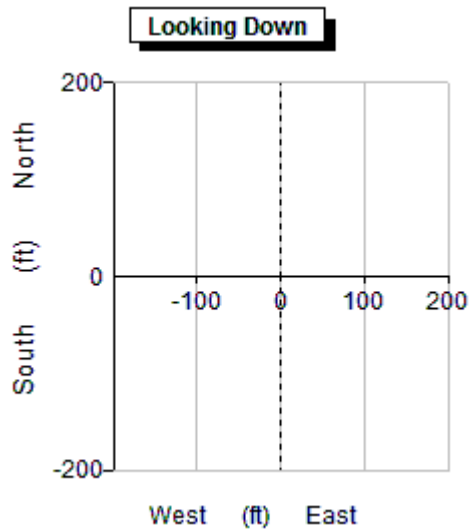
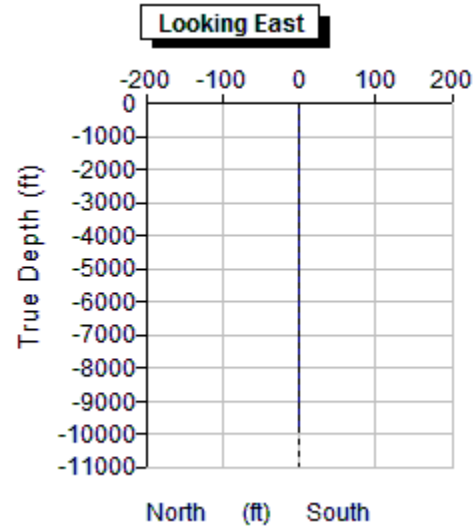
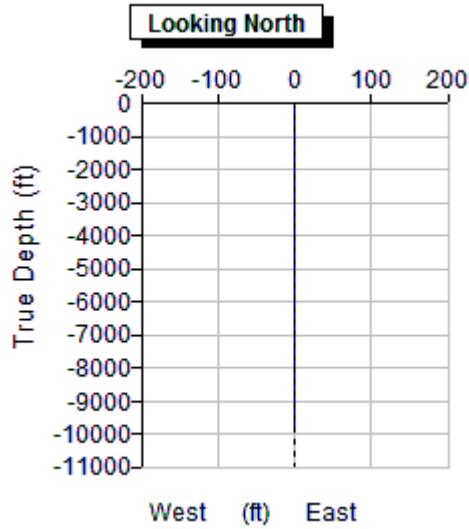
WELL NAME : Well 5B 6.5 SPM
 ANALYST : Scott Malone
 DATA FILE : Sandia Data Well 5B (SnapOn).inp6e (BA WELL TYPE : Deviated
 COMMENTS : Test Number: 5A. Test Date July/Aug 1996
 Tubing pressure: 205 psi on 8/4/96
 Casing pressure: 180 psi (Buildup 10.2 psi in 2 minutes) on 8/4/96
 Production: 71 bopd, 340 bwpd, 407.3 mcfpd, 5737 GOR scfpb on 8/4/96
 Fluid Properties: 35 degree API oil, water specific gravity = 1.01



Max Side Load (lbs/rod) : 0
 Max Drag Load (lbs/rod) : 0
 Rod Length for Steel/Fiberglass (ft/ft) : 25/37.5

**** WELL DEVIATION ****

WELL NAME : Well 5B 6.5 SPM
ANALYST : Scott Malone
DATE/TIME : 9/10/2014 8:19:52 PM
DATA FILE : Sandia Data Well 5B (SnapOn).inp6e (BA COMPANY : Sandia Data
WELL TYPE : Deviated
COMMENTS : Test Number: 5A. Test Date July/Aug 1996
Tubing pressure: 205 psi on 8/4/96
Casing pressure: 180 psi (Buildup 10.2 psi in 2 minutes) on 8/4/96
Production: 71 bopd, 340 bwpd, 407.3 mcfpd, 5737 GOR scfpb on 8/4/96
Fluid Properties: 35 degree API oil, water specific gravity = 1.01



MD (ft)	INC (deg)	Azimuth (deg)	TVD (ft)	N-S (ft)	E-W (ft)	Dogleg Severity (deg/100ft)
0.00	0.00	0.00	0.00	0.00N	0.00E	0.00
1000.00	0.00	0.00	1000.00	0.00N	0.00E	0.01
3000.00	0.00	0.00	3000.00	0.00N	0.00E	0.01
8000.00	0.00	0.00	8000.01	0.00N	0.00E	0.01
10000.00	0.00	0.00	10000.01	0.00N	0.00E	0.01