

RODSTAR 3.6.33

Company: Sandia Data

Well: Well 5A

Disk file: Sandia Data Well 5A(SnapOn).rsdx

Comment: Test Number: 5A. Test Date July/Aug 1996

Theta Oilfield Services, Inc.

(gotheta.com)

Norris/AOT DAL

432-561-8101

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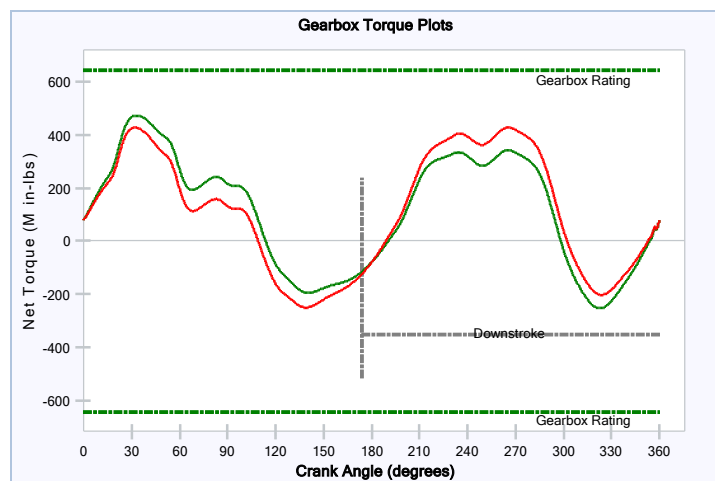
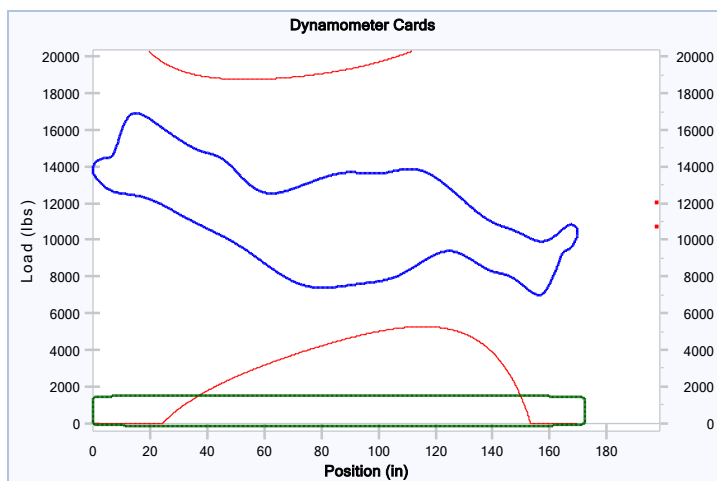
User: Scott Malone 432-559-2005

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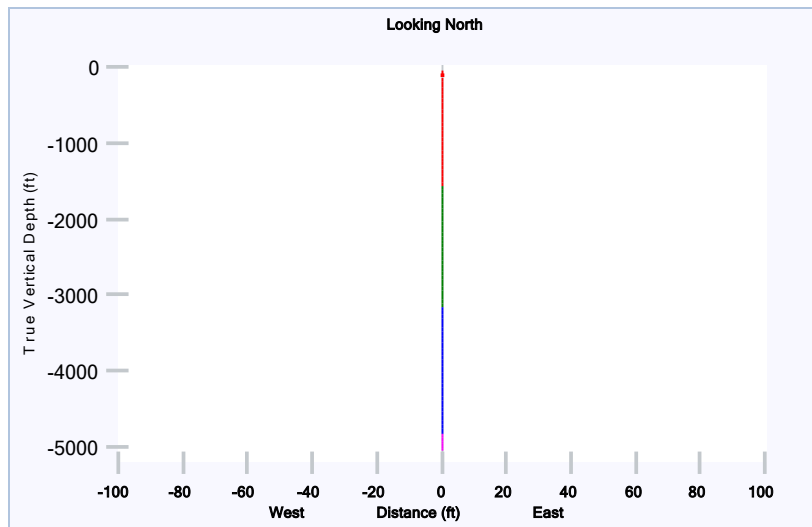
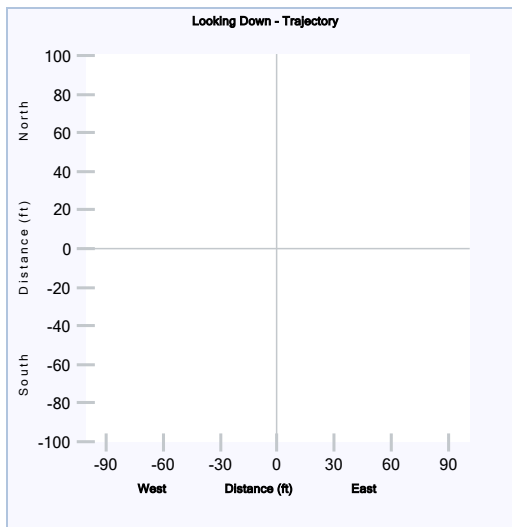
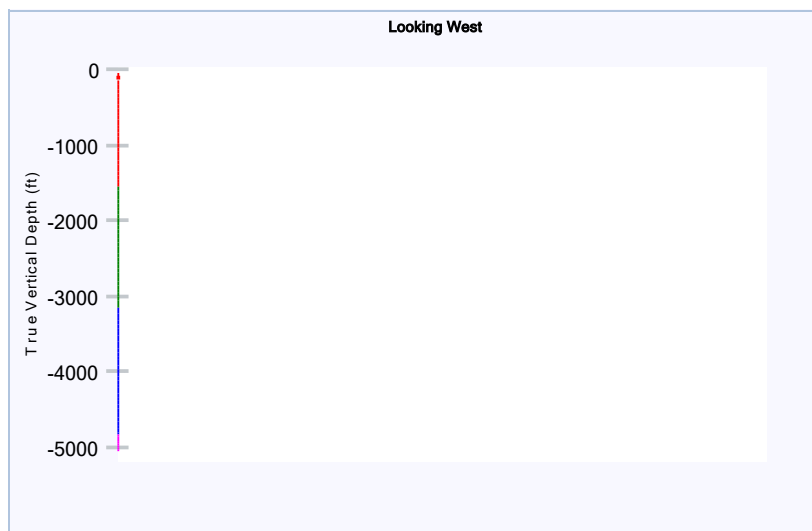
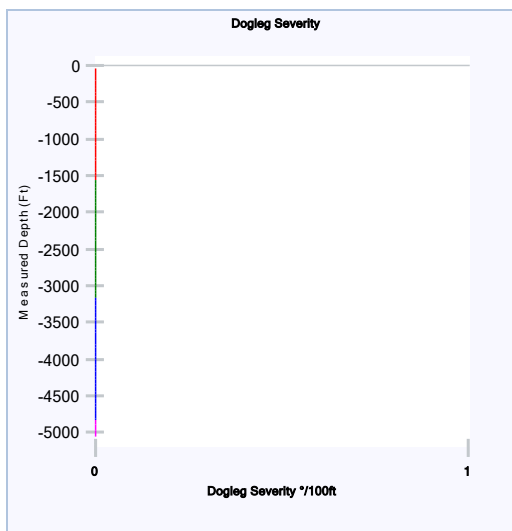
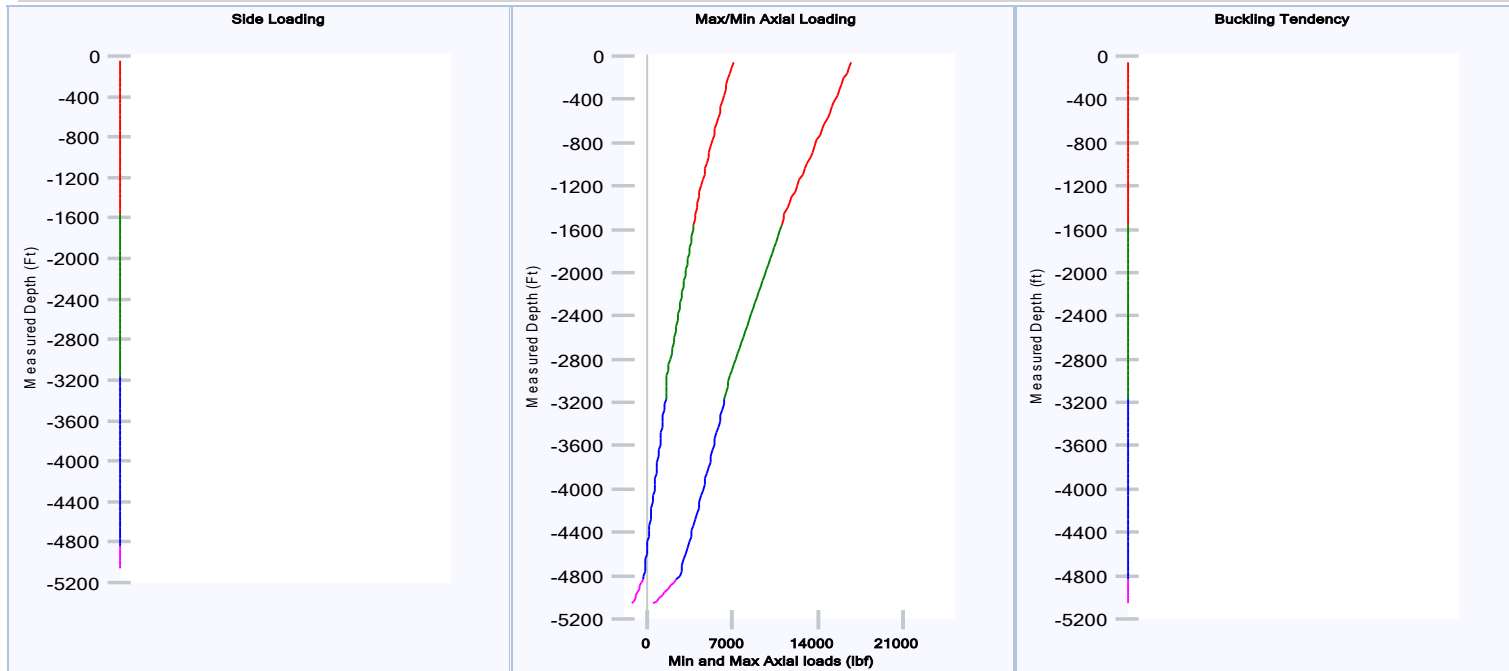
INPUT DATA				CALCULATED RESULTS							
Strokes per minute:		9.1	Fluid level		Production rate (bfpd):		621	Peak pol. pod load (lbs):		16926	
Run time (hrs/day):		24.0	(ft from surface):		293	Oil production (BOPD):		93	Min. pol. rod load (lbs):		6980
Tubing pres. (psi):		205	(ft over pump):		4767	Strokes per minute:		9.1	MPRL/PPRL:		0.412
Casing pres. (psi):		180	Stuf.box fr. (lbs):		100	System eff. (Motor->Pump):		5%	Unit struct. loading:		55%
			Pol. rod. diam. 1.25"			Permissible load HP:		74.4	PRHP / PLHP:		0.20
Fluid Properties		Motor & Power Meter				Fluid load on pump (lbs):		1327	Buoyant rod weight (lbs):		10694
Water cut:		85%	Power meter Detent			Fluid level tvd (ft from surface):		293	N/No: .195 , Fo/SKr: .026		
Water sp. gravity:		1.01	Elect. cost: \$.06/KWH			Polished rod HP:		14.9			
Oil API gravity:		35.0	Type: NEMA D			Required prime mover size (speed var. not included)		BALANCED (Min. Energy)		BALANCED (Min Torq)	
Fluid sp. gravity:		0.982				NEMA D motor:		50 HP	50 HP		
						Single/double cyl. engine:		40 HP	40 HP		
						Multicylinder Engine:		50 HP	50 HP		
Pumping Unit:Lufkin Conventional - New				Torque analysis and electricity consumption		BALANCED (Min. Energy)		BALANCED (Min Torq)			
API Size: C-640-305-168 (Unit ID: CL10)						Peak g'box torq.(M in-lbs):		472	427		
Crank hole number:		# 1 (out of 4)				Gearbox loading:		73.8%	66.7%		
Calculated stroke length (in):		169.8				Cyclic load factor:		2.207	2.287		
Crank rotation with well to right:		CCW				Max. cb moment (M in-lbs):		1069.1	1153.94		
Max. cb moment (M in-lbs):		Unknown				Counterbalance effect(lbs):		11814	12871		
Structural unbalance (lbs):		-1500				Daily electr.use (Kwh/Day):		515	524		
Crank offset angle (degrees):		0.0				Monthly electric bill:		\$942	\$960		
						Electr.cost per bbl fluid:		\$0.050	\$0.051		
						Electr.cost per bbl oil:		\$0.331	\$0.338		
Tubing And Pump Information				Tubing, Pump And Plunger Calculations							
Tubing O.D. (in):		2.875	Upstr. rod-fl. damp. coeff.:		0.100	Tubing stretch (in):		.0			
Tubing I.D. (in):		2.441	Dnstr. rod-fl. damp. coeff.:		0.100	Prod. loss due to tubing stretch (bfpd):		0.1			
Pump depth (ft):		5060	Tub.anch.depth (ft):		4970	Gross pump stroke (in):		172.3			
Pump conditions:		Full				Pump spacing (in. from bottom):		15.2			
Pump type:		Insert	Pump vol. efficiency:		85%	Minimum pump length (ft):		21.0			
Plunger size (in):		2	Pump friction (lbs):		200.0	Recommended plunger length (ft):		4.0			
Rod string design					Rod string stress analysis (service factor: 1)						
Diameter (inches)	Rod Grade	Length (ft)	Min. Ten. Str. (psi)	Fric. Coeff	Stress Load %	Top Maximum Stress (psi)	Top Minimum Stress (psi)	Bot. Minimum Stress (psi)	# Guides/Rod		
+ 1	D (API)	1510	115000	0.2	50.0%	21423	9015	5539	0		
0.875	D (API)	1600	115000	0.2	47.0%	18942	6845	3587	0		
0.75	D (API)	1700	115000	0.3	41.2%	15302	4222	757	2		
@ 1.5	C (API. SB)	250	90000	0.3	16.2%	3363	-314	-113	4		

+requires slimhole couplings. @ stress calculations based on elevator neck of 7/8 (for 1.25 sinker bars) or 1 (for other sinker bars).

NOTE: Displayed bottom minimum stress calculations do not include buoyancy effects (top minimum and maximum stresses always include buoyancy).



DEVIATION SURVEY PLOT



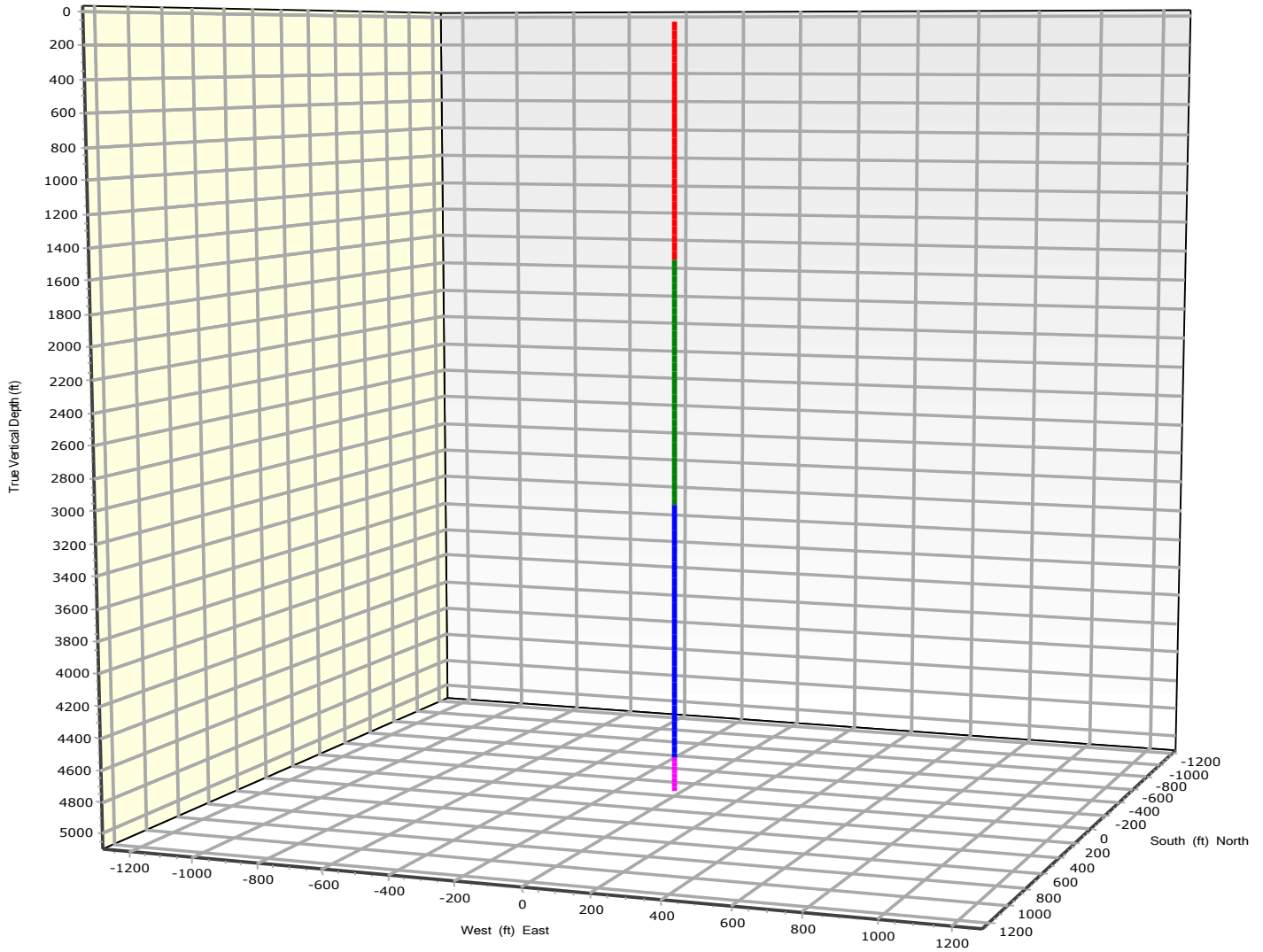
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Rod Diameters	1"	7/8"	3/4"	1 1/2"
# Guides/Rod:	0	0	2	4

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MEASURED DEVIATION SURVEY

MD (ft)	Inclination (°)	Azimuth (°)	Dogleg sev. °/100ft	TVD (ft)	N-S (ft)	E-W (ft)
0	0	0	0	0	0	0
2000	0	0				
4000	0	0				
9000	0	0				
11000	0	0				