Company:Sandia Data
Well:Well 5B
Disk file:Sandia Data Well 5B (SnapOn).rsdx
Comment:Test Number: 5B. Test Date July/Aug 1996

Theta Oilfield Services, Inc. (gotheta.com)
Norris/AOT DAL
432-561-8101

User:Scott Malone 432-559-2005

Date:9/12/2014

INPUT DATA

Strokes per minute:	6.5	Fluid level	
Run time (hrs/day):	24.0	(ft from surface):	293
Tubing pres. (psi):	205	(ft over pump):	4767
Casing pres. (psi):	180	Stuf.box fr. (lbs):	100
		Pol. rod. diam.	1.25"

Fluid Properties

Water cut:	85%
Water sp. gravity:	1.01
Oil API gravity:	35.0
Fluid sp. gravity:	0.987

Motor & Power Meter

Power meter	Detent
Elect. cost:	$.06/KWH
Type:	NEMA D

Pumping Unit:Lufkin Conventional - New

API Size: C-640-305-168 (Unit ID: CL10)	
Crank hole number:	# 1 (out of 4)
Calculated stroke length (in):	169.8
Crank rotation with well to right:	CCW
Max. cb moment (M in-lbs):	Unknown
Structural unbalance (lbs):	-1500
Crank offset angle (degrees):	0.0

Tubing And Pump Information

Tubing O.D. (in):	2.875	Upstr. rod-fl. damp. coeff.:	0.100
Tubing I.D. (in):	2.441	Dnstr. rod-fl. damp. coeff.:	0.100
Pump depth (ft):	5060	Tub.anch.depth (ft):	4970
Pump conditions:	Full		
Pump type:	Insert	Pump vol. efficiency:	85%
Plunger size (in):	2	Pump friction (lbs):	200.0

CALCULATED RESULTS

Production rate (bfpd):	433	Peak pol. pod load (lbs):	15334
Oil production (BOPD):	65	Min. pol. rod load (lbs):	8214
Strokes per minute:	6.5	MPRL/PPRL:	0.536
System eff. (Motor->Pump):	6%	Unit struct. loading:	50%
Permissible load HP:	52.9	PRHP / PLHP:	0.17
Fluid load on pump (lbs):	1361	Buoyant rod weight (lbs):	10687
Fluid level tvd (ft from surface):	293	N/No: .139 , Fo/SKr: .027	
Polished rod HP:	8.8		

Required prime mover size (speed var. not included): BALANCED (Min Torq)

NEMA D motor:	25 HP
Single/double cyl. engine:	25 HP
Multicylinder Engine:	25 HP

Torque analysis and electricity consumption: BALANCED (Min Torq)

Peak g'box torq.(M in-lbs):	358
Gearbox loading:	55.9%
Cyclic load factor:	2.129
Max. cb moment (M in-lbs):	1085.75
Counterbalance effect(lbs):	12021
Daily electr.use (Kwh/Day):	301
Monthly electric bill:	$550
Electr.cost per bbl fluid:	$0.042
Electr.cost per bbl oil:	$0.277

Tubing, Pump And Plunger Calculations

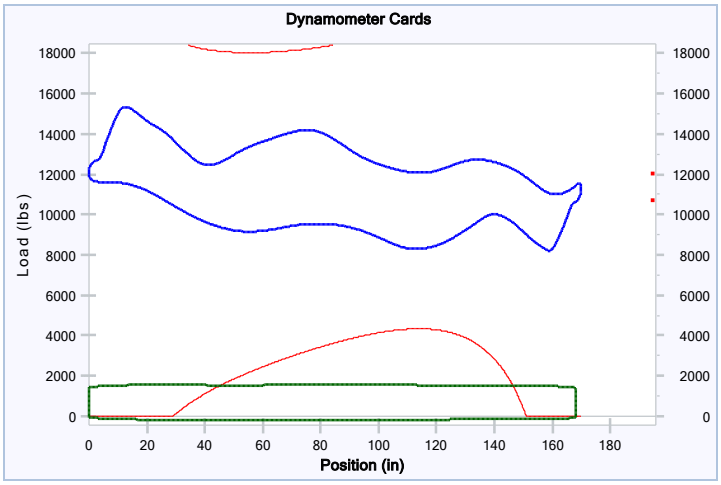
Tubing stretch (in):	.0
Prod. loss due to tubing stretch (bfpd):	0.1
Gross pump stroke (in):	168.2
Pump spacing (in. from bottom):	15.2
Minimum pump length (ft):	21.0
Recommended plunger length (ft):	4.0

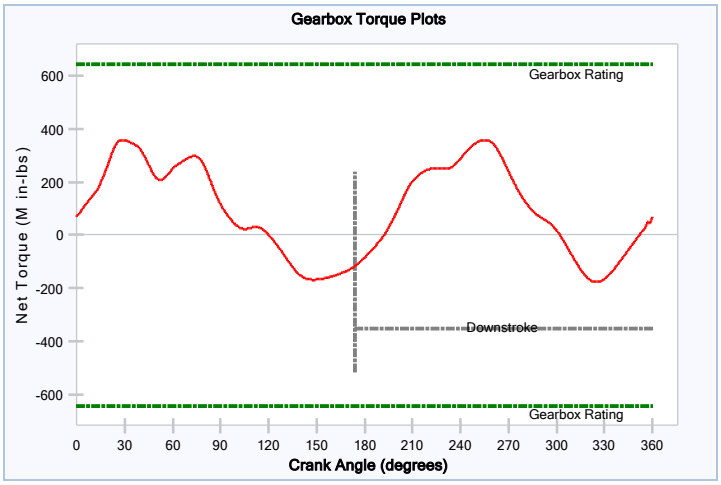
Rod string design

Rod string stress analysis (service factor: 1)

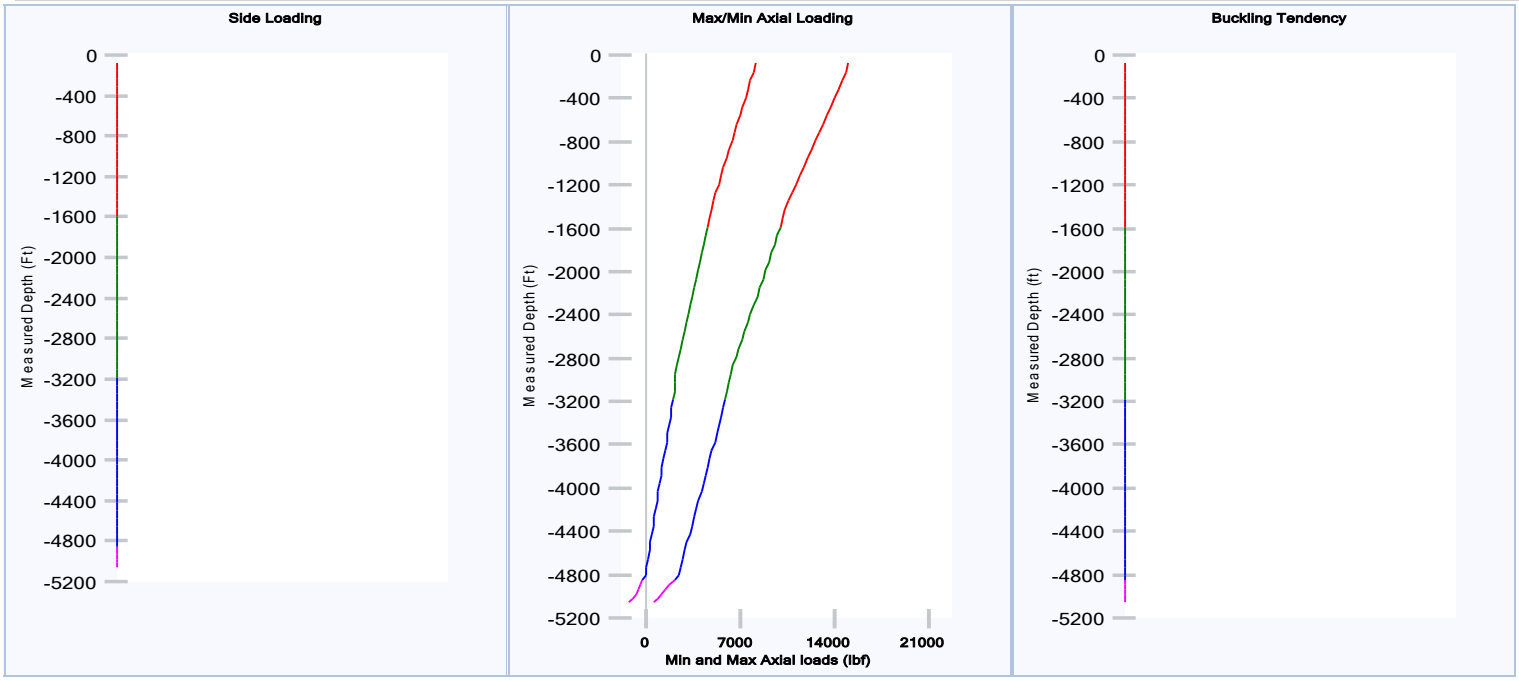
Diameter (inches)	Rod Grade	Length (ft)	Min. Ten. Str. (psi)	Fric. Coeff	Stress Load %	Top Maximum Stress (psi)	Top Minimum Stress (psi)	Bot. Minimum Stress (psi)	# Guides/Rod
+ 1	D (API)	1510	115000	0.2	36.5%	19396	10585	6549	0
0.875	D (API)	1600	115000	0.2	36.0%	17232	8163	4355	0
0.75	D (API)	1700	115000	0.3	33.9%	14220	5264	1176	2
@ 1.5	C (API, SB)	250	90000	0.3	13.7%	3005	-81	-113	4

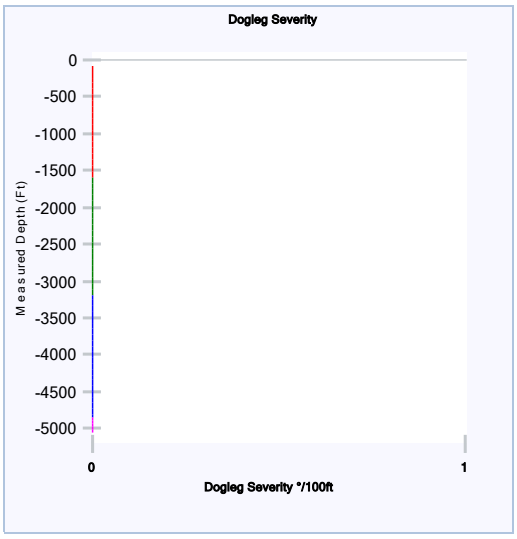
+requires slimhole couplings. @ stress calculations based on elevator neck of 7/8 (for 1.25 sinker bars) or 1 (for other sinker bars).
NOTE: Displayed bottom minimum stress calculations do not include buoyancy effects (top minimum and maximum stresses always include buoyancy).

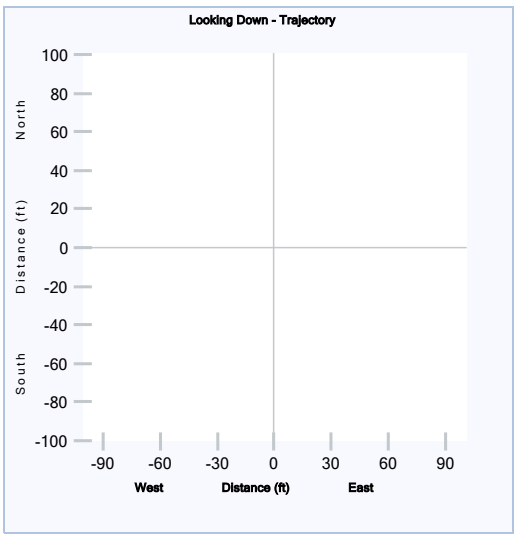


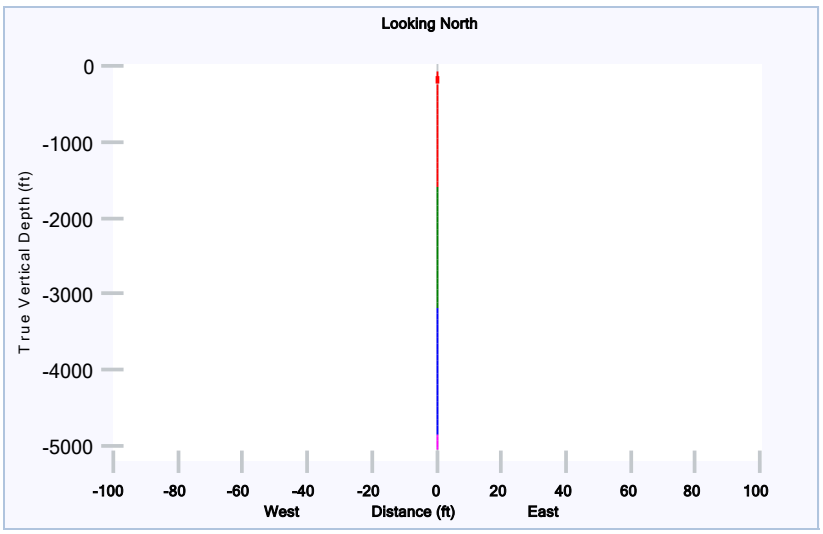


DEVIATION SURVEY PLOT









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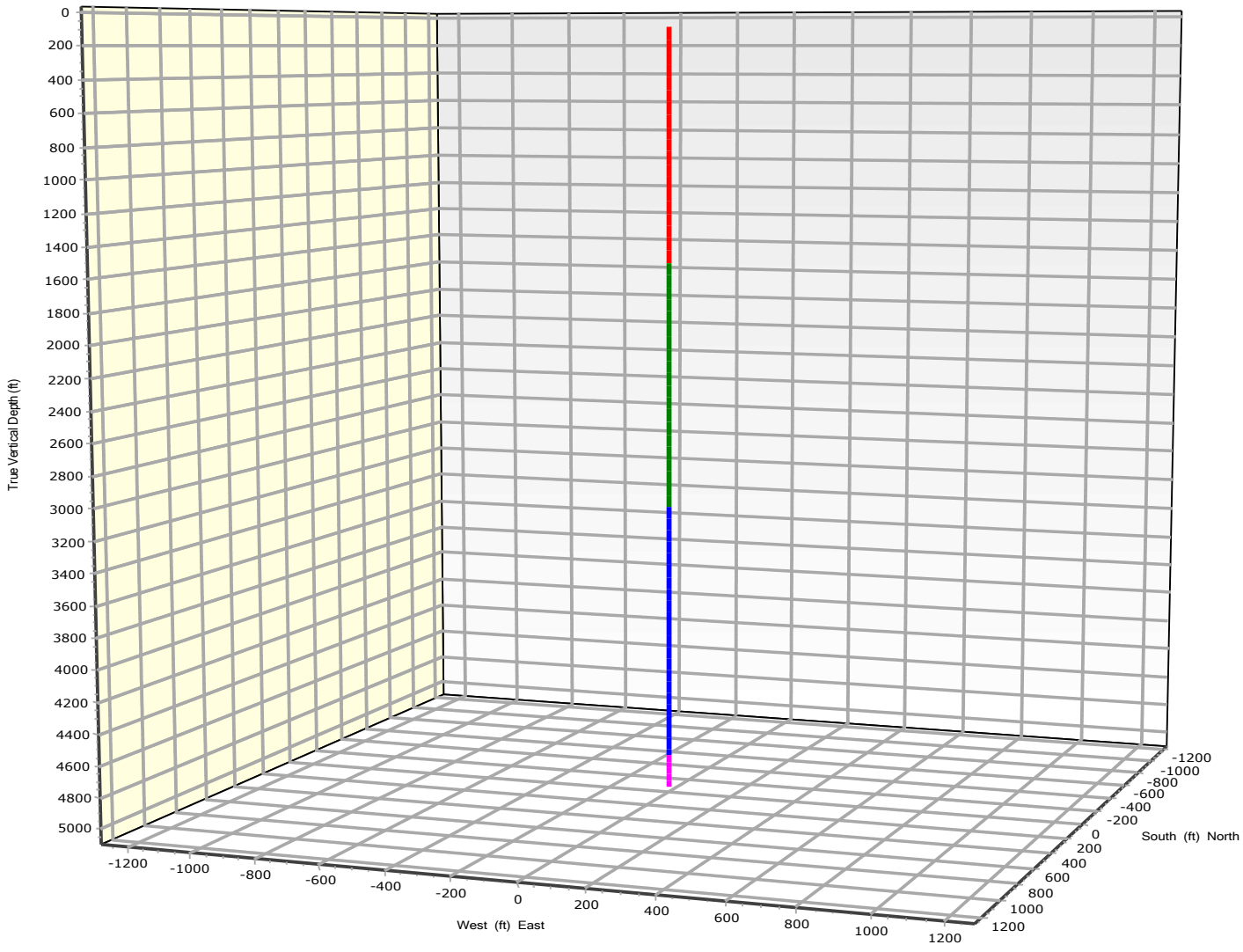

Rod Diameters	1"	7/8"	3/4"	1 1/2"
# Guides/Rod:	0	0	2	4

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				