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Pipe Body Specification		
Pipe Body OD	in	4.0
Pipe Body Wall Thickness - Nominal Weight		0.330 in - 14 lb/ft
Pipe Body Grade		S135
Drill Pipe Length		Range 2
- Max	ft	32.0
- Min	ft	30.0
Type of Upset		IU
Max Upset OD	in	4.188
Tong Length includes hardbanding if applicable		

Pipe Body Performance			
		Nominal	API Premium 80% Inspection Class
Burst Pressure *	psi	19,490	17,800
Collapse Pressure *	psi	20,140	13,830
Slip Crushing Capacity *	lbs	431,900	341,300
- Assumed Slip Length	in		16.5
- Assumed Transverse Load Factor (K)			2.6
Adjusted Weight **	lbs/ft		16.24
Fluid Displacement **	US gal/ft		0.25
	Bbls/ft		0.006
Fluid Capacity **	US gal/ft		0.42
	Bbls/ft		0.0101
* With no bending or axial load in the string as applicable ** Best estimate with coating			
Note: Oil field barrel equivalent to 42 US gal		Note: Nominal burst calculated at 87.5% RBW per API	

The Technical information contained herein, including the product performance sheet and other attached documents, is for reference only and should not be considered as a recommendation. The user is fully responsible for the accuracy and suitability of use of the technical information. NOV Grant Prideco cannot assume responsibility for the results obtained through the use of this material. No expressed or implied warranty is intended. Drill pipe assembly properties are calculated based on uniform OD and wall thickness. No safety factor is applied. The information provided for various inspection classes and for various wear conditions (remaining body wall) is for information only and does not represent or imply acceptable operating limits. It is the responsibility of the customer and the end user to determine the appropriate performance ratings, acceptable use of the product, maintain safe operating practices, and to apply a prudent safety factor suitable for the application. For API connections that have different pin and box IDs, tool joint ID refers to the pin ID. Per Chapter DS, Section DS-16 of the drilling manual, it is recommended that drilling torque should not exceed 80% of MUT.

Tool Joint Specification		
Connection Type and Size		XT™ 39
Benchmark		GPmark™
SmoothEdge™ Height per side	in	N/A
Tool Joint SMYS	psi	120,000
Connection OD	in	4.875
Connection ID	in	2.688
Pin Tong Length	in	10.0
Box Tong Length	in	15.0
Thread Compound Friction Factor (FF)		1.15

Tool Joint Performance		
Max Make-Up Torque with applied FF (Recommended)	ft-lbs	24,400
Min Make-Up Torque with applied FF	ft-lbs	20,300
Min TJ OD (API Premium)	in	4.652
Min TJ OD for Counterbore	in	4.652
Drift Size	in	2.563
The maximum make-up torque should be applied when possible. To maximize connection operational tensile, a MUT (T4) = 20,800 should be applied.		

Advisories and Warnings for Drill Pipe	
Advisories:	- Elevator capacity is less than new tube tensile. Consider increasing tool joint OD or adding SmoothEdge Option. - The provided Make-Up Torques already include FF - No further adjustment is permitted.
Warnings:	

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Combined Loading for Drill Pipe			
Connection: XT™ 39 4.875" x 2.688" (120 KSI SMYS) Friction Factor: 1.15			
Pipe: 4.0" OD 0.330" Wall Thickness S135 80% Inspection Class			
At Max MUT (24400 ft-lbs)		At Min MUT (20300 ft-lbs)	
Operational Torque(ft-lbs)	Assembly Max Tension(lbs)	Operational Torque(ft-lbs)	Assembly Max Tension(lbs)
0	403500	0	403500
1100	403300	900	403400
2200	402600	1800	402900
3400	401300	2700	402200
4500	399700	3500	401200
5600	397600	4400	399900
6700	395000	5300	398200
7800	391900	6200	396200
9000	388000	7100	393900
10100	383900	8000	391300
11200	379200	8800	388700
12300	374000	9700	385400
13400	368200	10600	381800
14500	361800	11500	377800
15700	354100	12400	373500
16800	346400	13300	368800
17900	337900	14200	363600
19000	328700	15000	358700
20100	318600	15900	352800
21300	306500	16800	346400

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Connection Wear Table		
Connection: XT™ 39 4.875" x 2.688" (120 KSI SMYS) Friction Factor: 1.15		
Tool Joint OD (in)	Max MUT(ft-lbs)	Min MUT(ft-lbs)
4.875	24400	20300
4.855	23900	19900
4.834	23500	19600
4.814	23000	19200
4.794	22600	18800
4.774	22200	18500
4.753	21700	18100
4.733	21300	17700
4.713	20900	17400
4.693	20500	17000
4.672	20000	16700
4.652	19600	16300

Elevator Capacity		
Elevator Bore Diameter: 4.28175" Elevator SMYS: 110,100 psi Box Taper Angle: 18 deg		
Connection: XT™ 39 4.0" 0.330" wall IU S135		
Tool Joint OD (in.)	Elevator Hoist Capacity (lbs)	
	No Wear	1/32" Wear Factor
4.875	469700	446500
4.855	452900	429700
4.834	435300	412100
4.814	418600	395400
4.794	402000	378800
4.774	385500	362200
4.753	368200	344900
4.733	351800	328500
4.713	335400	312200
4.693	319200	295900
4.672	302200	278900
4.652	286000	262800

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Slip Crush Capacity Table at 80% Inspection Class					
		Slip Length			
		13.75 in.	16 in.	16.5 in.	22 in.
K Factor	2.1	343200.0 lbs	351500.0 lbs	353000.0 lbs	365500.0 lbs
	2.6	329500.0 lbs	339500.0 lbs	341300.0 lbs	356600.0 lbs
	4.0	294400.0 lbs	307900.0 lbs	310500.0 lbs	332200.0 lbs
	4.2	289700.0 lbs	303700.0 lbs	306400.0 lbs	328900.0 lbs

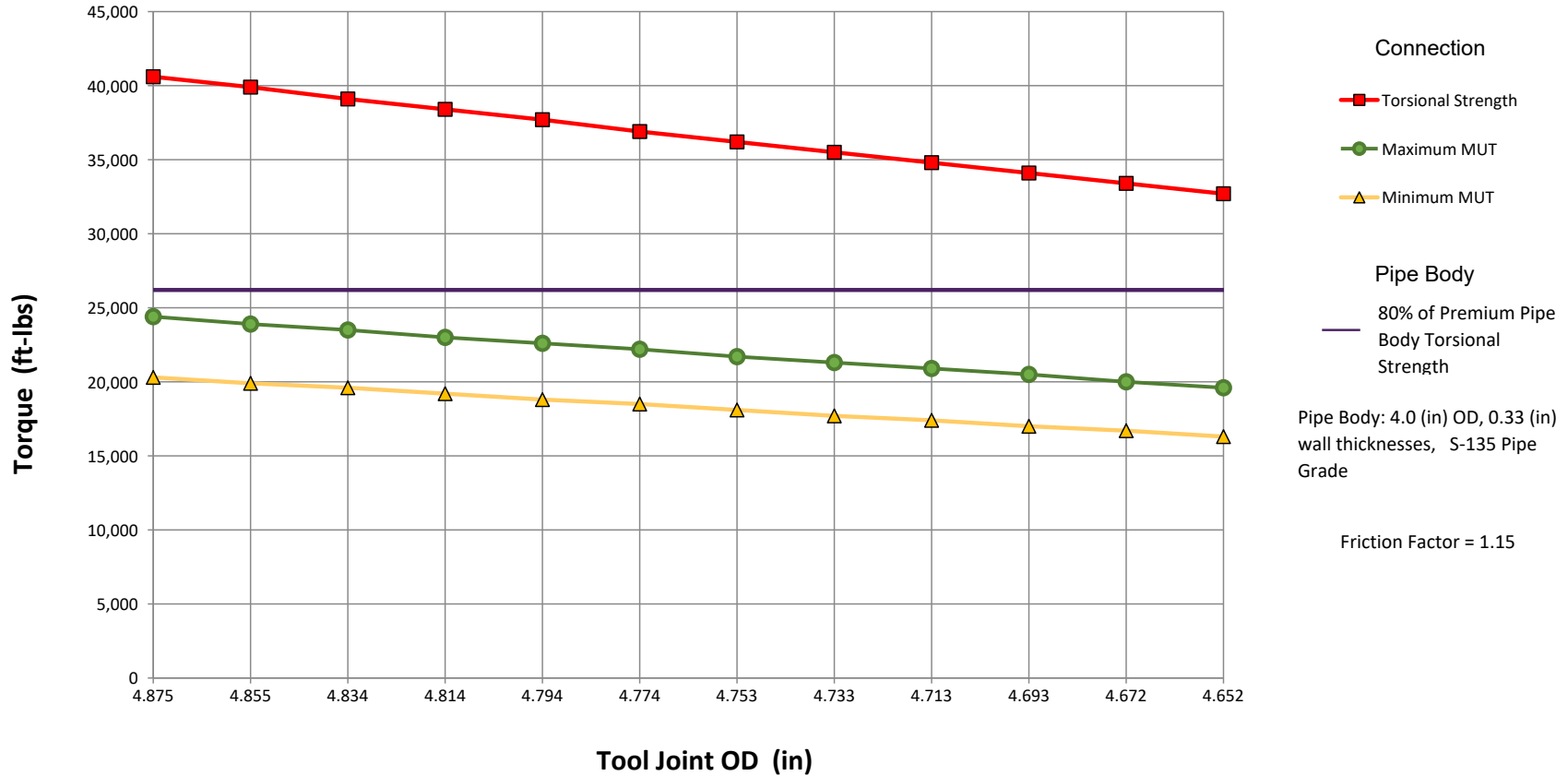
Improved Elevator Capacity Table						
Elevator Bore Diameter: 4.28175" Elevator SMYS: 110,100 psi Box Taper Angle: 18 deg Connection: XT™ 39 4.0" 0.330" wall IU S135						
Tool Joint OD (in.)	Elevator Hoist Capacity (lbs)					
	No Wear	Custom 0.03125 in.	1/16 in.	1/8 in.	3/16 in.	1/4 in.
4.652	286000	262800	239400	192100	144100	95500
4.672	302200	278900	255500	208200	160300	111600
4.693	319200	295900	272500	225200	177300	128600
4.713	335400	312200	288800	241500	193500	144900
4.733	351800	328500	305100	257800	209900	161200
4.753	368200	344900	321500	274300	226300	177600
4.774	385500	362200	338800	291600	243600	194900
4.794	402000	378800	355400	308100	260100	211500
4.814	418600	395400	372000	324700	276700	228100
4.834	435300	412100	388700	341400	293400	244800
4.855	452900	429700	406300	359000	311000	262400
4.875	469700	446500	423100	375800	327900	279200

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Connection Wear for XT™ 39 (4.875 (in) OD x 2.688 (in) ID)

Material SMYS (Specified Minimum Yield Strength) = 120000 (psi)



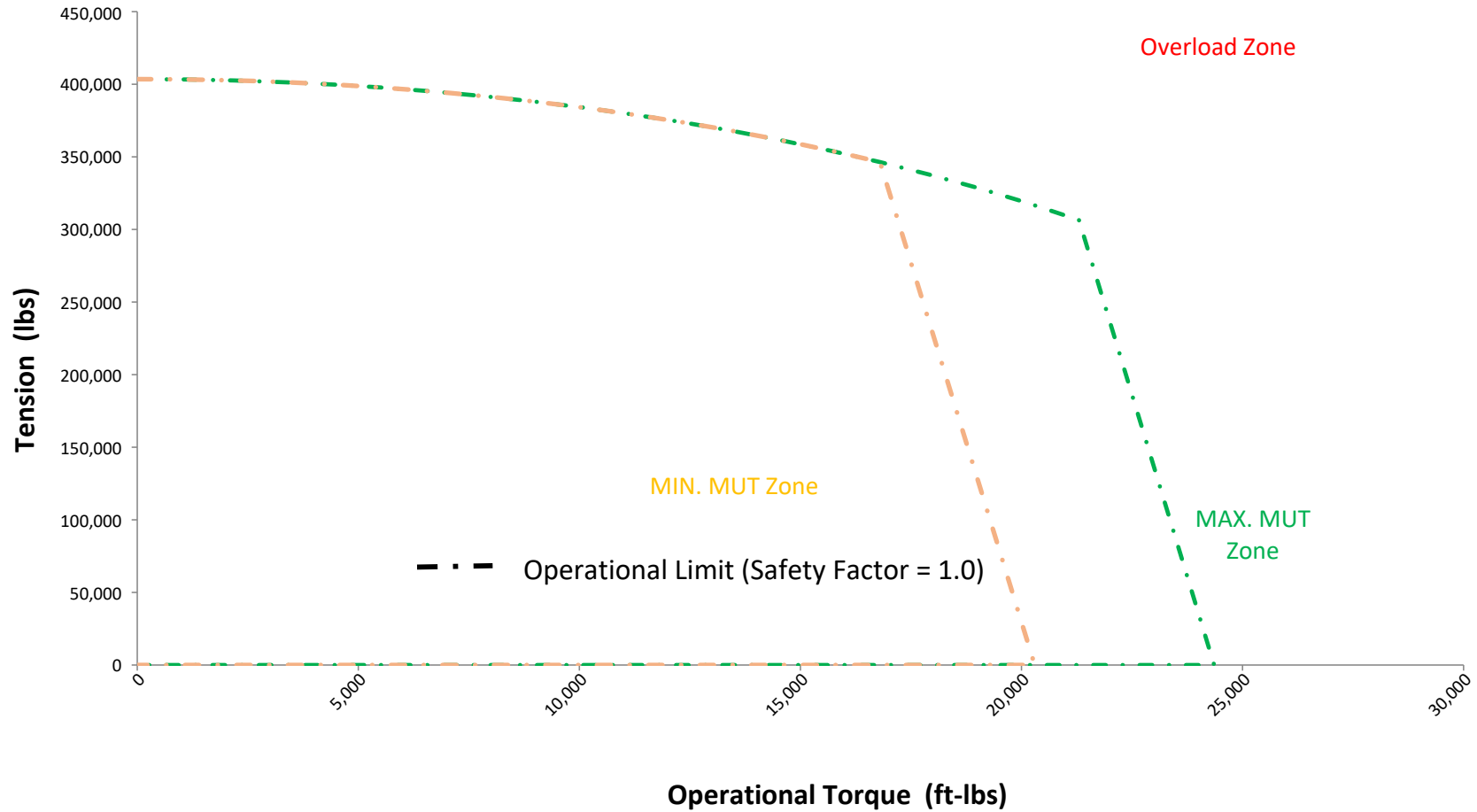
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Drill Pipe Operational Limits (Connection at Recommended MUT = 24358 (ft-lbs)) (Connection at Minimum MUT = 20299 (ft-lbs))

Connection: XT™ 39 (4.875 (in) OD 2.688 (in) ID) SMYS = 120000 (psi) Friction Factor = 1.15

Pipe Body: 80% Inspection Class, 4.0 (in) OD, 0.33 (in) Wall Thickness, S-135 Pipe Grade

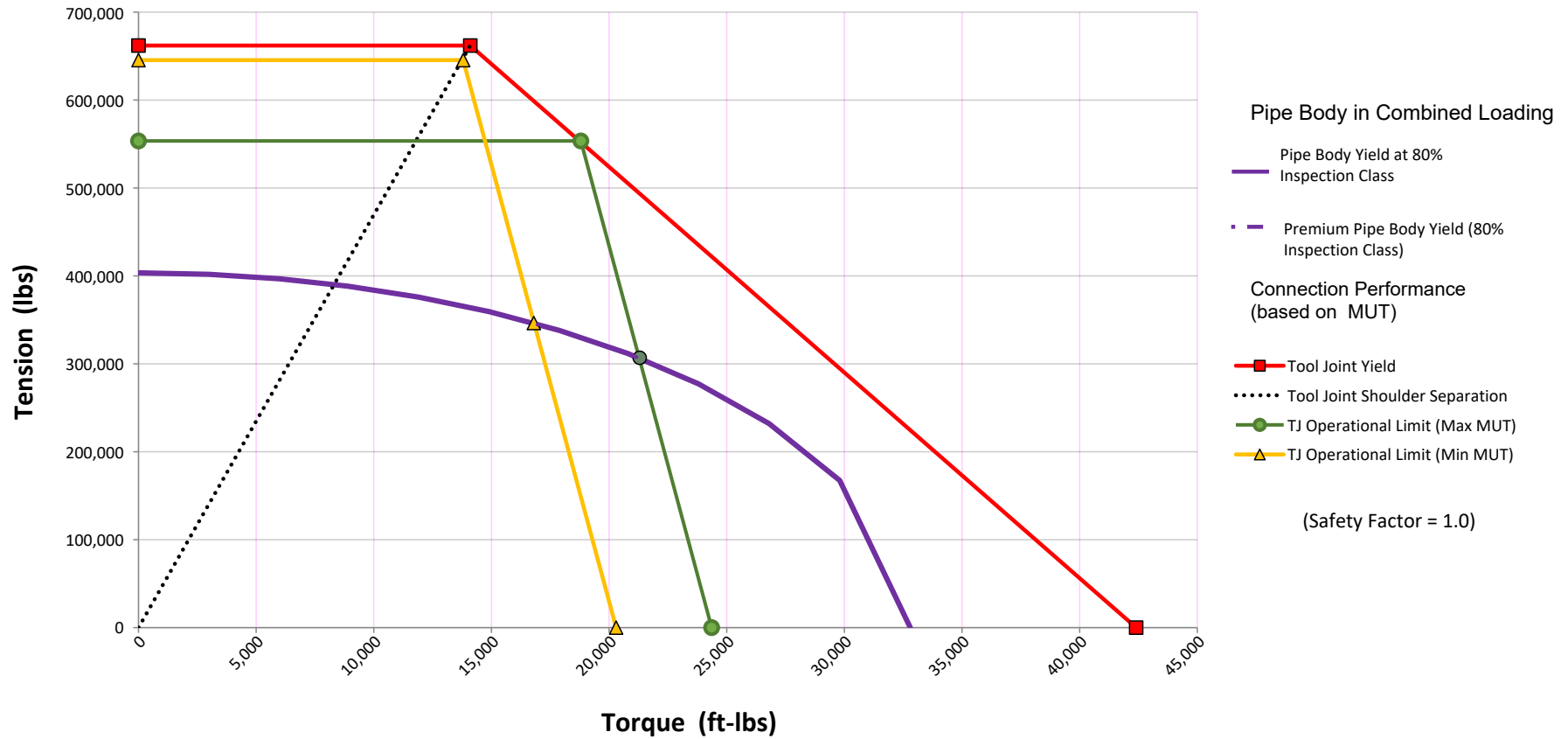


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Torque-Tension Graph

Connection: XT™ 39 (4.875 (in) OD 2.688 (in) ID) SMYS = 120000 (psi) Friction Factor = 1.15
 Pipe Body: 80% Inspection Class, 4.0 (in) OD, 0.33 (in) Wall Thickness, S-135 Pipe Grade

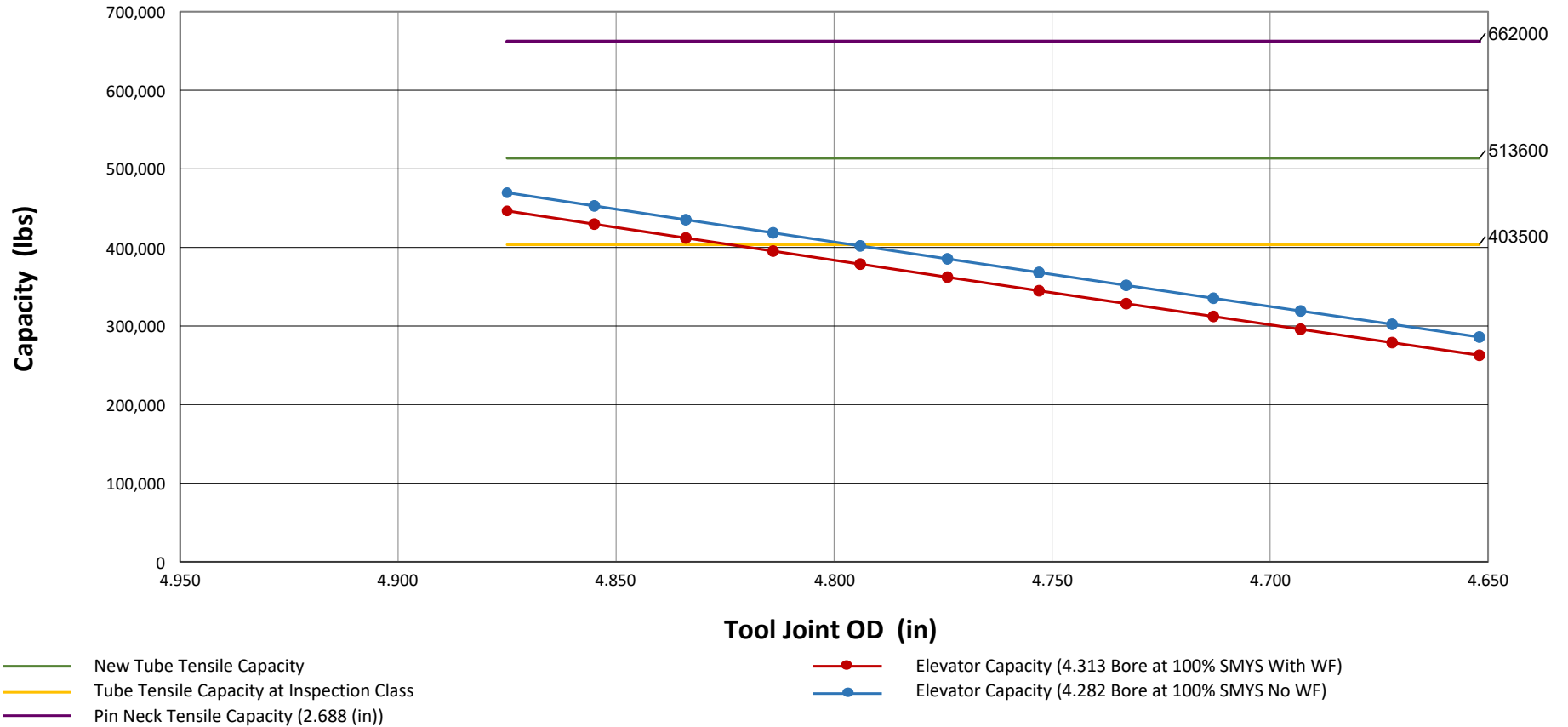


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Elevator Capacity Curve

(Based on new Elevator Bore Diameter of 4.282 (in) (0.33 (in) wall) and the elevator yield strength of 110100 (psi)
 4.0 (in) (0.33 (in) wall) IU S-135 XT™ 39 (4.875 (in) x 2.688 (in)) Max DTE = 4.188 (in)



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