

Note: The disclaimer on the first worksheet applies to all tables in this workbook

Rig Manufacturer :	Tes Car	Rig Type :	CF3P
Completed by:	Tes Car	Operation mode:	
		22/04/2014	Checked by:

Main Components :				
	Item	Mass (kg)	Moment arm (m)	Moment (kNm)
UPPER WORKS	Mast Assembly	1040	0.60	6.12
	Cathead	120	1.25	1.47
	Support	470	0.80	3.69
	Winches	300	0.80	2.35
	Hydraulic cylinder1	140	1.00	1.37
	Hydraulic cylinder2	240	1.30	3.06
				0.00
				0.00
LOWER WORKS	Base Machine	2323	-1.12	-25.52
	Extracted Crawler	3190	-0.20	-6.26
				0.00
				0.00
				0.00
ROPE / KELLY / CHAIN SUSPENDED EQUIPMENT	Kelly	1200	2.16	25.43
	Rotary head	614	1.94	11.69
				0.00
				0.00
COUNT.	Counterweight	703	-1.80	-12.41
				0.00
OTHER	Others	1310	1.00	12.85
				0.00
				0.00

Main Components Totals				
	UPPER WORKS	2310	0.80	18.07
	LOWER WORKS	5513	-0.59	-31.78
	ROPE / KELLY / CHAIN SUSPENDED EQUIPMENT	1814	2.09	37.11
	COUNTERWEIGHT	703	-1.80	-12.41
	OTHER	1310	1.00	12.85
	TOTAL	11650	0.21	23.84

Tracks			
	Track bearing length (m)	2.92	
	Track pad width (m)	0.45	
	Distance between centrelines of tracks (m)	1.87	

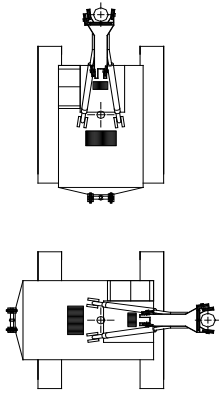
Front Foot Pads				
	Pad Bearing Area (m <sup>2</sup> )	0.00	Actual Dimensions	0
	Pad Maximum Loading (kN)	0.00	Actual Shape	0
	Pad Moment Arm (m)	0.00		

Rear Foot Pads				
	Pad Bearing Area (m <sup>2</sup> )	0.00	Actual Dimensions	0
	Pad Maximum Loading (kN)	0.00	Actual Shape	0
	Pad Moment Arm (m)	0.00		

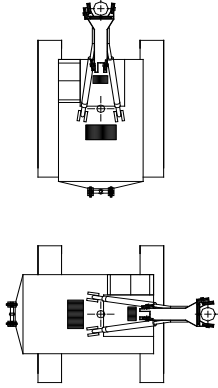
Forces				
	Maximum Extraction Force (kN)	64.00		
	Maximum Penetration Force (kN)	95.00		
	Maximum Auxillary Force (kN)	0.90	Auxillary Force Moment Arm (m)	1.80

<p>Note: The disclaimer on the first worksheet applies to all tables in this workbook</p>		<p><b>Notes</b></p> <p>Max working radius 2,15 m</p>

<b>Tes Car</b>		Weight (kg) / Load (kgf)	Distance to CL rotation (m)	Horizontal moment (kNm)			<b>Mode : 0.000 Standing</b>							Transformation from triangular or trapezoidal to an equivalent rectangular pressure distribution under track maintaining the load centroid
<b>CF3P</b>							Max Track loading dimensions		Equivalent Bearing					
		ecc (m)		Bearing Len. (m)		L (m)		Q (KPa)						
Lower Works	5513	-0.588	-32											
Counterweight	703	-1.800	-12											
Upper Works	2310	0.797	18											
Other	1310	1.000	13											
Rope / Kelly / Chain Suspended	1814	2.086	37											
<b>Machine Weight (kg)</b>	11650	0.209	24											
				Force (kN)	Max. (kN)									
Auxiliary Line (kgf)	0	1.800	0	0.00	0.90	Foot Pad Area (m2)								
Net Extraction Force (kgf)	0	2.086	0	0.00	64.00									
Net Penetration Force (kgf)	0	2.086	0	0.00	95.00									
Front Foot Pads Loading (kgf)	0	0.000	0	0.00	0.00	0.000	Front Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m^2)				0.000	0		
Rear Foot Pads Loading (kgf)	0	0.000	0	0.00	0.00	0.000	Rear Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m^2)				0.000	0		
Others	0	0.000	0	Track Bearing Length (m)		2.920	<b>Maximum Equivalent Design Values</b>					2.625	56	
<b>Track Total Loading (kgf)</b>	11650	0.209	24	Track Width Centres (m)		1.870								
				Track pad width (m)		0.450								
										<b>BRE LOAD CASE ( 1 or 2 )</b>		<b>1</b>		

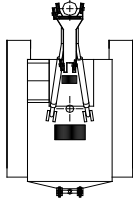
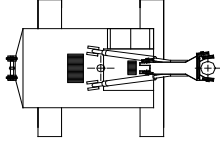


Auxiliary Line Force OK  
 Extraction Force OK  
 Penetration Force OK  
 Front Foot Pad Force OK  
 Rear Foot Pad Force OK

<b>Tes Car</b>		Weight (kg) / Load (kgf)	Distance to CL rotation (m)	Horizontal moment (kNm)			<b>Mode : 0.000 Travelling</b>							Transformation from triangular or trapezoidal to an equivalent rectangular pressure distribution under track maintaining the load centroid	
<b>CF3P</b>							Max Track loading dimensions		Equivalent Bearing						
		ecc (m)		Bearing Len. (m)		L (m)		Q (KPa)							
Relative Angle - Upper Body and Tracks (degrees)	Bearing pressure at front of L.H. track (kN/m <sup>2</sup> )	Bearing pressure at rear of L.H. track (kN/m <sup>2</sup> )	Bearing pressure at front of R.H. track (kN/m <sup>2</sup> )	Bearing pressure at rear of R.H. track (kN/m <sup>2</sup> )											
Lower Works	5513	-0.588	-32												
Counterweight	703	-1.800	-12												
Upper Works	2310	0.797	18												
Other	1310	1.000	13												
Rope / Kelly / Chain Suspended	1814	2.086	37												
<b>Machine Weight (kg)</b>	11650	0.209	24												
				Force (kN)	Max. (kN)										
Auxiliary Line (kgf)	0	1.800	0	0.00	0.90	Foot Pad Area (m <sup>2</sup> )									
Net Extraction Force (kgf)	0	2.086	0	0.00	64.00										
Net Penetration Force (kgf)	0	2.086	0	0.00	95.00										
Front Foot Pads Loading (kgf)	0	0.000	0	0.00	0.00	0.000	Front Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m <sup>2</sup> )				0.000	0			
Rear Foot Pads Loading (kgf)	0	0.000	0	0.00	0.00	0.000	Rear Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m <sup>2</sup> )				0.000	0			
Others	0	0.000	0	Track Bearing Length (m)		2.920	<b>Maximum Equivalent Design Values</b>				2.625	56			
<b>Track Total Loading (kgf)</b>	11650	0.209	24	Track Width Centres (m)		1.870									
				Track pad width (m)		0.450					<b>BRE LOAD CASE ( 1 or 2 )</b>		1		



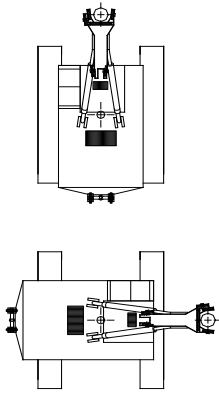
Auxiliary Line Force OK  
 Extraction Force OK  
 Penetration Force OK  
 Front Foot Pad Force OK  
 Rear Foot Pad Force OK

<b>Tes Car</b>		Weight (kg) / Load (kgf)	Distance to CL rotation (m)	Horizontal moment (kNm)	 		<b>Mode : 0.000 Handling</b>							Transformation from triangular or trapezoidal to an equivalent rectangular pressure distribution under track maintaining the load centroid	
<b>CF3P</b>							Max Track loading dimensions		Equivalent Bearing						
		ecc (m)		Bearing Len. (m)		L (m)		Q (KPa)							
Relative Angle - Upper Body and Tracks (degrees)	Bearing pressure at front of L.H. track (kN/m <sup>2</sup> )	Bearing pressure at rear of L.H. track (kN/m <sup>2</sup> )	Bearing pressure at front of R.H. track (kN/m <sup>2</sup> )	Bearing pressure at rear of R.H. track (kN/m <sup>2</sup> )											
Lower Works	5513	-0.588	-32												
Counterweight	703	-1.800	-12												
Upper Works	2310	0.797	18												
Other	1310	1.000	13												
Rope / Kelly / Chain Suspended	1814	2.086	37												
<b>Machine Weight (kg)</b>	11650	0.209	24												
				Force (kN)	Max. (kN)										
Auxiliary Line (kgf)	1019	1.800	18	10.00	0.90	Foot Pad Area (m <sup>2</sup> )									
Net Extraction Force (kgf)	0	2.086	0	0.00	64.00										
Net Penetration Force (kgf)	0	2.086	0	0.00	95.00										
Front Foot Pads Loading (kgf)	0	0.000	0	0.00	0.00	0.000	Front Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m <sup>2</sup> )		0.000		0				
Rear Foot Pads Loading (kgf)	0	0.000	0	0.00	0.00	0.000	Rear Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m <sup>2</sup> )		0.000		0				
Others	0	0.000	0	Track Bearing Length (m)		2.920					<b>Maximum Equivalent Design Values</b>		2.444	71	
<b>Track Total Loading (kgf)</b>	12669	0.337	42	Track Width Centres (m)		1.870									
				Track pad width (m)		0.450									
										<b>BRE LOAD CASE ( 1 or 2 )</b>		<b>1</b>			

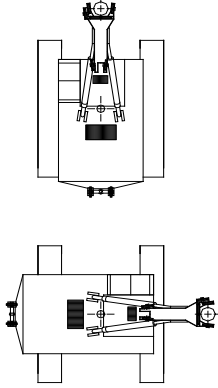


**ERROR - AUXILIARY LINE FORCE EXCEEDS MAXIMUM**  
 Extraction Force OK  
 Penetration Force OK  
 Front Foot Pad Force OK  
 Rear Foot Pad Force OK

<b>Tes Car</b>		Weight (kg) / Load (kgf)	Distance to CL rotation (m)	Horizontal moment (kNm)			<b>Mode : 0.000 Penetrating</b>							Transformation from triangular or trapizoidal to an equivalent rectangular pressure distribution under track maintaining the load centroid
<b>CF3P</b>							Max Track loading dimensions		Equivalent Bearing					
		ecc (m)		Bearing Len. (m)		L (m)		Q (KPa)						
Lower Works	5513	-0.588	-32											
Counterweight	703	-1.800	-12											
Upper Works	2310	0.797	18											
Other	1310	1.000	13											
Rope / Kelly / Chain Suspended	1814	2.086	37											
<b>Machine Weight (kg)</b>	11650	0.209	24											
				Force (kN)	Max. (kN)									
Auxiliary Line (kgf)	0	1.800	0	0.00	0.90	Foot Pad Area (m2)								
Net Extraction Force (kgf)	0	2.086	0	0.00	64.00									
Net Penetration Force (kgf)	-4811	2.086	-98	29.40	95.00									
Front Foot Pads Loading (kgf)	0	0.000	0	0.00	0.00	0.000	Front Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m^2)		0.000	0				
Rear Foot Pads Loading (kgf)	0	0.000	0	0.00	0.00	0.000	Rear Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m^2)		0.000	0				
Others	0	0.000	0	Track Bearing Length (m)		2.920			<b>Maximum Equivalent Design Values</b>		0.772	126		
<b>Track Total Loading (kgf)</b>	6839	-1.112	-75	Track Width Centres (m)		1.870								
				Track pad width (m)		0.450								
										<b>BRE LOAD CASE ( 1 or 2 )</b>		<b>2</b>		

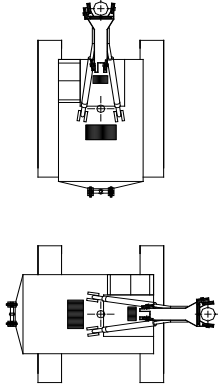


Auxiliary Line Force OK  
 Extraction Force OK  
 Penetration Force OK  
 Front Foot Pad Force OK  
 Rear Foot Pad Force OK

Tes Car		Weight (kg) / Load (kgf)	Distance to CL rotation (m)	Horizontal moment (kNm)			Mode : <b>0.000</b> <b>Extracting</b>							Transformation from triangular or trapezoidal to an equivalent rectangular pressure distribution under track maintaining the load centroid	
CF3P							Max Track loading dimensions		Equivalent Bearing						
		ecc (m)		Bearing Len. (m)		L (m)		Q (KPa)							
Relative Angle - Upper Body and Tracks (degrees)	Bearing pressure at front of L.H. track (kN/m <sup>2</sup> )	Bearing pressure at rear of L.H. track (kN/m <sup>2</sup> )	Bearing pressure at front of R.H. track (kN/m <sup>2</sup> )	Bearing pressure at rear of R.H. track (kN/m <sup>2</sup> )											
Lower Works	<b>5513</b>	<b>-0.588</b>	-32												
Counterweight	<b>703</b>	<b>-1.800</b>	-12												
Upper Works	<b>2310</b>	<b>0.797</b>	18												
Other	<b>1310</b>	<b>1.000</b>	13												
Rope / Kelly / Chain Suspended	<b>1814</b>	<b>2.086</b>	37												
<b>Machine Weight (kg)</b>	11650	0.209	24												
				Force (kN)	Max. (kN)										
Auxiliary Line (kgf)	0	<b>1.800</b>	0	<b>0.00</b>	<b>0.90</b>	Foot Pad Area (m2)									
Net Extraction Force (kgf)	38145	<b>2.086</b>	780	<b>392.00</b>	<b>64.00</b>										
Net Penetration Force (kgf)	0	<b>2.086</b>	0	<b>0.00</b>	<b>95.00</b>										
Front Foot Pads Loading (kgf)	-30887	<b>0.000</b>	0	<b>303.00</b>	<b>0.00</b>	<b>0.000</b>	Front Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m <sup>2</sup> )		0.000	<b>0</b>					
Rear Foot Pads Loading (kgf)	0	<b>0.000</b>	0	<b>0.00</b>	<b>0.00</b>	<b>0.000</b>	Rear Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m <sup>2</sup> )		0.000	<b>0</b>					
Others	<b>0</b>	<b>0.000</b>	0	Track Bearing Length (m)		<b>2.920</b>	<b>Maximum Equivalent Design Values</b>		<b>#####</b>	<b>#####</b>					
<b>Track Total Loading (kgf)</b>	18908	4.336	804	Track Width Centres (m)		<b>1.870</b>			<b>#VALUE!</b>						
				Track pad width (m)		<b>0.450</b>			<b>BRE LOAD CASE ( 1 or 2 )</b>		<b>2</b>				



**Auxiliary Line Force OK**  
**ERROR - EXTRACTION FORCE EXCEEDS MAXIMUM**  
**Penetration Force OK**  
**ERROR - FRONT FOOT PAD FORCE EXCEEDS MAXIMUM**  
**Rear Foot Pad Force OK**

Tes Car		Weight (kg) / Load (kgf)	Distance to CL rotation (m)	Horizontal moment (kNm)			Mode : <b>0.000</b> Other							Transformation from triangular or trapezoidal to an equivalent rectangular pressure distribution under track maintaining the load centroid	
CF3P							Max Track loading dimensions		Equivalent Bearing						
		ecc (m)		Bearing Len. (m)		L (m)		Q (KPa)							
Relative Angle - Upper Body and Tracks (degrees)	Bearing pressure at front of L.H. track (kN/m <sup>2</sup> )	Bearing pressure at rear of L.H. track (kN/m <sup>2</sup> )	Bearing pressure at front of R.H. track (kN/m <sup>2</sup> )	Bearing pressure at rear of R.H. track (kN/m <sup>2</sup> )											
Lower Works	<b>5513</b>	<b>-0.588</b>	-32												
Counterweight	<b>703</b>	<b>-1.800</b>	-12												
Upper Works	<b>2310</b>	<b>0.797</b>	18												
Other	<b>1310</b>	<b>1.000</b>	13												
Rope / Kelly / Chain Suspended	<b>1814</b>	<b>2.086</b>	37												
<b>Machine Weight (kg)</b>	11650	0.209	24												
				Force (kN)	Max. (kN)										
Auxiliary Line (kgf)	0	<b>1.800</b>	0	<b>0.00</b>	<b>0.90</b>	Foot Pad Area (m <sup>2</sup> )									
Net Extraction Force (kgf)	0	<b>2.086</b>	0	<b>0.00</b>	<b>64.00</b>										
Net Penetration Force (kgf)	0	<b>2.086</b>	0	<b>0.00</b>	<b>95.00</b>										
Front Foot Pads Loading (kgf)	0	<b>0.000</b>	0	<b>0.00</b>	<b>0.00</b>	<b>0.000</b>	Front Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m <sup>2</sup> )				0.000	<b>0</b>			
Rear Foot Pads Loading (kgf)	0	<b>0.000</b>	0	<b>0.00</b>	<b>0.00</b>	<b>0.000</b>	Rear Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m <sup>2</sup> )				0.000	<b>0</b>			
Others	<b>0</b>	<b>0.000</b>	0	Track Bearing Length (m)		<b>2.920</b>	<b>Maximum Equivalent Design Values</b>				<b>2.625</b>	<b>56</b>			
<b>Track Total Loading (kgf)</b>	11650	0.209	24	Track Width Centres (m)		<b>1.870</b>									
				Track pad width (m)		<b>0.450</b>					<b>BRE LOAD CASE ( 1 or 2 )</b>		<b>1</b>		



Auxiliary Line Force OK  
 Extraction Force OK  
 Penetration Force OK  
 Front Foot Pad Force OK  
 Rear Foot Pad Force OK

**Schedule of Piling Rig Component Weights, Dimensions, Forces and Pressures**

Rig Manufacturer :		Tes Car		Rig Type :		CF3P	
Completed by:		Tes Car		Operation mode:		0	
		22/04/2014		Checked by:		0	
Item	Mass (kg)	Moment arm (m)	Moment (kNm)				
UPPER WORKS	2310	0.80	18.07				
LOWER WORKS	5513	-0.59	-31.78				
ROPE / KELLY / CHAIN SUSPENDED EQUIPMENT	1814	2.09	37.11				
COUNTERWEIGHT	703	-1.80	-12.41				
OTHER	1310	1.00	12.85				
<b>TOTAL</b>	<b>11650</b>	<b>0.21</b>	<b>23.84</b>				
Tracks							
Track bearing length (m)	2.92						
Track pad width (m)	0.45						
Distance between centrelines of tracks (m)	1.87						
Front Foot Pads							
Pad Bearing Area (m <sup>2</sup> )	0.00	Actual Dimensions	0				
Pad Maximum Loading (kN)	0.00	Actual Shape	0				
Pad Moment Arm (m)	0.00						
Rear Foot Pads							
Pad Bearing Area (m <sup>2</sup> )	0.00	Actual Dimensions	0				
Pad Maximum Loading (kN)	0.00	Actual Shape	0				
Pad Moment Arm (m)	0.00						
Forces							
Maximum Extraction Force (kN)	64.00						
Maximum Penetration Force (kN)	95.00						
Maximum Auxillary Force (kN)	0.90	Auxillary Force Moment Arm (m)	1.80				
Pressure Summary for Platform Design (unfactored)							
MODE	BRE LOAD CASE ( 1 or 2 )	Length (m)	Width (m)	UDL Pressure (kPa)			
Standing	1	2.63	0.45	56			
Travelling	1	2.63	0.45	56			
Handling	1	2.44	0.45	71			
Penetrating	2	0.77	0.45	126			
Extracting	2	#VALUE!	0.45	#VALUE!			
Other	NOT USED	N/A	0.45	N/A			
MODE	WARNING MESSAGES	ERROR MESSAGES FOR FORCES					
Standing	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK			
Travelling	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK			
Handling	None	ERROR - AUXILIARY LINE FORCE EXCEEDS MAXIMUM	Extraction Force OK	Penetration Force OK			
Penetrating	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK			
Extracting	#VALUE!	Auxiliary Line Force OK	ERROR - EXTRACTION FORCE EXCEEDS MAXIMUM	Penetration Force OK			
Other	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK			
MODE	ERROR MESSAGES FOR FOOT PADS		Notes				
Standing	Front Foot Pad Force OK	Rear Foot Pad Force OK	Only for rig operation on level ground with a vertical mast, unless noted below !				
Travelling	Front Foot Pad Force OK	Rear Foot Pad Force OK	Only for use where the rig is working on a ground supported platform !				
Handling	Front Foot Pad Force OK	Rear Foot Pad Force OK	Foot pad pressures are adjusted to equalise with the track pressures !				
Penetrating	Front Foot Pad Force OK	Rear Foot Pad Force OK	Rigs to be operated in accordance with manufacturer's & employer's instructions				
Extracting	ERROR - FRONT FOOT PAD FORCE EXCEEDS MAXIMUM	Rear Foot Pad Force OK	Max working radius 2,15 m				
Other	Front Foot Pad Force OK	Rear Foot Pad Force OK					
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