

# Drill Time-Study Application

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Improving Processes. Instilling Expertise.



Microsoft Excel - 3b - Time Study - Ranger 800 Field Demo

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Event	Hr	Min	Sec	Actual Time (min)	Net Actual Time (min)	Total Elapsed Time (min)	Bit Penetration Rate (Ft/Min)	Drift (in)	Penetration Rate (Ft/Min)
Tram/Set-up/Collar Hole	0	1	47	1.8	0.0	1.8			
Drill Time: Rod 1 - no rock	0	0	22	0.4	0.0	0.4	12.5	0.0	15.7 Dr-Ft/Hr
Add Rod 2	0	1	22	1.4	0.0	1.4			3.0
Drill Time: Rod 2 - rock?	0	1	13	0.8	0.4	1.2	6.7	0.0	4.0
Add Rod 3	0	0	0	0.0	0.0	0.0			5.0
Drill Time: Rod 3	0	0	0	0.0	0.0	0.0			6.0
Add Rod 4	0	0	0	0.0	0.0	0.0			0.0
Drill Time: Rod 4	0	0	0	0.0	0.0	0.0			0.0
Add Rod 5	0	0	0	0.0	0.0	0.0			0.0
Drill Time: Rod 5	0	0	0	0.0	0.0	0.0			0.0
Add Rod 6	0	0	0	0.0	0.0	0.0			2.5
Drill Time: Rod 6	0	0	0	0.0	0.0	0.0			
Add Rod 7	0	0	0	0.0	0.0	0.0			
Drill Time: Rod 7	0	0	0	0.0	0.0	0.0			
Add Rod 8	0	0	0	0.0	0.0	0.0			
Drill Time: Rod 8	0	0	0	0.0	0.0	0.0			
Rock Drill Rods - clean out	0	17	13	1.8	0.0	11.2			
Measure Hole, Boom up, et	0	0	6	0.1	0.0	0.1			
<b>Total Event Time</b>						<b>18 Total Dr</b>			

**Bit Penetration Rate**  
 Bit Penetration Rate - 15.7 Dr-Ft/Hr  
 Avg Bit Penetration Rate - 3.0 Dr-Ft/Hr

**Hole-to-Hole Hourly Production Rate**  
 Hourly Production Rate - 2.2 Dr-Ft/Min  
 Hourly Production Rate - 47.6 Dr-Ft/Hour

**Drill Holes/Hour: 2.7 Holes/Hour**

Drill Rig Type: Ranger 800-2  
 Drill Rig Serial #: 104T-7127-1  
 Hammer: HL 800  
 Hole Diameter: 3 in.  
 Bit Type: Prop. Ctr. Bit  
 Rock Type: Sandstone 2  
 INSITU Rock Fragmentation: Decomposed

Perforation Pressure: 100 Bar  
 Rotation Pressure: 47 Bar  
 Feed Pressure: 75 Bar  
 Flushing Air Pressure: 8.5 Bar

All new drill string set on the rig.  
 Perforation Hours: 3 Hrs  
 Engine Hours: 18 Hrs

Site is an open field drilling through topsoil.  
 Rock horizon will be variable.  
 Arrived at jobsite at 6:20 AM  
 Warmed up the rigs - trammed to work area - waiting on crew to blade the area and lay out a trench shot.

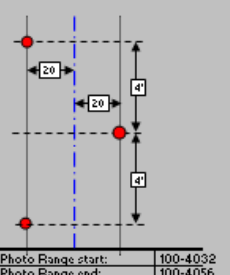



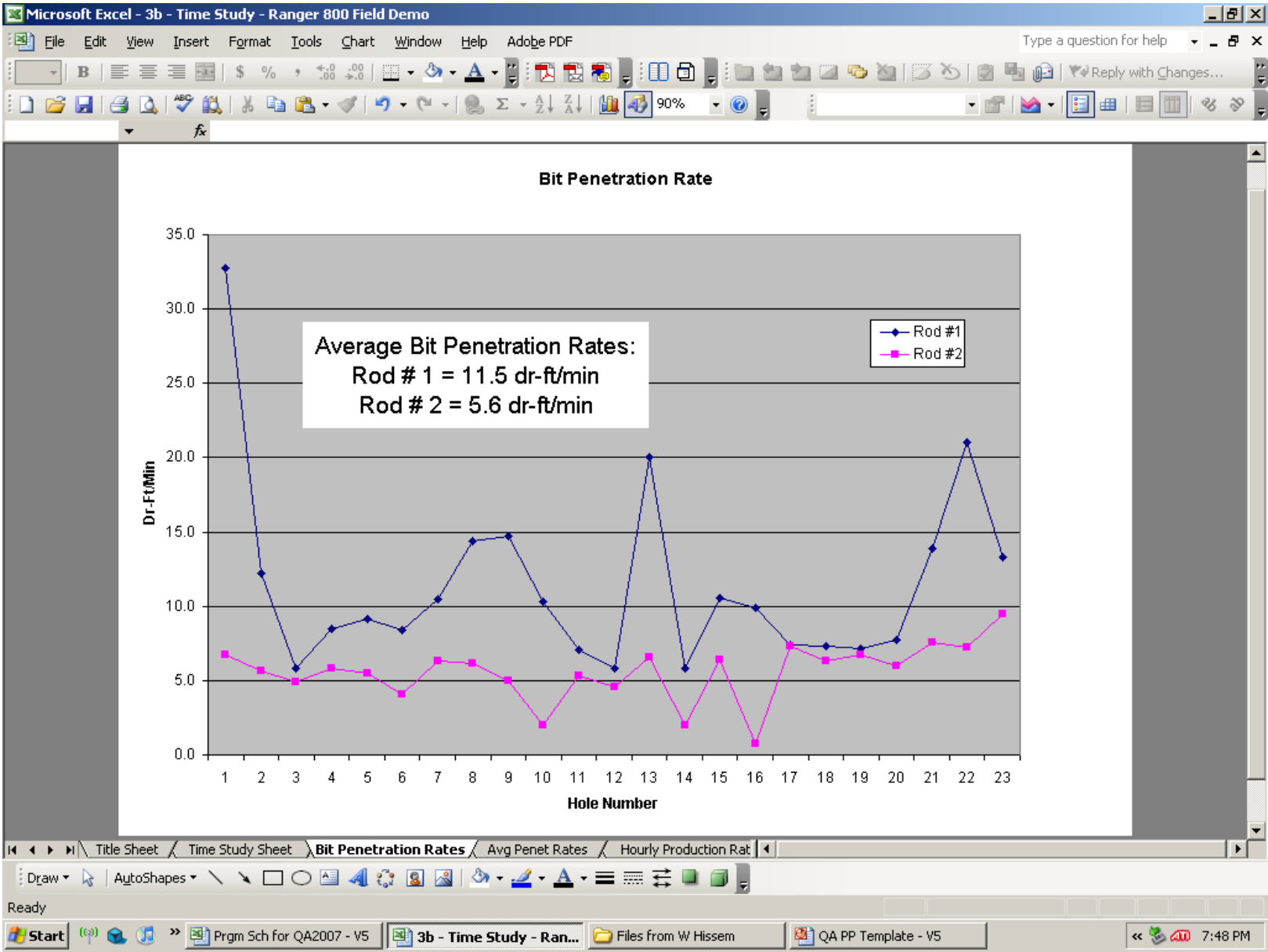





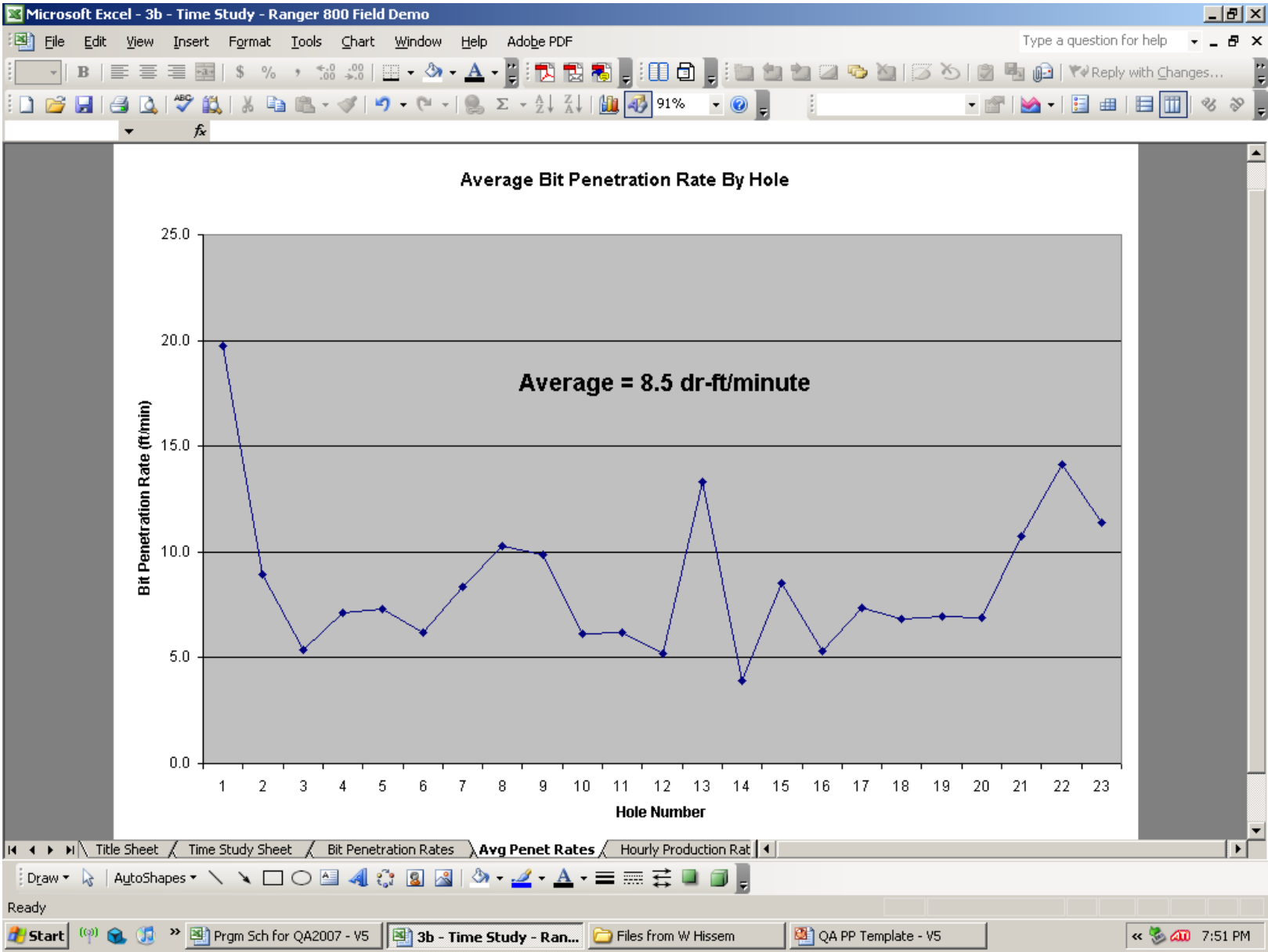
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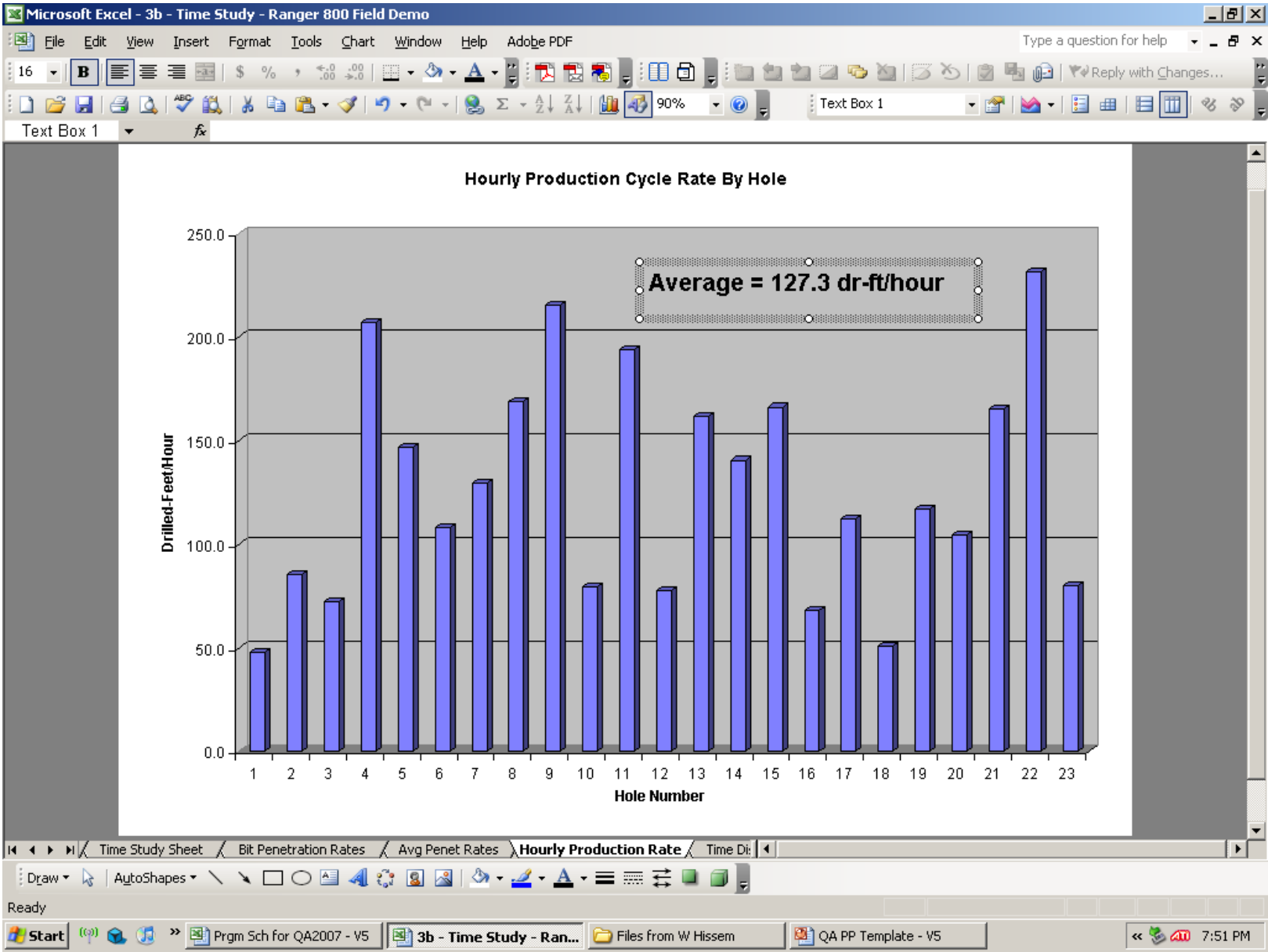




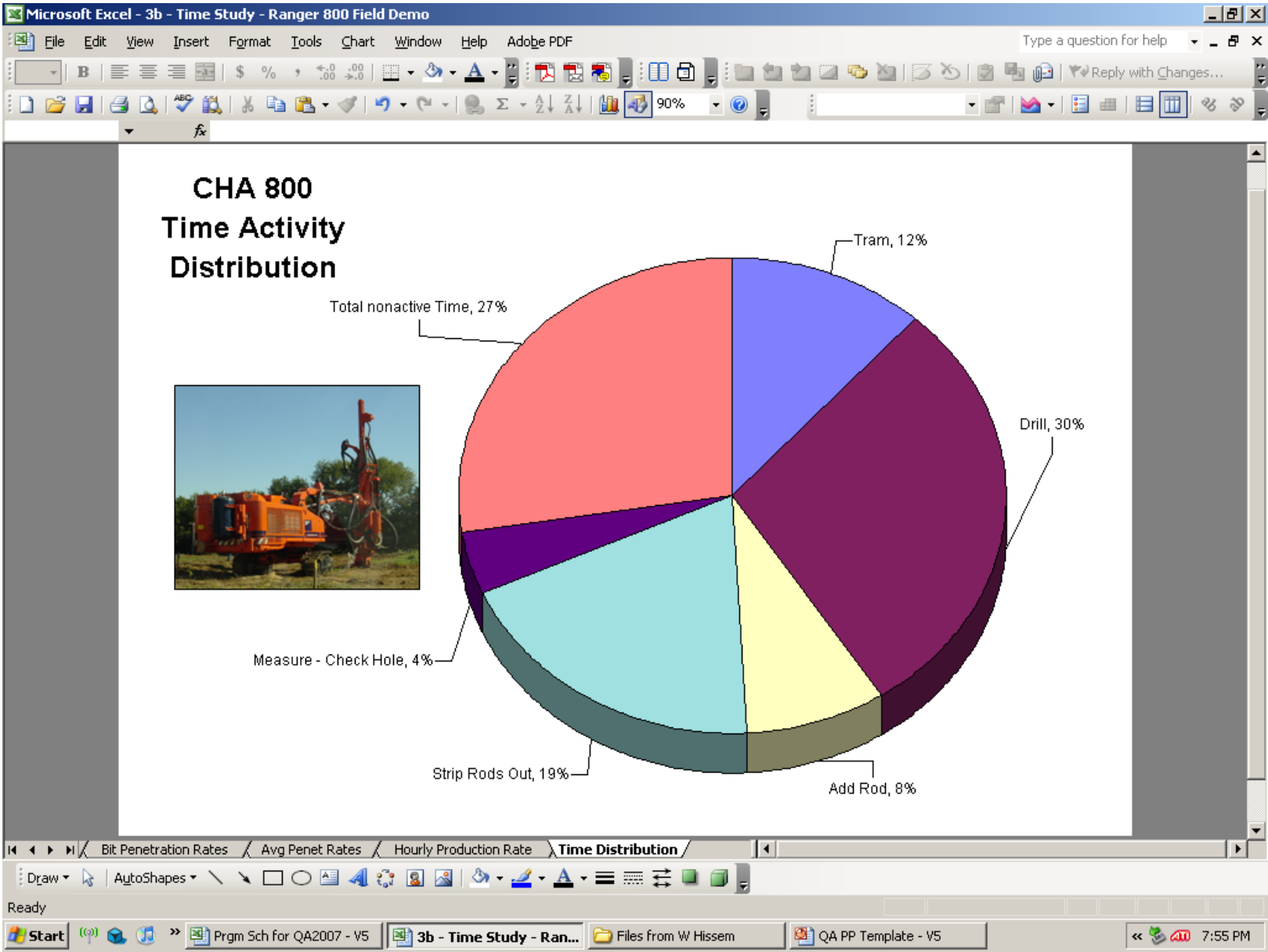












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