**Technician:** Kyle Cantu  
**Client:** Tom Ronnkvist / Drill Pipe Inc.  
**Date Range:** May 2024 – July 2024  
 **Total Documented Hours:** 10.5 hours  
 (*8.5 hours billable beyond original invoice; 2.0 hours previously paid on $678 ticket*)

**Legacy PC Sourcing & Baseline Test**Located a functioning late 1990s industrial PC with multiple ISA slots. Physically cleaned and refurbished all ports and contacts, replaced BIOS battery, powered on, verified POST, and confirmed DOS boot capability.  
 **Time Spent:** 1.0 h

**ISA Card & HDD Migration / Fit Check**Installed welder’s interface cards, transferred HDD from original system to backup tower, verified physical clearance and seating, and confirmed no resource conflicts in DOS.  
*Note: This task was included in the original $678 invoice dated May 20, 2024.* **Time Spent:** 2.0 h (Prepaid)

**Disk Cloning & OS Migration**Created a full backup image of the original DOS drive. Restored the image to spare IDE drives to safeguard configuration, data, software, and licensing, and to simplify rollback during troubleshooting.  
 **Time Spent:** 2.0 h

**Operating System Troubleshooting**Investigated boot failure on replacement PC. Adjusted BIOS settings, edited CONFIG.SYS and AUTOEXEC.BAT, tested alternate IDE drives, ruled out disk integrity and ISA card issues. Confirmed MTI software failures were due to missing communication protocol for ISA cards confirming that the backup PC was failing in the same manner as the original PC.  
 **Time Spent:** 3.0 h

**Client Consultation & Decision Point**Phone meeting with Tom (June 18, 2024). Reviewed diagnostic findings and presented the option to use ISA hardware emulation in place of scarce legacy PCs. Client approved the emulation path.  
 **Time Spent:** 0.5 h

**Emulation Hardware Procurement & Setup**Ordered ISA bridge platform, passive backplane, and required cabling. Performed power-on test and began toolchain installation. Unfinished due to waiting for customer to provide information from MTI.  
 **Time Spent:** 2.0 h

**Billable Hours (Post-Invoice):** 8.5 h  
**Prepaid Hours (Included in $678):** 2.0 h  
**Total Documented Labor:** 10.5 h