

J&J TECHNICAL SERVICES L.L.C.

JET PUMPS AND OIL PRODUCTION SYSTEMS FOR THE OIL AND GAS INDUSTRY

Eliminate Workovers Due to “Sand Locking” Rod Pumps

- Problem:** Operator cannot produce well for more than 4-5 days due to leftover frac sand in wellbore
- Solution:** Install Reverse Flow HSP Jet Pump to bring frac sand to surface along with production
- Results:** Well has proven productive, and Jet Pump recovers 1-5 gallons of 20/40 mesh frac sand to surface daily

Advantages of Jet Pump vs. Rod Pump

Jet Pump can produce moderate to high volumes of sand

Jet Pump has no moving parts downhole

*Concentric tubing strings eliminates workovers due to:
“Rod Cut Tubing” and “Rod Parts”*

Software can calculate PBHP based on production volumes



JET PUMP SOFTWARE ANALYSIS

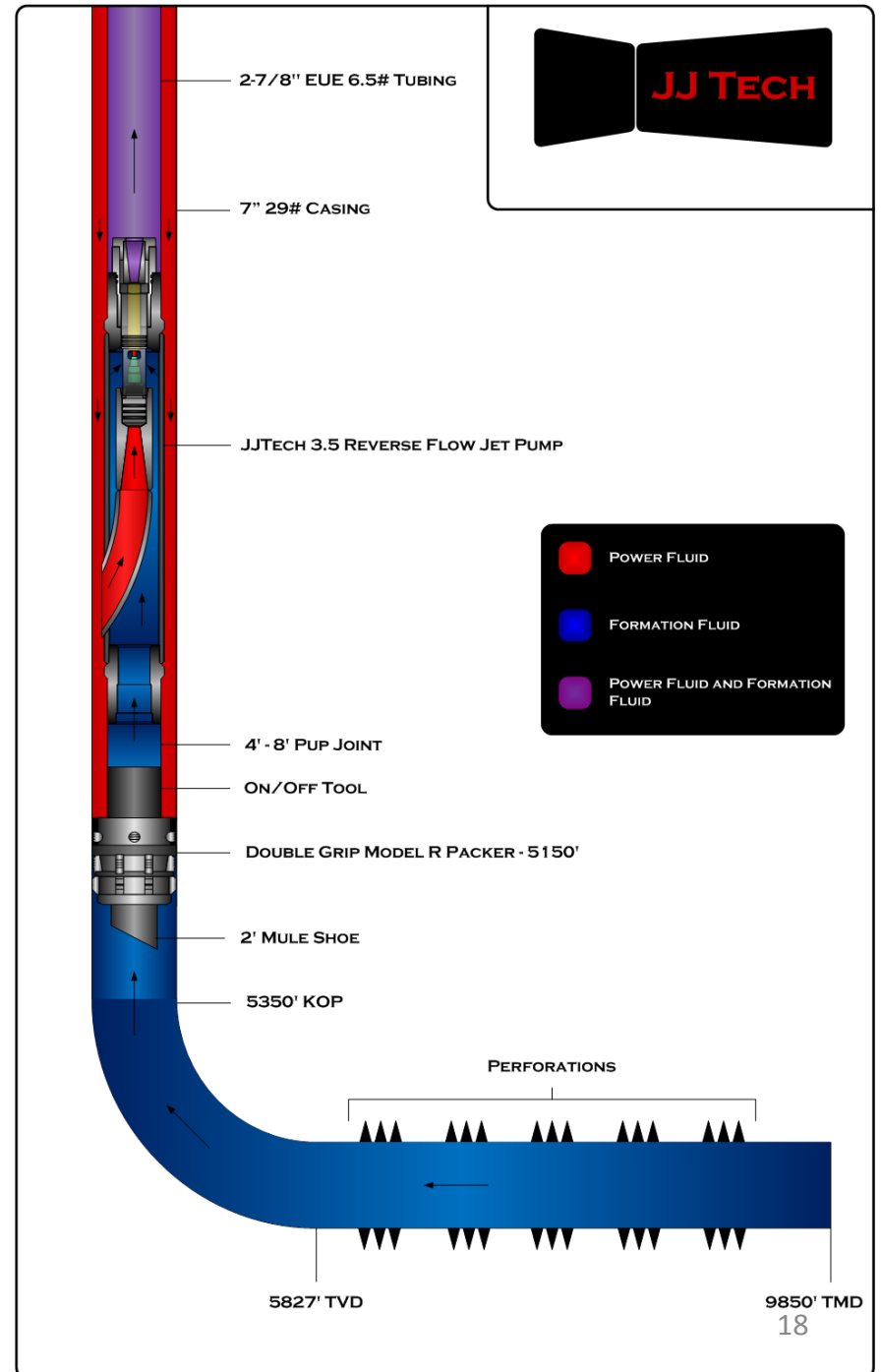
Input Data

| | |
|--------------------------------------|--|
| COMPANY:.....XX | LEASE:.....XX |
| WELL IDENTIFICATION:.....XX | REPRESENTATIVE:.....CBL |
| PUMP DEPTH:.....4920Feet | TUBING LENGTH TO PUMP:.....4920Feet |
| TUBING ID:.....2.441Inches | TUBING OD:.....2.875Inches |
| CASING ID:.....6.276Inches | POWER FLUID:.....Water |
| BH TEMP:.....115Deg F | FLOWING WH TEMP:.....90Deg F |
| GAS LIQ. RATIO:.....232SCF/BBL | DESIGN LIQ. PROD. RATE:.....292BBL/DAY |
| PROD. RETURN:.....Tubing | PRODUCED OIL GRAVITY:.....36API |
| PROD. WATER GRAV: (Sp.Gr.):.....1.15 | PRODUCED GAS GRAVITY:.....0.6 |
| WAT. FRAC.: (50% = 0.50):.....0.96 | SURFACE HYD. PRESS:.....5000psig |
| PUMPING BHP:.....775psig | FLOWING WH PRESS:.....50psig |

Date: 11 - January - 2011

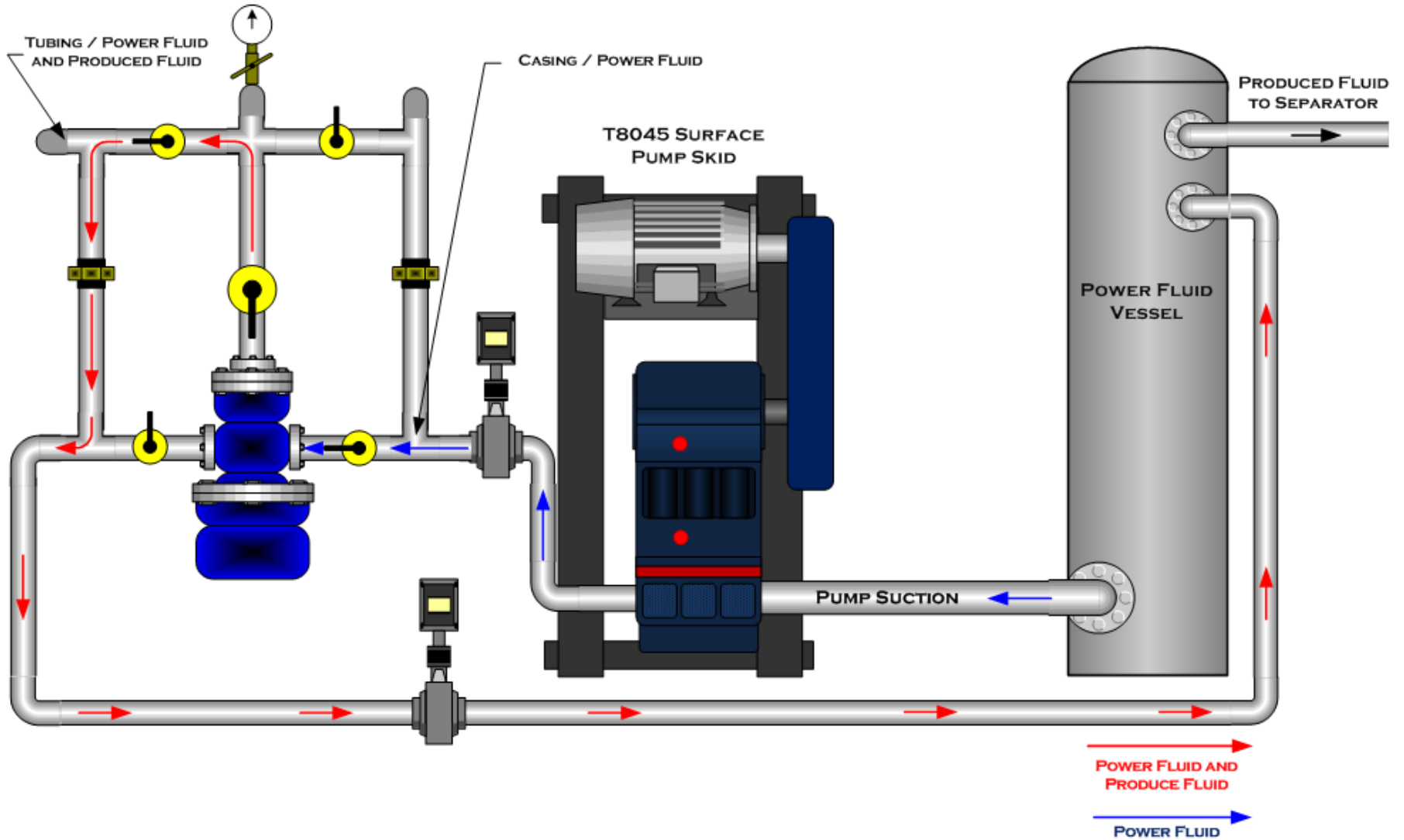
Computed Output Data - English Units

| Pump Size | Power Press sig | Power Fluid Rate bblpd | Horse Power | Non-Cav Rate bblpd | Prod. Rate bblpd | Pumping Bot-hole psig | Nozzle Area inches | Throat Area inches |
|-----------|-----------------|------------------------|-------------|--------------------|------------------|-----------------------|--------------------|--------------------|
| D:5 | 1970 | 1259 | 46 | 417 | 292 | 775 | .0177 | .038 |





REVERSE FLOW JET PUMP SURFACE DIAGRAM



T8045 ELECTRIC / 3.5 REVERSE FLOW JET PUMP / NORTH OKLAHOMA



Diaphragm Pump Skid In Front of Pumping Unit



Sand Produced with Jet Pump

