HEPI Hydraulic Fluid Basic Requirements

APPROVALS	DATE	REV	DCN NO.	BY	CHECK	DCC	DATE
AUTHOR: K Mailand	12-10-02	A					
CHECKED:							
APPROVED:							
DCC RELEASE							

Our operating conditions:

1. Approx Temp. 68/70 deg. F.
2. Operating Pressure Approx. 200 PSI
3. Flow Approx. 3.2 GPM
4. Continuous operation

Hydraulic Fluid Requirements:

1) Non-hazardous (e.g. not extremely toxic)
2) Water soluble (or easily cleaned up)
3) Available in required viscosity, our requirement ~100cps @70F
4) Viscosity sensitivity with temperature is no worse than mineral oil.
5) Does not support biological growth.
6) Does not promote rust or corrosion; i.e. is compatible with the materials in our system.
7) Has sufficient lubricity for gear pumps (which may be used in our application)
8) Does not break down or coagulate or polymerize under the (very mild) conditions in our application.
9) No added dyes -- clear fluid
10) Meets the ASTM D-2882 wear standard [see description below]

Description of wear test:

The standard test for lubrication and pump wear properties is ASTM D-2882. In this test, the hydraulic fluid is circulated though a Vickers Vane pump and a pressure relief valve at 2,000 psi and 175°F for 100 hours. The ring and vane components of the pump are weighed before and after the test to determine the total weight loss. Less weight loss indicates better lubrication and pump wear characteristics. Twenty milligrams is the maximum weight loss for a product to be considered an excellent anti-wear hydraulic fluid.