

## EHC Fluid Analysis Report

**Machine Type:** Plain Bearing  
**Lube Type:** ISO 68  
**Machine MFG:** US MOTORS  
**Machine MOD:** 500 H.P.

**Received:** 10/20/2010  
**Report:** 10/20/2010  
**Sample No.:** 19/2/7  
**Analyst:** MM

**ATTN:** Mike Barrett  
 Great Lakes Generation  
 20338 Progress Drive  
 Strongsville, OH 4149

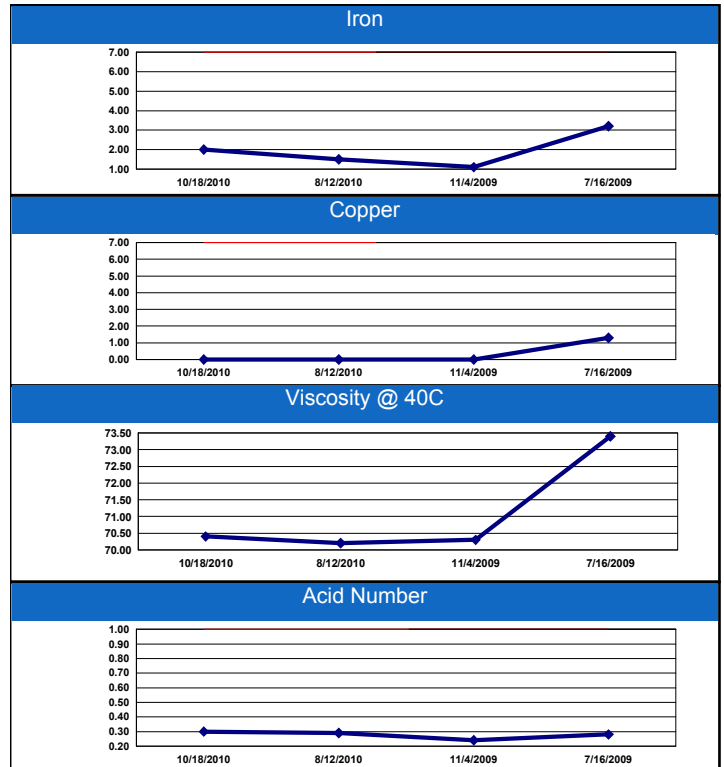
**Problems**

\*\*\* High WATER CONTENT.

**Customer Notes:**

Water content at .307% (3070 ppm) is likely the result of condensation or water ingress. Water contamination can lead to oil degradation, corrosion and reduction in load carrying capacity. If specific source of moisture cannot be located, inspect or install desiccant breathers.

Date		10/18/10	8/12/10	11/4/09	7/16/09
Lab No	Reference	653829	638569	556703	541320
Hours			52800	46056	43392
<b>Spectroscopic Analysis ( ppm) ASTM D5185 Mod</b>					
Iron		2	2	1	3
Copper		0	0	0	1
Lead		1	0	0	0
Aluminum		0	0	1	0
Tin		0	1	0	0
Nickel		0	0	0	0
Chromium		0	0	0	0
Titanium		0	0	0	0
Calcium		418	432	464	31
Magnesium		9	8	8	0
Phosphorus		225	225	222	159
Zinc		287	275	300	217
Barium		0	0	0	0
Molybdenum		0	0	1	0
Silicon		2	1	2	0
Boron		1	0	0	0
Sodium		0	0	2	8
Potassium		0	8	0	15
<b>Viscosity ( centistokes) ASTM D 445 Mod</b>					
Viscosity @ 40C		70.4	70.2	70.3	73.4
<b>Color ASTM D 1500</b>					
COLOR					
<b>Acid Number ( mg KOH/g) D974 Mod.</b>					
Acid Number		0.30	0.29	0.24	0.28
<b>Resistivity( G.ohm -cm) ASTM D1169 *</b>					
Resistivity		20			
<b>Particle Count ( particles per ml) ISO 4406.99</b>					
ISO CODE		18/16/14	19/18/14	22/20/17	19/18/14
>4 Micron		2500	3,404	23,970	4,596
>6 Micron		640	1,324	9,322	1,787
>14 Micron		160	100	710	136
>50 Micron		0	4	31	5
>100 Micron		0	0	1	0
<b>Water Content</b>					
Water %		< 0.1	0.307 (b)	1.64 (c)	0.003 (a)
<b>Membrane Patch Colorimetry IW1-250</b>					
MPC		<35			
<b>Specific Gravity ASTM D1298</b>					
Specific Gravity		>1.12			



ISO/IEC 17025:2005 L-A-B Accredited Certificate Number 2221. (\*) - Not in scope of accreditation. Water Methods: ( a -ASTM D6304 A ) , ( b - IW1-133 ) , ( c - ASTM D6304 C ) , ( d - IW1-134 \* ) , ( e - IW1-135 \* ) , ( f - IW1-136 \* ) , ( g -Crackle Test \* ). Great Lakes Generation assumes sole responsibility for the application of and reliance upon results and recommendations reported by Insight Services, whose obligation is limited to good faith performance.