



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**FLETCHER 14-031**

Component  
**Hydraulic System**

Fluid  
**TRC HYDRAULIC OIL ISO 32- SAE10W (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR02837823</b>	TR02737091	TR02630910
Sample Date		Client Info		<b>10 Apr 2011</b>	11 Oct 2010	16 Apr 2010
Machine Age	mls	Client Info		<b>0</b>	0	0
Oil Age	mls	Client Info		<b>0</b>	0	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>NORMAL</b>	MARGINAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m		<b>5</b>	5	5
Chromium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m		<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m		<b>0</b>	<1	0
Lead	ppm	ASTM D5185m		<b>0</b>	0	<1
Copper	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>VLITE</b>	VLITE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

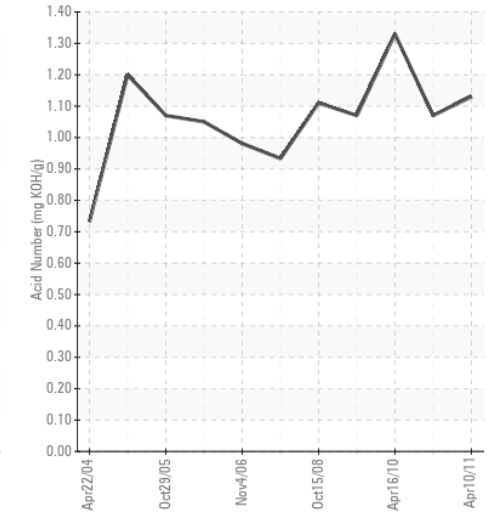
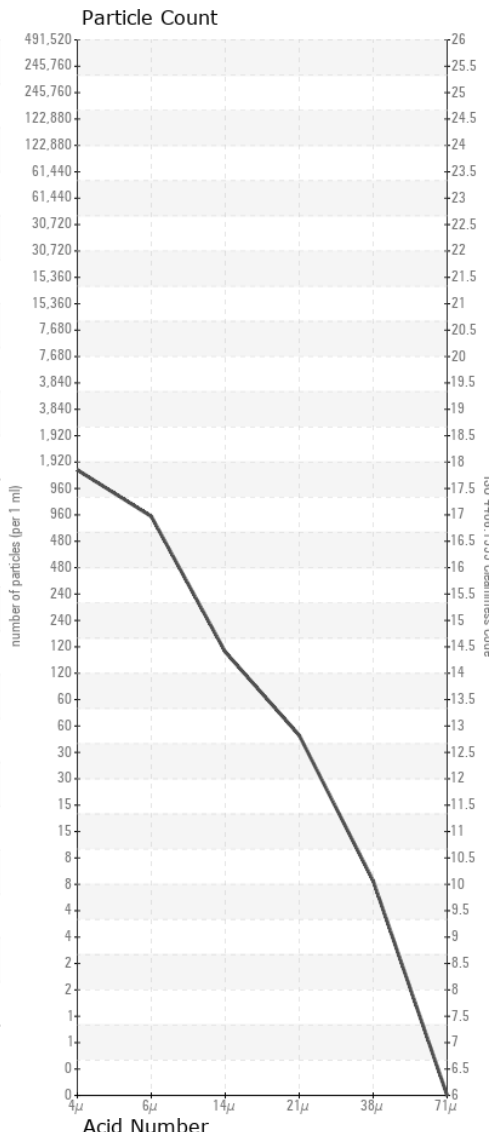
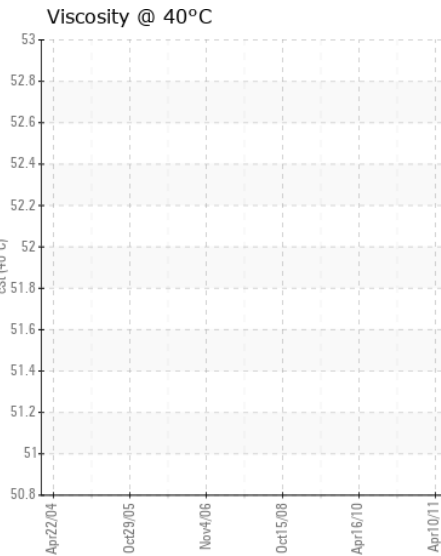
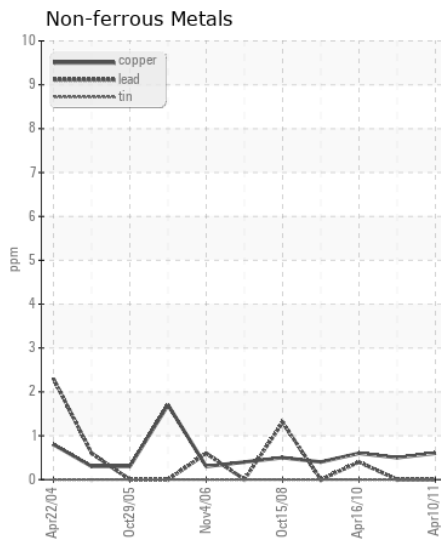
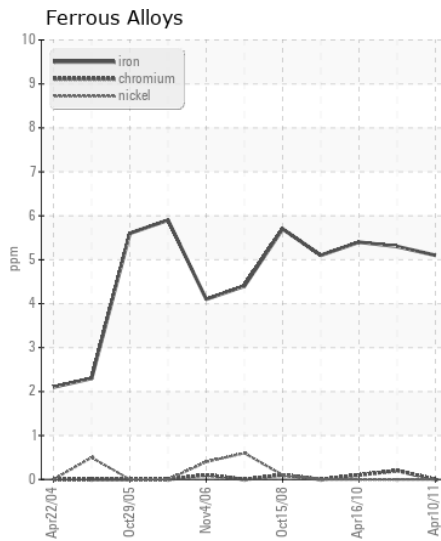
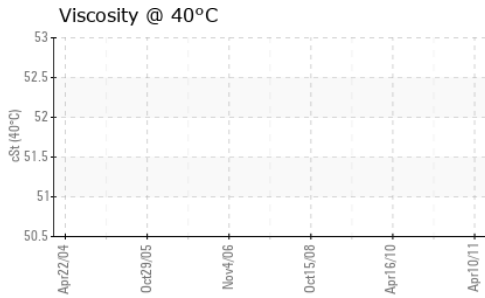
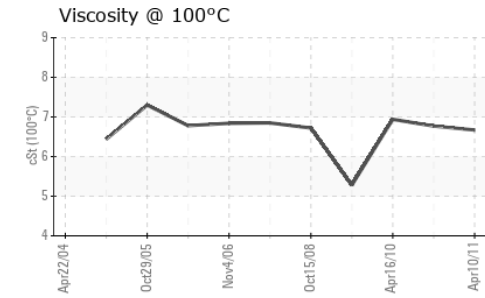
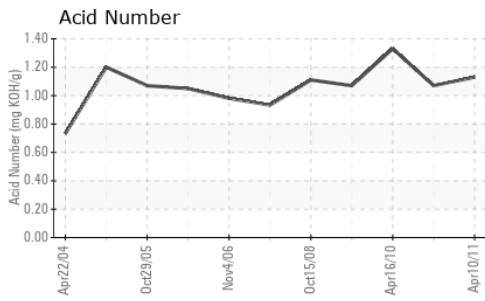
There is no indication of any contamination in the component. The amount and size of particulates present in the system is acceptable.

Silicon	ppm	ASTM D5185m		<b>2</b>	3	2
Potassium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Water		WC Method		<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647		<b>1515</b>	1830	2110
Particles >6µm		ASTM D7647		<b>825</b>	997	1149
Particles >14µm		ASTM D7647		<b>140</b>	▲ 169	▲ 195
Particles >21µm		ASTM D7647		<b>47</b>	▲ 57	▲ 66
Particles >38µm		ASTM D7647		<b>7</b>	▲ 8	▲ 10
Particles >71µm		ASTM D7647		<b>0</b>	0	▲ 1
Oil Cleanliness		ISO 4406 (c)		<b>18/17/14</b>	▲ 18/17/15	▲ 18/17/15
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>VLITE</b>	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual		<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

The condition of oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>3</b>	<1	<1
Boron	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>0</b>	0	<1
Calcium	ppm	ASTM D5185m		<b>80</b>	80	81
Phosphorus	ppm	ASTM D5185m		<b>751</b>	747	790
Zinc	ppm	ASTM D5185m		<b>901</b>	880	936
Sulfur	ppm	ASTM D5185m		<b>5152</b>	5287	5471
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>1.13</b>	1.07	1.33
Visc @ 100°C	cSt	ASTM D445		<b>6.67</b>	6.77	6.94



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR02837823  
**Lab Number** : 02837823  
**Unique Number** : 5534296  
**Test Package** : MOB 2 ( Additional Tests: KV100 )

**Received** : 13 Apr 2011  
**Tested** : 14 Apr 2011  
**Diagnosed** : 14 Apr 2011 - Don Baldrige

**MERILLAT IND**  
P.O. BOX 259  
ATKINS, VA  
US 24311  
Contact: MAURA HARVEY

To discuss this sample report, contact Customer Service at 1-800-827-0711.  
\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.  
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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F: