



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	NORMAL

Machine Id  
**CHALLENGE 14-144**

Component  
**Hydraulic System**

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

## RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR02837820	TR02737093	TR02630906
Sample Date		Client Info		09 Apr 2011	09 Oct 2010	12 Apr 2010
Machine Age	mls	Client Info		0	0	0
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				MARGINAL	ABNORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m		<1	<1	<1
Chromium	ppm	ASTM D5185m		0	<1	0
Nickel	ppm	ASTM D5185m		0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m		<1	<1	0
Lead	ppm	ASTM D5185m		<1	1	1
Copper	ppm	ASTM D5185m		3	3	2
Tin	ppm	ASTM D5185m		0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	VLITE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

## CONTAMINATION

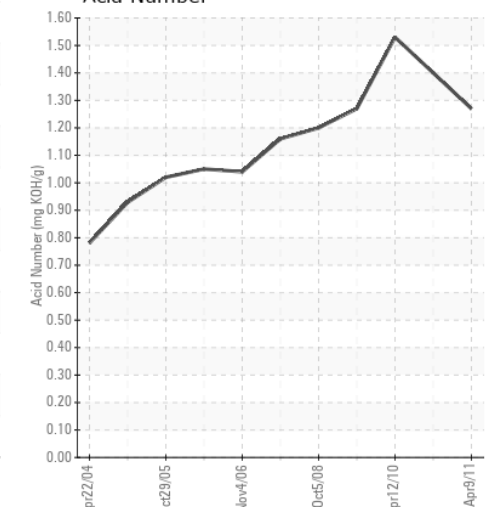
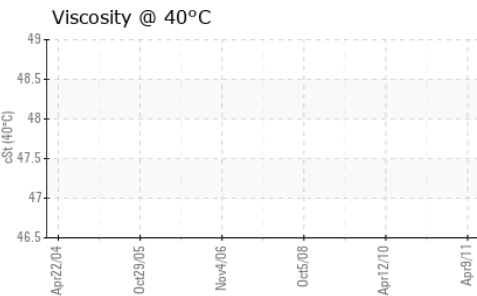
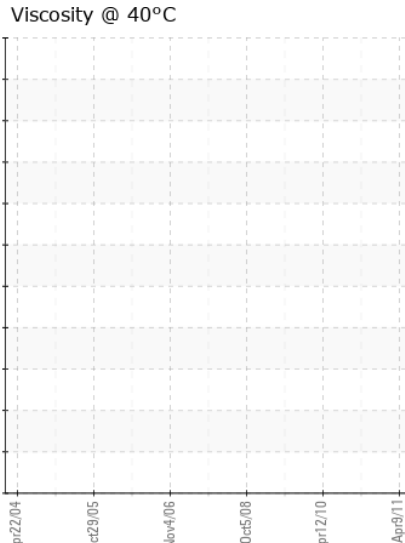
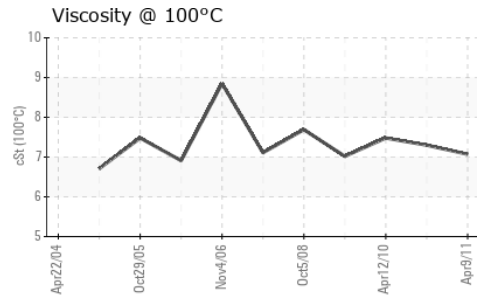
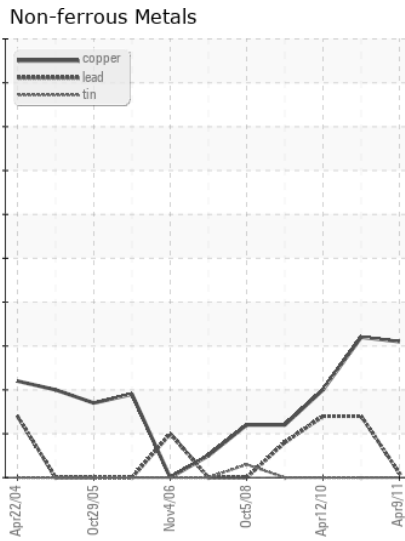
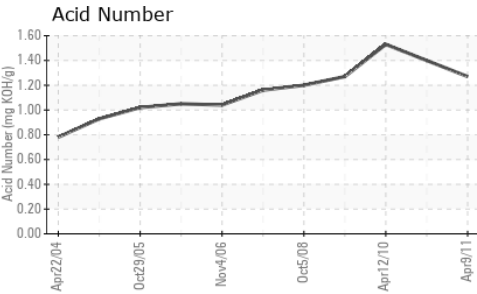
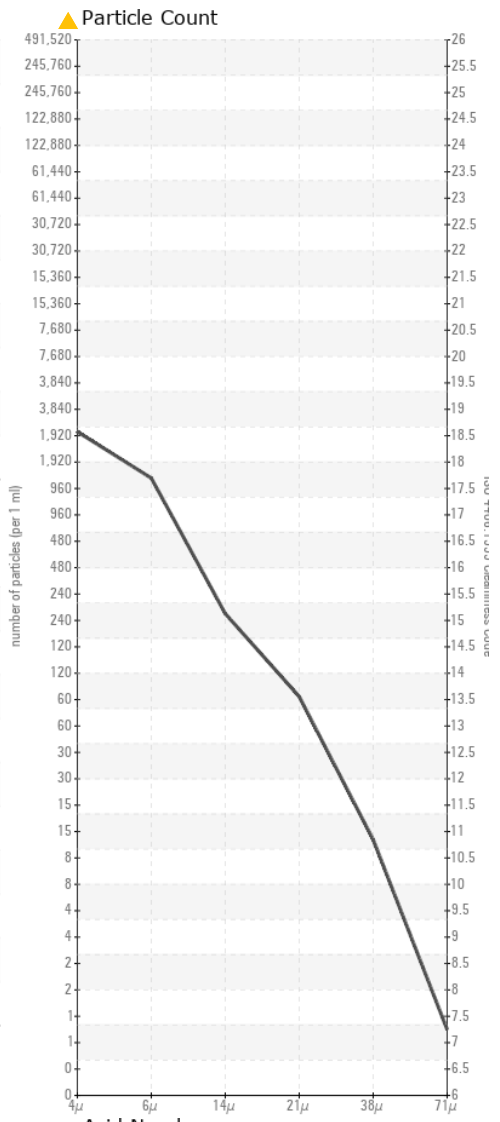
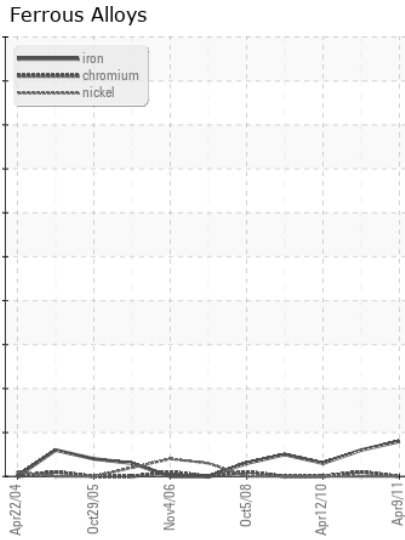
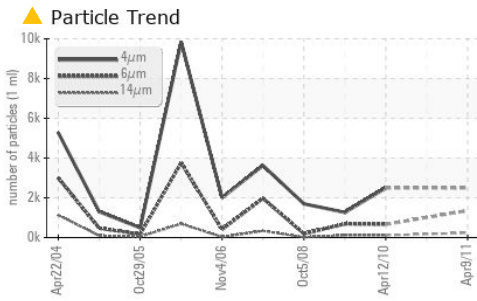
There is a moderate amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m		2	6	2
Potassium	ppm	ASTM D5185m		0	0	0
Water		WC Method		NEG	NEG	NEG
Particles >4µm		ASTM D7647		2499	---	2495
Particles >6µm		ASTM D7647		▲ 1361	---	663
Particles >14µm		ASTM D7647		▲ 231	---	113
Particles >21µm		ASTM D7647		▲ 78	---	38
Particles >38µm		ASTM D7647		▲ 12	---	5
Particles >71µm		ASTM D7647		▲ 1	---	1
Oil Cleanliness		ISO 4406 (c)		▲ 18/18/15	---	18/17/14
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	VLITE	▲ MODER	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual		NEG	NEG	NEG

## FLUID CONDITION

The condition of oil is suitable for further service.

Sodium	ppm	ASTM D5185m		6	2	<1
Boron	ppm	ASTM D5185m		<1	<1	0
Barium	ppm	ASTM D5185m		0	<1	<1
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		<1	<1	<1
Calcium	ppm	ASTM D5185m		97	98	99
Phosphorus	ppm	ASTM D5185m		786	804	832
Zinc	ppm	ASTM D5185m		952	942	997
Sulfur	ppm	ASTM D5185m		5148	6154	6190
Acid Number (AN)	mg KOH/g	ASTM D8045		1.27	1.40	1.53
Visc @ 100°C	cSt	ASTM D445		7.07	7.3	7.48



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR02837820 **Received** : 13 Apr 2011  
**Lab Number** : 02837820 **Tested** : 14 Apr 2011  
**Unique Number** : 5534293 **Diagnosed** : 14 Apr 2011 - Don Baldrige  
**Test Package** : MOB 2 ( Additional Tests: KV100 )

**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)

T:  
F: