



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
14-22492

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		TR02837819	TR02737092	TR02630905
Sample Date		Client Info		08 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				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m		<1	<1	<1
Chromium	ppm	ASTM D5185m		<1	<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	<1
Lead	ppm	ASTM D5185m		<1	1	1
Copper	ppm	ASTM D5185m		1	1	<1
Tin	ppm	ASTM D5185m		0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

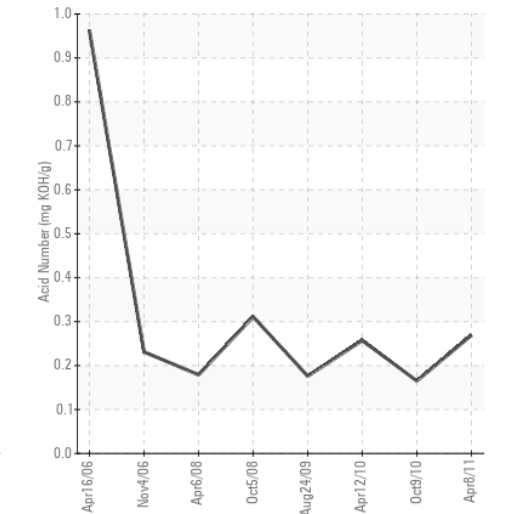
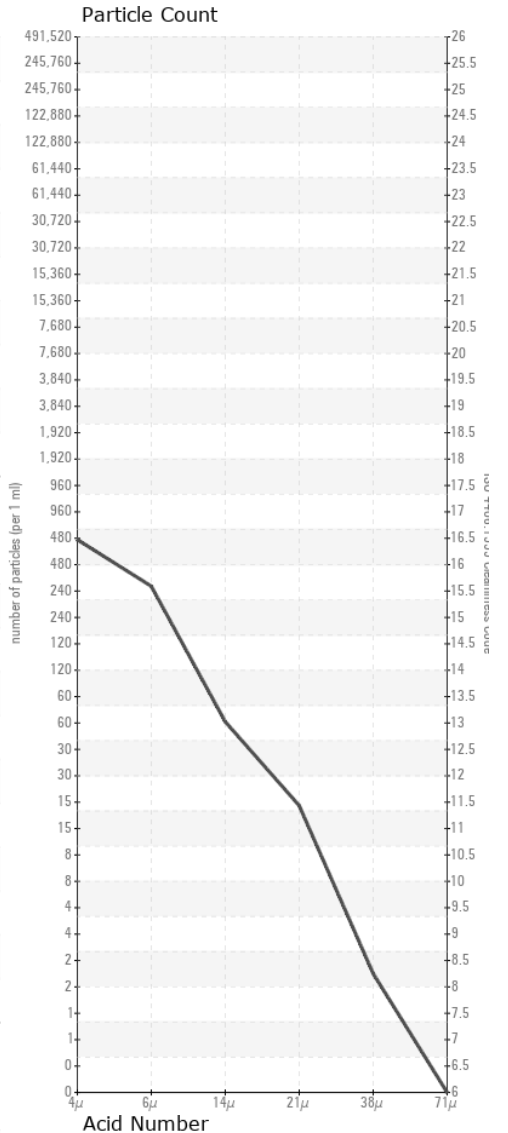
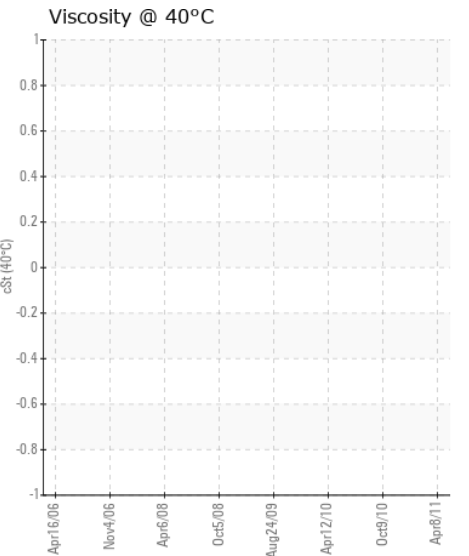
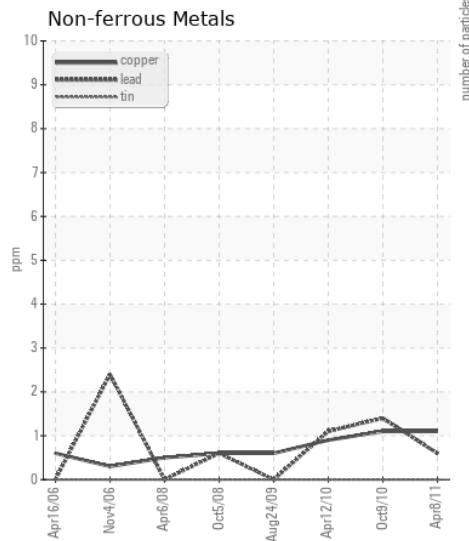
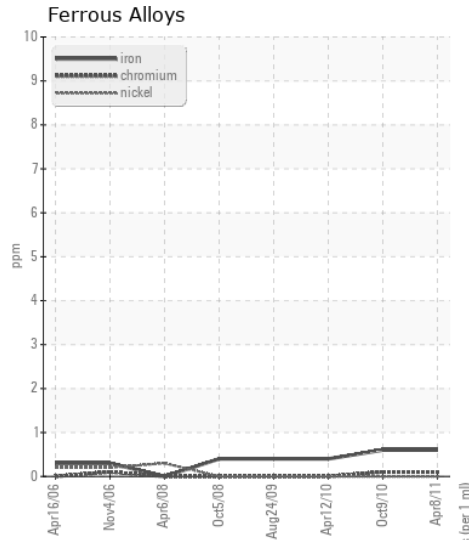
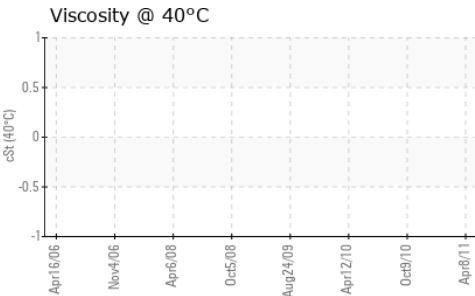
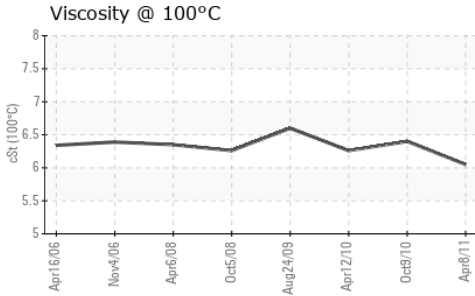
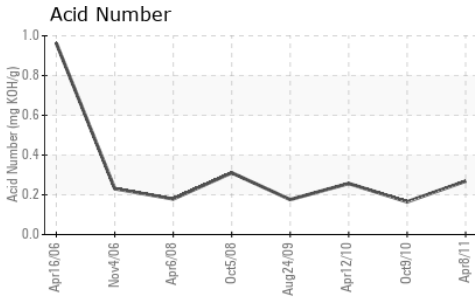
There is no indication of any contamination in the component. The amount and size of particulates present in the system is acceptable.

Silicon	ppm	ASTM D5185m		1	5	<1
Potassium	ppm	ASTM D5185m		0	0	0
Water		WC Method		NEG	NEG	NEG
Particles >4µm		ASTM D7647		585	708	---
Particles >6µm		ASTM D7647		318	385	---
Particles >14µm		ASTM D7647		54	65	---
Particles >21µm		ASTM D7647		18	22	---
Particles >38µm		ASTM D7647		2	3	---
Particles >71µm		ASTM D7647		0	0	---
Oil Cleanliness		ISO 4406 (c)		16/15/13	17/16/13	---
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	VLITE	LIGHT	▲ HEAVY
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		<1	2	<1
Boron	ppm	ASTM D5185m		<1	0	0
Barium	ppm	ASTM D5185m		2	2	2
Molybdenum	ppm	ASTM D5185m		0	1	<1
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		0	<1	0
Calcium	ppm	ASTM D5185m		23	15	15
Phosphorus	ppm	ASTM D5185m		230	193	202
Zinc	ppm	ASTM D5185m		234	181	189
Sulfur	ppm	ASTM D5185m		1626	1682	1691
Acid Number (AN)	mg KOH/g	ASTM D8045		0.269	0.165	0.257
Visc @ 100°C	cSt	ASTM D445		6.05	6.4	6.26



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR02837819
Lab Number : 02837819
Unique Number : 5534292
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: