TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
14-23528
Component
Rear Hydraulic System
Fluid
TRC HYDRAULIC OIL ISO 32- SAE10W (--- GAL)

RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

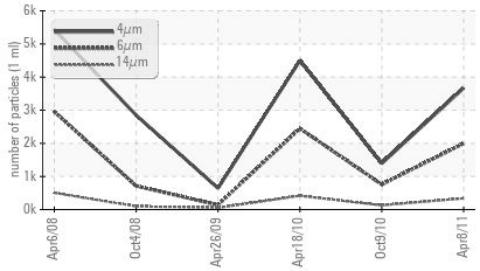
There is a high amount of particulates present in the oil.

FLUID CONDITION

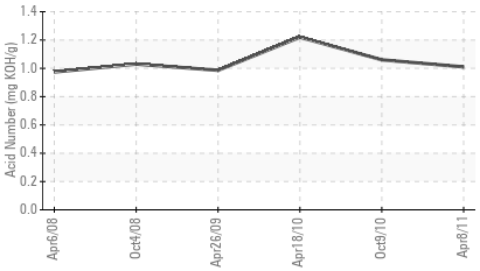
The condition of oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR02837822	TR02737094	TR02630907
Sample Date		Client Info		08 Apr 2011	09 Oct 2010	18 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	Not Changd
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m		2	3	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	<1
Aluminum	ppm	ASTM D5185m		<1	<1	<1
Lead	ppm	ASTM D5185m		2	3	2
Copper	ppm	ASTM D5185m		7	8	7
Tin	ppm	ASTM D5185m		0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	VLITE	VLITE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m		4	▲ 40	3
Potassium	ppm	ASTM D5185m		1	2	0
Water		WC Method		NEG	NEG	NEG
Particles >4µm		ASTM D7647		3665	1392	4497
Particles >6µm		ASTM D7647		▲ 1996	758	▲ 2449
Particles >14µm		ASTM D7647		▲ 340	129	▲ 417
Particles >21µm		ASTM D7647		▲ 114	43	▲ 140
Particles >38µm		ASTM D7647		▲ 17	6	▲ 21
Particles >71µm		ASTM D7647		▲ 1	0	▲ 2
Oil Cleanliness		ISO 4406 (c)		▲ 19/18/16	18/17/14	▲ 19/18/16
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	LIGHT	LIGHT
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
Sodium	ppm	ASTM D5185m		3	22	1
Boron	ppm	ASTM D5185m		<1	<1	0
Barium	ppm	ASTM D5185m		3	3	6
Molybdenum	ppm	ASTM D5185m		0	0	<1
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m		0	<1	<1
Calcium	ppm	ASTM D5185m		178	171	181
Phosphorus	ppm	ASTM D5185m		626	646	655
Zinc	ppm	ASTM D5185m		799	797	839
Sulfur	ppm	ASTM D5185m		4892	5338	5161
Acid Number (AN)	mg KOH/g	ASTM D8045		1.01	1.06	1.22
Visc @ 100°C	cSt	ASTM D445		7.59	7.97	7.82

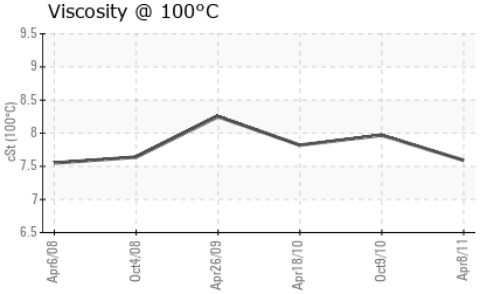
Particle Trend



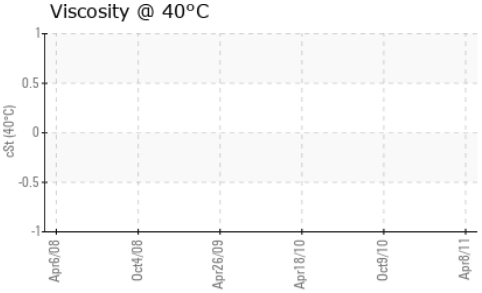
Acid Number



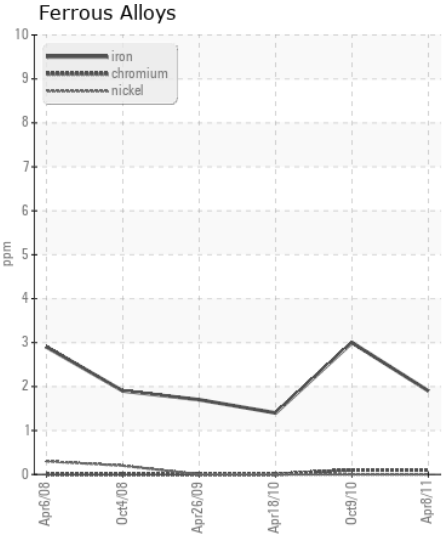
Viscosity @ 100°C



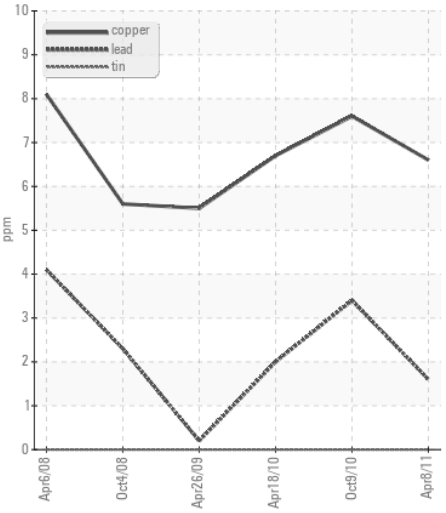
Viscosity @ 40°C



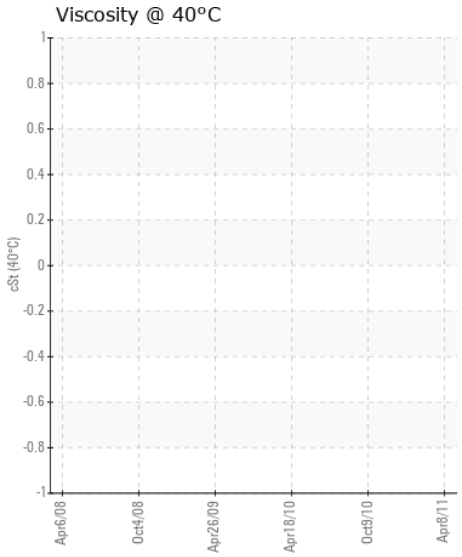
Ferrous Alloys



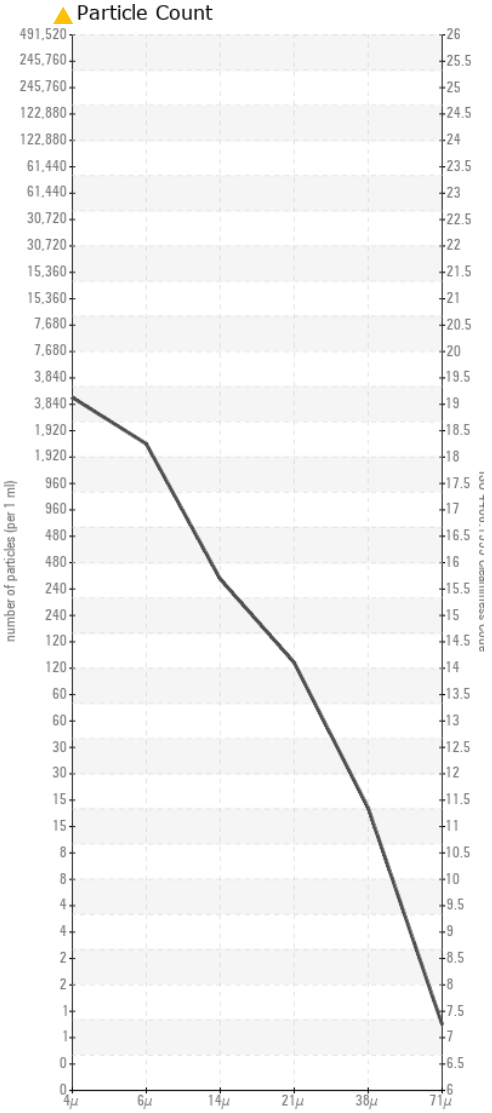
Non-ferrous Metals



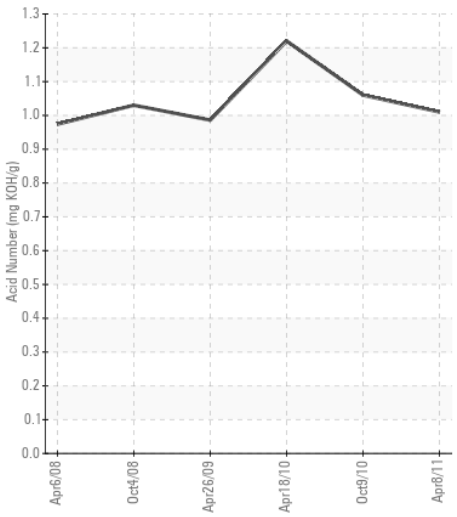
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR02837822 **Received** : 13 Apr 2011
Lab Number : 02837822 **Tested** : 14 Apr 2011
Unique Number : 5534295 **Diagnosed** : 14 Apr 2011 - Don Baldridge
Test Package : MOB 2 (Additional Tests: KV100)

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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