



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Machine Id
RUCKLES 14-122

Component
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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR02837821	TR02737097	TR02630909
Sample Date		Client Info		09 Apr 2011	03 Oct 2010	30 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

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m		11	3	<1
Chromium	ppm	ASTM D5185m		<1	<1	<1
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		2	2	<1
Copper	ppm	ASTM D5185m		9	10	10
Tin	ppm	ASTM D5185m		0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	LIGHT	NONE	VLITE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

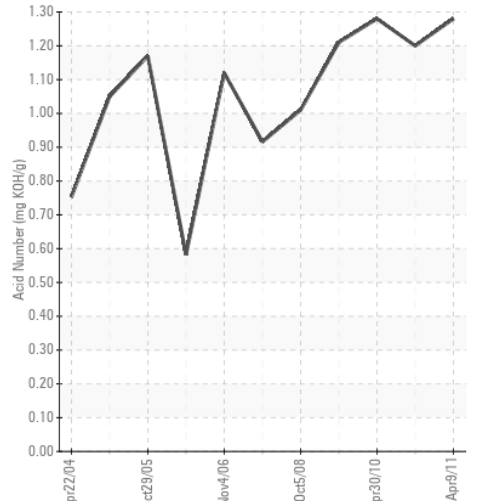
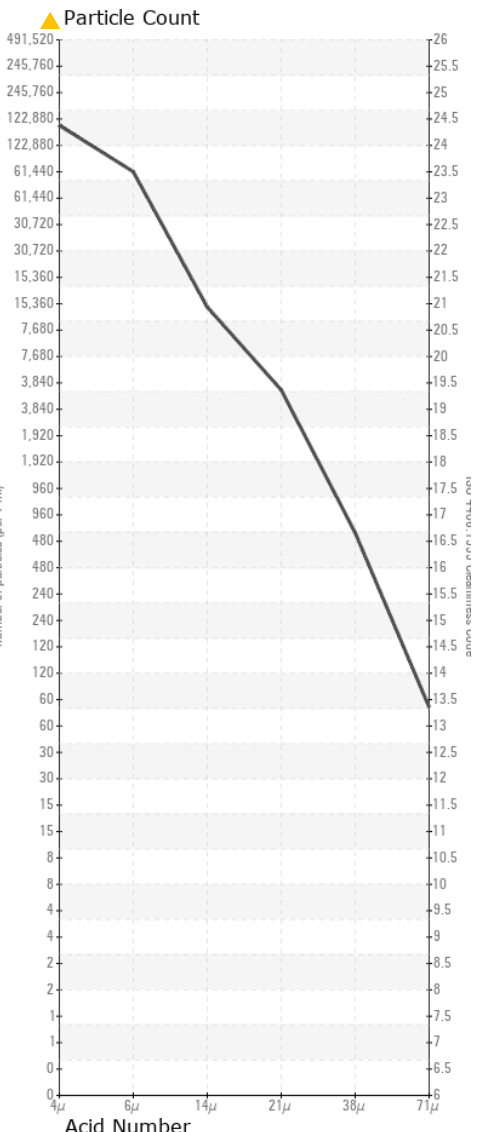
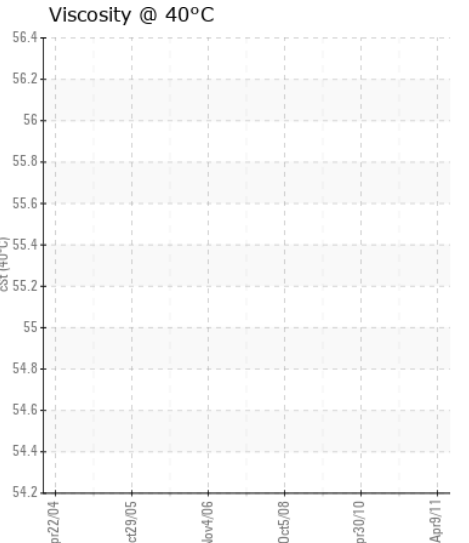
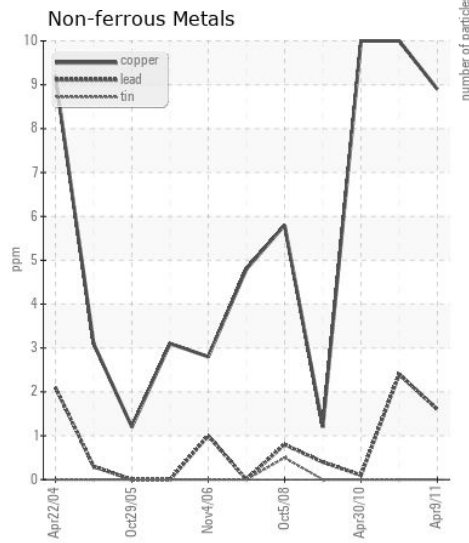
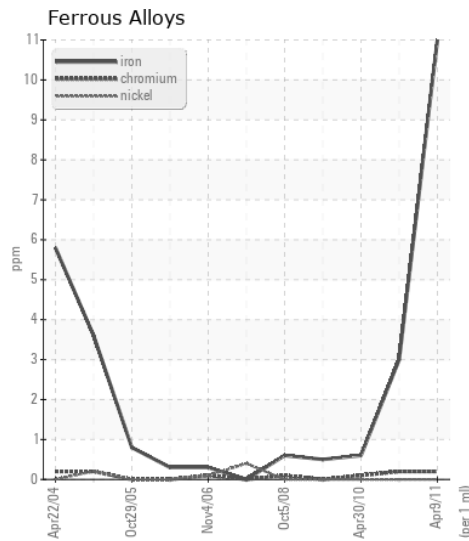
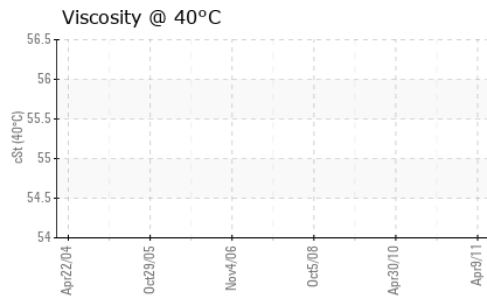
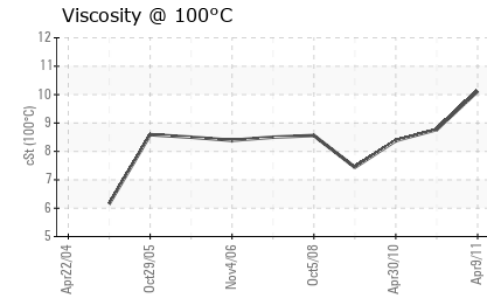
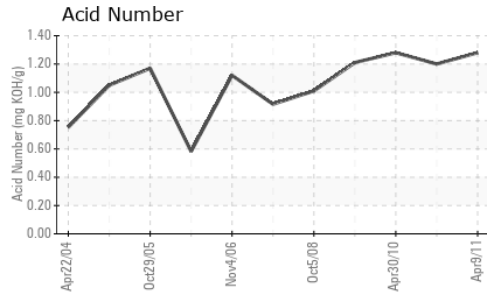
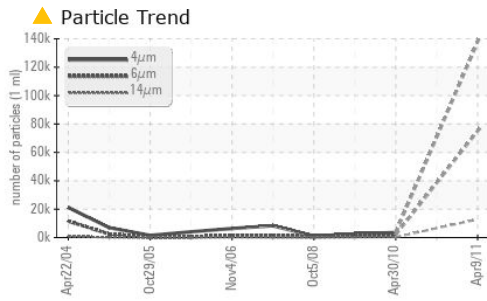
There is a high amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m		2	2	2
Potassium	ppm	ASTM D5185m		0	0	0
Water		WC Method		NEG	NEG	NEG
Particles >4µm		ASTM D7647		137768	---	3572
Particles >6µm		ASTM D7647		75048	---	1945
Particles >14µm		ASTM D7647		12786	---	331
Particles >21µm		ASTM D7647		4314	---	111
Particles >38µm		ASTM D7647		666	---	17
Particles >71µm		ASTM D7647		68	---	1
Oil Cleanliness		ISO 4406 (c)		24/23/21	---	19/18/16
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	HEAVY	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 oil viscosity is higher than normal. Confirm oil type.

Sodium	ppm	ASTM D5185m		157	41	6
Boron	ppm	ASTM D5185m		<1	<1	0
Barium	ppm	ASTM D5185m		<1	<1	<1
Molybdenum	ppm	ASTM D5185m		0	0	<1
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		<1	1	0
Calcium	ppm	ASTM D5185m		77	86	89
Phosphorus	ppm	ASTM D5185m		849	750	759
Zinc	ppm	ASTM D5185m		914	884	909
Sulfur	ppm	ASTM D5185m		7158	6553	6270
Acid Number (AN)	mg KOH/g	ASTM D8045		1.28	1.20	1.28
Visc @ 100°C	cSt	ASTM D445		10.12	8.77	8.38



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR02837821 **Received** : 13 Apr 2011
Lab Number : 02837821 **Tested** : 15 Apr 2011
Unique Number : 5534294 **Diagnosed** : 15 Apr 2011 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: Bottom, 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: