



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id HYDRAULIC SHEAR

Component Hydraulic System

Fluid TRC HYDRAULIC OIL ISO 32- SAE10W (60 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		TR04494887	TR03763580	---
Sample Date		Client Info		23 May 2018	03 Jun 2015	---
Machine Age	mths	Client Info		0	12	---
Oil Age	mths	Client Info		12	12	---
Filter Age	mths	Client Info		12	12	---
Oil Changed		Client Info		N/A	Not Changd	---
Filter Changed		Client Info		N/A	Not Changd	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	<1	<1	---
Chromium	ppm	ASTM D5185m	>10	0	0	---
Nickel	ppm	ASTM D5185m		0	<1	---
Titanium	ppm	ASTM D5185m		<1	0	---
Silver	ppm	ASTM D5185m		<1	0	---
Aluminum	ppm	ASTM D5185m	>10	<1	0	---
Lead	ppm	ASTM D5185m	>10	<1	0	---
Copper	ppm	ASTM D5185m	>75	5	<1	---
Tin	ppm	ASTM D5185m	>10	<1	0	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

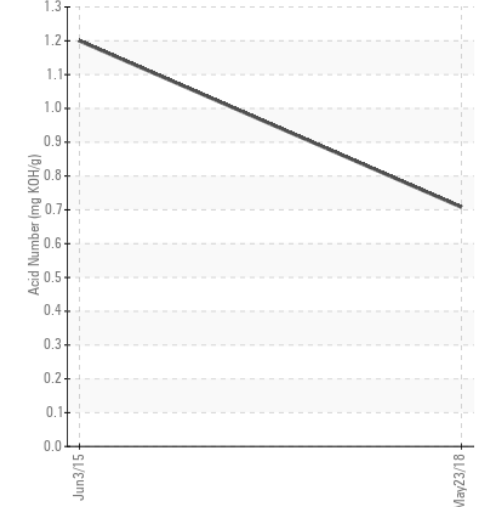
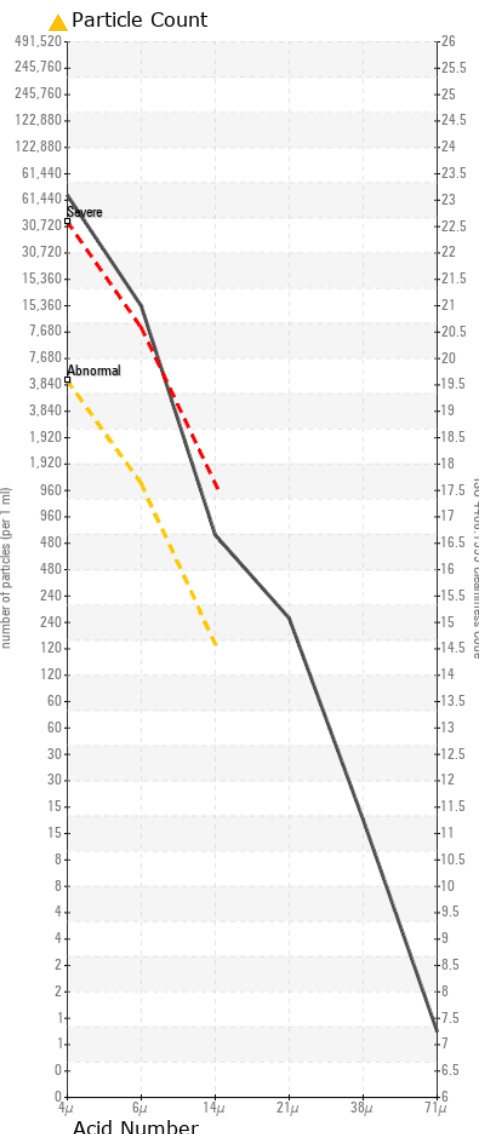
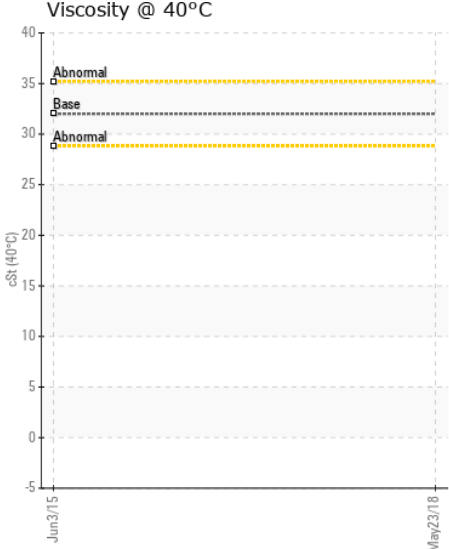
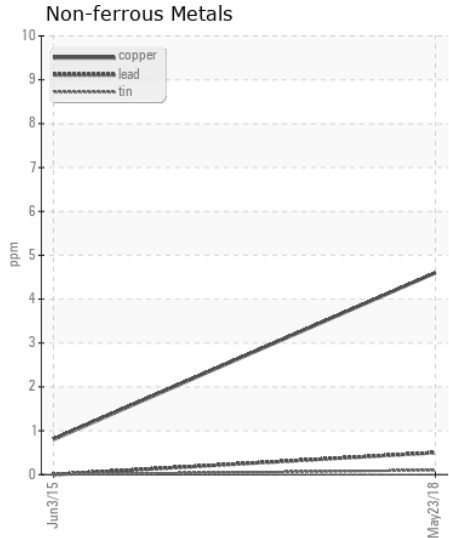
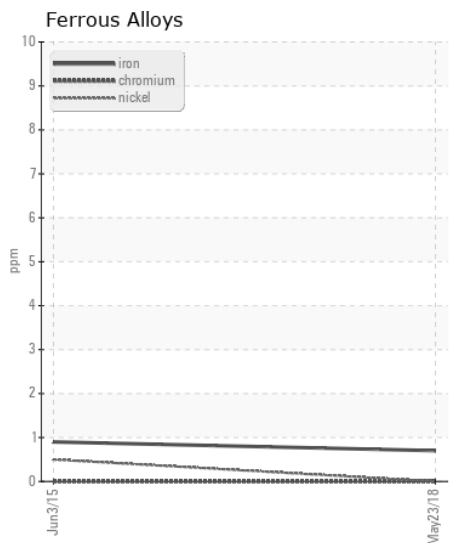
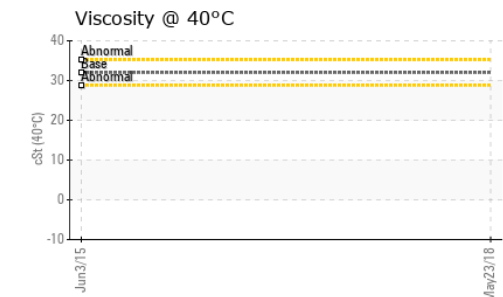
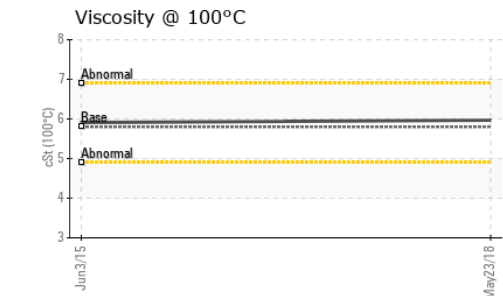
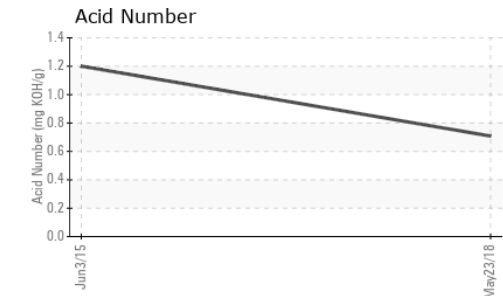
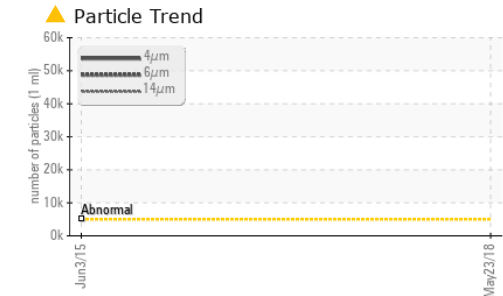
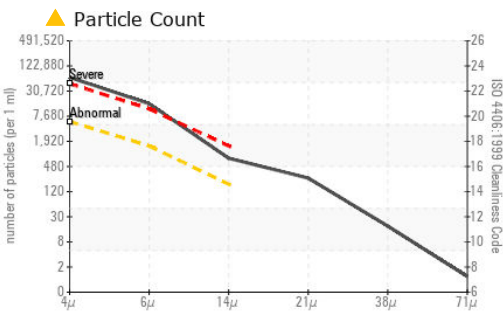
There is a high amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m	>20	3	2	---
Potassium	ppm	ASTM D5185m	>20	0	4	---
Water		WC Method	>0.1	NEG	NEG	---
Particles >4µm		ASTM D7647	>5000	▲ 56743	---	---
Particles >6µm		ASTM D7647	>1300	▲ 13276	---	---
Particles >14µm		ASTM D7647	>160	▲ 664	---	---
Particles >21µm		ASTM D7647	>40	▲ 223	---	---
Particles >38µm		ASTM D7647	>10	▲ 16	---	---
Particles >71µm		ASTM D7647	>3	1	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 23/21/17	---	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	LIGHT	▲ HEAVY	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	---

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<1	<1	---
Boron	ppm	ASTM D5185m		<1	<1	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		<1	0	---
Manganese	ppm	ASTM D5185m		<1	0	---
Magnesium	ppm	ASTM D5185m		2	1	---
Calcium	ppm	ASTM D5185m		108	99	---
Phosphorus	ppm	ASTM D5185m		696	800	---
Zinc	ppm	ASTM D5185m	1000	869	979	---
Sulfur	ppm	ASTM D5185m		1093	1737	---
Acid Number (AN)	mg KOH/g	ASTM D8045		0.708	1.20	---
Visc @ 100°C	cSt	ASTM D445	5.8	5.97	5.91	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR04494887 **Received** : 20 Jun 2018
Lab Number : 04494887 **Tested** : 21 Jun 2018
Unique Number : 8238681 **Diagnosed** : 21 Jun 2018 - Don Baldrige
Test Package : MOB 2 (Additional Tests: KV100)

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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)