



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id  
**88 E-ONE 2011**

Component  
**Hydraulic System**

Fluid  
**TRC HYDRAULIC OIL ISO 32- SAE10W (80 QTS)**

## 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		TR01659050	TR01230094	TR00617687
Sample Date		Client Info		05 Apr 2006	26 Apr 2005	01 Sep 2003
Machine Age	hrs	Client Info		0	0	1294
Oil Age	hrs	Client Info		0	0	55
Filter Age	hrs	Client Info		0	0	55
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status				ABNORMAL	NORMAL	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m		1	1	<1
Chromium	ppm	ASTM D5185m		<1	0	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		10	8	4
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

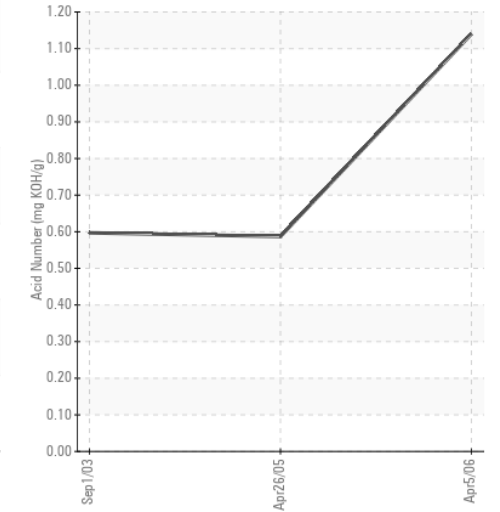
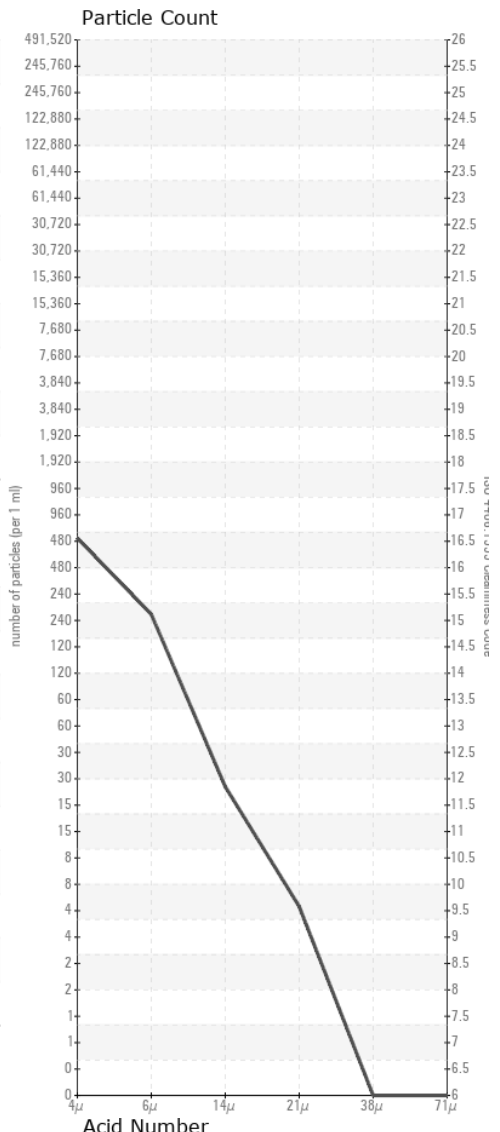
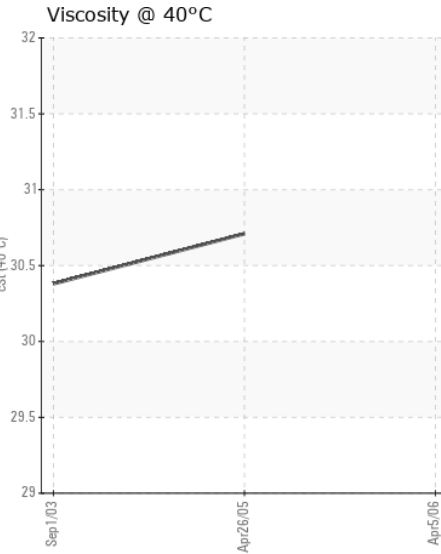
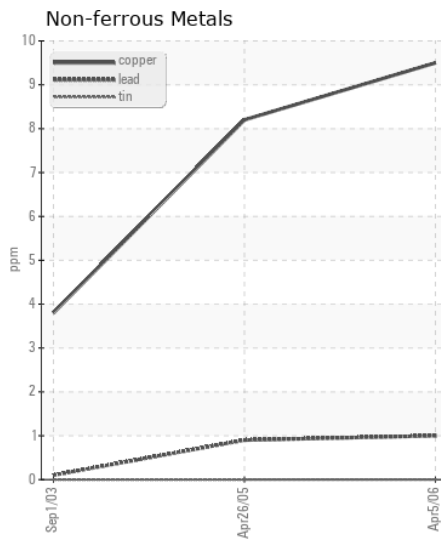
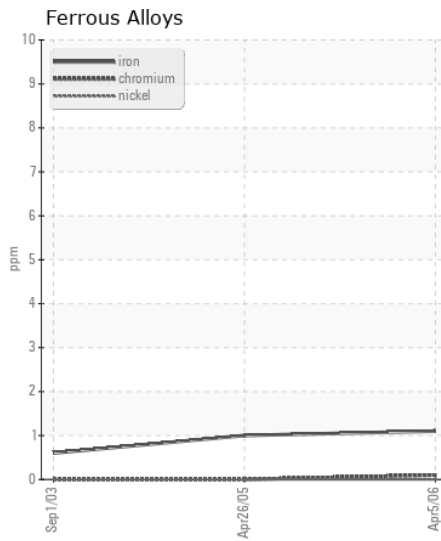
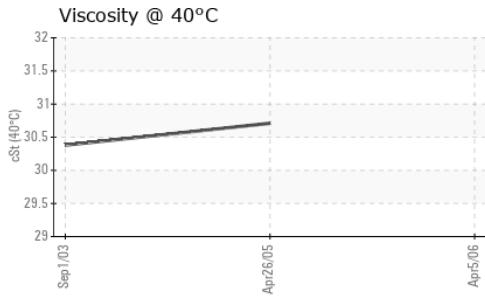
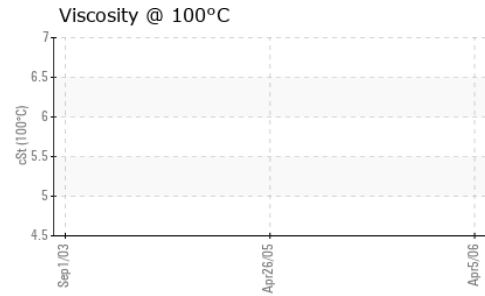
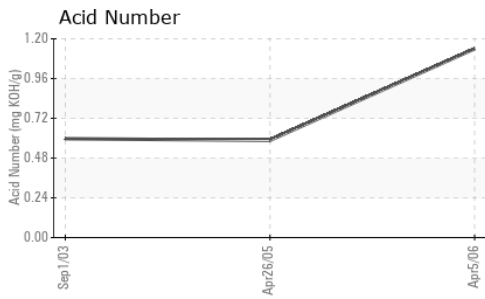
Moderate concentration of visible dirt/debris present in the oil. The amount and size of suspended particulates present in the system is acceptable.

Silicon	ppm	ASTM D5185m		2	2	1
Potassium	ppm	ASTM D5185m		0	0	3
Water		WC Method		NEG	NEG	NEG
Particles >4µm		ASTM D7647		621	557	6920
Particles >6µm		ASTM D7647		229	230	▲ 3381
Particles >14µm		ASTM D7647		24	65	▲ 647
Particles >21µm		ASTM D7647		5	21	▲ 180
Particles >38µm		ASTM D7647		0	1	▲ 18
Particles >71µm		ASTM D7647		0	0	0
Oil Cleanliness		ISO 4406 (c)		16/15/12	16/15/13	▲ 20/19/17
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	▲ MODER	NONE	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		2	1	2
Boron	ppm	ASTM D5185m		18	21	21
Barium	ppm	ASTM D5185m		<1	<1	0
Molybdenum	ppm	ASTM D5185m		<1	0	0
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		4	2	0
Calcium	ppm	ASTM D5185m		205	235	256
Phosphorus	ppm	ASTM D5185m		616	722	679
Zinc	ppm	ASTM D5185m		739	843	766
Sulfur	ppm	ASTM D5185m		4004	4624	4425
Acid Number (AN)	mg KOH/g	ASTM D8045		1.14	0.587	0.597
Visc @ 40°C	cSt	ASTM D445		---	30.71	30.38
Visc @ 100°C	cSt	ASTM D445		5.59	---	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR01659050 **Received** : 17 Apr 2006  
**Lab Number** : 01659050 **Tested** : 18 Apr 2006  
**Unique Number** : 3614566 **Diagnosed** : 18 Apr 2006 - Doug Bogart  
**Test Package** : MOB 2 ( Additional Tests: Bottom, KV100 )

**BULLHEAD CITY FIRE DEPT**  
 1230 HWY 95  
 BULLHEAD CITY, AZ  
 US 86442  
 Contact: MARK OPHEIM

Certificate L2367  
 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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