



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**MCCLOSKEY R155 R155**

Component  
**Diesel Engine**

Fluid  
**TRC MOLY XL PRO-SPEC IV 15W40 (9 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR03765757</b>	TR03669123	---
Sample Date		Client Info		<b>11 Jun 2015</b>	15 Jan 2015	---
Machine Age	hrs	Client Info		<b>2136</b>	1600	---
Oil Age	hrs	Client Info		<b>1636</b>	1100	---
Filter Age	hrs	Client Info		<b>1636</b>	1100	---
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	---
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	---
Sample Status				<b>NORMAL</b>	NORMAL	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>46</b>	24	---
Chromium	ppm	ASTM D5185m	>20	<b>3</b>	<1	---
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	---
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	---
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	---
Aluminum	ppm	ASTM D5185m	>25	<b>7</b>	5	---
Lead	ppm	ASTM D5185m	>40	<b>3</b>	<1	---
Copper	ppm	ASTM D5185m	>330	<b>83</b>	3	---
Tin	ppm	ASTM D5185m	>15	<b>0</b>	0	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

## CONTAMINATION

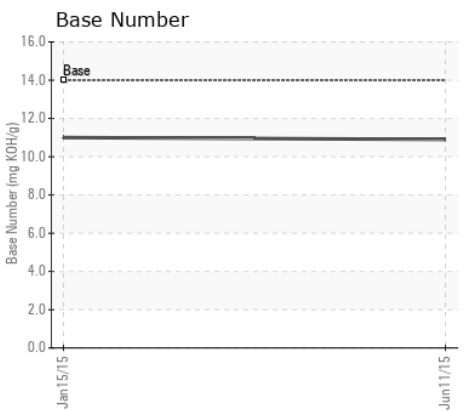
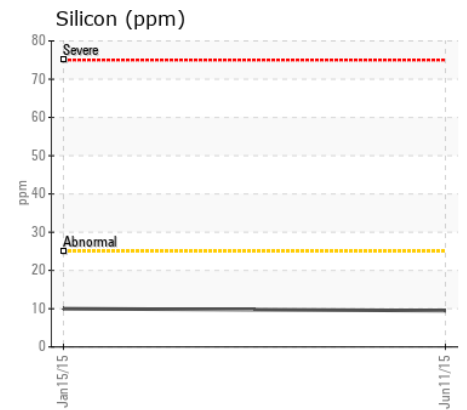
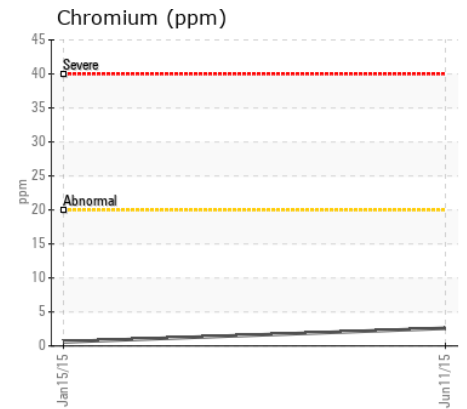
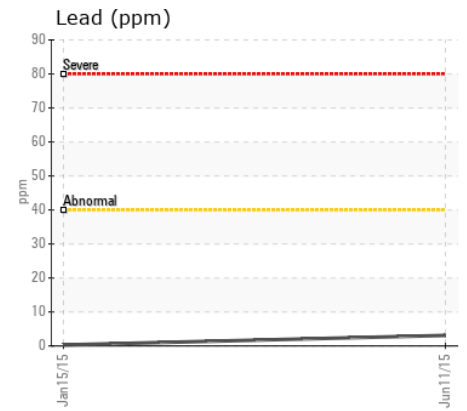
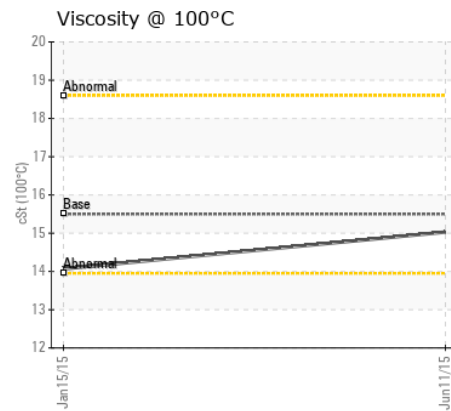
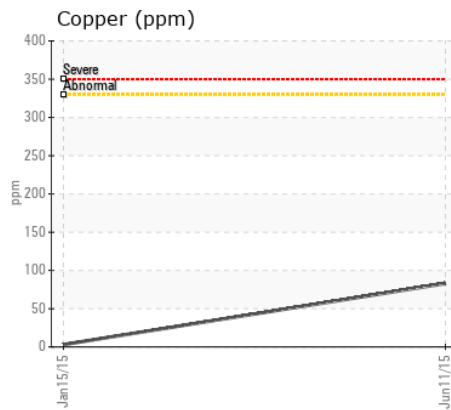
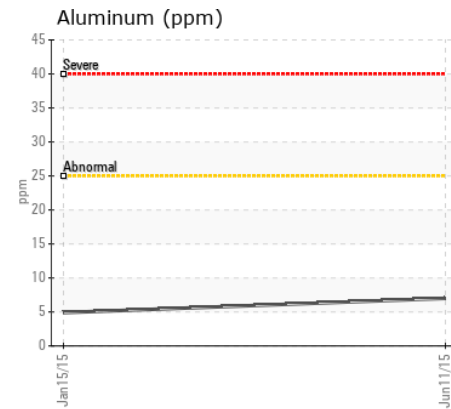
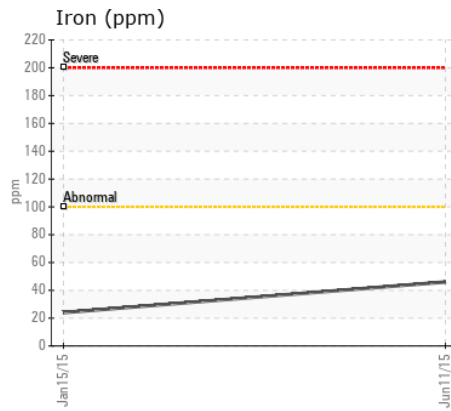
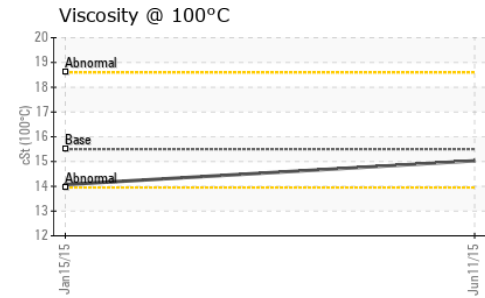
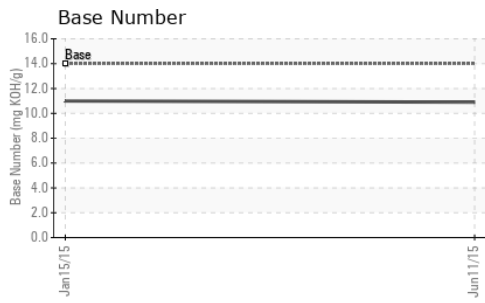
There is no indication of any contamination in the component.

Silicon	ppm	ASTM D5185m	>25	<b>10</b>	10	---
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	7	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.2	---
Nitration	Abs/cm	*ASTM D7624		<b>11.</b>	10.	---
Sulfation	Abs/.1mm	*ASTM D7415		<b>25.</b>	22.	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	---

## FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>6</b>	5	---
Boron	ppm	ASTM D5185m		<b>2</b>	1	---
Barium	ppm	ASTM D5185m		<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m		<b>214</b>	172	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Magnesium	ppm	ASTM D5185m		<b>422</b>	479	---
Calcium	ppm	ASTM D5185m	1300	<b>3436</b>	2800	---
Phosphorus	ppm	ASTM D5185m		<b>1396</b>	1341	---
Zinc	ppm	ASTM D5185m	1300	<b>1670</b>	1483	---
Sulfur	ppm	ASTM D5185m		<b>652</b>	4220	---
Oxidation	Abs/.1mm	*ASTM D7414		<b>19.</b>	17.	---
Base Number (BN)	mg KOH/g	ASTM D2896	14	<b>10.9</b>	11.0	---
Visc @ 100°C	cSt	ASTM D445	15.5	<b>15.03</b>	14.07	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR03765757  
**Lab Number** : 03765757  
**Unique Number** : 7043772  
**Test Package** : MOB 2  
**Received** : 18 Jun 2015  
**Tested** : 18 Jun 2015  
**Diagnosed** : 19 Jun 2015 - Jonathan Hester

**NORTHFORK EXCAVATING**  
 13335 TONQUIN RD  
 SHERWOOD, OR  
 US 97140  
 Contact: NATHAN BYRD

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: