



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**LINKBELT 411**  
 Component  
**Diesel Engine**  
 Fluid  
**TRC MOLY XL PRO-SPEC IV 15W40 (24 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06158500	TR05767360	TR05525863
Sample Date		Client Info		05 Feb 2024	22 Nov 2022	15 Feb 2022
Machine Age	mls	Client Info		9259	8087	7378
Oil Age	mls	Client Info		500	500	250
Filter Age	mls	Client Info		250	250	250
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

## WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>75	18	15	13
Chromium	ppm	ASTM D5185m	>5	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	5	3	3
Lead	ppm	ASTM D5185m	>25	1	2	<1
Copper	ppm	ASTM D5185m	>100	2	2	2
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

## CONTAMINATION

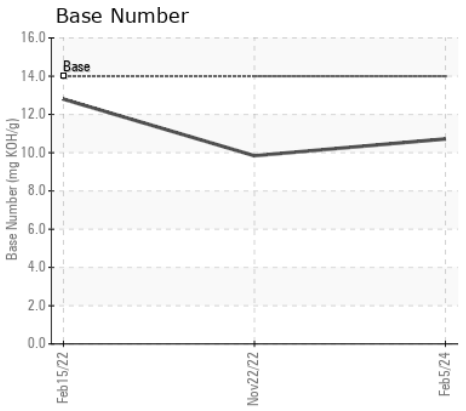
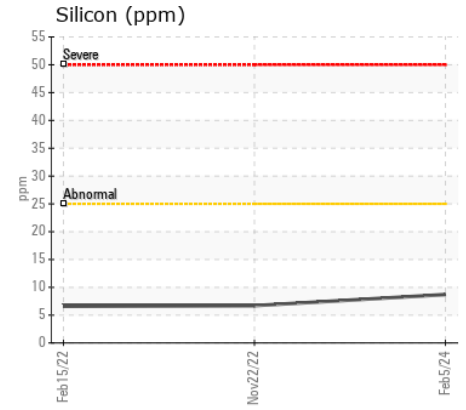
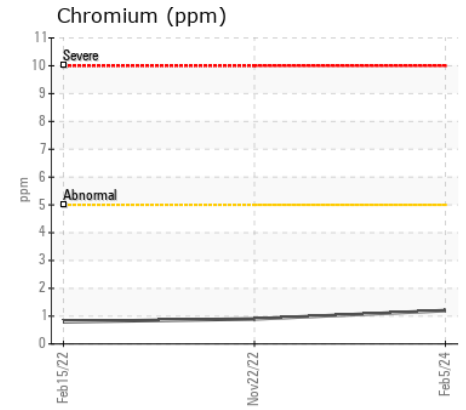
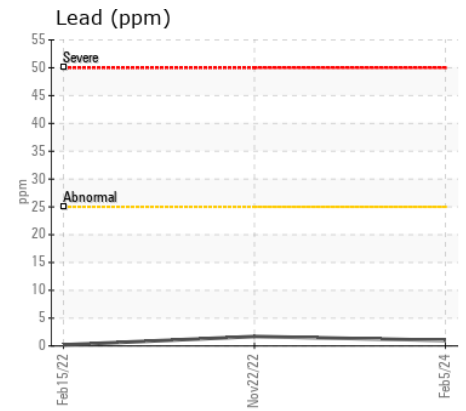
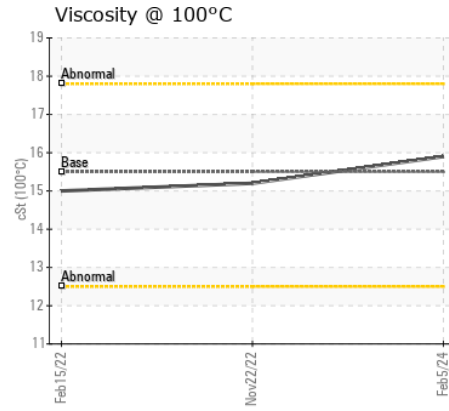
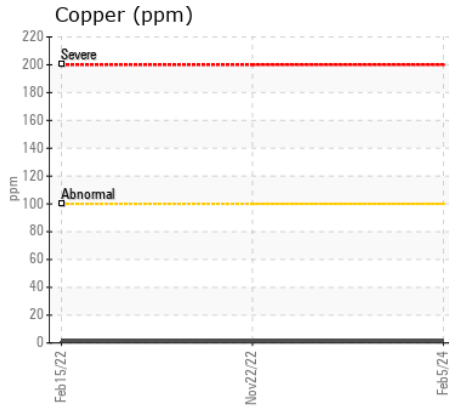
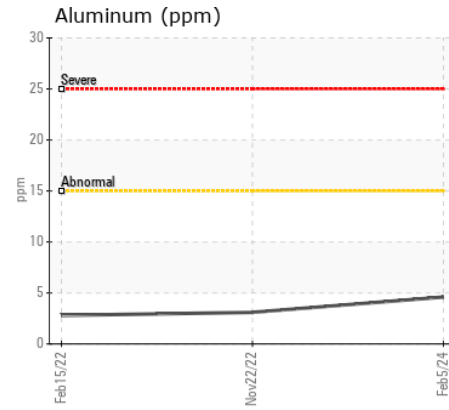
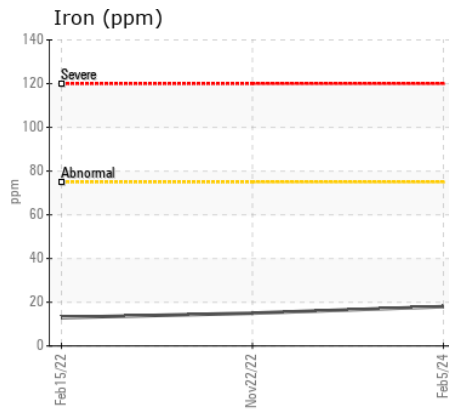
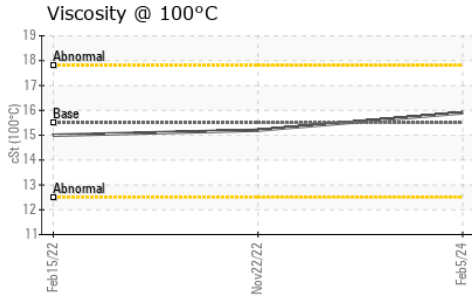
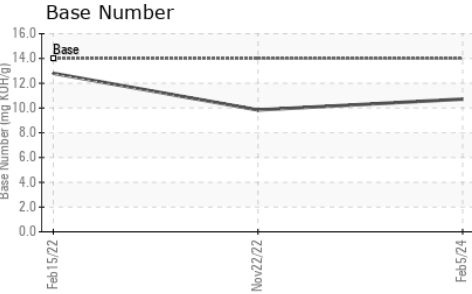
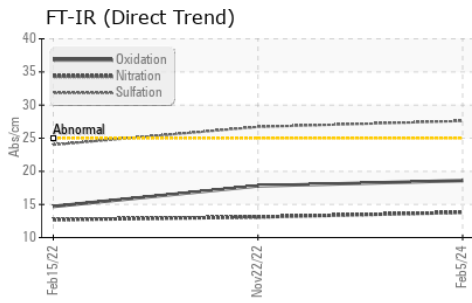
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	9	7	7
Potassium	ppm	ASTM D5185m	>20	4	2	4
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.6	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	13.8	13.1	12.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.6	26.7	24.0
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	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	>0.2	NEG	NEG	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		4	5	3
Boron	ppm	ASTM D5185m		0	0	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		135	132	120
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		19	100	25
Calcium	ppm	ASTM D5185m	1300	4514	4321	4401
Phosphorus	ppm	ASTM D5185m		1027	940	975
Zinc	ppm	ASTM D5185m	1300	1118	1217	1180
Sulfur	ppm	ASTM D5185m		4805	4983	3935
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.6	17.8	14.7
Base Number (BN)	mg KOH/g	ASTM D2896	14	10.72	9.84	12.8
Visc @ 100°C	cSt	ASTM D445	15.5	15.9	15.2	15.0



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06158500  
**Lab Number** : 06158500  
**Unique Number** : 10993923  
**Test Package** : MOB 2  
**Received** : 23 Apr 2024  
**Tested** : 24 Apr 2024  
**Diagnosed** : 24 Apr 2024 - Wes Davis

**DIGGING & RIGGING II**  
 10 CHRISTINA COURT  
 SPARROWS POINT, MD  
 US 21219  
 Contact: Service Manager

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: