



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
2008 INTERNATIONAL BCSD 14E

Component
Front Diesel Engine

Fluid
TRC MOLY XL PRO-SPEC SYN BLEND 15W40 (30 QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06100298	TR06029634	TR05815515
Sample Date		Client Info		02 Feb 2024	13 Oct 2023	24 Mar 2023
Machine Age	mls	Client Info		246680	239878	232304
Oil Age	mls	Client Info		19846	13046	5472
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	41	24	11
Chromium	ppm	ASTM D5185m	>15	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>15	6	6	0
Lead	ppm	ASTM D5185m	>70	6	2	0
Copper	ppm	ASTM D5185m	>175	3	2	0
Tin	ppm	ASTM D5185m	>5	<1	<1	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

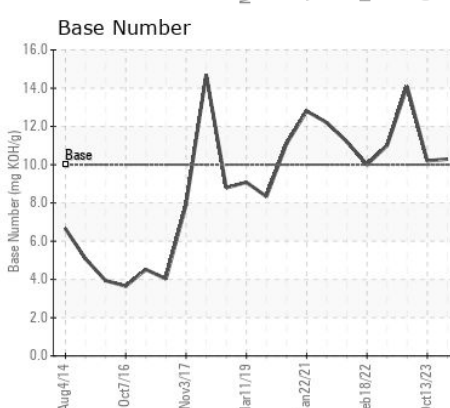
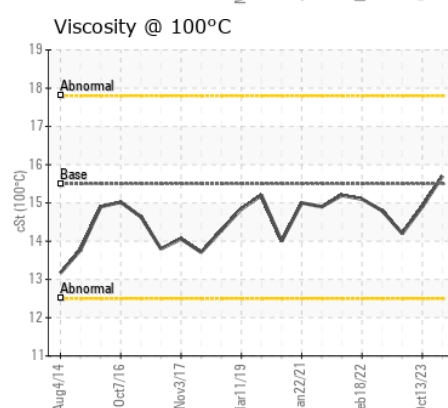
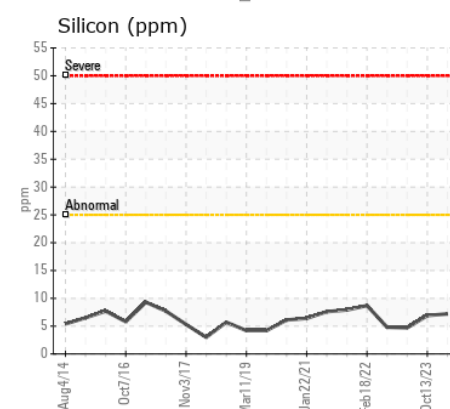
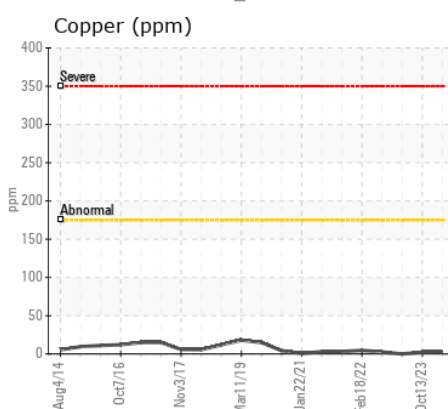
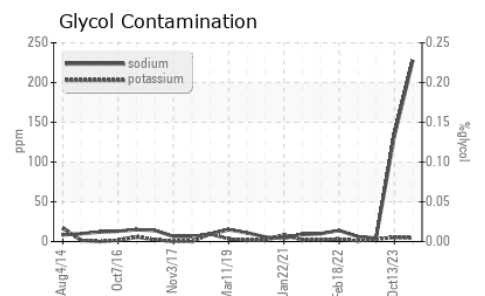
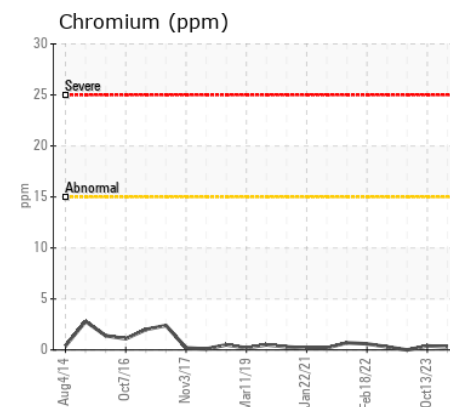
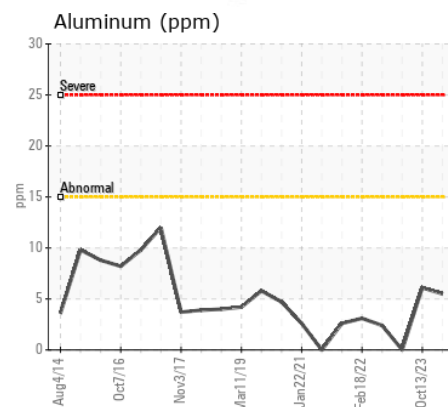
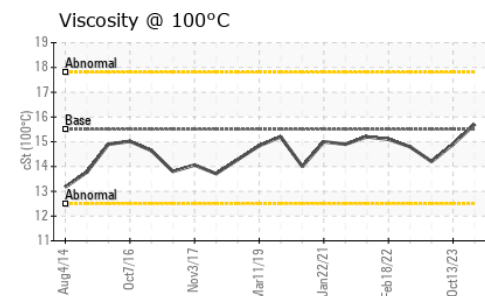
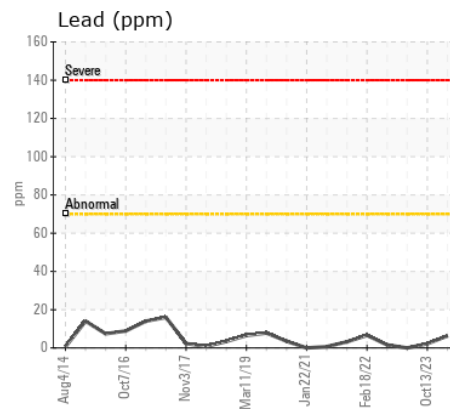
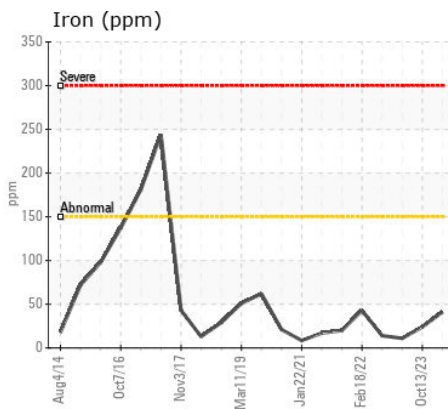
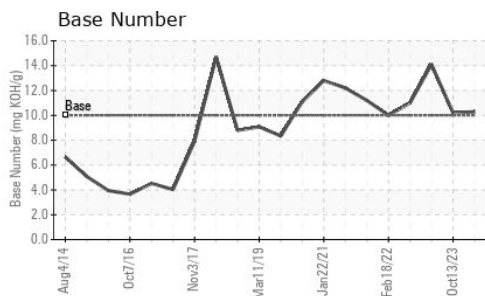
Sodium and/or potassium levels are high.

Silicon	ppm	ASTM D5185m	>25	7	7	5
Potassium	ppm	ASTM D5185m	>20	4	5	3
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	13.9	11.5	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.4	25.1	19.5
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.

Sodium	ppm	ASTM D5185m		▲ 228	▲ 133	4
Boron	ppm	ASTM D5185m		8	<1	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		170	174	171
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		20	<1	9
Calcium	ppm	ASTM D5185m	2300	4479	4326	4237
Phosphorus	ppm	ASTM D5185m		969	1021	915
Zinc	ppm	ASTM D5185m	1200	1175	1211	1061
Sulfur	ppm	ASTM D5185m		4428	4507	4496
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.9	16.8	11.0
Base Number (BN)	mg KOH/g	ASTM D2896	10	10.29	10.20	14.09
Visc @ 100°C	cSt	ASTM D445	15.5	15.7	14.9	14.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06100298 **Received** : 26 Feb 2024
Lab Number : 06100298 **Tested** : 28 Feb 2024
Unique Number : 10898528 **Diagnosed** : 28 Feb 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: Glycol)

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 BULLHEAD CITY, AZ
 US 86442

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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)