TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
2008 IHC BCSD 15E
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.

WEAR

The aluminum level is abnormal. Valve wear is indicated.

CONTAMINATION

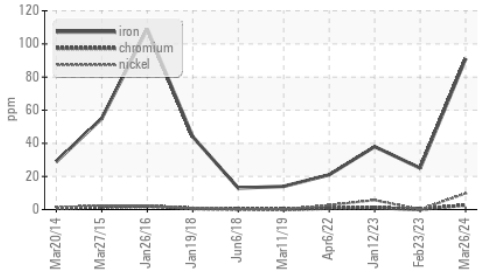
Sodium and/or potassium levels are high.

FLUID CONDITION

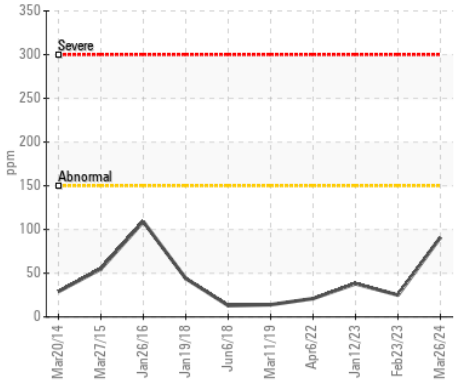
The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06155287	TR05794227	TR05794232
Sample Date		Client Info		26 Mar 2024	23 Feb 2023	12 Jan 2023
Machine Age	mls	Client Info		106417	166901	101304
Oil Age	mls	Client Info		13696	7789	8588
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	ABNORMAL
Iron	ppm	ASTM D5185m	>150	91	25	38
Chromium	ppm	ASTM D5185m	>15	3	<1	1
Nickel	ppm	ASTM D5185m	>4	▲ 10	0	▲ 6
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>15	▲ 20	8	9
Lead	ppm	ASTM D5185m	>70	9	2	2
Copper	ppm	ASTM D5185m	>175	9	8	4
Tin	ppm	ASTM D5185m	>5	1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	18	10	13
Potassium	ppm	ASTM D5185m	>20	▲ 40	9	20
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	0.8	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	16.4	10.6	13.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	31.5	21.6	28.1
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
Sodium	ppm	ASTM D5185m		▲ 427	▲ 460	▲ 268
Boron	ppm	ASTM D5185m		2	<1	<1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		145	126	116
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m		57	28	60
Calcium	ppm	ASTM D5185m	2300	4314	4306	4019
Phosphorus	ppm	ASTM D5185m		921	822	803
Zinc	ppm	ASTM D5185m	1200	1044	1021	985
Sulfur	ppm	ASTM D5185m		4373	4377	4129
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.4	12.0	16.5
Base Number (BN)	mg KOH/g	ASTM D2896	10	9.25	15.31	10.79
Visc @ 100°C	cSt	ASTM D445	15.5	15.0	14.0	14.8

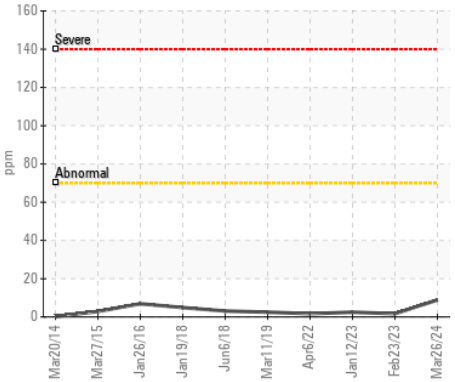
Ferrous Alloys



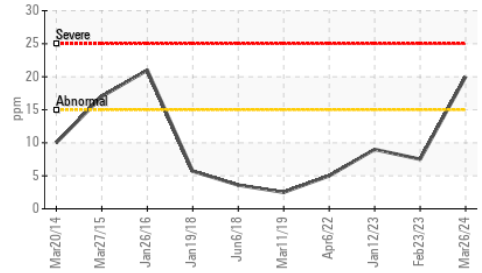
Iron (ppm)



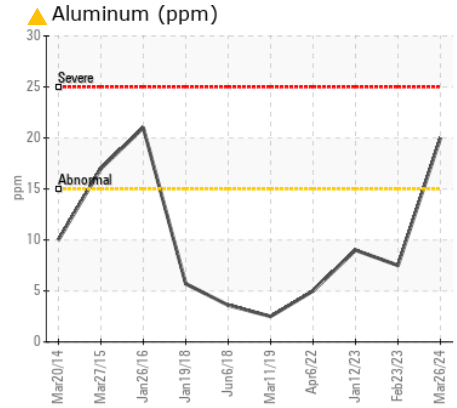
Lead (ppm)



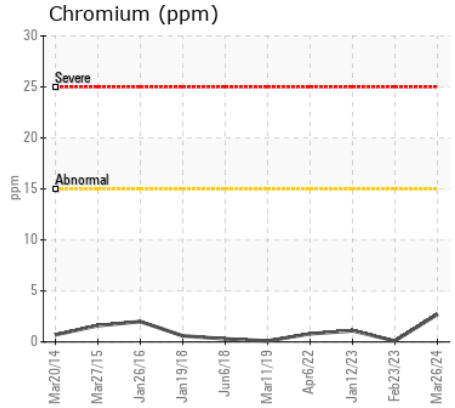
Aluminum (ppm)



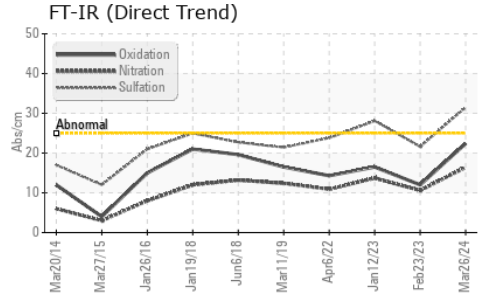
Aluminum (ppm)



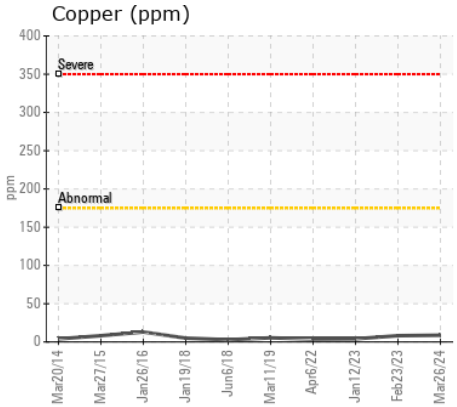
Chromium (ppm)



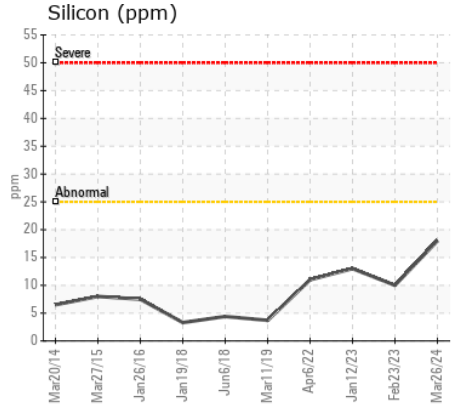
FT-IR (Direct Trend)



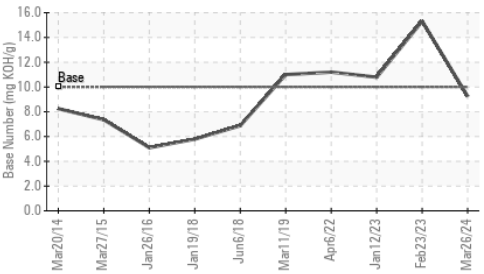
Copper (ppm)



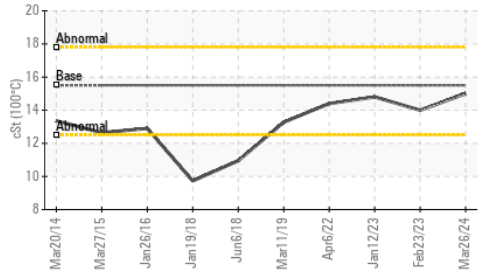
Silicon (ppm)



Base Number



Viscosity @ 100°C



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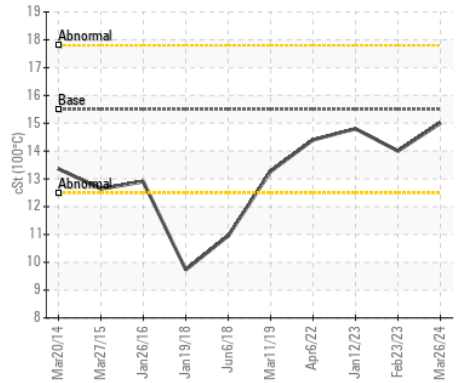

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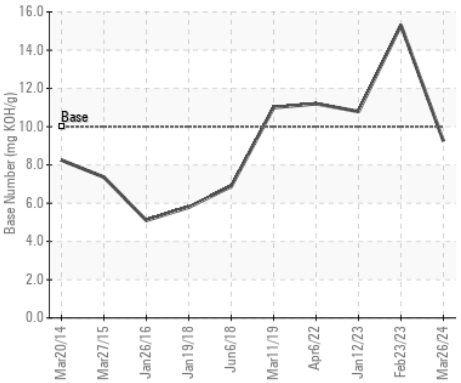

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06155287
Lab Number : 06155287
Unique Number : 10990710
Test Package : MOB 2 (Additional Tests: Glycol)

Received : 19 Apr 2024
Tested : 24 Apr 2024
Diagnosed : 24 Apr 2024 - Jonathan Hester

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)

COLORADO RIVER UNION HS
2251 HWY 95
BULLHEAD CITY, AZ
US 86442
Contact: DENNIS SERCU
DSERCU@CRSK12.ORG
T: (928)788-1307
F: (928)763-9881