TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CASE 7110 CASE 7110
Component
Diesel Engine
Fluid
TRC MOLY XL PRO-SPEC IV 15W40 (4 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

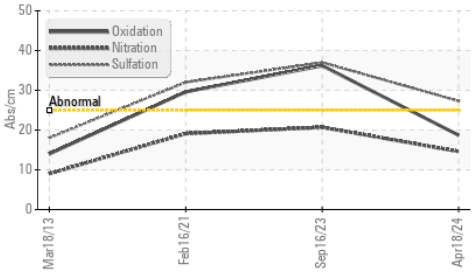
There is no indication of any contamination in the oil.

FLUID CONDITION

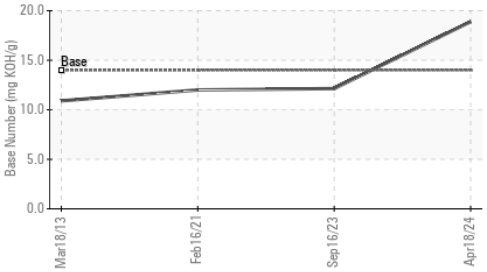
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06190729	TR06080123	TR05202592
Sample Date		Client Info		18 Apr 2024	16 Sep 2023	16 Feb 2021
Machine Age	hrs	Client Info		8264	4096	0
Oil Age	hrs	Client Info		1091	936	1080
Filter Age	hrs	Client Info		1091	936	1080
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ATTENTION	NORMAL
Iron	ppm	ASTM D5185m	>100	40	79	33
Chromium	ppm	ASTM D5185m	>20	3	6	2
Nickel	ppm	ASTM D5185m	>4	1	1	<1
Titanium	ppm	ASTM D5185m		<1	<1	1
Silver	ppm	ASTM D5185m	>3	1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	6	7	4
Lead	ppm	ASTM D5185m	>40	4	28	23
Copper	ppm	ASTM D5185m	>330	16	8	4
Tin	ppm	ASTM D5185m	>15	1	3	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	14	13	6
Potassium	ppm	ASTM D5185m	>20	4	6	8
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.7	0.5
Nitration	Abs/cm	*ASTM D7624	>20	14.6	20.7	19.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.3	37.0	32
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		6	9	5
Boron	ppm	ASTM D5185m		2	1	0
Barium	ppm	ASTM D5185m		1	0	0
Molybdenum	ppm	ASTM D5185m		89	175	152
Manganese	ppm	ASTM D5185m		1	1	<1
Magnesium	ppm	ASTM D5185m		76	35	47
Calcium	ppm	ASTM D5185m	1300	6589	8158	5781
Phosphorus	ppm	ASTM D5185m		1346	1716	1095
Zinc	ppm	ASTM D5185m	1300	1656	2150	1245
Sulfur	ppm	ASTM D5185m		5661	7880	3925
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.7	36.2	29.6
Base Number (BN)	mg KOH/g	ASTM D2896	14	18.89	12.14	12.0
Visc @ 100°C	cSt	ASTM D445	15.5	17.4	20.2	17.0

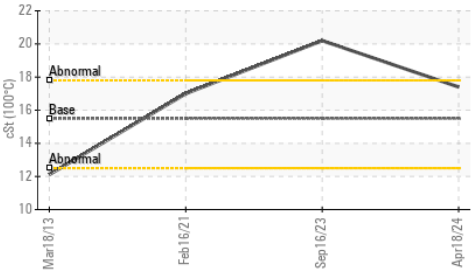
FT-IR (Direct Trend)



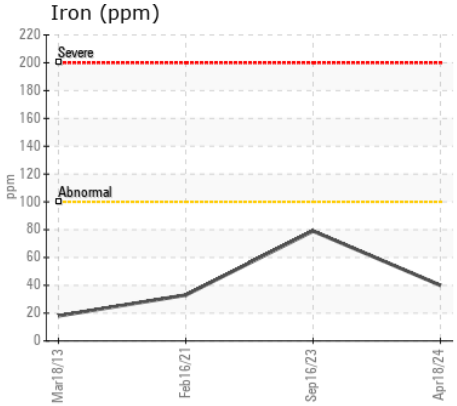
Base Number



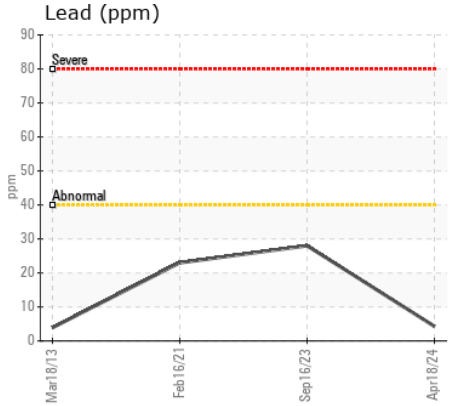
Viscosity @ 100°C



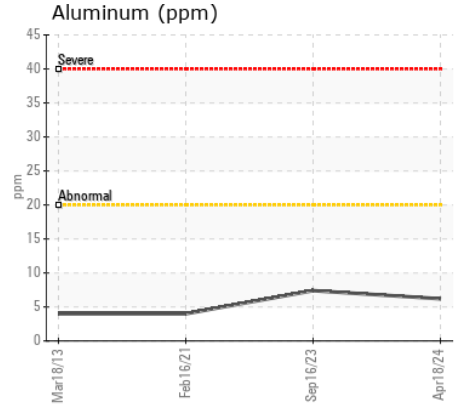
Iron (ppm)



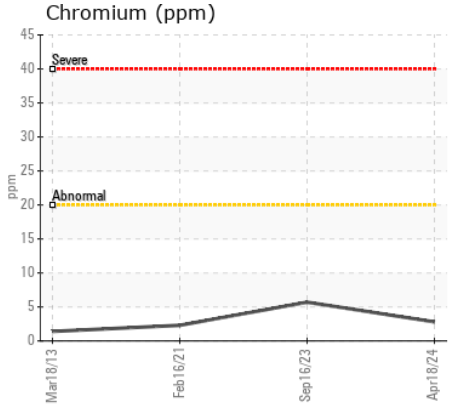
Lead (ppm)



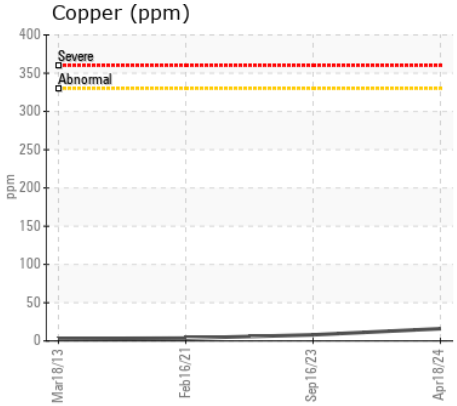
Aluminum (ppm)



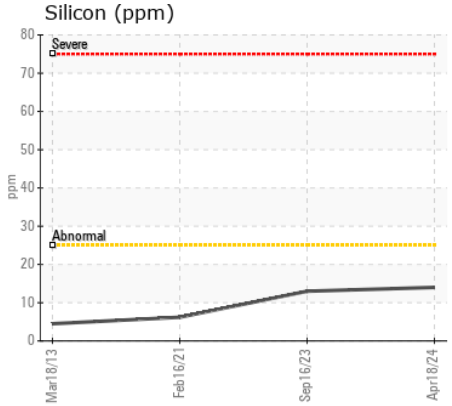
Chromium (ppm)



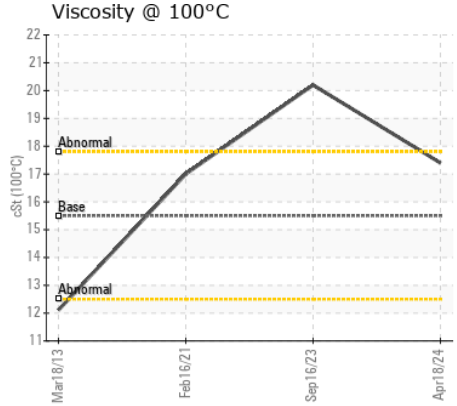
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



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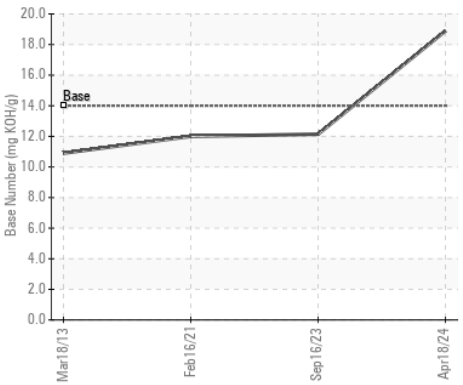

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06190729
Lab Number : 06190729
Unique Number : 11047481
Test Package : MOB 2

Received : 24 May 2024
Tested : 29 May 2024
Diagnosed : 29 May 2024 - Wes Davis

CIRCLE C DAIRY
410 W 800 SW
GENOLA, UT
US 84655
Contact: JOHN AAGARD

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: