



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	ATTENTION
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
75
 Component
Rear Diesel Engine
 Fluid
TRC MOLY XL PRO-SPEC IV XP 15W40 (10 GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR0001365	TR0001244	TR05191100
Sample Date		Client Info		08 Apr 2024	14 Nov 2023	02 Feb 2021
Machine Age	hrs	Client Info		20519	19490	17779
Oil Age	hrs	Client Info		1029	665	0
Filter Age	hrs	Client Info		1029	665	0
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	40	62	12
Chromium	ppm	ASTM D5185m	>20	2	2	<1
Nickel	ppm	ASTM D5185m	>2	1	1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m	>25	4	6	2
Lead	ppm	ASTM D5185m	>40	2	1	1
Copper	ppm	ASTM D5185m	>330	46	425	6
Tin	ppm	ASTM D5185m	>15	2	2	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

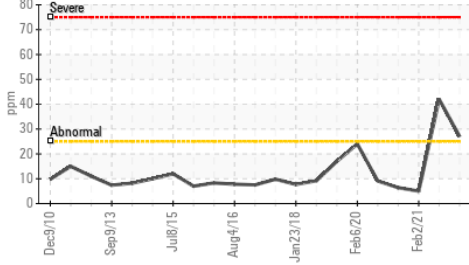
Silicon	ppm	ASTM D5185m	>25	27	42	5
Potassium	ppm	ASTM D5185m	>20	4	1	<1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	0.0	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	13.5	10.5	13.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.1	19.2	24.2
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

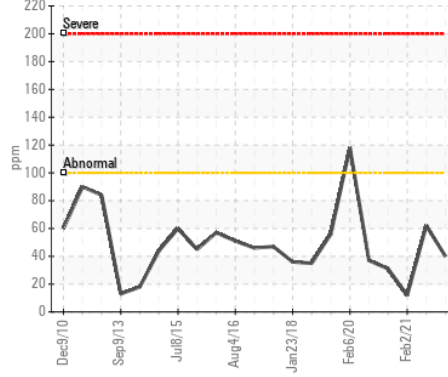
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		10	14	6
Boron	ppm	ASTM D5185m		0	2	5
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		156	117	152
Manganese	ppm	ASTM D5185m		<1	1	<1
Magnesium	ppm	ASTM D5185m		19	19	27
Calcium	ppm	ASTM D5185m		5031	3961	4850
Phosphorus	ppm	ASTM D5185m		1069	901	1006
Zinc	ppm	ASTM D5185m		1218	1028	1141
Sulfur	ppm	ASTM D5185m		5240	4107	3998
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.2	12.6	16
Base Number (BN)	mg KOH/g	ASTM D2896		14.01	14.20	12.4
Visc @ 100°C	cSt	ASTM D445		14.5	14.8	15.2

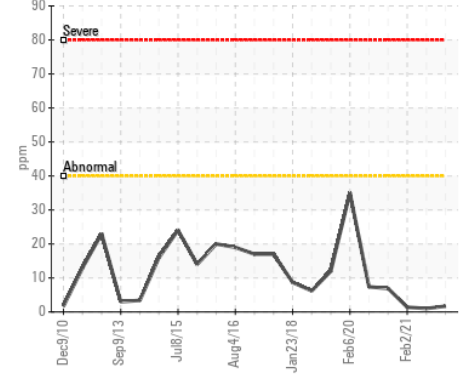
▲ Silicon (ppm)



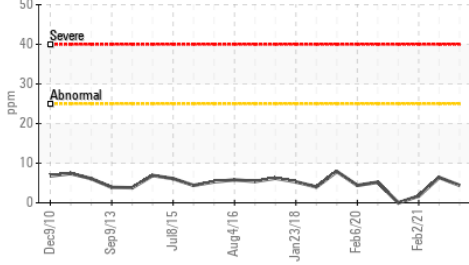
Iron (ppm)



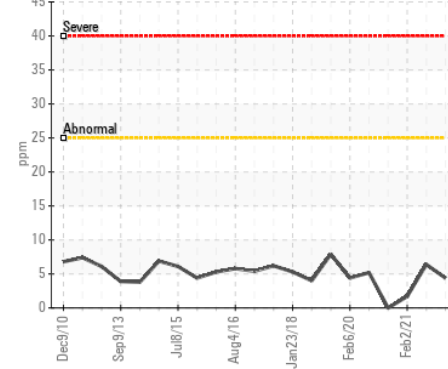
Lead (ppm)



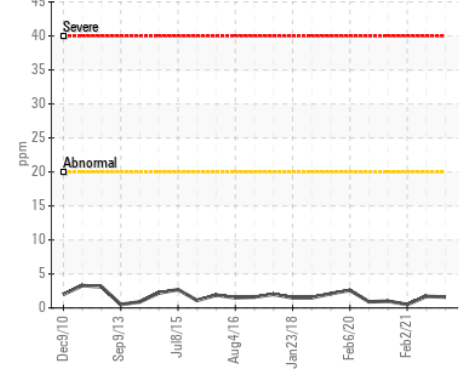
● Aluminum (ppm)



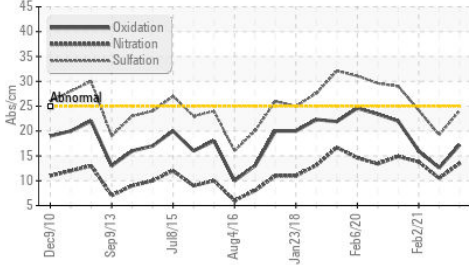
● Aluminum (ppm)



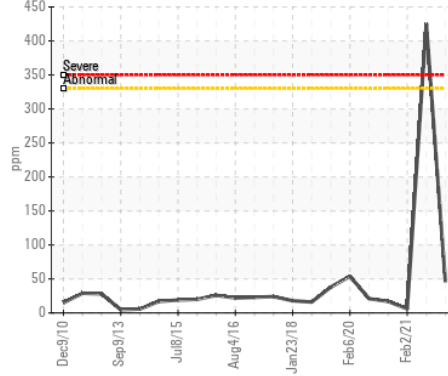
Chromium (ppm)



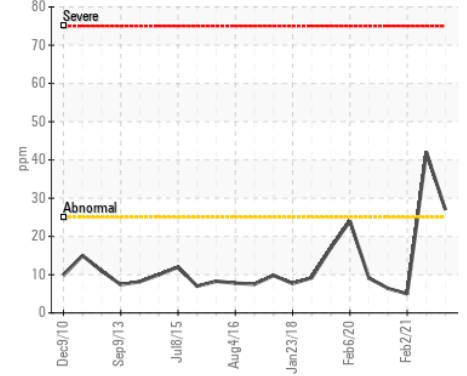
FT-IR (Direct Trend)



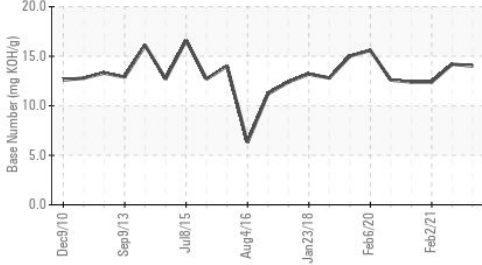
Copper (ppm)



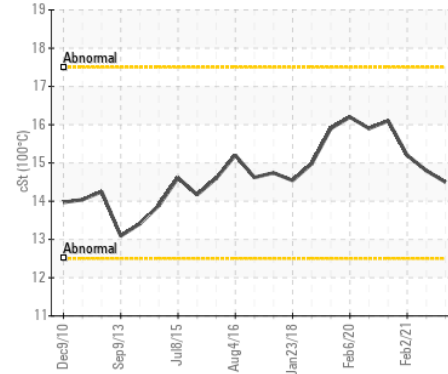
▲ Silicon (ppm)



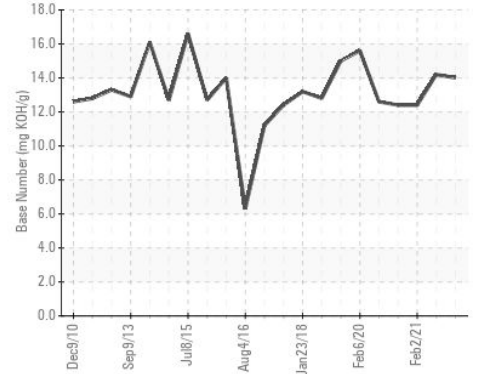
Base Number



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : TR0001365

Lab Number : 06148168

Unique Number : 10978246

Test Package : MOB 2

Received : 12 Apr 2024

Tested : 15 Apr 2024

Diagnosed : 16 Apr 2024 - Sean Felton

S S CONCRETE MATERIALS LLC

P.O. BOX 23283

BULLHEAD CITY, AZ

US 86439

Contact: MARK OPHEIM

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: (928)754-1991

F: (928)754-1991