



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
VOLVO 316
 Component
Diesel Engine
 Fluid
TRC MOLY XL PRO-SPEC SYN BLEND 15W40 (8 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05203383	TR05163814	TR04992084
Sample Date		Client Info		09 Mar 2021	18 Jan 2021	01 Jun 2020
Machine Age	mls	Client Info		1040781	1025637	964715
Oil Age	mls	Client Info		41391	26247	59633
Filter Age	mls	Client Info		41391	26247	59633
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Not Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	21	16	37
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	5	0	5
Lead	ppm	ASTM D5185m	>40	2	<1	2
Copper	ppm	ASTM D5185m	>330	3	2	3
Tin	ppm	ASTM D5185m	>15	<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

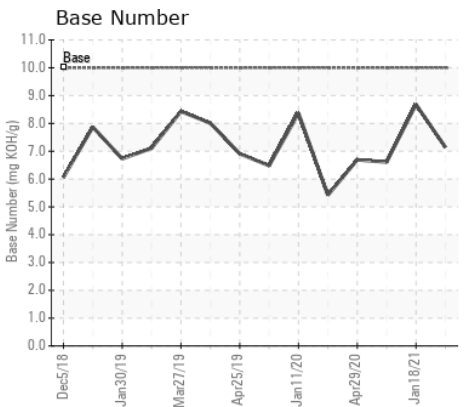
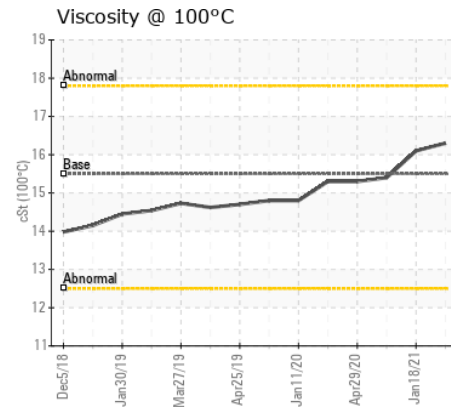
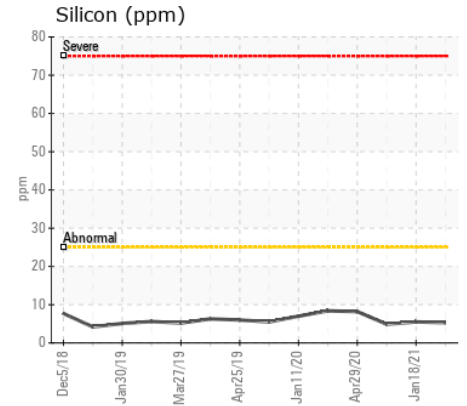
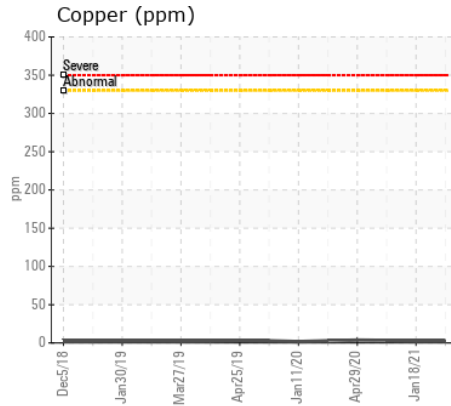
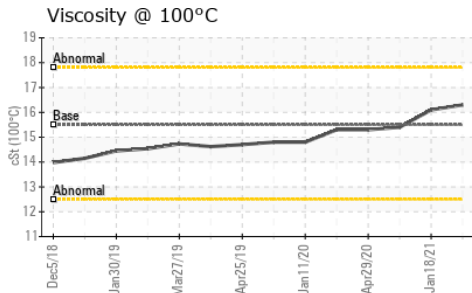
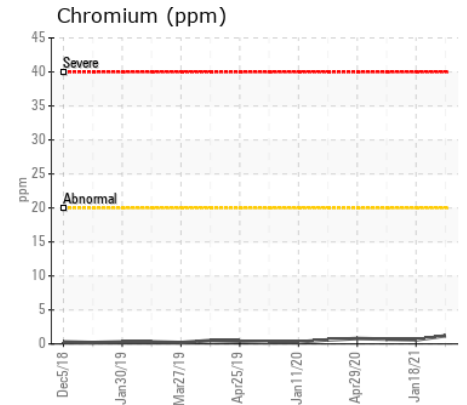
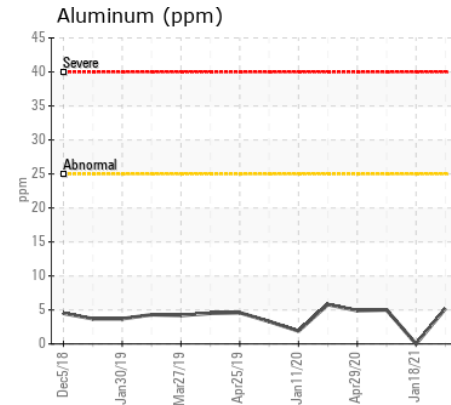
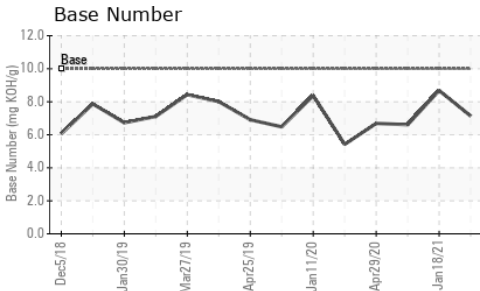
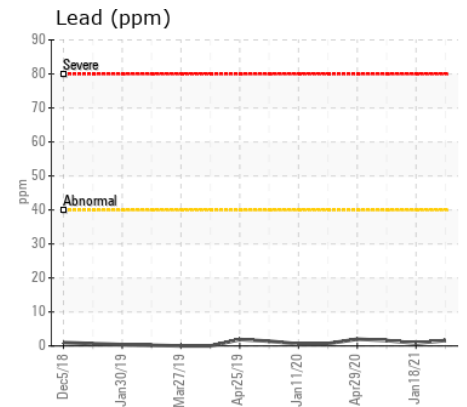
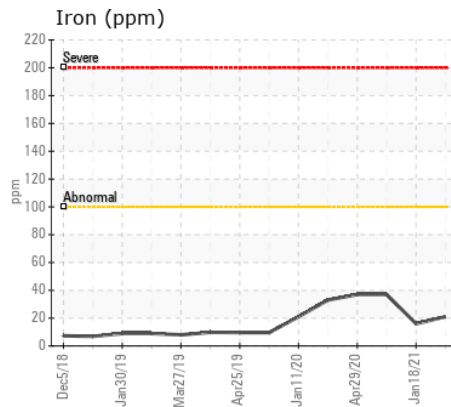
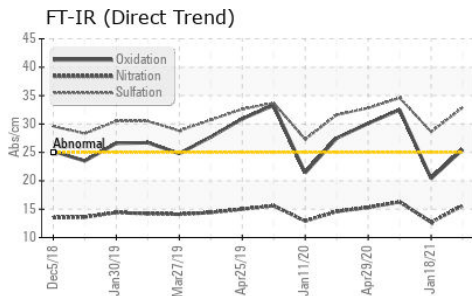
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	6	5
Potassium	ppm	ASTM D5185m	>20	3	1	2
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	15.6	12.7	16.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	32.9	28.6	34.6
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		5	3	8
Boron	ppm	ASTM D5185m		2	1	<1
Barium	ppm	ASTM D5185m		0	<1	0
Molybdenum	ppm	ASTM D5185m		129	148	171
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		155	186	728
Calcium	ppm	ASTM D5185m	2300	3334	3782	1667
Phosphorus	ppm	ASTM D5185m		859	992	1048
Zinc	ppm	ASTM D5185m	1200	1072	1101	1158
Sulfur	ppm	ASTM D5185m		3229	3683	3061
Oxidation	Abs/.1mm	*ASTM D7414	>25	25.5	20.4	32.5
Base Number (BN)	mg KOH/g	ASTM D2896	10	7.14	8.68	6.61
Visc @ 100°C	cSt	ASTM D445	15.5	16.3	16.1	15.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR05203383
Lab Number : 05203383
Unique Number : 9404792
Test Package : MOB 2

Received : 12 Mar 2021
Tested : 15 Mar 2021
Diagnosed : 16 Mar 2021 - Don Baldrige

STEVE BURNER
 1317 BALD CYPRESS PASS
 WINTER HAVEN, FL
 US 33881
 Contact: DALE SMITH

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: