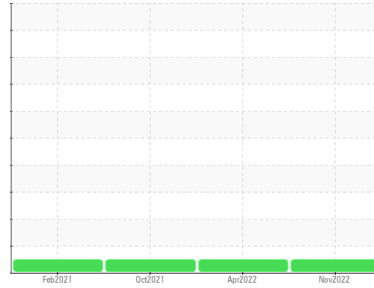




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**VOLKSWAGEN TDI**  
 Component  
**Diesel Engine**  
 Fluid  
**LIQUIMOLY 5W40 (4 LTR)**

## DIAGNOSIS

### 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.

SAMPLE INFORMATION		method	limit/base	current	history 1	history 2
Sample Number	Client Info			<b>WC0764201</b>	WC0666074	WC05373630
Sample Date	Client Info			<b>20 Nov 2022</b>	24 Apr 2022	10 Oct 2021
Machine Age	mls	Client Info		<b>370251</b>	360050	350070
Oil Age	mls	Client Info		<b>10201</b>	9980	9983
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history 1	history 2
Fuel	WC Method	>5		<b>&lt;1.0</b>	<1.0	0.5
Glycol	WC Method			<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	<b>40</b>	64	46
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	2	1
Nickel	ppm	ASTM D5185m	>4	<b>2</b>	1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m	>20	<b>0</b>	8	6
Lead	ppm	ASTM D5185m	>40	<b>18</b>	6	5
Copper	ppm	ASTM D5185m	>330	<b>2</b>	3	<1
Tin	ppm	ASTM D5185m	>15	<b>3</b>	1	0
Antimony	ppm	ASTM D5185m		<b>---</b>	---	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1

ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m		<b>32</b>	50	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>15</b>	9	36
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>174</b>	23	18
Calcium	ppm	ASTM D5185m		<b>1211</b>	2868	3058
Phosphorus	ppm	ASTM D5185m		<b>641</b>	894	849
Zinc	ppm	ASTM D5185m		<b>620</b>	1079	1027
Sulfur	ppm	ASTM D5185m		<b>2099</b>	2332	2966

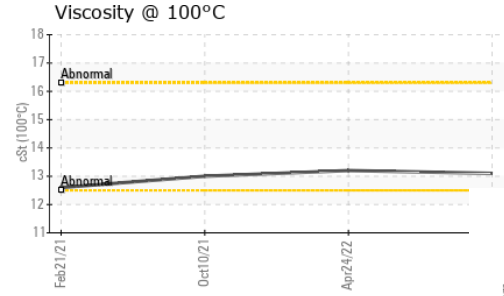
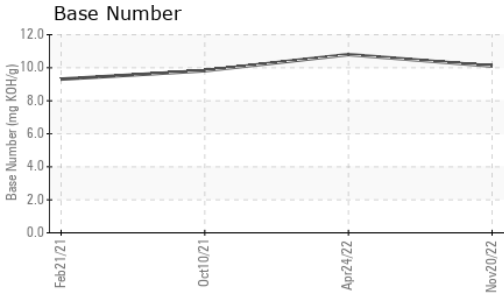
CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	>25	<b>7</b>	8	10
Sodium	ppm	ASTM D5185m		<b>13</b>	1	1
Potassium	ppm	ASTM D5185m	>20	<b>20</b>	3	2

INFRA-RED		method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	>3	<b>1</b>	1.1	0.9
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.7</b>	10.7	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.6</b>	18.5	17.6

FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.2</b>	12.8	11.9
Base Number (BN)	mg KOH/g	ASTM D2896		<b>10.1</b>	10.8	9.82



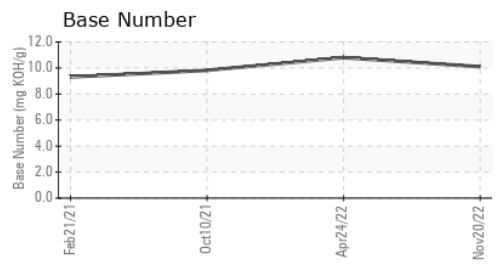
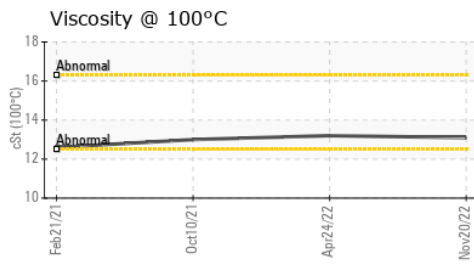
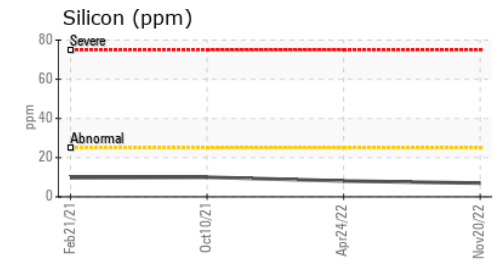
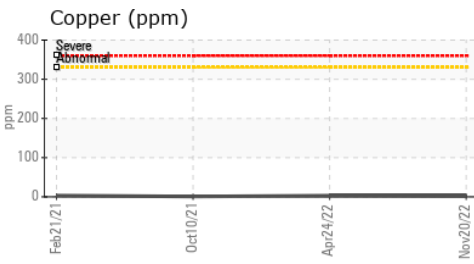
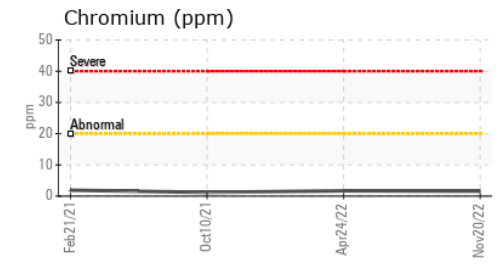
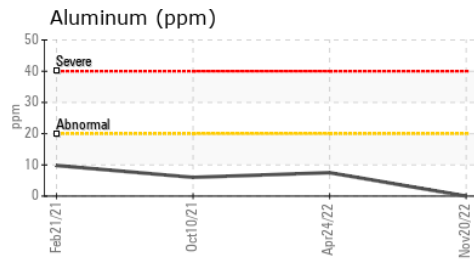
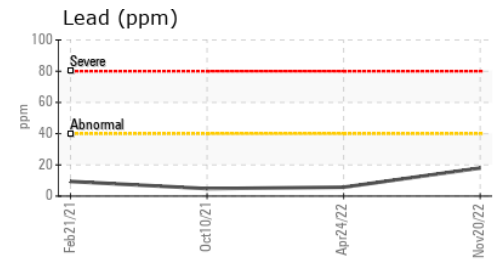
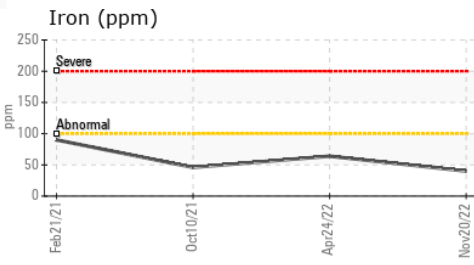
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	<b>13.1</b>	13.2	13.0

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0764201 **Received** : 25 Nov 2022  
**Lab Number** : 05702551 **Diagnosed** : 30 Nov 2022  
**Unique Number** : 10232125 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 2

1431 ASHE AVE  
 DUNN, NC  
 US 28334  
 Contact: MICHAEL CASTRO  
 castro.michael.s@gmail.com  
 T:  
 F:

Certificate L2367  
 To discuss this sample report, contact Customer Service at 1-800-237-1369.  
 \* - 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)