



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area  
**DE Samples - CAT LAB**  
 Machine Id  
**CATERPILLAR 980K LOADER 6775 (S/N W7K01443)**  
 Component  
**Diesel Engine**  
 Fluid  
**TULCO LUBSOIL DIESEL TURBO CJ4 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TO10003401</b>	TO10003312	TO10003111
Sample Date		Client Info		<b>04 May 2024</b>	08 Apr 2024	22 Feb 2024
Machine Age	hrs	Client Info		<b>28486</b>	28278	27690
Oil Age	hrs	Client Info		<b>502</b>	294	27690
Filter Age	hrs	Client Info		<b>502</b>	294	540
Oil Changed		Client Info		<b>Changed</b>	Not Changd	Changed
Filter Changed		Client Info		<b>Changed</b>	Not Changd	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>18</b>	9	8
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>&lt;1</b>	<1	2
Lead	ppm	ASTM D5185m	>40	<b>1</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>3</b>	3	4
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

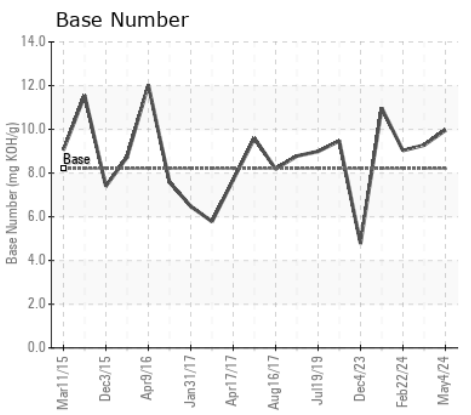
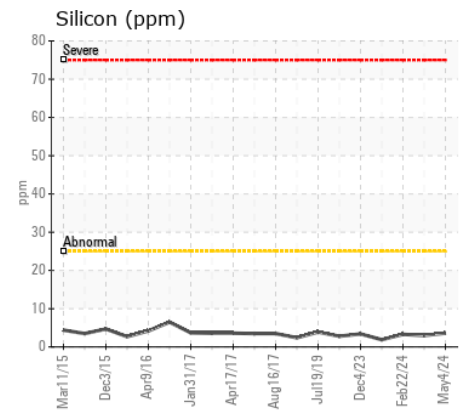
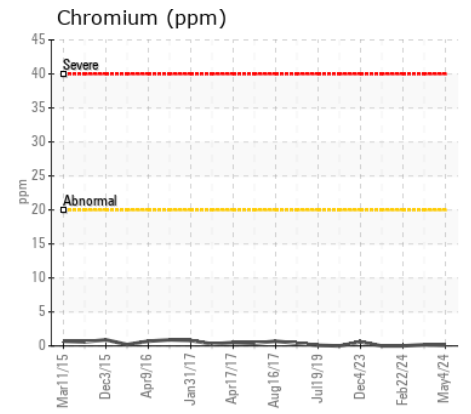
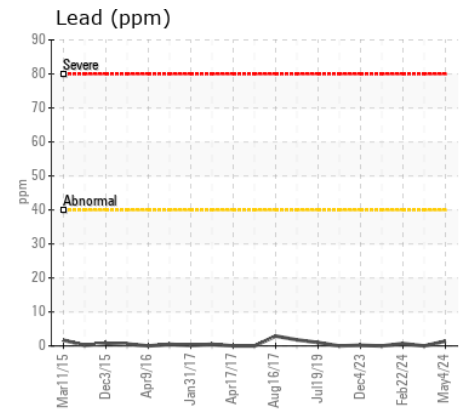
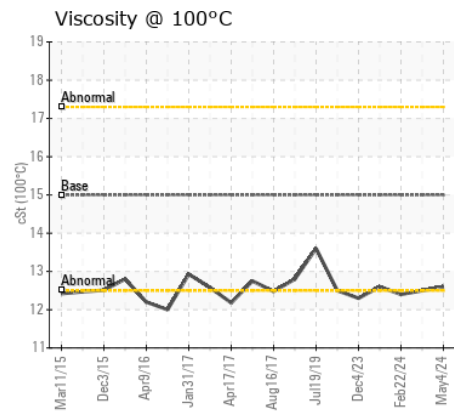
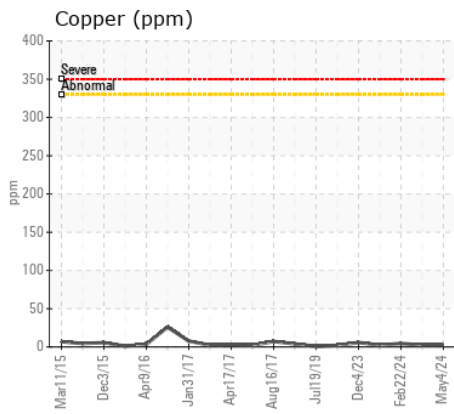
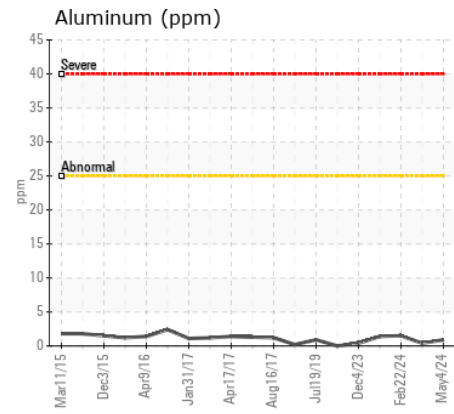
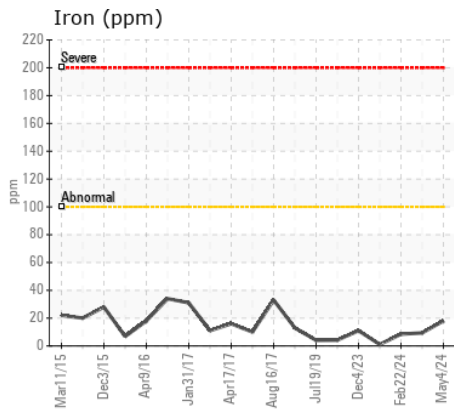
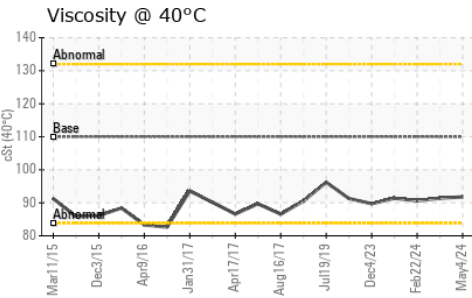
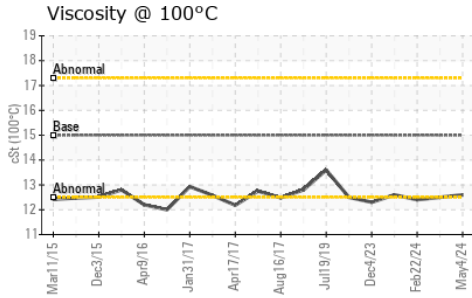
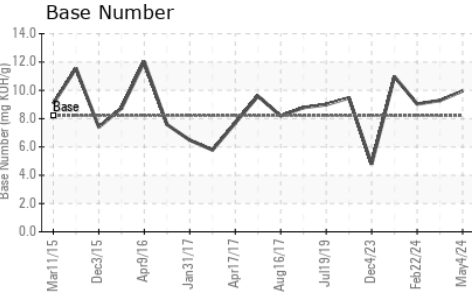
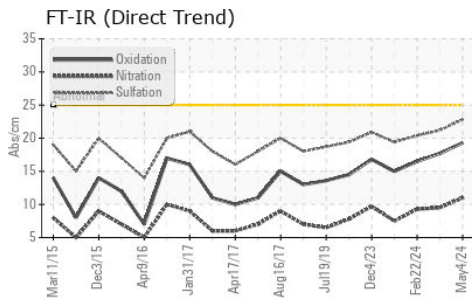
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	3	3
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	<1	1
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.8</b>	0.6	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.0</b>	9.5	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.8</b>	21.2	20.4
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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		<b>15</b>	11	7
Boron	ppm	ASTM D5185m	1	<b>5</b>	4	6
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m	40	<b>58</b>	54	54
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	935	<b>907</b>	881	834
Calcium	ppm	ASTM D5185m	1234	<b>1355</b>	1248	1261
Phosphorus	ppm	ASTM D5185m	1089	<b>1117</b>	1016	1024
Zinc	ppm	ASTM D5185m	1090	<b>1325</b>	1178	1258
Sulfur	ppm	ASTM D5185m	3700	<b>4044</b>	3998	3207
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>19.3</b>	17.7	16.5
Base Number (BN)	mg KOH/g	ASTM D2896	8.21	<b>9.96</b>	9.28	9.03
Visc @ 40°C	cSt	ASTM D445	110	<b>91.8</b>	91.4	90.6
Visc @ 100°C	cSt	ASTM D445	15	<b>12.6</b>	12.5	12.4
Viscosity Index (VI)	Scale	ASTM D2270	143	<b>133</b>	132	131



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO10003401  
**Lab Number** : 06176205  
**Unique Number** : 11022258  
**Test Package** : MOB 2 ( Additional Tests: KV40, VI )

**Received** : 10 May 2024  
**Tested** : 13 May 2024  
**Diagnosed** : 13 May 2024 - Wes Davis

**ANCHOR STONE TULSA ROCK**  
 TULSA ROCK QUARRY, 66TH ST N 145TH AVENUE  
 TULSA, OK  
 US 74137  
 Contact: DAVID MORRIS  
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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)

T:  
F: