



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
DE Samples - CAT LAB
Machine Id
CATERPILLAR 980H LOADER 6821 (S/N JMS06208)
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		TO10003313	TO10002961	TO10003078
Sample Date		Client Info		06 Apr 2024	20 Feb 2024	28 Dec 2023
Machine Age	hrs	Client Info		29183	28828	28570
Oil Age	hrs	Client Info		355	518	260
Filter Age	hrs	Client Info		355	518	260
Oil Changed		Client Info		Not Changed	Changed	Not Changed
Filter Changed		Client Info		Not Changed	Changed	Not Changed
Sample Status				NORMAL	NORMAL	MARGINAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	12	14	9
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	<1	1	1
Lead	ppm	ASTM D5185m	>40	<1	2	1
Copper	ppm	ASTM D5185m	>330	3	4	3
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	LIGHT	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

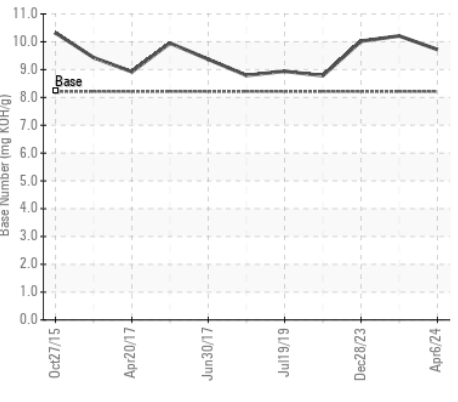
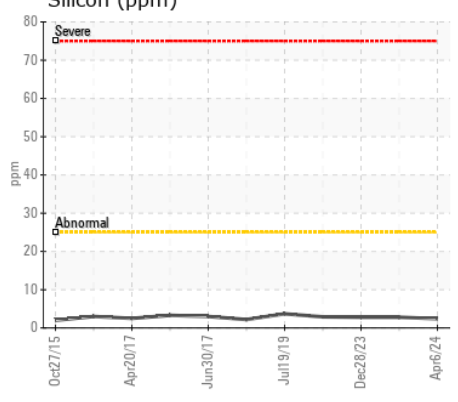
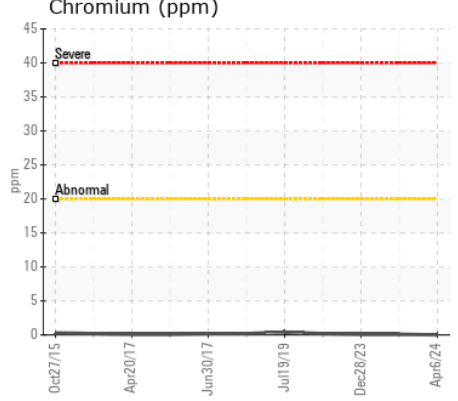
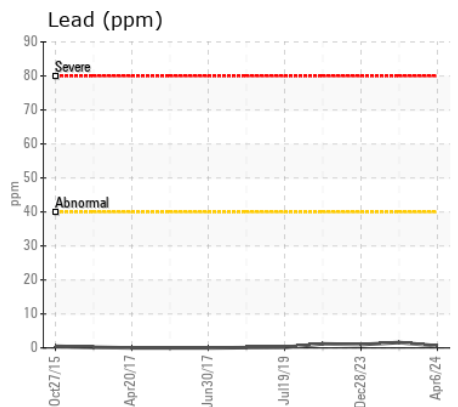
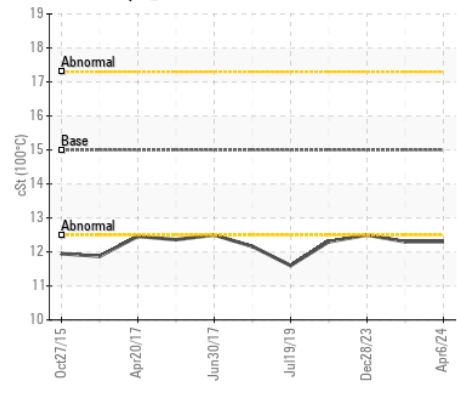
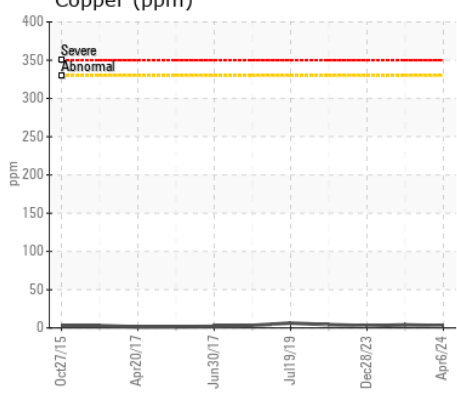
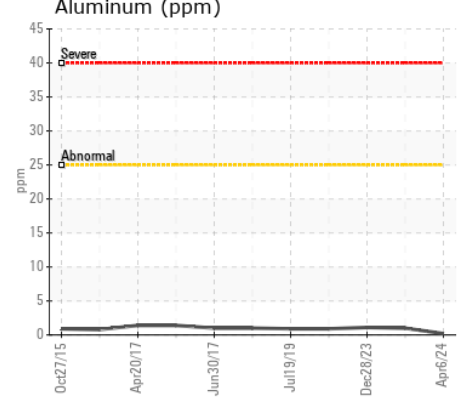
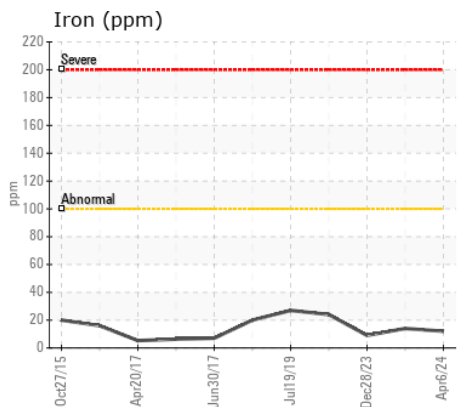
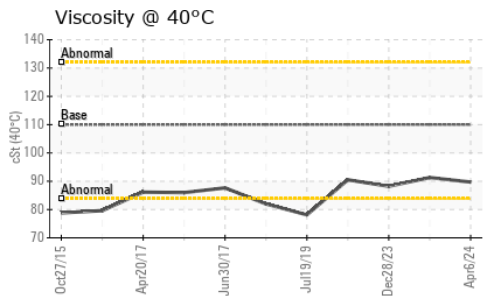
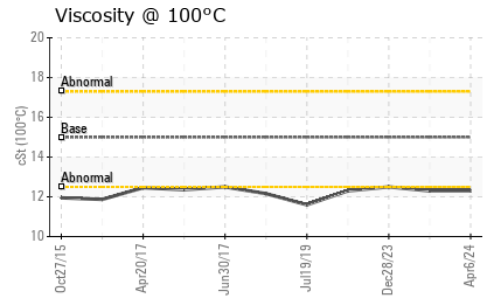
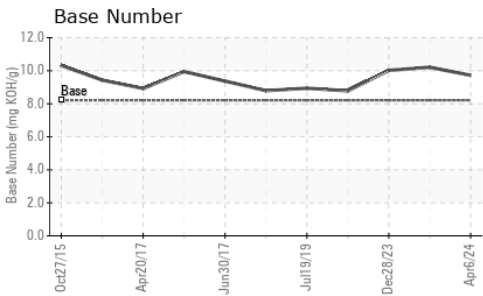
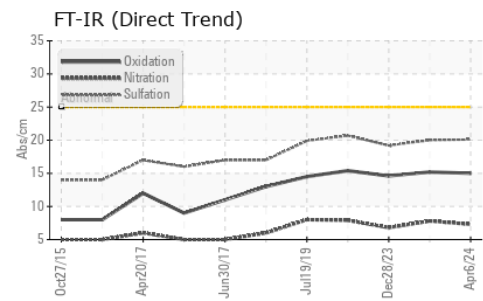
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	2	3	3
Potassium	ppm	ASTM D5185m	>20	0	<1	0
Fuel		WC Method	>5	<1.0	<1.0	▲ 4.1
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	7.3	7.8	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.1	20.0	19.2
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 condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	1	2
Boron	ppm	ASTM D5185m	1	5	8	11
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	40	56	54	58
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	935	918	863	931
Calcium	ppm	ASTM D5185m	1234	1081	983	1047
Phosphorus	ppm	ASTM D5185m	1089	1012	987	1059
Zinc	ppm	ASTM D5185m	1090	1171	1213	1267
Sulfur	ppm	ASTM D5185m	3700	3969	3124	3320
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.0	15.2	14.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.21	9.72	10.21	10.02
Visc @ 40°C	cSt	ASTM D445	110	89.7	91.3	88.2
Visc @ 100°C	cSt	ASTM D445	15	12.3	12.3	12.5
Viscosity Index (VI)	Scale	ASTM D2270	143	131	128	137



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10003313 **Received** : 15 Apr 2024
Lab Number : 06149594 **Tested** : 16 Apr 2024
Unique Number : 10979672 **Diagnosed** : 16 Apr 2024 - Wes Davis
Test Package : MOB 2 (Additional Tests: KV40, VI)

ANCHOR STONE TULSA ROCK
 TULSA ROCK QUARRY, 66TH ST N 145TH AVENUE
 TULSA, OK
 US 74137
 Contact: DAVID MORRIS
 dmorris@anchorstoneco.com
 T:
 F:

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)