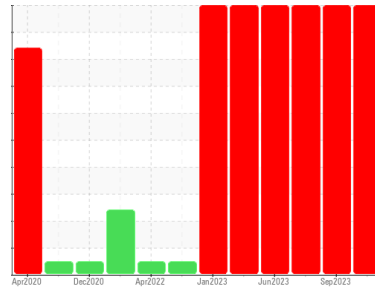


OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
CATERPILLAR 420 FST BACKHOE 6010 (S/N SKR04232)
Component
Front Right Planetary
Fluid
TULCO LUBSOIL TO-4 50 (0 GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Wear

Gear wear is indicated.

Contamination

There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition

The AN level is acceptable for this fluid. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		TO10002857	TO10002082	TO10002414
Sample Date	Client Info		14 Nov 2023	18 Sep 2023	25 Jul 2023
Machine Age	hrs	Client Info	12883	12601	12310
Oil Age	hrs	Client Info	282	291	271
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	SEVERE	SEVERE

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184		1291	1325	1396
Iron	ppm	ASTM D5185m >150	1914	5217	2665
Chromium	ppm	ASTM D5185m >10	11	32	16
Nickel	ppm	ASTM D5185m >10	2	14	2
Titanium	ppm	ASTM D5185m	23	51	38
Silver	ppm	ASTM D5185m	<1	0	0
Aluminum	ppm	ASTM D5185m >25	336	788	444
Lead	ppm	ASTM D5185m >100	4	14	9
Copper	ppm	ASTM D5185m >50	6	27	13
Tin	ppm	ASTM D5185m >10	4	0	4
Vanadium	ppm	ASTM D5185m	1	2	1
Cadmium	ppm	ASTM D5185m	<1	<1	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	7	34	7
Barium	ppm	ASTM D5185m	4	10	0
Molybdenum	ppm	ASTM D5185m	0	0	<1
Manganese	ppm	ASTM D5185m	18	52	29
Magnesium	ppm	ASTM D5185m	421	1032	730
Calcium	ppm	ASTM D5185m	14673	11610	10000
Phosphorus	ppm	ASTM D5185m	933	1310	957
Zinc	ppm	ASTM D5185m	1087	1547	1090
Sulfur	ppm	ASTM D5185m	4790	9473	6168

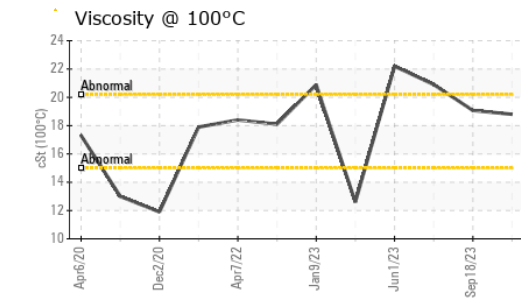
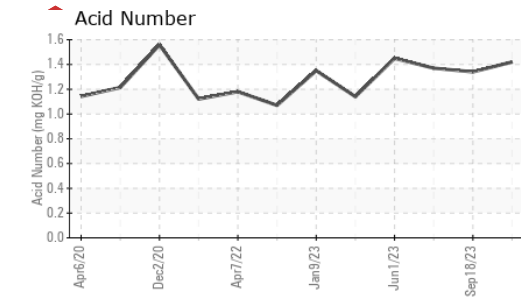
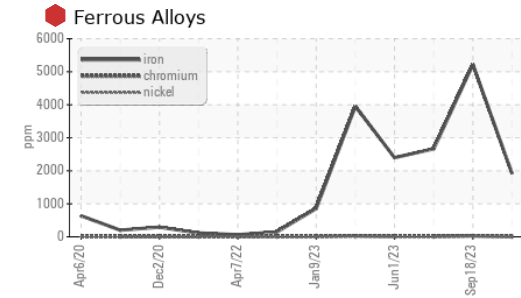
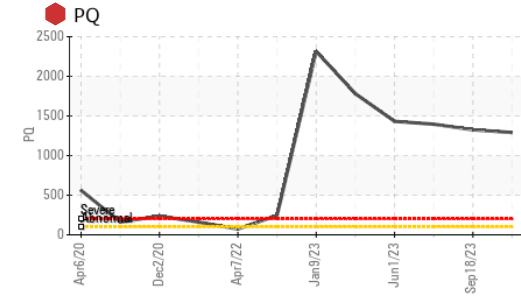
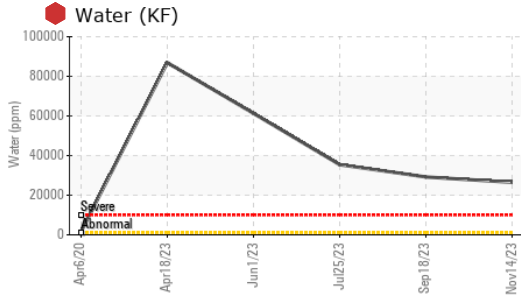
CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	1687	4047	2752
Sodium	ppm	ASTM D5185m	36	98	60
Potassium	ppm	ASTM D5185m >20	128	329	219
Water	%	ASTM D6304 >0.1	2.65	2.92	3.54
ppm Water	ppm	ASTM D6304 >1000	26500	29200	35400

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.42	1.34	1.37

OIL ANALYSIS REPORT



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10002857 **Received** : 20 Nov 2023
Lab Number : 06013421 **Diagnosed** : 29 Nov 2023
Unique Number : 10752565 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: KF, KV100, PQ, VI)

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.

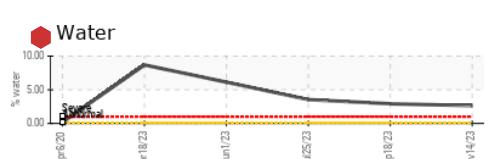
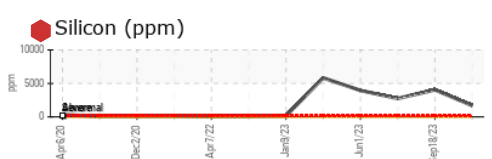
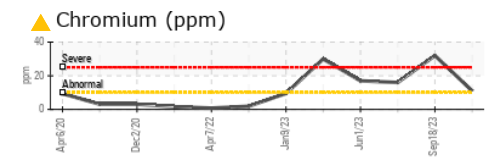
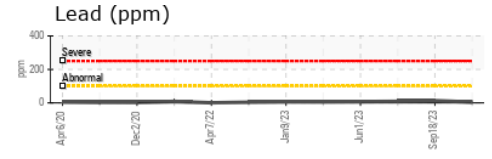
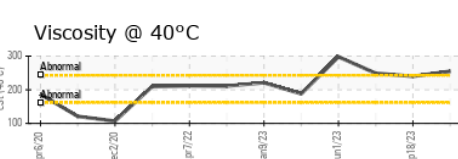
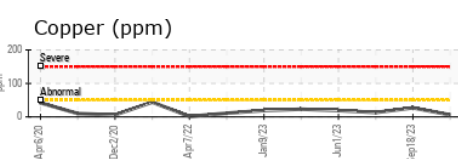
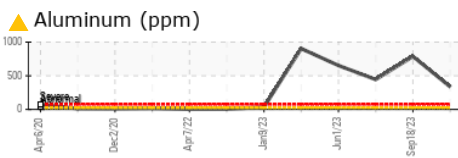
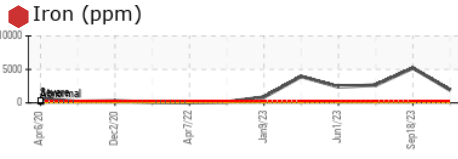
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

VISUAL	method	limit/base	current	history1	history2
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	▲ HAZY
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	● 0.2%	● 0.2%
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	255	240	249
Visc @ 100°C	cSt	ASTM D445	18.8	19.07	20.9
Viscosity Index (VI)	Scale	ASTM D2270	80	89	98

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				no image	no image
Bottom				no image	no image

GRAPHS



ANCHOR STONE TULSA ROCK
TULSA ROCK QUARRY, 66TH ST N 145TH AVENUE
TULSA, OK
US 74137
Contact: MIKE SNYDER
msnyder@anchorstoneco.com
T: (417)850-9635
F: