



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR 980H LOADER 6821 (S/N JMS06208)
Component
Front Right Final Drive
Fluid
TULCO LUBSOIL TO-4 50 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TO10002861	TO10002476	TO10002346
Sample Date		Client Info		13 Nov 2023	28 Aug 2023	15 Jun 2023
Machine Age	hrs	Client Info		28310	27775	27269
Oil Age	hrs	Client Info		4701	4166	3660
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		None	None	None
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

PQ		ASTM D8184	>500	39	31	32
Iron	ppm	ASTM D5185m	>800	41	36	33
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m	>15	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>75	4	4	3
Lead	ppm	ASTM D5185m	>10	<1	<1	0
Copper	ppm	ASTM D5185m	>75	3	2	1
Tin	ppm	ASTM D5185m	>8	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

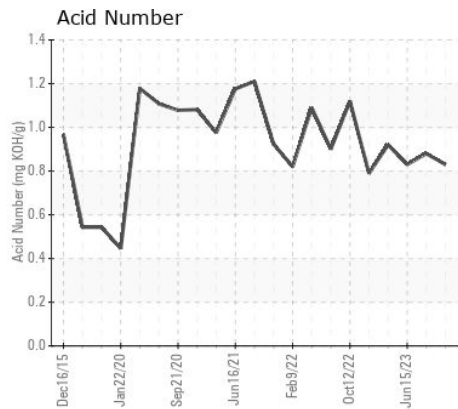
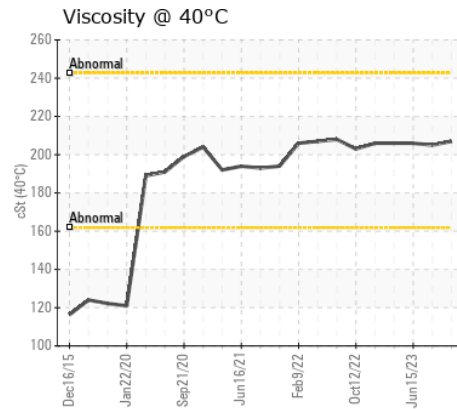
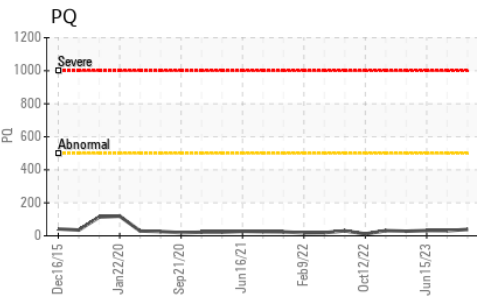
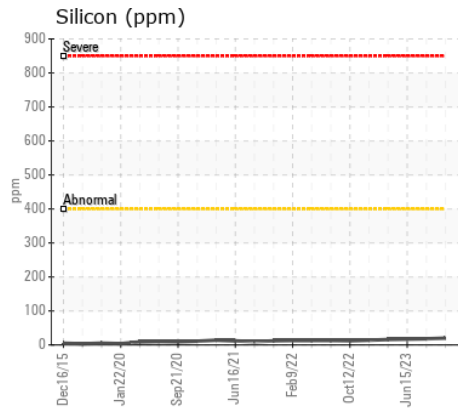
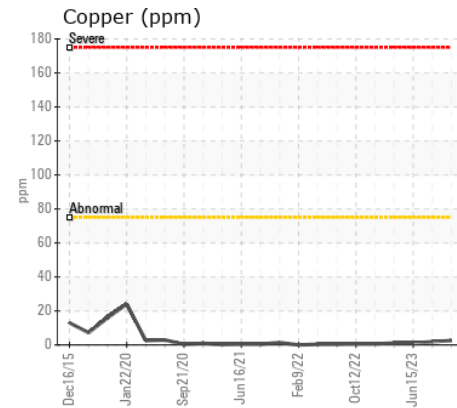
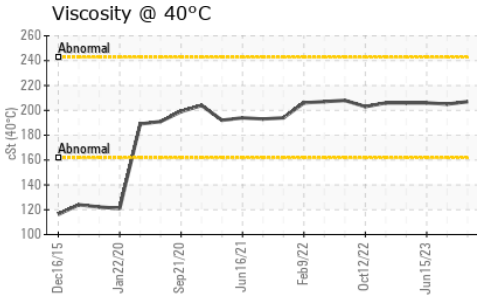
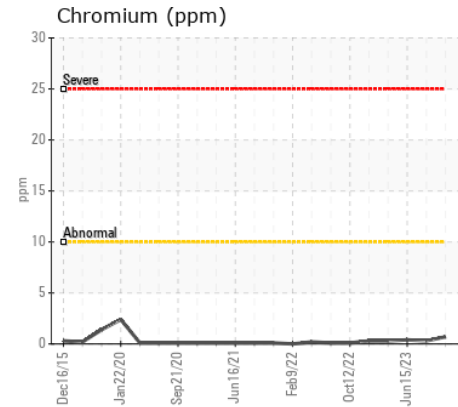
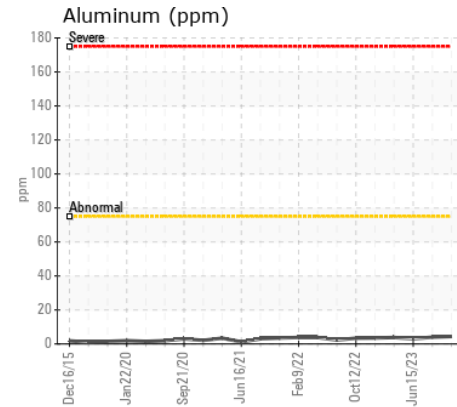
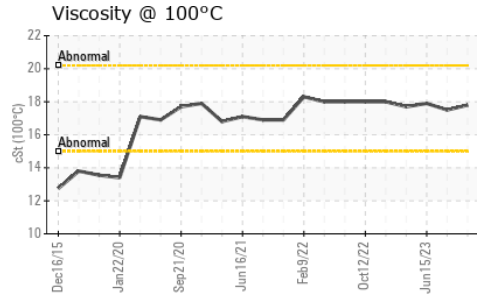
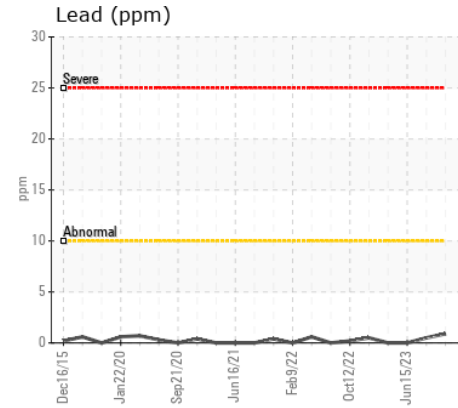
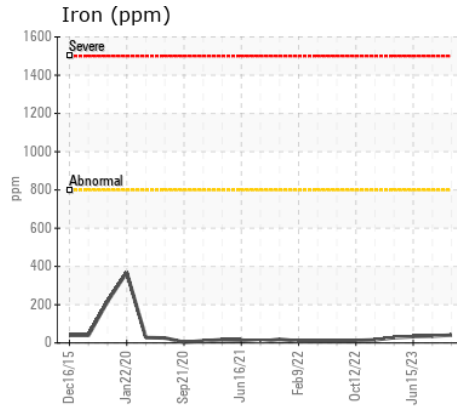
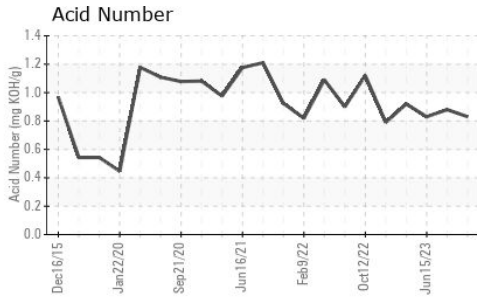
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>400	20	18	17
Potassium	ppm	ASTM D5185m	>20	0	1	0
Water		WC Method	>0.2	NEG	NEG	NEG
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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		5	4	4
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	0	1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		0	23	21
Calcium	ppm	ASTM D5185m		4282	4456	4780
Phosphorus	ppm	ASTM D5185m		724	807	846
Zinc	ppm	ASTM D5185m		969	1019	1055
Sulfur	ppm	ASTM D5185m		4384	5586	6104
Acid Number (AN)	mg KOH/g	ASTM D8045		0.83	0.88	0.83
Visc @ 40°C	cSt	ASTM D445		207	205	206
Visc @ 100°C	cSt	ASTM D445		17.8	17.5	17.9
Viscosity Index (VI)	Scale	ASTM D2270		93	91	94



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10002861
Lab Number : 06011559
Unique Number : 10750703
Test Package : MOB 2 (Additional Tests: KV100, PQ, VI)

Received : 17 Nov 2023
Tested : 20 Nov 2023
Diagnosed : 20 Nov 2023 - Wes Davis

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

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)

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