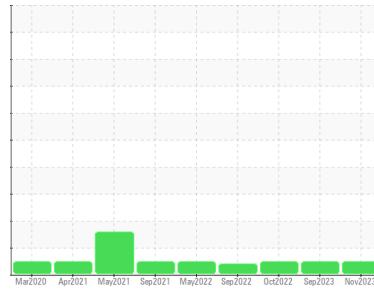




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
CATERPILLAR RIG 51-B GEN 2-A (S/N 030953)
 Component
Diesel Engine
 Fluid
CHEVRON URSA SUPER PLUS EC 15W40 (--- GAL)

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	history1	history2
Sample Number	Client Info		RP0031849	RP0031851	RP0028107
Sample Date	Client Info		16 Nov 2023	19 Sep 2023	28 Oct 2022
Machine Age	hrs	Client Info	37696	36898	36088
Oil Age	hrs	Client Info	800	809	854
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<1	0	2
Chromium	ppm	ASTM D5185m >20	0	<1	0
Nickel	ppm	ASTM D5185m >2	0	<1	0
Titanium	ppm	ASTM D5185m >2	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	2	0	<1
Lead	ppm	ASTM D5185m >40	0	<1	0
Copper	ppm	ASTM D5185m >330	2	2	3
Tin	ppm	ASTM D5185m >15	0	<1	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	337	156	374
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	75	56	82
Manganese	ppm	ASTM D5185m	<1	<1	0
Magnesium	ppm	ASTM D5185m	409	450	337
Calcium	ppm	ASTM D5185m	1385	1561	1399
Phosphorus	ppm	ASTM D5185m 1200	952	857	965
Zinc	ppm	ASTM D5185m 1300	1155	1067	1184

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	3	3
Sodium	ppm	ASTM D5185m	3	0	3
Potassium	ppm	ASTM D5185m >20	1	2	1
Water	%	ASTM D6304 >0.2	NEG	NEG	NEG

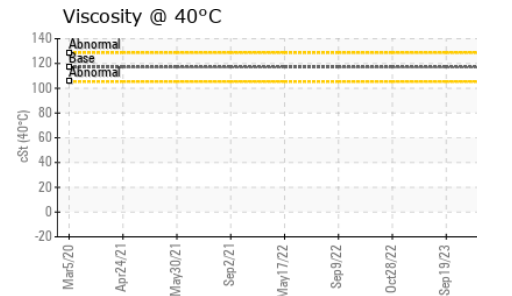
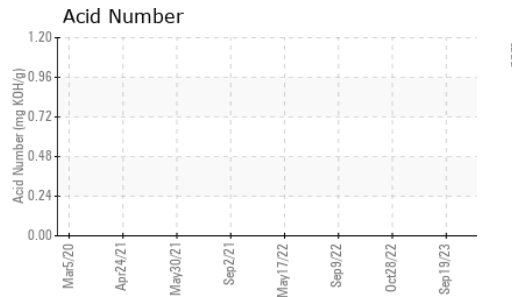
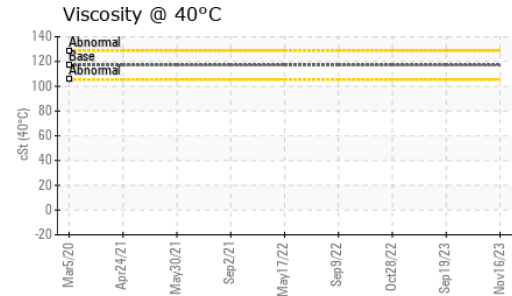
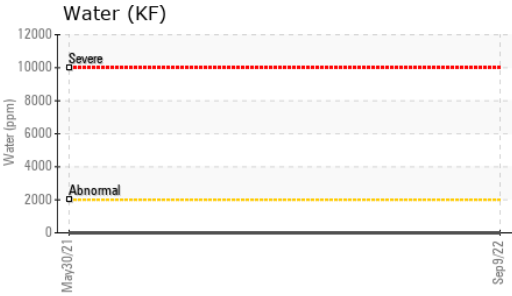
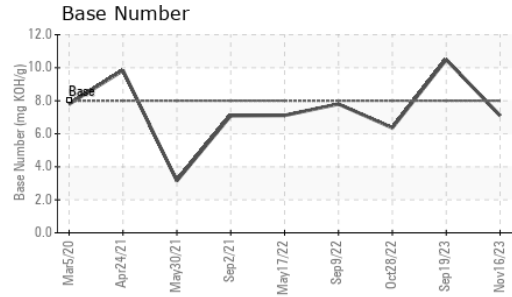
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.1	0	0.2
Nitration	Abs/cm	*ASTM D7624 >20	6.3	7.0	7.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.9	21.9	22.6

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.9	19.4	16.3
Acid Number (AN)	mg KOH/g	ASTM D8045	1.13	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 8.0	7.1	10.49	6.36

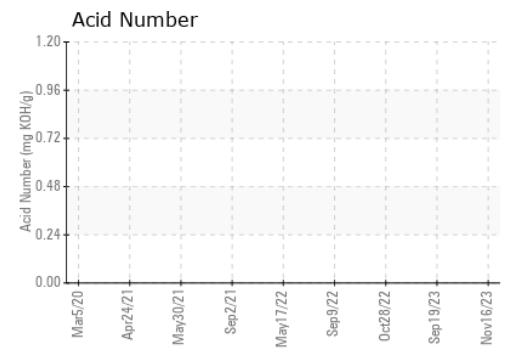
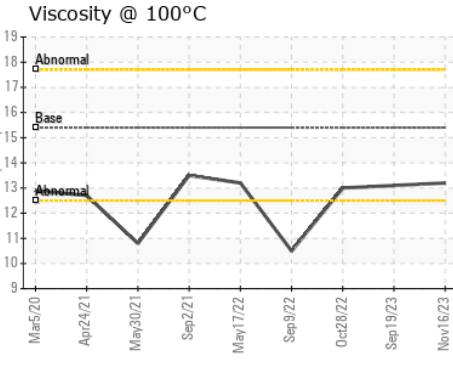
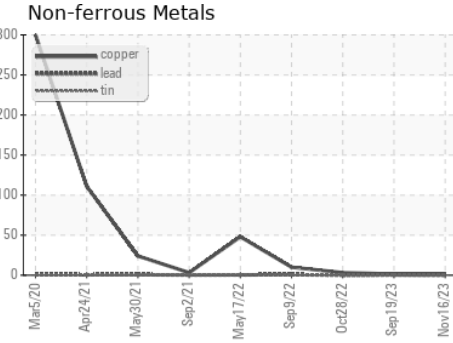
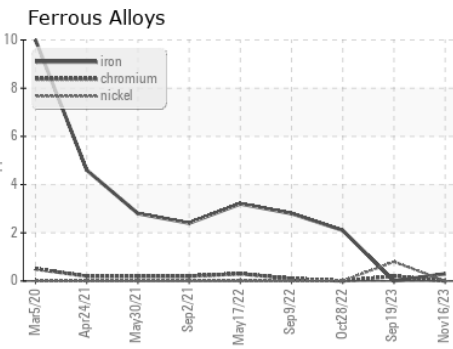
OIL ANALYSIS REPORT



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	LIGHT
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	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.2	13.1

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0031849 **Received** : 07 Dec 2023
Lab Number : 06027944 **Diagnosed** : 14 Dec 2023
Unique Number : 10777735 **Diagnostician** : Jonathan Hester
Test Package : IND 2 (Additional Tests: FT-IR, KV100, TBN)

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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)