



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR 3512 ULB McClave compressor (S/N 7NJ00728)
Component
Natural Gas Engine
Fluid
LO-ASH ENGINE OIL SAE 40 (86 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013068	KL0013065	KL0011510
Sample Date		Client Info		11 Jan 2024	05 Dec 2023	02 Nov 2023
Machine Age	hrs	Client Info		85274	84502	83732
Oil Age	hrs	Client Info		85274	84502	83732
Filter Age	hrs	Client Info		85274	84502	0
Oil Changed		Client Info		Filtered	Filtered	Filtered
Filter Changed		Client Info		Changed	None	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	11	<1	2
Chromium	ppm	ASTM D5185m	>4	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	2	<1	2
Lead	ppm	ASTM D5185m	>30	<1	0	0
Copper	ppm	ASTM D5185m	>35	2	0	<1
Tin	ppm	ASTM D5185m	>4	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

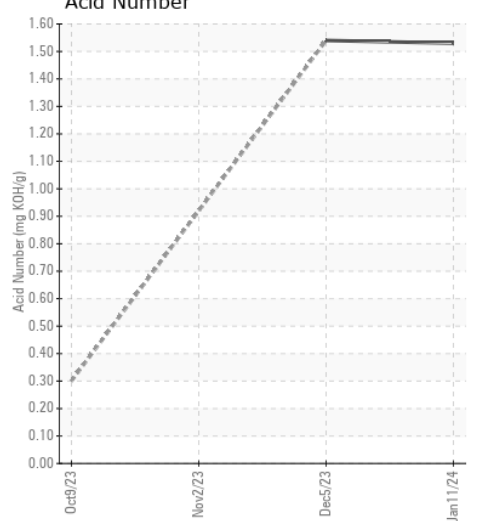
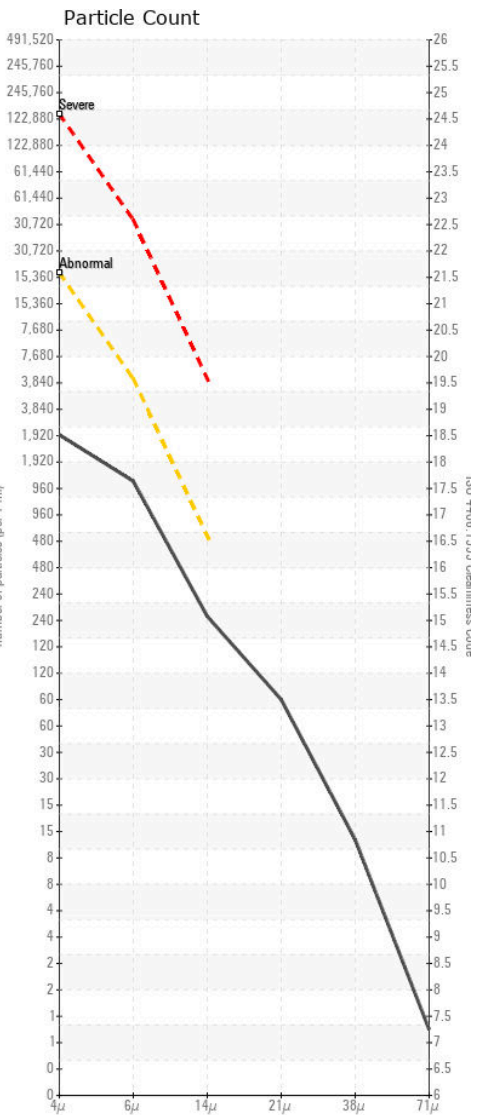
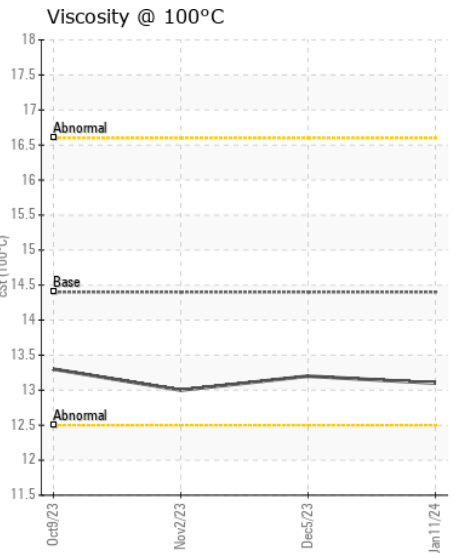
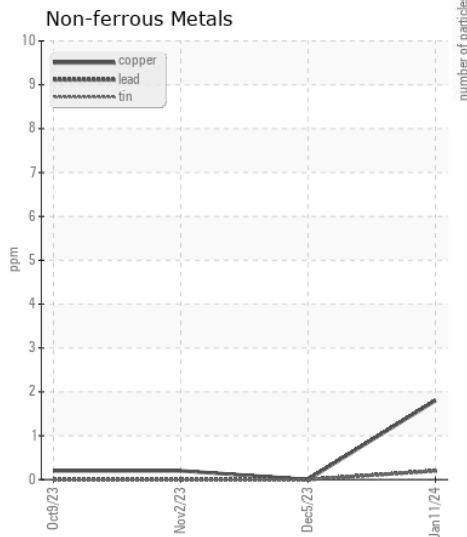
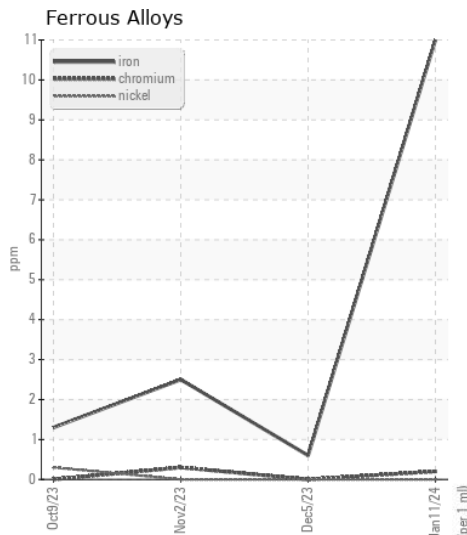
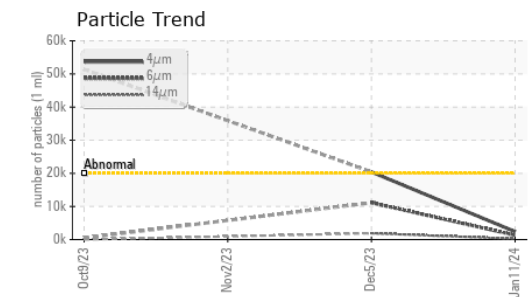
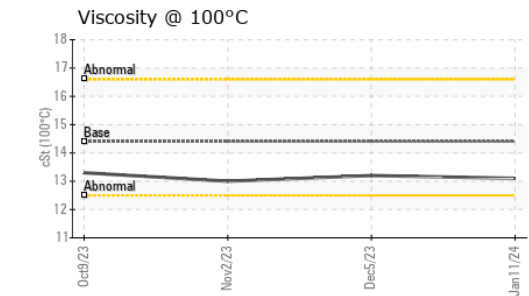
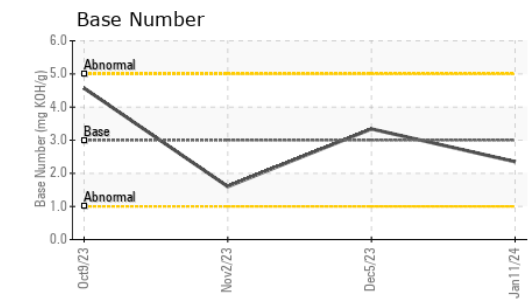
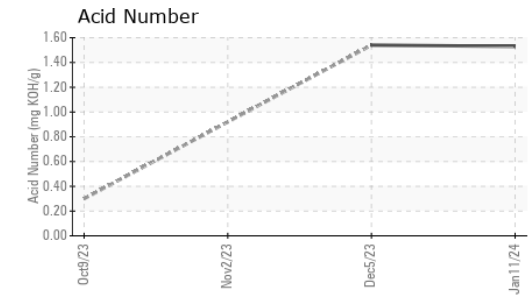
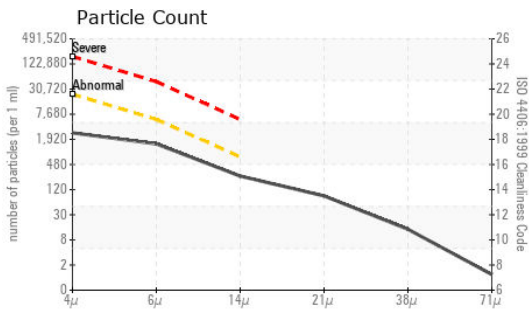
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>+100	4	2	2
Potassium	ppm	ASTM D5185m	>20	2	0	2
Water		WC Method	>0.1	NEG	NEG	NEG
Soot %	%	*ASTM D7844		0	0	0
Nitration	Abs/cm	*ASTM D7624	>20	5.1	5.2	5.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.8	18.5	16.9
Particles >4µm		ASTM D7647	>20000	2401	▲ 20409	---
Particles >6µm		ASTM D7647	>5000	1308	▲ 11118	---
Particles >14µm		ASTM D7647	>640	223	▲ 1892	---
Particles >21µm		ASTM D7647	>160	75	▲ 637	---
Particles >38µm		ASTM D7647	>40	12	▲ 98	---
Particles >71µm		ASTM D7647	>10	1	▲ 10	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	18/18/15	▲ 22/21/18	---
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	>0.1	NEG	NEG	NEG

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<1	0	0
Boron	ppm	ASTM D5185m	37	3	3	<1
Barium	ppm	ASTM D5185m	12	1	0	0
Molybdenum	ppm	ASTM D5185m	200	17	19	25
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m	5	19	20	28
Calcium	ppm	ASTM D5185m	1600	1271	1481	1395
Phosphorus	ppm	ASTM D5185m	300	351	324	312
Zinc	ppm	ASTM D5185m	400	361	407	403
Sulfur	ppm	ASTM D5185m	2600	3674	3450	2959
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.4	12.9	11.3
Acid Number (AN)	mg KOH/g	ASTM D8045		1.53	1.54	---
Base Number (BN)	mg KOH/g	ASTM D2896	3.0	2.35	3.34	1.6
Visc @ 100°C	cSt	ASTM D445	14.4	13.1	13.2	13.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013068 **Received** : 18 Jan 2024
Lab Number : 06065107 **Diagnosed** : 22 Jan 2024
Unique Number : 10836489 **Diagnostician** : Wes Davis
Test Package : MOB 2 (Additional Tests: PrtCount)

STRACHAN EXPLORATION
 383 INVERNESS PKWY SUITE 360
 ENGLEWOOD, CO
 US 80112
 Contact: DENNIS JACKSON

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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F: