



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
GUAY SON/Yavaros [CONHER]
Machine Id
CATERPILLAR Pacifico Ind Admiralty MP
Component
Center Diesel Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (160 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013441	KL0013390	KL0013297
Sample Date		Client Info		21 Dec 2023	17 Nov 2023	16 Oct 2023
Machine Age	hrs	Client Info		0	5481	0
Oil Age	hrs	Client Info		255	77	100
Filter Age	hrs	Client Info		255	77	100
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status				NORMAL	ATTENTION	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	10	6	10
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	3	3
Lead	ppm	ASTM D5185m	>40	3	1	4
Copper	ppm	ASTM D5185m	>330	86	25	50
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

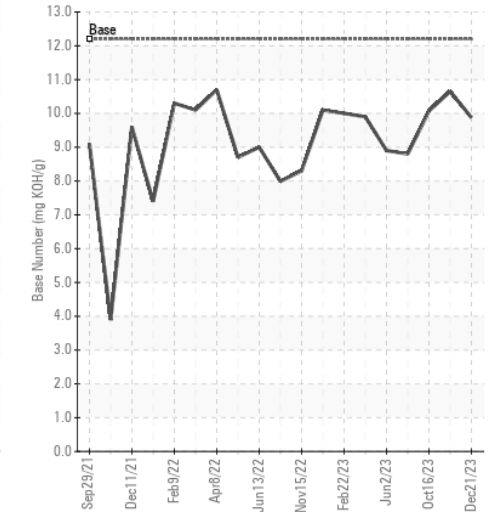
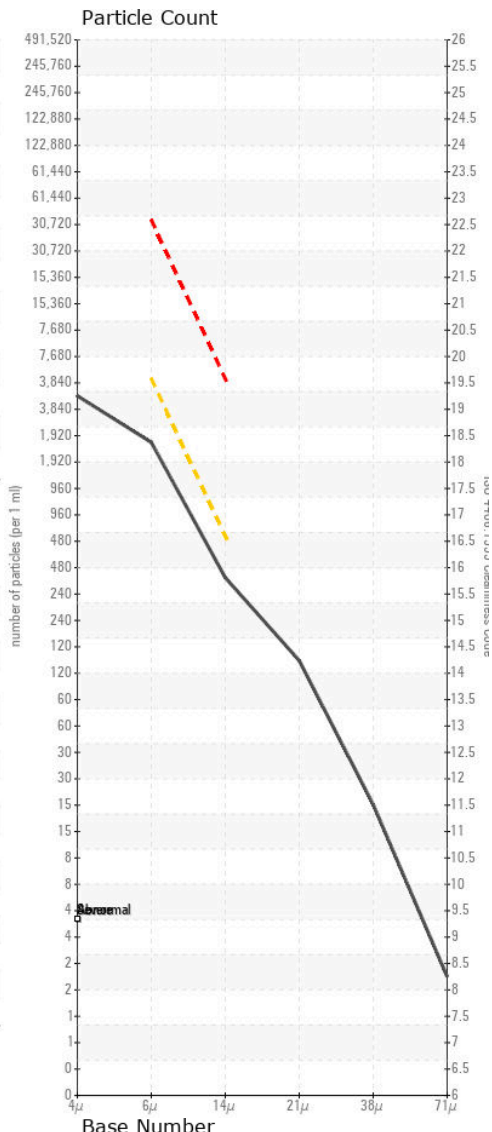
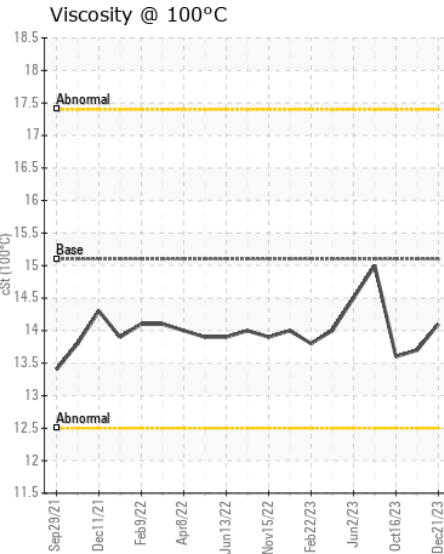
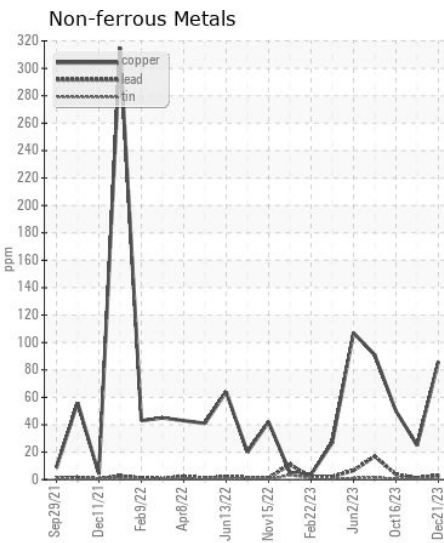
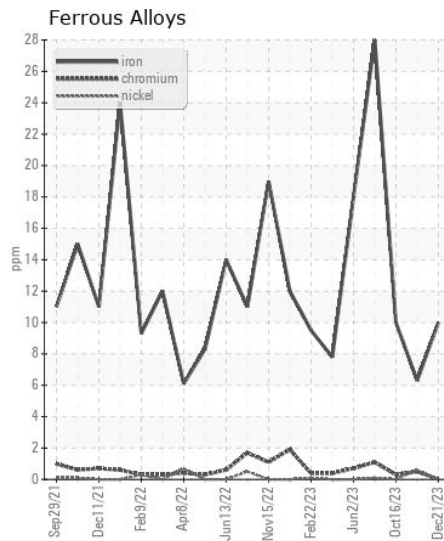
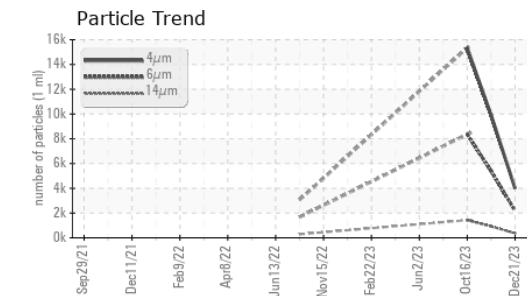
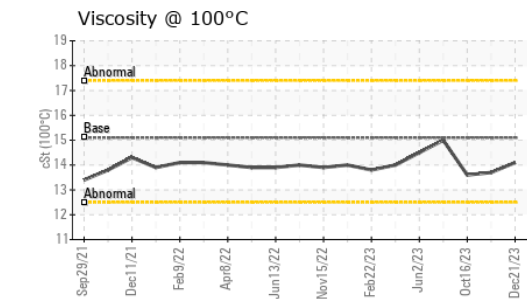
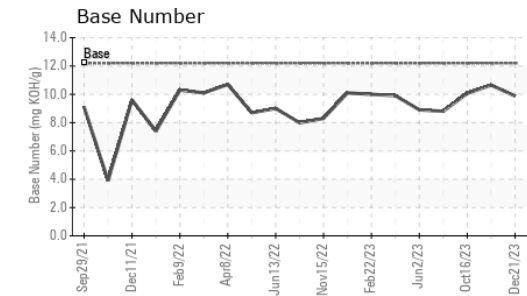
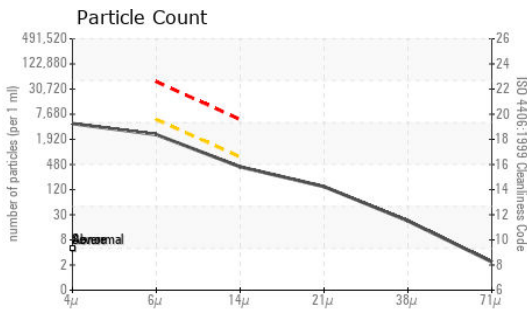
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>25	8	7	10
Potassium	ppm	ASTM D5185m	>20	0	2	3
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	10.1	6.7	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.1	23.2	24.6
Particles >4µm		ASTM D7647		3993	9900	15338
Particles >6µm		ASTM D7647	>5000	2175	▲ 5393	▲ 8355
Particles >14µm		ASTM D7647	>640	370	▲ 918	▲ 1422
Particles >21µm		ASTM D7647	>160	125	▲ 309	▲ 479
Particles >38µm		ASTM D7647	>40	19	▲ 48	▲ 74
Particles >71µm		ASTM D7647	>10	2	5	8
Oil Cleanliness		ISO 4406 (c)	>19/16	18/16	▲ 20/17	▲ 20/18
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	>0.2	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		65	49	▲ 119
Boron	ppm	ASTM D5185m		232	306	243
Barium	ppm	ASTM D5185m		0	1	0
Molybdenum	ppm	ASTM D5185m		141	130	136
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		733	637	680
Calcium	ppm	ASTM D5185m		1671	1462	1565
Phosphorus	ppm	ASTM D5185m	1360	761	661	657
Zinc	ppm	ASTM D5185m	1480	925	808	952
Sulfur	ppm	ASTM D5185m		2499	2495	2392
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.4	16.9	19.3
Base Number (BN)	mg KOH/g	ASTM D2896	12.2	9.88	10.65	10.07
Visc @ 100°C	cSt	ASTM D445	15.1	14.1	13.7	13.6



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013441 **Received** : 09 Jan 2024
Lab Number : 06055998 **Diagnosed** : 11 Jan 2024
Unique Number : 10821947 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: PrtCount)

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Certificate L2367
 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)