

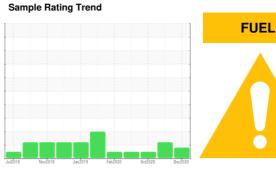
OIL ANALYSIS REPORT



GUAY SON [CONHER] CATERPILLAR CHUYITO XXVIII - IBACO

Diesel Engine

Pure Guard 15W40 CI-4+ (160 LTR)



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: Looking for fuel)

All component wear rates are normal.

Contamination

Light fuel dilution occurring.

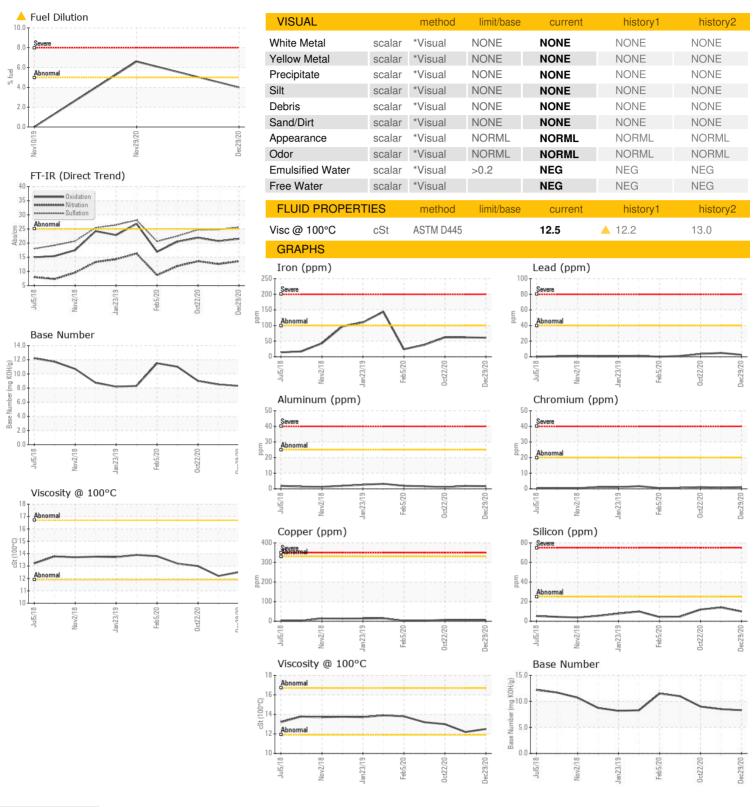
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

4+ (100 L1h)		Jul2018	Nov2018 Jan2019	Feb2020 Oct2020	Uec2U2U	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		KL0005951	KL0005949	KL0004609
Sample Date		Client Info		29 Dec 2020	29 Nov 2020	22 Oct 2020
Machine Age	hrs	Client Info		8869	8473	8387
Oil Age	hrs	Client Info		2773	2377	1891
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				MARGINAL	ABNORMAL	NORMAL
CONTAMINATION	١	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	61	62	62
Chromium	ppm	ASTM D5185m	>20	1	<1	1
Nickel	ppm	ASTM D5185m	>2	2	1	2
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	2	1
Lead	ppm	ASTM D5185m	>40	2	5	4
Copper	ppm	ASTM D5185m	>330	5	7	7
Tin	ppm	ASTM D5185m	>15	0	0	1
Antimony	ppm	ASTM D5185m	7 10	0	0	0
/anadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES	ррш		limit/base	-		
		method	IIIIII/Dase	current	history1	history2
Boron	ppm	ASTM D5185m		2	<1	4
	• •					
	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm ppm	ASTM D5185m		39	45	66
Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m		39 <1	45 <1	66 <1
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		39 <1 474	45 <1 614	66 <1 846
Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		39 <1 474 2664	45 <1	66 <1 846 2020
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		39 <1 474 2664 1113	45 <1 614 2415 1087	66 <1 846 2020 1069
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		39 <1 474 2664 1113 1275	45 <1 614 2415	66 <1 846 2020
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		39 <1 474 2664 1113	45 <1 614 2415 1087	66 <1 846 2020 1069
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	39 <1 474 2664 1113 1275	45 <1 614 2415 1087 1296	66 <1 846 2020 1069 1253
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >25	39 <1 474 2664 1113 1275 2830	45 <1 614 2415 1087 1296 2865	66 <1 846 2020 1069 1253 3296
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		39 <1 474 2664 1113 1275 2830 current	45 <1 614 2415 1087 1296 2865 history1	66 <1 846 2020 1069 1253 3296 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m		39 <1 474 2664 1113 1275 2830 current 10	45 <1 614 2415 1087 1296 2865 history1	66 <1 846 2020 1069 1253 3296 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25 >20	39 <1 474 2664 1113 1275 2830 current 10 6	45 <1 614 2415 1087 1296 2865 history1 14	66 <1 846 2020 1069 1253 3296 history2 12 8
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25 >20	39 <1 474 2664 1113 1275 2830 current 10 6	45 <1 614 2415 1087 1296 2865 history1 14 8 <1	66 <1 846 2020 1069 1253 3296 history2 12 8 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25 >20 >5	39 <1 474 2664 1113 1275 2830 current 10 6 0 4.0	45 <1 614 2415 1087 1296 2865 history1 14 8 <1 △ 6.6	66 <1 846 2020 1069 1253 3296 history2 12 8 <1 <1.0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524	>25 >20 >5 limit/base	39 <1 474 2664 1113 1275 2830	45 <1 614 2415 1087 1296 2865 history1 14 8 <1 ▲ 6.6 history1	66 <1 846 2020 1069 1253 3296 history2 12 8 <1 <1.0 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844	>25 >20 >5 limit/base >3	39 <1 474 2664 1113 1275 2830	45 <1 614 2415 1087 1296 2865 history1 14 8 <1 △ 6.6 history1 0.8	66 <1 846 2020 1069 1253 3296 history2 12 8 <1 <1.0 history2 0.8
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	>25 >20 >5 limit/base >3 >20	39 <1 474 2664 1113 1275 2830	45 <1 614 2415 1087 1296 2865 history1 14 8 <1 △ 6.6 history1 0.8 12.6	66 <1 846 2020 1069 1253 3296 history2 12 8 <1 <1.0 history2 0.8 13.6
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7624 *ASTM D7615 method	>25 >20 >5 limit/base >3 >20 >30 limit/base	39 <1 474 2664 1113 1275 2830	45 <1 614 2415 1087 1296 2865 history1 14 8 <1 △ 6.6 history1 0.8 12.6 24.8 history1	66 <1 846 2020 1069 1253 3296 history2 12 8 <1 <1.0 history2 0.8 13.6 24.7 history2
Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	>25 >20 >5 limit/base >3 >20 >30	39 <1 474 2664 1113 1275 2830	45 <1 614 2415 1087 1296 2865 history1 14 8 <1 ▲ 6.6 history1 0.8 12.6 24.8	66 <1 846 2020 1069 1253 3296 history2 12 8 <1 <1.0 history2 0.8 13.6 24.7



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

: KL0005951 Lab Number : 05165404 Unique Number : 9335686

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested**

Diagnosed Test Package : MOB 1 (Additional Tests: PercentFuel, TBN)

: 26 Jan 2021

: 22 Jan 2021

: 26 Jan 2021 - Jonathan Hester

MX 83140 Contact: EDUARDO GARCIA egarcia.comsa@gmail.com T: (526)622-1581 x:81

To discuss this sample report, contact Customer Service at 1-800-237-1369. st - 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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