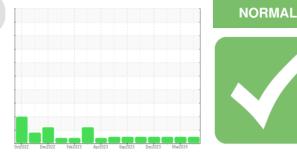


OIL ANALYSIS REPORT



Sample Rating Trend



CATERPILLAR 374 10552 (S/N TNX10027) Diesel Engine Fluid

SAMPLE INFORMATION method

DIESEL ENGINE OIL SAE 30 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Machine Id

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

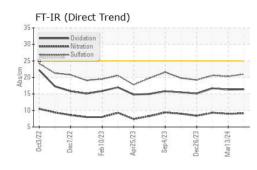
Fluid Condition

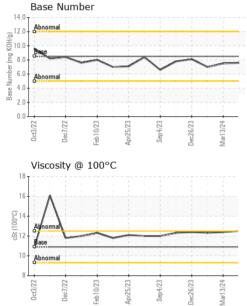
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM		method	limit/base	current	history1	history2
Sample Number		Client Info		WC0913313	WC0887948	WC0888240
Sample Date		Client Info		07 May 2024	13 Mar 2024	31 Jan 2024
Machine Age	hrs	Client Info		9272	8361	7690
Oil Age	hrs	Client Info		911	671	624
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
		and the set	Press to Use a second		late to most	la la tana 0
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
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	42	22	26
Chromium	ppm	ASTM D5185m	>6	<1	0	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	2	<1	2
Lead	ppm	ASTM D5185m	>10	9	<1	3
Copper	ppm	ASTM D5185m	>150	5	2	2
Tin	ppm	ASTM D5185m	>4	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current <1	history1 1	history2 0
	ppm ppm					-
Boron		ASTM D5185m	250	<1	1	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	<1 <1	1 0	0 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	<1 <1 63	1 0 55	0 <1 61
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	<1 <1 63 <1	1 0 55 0	0 <1 61 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	<1 <1 63 <1 966	1 0 55 0 956	0 <1 61 <1 950
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	<1 <1 63 <1 966 1229	1 0 55 0 956 1253	0 <1 61 <1 950 1164
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	<1 <1 63 <1 966 1229 1224	1 0 55 0 956 1253 1033	0 <1 61 <1 950 1164 1080
Boron Barium 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 ASTM D5185m	250 10 100 450 3000 1150 1350	<1 <1 63 <1 966 1229 1224 1321	1 0 55 0 956 1253 1033 1233	0 <1 61 <1 950 1164 1080 1290
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	<1 <1 63 <1 966 1229 1224 1321 3542	1 0 55 0 956 1253 1033 1233 3436	0 <1 61 <1 950 1164 1080 1290 2905
Boron Barium 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >20	<1 <1 63 <1 966 1229 1224 1321 3542 current	1 0 55 0 956 1253 1033 1233 3436 history1	0 <1 61 <1 950 1164 1080 1290 2905 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	250 10 100 450 3000 1150 1350 4250 limit/base >20 >75	<1 <1 63 <1 966 1229 1224 1321 3542 current 7	1 0 55 0 956 1253 1033 1233 3436 history1 5	0 <1 61 <1 950 1164 1080 1290 2905 history2 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >20 >75	<1 <1 63 <1 966 1229 1224 1321 3542 Current 7 2	1 0 55 0 956 1253 1033 1233 3436 history1 5 <	0 <1 61 <1 950 1164 1080 1290 2905 history2 3 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >20 >75 >20	<1 <1 63 <1 966 1229 1224 1321 3542 current 7 2 4	1 0 55 0 956 1253 1033 1233 3436 history1 5 < 1 0	0 <1 61 <1 950 1164 1080 1290 2905 history2 3 <1 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >20 >75 >20 Iimit/base >3	<1 <1 63 <1 966 1229 1224 1321 3542 current 7 2 4 current	1 0 55 0 956 1253 1033 1233 3436 history1 5 <1 0	0 <1 61 <1 950 1164 1080 1290 2905 history2 3 <1 1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >20 >75 >20 Iimit/base >3	<1 <1 63 <1 966 1229 1224 1321 3542 <i>current</i> 7 2 4 <i>current</i> 0.7	1 0 55 0 956 1253 1033 1233 3436 history1 5 <1 0 0 history1 0.5	0 <1 61 <1 950 1164 1080 1290 2905 history2 3 <1 1 history2 0.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 20 >20 >75 >20 imit/base >20 >3 >20	<1 <1 63 <1 966 1229 1224 1321 3542 <i>current</i> 7 2 4 <i>current</i> 0.7 9.1	1 0 55 0 956 1253 1033 1233 3436 history1 5 <1 0 Vistory1 0.5 9.0	0 <1 61 <1 950 1164 1080 1290 2905 history2 3 <1 1 1 history2 0.5 9.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >20 imit/base >3 >20 >3	<1 <1 63 <1 966 1229 1224 1321 3542 current 7 2 4 current 0.7 9.1 21.0	1 0 55 0 956 1253 1033 1233 3436 history1 5 <1 0 history1 0.5 9.0 20.3	0 <1 61 <1 950 1164 1080 1290 2905 history2 3 <1 1 history2 0.5 9.3 20.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	250 10 100 450 3000 1150 1350 4250 binit/base >20 >20 >20 binit/base >3 >20 >30 >30	<1 <1 63 <1 966 1229 1224 1321 3542 Current 7 2 4 Current 0.7 9.1 21.0 Current	1 0 55 0 956 1253 1033 1233 3436 history1 5 <100 history1 0.5 9.0 20.3 history1	0 <1 61 <1 950 1164 1080 1290 2905 history2 3 <1 1 1 history2 0.5 9.3 20.6 history2

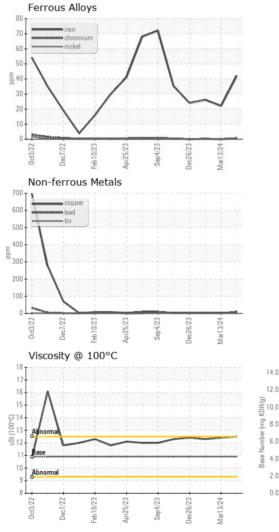


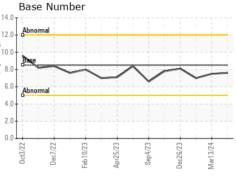
OIL ANALYSIS REPORT

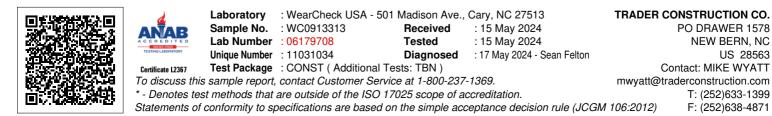




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.9	12.5	12.4	12.3
GRAPHS						







Contact/Location: MIKE WYATT - TRANEW

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