

OIL ANALYSIS REPORT

Machine Id NOT GIVEN WC0938473 NO INFO ON SIF/BOTTLE

Diesel Engine

Fluid {not provided} (--- GAL)

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

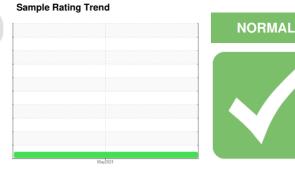
Metal levels are typical for a new component breaking in.

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	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0938473		
Sample Date		Client Info		27 May 2024		
Machine Age	hrs	Client Info		527		
Oil Age	hrs	Client Info		300		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	12		
Chromium	ppm		>20	<1		
Nickel	ppm	ASTM D5185m	>4	<1		
Titanium	ppm	ASTM D5185m	- 1	0		
Silver	ppm	ASTM D5185m	>3	۰ <1		
Aluminum	ppm		>20	4		
Lead	ppm	ASTM D5185m	>40	<1		
Copper	ppm		>330	4		
Tin	ppm		>15	- <1		
Vanadium	ppm	ASTM D5185m	210	0		
Cadmium		ASTM D5185m				
Gaumum	DDIII	ASTIVI DSTOSIII		U		
	ppm		limit/base	0 current		history2
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 49	history1	 history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 49 0	history1 	· · · · ·
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 49 0 40	history1 	
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 49 0 40 2	history1 	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 49 0 40 2 90	history1 	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185m	limit/base	current 49 0 40 2 90 1998	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 49 0 40 2 90 1998 818	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 49 0 40 2 90 1998 818 992	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		Current 49 0 40 2 90 1998 818 992 3487	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 49 0 40 2 90 1998 818 992 3487 current	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		current 49 0 40 2 90 1998 818 992 3487 current 21	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25	current 49 0 40 2 90 1998 818 992 3487 current 21 5	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >25	current 49 0 40 2 90 1998 818 992 3487 current 21	history1 history1	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25	current 49 0 40 2 90 1998 818 992 3487 current 21 5	history1	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25 >20	current 49 0 40 2 90 1998 818 992 3487 current 21 5 10	history1 history1 history1	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25 >20 limit/base	current 49 0 40 2 90 1998 818 992 3487 current 21 5 10 current	history1 history1 history1 history1	 history2 history2
ADDITIVES 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	method ASTM D5185m	limit/base >25 >20 limit/base >3	current 49 0 40 2 90 1998 818 992 3487 current 21 5 10 current 0.1	history1 history1 history1 history1	 history2 history2
ADDITIVES 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	method ASTM D5185m	limit/base >25 >20 limit/base >3 >20	current 49 0 40 2 90 1998 818 992 3487 current 21 5 10 current 0.1 15.1	history1 history1 history1 history1 history1	history2 history2 history2
ADDITIVES 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	method ASTM D5185m ASTM D5185m	Imit/base >25 >20 Imit/base >3 >20 >3 >20 >30	current 49 0 40 2 90 1998 818 992 3487 current 21 5 10 current 0.1 15.1 30.1	history1 history1 history1 history1 history1	 history2 history2 history2 history2



45 40 ****** 35 Abs/cm

25. 20. 15 May27/24

5.0

(B/HOX Bm)

0.2 Base Number (r 0.1 Base 1.0

0.0 May27/24

18 T 17

16. ()-15-()-15-(100-c) 14-14-

, 13. 12 11 May27/24

OIL ANALYSIS REPORT

Oxidation Nitration Sulfation	White Metal	acclar					
		scalar	*Visual	NONE	NONE		
	Yellow Metal		*Visual	NONE	NONE		
	Precipitate		*Visual	NONE	NONE		
Abnormal	Silt		*Visual	NONE	NONE		
	Debris		*Visual	NONE	NONE		
	Sand/Dirt		*Visual	NONE	NONE		
724 24 24	Appearance		*Visual	NORML	NORML		
May27/24 May27/24	Odor		*Visual	NORML	NORML		
∠ ≥	Emulsified Water						
Base Number			*Visual	>0.2	NEG		
	Free Water		*Visual	line it /l	NEG		
	FLUID PROPERT Visc @ 100°C		method ASTM D445	limit/base	current	history1	history2
	GRAPHS	0.01	A31101 D443		13.5		
	Ferrous Alloys						
4 4	12 iron						
т	10 - nickel						
⊧ /iscosity @ 100°C	8						
,196051CY (@ 100 C	E. 6-						
Abnormal	4						
	2						
	0 - 1						
Abnormal	May27/24			May27/24			
	≥ Non-ferrous Metals	s		2			
- +2//	10 _T						
47/17keW	copper						
- 4	8 - exercise tin						
	6						
	ш d						
	4						
	2						
	-						
	0						
	Z/L2/v			y27/24			
				May			
	Viscosity @ 100°C			4.5	Base Number		
	17 Abnormal			4.0			
	16				1		
				(B) 3.5 (A) 400 (B) 3.0 (B) 2.5			
	(2) 15 - 			ຍີ 2.5			
	5 ¹⁴			40 2.0 N 1.5			
	13 Abnormal			2 1.5 8 1.0			
	12			0.5			
	11			0.0			
	May27/24			May27/24	27/24		4C/LOveM
	Mayi			Mayi	May27/24		CreeW
Sample No. Lab Number Unique Number Certificate L2367 Test Package		Receiv Tested Diagno ests: TBN	ed : 29 : 30 osed : 30	May 2024 May 2024 May 2024 - Sea	an Felton	769 STATE HW	TROUP, TX US 75789 Forrest Howel

Report Id: COVTRO [WUSCAR] 06193709 (Generated: 05/30/2024 22:17:26) Rev: 1

Contact/Location: Forrest Howell - COVTRO