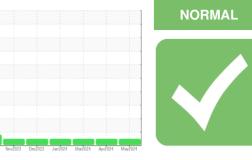


OIL ANALYSIS REPORT

SAMPLE INFORMATION method

Sample Rating Trend



1708 Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Machine Id

Recommendation

Resample at the next service interval to monitor.

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	nistory i	nistory2
Sample Number		Client Info		WC0897844	WC0897916	WC0894027
Sample Date		Client Info		08 May 2024	10 Apr 2024	13 Mar 2024
Machine Age	mls	Client Info		0	348276	0
Oil Age	mls	Client Info		0	0	0
Oil Changed	11113	Client Info		N/A	N/A	N/A
•		Client Into		NORMAL		
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	Ν	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	10	6	10
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m	~7	<1	0	<1
Silver	ppm	ASTM D5185m	.2	0	0	<1
Aluminum			>20	2	<1	3
Lead	ppm					
	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m		3	0	4
Tin	ppm		>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 0	history1 2	history2 <1
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	250	0	2	<1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	0 2	2 0	<1 2
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	0 2 62	2 0 54	<1 2 59
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	0 2 62 <1	2 0 54 0	<1 2 59 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	0 2 62 <1 913	2 0 54 0 873	<1 2 59 <1 888
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	0 2 62 <1 913 1084 1053	2 0 54 0 873 1042 976	<1 2 59 <1 888 1157
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	0 2 62 <1 913 1084	2 0 54 0 873 1042	<1 2 59 <1 888 1157 1016
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	0 2 62 <1 913 1084 1053 1202 3090	2 0 54 0 873 1042 976 1170 3229	<1 2 59 <1 888 1157 1016 1205 3223
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	250 10 100 450 3000 1150 1350 4250	0 2 62 <1 913 1084 1053 1202 3090 current	2 0 54 0 873 1042 976 1170 3229 history1	<1 2 59 <1 888 1157 1016 1205 3223 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	0 2 62 <1 913 1084 1053 1202 3090 current 13	2 0 54 0 873 1042 976 1170 3229 history1 11	<1 2 59 <1 888 1157 1016 1205 3223 history2 6
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 imit/base >25 >158	0 2 62 <1 913 1084 1053 1202 3090 current 13 <1	2 0 54 0 873 1042 976 1170 3229 history1 11 <1	<1 2 59 <1 888 1157 1016 1205 3223 history2 6 <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 limit/base >25 >158 >20	0 2 62 <1 913 1084 1053 1202 3090 current 13 <1 3	2 0 54 0 873 1042 976 1170 3229 history1 11 11 <1 0	<1 2 59 <1 888 1157 1016 1205 3223 history2 6 <1 3
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >158	0 2 62 <1 913 1084 1053 1202 3090 current 13 <1	2 0 54 0 873 1042 976 1170 3229 history1 11 11 <1 0 bistory1	<1 2 59 1 888 1157 1016 1205 3223 history2 6 </1 3</th
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 limit/base >25 >158 >20	0 2 62 <1 913 1084 1053 1202 3090 current 13 <1 3	2 0 54 0 873 1042 976 1170 3229 history1 11 11 <1 0	<1 2 59 <1 888 1157 1016 1205 3223 history2 6 <1 3
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 >25 >158 >20 Imit/base >3	0 2 62 <1 913 1084 1053 1202 3090 current 13 <1 3 Current	2 0 54 0 873 1042 976 1170 3229 history1 11 11 <1 0 bistory1	<1 2 59 1 888 1157 1016 1205 3223 history2 6 </1 3</th
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 Imit/base >25 >158 >20 Imit/base >3	0 2 62 <1 913 1084 1053 1202 3090 current 13 <1 3 current 0.3	2 0 54 0 873 1042 976 1170 3229 history1 11 <1 0 <i>history1</i> 0.3	<1 2 59 <1 888 1157 1016 1205 3223 history2 6 <1 3 history2 0.2
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 imit/base >25 >158 >20 imit/base >3 >20	0 2 62 <1 913 1084 1053 1202 3090 current 13 <1 3 current 0.3 8.8	2 0 54 0 873 1042 976 1170 3229 history1 11 <1 0 <i>history1</i> 0.3 8.4	<1 2 59 <1 888 1157 1016 1205 3223 history2 6 <1 3 history2 0.2 8.2
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 >25 >158 >20 imit/base >3 >20 >30	0 2 62 <1 913 1084 1053 1202 3090 current 13 <1 3 current 0.3 8.8 23.4	2 0 54 0 873 1042 976 1170 3229 history1 11 <1 0 <i>history1</i> 0.3 8.4 22.8	<1 2 59 <1 888 1157 1016 1205 3223 history2 6 <1 3 bistory2 0.2 8.2 22.9
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 imit/base >25 >158 >20 imit/base >3 >20 >30	0 2 62 <1 913 1084 1053 1202 3090 current 13 <13 <1 3 current 0.3 8.8 23.4 current	2 0 54 0 873 1042 976 1170 3229 history1 11 11 <1 0 history1 0.3 8.4 22.8 history1	<1 2 59 <1 888 1157 1016 1205 3223 history2 6 <1 3 history2 0.2 8.2 22.9 history2

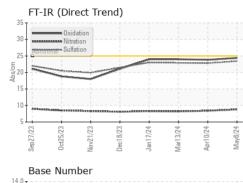


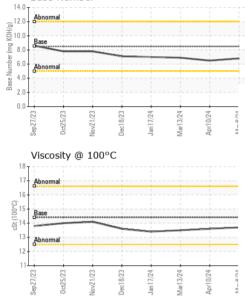
OIL ANALYSIS REPORT

Test Package : MOB 1 (Additional Tests: TBN)

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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





	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
Apri 0/24 - May8/24 -	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Apr1 May	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	14.4	13.7	13.6	13.5
	GRAPHS						
	Iron (ppm)			100	Lead (ppm)		
24 -	200 Severe			80	Severe		
Apr10/24	E 150 - Abnormal			60	,		
	Abnormal			4(Abnormal		
	50-			20	,		
	0						
I	Sep.27/23 0ct25/23 Nov21/23	Uec1 6/23 Jan 17/24	Mar13/24 Apr10/24	May8/24	Sep 27/23 0ct25/23 Mnv21/23	Dec18/23 Jan17/24	Mar13/24 Apr10/24 May8/24
	Sep.	Jan	Mar	Mar	Sep.	Jan	Apr'
	Aluminum (ppm)				Chromium (p	opm)	
	50 Severe			50	Severe		
				40			
24	e 30 20 - Abnormal			³⁰ 20	Abnormal		
Apr10/24 лл					1		
4 *	10			10			
	1/23	1/24	3/24 -	3/24	1/23)/23 - //24 -	8/24 -
	Sep27/23 0ct25/23 Nov21/23	Jan 17/24	Mar13/24 Apr10/24	May8/24	Sep27/23 0ct25/23 Nov21/23	Dec18/23 Jan17/24	Mar13/24 Apr10/24 May8/24
	Copper (ppm)				Silicon (ppm)		
	300 Severe	++		60	0		
	E 200			u	Abnormal		
	100			20			
	o L		_				
	Sep 27/23 0ct25/23 Nov21/23	Uec 1 6/23 Jan 1 7/24	Mar13/24 Apr10/24	May8/24	Sep 27/23 0ct25/23	Dec18/23 Jan17/24	Mar13/24 Apr10/24 May8/24
			Mai	M	0, 2		Mai Api Ma
	Viscosity @ 100°C		15.0	Base Number			
	Abnormal		(B/HC	Abnormal			
	16 Base			(B)HOX (B	Base		
	214			nber (Abnormal		
	경 12 - Abnormal			Jan 5.0) + d		
	10			⁸⁸ 0.0			
		Jan 17/24 -	Mar13/24 - Apr10/24 -	May8/24 -	Sep27/23 - 0ct25/23 -	Dec18/23 - Jan17/24 -	Mar13/24 - Apr10/24 - May8/24 -
	Sep2 0ct2 Nov2	Jan1	Mar1 Apr1	May	Sep2 Oct2 Nov2	Decl	Mar1 Apr1 May
Laboratory Sample No. Lab Number Unique Number	: WearCheck USA - 50 : WC0897844 : 06176801 : 11022854	1 Madiso Recei Teste Diagr	ived :13 d :14	v, NC 27513 3 May 2024 4 May 2024 4 May 2024 - W	les Davis		URHAM - RAPT YETTEVILLE ST DURHAM, NC US 27701



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) Report Id: GODDUR [WUSCAR] 06176801 (Generated: 05/14/2024 04:29:54) Rev: 1

Certificate 12367

F: Contact/Location: Robert Iosiniecki - GODDUR

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T:

Contact: Robert losiniecki

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