

OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id **2609** Component **Diesel Engine** Fluid **{not provided} (--- GAL)**

DIAGNOSIS

Recommendation

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

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

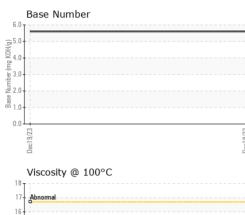
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0847898		
Sample Date		Client Info		19 Dec 2023		
Machine Age	hrs	Client Info		23163		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATION	٨	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	20		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>4	<1		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	2		
Lead	ppm	ASTM D5185m	>40	0		
Copper	ppm	ASTM D5185m	>330	3		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 6	history1	history2
	ppm ppm		limit/base			· · · · ·
Boron		ASTM D5185m	limit/base	6		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	6 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 67		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 67 <1		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 67 <1 836 1275 927		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 67 <1 836 1275	 	
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	limit/base	6 0 67 <1 836 1275 927	 	
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	limit/base	6 0 67 <1 836 1275 927 1186	 	
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		6 0 67 <1 836 1275 927 1186 2425		
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	limit/base	6 0 67 <1 836 1275 927 1186 2425 current	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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	limit/base	6 0 67 <1 836 1275 927 1186 2425 2425 current 6	 history1	 history2
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	limit/base	6 0 67 <1 836 1275 927 1186 2425 current 6 15	 history1	 history2
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	limit/base >25 >20	6 0 67 <1 836 1275 927 1186 2425 2425 current 6 15 4	 history1 	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	6 0 67 <1 836 1275 927 1186 2425 current 6 15 4 x	 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	6 0 67 <1 836 1275 927 1186 2425 <i>current</i> 6 15 4 <i>current</i> 0.3	 history1 history1 history1	 history2 history2
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	limit/base >25 >20 limit/base >3 >20	6 0 67 <1 836 1275 927 1186 2425 <i>current</i> 6 15 4 <i>current</i> 0.3 9.5	 history1 history1 history1	 history2 history2
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	limit/base >25 >20 limit/base >20 >30	6 0 67 <1 836 1275 927 1186 2425 current 6 15 4 current 0.3 9.5 22.1	 history1 history1 history1	 history2 history2 history2
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 D7844 *ASTM D7844	limit/base >25 >20 limit/base >3 >20 >30 limit/base	6 0 67 <1 836 1275 927 1186 2425 current 6 15 4 current 0.3 9.5 22.1 current	 history1 history1 history1	 history2 history2 history2 history2



OIL ANALYSIS REPORT

VISUAL



	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal		*Visual	NONE	NONE		
	Precipitate		*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
Dec19/23	Appearance	scalar	*Visual	NORML	NORML		
Deci	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
				IIIIII/base			
	Visc @ 100°C	cSt	ASTM D445		12.6		
	GRAPHS						
	Ferrous Alloys						
	iron						
	15 - nickel						
	툡 10						
	5-						
	Dec19/23			Dec19/23			
	—			De			
	Non-ferrous Me	etals					
	copper						
	8 - Instanting I and I a						
	6-						
	udd						
	4						
	2+						
	2						
	Dec19/23			Dec19/23			
		200		Ď			
	Viscosity @ 100	<i>г</i> С		, -	Base Number		
	17- Abnormal			6.	D		
	-				D		
	16			(B)(H)(4) (B)(H)(H)(H)(H)(H)(H)(H)(H)(H)(H)(H)(H)(H)	D-		
	(5-15- -00[]) 3214-			, mg			
	tg 14-						
	13 Abnormal			2.	D +		
				····· 1.	D		
	12						
	11				m		
	11			9/23	2/6		
				Dec19/23	Dec19/23		
	Dec19/23	504.11 "					
Laboratory	: WearCheck USA			ry, NC 2751		ley Waste - Cham	bersburg Locatio
Laboratory Sample No.	: WearCheck USA : WC0847898	Recieved	: 16 .	ry, NC 2751: Jan 2024		54	bersburg Locatio
Laboratory	: WearCheck USA : WC0847898 : 06061807		:16. ed:18.	ry, NC 2751		54	bersburg Locatio 36 Sunset Pik ambersburg, P
Laboratory Sample No. Lab Number	: WearCheck USA : WC0847898 : 06061807 - : 10833189 : CONST (Additio	Recieved Diagnose Diagnosti nal Tests: TE	:16. ed:18. ician:Wes 3N)	ry, NC 27513 Jan 2024 Jan 2024 S Davis		54 Cha	bersburg Locatio

Contact/Location: Service Manager - AVWCHA