

OIL ANALYSIS REPORT







Machine Id **T-928** Component **Diesel Engine**

Fluid DIESEL ENGINE OIL SAE 15W30 (--- GAL)

DIAGNOSIS

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

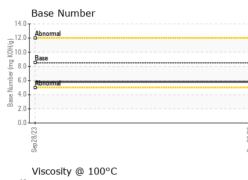
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

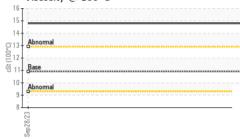
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0865152		
Sample Date		Client Info		28 Sep 2023		
Machine Age	mls	Client Info		144819		
Oil Age	mls	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	15		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m	0	0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	4		
Lead	ppm	ASTM D5185m	>40	0		
Copper	ppm	ASTM D5185m	>330	2		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 2	history1	history2
	ppm ppm					
Boron		ASTM D5185m	250	2		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	2 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	2 0 3		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	2 0 3 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	2 0 3 <1 57		
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	2 0 3 <1 57 2381	 	
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	2 0 3 <1 57 2381 772	 	
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	2 0 3 <1 57 2381 772 1081	 	
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250	2 0 3 <1 57 2381 772 1081 3440		
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	2 0 3 <1 57 2381 772 1081 3440 current		
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	2 0 3 <1 57 2381 772 1081 3440 current 5	 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 method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	2 0 3 <1 57 2381 772 1081 3440 current 5 1	 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	250 10 100 450 3000 1150 1350 4250 limit/base >25 >20 limit/base	2 0 3 <1 57 2381 772 1081 3440 current 5 1 1	 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 ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >20 Imit/base >3	2 0 3 <1 57 2381 772 1081 3440 current 5 1 1 11 current	 history1 history1	 history2 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 Imit/base >25 >20 Imit/base >3	2 0 3 <1 57 2381 772 1081 3440 <u>current</u> 5 1 1 11 11 0.7	 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	250 10 100 450 3000 1150 1350 4250 imit/base >25 >20 imit/base >3 >20	2 0 3 <1 57 2381 772 1081 3440 <i>current</i> 5 1 1 11 <i>current</i> 0.7 8.7	 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 D7844 *ASTM D7624 *ASTM D7415	250 10 100 450 3000 1150 1350 4250 imit/base >25 -20 imit/base >3 >20 >30	2 0 3 <1 57 2381 772 1081 3440 current 5 1 11 11 current 0.7 8.7 22.1 current	 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 D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 imit/base >3 >20 >30	2 0 3 <1 57 2381 772 1081 3440 <u>current</u> 5 1 1 11 11 <u>current</u> 0.7 8.7 22.1	 history1 history1 history1	 history2 history2 history2 history2



OIL ANALYSIS REPORT

VISUAL





	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	_ Sand/Dirt	scalar	*Visual	NONE	NONE		
Sep 28/23	Appearance	scalar	*Visual	NORML	NORML		
ő	0001	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
1	Free Water	scalar	*Visual		NEG		
	FLUID PROPER	TIES	method	limit/base	current	history1	history2
*****	Visc @ 100°C	cSt	ASTM D445	10.9	14.8		
	GRAPHS						
	Ferrous Alloys						
	16 iron						
	14						
	12						
	10- E .						
	E 8						
	2						
	8/23			8/23 -			
	Sep28/23			Sep 28/23			
	Non-ferrous Meta	ls					
	10 copper 1						
	8						
	tin tin						
	6						
	Щ 4						
	2 -						
	0						
	Sep 28/23			Sep28/23			
	Sep			Sep			
	Viscosity @ 100°C	2			Base Number		
	16 T			14.			
	15			12.			
	14 Abnormal			(^B /H0	0+		
	C 13 C 12 C 1			й ш 8.	Base		
	E12 +			per			
	No. 11 Base			E 0.			
		********		N N N N N N N N N N N N N N N N N N N	Abnormal		
	10 - Abnormal			(b)H0.1 H0.1 Bu) ta aquinty asset 4.1 2			
	10			2.	0		
	10 - Abnormal 9 - 8			2.	D		2
	10 - Abnormal			2.	0		
Laboratory Sample No. Lab Number Unique Number Test Package o discuss this sample report, - Denotes test methods that	: WearCheck USA - 5 : WC0865152 : 05979307 r : 10696602 e : CONST (Additional contact Customer Serv	Received Diagnose Diagnosti I Tests: TE rice at 1-80	l : 16 (ed : 17 (ician : Sea BN) <i>00-237-136</i> 9	ry, NC 2751: Oct 2023 Oct 2023 Oct 2023 in Felton	Sep28/23	24024 FRE CLA	NT CONSTRUCTION I DERICK ROA RKSBURG, M US 2087 ervice Manag

Contact/Location: Service Manager - EAICLA