

OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id **E-130** Component **Diesel Engine** Fluid **PHILLIPS 66 15W40 (--- GAL)**

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

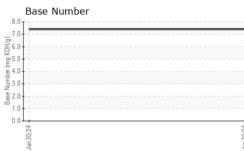
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

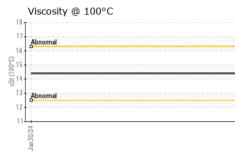
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0878693		
Sample Date		Client Info		30 Jan 2024		
Machine Age	hrs	Client Info		10325		
Oil Age	hrs	Client Info		25		
Oil Changed		Client Info		Not Changd		
Sample Status				NORMAL		
CONTAMINATION	٧	method	limit/base	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	6		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	3		
Lead	ppm	ASTM D5185m	>40	<1		
Copper	ppm	ASTM D5185m	>330	<1		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		<1		
ADDITIVES		method	limit/base	current	biotoput	biotory ()
		momou	iiiiii/base	Guircin	history1	history2
Boron	ppm	ASTM D5185m	iiiii/base	69		nistory2
	ppm ppm		inni/base			
Boron		ASTM D5185m	IIIII/Jase	69		
Boron Barium	ppm	ASTM D5185m ASTM D5185m		69 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		69 0 80		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		69 0 80 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		69 0 80 <1 36		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		69 0 80 <1 36 2069		
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		69 0 80 <1 36 2069 1047	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	69 0 80 <1 36 2069 1047 1203	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		69 0 80 <1 36 2069 1047 1203 3800		
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	69 0 80 <1 36 2069 1047 1203 3800 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 method	limit/base	69 0 80 <1 36 2069 1047 1203 3800 current 7	 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	69 0 80 <1 36 2069 1047 1203 3800 current 7 1	 history1	 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	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	69 0 80 <1 36 2069 1047 1203 3800 <u>current</u> 7 1 2 <u>current</u> 0.1	 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	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	69 0 80 <1 36 2069 1047 1203 3800 current 7 1 2 2 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	limit/base >25 >20 limit/base >3	69 0 80 <1 36 2069 1047 1203 3800 <u>current</u> 7 1 2 <u>current</u> 0.1	 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	69 0 80 <1 36 2069 1047 1203 3800 current 7 1 2 2 current 0.1 7.4	 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	Imit/base >25 >20 Imit/base >20 >3 >20 >30	69 0 80 <1 36 2069 1047 1203 3800 <u>current</u> 7 1 2 2 <u>current</u> 0.1 7.4 17.0	 history1 history1 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	limit/base >25 >20 limit/base >3 >20 >30 >30 limit/base	69 0 80 <1 36 2069 1047 1203 3800 Current 7 1 2 Current 0.1 7.4 17.0 Current	 history1 history1 history1	 history2 history2 history2 history2



OIL ANALYSIS REPORT

VISUAL





	VISUAL		method	limit/base	current	history i	nistory2
	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		
		scalar	*Visual	NORML	NORML		
an 30.24	Odor			NORML			
-	0001	scalar	*Visual		NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPER	TIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445		14.4		
	GRAPHS						
	Ferrous Alloys						
	iron						
	8 - nickel						
	6						
	4						
	2						
)/24 -			1/24			
	Jan 30/24			Jan 30/24			
	⊸ Non-ferrous Meta	ale		-7			
	¹⁰ T						
	copper						
	8 - energy tin						
	E .						
	4						
	2						
)/24)/24			
	Jan 30/24			Jan 30/24			
	→ Viscosity @ 100°(c		~			
	¹⁸ T			8.0	Base Number		
	17-			0.0- 7.0-			
	Abnormal						
	16-			(b) 6.0 HO 5.0 JHO 5.0 July 5.0 July 3.0			
	C- 15- 			B 5.0			
	रहु 14 -			a 4.0			
				⊒ 3.0- 88 2.0-			
	13 Abnormal			<u>ة</u> 2.0			
	Abnormai						
	Abnormal			1.0			
	12+ 11-			0.0-	24		
	Abnormai			0.0-	Jan 30/24		
Laboratory Sample No. Lab Number Unique Numbe	: WearCheck USA - : WC0878693 : 06075445 rr : 10857536	Recieved Diagnose Diagnost	t :31. ed :01. ician :We	0.0	Jan 30,24	4201 FAYE	JKE LAZZAI ETTEVILLE F RALEIGH, 1 US 276
Sample No. Lab Number	: WearCheck USA - : WC0878693 : 06075445 r : 10857536	Recieved Diagnose Diagnost	t :31. ed :01. ician :We	ry, NC 27513 Jan 2024 Feb 2024	Jan 30/24	4201 FAYE	ETTEVILLE F RALEIGH, N

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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