

OIL ANALYSIS REPORT

Sample Rating Trend



FLEET/Dillon Machine Id VOLVO TRACTOR 07864

Component 1 Diesel Engine

Fluid PETRO CANADA DURON ADVANCED 10W30 (34 QTS)

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

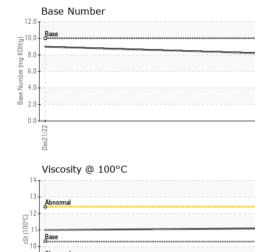
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0100148	PCA0088365	
Sample Date		Client Info		03 Jul 2023	21 Dec 2022	
Machine Age	mls	Client Info		697095	697095	
Oil Age	mls	Client Info		697095	3000	
Oil Changed		Client Info		N/A	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>6.0	<1.0	<1.0	
Glycol		WC Method	20.0	NEG	NEG	
-			1		12.1	
WEAR METAL	5	method	limit/base	current	history1	history2
Iron	ppm		>100	8	6	
Chromium	ppm	ASTM D5185m	>20	<1	0	
Nickel	ppm	ASTM D5185m	>2	<1	0	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>25	6	0	
Lead	ppm	ASTM D5185m	>40	5	0	
Copper	ppm	ASTM D5185m	>330	6	1	
Tin	ppm	ASTM D5185m	>15	2	0	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 6	history1 7	history2
	ppm ppm					· · · · · ·
Boron		ASTM D5185m	0	6	7	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	6 0	7 2	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	6 0 56	7 2 60	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	6 0 56 2	7 2 60 0	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	6 0 56 2 1030	7 2 60 0 898	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	6 0 56 2 1030 1106	7 2 60 0 898 1134	
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	0 0 60 0 1010 1070 1150	6 0 56 2 1030 1106 1113	7 2 60 0 898 1134 1031	
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	0 0 60 0 1010 1070 1150 1270	6 0 56 2 1030 1106 1113 1376	7 2 60 0 898 1134 1031 1193	
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	0 0 60 1010 1070 1150 1270 2060	6 0 56 2 1030 1106 1113 1376 4047	7 2 60 0 898 1134 1031 1193 2915	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	6 0 56 2 1030 1106 1113 1376 4047 current	7 2 60 0 898 1134 1031 1193 2915 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	6 0 56 2 1030 1106 1113 1376 4047 current 4	7 2 60 0 898 1134 1031 1193 2915 history1 <1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	6 0 56 2 1030 1106 1113 1376 4047 current 4 3	7 2 60 0 898 1134 1031 1193 2915 history1 <1 <1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	6 0 56 2 1030 1106 1113 1376 4047 current 4 3 8	7 2 60 0 898 1134 1031 1193 2915 history1 <1 <1 <1 <1 <1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	6 0 56 2 1030 1106 1113 1376 4047 current 4 3 8 8	7 2 60 0 898 1134 1031 1193 2915 history1 <1 <1 <1 <1 <1 <1 <1 <1 <1 0.1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	6 0 56 2 1030 1106 1113 1376 4047 <i>current</i> 4 3 8 <i>current</i> 0.2	7 2 60 0 898 1134 1031 1193 2915 history1 <1 <1 <1 <1 <1 <1 <1 <1 <1 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	6 0 56 2 1030 1106 1113 1376 4047 <i>current</i> 4 3 8 <i>current</i> 0.2 5.9	7 2 60 0 898 1134 1031 1193 2915 history1 <1 <1 <1 <1 <1 <1 <1 <1 0.1 5.3	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 3 20 20 20 3 3 20 20 20 20 20 20 20 20 20 20 20 20 20	6 0 56 2 1030 1106 1113 1376 4047 <i>current</i> 4 3 8 <i>current</i> 0.2 5.9 18.5	7 2 60 0 898 1134 1031 1193 2915 history1 <1 <1 <1 <1 <1 <1 <1 0.1 5.3 17.3 history1	 history2 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 20 3 20 20 20 20 20 20 20 20 20 20 20 20 20	6 0 56 2 1030 1106 1113 1376 4047 <i>current</i> 4 3 8 <i>current</i> 0.2 5.9 18.5	7 2 60 0 898 1134 1031 1193 2915 history1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	 history2 history2 history2 history2 history2



OIL ANALYSIS REPORT

VISUAL



		VISUAL		methou	iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	current	history i	Thistoryz
		White Metal	scalar	*Visual	NONE	NONE	NONE	
		Yellow Metal	scalar		NONE	NONE	NONE	
		Precipitate	scalar	*Visual	NONE	NONE	NONE	
		Silt	scalar	*Visual	NONE	NONE	NONE	
		Debris	scalar	*Visual	NONE	NONE	NONE	
		Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
	/23 -	Appearance	scalar	*Visual	NORML	NORML	NORML	
	Jul3/23	Odor	scalar	*Visual	NORML	NORML	NORML	
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
		Free Water			>0.2	NEG	NEG	
		Fiee Waler	scalar	*Visual		NEG		
		FLUID PROPI		method	limit/base	current	history1	history2
		Visc @ 100°C	cSt	ASTM D445	10.3	11.1	11.0	
		GRAPHS						
		Ferrous Alloys						
		iron						
		8 - nickel						
		6						
		mdd						
		4						
		2						
		2-						
		0						
		21/22			Jul3/23			
		Deci			٦٢			
		Non-ferrous Meta	als					
		10 copper						
		8						
		tin						
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		9621/2			Jul3/23			
			C		-			
		Viscosity @ 100°	C			Base Number		
					12	.0 T		
		13 - Abnormal			_10	0 Base		
		12			Base Number (mg KOH/g) .9	0		
		00°C)			Bw			
		(2-001) 11- #35 Base			nber 1	.0		
		10			² 4	.0		
		Abnormal 9 -			2.	0		
		52						
		Dec21/22			Jul3/23	Dec21/22		
		G				Ω		
1	Laboratory	: WearCheck USA -	501 Madi	son Ave., Ca	ry, NC 2751	3	PERDUE FA	RMS - DILLO
	Sample No.	: PCA0100148	Receive	d :12.	Jul 2023			7 HWY 9 WES
ACCREDITED	Lab Number	: 05895937	Diagnos		Jul 2023			DILLON, S
TESTING LABORATORY	Unique Number		Diagnost	tician : We	s Davis		_	US 2953
	Test Package						Contact:	KEVIN HOOK
Certificate L2367					`			
To discuss this	sample report,	contact Customer Ser are outside of the ISO					kevin.hool	(s@perdue.com : (843)841-806

Submitted By: KEVIN HOOKS

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