

OIL ANALYSIS REPORT

Area (37524R) Walgreens - Tractor [PCA0107331] [Walgreens - Tractor] 136A69118

Diesel Engine

Fluic PETRO CANADA DURON SHP 10W30 (11 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

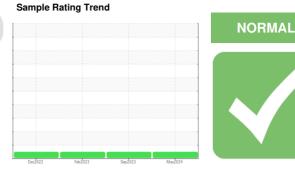
All component wear rates are normal.

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.

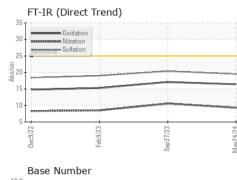


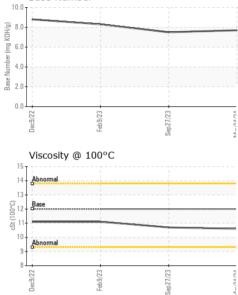


SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0107331	PCA0107311	PCA0091800
Sample Date		Client Info		24 May 2024	27 Sep 2023	09 Feb 2023
Machine Age	mls	Client Info		104868	93607	81654
Oil Age	mls	Client Info		11261	11952	3298
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>2.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	13	15	15
Chromium	ppm	ASTM D5185m	>20	1	2	2
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	2	3	4
Lead	ppm	ASTM D5185m	>40	2	3	1
Copper	ppm	ASTM D5185m	>330	<1	1	1
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base		-	history2 0
	ppm ppm	ASTM D5185m		current	history1	
Boron		ASTM D5185m	2	current 0	history1 4	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	current 0 0	history1 4 <1	0 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 0 0 58	history1 4 <1 58	0 <1 59
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	ourrent 0 0 58 <1	history1 4 <1 58 <1	0 <1 59 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 0 0 58 <1 896	history1 4 <1 58 <1 925	0 <1 59 <1 903
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	Current 0 0 58 <1 896 1082	history1 4 <1 58 <1 925 982	0 <1 59 <1 903 1046
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	2 0 50 950 1050 995	Current 0 58 <1 896 1082 1035	history1 4 <1 58 <1 925 982 991	0 <1 59 <1 903 1046 983
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	2 0 50 0 950 1050 995 1180	current 0 0 58 <1 896 1082 1035 1182	history1 4 <1 58 <1 925 982 991 1230	0 <1 59 <1 903 1046 983 1202
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	Current 0 58 <1 896 1082 1035 1182 3284	history1 4 <1 58 <1 925 982 991 1230 2849	0 <1 59 <1 903 1046 983 1202 3181
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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	2 0 50 950 1050 995 1180 2600	Current 0 58 <1 896 1082 1035 1182 3284 Current	history1 4 <1 58 <1 925 982 991 1230 2849 history1	0 <1 59 <1 903 1046 983 1202 3181 history2
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 method	2 0 50 950 1050 995 1180 2600 limit/base >25	current 0 0 58 <1 896 1082 1035 1182 3284 current 4	history1 4 <1 58 <1 925 982 991 1230 2849 history1 4	0 <1 59 <1 903 1046 983 1202 3181 history2 3
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 Limit/base >25	current 0 0 58 <1 896 1082 1035 1182 3284 current 4 2	history1 4 <1 58 <1 925 982 991 1230 2849 history1 4 1	0 <1 59 <1 903 1046 983 1202 3181 history2 3 <1
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	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20	current 0 0 58 <1 896 1082 1035 1182 3284 current 4 2 5	history1 4 <1 58 <1 925 982 991 1230 2849 history1 4 1 7	0 <1 59 <1 903 1046 983 1202 3181 history2 3 3 <1 14
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 -20 limit/base	current 0 0 58 <1 896 1082 1035 1182 3284 current 4 2 5 current	history1 4 <1 58 <1 925 982 991 1230 2849 history1 4 1 7 history1	0 <1 59 <1 903 1046 983 1202 3181 history2 3 <1 14 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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	current 0 0 58 <1 896 1082 1035 1182 3284 current 4 2 5 current 0.2	history1 4 <1 58 <1 925 982 991 1230 2849 history1 4 1 7 history1 0.3	0 <1 59 <1 903 1046 983 1202 3181 history2 3 3 <1 14 history2 0.2
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	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current 0 0 58 <1 896 1082 1035 1182 3284 current 4 2 5 current 0.2 9.3	history1 4 <1 58 <1 925 982 991 1230 2849 history1 4 1 7 history1 0.3 10.6	0 <1 59 <1 903 1046 983 1202 3181 history2 3 3 <1 14 history2 0.2 8.5
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	2 0 50 950 1050 995 1180 2600 imit/base >25 20 imit/base >3 >20 33 >30	current 0 58 <1 896 1082 1035 1182 3284 current 4 2 5 current 0.2 9.3 19.5	history1 4 <1 58 <1 925 982 991 1230 2849 history1 4 1 7 history1 0.3 10.6 20.4	0 <1 59 <1 903 1046 983 1202 3181 history2 3 <1 14 history2 0.2 8.5 19.0



OIL ANALYSIS REPORT





	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
i.	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Wate	r scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG
	FLUID PRO	PERTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	12.00	10.6	10.7	11.1
	GRAPHS						
	Ferrous Alloys						
	14- iron						
	12-						
	10-						
	Md 8-						
	6 -						
	4						
	2 -						
	2	2	5	*			
	Dec9/22	Feb9/23	Sep 27/23	May24/24			
			S	Ma			
	Non-ferrous M	letais					
	10 copper	letais					
	¹⁰ T	letais					
	10 copper	letais					
	8 6	letais					
	8 copper 8	letais					
	10 8 6 4	letais	********				
	8 6	letais	******				
	E 4		m				
	E 4		p21723	<u>1</u> 24/24			
	10 8 6 4 2 0 10 10 10 10 10 10 10 10 10		Sep21/23	May24/24			
	Viscosity @ 10		Sep21/23	Ma/24/24	Base Number		
	Viscosity @ 10		Sep.27/23	9.0	Base Number	-	
	Viscosity @ 10		Sep27/23	9.0	Base Number		
	Viscosity @ 10		Sep21/23	9.0	Base Number		
	Viscosity @ 10		Sap21/23	9.0 8.0 @7.0 00 6.0	Base Number		
	Viscosity @ 10		Sep 27/23	9.0 8.0 @7.0 00 6.0	Base Number		
	Viscosity @ 10		Sep21/23	9.0 8.0 (b)HOX 00)			
	Viscosity @ 10 Solution Viscosity @ 10 Abnomal Abnomal		Sep21/23	9.0 8.0 @7.0 00 6.0			
	Viscosity @ 10 Viscosity @ 10 Abnormal Abnormal		Sep.27/23	9.0 8.0 (0)H(X) 6.0 U) 5.0 40UN 85.0 40UN 85.0			
	Viscosity @ 10 Abnomal Base	57/09 10°C		9.0 8.0 0(HO) 6.0 000 000 000 000 000 000 000 000 000 0			
	Viscosity @ 10 Abnomal Base			9.0 8.0 0(HO) 6.0 000 000 000 000 000 000 000 000 000 0			ap 21/23
	Viscosity @ 10 Abnormal Abnormal	57/09 10°C	Sep21/23 Sep21/23 Sep21/23	9.0 8.0 (0)H(X) 6.0 U) 5.0 40UN 85.0 40UN 85.0			Sep27/23
	Viscosity @ 10	00°C	Sep21723	9.0 8.0 0)H0 00 y Port 10	Deci9/22	Feb9/23	
	Viscosity @ 10 Abnomal Base	00°C	EZ/IZ2das n Ave., Cary	9.0 8.0 0H0 5.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	Transer	собрание - Shop 1368	- Berkeley-Cata
	Viscosity @ 10 Viscosity @ 10	- 501 Madiso	n Ave., Cary	9.0 8.0 0)H0 00 y Port 10	Transer	Feb9/23	- Berkeley-Cata Reparto Sola
ber	Viscosity @ 10 Viscosity @ 10	- 501 Madiso Recei	n Ave., Cary ived : 29 d : 30	9.0 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	Transer	vice - Shop 1368 Calle Abeto 45,	- Berkeley-Cata



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

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

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