

OIL ANALYSIS REPORT

Area FLEET/Dillon 2220631 (S/N U160929A)

Diesel Engine

Fluid PETRO CANADA DURON ADVANCED 10W30 (9 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

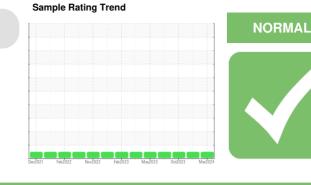
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

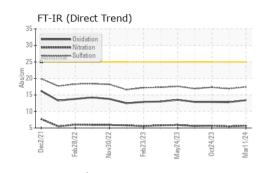
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

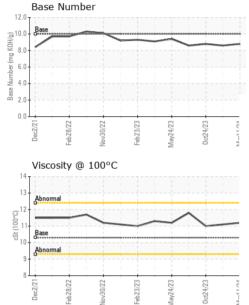


SAMPLE INFORI	MATION	method				history2
Sample Number		Client Info		PCA0116235	PCA0112384	PCA0108124
Sample Date		Client Info		11 Mar 2024	21 Nov 2023	24 Oct 2023
Machine Age	hrs	Client Info		4191	4191	4035
Oil Age	hrs	Client Info		4035	156	400
Oil Changed		Client Info		N/A	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT		method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	4	2	4
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	0	1	1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	0	1	0
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 3	history1 11	history2 15
	ppm ppm					
Boron	ppm	ASTM D5185m	0	3	11	15
Boron Barium		ASTM D5185m ASTM D5185m	0	3 0	11 0	15 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	3 0 63	11 0 60	15 0 60
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	3 0 63 0	11 0 60 <1	15 0 60 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	3 0 63 0 1012	11 0 60 <1 940	15 0 60 0 890
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	3 0 63 0 1012 1202	11 0 60 <1 940 1063	15 0 60 0 890 1006
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	3 0 63 0 1012 1202 1155	11 0 60 <1 940 1063 1063	15 0 60 0 890 1006 959
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	3 0 63 0 1012 1202 1155 1308	11 0 60 <1 940 1063 1063 1290	15 0 60 0 890 1006 959 1207
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	0 0 60 0 1010 1070 1150 1270 2060	3 0 63 0 1012 1202 1155 1308 4002	11 0 60 <1 940 1063 1063 1290 3275	15 0 60 0 890 1006 959 1207 3038
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	0 0 60 1010 1070 1150 1270 2060	3 0 63 0 1012 1202 1155 1308 4002 current	11 0 60 <1 940 1063 1063 1290 3275 history1	15 0 60 0 890 1006 959 1207 3038 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	3 0 63 0 1012 1202 1155 1308 4002 current 2	11 0 60 <1 940 1063 1063 1290 3275 history1 3	15 0 60 0 890 1006 959 1207 3038 history2 4
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 0 1010 1070 1150 1270 2060 limit/base >25	3 0 63 0 1012 1202 1155 1308 4002 current 2 1	11 0 60 <1 940 1063 1063 1290 3275 history1 3 3 0	15 0 60 0 890 1006 959 1207 3038 history2 4 0 0
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	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	3 0 63 0 1012 1202 1155 1308 4002 current 2 1 <1 <1	11 0 60 <1 940 1063 1063 1290 3275 history1 3 3 0 history1	15 0 60 0 890 1006 959 1207 3038 history2 4 0 0 0
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 limit/base >25 >20 limit/base >3	3 0 63 0 1012 1202 1155 1308 4002 <i>current</i> 2 1 <1 <1 <i>current</i> 0.1	11 0 60 <1 940 1063 1063 1290 3275 history1 3 3 0 history1 0.1	15 0 60 0 890 1006 959 1207 3038 history2 4 0 0 0 history2 0.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS 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	3 0 63 0 1012 1202 1155 1308 4002 current 2 1 <1 <1	111 0 60 <1 940 1063 1063 1290 3275 history1 3 3 0 history1 0.1 5.5	15 0 60 0 890 1006 959 1207 3038 history2 4 0 0 0 history2 0.1 5.7
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 imit/base >25 imit/base >3 >20	3 0 63 0 1012 1202 1155 1308 4002 <i>current</i> 2 1 <1 <1 <i>current</i> 0.1 5.7 17.4	111 0 60 <1 940 1063 1063 1290 3275 history1 3 3 0 history1 0.1 5.5 16.9	15 0 60 0 890 1006 959 1207 3038 history2 4 0 0 0 history2 0.1 5.7 17.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAC	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 3 20 20 3 3 20 20 3 3 20 20 20 20 20 20 20 20 20 20 20 20 20	3 0 63 0 1012 1202 1155 1308 4002 <i>current</i> 2 1 <1 <1 <i>current</i> 0.1 5.7 17.4 <i>current</i>	111 0 60 <1 940 1063 1063 1290 3275 history1 3 3 0 history1 0.1 5.5 16.9 history1	15 0 60 0 890 1006 959 1207 3038 history2 4 0 0 0 history2 0.1 5.7 17.3 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 imit/base >25 imit/base >3 >20	3 0 63 0 1012 1202 1155 1308 4002 <i>current</i> 2 1 <1 <1 <i>current</i> 0.1 5.7 17.4	111 0 60 <1 940 1063 1063 1290 3275 history1 3 3 0 history1 0.1 5.5 16.9	15 0 60 0 890 1006 959 1207 3038 history2 4 0 0 0 history2 0.1 5.7 17.3



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
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 Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.3	11.2	11.1	11.0
GRAPHS						

Ferrous Alloys 10 hicke ppm Mar11/24 ; b28/22 eb23/23 lav24/73 Der 7/7 Non-ferrous Metals 10 0ct24/23 av24/23 -C/2/2/10far11/2/ Cuel Viscosity @ 100°C Base Number 14 12.0 10. Base Number (mg KOH/g) 8 (cSt (100°C) 6.0 Ba 10 4.0 Abnorma 2 (0.0 8 Dec2/21-Mar11/24 -Mar11/24 -Dec2/21-Nov30/22 Feb28/22 Feb23/23 May24/23 0ct24/23 eb28/22 Jov30/22 Feb23/23 Mav24/23 0ct24/23 Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 **PERDUE FARMS - DILLON** Sample No. : PCA0116235 Received : 12 Apr 2024 2047 HWY 9 WEST Lab Number : 06147029 Tested : 15 Apr 2024 DILLON, SC Unique Number : 10977107 Diagnosed : 15 Apr 2024 - Wes Davis US 29536



Test Package : FLEET To discuss this sample report, contact Customer Service at 1-800-237-1369. * - 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)

Report Id: PERDILSC [WUSCAR] 06147029 (Generated: 04/17/2024 15:15:11) Rev: 1

Certificate 12367

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Page 2 of 2

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