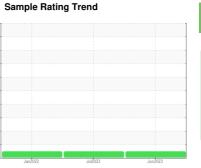


OIL ANALYSIS REPORT



NORMAL



INTERNATIONAL 46

Component

Diesel Engine

PETRO CANADA DURON HP 15W40 (--- Oz)

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

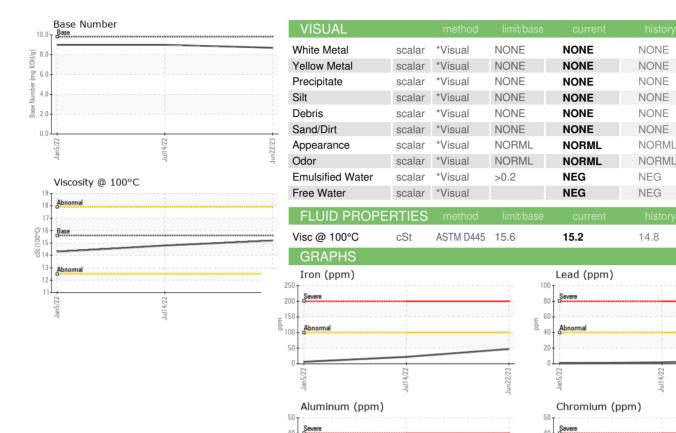
Fluid Condition

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

Sample Number Client Info PCA0083459 PCA0066184 PCA0066184 PCA0066184 Sample Date Client Info 22 Jun 2023 14 Jul 2022 05 Jan 203 Machine Age mls Client Info 787740 10109 0 0 0 0 0 0 0 0 0	z)		Jar	2022	Jul2022 Jun20	23	
Sample Date	SAMPLE INFORM	NOITAN	method	limit/base	current	history 1	history 2
Sample Date	Sample Number		Client Info		PCA0083459	PCA0066184	PCA0066155
Machine Age	·		Client Info		22 Jun 2023	14 Jul 2022	05 Jan 2022
Oil Changed		mls	Client Info				0
Oil Changed Sample Status Client Info NORMAL CONTAMINATION method limit/base current history 1 history		mls	Client Info		0	10109	0
NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history 1 h	•		Client Info		-		Changed
Fuel					_	Ü	
Glycol WC Method NEG NEG NEG	CONTAMINATI	ON	method	limit/base	current	history 1	history 2
WEAR METALS	Fuel		WC Method	>2.0		<1.0	<1.0
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 1 <1	WEAR METALS	5	method	limit/base	current	history 1	history 2
Nickel	Iron	ppm	ASTM D5185m	>100	47	22	6
Titanium	Chromium	ppm	ASTM D5185m	>20	1	<1	
Silver	Nickel	ppm	ASTM D5185m	>4	<1	0	0
Aluminum ppm ASTM D5185m >20 2 1 1 Lead ppm ASTM D5185m >40 5 2 <1 Copper ppm ASTM D5185m >330 27 418 7 Tin ppm ASTM D5185m >15 <1 <1 0 Antimony ppm ASTM D5185m 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history 1 history 1 history 1 Boron ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 1033 985 342 Calcium ppm ASTM D5185m 1068 1043 <td< th=""><th>Titanium</th><th>ppm</th><th>ASTM D5185m</th><th></th><th>0</th><th>0</th><th>0</th></td<>	Titanium	ppm	ASTM D5185m		0	0	0
Lead ppm ASTM D5185m >40 5 2 <1	Silver	ppm	ASTM D5185m	>3	0	<1	0
Copper ppm ASTM D5185m >330 27 418 7 Tin ppm ASTM D5185m >15 <1 <1 0 Antimony ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 7 18 484 Boron ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 69 65 78 Magnesium ppm ASTM D5185m 1033 985 342 Calcium ppm ASTM D5185m 1224 1162 1367 Phosphorus ppm ASTM D5185m 1370 1301 1108 Sulfur ppm ASTM D5185m 2771	Aluminum	ppm	ASTM D5185m	>20	2	1	1
Tin ppm ASTM D5185m >15 <1	Lead	ppm	ASTM D5185m	>40	5	2	<1
Antimony ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history 1 history Boron ppm ASTM D5185m 7 18 484 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 69 65 78 Manganese ppm ASTM D5185m 1033 985 342 Calcium ppm ASTM D5185m 1224 1162 1367 Phosphorus ppm ASTM D5185m 1068 1043 893 Zinc ppm ASTM D5185m 1370 1301 1108 Sulfur ppm ASTM D5185m 2771 2937 3060 CONTAMINANTS method limit/base current history history <th>Copper</th> <th>ppm</th> <th>ASTM D5185m</th> <th>>330</th> <th>27</th> <th>418</th> <th>7</th>	Copper	ppm	ASTM D5185m	>330	27	418	7
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history 1 history 1 Boron ppm ASTM D5185m 7 18 484 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 69 65 78 Manganese ppm ASTM D5185m 1033 985 342 Calcium ppm ASTM D5185m 1068 1043 893 Zinc ppm ASTM D5185m 1370 1301 1108 Sulfur ppm ASTM D5185m 2771 2937 3060 CONTAMINANTS method limit/base current history 1 history 1 Silicon ppm ASTM D5185m >25 4 2 4 Sodium ppm ASTM D5185m >20 19	Tin	ppm	ASTM D5185m	>15	<1	<1	0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history 1 history Boron ppm ASTM D5185m 7 18 484 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 69 65 78 Manganese ppm ASTM D5185m 1033 985 342 Calcium ppm ASTM D5185m 1043 993 Zinc ppm ASTM D5185m 1068 1043 893 Zinc ppm ASTM D5185m 1370 1301 1108 Sulfur ppm ASTM D5185m 2771 2937 3060 CONTAMINANTS method limit/base current history 1 history Silicon ppm ASTM D5185m >25 4 2 4 Sodium ppm ASTM D5185m >20 19 15 </th <th>Antimony</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th></th> <th></th> <th>0</th>	Antimony	ppm	ASTM D5185m				0
ADDITIVES method limit/base current history 1 history 1 Boron ppm ASTM D5185m 7 18 484 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 69 65 78 Manganese ppm ASTM D5185m -1 -1 -1 Magnesium ppm ASTM D5185m 1033 985 342 Calcium ppm ASTM D5185m 1224 1162 1367 Phosphorus ppm ASTM D5185m 1370 1301 1108 Sulfur ppm ASTM D5185m 2771 2937 3060 CONTAMINANTS method limit/base current history 1 history Silicon ppm ASTM D5185m >25 4 2 4 Sodium ppm ASTM D5185m >20 19 15 6 INFRA-RED method limit/base	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 7 18 484 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 69 65 78 Manganese ppm ASTM D5185m <1	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 69 65 78 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 1033 985 342 Calcium ppm ASTM D5185m 1224 1162 1367 Phosphorus ppm ASTM D5185m 1068 1043 893 Zinc ppm ASTM D5185m 1370 1301 1108 Sulfur ppm ASTM D5185m 2771 2937 3060 CONTAMINANTS method limit/base current history 1 history Silicon ppm ASTM D5185m >25 4 2 4 Sodium ppm ASTM D5185m >20 19 15 6 INFRA-RED method limit/base current history 1 history Soot % % *ASTM D78	ADDITIVES		method	limit/base	current	history 1	history 2
Molybdenum ppm ASTM D5185m 69 65 78 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 1033 985 342 Calcium ppm ASTM D5185m 1224 1162 1367 Phosphorus ppm ASTM D5185m 1068 1043 893 Zinc ppm ASTM D5185m 1370 1301 1108 Sulfur ppm ASTM D5185m 2771 2937 3060 CONTAMINANTS method limit/base current history 1 history Silicon ppm ASTM D5185m >25 4 2 4 Sodium ppm ASTM D5185m >20 19 15 6 INFRA-RED method limit/base current history 1 history Soot % % *ASTM D7844 >3 0.3 0.2 0.1 Nitration A	Boron	ppm	ASTM D5185m		7	18	484
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 1033 985 342 Calcium ppm ASTM D5185m 1224 1162 1367 Phosphorus ppm ASTM D5185m 1068 1043 893 Zinc ppm ASTM D5185m 1370 1301 1108 Sulfur ppm ASTM D5185m 2771 2937 3060 CONTAMINANTS method limit/base current history 1 history Silicon ppm ASTM D5185m >25 4 2 4 Sodium ppm ASTM D5185m >20 19 15 6 INFRA-RED method limit/base current history history Soot % % *ASTM D7844 >3 0.3 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.1 10.3 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	Molybdenum	ppm	ASTM D5185m		69	65	78
Calcium ppm ASTM D5185m 1224 1162 1367 Phosphorus ppm ASTM D5185m 1068 1043 893 Zinc ppm ASTM D5185m 1370 1301 1108 Sulfur ppm ASTM D5185m 2771 2937 3060 CONTAMINANTS method limit/base current history 1 history Silicon ppm ASTM D5185m >25 4 2 4 Sodium ppm ASTM D5185m >20 19 15 6 INFRA-RED method limit/base current history 1 history Soot % % *ASTM D7844 >3 0.3 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.1 10.3 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus ppm ASTM D5185m 1068 1043 893 Zinc ppm ASTM D5185m 1370 1301 1108 Sulfur ppm ASTM D5185m 2771 2937 3060 CONTAMINANTS method limit/base current history 1 history Silicon ppm ASTM D5185m >25 4 2 4 Sodium ppm ASTM D5185m 20 19 15 6 INFRA-RED method limit/base current history 1 history Soot % % *ASTM D7844 >3 0.3 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.1 10.3 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	Magnesium	ppm	ASTM D5185m		1033	985	342
Zinc ppm ASTM D5185m 1370 1301 1108 Sulfur ppm ASTM D5185m 2771 2937 3060 CONTAMINANTS method limit/base current history 1 history 3 Silicon ppm ASTM D5185m >25 4 2 4 Sodium ppm ASTM D5185m >20 19 15 6 INFRA-RED method limit/base current history 1 history Soot % % *ASTM D7844 >3 0.3 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.1 10.3 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	Calcium	ppm	ASTM D5185m		1224	1162	1367
Sulfur ppm ASTM D5185m 2771 2937 3060 CONTAMINANTS method limit/base current history 1 history 3 Silicon ppm ASTM D5185m >25 4 2 4 Sodium ppm ASTM D5185m 4 8 5 Potassium ppm ASTM D5185m >20 19 15 6 INFRA-RED method limit/base current history 1 history 3 Soot % % *ASTM D7844 >3 0.3 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.1 10.3 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	Phosphorus	ppm	ASTM D5185m		1068	1043	893
CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 4 2 4 Sodium ppm ASTM D5185m 20 19 15 6 INFRA-RED method limit/base current history 1 history 1 Soot % % *ASTM D7844 >3 0.3 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.1 10.3 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	Zinc	ppm	ASTM D5185m		1370	1301	1108
Silicon ppm ASTM D5185m >25 4 2 4 Sodium ppm ASTM D5185m 4 8 5 Potassium ppm ASTM D5185m >20 19 15 6 INFRA-RED method limit/base current history 1 history 1 Soot % % *ASTM D7844 >3 0.3 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.1 10.3 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	Sulfur	ppm	ASTM D5185m		2771	2937	3060
Sodium ppm ASTM D5185m 4 8 5 Potassium ppm ASTM D5185m >20 19 15 6 INFRA-RED method limit/base current history 1 history 1 Soot % % *ASTM D7844 >3 0.3 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.1 10.3 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	CONTAMINAN [*]	TS	method	limit/base	current	history 1	history 2
Potassium ppm ASTM D5185m >20 19 15 6 INFRA-RED method limit/base current history 1 history 1 Soot % % *ASTM D7844 >3 0.3 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.1 10.3 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	Silicon	ppm	ASTM D5185m	>25	4	2	4
INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.3 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.1 10.3 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	Sodium	ppm	ASTM D5185m		4	8	5
Soot % % *ASTM D7844 >3 0.3 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.1 10.3 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	Potassium	ppm	ASTM D5185m	>20	19	15	6
Nitration Abs/cm *ASTM D7624 >20 10.1 10.3 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	INFRA-RED		method	limit/base	current	history 1	history 2
Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	Soot %	%	*ASTM D7844	>3	0.3	0.2	0.1
Sulfation Abs/.1mm *ASTM D7415 >30 23.4 23.2 22.6	Nitration	Abs/cm	*ASTM D7624	>20	10.1	10.3	7.0
FLUID DECORADATION IN THE 18 THE STATE OF THE 18 THE STATE OF THE STAT	Sulfation	Abs/.1mm	*ASTM D7415	>30	23.4	23.2	22.6
FLUID DEGRADATION method limit/base current history 1 history	FLUID DEGRAD	ATION	method	limit/base	current	history 1	history 2
Oxidation Abs/.1mm *ASTM D7414 >25 22.0 21.2 18.1	Oxidation	Abs/.1mm	*ASTM D7414	>25	22.0	21.2	18.1
Base Number (BN) mg KOH/g ASTM D2896 9.8 8.7 9.0 9.0	Base Number (BN)	mg KOH/g	ASTM D2896	9.8			



OIL ANALYSIS REPORT

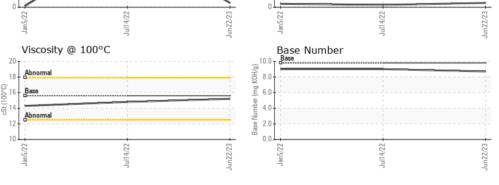


Copper (ppm)

500

300

100



Silicon (ppm)





Certificate L2367

Laboratory Sample No.

Lab Number **Unique Number**

: PCA0083459 : 05895559 : 10551369

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 11 Jul 2023 Diagnosed : 12 Jul 2023

Diagnostician : Wes Davis Test Package : MOB 1 (Additional Tests: TBN)

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)

ALBERT HOGOBOOM OILFIELD TRUCKING INC

Contact/Location: LOREN JACK - OILELD

767 OIL HILL ROAD EL DORADO, KS US 67042

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

NEG

NEG

14.3

Contact: LOREN JACK loren@hogoboom.net

T:

F: (316)321-1396