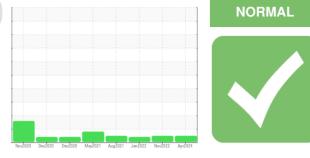


OIL ANALYSIS REPORT

Sample Rating Trend





Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- QTS)

SAMPLE INFORMATION method

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Machine Id DT762

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

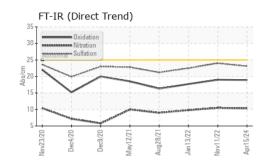
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

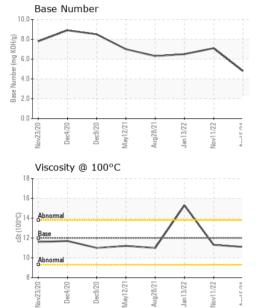
Sample Date Client Info 15 Apr 2024 11 Nov 2022 13 Jan 2022 Machine Age mis Client Info 227830 151030 0 Oil Age mis Client Info 0 75283 0 Oil Changed Client Info 0 75283 0 Sample Status Imit No Changed N/A CONTAMINATION method limit/base current history1 history2 Fuel WC Method s0.2 NEG NEG NEG NEG Water WC Method s0.2 NEG NEG NEG NEG Water ppm ASTM D5165m s20 1 -1 1 1 Nickel ppm ASTM D5165m s20 5 3 4 4 Lead ppm ASTM D5165m s20 5 3 4 Lead ppm ASTM D5165m s20 5 2 2 Autimum ppm					current		
Machine AgemisClient Info2278301510300Oil AgemisClient Info0752830Oil ChangedClient Info0752830Sample StatusIClient InfoNORMALNORMALATTENTIONCONTAMINATIONmethodinit/basecurrenthistory1ArtENTIONCONTAMINATIONWC Method>3.0.<1.0.<1.0.<1.0.<1.0.WaterWC MethodS0.2.NEGNEGNEGNEGGlycolWC MethodS0.2.NEGNEGNEGNEGWEAR METALSmethodinit/basecurrenthistory1history2IronppmASTM05155>5.<100NickelppmASTM05155>2.2<1<1<1NickelppmASTM05155>2.2<1<1<1NickelppmASTM05155>2.2<1<1<1AluminumppmASTM05155>2.2<1<1<1AluminumppmASTM05155>2.053<1<1AluminumppmASTM05155>3.006466TinppmASTM05155>3.006466<1AluminumppmASTM05155>1<1<1<1<1<1AluminumppmASTM05155>1<1<1<1<1<1<1<1<	Sample Number		Client Info		PCA0119978	PCA0084923	PCA0060530
Oil Age mis Client Info 0 75283 0 Oil Changed Client Info Changed N/A N/A Sample Status Client Info Changed N/A ATTENTION CONTAMINATION method imil/base current history1 history2 Fuel WC Method >3.0 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method Site Current history1 history2 Iron ppm ASTM D5165m >120 22 15 18 Chromium ppm ASTM D5165m >5 1 0 2 Kickel ppm ASTM D5165m >20 5 3 4 Lead ppm ASTM D5165m >20 5 3 4 Lead ppm ASTM D5165m >40 0 0 0 Auminum ppm ASTM D5165m <th>Sample Date</th> <th></th> <th>Client Info</th> <th></th> <th>15 Apr 2024</th> <th>11 Nov 2022</th> <th>13 Jan 2022</th>	Sample Date		Client Info		15 Apr 2024	11 Nov 2022	13 Jan 2022
Oil Changed Sample Status Client Info Changed NORMAL N/A CONTAMINATION method limit/base current history1 history2 Fuel WC Method >3.0 <1.0 <1.0 <1.0 Glycol WC Method >0.2 NEG NEG NEG WC Method >0.2 NEG NEG NEG NEG WC Method >0.2 NEG NEG NEG NEG WC Method >0.2 NEG NEG NEG NEG WCAMethod NEG NEG NEG NEG NEG Itonium ppm ASTM D5185m >20 1 <1 1 Nickel ppm ASTM D5185m >20 5 3 4 Lead ppm ASTM D5185m >40 0 <1 <1 Attiminum ppm ASTM D5185m >40 0 <0 0 Copper ppm ASTM D5185m >15 <	Machine Age	mls	Client Info		227830	151030	0
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Chromium ppm ASTM D5185m >20 1 <1	Iron	nom	ASTM D5185m	>120	22	15	18
Nickel ppm ASTM D5185m >5 <1							
Titanium ppm ASTM D5185m >2 <1					-		
Silver ppm ASTM D5185m >2 0 <1							
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Magnesium ppm ASTM D5185m 950 933 927 882 Calcium ppm ASTM D5185m 1050 1140 1104 1056 Phosphorus ppm ASTM D5185m 995 1047 975 905 Zinc ppm ASTM D5185m 995 1047 975 905 Zinc ppm ASTM D5185m 9104 1246 1214 1191 Sulfur ppm ASTM D5185m 2600 2941 3076 2556 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 10 5 5 Sodium ppm ASTM D5185m >20 2 4 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.8 0.8 0.8 Nitration Abs/cm *ASTM D7415			ASTM D5185m	2	3	5	2
Calcium ppm ASTM D5185m 1050 1140 1104 1056 Phosphorus ppm ASTM D5185m 995 1047 975 905 Zinc ppm ASTM D5185m 1180 1246 1214 1191 Sulfur ppm ASTM D5185m 2600 2941 3076 2556 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 10 5 5 Sodium ppm ASTM D5185m >20 2 4 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.8 0.8 0.8 Nitration Abs/cm *ASTM D7624 >20 10.3 10.5 9.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.1 24 22.5 FLUID DEGRADATION method <t< th=""><th>Boron Barium</th><th>ppm</th><th>ASTM D5185m ASTM D5185m</th><th>2 0</th><th>3 2</th><th>5 0</th><th>2 0</th></t<>	Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	3 2	5 0	2 0
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Sodium ppm ASTM D5185m 3 2 4 Potassium ppm ASTM D5185m >20 2 4 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.8 0.8 0.8 Nitration Abs/cm *ASTM D7624 >20 10.3 10.5 9.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.1 24 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19 17.7 Base Number (BN) mg KOH/g ASTM D2896 4.8 7.1 6.5	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	3 2 63 2 933 1140 1047 1246	5 0 64 <1 927 1104 975 1214	2 0 58 <1 882 1056 905 1191
Potassium ppm ASTM D5185m >20 2 4 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.8 0.8 0.8 Nitration Abs/cm *ASTM D7624 >20 10.3 10.5 9.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.1 24 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19 17.7 Base Number (BN) mg KOH/g ASTM D2896 4.8 7.1 6.5	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 ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	3 2 63 2 933 1140 1047 1246 2941	5 0 64 <1 927 1104 975 1214 3076	2 0 58 <1 882 1056 905 1191 2556
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Soot % % *ASTM D7844 >4 0.8 0.8 0.8 Nitration Abs/cm *ASTM D7624 >20 10.3 10.5 9.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.1 24 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19 17.7 Base Number (BN) mg KOH/g ASTM D2896 4.8 7.1 6.5	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	3 2 63 2 933 1140 1047 1246 2941 <i>current</i> 10	5 0 64 <1 927 1104 975 1214 3076 history1 5	2 0 58 <1 882 1056 905 1191 2556 history2 5
Nitration Abs/cm *ASTM D7624 >20 10.3 10.5 9.8 Sulfation Abs/.1mm *ASTM D7615 >30 23.1 24 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19 17.7 Base Number (BN) mg KOH/g ASTM D2896 4.8 7.1 6.5	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 Limit/base >25	3 2 63 2 933 1140 1047 1246 2941 current 10 3	5 0 64 <1 927 1104 975 1214 3076 history1 5 2	2 0 58 <1 882 1056 905 1191 2556 history2 5 4
Nitration Abs/cm *ASTM D7624 >20 10.3 10.5 9.8 Sulfation Abs/.1mm *ASTM D7624 >20 10.3 10.5 9.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19 17.7 Base Number (BN) mg KOH/g ASTM D2896 4.8 7.1 6.5	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	3 2 63 2 933 1140 1047 1246 2941 current 10 3 2	5 0 64 <1 927 1104 975 1214 3076 history1 5 2 4	2 0 58 <1 882 1056 905 1191 2556 history2 5 4 6
Sulfation Abs/.1mm *ASTM D7415 >30 23.1 24 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19 17.7 Base Number (BN) mg KOH/g ASTM D2896 4.8 7.1 6.5	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 -20 limit/base	3 2 63 2 933 1140 1047 1246 2941 <i>current</i> 10 3 2 2	5 0 64 <1 927 1104 975 1214 3076 history1 5 2 4 4 history1	2 0 58 <1 882 1056 905 1191 2556 history2 5 4 6 history2
Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19 17.7 Base Number (BN) mg KOH/g ASTM D2896 4.8 7.1 6.5	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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 >20	3 2 63 2 933 1140 1047 1246 2941 <i>current</i> 10 3 2 2 <i>current</i> 0.8	5 0 64 <1 927 1104 975 1214 3076 history1 5 2 4 4 history1 0.8	2 0 58 <1 882 1056 905 1191 2556 history2 5 4 6 history2 0.8
Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19 17.7 Base Number (BN) mg KOH/g ASTM D2896 4.8 7.1 6.5	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 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >4 >20	3 2 63 2 933 1140 1047 1246 2941 <i>current</i> 10 3 2 2 <i>current</i> 0.8 10.3	5 0 64 <1 927 1104 975 1214 3076 history1 5 2 4 4 history1 0.8 10.5	2 0 58 <1 882 1056 905 1191 2556 history2 5 4 6 history2 0.8 9.8
Base Number (BN) mg KOH/g ASTM D2896 4.8 7.1 6.5	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 TS ppm ppm ppm ppm % Abs/tmm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 20 imit/base >4 >20 30	3 2 63 2 933 1140 1047 1246 2941 <i>current</i> 10 3 2 2 <i>current</i> 0.8 10.3 23.1	5 0 64 <1 927 1104 975 1214 3076 history1 5 2 4 4 history1 0.8 10.5 24	2 0 58 <1 882 1056 905 1191 2556 history2 5 4 6 6 history2 0.8 9.8 22.5
	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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	2 0 0 50 0 950 1050 995 1180 2600 2600 25 20 220 220 20 20 20 20 20 20 20 20 20 2	3 2 63 2 933 1140 1047 1246 2941 <i>current</i> 10 3 2 <i>current</i> 0.8 10.3 23.1 <i>current</i>	5 0 64 <1 927 1104 975 1214 3076 history1 5 2 4 4 history1 0.8 10.5 24 history1	2 0 58 <1 882 1056 905 1191 2556 history2 5 4 6 history2 0.8 9.8 22.5 history2
:38:57) Rev: 1 Submitted By: Paul Riddick	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	2 0 0 50 0 950 1050 995 1180 2600 2600 25 20 220 220 20 20 20 20 20 20 20 20 20 2	3 2 63 2 933 1140 1047 1246 2941 <i>current</i> 10 3 2 <i>current</i> 0.8 10.3 23.1 <i>current</i> 18.9	5 0 64 <1 927 1104 975 1214 3076 history1 5 2 4 4 history1 0.8 10.5 24 history1 19	2 0 58 <1 882 1056 905 1191 2556 history2 5 4 6 6 history2 0.8 9.8 22.5 history2 17.7



Nov23/20

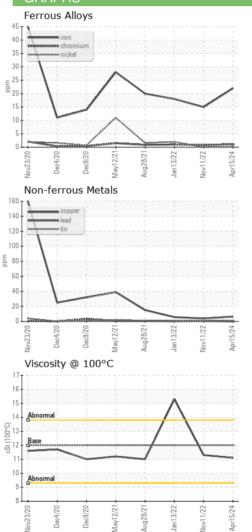
OIL ANALYSIS REPORT

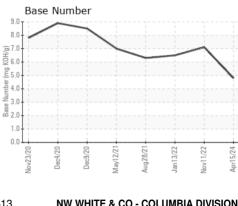




Vov11/22

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	12.00	11.1	11.3	15.3
GRAPHS						





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 **NW WHITE & CO - COLUMBIA DIVISION** Sample No. : PCA0119978 Received : 22 Apr 2024 100 INDEPENDENCE BLVD Lab Number : 06155704 Tested : 23 Apr 2024 COLUMBIA, SC Unique Number : 10991127 Diagnosed : 23 Apr 2024 - Wes Davis US 29210 Test Package : FLEET Contact: GEORGE EDWARDS Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. gedwards@nwwhite.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

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

Report Id: NWWCOL [WUSCAR] 06155704 (Generated: 04/23/2024 11:38:57) Rev: 1

Submitted By: Paul Riddick Page 2 of 2