

## Area (68543Z) Walgreens - Tractor [Walgreens - Tractor] 136A624284

Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 GAL)

### DIAGNOSIS

#### Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

Metal levels are typical for a new component breaking in.

#### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

#### Fluid Condition

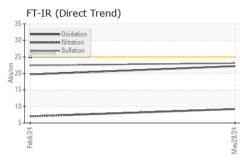
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

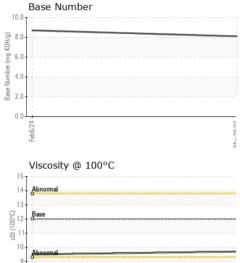


Sample Number		Client Info		PCA0119107	PCA0105945	
Sample Date		Client Info		29 May 2024	06 Feb 2024	
Machine Age	mls	Client Info		33690	16693	
Oil Age	mls	Client Info		33690	16693	
Oil Changed		Client Info		N/A	Oil Added	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	53	29	
Chromium	ppm	ASTM D5185m	>5	6	3	
Nickel	ppm	ASTM D5185m	>2	1	1	
Titanium	ppm	ASTM D5185m		<1	<1	
Silver	ppm	ASTM D5185m	>3	<1	1	
Aluminum	ppm	ASTM D5185m	>30	93	44	
Lead	ppm	ASTM D5185m	>30	<1	<1	
Copper	ppm	ASTM D5185m	>150	189	90	
Tin	ppm	ASTM D5185m	>5	5	4	
Vanadium	ppm	ASTM D5185m		0	<1	
Cadmium	ppm	ASTM D5185m		0	<1	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 2	current 38	history1 46	history2
	ppm ppm					
Boron		ASTM D5185m	2	38	46	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	38 <1	46 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	38 <1 46	46 0 43	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	38 <1 46 4	46 0 43 4	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	38 <1 46 4 549	46 0 43 4 524	
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	38 <1 46 4 549 1692	46 0 43 4 524 1538	   
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 0 950 1050 995	38 <1 46 4 549 1692 857	46 0 43 4 524 1538 763	   
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 50 950 1050 995 1180	38 <1 46 4 549 1692 857 927	46 0 43 4 524 1538 763 893	    
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	38 <1 46 4 549 1692 857 927 2269	46 0 43 4 524 1538 763 893 2518	
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	38 <1 46 4 549 1692 857 927 2269 current	46 0 43 4 524 1538 763 893 2518 history1	     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 <b>method</b> ASTM D5185m	2 0 50 950 1050 995 1180 2600	38 <1 46 4 549 1692 857 927 2269 current 8	46 0 43 4 524 1538 763 893 2518 history1 7	     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 <b>method</b> ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b>	38 <1 46 4 549 1692 857 927 2269 current 8 3	46 0 43 4 524 1538 763 893 2518 history1 7 0	      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	2 0 50 950 1050 995 1180 2600 <b>imit/base</b> >20	38 <1 46 4 549 1692 857 927 2269 current 8 3 260	46 0 43 4 524 1538 763 893 2518 history1 7 0 151	      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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >20 >20	38 <1 46 4 549 1692 857 927 2269 current 8 3 260 current	46 0 43 4 524 1538 763 893 2518 history1 7 0 151 history1	     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 ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >20 20 limit/base >20	38 <1 46 4 549 1692 857 927 2269 current 8 3 260 current 0.6	46 0 43 524 1538 763 893 2518 history1 7 0 151 history1 0.3	     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	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >20 <i>imit/base</i> >20	38 <1 46 4 549 1692 857 927 2269 current 8 3 260 current 0.6 9.2	46 0 43 4 524 1538 763 893 2518 history1 7 0 151 7 0 151 history1 0.3 7.0	     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	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >20 <b>imit/base</b> >3 >20 >30	38 <1 46 4 549 1692 857 927 2269 current 8 3 260 current 0.6 9.2 23.1	46 0 43 4 524 1538 763 893 2518 history1 7 0 151 history1 0.3 7.0 22.4	     history2  history2  history2

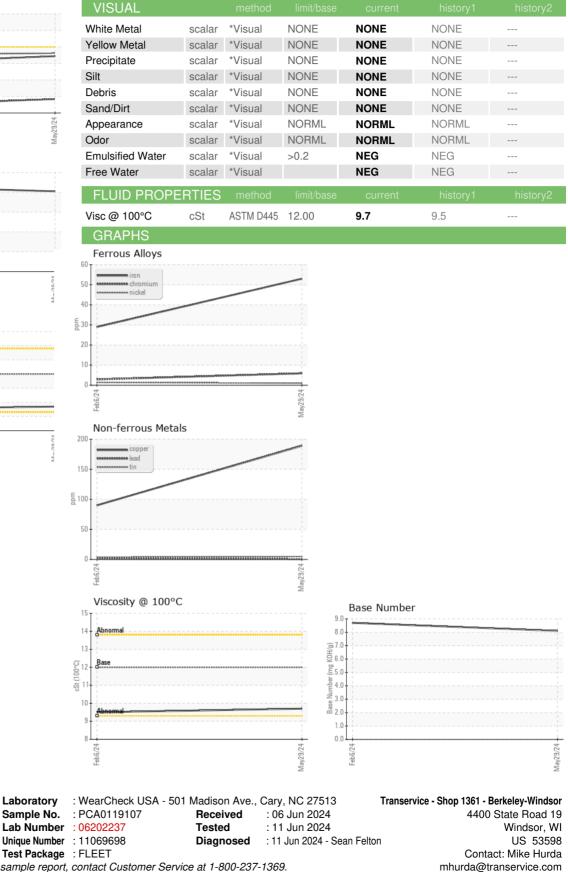


# **OIL ANALYSIS REPORT**





Feb6/24



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)

Certificate 12367

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