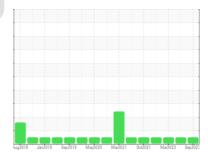


OIL ANALYSIS REPORT

Sample Rating Trend





NORMAL

Machine Id 26509 Component

Diesel Engine

PETRO CANADA DURON SHP 10W30 (34 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.

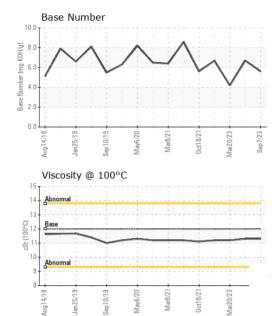
Fluid Condition

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

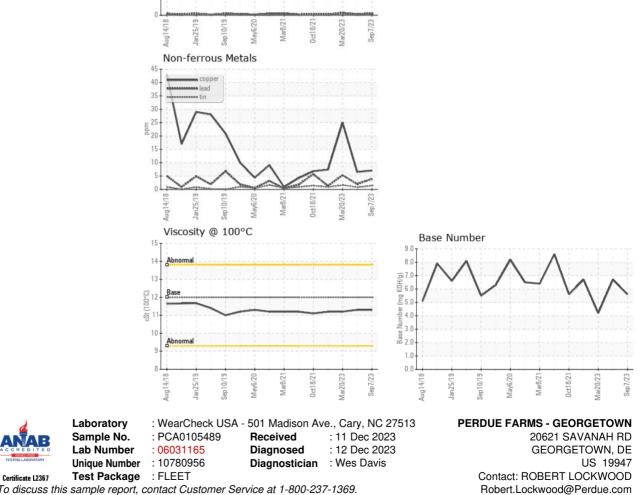
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2		
Sample Number		Client Info		PCA0105489	PCA0099762	PCA0093703		
Sample Date		Client Info		07 Sep 2023	29 May 2023	20 Mar 2023		
Machine Age	mls	Client Info		0	0	426901		
Oil Age	mls	Client Info		40000	20000	40000		
Oil Changed		Client Info		Changed	Not Changd	Changed		
Sample Status				NORMAL	NORMAL	NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2		
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0		
Water		WC Method	>0.2	NEG	NEG	NEG		
Glycol		WC Method		NEG	NEG	NEG		
WEAR METALS method limit/base current history1 history2								
Iron	ppm	ASTM D5185m	>100	76	39	95		
Chromium	ppm	ASTM D5185m	>20	2	<1	2		
Nickel	ppm	ASTM D5185m	>2	<1	0	1		
Titanium	ppm	ASTM D5185m		4	5	27		
Silver	ppm	ASTM D5185m	>2	0	0	<1		
Aluminum	ppm	ASTM D5185m	>25	10	7	19		
Lead	ppm	ASTM D5185m	>40	4	2	5		
Copper	ppm	ASTM D5185m	>330	7	6	25		
Tin	ppm	ASTM D5185m	>15	1	<1	2		
Vanadium	ppm	ASTM D5185m		0	0	<1		
Cadmium	ppm	ASTM D5185m		<1	0	0		
ADDITIVES		method	limit/base	current	history1	history2		
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1 0	history2 5		
	ppm ppm	ASTM D5185m						
Boron		ASTM D5185m	2	0	0	5		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	0 0	0 0	5 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	0 0 56	0 0 57	5 0 41		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	0 0 56 1	0 0 57 <1	5 0 41 2		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	0 0 56 1 881	0 0 57 <1 882	5 0 41 2 737		
Boron Barium Molybdenum Manganese Magnesium Calcium	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	0 0 56 1 881 1105	0 0 57 <1 882 1171	5 0 41 2 737 1321		
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 ASTM D5185m	2 0 50 950 1050 995	0 0 56 1 881 1105 969	0 0 57 <1 882 1171 994	5 0 41 2 737 1321 935		
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	0 0 56 1 881 1105 969 1220	0 0 57 <1 882 1171 994 1206	5 0 41 2 737 1321 935 1202		
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	2 0 50 950 1050 995 1180 2600	0 0 56 1 881 1105 969 1220 2802	0 0 57 <1 882 1171 994 1206 2967	5 0 41 2 737 1321 935 1202 3621		
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	0 0 56 1 881 1105 969 1220 2802 current	0 0 57 <1 882 1171 994 1206 2967 history1	5 0 41 2 737 1321 935 1202 3621 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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 Limit/base >25	0 0 56 1 881 1105 969 1220 2802 2802 current 7	0 0 57 <1 882 1171 994 1206 2967 history1 6	5 0 41 2 737 1321 935 1202 3621 history2 12		
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 method ASTM D5185m	2 0 50 950 1050 995 1180 2600 Limit/base >25	0 0 56 1 881 1105 969 1220 2802 current 7 18 11	0 0 57 <1 882 1171 994 1206 2967 history1 6 13	5 0 41 2 737 1321 935 1202 3621 history2 12 12 19		
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	0 0 56 1 881 1105 969 1220 2802 current 7 18 11	0 0 57 <1 882 1171 994 1206 2967 history1 6 13 6	5 0 41 2 737 1321 935 1202 3621 history2 12 12 19 17		
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 imit/base >25 -20 imit/base	0 0 56 1 881 1105 969 1220 2802 current 7 18 11 11 current	0 0 57 <1 882 1171 994 1206 2967 history1 6 13 6 history1	5 0 41 2 737 1321 935 1202 3621 history2 12 19 17 17 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	0 0 56 1 881 1105 969 1220 2802 current 7 18 11 11 current 1.1	0 0 57 <1 882 1171 994 1206 2967 history1 6 13 6 13 6 history1 0.6	5 0 41 2 737 1321 935 1202 3621 history2 12 19 17 17 history2 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 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	0 0 56 1 881 1105 969 1220 2802 current 7 18 11 11 current 1.1 1.1 12.5	0 0 57 <1 882 1171 994 1206 2967 history1 6 13 6 13 6 history1 0.6 10.7	5 0 41 2 737 1321 935 1202 3621 history2 12 19 17 17 history2 1 17 12.2		
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 imit/base >25 imit/base >3 >20	0 0 56 1 881 1105 969 1220 2802 current 7 18 11 11 <i>current</i> 1.1 12.5 24.5	0 0 57 <1 882 1171 994 1206 2967 history1 6 13 6 13 6 history1 0.6 10.7 20.7	5 0 41 2 737 1321 935 1202 3621 history2 12 19 17 17 history2 1 1 12.2 25.9		
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624 *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	0 0 56 1 881 1105 969 1220 2802 current 7 18 11 11 current 1.1 12.5 24.5	0 0 57 <1 882 1171 994 1206 2967 history1 6 13 6 13 6 history1 0.6 10.7 20.7 history1	5 0 41 2 737 1321 935 1202 3621 history2 12 19 17 history2 1 17 history2 1 12.2 25.9 history2		



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	12.00	11.3	11.3	11.2
GRAPHS						
Ferrous Alloys						
00 iron 1						
80 - nickel		Λ.				
		1	1			
50 -	Λ	1				



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.

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

Contact/Location: ROBERT LOCKWOOD - PERGEODE

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