

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 795M Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (36 GAL)

Decommondation	
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

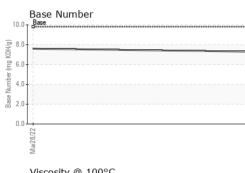
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

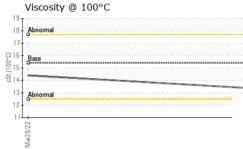
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0059294	GFL0018499	
Sample Date		Client Info		07 Dec 2023	28 Mar 2022	
Machine Age	hrs	Client Info		8101	6355	
Oil Age	hrs	Client Info		8101	0	
Oil Changed		Client Info		Changed	N/A	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<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	>75	40	30	
Chromium	ppm	ASTM D5185m	>5	2	1	
Nickel	ppm	ASTM D5185m	>4	0	0	
Titanium	ppm	ASTM D5185m	>2	0	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>15	3	1	
Lead	ppm	ASTM D5185m	>25	1	<1	
Copper	ppm	ASTM D5185m	>100	3	2	
Tin	ppm	ASTM D5185m	>4	0	<1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	nnm	ACTM DE10Em		-	0	
Gaumum	ppm	ASTM D5185m		0	0	
ADDITIVES	ppili	method	limit/base	0 current	0 history1	history2
	ppm		limit/base	-	-	
ADDITIVES		method ASTM D5185m		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current	history1 4	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0	current <1 0	history1 4 0	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current <1 0 53	history1 4 0 67	history2
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<pre>current <1 0 53 <1</pre>	history1 4 0 67 <1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<pre>current <1 0 53 <1 949</pre>	history1 4 0 67 <1 1103 1236 1209	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current <1 0 53 <1 949 1028	history1 4 0 67 <1 1103 1236	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	Current <1 0 53 <1 949 1028 1001	history1 4 0 67 <1 1103 1236 1209	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current <1 0 53 <1 949 1028 1001 1190	history1 4 0 67 <1 1103 1236 1209 1496	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	Current <1 0 53 <1 949 1028 1001 1190 2729	history1 4 0 67 <1 1103 1236 1209 1496 2608	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method 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	Current <1 0 53 <1 949 1028 1001 1190 2729 Current	history1 4 0 67 <1 1103 1236 1209 1496 2608 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base	current <1 0 53 <1 949 1028 1001 1190 2729 current 7	history1 4 0 67 <1 1103 1236 1209 1496 2608 history1 4	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base	current <1 0 53 <1 949 1028 1001 1190 2729 current 7 38	history1 4 0 67 <1 1103 1236 1209 1496 2608 history1 4 3	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	current <1 0 53 <1 949 1028 1001 1190 2729 current 7 38 1	history1 4 0 67 <1 1103 1236 1209 1496 2608 history1 4 3 2	history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20	current <1 0 53 <1 949 1028 1001 1190 2729 current 7 38 1 current	history1 4 0 67 <1 1236 1209 1496 2608 history1 4 3 2 history1	history2 history2 history2 history2
ADDITIVES 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	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current <1 0 53 <1 949 1028 1001 1190 2729 current 7 38 1 current 1	history1 4 0 67 <1 1236 1209 1496 2608 history1 4 3 2 history1 0 0.4	history2 history2 history2 history2
ADDITIVES 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 TS ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >20	current <1 0 53 <1 949 1028 1001 1190 2729 current 7 38 1 current 1 13.5	history1 4 0 67 <1 1103 1236 1209 1496 2608 history1 4 3 2 history1 0.4 12.0	history2 history2 history2 history2 history2
ADDITIVES 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 TS ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 imit/base >6 >20 20	current <1 0 53 <1 949 1028 1001 1190 2729 current 7 38 1 current 1 13.5 24.8	history1 4 0 67 <1 1103 1236 1209 1496 2608 history1 4 3 2 history1 0.4 12.0 24.2	history2 history2 history2 history2 history2 history2 history2



OIL ANALYSIS REPORT

VISUAL





	White Metal	scalar	*Visual	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
	Precipitate	scalar	*Visual	NONE	NONE	NONE	
	Silt	scalar	*Visual	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
//23 -		scalar	*Visual	NORML	NORML	NORML	
Dec7/23	Odor	scalar	*Visual	NORML	NORML	NORML	
_	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
C	Free Water	scalar	*Visual	20.L	NEG	NEG	
	FLUID PROPE		method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.4	13.4	14.4	
	GRAPHS						
	Ferrous Alloys						
	iron						
	30 - nickel						
	25 -						
	툍 20						
	15-						
	10						
	5 -						

	Mar28/22			Dec7/23			
	Ma			Ď			
	Non-ferrous Metal	S					
	10 copper						
	8 - sessesses lead						
	6- E						
	4						
	2						
	0						
	Mar28/22			Dec7/23			
	Mar			De			
	Viscosity @ 100°C				Base Number		
	19 18 - Abnormal			10.	⁰ T Base		
	18 Abnormal			- 8.	0		
				9. .9 Base Number (mg KOH/g)			
	Go ¹⁶ Base 15 3 14			B 6.	0		
	E 13				0		
	13			Se Nu			
	12 Abnormal			⁶⁰ 2.	0 -		
	11			0	0		
	3/22			Dec7/23 -			Dec7/23 -
	Mar28/22			Dec	Mar28/22		Dec
Laboratory Sample No. Lab Number		501 Madis Recieved Diagnose Diagnost	d :13 l ed :20 l	ry, NC 2751 Dec 2023 Dec 2023	3 GFL Envir		- Michigan West 0 Van Born Rd Wayne, MI

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