

OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id 550008

Component **Diesel Engine** Fluic

PETRO CANADA DURON SHP 10W30 (--- GAL)

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.

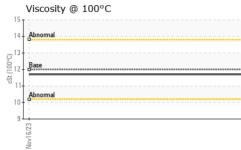
Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0047683		
Sample Date		Client Info		16 Nov 2023		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINAT		method	limit/base	current	history1	history2
Fuel		WC Method	>2.1	<1.0		
Glycol		WC Method		NEG		
WEAR METAL	.S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>51	27		
Chromium	ppm	ASTM D5185(m)	>11	<1		
Nickel	ppm	ASTM D5185(m)	>5	<1		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)	>3	<1		
Aluminum	ppm	ASTM D5185(m)	>31	1		
Lead	ppm	ASTM D5185(m)	>26	<1		
Copper	ppm	ASTM D5185(m)	>26	4		
Tin	ppm	ASTM D5185(m)	>4	0		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
oddinidini	ppm			0		
ADDITIVES	ppm	method	limit/base	current	history1	history2
	ppm		limit/base			history2
ADDITIVES		method		current	history1	
ADDITIVES Boron	ppm	method ASTM D5185(m)	2	current 9	history1	
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185(m) ASTM D5185(m)	2 0 50	current 9 <1	history1 	
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50	current 9 <1 63	history1 	
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50 0	current 9 <1 63 0	history1 	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50 0 950	current 9 <1 63 0 1035	history1 	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50 0 950 1050	current 9 <1 63 0 1035 1068	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	2 0 50 0 950 1050 995 1180 2600	current 9 <1 63 0 1035 1068 999	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	2 0 50 0 950 1050 995 1180 2600	current 9 <1 63 0 1035 1068 999 1249	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	2 0 50 0 950 1050 995 1180 2600	current 9 <1 63 0 1035 1068 999 1249 2362	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	2 0 50 950 1050 995 1180 2600	9 <1 63 0 1035 1068 999 1249 2362 <1	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	2 0 50 950 1050 995 1180 2600 limit/base	9 <1 63 0 1035 1068 999 1249 2362 <1 current	history1	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	2 0 50 950 1050 995 1180 2600 limit/base >22	current 9 <1 63 0 1035 1068 999 1249 2362 <1 current 3	history1	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	2 0 50 950 1050 995 1180 2600 limit/base >22 >31	current 9 <1 63 0 1035 1068 999 1249 2362 <1 current 3 2	history1	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	2 0 50 0 950 1050 995 1180 2600 imit/base >22 >31 >20 imit/base	9 <1 63 0 1035 1068 999 1249 2362 <1 current 3 2 0 current 3 2 0 current	history1	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	2 0 50 0 950 1050 995 1180 2600 imit/base >22 >31 >20 imit/base >3	current 9 <1 63 0 1035 1068 999 1249 2362 <1 3 2 0 0 0.1	history1	 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	2 0 50 0 950 1050 995 1180 2600 imit/base >22 >31 >20 imit/base >3 >20	9 <1 63 0 1035 1068 999 1249 2362 <1 current 3 2 0 current 3 2 0 current	history1	 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7844* ASTM D7624* ASTM D74115*	2 0 50 1050 950 1050 995 1180 2600 imit/base >22 >31 >20 imit/base >3 >20	9 <1 63 0 1035 1068 999 1249 2362 <1 current 3 2 0 current 3 2 0 current 0.1 9.3 19.8	history1 history1 history1	 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7844* ASTM D7624* ASTM D7415* method	2 0 0 50 0 950 1050 995 1180 2600 imit/base >22 >31 >20 imit/base >3 >20 >30	current 9 <1 63 0 1035 1068 999 1249 2362 <1 Current 3 2 0 current 0 current 9.3 19.8	history1	 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7844* ASTM D7624* ASTM D74115*	2 0 50 0 950 1050 995 1180 2600 imit/base >22 >31 >20 imit/base >3 >20	current 9 <1 63 0 1035 1068 999 1249 2362 <1 current 3 2 0 current 0.1 9.3 19.8 current 17.3	history1 history1 history1 history1 history1 history1	 history2 history2 history2



OIL ANALYSIS REPORT



°C		VISUAL		method	limit/base	current	history1	history2
	v	Vhite Metal	scalar	Visual*	NONE	NONE		
	Y	ellow Metal	scalar	Visual*	NONE	NONE		
		recipitate	scalar	Visual*	NONE	NONE		
		Silt	scalar	Visual*	NONE	NONE		
		ebris	scalar	Visual*	NONE	NONE		
		and/Dirt	scalar	Visual*	NONE	NONE		
		ppearance	scalar	Visual*	NORML	NORML		
Moul 6.03)dor	scalar	Visual*	NORML	NORML		
_		mulsified Water	scalar	Visual*	>0.21	NEG		
		ree Water	scalar	Visual*	20.E1	NEG		
					11		Inforte mod	la la tana 0
				method	limit/base	current	history1	history2
	V	/isc @ 100°C	cSt	ASTM D7279(m)	12.00	11.7		
		GRAPHS						
	200	Iron (ppm)			100	Lead (ppm)		
		Severe			80	Severe		
	150-				00			
	튭 100 ·				E 40			
	50.	Abnormal			20	Abnormal		
	0.				0			
	0.	Vov16/23 -			Nov16/23	Vov16/23		6/23
		Nov1			Nov1	Nov1		Nov16/23
		Aluminum (ppm)				Chromium (ppr	n)	
	60	Severe			25	Severe		
	50.				20			
	40 - Ed 30 -	Abnormal			15 E	Abnormal		
	20				th 10	Abnormal		
	10-				5			
	0.	~			0			
		Nov16/23			Nov16/23	Nov16/23		Nov16/23
		—			No			No
	150-	Copper (ppm)			40	Silicon (ppm)		
	150	Severe			40	Severe		
	100-				30			
	bpm				톱 20	Abnormal		
	50.	Abnormal			10			
		Abnormal						
	0.	23			0			23 -
		Nov16/23			Nov16/23	Nov16/23		Nov16/23
		Viscosity @ 100°C			2	Zoot %		2
	15				6.0	Τ		
	14.	Abnormal			5.0	Severe		
	(j.13. (j.001)	Race			4.0 53.0	Abnormal		
	2012 · 53 11				53.0			
	10	Abnormal			2.0			
	9.				0.0			
		Nov16/23			Nov16/23	Nov16/23		Nov16/23
		Nov			Nov	Nov		Nov
CALA Laboratory	: \	VearCheck - C8-11	75 Annle	by Line. Bur	linaton, ON I	7L 5H9 GFL Envi	ironmental - 3	55 - Saskatoon
Sample No.			Received		Nov 2023			100 Cory Road
ISO 17025:2017 Lab Number	: 0)2597047	Diagnos		Nov 2023			Saskatoon, SK
Accredited Unique Numbe			Diagnost		s Davis			CA S7K 3J7
Test Package		MOB 1 (Additional 7						Ryan Polichuk
To discuss this sample report Test denoted (*) outside scop						al lab		k@gflenv.com (306)244-9500
Validity of results and interpre							1.	(306)244-9500 F:
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