

OIL ANALYSIS REPORT

{UNASSIGNED} 820050

Component **Diesel Engine** Fluid

PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

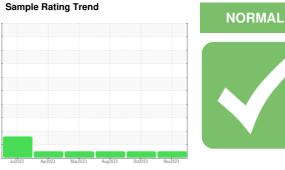
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

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

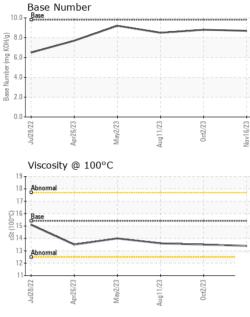




SAMPLE INFORI		method	limit/base	current	history1	history2
Sample Number		Client Info	innitibalee	GFL0098245	GFL0083900	GFL0083865
Sample Date		Client Info		16 Nov 2023	02 Oct 2023	11 Aug 2023
Machine Age	hrs	Client Info		7634	7397	0
Oil Age	hrs	Client Info		7634	7397	0
Oil Changed		Client Info		N/A	N/A	0 N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	11	8	11
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m	- 1	<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	<1	6
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	6	2	<1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		<1	-1	0
Odumum	ppin	AGTIVI DJ TOJITI		<1	<1	0
ADDITIVES	ppm	method	limit/base	current	<1 history1	history2
	ppm		limit/base			
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 11	history1 10	history2 6
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 11 <1	history1 10 0	history2 6 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 11 <1 58	history1 10 0 60	history2 6 0 58
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 11 <1 58 0	history1 10 0 60 <1	history2 6 0 58 <1
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	current 11 <1 58 0 870	history1 10 0 60 <1 981	history2 6 0 58 <1 980
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 11 <1 58 0 870 1031 926 1159	history1 10 0 60 <1 981 1088	history2 6 0 58 <1 980 1081
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	0 0 60 0 1010 1070 1150	Current 11 <1 58 0 870 1031 926	history1 10 0 60 <1 981 1088 1018	history2 6 0 58 <1 980 1081 1075
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 0 1010 1070 1150 1270 2060	Current 11 <1 58 0 870 1031 926 1159 3329 Current	history1 10 0 60 <1 981 1088 1018 1244	history2 6 0 58 <1 980 1081 1075 1309 3785 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 ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current 11 <1 58 0 870 1031 926 1159 3329 current 3	history1 10 0 60 <1 981 1088 1018 1244 3154	history2 6 0 58 <1 980 1081 1075 1309 3785 history2 5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base >25	current 11 <1 58 0 870 1031 926 1159 3329 current 3 2	history1 10 0 60 <1 981 1088 1018 1244 3154 history1 4 4	history2 6 0 58 <1 980 1081 1075 1309 3785 history2 5 4
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 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 kimit/base >25	current 11 <1 58 0 870 1031 926 1159 3329 current 3	history1 10 0 60 <1 981 1088 1018 1244 3154 history1 4	history2 6 0 58 <1 980 1081 1075 1309 3785 history2 5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base >25	current 11 <1 58 0 870 1031 926 1159 3329 current 3 2	history1 10 0 60 <1 981 1088 1018 1244 3154 history1 4 4	history2 6 0 58 <1 980 1081 1075 1309 3785 history2 5 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	current 11 <1 58 0 870 1031 926 1159 3329 current 3 2 10 current 0.3	history1 10 0 60 <1 981 1088 1018 1244 3154 history1 4 4 8	history2 6 0 58 <1 980 1081 1075 1309 3785 history2 5 4 18
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 ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 limit/base >20	current 11 <1 58 0 870 1031 926 1159 3329 current 3 2 10 current	history1 10 0 60 <1 981 1088 1018 1244 3154 history1 4 8 history1 0.3 6.5	history2 6 0 58 <1 980 1081 1075 1309 3785 history2 5 4 18 history2 0.4 6.5
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 2060 225 >25 >20 limit/base >20	current 11 <1 58 0 870 1031 926 1159 3329 current 3 2 10 current 0.3	history1 10 0 60 <1 981 1088 1018 1244 3154 history1 4 8 history1 0.3	history2 6 0 58 <1 980 1081 1075 1309 3785 history2 5 4 18 history2 0.4
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 t t t t	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	current 11 <1 58 0 870 1031 926 1159 3329 current 3 2 10 current 0.3 6.6	history1 10 0 60 <1 981 1088 1018 1244 3154 history1 4 8 history1 0.3 6.5	history2 6 0 58 <1 980 1081 1075 1309 3785 history2 5 4 18 history2 0.4 6.5
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 t t t t	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 20 imit/base >3 >20	current 11 <1 58 0 870 1031 926 1159 3329 current 3 2 10 current 0.3 6.6 18.6	history1 10 0 60 <1 981 1088 1018 1244 3154 history1 4 8 history1 0.3 6.5 18.5	history2 6 0 58 <1 980 1081 1075 1309 3785 history2 5 4 18 history2 0.4 6.5 18.2



OIL ANALYSIS REPORT



	White Metal Yellow Metal	scalar scalar	*Visual *Visual	NONE	NONE	NONE	NONE
		scalar	*\/iouol	NONE			
			visuai	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
							NONE
/23-	-						NORML
Oct2 Nov16							NORML
_							NEG
				20.L			NEG
				line it //e e e e			
							history2
		cSt	ASTM D445	15.4	13.4	13.5	13.6
	120 T A						
	Non-ferrous Metal	ls	04223	v16/23 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
			0	Nov			
	¹⁹			10.0 T			
	Q					~	
	i i i			(B/H)			
	Base			월 6.0 -	-		
	Ê ¹⁵			iber (i			
	³ 14			4.0-			
	13 Abnormal			e ase			
	12			2.0			
	11			0.0			~
	28/22 26/23 v2/23	11/23	:42/23	16/23	28/21	y2/23	0ct2/23
	Ju' Apr Ma	Аид	ŏ	Nov	Apr	Ma	ō
Laboratory Sample No. Lab Number Unique Number Test Package	: GFL0098245 : <mark>06011219</mark> : 10750363	Received Diagnose	l :171 ed :191	Nov 2023 Nov 2023	3 GFL Environmental - 652 - Fredericksburg Haul 10954 Houser Dri Fredericksburg, V US 224 Contact: WILLIAM MIL wmilo@gflenv.cc		
	Laboratory Sample No. Lab Number	Elaboratory Sample No. Laboratory	Appearance scalar Odor scalar Emulsified Water scalar Free Water scalar Free Water scalar FLUID PROPERTIES Visc @ 100°C cSt GRAPHS Ferrous Alloys 0000 0	Appearance scalar Visual Odor scalar Visual Emulsified Water scalar Visual Free Water scalar Visual FLUID PROPERTIES method Visc @ 100°C cSt ASTM D445 GRAPHS Ferrous Alloys Non-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Communication Viscosity @ 100°C Viscosity @ 100°C Communication Viscosity @ 100°C Viscosity @ 100°C Communication Viscosity @ 100°C Communication Viscosity @ 100°C Communication Viscosity @ 100°C Communication Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Communication Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Communication Viscosity @ 100°C Viscosity @ 100	Appearance scalar *Visual NORML Odor scalar *Visual NORML Emulsified Water scalar *Visual >0.2 Free Water scalar *Visual ** Free Water scalar ** Free Water sca	Appearance scalar 'Visual NORML NORML NORML Emulsified Water scalar 'Visual NORML NORML NORML Emulsified Water scalar 'Visual NORML NORML Free Water scalar 'Visual NORML NORML NEG Free Water scalar 'Visual NORML NEG NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML	Appearance scalar Visual NORML NORML NORML NORML Crucio scalar Visual NORML NORML NORML NORML Emulsified Water scalar Visual NORML NORML NORML Free Water scalar Visual NORML NORML NORML Visc @ 100°C cst ASTM D445 15.4 13.4 13.5 GRAPHS Ferrous Alloys Ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Mon-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Visco

Submitted By: TECHNICIAN ACCOUNT