

OIL ANALYSIS REPORT

Area (78J6TV) Machine Id 727102-361673

Component Diesel Engine Fluid

PETRO CANADA DURON SHP 15W40 (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

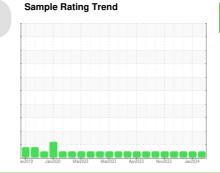
All component wear rates are normal.

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.



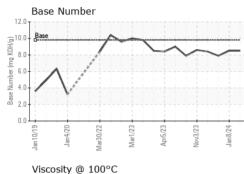


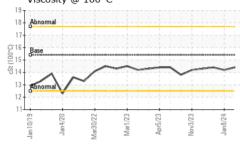
NORMAL

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0065489	GFL0098734	GFL0098741
Sample Date		Client Info		08 Jan 2024	08 Jan 2024	13 Dec 2023
Machine Age	hrs	Client Info		19008	18878	18742
Oil Age	hrs	Client Info		150	150	600
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	20	8	9
Chromium	ppm	ASTM D5185m	>5	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	3	2	1
Lead	ppm	ASTM D5185m	>25	<1	<1	0
Copper	ppm	ASTM D5185m	>100	1	<1	<1
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current <1	history1 1	history2 1
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	<1	1	1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	<1 0	1 0	1 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 0 65	1 0 58	1 0 59
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 0 65 <1	1 0 58 <1	1 0 59 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 0 65 <1 1016	1 0 58 <1 907	1 0 59 <1 965
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	<1 0 65 <1 1016 1055	1 0 58 <1 907 979	1 0 59 <1 965 1013
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	0 0 60 0 1010 1070 1150	<1 0 65 <1 1016 1055 1071	1 0 58 <1 907 979 989	1 0 59 <1 965 1013 1001
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	0 0 60 0 1010 1070 1150 1270	<1 0 65 <1 1016 1055 1071 1313	1 0 58 <1 907 979 989 1171	1 0 59 <1 965 1013 1001 1284
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	0 0 60 0 1010 1070 1150 1270 2060	<1 0 65 <1 1016 1055 1071 1313 3183	1 0 58 <1 907 979 989 1171 2918	1 0 59 <1 965 1013 1001 1284 2976
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	0 0 60 1010 1070 1150 1270 2060	<1 0 65 <1 1016 1055 1071 1313 3183 current	1 0 58 <1 907 979 989 1171 2918 history1	1 0 59 <1 965 1013 1001 1284 2976 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	0 0 60 1010 1070 1150 1270 2060	<1 0 65 <1 1016 1055 1071 1313 3183 current 6	1 0 58 <1 907 979 989 1171 2918 history1 4	1 0 59 <1 965 1013 1001 1284 2976 history2 3
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	0 0 60 1010 1070 1150 1270 2060 limit/base >25	<1 0 65 <1 1016 1055 1071 1313 3183 <u>current</u> 6 43	1 0 58 <1 907 979 989 1171 2918 history1 4 13	1 0 59 <1 965 1013 1001 1284 2976 history2 3 15
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	0 0 0 1010 1070 1150 1270 2060 limit/base >25	<1 0 65 <1 1016 1055 1071 1313 3183 <u>current</u> 6 43 23	1 0 58 <1 907 979 989 1171 2918 history1 4 13 8	1 0 59 <1 965 1013 1001 1284 2976 history2 3 15 7
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	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	<1 0 65 <1 1016 1055 1071 1313 3183 current 6 43 23 current	1 0 58 <1 907 979 989 1171 2918 history1 4 13 8 Kistory1	1 0 59 <1 965 1013 1001 1284 2976 history2 3 15 7 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	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	<1 0 65 <1 1016 1055 1071 1313 3183 current 6 43 23 23 current 0.7	1 0 58 <1 907 979 989 1171 2918 history1 4 13 8 history1 0.4	1 0 59 <1 965 1013 1001 1284 2976 history2 3 15 7 history2 0.5
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	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >20	<1 0 65 <1 1016 1055 1071 1313 3183 current 6 43 23 current 0.7 9.6	1 0 58 <1 907 979 989 1171 2918 history1 4 13 8 history1 0.4 7.5	1 0 59 <1 965 1013 1001 1284 2976 history2 3 15 7 history2 0.5 8.0
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	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >6 >20	<1 0 65 <1 1016 1055 1071 1313 3183 current 6 43 23 current 0.7 9.6 21.4	1 0 58 <1 907 979 989 1171 2918 history1 4 13 8 history1 0.4 7.5 19.9	1 0 59 <1 965 1013 1001 1284 2976 history2 3 15 7 history2 0.5 8.0 20.3
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 D7415	0 0 0 1010 1070 1150 1270 2060 2060 2060 225 20 220 20 20 20 20 20 20 20 20 20 20 20	<1 0 65 <1 1016 1055 1071 1313 3183 Current 6 43 23 Current 0.7 9.6 21.4 Current	1 0 58 <1 907 979 989 1171 2918 history1 4 13 8 history1 0.4 7.5 19.9 history1	1 0 59 <1 965 1013 1001 1284 2976 history2 3 15 7 history2 0.5 8.0 20.3 history2

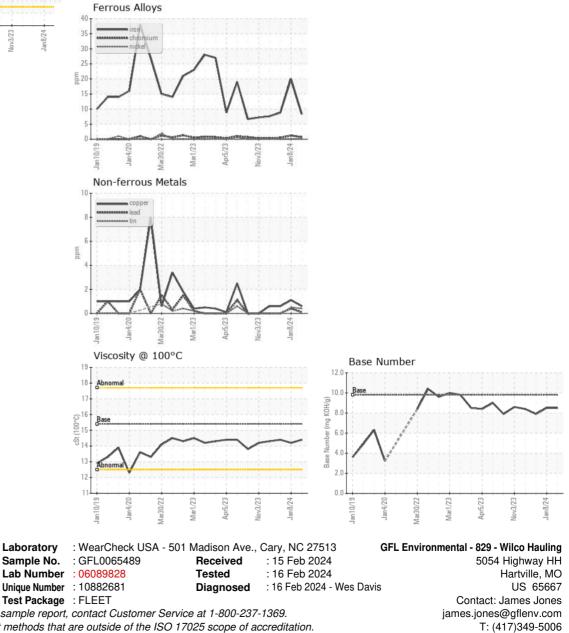


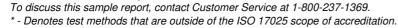
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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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	15.4	14.4	14.2	14.4
GRAPHS						





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

Certificate L2367

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