

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 4626M Component Diesel Engine

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

DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Fluid

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

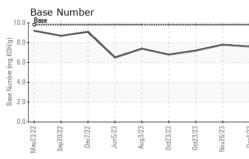
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

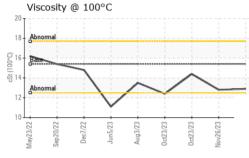
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0097749	GFL0097721	GFL0097711
Sample Date		Client Info		04 Dec 2023	26 Nov 2023	23 Oct 2023
Machine Age	hrs	Client Info		20497	20436	20173
Oil Age	hrs	Client Info		640	257	680
Oil Changed		Client Info		Changed	Changed	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	>90	11	11	28
Chromium	ppm	ASTM D5185m		<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	1	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	1	0	1
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium		ACTM DE10Em			0	0
Gaumum	ppm	ASTM D5185m		0	0	0
ADDITIVES	ррп	method	limit/base	current	0 history1	history2
			limit/base		-	-
ADDITIVES	ppm ppm	method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 2	history1 <1	history2 <1
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 2 0	history1 <1 0	history2 <1 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 2 0 51	history1 <1 0 55	history2 <1 0 62
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 2 0 51 <1	history1 <1 0 55 0	history2 <1 0 62 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 2 0 51 <1 847	history1 <1 0 55 0 959	history2 <1 0 62 <1 1034
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 2 0 51 <1 847 987	history1 <1 0 55 0 959 1107	history2 <1 0 62 <1 1034 1158
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 2 0 51 <1 847 987 1045	history1 <1 0 555 0 959 1107 1118	history2 <1 0 62 <1 1034 1158 1069
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 2 0 51 <1 847 987 1045 1217 2925 current	history1 <1 0 55 0 959 1107 1118 1423 3354 history1	<1 0 62 <1 1034 1158 1069 1363 2970 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current 2 0 51 <1 847 987 1045 1217 2925 current 3	history1 <1 0 55 0 959 1107 1118 1423 3354 history1 3	<1 0 62 <1 1034 1158 1069 1363 2970 history2 5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current 2 0 51 <1 847 987 1045 1217 2925 current	history1 <1 0 55 0 959 1107 1118 1423 3354 history1	<1 0 62 <1 1034 1158 1069 1363 2970 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	current 2 0 51 <1 847 987 1045 1217 2925 current 3	history1 <1 0 55 0 959 1107 1118 1423 3354 history1 3	<1 0 62 <1 1034 1158 1069 1363 2970 history2 5
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 0 1010 1070 1150 1270 2060 limit/base	current 2 0 51 <1 847 987 1045 1217 2925 current 3 12	history1 <1 0 55 0 959 1107 1118 1423 3354 history1 3 9	<1 0 62 <1 1034 1158 1069 1363 2970 history2 5 8
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	current 2 0 51 <1 847 987 1045 1217 2925 current 3 12 3 12 3 current 0.4	history1 <1 0 55 0 959 1107 1118 1423 3354 history1 3 9 2 history1 0.3	<1 0 62 <1 1034 1158 1069 1363 2970 history2 5 8 0 history2 0 history2 0.9
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	current 2 0 51 <1 847 987 1045 1217 2925 current 3 12 3 12 3 0.4 8.6	history1 <1 0 55 0 959 1107 1118 1423 3354 history1 3 9 2 history1 0.3 8.0	history2 <1 0 62 <1 1034 1158 1069 1363 2970 history2 5 8 0 history2 0 history2 0.9 10.3
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 2 0 51 <1 847 987 1045 1217 2925 current 3 12 3 12 3 current 0.4	history1 <1 0 55 0 959 1107 1118 1423 3354 history1 3 9 2 history1 0.3	<1 0 62 <1 1034 1158 1069 1363 2970 history2 5 8 0 history2 0 history2 0.9
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 2060 225 220 220 1imit/base >20	current 2 0 51 <1 847 987 1045 1217 2925 current 3 12 3 12 3 0.4 8.6	history1 <1 0 55 0 959 1107 1118 1423 3354 history1 3 9 2 history1 0.3 8.0	history2 <1 0 62 <1 1034 1158 1069 1363 2970 history2 5 8 0 history2 0 history2 0.9 10.3
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 <u>imit/base</u> >6 >20 20	current 2 0 51 <1 847 987 1045 1217 2925 current 3 12 3 current 0.4 8.6 19.6	<1 0 55 0 959 1107 1118 1423 3354 history1 3 9 2 history1 0.3 8.0 19.3	<1 0 62 <1 1034 1158 1069 1363 2970 history2 5 8 0 history2 0 history2 0.9 10.3 22.1



OIL ANALYSIS REPORT

VISUAL





					current		
	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
/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
0ct23/23 Nov26/23 Dec4/23	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
-	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual	20.L	NEG	NEG	NEG
					NEG		
	FLUID PROPE		method	limit/base	current	history1	history2
~	Visc @ 100°C	cSt	ASTM D445	15.4	12.9	12.8	14.4
	GRAPHS						
	Ferrous Alloys						
/23	iron						
0ct23/23 Nov26/23	50 - nickel						
- 2	40						
	§ 30						
	20						
	10						
	May23/22 Sep20/22 Dec7/22 Jun5/23	Aug3/23	0ct23/23 Nov26/23	Dec4/23			
	May Sep De	Au	Nov. Oct	De			
	Non-ferrous Meta	als					
	¹⁰						
	copper						
	8 second lead						
	nananananan lead						
	8 - tin						
	8 - management lead						
	8 - tin						
	8 - tin						
	a lead b lead b lead c						
	B B B B B B B B B B B B B B B B B B B			123			
	B B B B B B B B B B B B B B B B B B B	Augaiza		Dec4/23			
	May2322 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
	B B B B B B B B B B B B B B B B B B B				Base Number	-	
	Wiscosity @ 100°				Base Number	-	
	Viscosity @ 100°			10.0	\sim		
	Viscosity @ 100°			10.0			
	Viscosity @ 100°			10.0			
	Bad bind b			10.0			
	⁸ ⁶ ⁶ ⁶ ⁷ ⁷ ⁷ ⁷ ⁷ ⁷ ⁷ ⁷ ⁷ ⁷			10.0 8.0 0.0 KOH(d) 988 989 989		-	
	Bad bind b			10.(8.(рак орно вы вы вы		-	
	Band and a sead tin a	c	0ct23/23	10.0 (b)(b)(b)(b)(b)(b)(b)(b)(b)(b)(b)(b)(b)(
	Band and a sead tin a	c	0ct23/23	10.0 (6)(HOX) Bull (6)(HOX) Bull (7)(HOX) Bu			23/23
	⁸ ⁶ ⁶ ⁷ ⁷ ⁷ ⁷ ⁷ ⁷ ⁷ ⁷ ⁷ ⁷	c	0ct23/23	10.0 (0)HOX bul) aquiny see 8 2.0)	Jun5/23 62/23 00/23/23	0ct23/23
	Bad tin d d d d d d d d d d d d d	C	0ct23/23 0ct23/23 0ct23/23 0ct23/23 0ct23/23 0ct23/23	10.0 (6)(HO)(10) (10)(10)(10)(10)(10)(10)(10)(10)(10)(10)	May23/22 Sap20/22 Dec7/22	Jun5/23 Aug3/23 Oct23/23	- 2
aboratory	WearCheck USA -	C	EZIEZADO EZIEZADO EZIEZADO Son Ave., Ca	10.0 (0)HOX bul 34 (0)HOX bul	May23/22 Sap20/22 Dec7/22	EZISUN EXISTINA EXISTINO EXISTINA EXISTINO EXISTINO EXISTIN EXISTINO EXISTINO EXISTINO EXISTINO EXISTINO EXISTINO EXISTI	405 - Arbor Hills
aboratory	<pre>ead ind ind ind ind ind ind ind ind ind in</pre>	C EZEBNY 501 Madis Received	EXTERNAL EXT	10.0 (6)(HO)(10) (10)(10)(10)(10)(10)(10)(10)(10)(10)(10)	May23/22 Sap20/22 Dec7/22	EZJSunf twironmental - 4	105 - Arbor Hills 7400 Napier Ro
	WearCheck USA -	C	EZIEZHON EZIEZHON Son Ave., Ca I : 12 ed : 13	10.0 (0)HOX but 30 (0)HOX but	May23/22 Sap20/22 Dec7/22	EZJSunf twironmental - 4	<u> </u>
aboratory Sample No. ab Number	<pre>ead ind ind ind ind ind ind ind ind ind in</pre>	501 Madis Received Diagnose	EZIEZHON EZIEZHON Son Ave., Ca I : 12 ed : 13	10.0 (0)HOX but 34 (0)HOX but	May23/22 Sap20/22 Dec7/22	hvironmental - 4	105 - Arbor Hills 7400 Napier Rd ORTHVILLE, MI

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.

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

Certificate L2367

Т:

F: