

OIL ANALYSIS REPORT

SAMPLE INFORMATION

Sample Rating Trend

NORMAL

G.LOPES CONSTRUCTION INC./On-Road

Component **Diesel Engine**

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

Fluid Condition

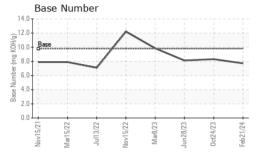
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

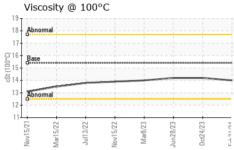
Sample Number		Client Info		PCA0072165	PCA0109819	PCA0098352
Sample Date		Client Info		21 Feb 2024	24 Oct 2023	28 Jun 2023
Machine Age	hrs	Client Info		172000	152000	132000
Oil Age	hrs	Client Info		172000	152000	132000
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
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	>100	22	23	21
Chromium	ppm	ASTM D5185m	>20	2	2	2
Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	4	7	3
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	5	6	7
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 7	history1	history2
	ppm					
Boron		ASTM D5185m	0	7	3	3
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	7 5	3	3
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	7 5 61	3 0 60	3 0 68
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	7 5 61 <1	3 0 60 <1	3 0 68 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	7 5 61 <1 883	3 0 60 <1 953	3 0 68 <1 1097
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	7 5 61 <1 883 1059	3 0 60 <1 953 1076	3 0 68 <1 1097 1235
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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	7 5 61 <1 883 1059 912	3 0 60 <1 953 1076 966	3 0 68 <1 1097 1235 1115
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270	7 5 61 <1 883 1059 912 1167	3 0 60 <1 953 1076 966 1236	3 0 68 <1 1097 1235 1115 1443
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	7 5 61 <1 883 1059 912 1167 2919	3 0 60 <1 953 1076 966 1236 2645	3 0 68 <1 1097 1235 1115 1443 3602
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	7 5 61 <1 883 1059 912 1167 2919	3 0 60 <1 953 1076 966 1236 2645	3 0 68 <1 1097 1235 1115 1443 3602 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	7 5 61 <1 883 1059 912 1167 2919 current	3 0 60 <1 953 1076 966 1236 2645 history1	3 0 68 <1 1097 1235 1115 1443 3602 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	7 5 61 <1 883 1059 912 1167 2919 current 6	3 0 60 <1 953 1076 966 1236 2645 history1 7	3 0 68 <1 1097 1235 1115 1443 3602 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1150 1270 2060 limit/base >25	7 5 61 <1 883 1059 912 1167 2919 current 6 0 8	3 0 60 <1 953 1076 966 1236 2645 history1 7 3	3 0 68 <1 1097 1235 1115 1443 3602 history2 4 2
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	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	7 5 61 <1 883 1059 912 1167 2919 current 6 0 8	3 0 60 <1 953 1076 966 1236 2645 history1 7 3 13	3 0 68 <1 1097 1235 1115 1443 3602 history2 4 2 4 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	7 5 61 <1 883 1059 912 1167 2919 current 6 0 8 current 0.6	3 0 60 <1 953 1076 966 1236 2645 history1 7 3 13	3 0 68 <1 1097 1235 1115 1443 3602 history2 4 2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m Method *ASTM D5185m ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 0 1010 1150 1270 2060 limit/base >25 >20 limit/base	7 5 61 <1 883 1059 912 1167 2919 current 6 0 8 current 0.6 10.6	3 0 60 <1 953 1076 966 1236 2645 history1 7 3 13 history1 0.8 10.4	3 0 68 <1 1097 1235 1115 1443 3602 history2 4 2 4 history2 0.6 10.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D76185m method	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >3 limit/base	7 5 61 <1 883 1059 912 1167 2919 current 6 0 8 current 0.6 10.6 21.8 current	3 0 60 <1 953 1076 966 1236 2645 history1 7 3 13 history1 0.8 10.4 22.6 history1	3 0 68 <1 1097 1235 1115 1443 3602 history2 4 2 4 2 4 10.3 22.8 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m Method *ASTM D5185m ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30	7 5 61 <1 883 1059 912 1167 2919 current 6 0 8 current 0.6 10.6 21.8	3 0 60 <1 953 1076 966 1236 2645 history1 7 3 13 history1 0.8 10.4 22.6	3 0 68 <1 1097 1235 1115 1443 3602 history2 4 2 4 history2 0.6 10.3 22.8

Submitted By: MATT MANOLI



OIL ANALYSIS REPORT





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	EKIIES	method	ilmit/base		nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	15.4	14.0	14.2	14.2

Iron (p	pm)						Le	ad (pp	m)					
Severe							100 Se	vere						
Abnormal							40 AL	normal						
-							20-							
Nov15/21+	Jul13/22	Nov15/22 +	Mar8/23 -	Jun28/23 +	0ct24/23 -	Feb21/24	ON 15/21	Mar15/22	Jul13/22	Nov15/22	Mar8/23	Jun28/23 -	Oct24/23	6
Alumin	um (ppr	n)					Ch	romiur	n (ppr	n)				
Severe							50 T Se	vere						
Abnormal			-			-	20 AL	normal			-			
	<u> </u>	_				_	10	\						
Nov15/21	Jul13/22	Nov15/22 -	Mar8/23 -	Jun28/23 -	Oct24/23	Feb21/24	Nov15/21	Mar15/22 -	Jul13/22 -	Nov15/22 -	Mar8/23 -	Jun28/23 -	Oct24/23	6
Coppe	(ppm)							icon (p	pm)					
Severe Abnormal							1	vere						
							60							
								normal						
							20							
5/21+	3/22	22/5	Mar8/23	3/23	1/23	1/24	5/21	5/22 +	3/22+	5/22	3/23	8/23	1/23	
Nov15/21	Jul13/22	Nov15/22	Maré	Jun28/23	0ct24/23	Feb21/24	Nov15/21	Mar15/22	Jul13/22	Nov15/22	Mar8/23	Jun28/23	0ct24/23	, ,
Viscosi	ty @ 100	0°C						se Nur	nber					
							15.0 T (B/HOX) Bu							





Certificate L2367

Laboratory

Sample No. Lab Number : 06099314 Unique Number : 10897544

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0072165

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Test Package : MOB 2

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Received : 23 Feb 2024 **Tested**

: 26 Feb 2024 Diagnosed

: 26 Feb 2024 - Wes Davis

Feb21/24

0.0

Mar15/22

G LOPES CONSTRUCTION 565 WINTHROP ST

TAUNTON, MA US 02780

Contact: BUTCH MCGRATH

bmcgrath@glopes.com T:

* - 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)

Report Id: GLOTAU [WUSCAR] 06099314 (Generated: 02/26/2024 10:31:52) Rev: 1

Submitted By: MATT MANOLI

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