

OIL ANALYSIS REPORT

SAMPLE INFORMATION

Sample Number

Sample Rating Trend

Client Info

NORMAL

PCA0078280

G.LOPES CONSTRUCTION INC./On-Road

336

Component **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (10 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.

Nov-80200 App-8021 Nov-8021 Nov-8021 App-8022 Sep-8022 Feb-8023 Sep-8	14072020	7-972021	, my2021	13032001	7472022	04/2022	1002023	- OSPEO
	Nov2020	Apr2021	Aug2021	Nov2021	Apr2022	Sep 2022	Feb2023	Sep 20
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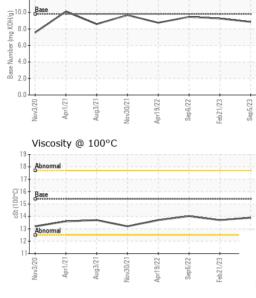
PCA0098550 PCA0083144

Sample Date		Client Info		05 Sep 2023	21 Feb 2023	06 Sep 2022
Machine Age	mls	Client Info		172000	152000	132000
Oil Age	mls	Client Info		93728	93728	93728
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
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	27	30	44
Chromium	ppm	ASTM D5185m	>20	2	2	2
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	11	12	14
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	8	10	15
Tin	ppm	ASTM D5185m	>15	<1	<1	1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	''	method	limit/base	current	history1	history2
Boron	nnm	ASTM D5185m			•	
Boron	ppm		0	<1	1	3
Barium	ppm	ASTM D5185m	0	<1 2	1 0	3
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0 0 60	<1 2 61	1 0 60	3 0 65
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 2 61 <1	1 0 60 <1	3 0 65 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 2 61 <1 944	1 0 60 <1 969	3 0 65 <1 932
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	<1 2 61 <1 944 1116	1 0 60 <1 969 1107	3 0 65 <1 932 1158
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 2 61 <1 944 1116 999	1 0 60 <1 969 1107 972	3 0 65 <1 932 1158 1039
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 2 61 <1 944 1116 999 1225	1 0 60 <1 969 1107 972 1254	3 0 65 <1 932 1158 1039 1287
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	0 0 60 0 1010 1070 1150 1270 2060	<1 2 61 <1 944 1116 999 1225 2802	1 0 60 <1 969 1107 972 1254 3309	3 0 65 <1 932 1158 1039 1287 2797
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	0 0 60 0 1010 1070 1150 1270 2060	<1 2 61 <1 944 1116 999 1225 2802 current	1 0 60 <1 969 1107 972 1254 3309 history1	3 0 65 <1 932 1158 1039 1287 2797
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 2 61 <1 944 1116 999 1225 2802 current 4	1 0 60 <1 969 1107 972 1254 3309 history1	3 0 65 <1 932 1158 1039 1287 2797 history2
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	<1 2 61 <1 944 1116 999 1225 2802 current 4	1 0 60 <1 969 1107 972 1254 3309 history1	3 0 65 <1 932 1158 1039 1287 2797 history2 5
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	<1 2 61 <1 944 1116 999 1225 2802 current 4 2 13	1 0 60 <1 969 1107 972 1254 3309 history1 3 2	3 0 65 <1 932 1158 1039 1287 2797 history2 5 0 22
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	<1 2 61 <1 944 1116 999 1225 2802 current 4 2 13 current	1 0 60 <1 969 1107 972 1254 3309 history1 3 2 18	3 0 65 <1 932 1158 1039 1287 2797 history2 5 0 22
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 method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D5185m	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	<1 2 61 <1 944 1116 999 1225 2802 current 4 2 13 current 0.5	1 0 60 <1 969 1107 972 1254 3309 history1 3 2 18 history1	3 0 65 <1 932 1158 1039 1287 2797 history2 5 0 22 history2
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 MEthod ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	<1 2 61 <1 944 1116 999 1225 2802 current 4 2 13 current 0.5 8.5	1 0 60 <1 969 1107 972 1254 3309 history1 3 2 18 history1 0.5 8.4	3 0 65 <1 932 1158 1039 1287 2797 history2 5 0 22 history2 0.6 9.1
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 method ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D76185m *ASTM D76185m *ASTM D76185m *ASTM D76185m	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	<1 2 61 <1 944 1116 999 1225 2802 current 4 2 13 current 0.5	1 0 60 <1 969 1107 972 1254 3309 history1 3 2 18 history1	3 0 65 <1 932 1158 1039 1287 2797 history2 5 0 22 history2
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 method ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D76185m *ASTM D76185m *ASTM D76185m *ASTM D76185m	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 limit/base	<1 2 61 <1 944 1116 999 1225 2802 current 4 2 13 current 0.5 8.5	1 0 60 <1 969 1107 972 1254 3309 history1 3 2 18 history1 0.5 8.4	3 0 65 <1 932 1158 1039 1287 2797 history2 5 0 22 history2 0.6 9.1
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 method ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D76185m *ASTM D76185m *ASTM D76185m *ASTM D76185m	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30	<1 2 61 <1 944 1116 999 1225 2802 current 4 2 13 current 0.5 8.5 19.9	1 0 60 <1 969 1107 972 1254 3309 history1 3 2 18 history1 0.5 8.4 19.5	3 0 65 <1 932 1158 1039 1287 2797 history2 5 0 22 history2 0.6 9.1 21.2
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 ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >3 limit/base	<1 2 61 <1 944 1116 999 1225 2802 current 4 2 13 current 0.5 8.5 19.9 current	1 0 60 <1 969 1107 972 1254 3309 history1 3 2 18 history1 0.5 8.4 19.5 history1	3 0 65 <1 932 1158 1039 1287 2797 history2 5 0 22 history2 0.6 9.1 21.2 history2



Base Number

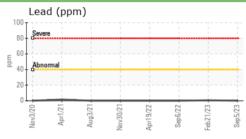
OIL ANALYSIS REPORT

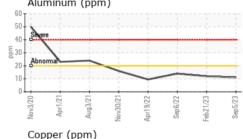


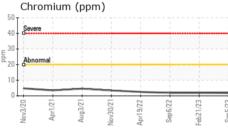
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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
	DTIES	mathad	limit/bass	ourront.	hiotomit	hiotomy

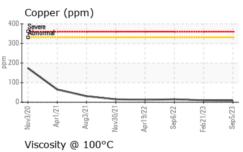
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Visc @ 100°C	cSt	ASTM D445	15.4	13.9	13.7	14.02

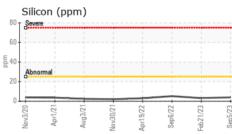
Iron 250 T	(ppm	1)					
200 Severe			Ì		į	į	
450							
100 Abnor	mal						
50							
0	+		_	-			
Nov3/20	r1/21	13/21	30/21	9/22	16/22	Feb21/23	Sep5/23
Nov	Αŗ	Aug3/	Nov30	Apr19/	/9das	Feb.	Set
Alum	ainum	(nnm	.)				

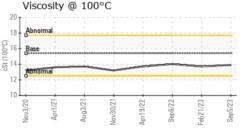


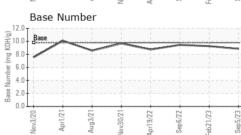
















Laboratory Sample No. Lab Number **Unique Number** Test Package : MOB 2

: 05944760

: PCA0098550 : 10635372

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 07 Sep 2023 Diagnosed

: 08 Sep 2023

Diagnostician : Wes Davis

Certificate L2367 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)

G LOPES CONSTRUCTION

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T: F: