

OIL ANALYSIS REPORT

SAMPLE INFORMATION

Sample Number

Sample Rating Trend

Client Info

NORMAL



PCA0084055

KEMP QUARRIES / PRYOR STONE [67029] **WP047**

Component **Diesel Engine**

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: PM performed. Engine oil sample taken. Engine oil, and all filters changed. Not sure of the oil age due to a faulty hour meter. Hour meter changed 2 hours before service.)

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.

1				20															
1111																			
			77																
11.1																			
			777																
1.1																			
11.			. J.	ı.															
		m		81	Т	Т	١L	Ι.	Ш										
1				ш						d.									
1 1				ш				Ш											
				ш			ŀ												
				ш				Ш		l.	٠,		ė,		ė	÷		ė	ò
n2015	Mar2	010	100	2011	+	an20	120	Out	2020		202	No	202	1 6	L 201	22	100	1022	Öcti

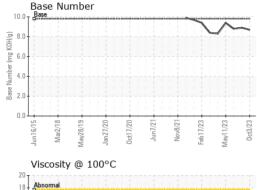
PCA0084294

PCA0084265

Sample Date		Client Info		03 Oct 2023	29 Aug 2023	07 Aug 2023
Machine Age	hrs	Client Info		2	3186	2873
Oil Age	hrs	Client Info		0	313	297
Oil Changed		Client Info		Changed	Changed	Changed
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	6	16
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	1	3
Lead	ppm	ASTM D5185m	>40	3	2	3
Copper	ppm	ASTM D5185m	>330	1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method				history2
Boron	ppm	ASTM D5185m	0	<1	0	2
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	<1 3	0 12	2
		ASTM D5185m ASTM D5185m			12 61	
Barium Molybdenum Manganese	ppm	ASTM D5185m	0	3 58 <1	12	0
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	3 58 <1 907	12 61 0 998	0 65 <1 1064
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	3 58 <1 907 1009	12 61 0 998 1097	0 65 <1 1064 1186
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150	3 58 <1 907 1009 961	12 61 0 998 1097 1047	0 65 <1 1064 1186 1117
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 60 0 1010 1070 1150 1270	3 58 <1 907 1009 961 1136	12 61 0 998 1097 1047 1237	0 65 <1 1064 1186 1117 1375
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	0 60 0 1010 1070 1150	3 58 <1 907 1009 961	12 61 0 998 1097 1047	0 65 <1 1064 1186 1117
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 60 0 1010 1070 1150 1270	3 58 <1 907 1009 961 1136	12 61 0 998 1097 1047 1237	0 65 <1 1064 1186 1117 1375
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 60 0 1010 1070 1150 1270 2060	3 58 <1 907 1009 961 1136 2754 current	12 61 0 998 1097 1047 1237 3510	0 65 <1 1064 1186 1117 1375 3974 history2
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 60 0 1010 1070 1150 1270 2060	3 58 <1 907 1009 961 1136 2754	12 61 0 998 1097 1047 1237 3510 history1 2	0 65 <1 1064 1186 1117 1375 3974 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base	3 58 <1 907 1009 961 1136 2754 current	12 61 0 998 1097 1047 1237 3510 history1	0 65 <1 1064 1186 1117 1375 3974 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 60 0 1010 1070 1150 1270 2060 limit/base	3 58 <1 907 1009 961 1136 2754 current 3 5	12 61 0 998 1097 1047 1237 3510 history1 2	0 65 <1 1064 1186 1117 1375 3974 history2 4
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 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	3 58 <1 907 1009 961 1136 2754 current 3 5 <1	12 61 0 998 1097 1047 1237 3510 history1 2 4 12 history1	0 65 <1 1064 1186 1117 1375 3974 history2 4 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	3 58 <1 907 1009 961 1136 2754 current 3 5 <1	12 61 0 998 1097 1047 1237 3510 history1 2 4 12	0 65 <1 1064 1186 1117 1375 3974 history2 4 <1 0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	3 58 <1 907 1009 961 1136 2754 current 3 5 <1 current 0.2	12 61 0 998 1097 1047 1237 3510 history1 2 4 12 history1	0 65 <1 1064 1186 1117 1375 3974 history2 4 <1 0 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	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 D7844 *ASTM D7624 *ASTM D76185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	3 58 <1 907 1009 961 1136 2754 current 3 5 <1 current 0.2 5.7	12 61 0 998 1097 1047 1237 3510 history1 2 4 12 history1 0.2 5.7	0 65 <1 1064 1186 1117 1375 3974 history2 4 <1 0 history2 0.3 6.4
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 *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D76185m *ASTM D76185m ASTM D7844 *ASTM D7624 *ASTM D76185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30	3 58 <1 907 1009 961 1136 2754 current 3 5 <1 current 0.2 5.7 17.5	12 61 0 998 1097 1047 1237 3510 history1 2 4 12 history1 0.2 5.7 17.8	0 65 <1 1064 1186 1117 1375 3974 history2 4 <1 0 history2 0.3 6.4 17.4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30 limit/base	3 58 <1 907 1009 961 1136 2754 current 3 5 <1 current 0.2 5.7 17.5 current	12 61 0 998 1097 1047 1237 3510 history1 2 4 12 history1 0.2 5.7 17.8 history1	0 65 <1 1064 1186 1117 1375 3974 history2 4 <1 0 history2 0.3 6.4 17.4 history2



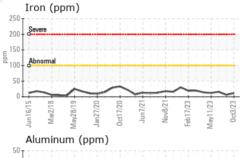
OIL ANALYSIS REPORT



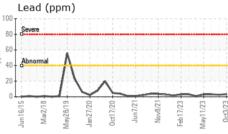
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

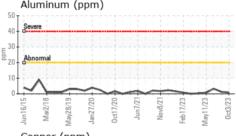
16 - Bas	ř				7	-	~	 	
Abi	mormal	1 1							
12		1							
8			^						
0				V					

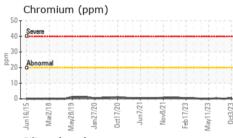
FLUID PROPERTIES method Visc @ 100°C cSt 14.5 14.3 ASTM D445 15.4 14.5

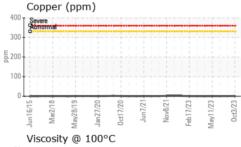


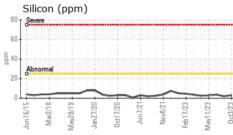
GRAPHS

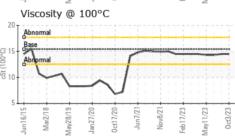


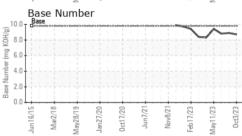














Laboratory Sample No. **Lab Number Unique Number**

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0084294 : 05980160 : 10697455

Received Diagnosed

: 16 Oct 2023 : 18 Oct 2023 Diagnostician : Don Baldridge

Test Package : MOB 1 (Additional Tests: TBN) 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)

Kemp Quarries - Pryor Stone - Pryor

1050 E 520 Rd Pryor, OK US 74361 Contact:

pryor@pryorstone.com

T: F: