

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **PROGRIND GRINDER** Component

Diesel Engine

PETRO CANADA DURON HP 15W40 (10 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.

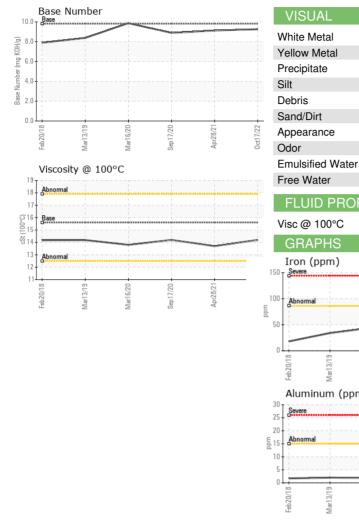
Fluid Condition

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

-		TOLETO	Ma2013 Ma2020	Sepzuzu Apizuzi		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0071914	PCA0041182	PCA0013455
Sample Date		Client Info		17 Oct 2022	28 Apr 2021	17 Sep 2020
Machine Age	hrs	Client Info		7972	7661	7515
Oil Age	hrs	Client Info		311	150	200
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	>86 >3	7	21 <1	31 1
Chromium Nickel	ppm	ASTM D5185m		<1 0	<1	<1
	ppm	ASTM D5185m	>3	u <1	<1	<1
Titanium Silver	ppm	ASTM D5185m ASTM D5185m	>2	<1	<1	
Aluminum	ppm		>2	-	2	0
Lead	ppm	ASTM D5185m ASTM D5185m	>15	<1 0	<1	2
	ppm			-	2	2
Copper	ppm		>250	<1		
Tin	ppm	ASTM D5185m	>2	0	<1	0
Antimony	ppm	ASTM D5185m			0	0
Vanadium	ppm	ASTM D5185m		0	0	0
O a share!		AOTH DEADE		•	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	0 history1	0 history2
	ppm ppm		limit/base			-
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 3	history1 14	history2 11
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 3 0	history1 14 0	history2 11 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 62	history1 14 0 60	history2 11 0 58
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 62 <1	history1 14 0 60 <1	history2 11 0 58 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 62 <1 904	history1 14 0 60 <1 879	history2 11 0 58 <1 987
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 62 <1 904 1086	history1 14 0 60 <1 879 993	history2 11 0 58 <1 987 1144
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 62 <1 904 1086 1020	history1 14 0 60 <1 879 993 964	history2 11 0 58 <1 987 1144 986
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current 3 0 62 <1 904 1086 1020 1203	history1 14 0 60 <1 879 993 964 1122	history2 11 0 58 <1 987 1144 986 1152
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 62 <1 904 1086 1020 1203 3664	history1 14 0 60 <1 879 993 964 1122 2542	history2 11 0 58 <1 987 1144 986 1152 2521
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 62 <1 904 1086 1020 1203 3664 current	history1 14 0 60 <1 879 993 964 1122 2542 history1	history2 11 0 58 <10 987 1144 986 1152 2521 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	limit/base >35	current 3 0 62 <1 904 1086 1020 1203 3664 current 3	history1 14 0 60 <1 879 993 964 1122 2542 history1 2	history2 11 0 58 <1 987 1144 986 1152 2521 history2 4
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	limit/base >35	current 3 0 62 <1 904 1086 1020 1203 3664 current 3 0	history1 14 0 60 <1 879 993 964 1122 2542 history1 2 6	history2 11 0 58 <1 987 1144 986 1152 2521 history2 4 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >35 >20	current 3 0 62 <1 904 1086 1020 1203 3664 current 3 0 0	history1 14 0 60 <1 879 993 964 1122 2542 history1 2 6 4	history2 11 0 58 <1 987 1144 986 1152 2521 history2 4 3 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	limit/base >35 >20 limit/base	current 3 0 62 <1 904 1086 1020 1203 3664 current 3 0 0 0 0 0 0 0	history1 14 0 60 <1 879 993 964 1122 2542 history1 2 6 4 history1	history2 11 0 58 <1 987 1144 986 1152 2521 history2 4 3 0 history2
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	limit/base >35 >20 limit/base >3	current 3 0 62 <1 904 1086 1020 1203 3664 current 3 0 0 0 0.4	history1 14 0 60 <1 879 993 964 1122 2542 history1 2 6 4 history1 0.6	history2 11 0 58 <1 987 1144 986 1152 2521 history2 4 3 0 history2 0 0.9
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 ppm	method ASTM D5185m ASTM D5185m	limit/base >35 >20 limit/base >3 >20 >3 >20	current 3 0 62 <1 904 1086 1020 1203 3664 current 3 0 0 0 0.4 6.1 19.6	history1 14 0 60 <1 879 993 964 1122 2542 history1 2 6 4 history1 0.6 7.9 19.5	history2 11 0 58 <1 987 1144 986 1152 2521 history2 4 3 0 history2 0.9 8.4 21.3
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 ppm	method ASTM D5185m ASTM D7185M ASTM D7624 *ASTM D7624 *ASTM D7415	limit/base >35 >20 limit/base >3 >20 >30 >30	current 3 0 62 <1 904 1086 1020 1203 3664 current 3 0 current 3 0 current 0.4 6.1 19.6 current	history1 14 0 60 <1 879 993 964 1122 2542 history1 2 6 4 history1 0.6 7.9 19.5 history1	history2 11 0 58 <1 987 1144 986 1152 2521 history2 4 3 0 history2 0.9 8.4 21.3 history2
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 ppm	method ASTM D5185m ASTM D5185m	limit/base >35 >20 limit/base >3 >20 >3 >20	current 3 0 62 <1 904 1086 1020 1203 3664 current 3 0 0 0 0.4 6.1 19.6	history1 14 0 60 <1 879 993 964 1122 2542 history1 2 6 4 history1 0.6 7.9 19.5	history2 11 0 58 <1 987 1144 986 1152 2521 history2 4 3 0 history2 0.9 8.4 21.3



OIL ANALYSIS REPORT



500

400

300 ppm

200

100 Π

20

18

12

10

cSt (100°C)

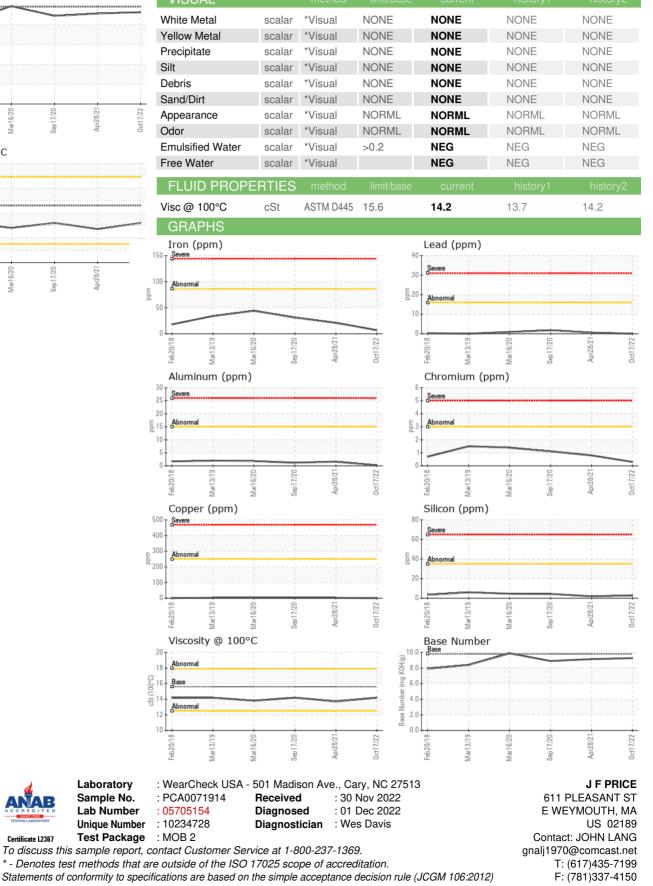
Laboratory

Sample No.

Lab Number

Unique Number

Test Package



Certificate L2367