

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

## 87 Component Diesel Engine Fluid PETRO CANADA DURON HP 15W40 (--- 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.

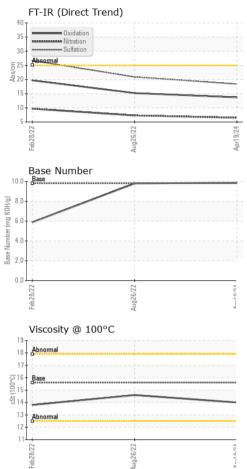
# Fluid Condition

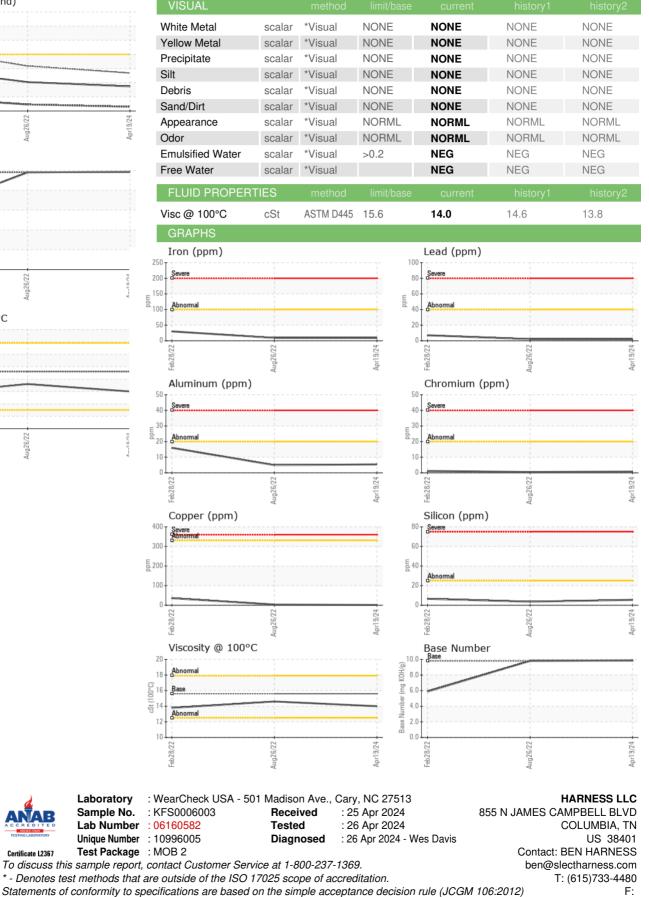
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		KFS0006003	KFS0001557	KFS0001166
Sample Date		Client Info		19 Apr 2024	26 Aug 2022	28 Feb 2022
Machine Age	hrs	Client Info		7742	6314	5868
Oil Age	hrs	Client Info		1428	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	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 METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	9	9	30
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	5	5	16
Lead	ppm	ASTM D5185m	>40	2	2	7
Copper	ppm	ASTM D5185m	>330	1	4	36
Tin	ppm	ASTM D5185m	>15	1	<1	1
Vanadium	ppm	ASTM D5185m		<1	0	<1
O a aluacio una		LOTH DEVOE				
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES	ppm	ASTM D5185m method	limit/base	<1 current	0 history1	0 history2
	ppm		limit/base		-	-
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 2	history1 22	history2 204
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 2 0	history1 22 0	history2 204 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 2 0 60	history1 22 0 64	history2 204 0 123
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 2 0 60 <1	history1 22 0 64 <1	history2 204 0 123 <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 2 0 60 <1 968	history1 22 0 64 <1 904	history2 204 0 123 <1 445
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           2           0           60           <1           968           1133	history1 22 0 64 <1 904 1082	history2 204 0 123 <1 445 1542
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	limit/base	Current 2 0 60 <1 968 1133 1156	history1 22 0 64 <1 904 1082 1009	history2 204 0 123 <1 445 1542 1016
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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           2           0           60           <1           968           1133           1156           1293	history1 22 0 64 <1 904 1082 1009 1206	history2 204 0 123 <1 445 1542 1016 1311
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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 2 0 60 <1 968 1133 1156 1293 3860	history1 22 0 64 <1 904 1082 1009 1206 2994	history2 204 0 123 <1 445 1542 1016 1311 2334
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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 ASTM D5185m	limit/base	current           2           0           60           <1           968           1133           1156           1293           3860           current	history1           22           0           64           <1           904           1082           1009           1206           2994           history1	history2 204 0 123 <1 445 1542 1016 1311 2334 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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 ASTM D5185m	limit/base >25	current           2           0           60           <1           968           1133           1156           1293           3860           current           6	history1           22           0           64           <1           904           1082           1009           1206           2994           history1           4	history2           204           0           123           <1           445           1542           1016           1311           2334           history2           7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25	current           2           0           60           <1           968           1133           1156           1293           3860           current           6           16	history1           22           0           64           <1           904           1082           1009           1206           2994           history1           4           2	history2         204         0         123         <1         445         1542         1016         1311         2334         history2         7         3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25 >20 limit/base	current           2           0           60           <1           968           1133           1156           1293           3860           current           6           16           17	history1           22           0           64           <1           904           1082           1009           1206           2994           history1           4           2           2	history2           204           0           123           <1           445           1542           1016           1311           2334           history2           7           3           2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25 >20 limit/base	current         2         0         60         <1         968         1133         1156         1293         3860         current         6         16         17         current	history1         22         0         64         <1         904         1082         1009         1206         2994         history1         4         2         2         history1	history2         204         0         123         <1         445         1542         1016         1311         2334         history2         7         3         2         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25 >20 limit/base >3	current         2         0         60         <1         968         1133         1156         1293         3860         current         6         16         17         current         0.5	history1           22           0           64           <1           904           1082           1009           1206           2994           history1           4           2           history1           0.6	history2         204         0         123         <1         445         1542         1016         1311         2334         history2         7         3         2         history2         131         131         1311         1334
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25 >20 limit/base >3 >20	current           2           0           60           <1           968           1133           1156           1293           3860           current           6           16           17           current           0.5           6.5	history1           22           0           64           <1           904           1082           1009           1206           2994           history1           4           2           history1           0.6           7.3	history2         204         0         123         <1         445         1542         1016         1311         2334         history2         7         3         2         history2         1.1         9.7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m           ASTM D5185m	Iimit/base >25 >20 Iimit/base >3 >20 >30	2         0         60         <1         968         1133         1156         1293         3860         current         6         16         17         current         0.5         6.5         18.4	history1         22         0         64         <1         904         1082         1009         1206         2994         history1         4         2         history1         0.6         7.3         20.9	history2         204         0         123         <1         445         1542         1016         1311         2334         history2         7         3         2         history2         1.1         9.7         26.7



# **OIL ANALYSIS REPORT**





Certificate 12367

Submitted By: BILL ENYART

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