

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id **314768** Component **Diesel Engine** Fluid

## PETRO CANADA DURON SHP 10W30 (--- QTS)

### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

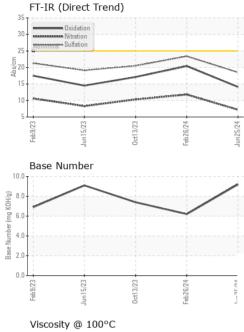
#### Fluid Condition

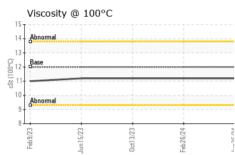
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0128954	PCA0118891	PCA0106276
Sample Date		Client Info		25 Jun 2024	26 Feb 2024	13 Oct 2023
Machine Age	mls	Client Info		0	66021	58049
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	Not Changd
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	26	40	22
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m	- 1	<1	<1	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	6	9	6
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	9	8
Tin	ppm	ASTM D5185m	>15	ء <1	2	2
Vanadium	ppm	ASTM D5185m	210	<1	<1	0
Cadmium						
Gauilliulli	nda	ASTM D5185m		0	0	0
	ppm	method	limit/base	0 current	-	
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 4	history1 5	history2 9
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 4 0	history1 5 0	history2 9 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 4 0 71	history1 5 0 61	history2 9 0 64
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 4 0 71 <1	history1 5 0 61 <1	history2 9 0 64 1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 4 0 71 <1 1051	history1 5 0 61 <1 810	history2 9 0 64 1 874
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current           4           0           71           <1           1051           1214	history1 5 0 61 <1 810 1126	history2 9 0 64 1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	Current 4 0 71 <1 1051 1214 1368	history1 5 0 61 <1 810 1126 808	history2 9 0 64 1 874 1100 1018
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current           4           0           71           <1           1051           1214	history1 5 0 61 <1 810 1126	history2 9 0 64 1 874 1100
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	2 0 50 950 1050 995 1180	current           4           0           71           <1           1051           1214           1368           1451	history1 5 0 61 <1 810 1126 808 1003	history2 9 0 64 1 874 1100 1018 1188
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 ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	Current 4 0 71 <1 1051 1214 1368 1451 3720	history1 5 0 61 <1 810 1126 808 1003 2926	history2 9 0 64 1 874 1100 1018 1188 2811
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	current           4           0           71           <1           1051           1214           1368           1451           3720           current	history1 5 0 61 <1 810 1126 808 1003 2926 history1	history2           9           0           64           1           874           1100           1018           1188           2811           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	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25	current           4           0           71           <1           1051           1214           1368           1451           3720           current           4	history1           5           0           61           <1           810           1126           808           1003           2926           history1           4	history2           9           0           64           1           874           1100           1018           1188           2811           history2           6
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	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25	current           4           0           71           <1           1051           1214           1368           1451           3720           current           4           2	history1         5         0         61         <1         810         1126         808         1003         2926         history1         4         5	history2         9         0         64         1         874         1100         1018         1188         2811         history2         6         1         <1         history2         history2
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	2 0 50 950 1050 995 1180 2600 <b>imit/base</b> >25 >20	current         4         0         71         <1         1051         1214         1368         1451         3720         current         4         2         4         2         4         2         4	history1         5         0         61         <1         810         1126         808         1003         2926         history1         4         5         4         5         4         1	history2           9           0           64           1           874           1100           1018           1188           2811           history2           6           1           <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	method           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >25 >20	current         4         0         71         <1         1051         1214         1368         1451         3720         current         4         2         4         2         4         2         4         2         4         current	history1         5         0         61         <1         810         1126         808         1003         2926         history1         4         5         4         5         4         5         4         5         4	history2         9         0         64         1         874         1100         1018         1188         2811         history2         6         1         <1         history2         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 <b>TS</b> ppm ppm	method           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	current         4         0         71         <1         1051         1214         1368         1451         3720         current         4         2         4         2         4         2.         4.         0.3	history1         5         0         61         <1         810         1126         808         1003         2926         history1         4         5         4         5         4         1	history2         9         0         64         1         874         1100         1018         1188         2811         history2         6         1         <1         history2         0         0.7
ADDITIVES Boron 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	method           ASTM D5185m           ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current         4         0         71         <1         1051         1214         1368         1451         3720         current         4         2         4         2         4         0.3         7.2	history1         5         0         61         <1         810         1126         808         1003         2926         history1         4         5         4         5         4         1         11.8	history2         9         0         64         1         874         1100         1018         1188         2811         history2         6         1            history2         0         0.7         10.3
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 D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 20 <b>imit/base</b> >3 >20 >30	current         4         0         71         <1         1051         1214         1368         1451         3720         current         4         2         4         2         4         2         4         2.1         1.3         1.3         2.1         4.1         2.2         4.1         2.2         4.1         1.3	history1         5         0         61         <1         810         1126         808         1003         2926         history1         4         5         4         history1         1         1.1.8         23.4	history2         9         0         64         1         874         1100         1018         1188         2811         history2         6         1            history2         0         0.7         10.3         20.5



# **OIL ANALYSIS REPORT**





	VISUAL		method	limit/base	current	history1	history
	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
AND ADDRESS AND ADDRESS	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
5/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Jun25/24	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual	20.L	NEG	NEG	NEG
/	FLUID PROPE	RTIES	method	limit/base	current	history1	history
	Visc @ 100°C	cSt	ASTM D445	12.00	11.2	11.2	11.2
	GRAPHS						
	Iron (ppm)				Lead (ppm)	)	
VC	250 200		1		BO		
10130	150				60 -		
-	Abnormal	1	1   	. E.	40 Abnormal		
	50				20 -		
	0				0		
		3/23	3/24 -	5/24		3/23 -	5/24 .
	Feb 9/23 Jun 15/23	0ct13/23	Feb26/24	Jun25/24	Feb9/23	0ct13/23	Feb26/24
	Aluminum (ppm)				Chromium		
	50 T				<sup>50</sup> T ;;		
	40 - Severe	1			40 - Severe	1	
	and a second sec			ud d	30 -		
10.36	<sup>남</sup> 20 - <mark>Abnormal</mark>			8.	20 - Abnormal		
-	10-				10-		
	Feb9/23 Jun 15/23	0ct13/23	Feb26/24	Jun25/24	Feb 9/23	0ct13/23	Feb26/24
		00	Feb	ղոր			Feb
	Copper (ppm)				Silicon (ppn	n)	
	400 Severe				80 - Severe		1
	300 -				60		
	톱 200 -			E.	40 -		
	100-				Abnormal		
							_
	3 3	23-	24-	24	2310	23	24 -
16-	Feb9/23 Jun15/23	0ct13/23	Feb26/24	Jun25/24	Feb 9/23	0ct13/23	Feb26/24
	Viscosity @ 100°		ш.	7	Base Numb		
			I	10 	.0	<u> </u>	
	Abnormal			* KoH	.0		
	Base 83			ة <u>الم</u>	.0-		
			1	- quint 4	.0-		
	<sup>10</sup> Abnormal		1	Base Number (mg KOH(g) 6 9 8	.0-		
		5	++:			1 12	+
	Feb 9/23 Jun 15/23	0ct13/23	Feb26/24	Jun25/24	Feb 9/23	0ct13/23	Feb26/24
	- <u>5</u>	ŏ	0	3	<u> </u>	ŏ	æ

HASBROUCK HEIGHTS, NJ US 07604 Contact: MIKE LONGETTE mlongette@millertransgroup.com T: F: (201)528-7053

Unique Number : 11113503 : 09 Jul 2024 - Wes Davis Diagnosed Test Package : MOB 1 (Additional Tests: TBN) Certificate 12367 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)

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