

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **5082** 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.

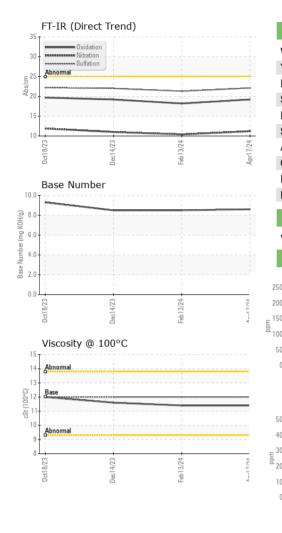
Fluid Condition

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

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0123915	PCA0118826	PCA0115243
Sample Date		Client Info		17 Apr 2024	13 Feb 2024	14 Dec 2023
Machine Age	mls	Client Info		107027	0	0
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	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
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	24	22	24
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	3	3	4
Lead	ppm	ASTM D5185m	>40	3	<1	<1
Copper	ppm	ASTM D5185m	>330	2	1	<1
Tin	ppm	ASTM D5185m	>15	2	1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		-	0	0
Cadiman	ppm	AGTIVI DOTODITI		<1	0	0
ADDITIVES	ppin	method	limit/base	current	history1	history2
	ppm		limit/base		-	-
ADDITIVES		method ASTM D5185m		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 2	history1 2	history2 6
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0 50	current 2 0	history1 2 0	history2 6 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 2 0 68	history1 2 0 63	history2 6 0 67
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 2 0 68 <1	history1 2 0 63 <1	history2 6 0 67 <1 1002 1186
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 2 0 68 <1 934	history1 2 0 63 <1 956 1099 1043	history2 6 0 67 <1 1002 1186 1160
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current 2 0 68 <1 934 1072	history1 2 0 63 <1 956 1099	history2 6 0 67 <1 1002 1186 1160 1381
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	2 0 50 0 950 1050 995	Current 2 0 68 <1 934 1072 989	history1 2 0 63 <1 956 1099 1043	history2 6 0 67 <1 1002 1186 1160
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 0 950 1050 995 1180	current 2 0 68 <1 934 1072 989 1252	history1 2 0 63 <1 956 1099 1043 1207	history2 6 0 67 <1 1002 1186 1160 1381
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 50 950 1050 995 1180 2600	Current 2 0 68 <1 934 1072 989 1252 3095	history1 2 0 63 <1 956 1099 1043 1207 2891	history2 6 0 67 <1 1002 1186 1160 1381 3133
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 2 0 68 <1 934 1072 989 1252 3095 current	history1 2 0 63 <1 956 1099 1043 1207 2891 history1	history2 6 0 67 <1 1002 1186 1160 1381 3133 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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	current 2 0 68 <1 934 1072 989 1252 3095 current 5	history1 2 0 63 <1 956 1099 1043 1207 2891 history1 0	history2 6 0 67 <1 1002 1186 1160 1381 3133 history2 5
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 50 950 1050 995 1180 2600 limit/base >25	current 2 0 68 <1 934 1072 989 1252 3095 current 5 0	history1 2 0 63 <1 956 1099 1043 1207 2891 history1 0 2	history2 6 0 67 <1 1002 1186 1160 1381 3133 history2 5 <1
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 0 950 1050 995 1180 2600 imit/base >25 >20	current 2 0 68 <1 934 1072 989 1252 3095 current 5 0 2	history1 2 0 63 <1 956 1099 1043 1207 2891 history1 0 2 0	history2 6 0 67 <1 1002 1186 1160 1381 3133 history2 5 <1 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 TS	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3	current 2 0 68 <1 934 1072 989 1252 3095 current 5 0 2 current	history1 2 0 63 <1 956 1099 1043 1207 2891 history1 0 2 0 2 0 2 0 1207 2891	history2 6 0 67 <1 1002 1186 1160 1381 3133 history2 5 <1 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 TS ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3	current 2 0 68 <1 934 1072 989 1252 3095 current 5 0 2 current 1.2	history1 2 0 63 <1 956 1099 1043 1207 2891 history1 0 2 0 2 0 1207 1207 2891	history2 6 0 67 <1 1002 1186 1160 1381 3133 history2 5 <1 0 history2 1
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 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current 2 0 68 <1 934 1072 989 1252 3095 current 5 0 2 current 1.2 11.2	history1 2 0 63 <1 956 1099 1043 1207 2891 history1 0 2 0 2 0 1 10 1 10.4	history2 6 0 67 <1 1002 1186 1160 1381 3133 history2 5 <1 0 history2 1 1.1 0.1
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 imit/base >25 imit/base >3 >20	current 2 0 68 <1 934 1072 989 1252 3095 current 5 0 2 current 1.2 11.2 21.2	history1 2 0 63 <1 956 1099 1043 1207 2891 history1 0 2 0 1207 2891 history1 1 1.0.4 21.3	history2 6 0 67 <1 1002 1186 1160 1381 3133 history2 5 <1 0 history2 1 11.0 22.0



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
FLUID PROPE	ERTIES	method	limit/base	current	history1	history
Visc @ 100°C	cSt	ASTM D445	12.00	11.4	11.4	11.6
GRAPHS						
Iron (ppm)			10	Lead (ppm)		
200 - Severe		1	10	Severe		
150			6			
Abnormal			ш Ц 4	Abnormal		
50 -			2			
0						
0ct18/23 Dec14/23		Feb13/24	Apr17/24	0ct18/23	Dec14/23	7/6
—		Feb	Apı			5
Aluminum (ppm)			, - 51	Chromium (opm)	
40 Severe			5	Severe		
a 20 - Abnormal			E 2	Abnormal		
10			1			
0			_			
0ct18/23		Feb13/24	Apr17/24	0ct18/23	Dec14/23	17/0
0ct1 Dec1		Feb 1	Apr1	0ct1	Decl	
Copper (ppm)				Silicon (ppm)	
400 Severe			8	Severe		
300			6			
<u> </u> 200 -			튭.4			
100-			2	Abnormal		
0						
		Feb13/24.	Apr17/24	0ct18/23	Dec14/23 -	177/6
8//		1	1	t.	10	
0ct18/23 Dec14/23		12	Ap	0	E De	-
Viscosity @ 100°	С	Tel.		Base Numbe		-
	С	100 100	10	Base Numbe		
Viscosity @ 100°	С	2	10	Base Numbe		
Viscosity @ 100°	C	<u>a</u>	10	Base Numbe		-
Viscosity @ 100°	C		10	Base Numbe		
Viscosity @ 100°	C		10.1 (0)HOX Bul) 10.1 10.1 10.1 10.1 10.1 10.1 10.1 10.	Base Numbe		
Viscosity @ 100°	с	Feb13/24 Feb	10	Base Numbe		

To discuss this sample report, con * - 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) F: (201)528-7053

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Certificate L2367

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