

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

111302 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.

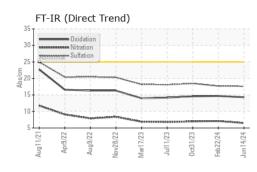
Fluid Condition

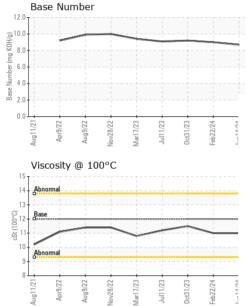
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

	MATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		PCA0128862	PCA0118901	PCA0110475	
Sample Date		Client Info		14 Jun 2024	22 Feb 2024	31 Oct 2023	
Machine Age	mls	Client Info		0	39571	40158	
Oil Age	mls	Client Info		0	0	0	
Oil Changed		Client Info		N/A	N/A	Changed	
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	8	12	11	
Chromium	ppm	ASTM D5185m	>20	0	<1	<1	
Nickel	ppm	ASTM D5185m	>4	0	0	<1	
Titanium	ppm	ASTM D5185m		0	0	<1	
Silver	ppm	ASTM D5185m	>3	0	0	<1	
Aluminum	ppm	ASTM D5185m	>20	2	2	2	
Lead	ppm	ASTM D5185m	>40	<1	<1	<1	
Copper	ppm	ASTM D5185m	>330	<1	2	3	
Tin	ppm	ASTM D5185m	>15	<1	<1	<1	
Vanadium	ppm	ASTM D5185m		0	0	<1	
Cadmium	ppm	ASTM D5185m		0	0	<1	
ADDITIVES		method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	2	5	6	31	
Boron Barium	ppm ppm		2 0	5 0	6 0	31 <1	
Barium	ppm	ASTM D5185m	0 50	0	0	<1	
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0 50	0 61	0 65	<1 62	
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0	0 61 <1	0 65 0	<1 62 <1	
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950	0 61 <1 968	0 65 0 891	<1 62 <1 855	
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050	0 61 <1 968 1093	0 65 0 891 1068	<1 62 <1 855 1173	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995	0 61 <1 968 1093 1151	0 65 0 891 1068 979	<1 62 <1 855 1173 1027	
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	0 50 0 950 1050 995 1180	0 61 <1 968 1093 1151 1303	0 65 0 891 1068 979 1164	<1 62 <1 855 1173 1027 1221	
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	0 50 0 950 1050 995 1180 2600	0 61 <1 968 1093 1151 1303 3770	0 65 0 891 1068 979 1164 2980	<1 62 <1 855 1173 1027 1221 3240	
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	0 50 0 950 1050 995 1180 2600	0 61 <1 968 1093 1151 1303 3770 current	0 65 0 891 1068 979 1164 2980 history1	<1 62 <1 855 1173 1027 1221 3240 history2	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >25	0 61 <1 968 1093 1151 1303 3770 current 4	0 65 0 891 1068 979 1164 2980 history1 5	<1 62 <1 855 1173 1027 1221 3240 history2 5	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >25	0 61 <1 968 1093 1151 1303 3770 current 4 2	0 65 0 891 1068 979 1164 2980 history1 5 0	<1 62 <1 855 1173 1027 1221 3240 history2 5 0	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >25 >20	0 61 <1 968 1093 1151 1303 3770 current 4 2 3	0 65 0 891 1068 979 1164 2980 history1 5 0 2 history1 0.3	<1 62 <1 855 1173 1027 1221 3240 history2 5 0 1 1 history2 0.3	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i> >3	0 61 <1 968 1093 1151 1303 3770 current 4 2 3 3 current	0 65 0 891 1068 979 1164 2980 history1 5 0 2 history1	<1 62 <1 855 1173 1027 1221 3240 history2 5 0 1 1 history2	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i> >3	0 61 <1 968 1093 1151 1303 3770 current 4 2 3 3 current 0.2	0 65 0 891 1068 979 1164 2980 history1 5 0 2 history1 0.3	<1 62 <1 855 1173 1027 1221 3240 history2 5 0 1 1 history2 0.3	
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	ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20	0 61 <1 968 1093 1151 1303 3770 current 4 2 3 3 current 0.2 6.5	0 65 0 891 1068 979 1164 2980 history1 5 0 2 history1 0.3 7.1	<1 62 <1 855 1173 1027 1221 3240 history2 5 0 1 1 history2 0.3 7.0	
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	ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	0 61 <1 968 1093 1151 1303 3770 current 4 2 3 Current 0.2 6.5 17.6	0 65 0 891 1068 979 1164 2980 history1 5 0 2 history1 0.3 7.1 17.7	<1 62 <1 855 1173 1027 1221 3240 history2 5 0 1 history2 0.3 7.0 18.5	



OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	histor	y1	h	istory	/2
White Metal	scalar *Visual NON		NONE	NONE	NONE		NONE		
Yellow Metal	scalar *Visual scalar *Visual scalar *Visual scalar *Visual scalar *Visual scalar *Visual		NONE	NONE	NONE		NONE NONE NONE		
Precipitate			NONE	NONE	NONE				
Silt			NONE NONE NONE NONE NONE NONE NORML NORM	NONE	NONE				
Debris				NONE	NONE NONE		NONE NONE		
Sand/Dirt				NONE					
Appearance				NORML	NORMI	NORML		NORML	
Odor	scalar	*Visual	NORML	NORML	IL NORML		NORML		
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG		NEG	
Free Water	scalar *Visual		NEG		NEG		NEG		
FLUID PROPER	RTIES	method	limit/base	current	histor	y1	h	istory	/2
Visc @ 100°C	cSt ASTM D445		12.00	11.0	11.0		11.	.5	
GRAPHS									
Iron (ppm)			100	Lead (ppm)					
Severe			80	Severe					
			60						
Abnormal			40	Abnormal					_
			20						
	_		o						
Aug11/21 Apr9/22 Aug9/22 Vov28/22	Mar17/23	0ct31/23 Feb22/24	Jun 14/24	Aug 11/21 Apr9/22 Aug 9/22	Nov28/22 - Mar17/23 -	Jul11/23	0ct31/23	Feb22/24	AC/A1
Auf Au Nov	Mar	Doct 0	ոսի	Auf	Nov	Jul	Oct	Feb	
Aluminum (ppm)				Chromium (ppm)				
Severe			50	Severe			1		
-			40			1			
Abnormal			===== ³⁰	Abnormal					
\	1				1 I I I		1		
			10		1				
Aug11/21 Apr9/22 - Aug9/22 -	7/23 -	1/23 -		Apr9/22 - Aug9/22 - Aug9/22 -	8/22 -	1/23	1/23 -	2/24 -	VCI
Aug11/21 Apr9/22 Aug9/22 Nov28/22	Mar17/23	Oct31/23 Feb22/24	Jun 14/24	Aug11/2' Apr9/22 Aug9/22	Nov28/22 Mar17/23	Jul11/23	0ct31/23	Feb22/24	AC/A1 and
Copper (ppm)				Silicon (ppm					
Severe Pubriorimat			80	Severe					
di la			60						
\mathbf{X}			톱 40	1					
\mathbf{X}				Abnormal		1			
			20						
22	/23 -	23	0	22 -	723	23-	23 -	24 +	24
Aug 11/21. Apr9/22 - Aug 9/22 - Nov28/22 -	Mar17/23	Oct31/23 Feb22/24	Jun 14/24	Aug 11/21 Apr9/22 Aug 9/22	Nov28/22 Mar17/23	Jul11/23	0ct31/23	Feb22/24	14/24
⊲ Z Viscosity @ 100°C	2		7	⊲ Base Numbe		-	0	LL.	-
The second we have a second se			12.0						
Abnormal			(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)						
Base	1		B 8.0						
								1	
Abnormal			₽ 4.0 % 2.0						
			0.0					+	
Aug11/21 Apr9/22 - Aug9/22 - Nov28/22 -	Mar17/23	0ct31/23 Feb22/24	Jun14/24	Aug 11/21 Apr9/22 Aug 9/22	Nov28/22 Mar17/23	Jul11/23	0ct31/23	Feb22/24	14/24
Auf Au Nov	Mai	Teb Oct	Jun	Au(Ai	Nov	Ju	0ct	Feb	-
/earCheck USA - 501 CA0128862 5216636 1089500	Recei Teste	ved : 21 d : 24	, NC 27513 Jun 2024 Jun 2024 Jun 2024 - W		AILLER TRU 3 HASBRO	9 INDI	JSTR HEIG	IAL A	4VE , N

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) F: (201)528-7053

Report Id: MILRUT [WUSCAR] 06216636 (Generated: 06/24/2024 08:33:58) Rev: 1

Certificate L2367

Laboratory

Sample No. Lab Number **Unique Number** Test Package

Contact/Location: MIKE LONGETTE - MILRUT

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