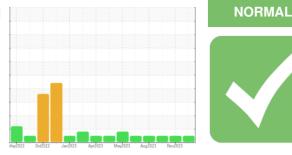


# **OIL ANALYSIS REPORT**

Sample Rating Trend



SJB621 Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- QTS)

## DIAGNOSIS

Machine Id

### 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.

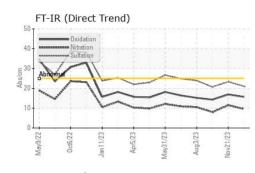
#### Fluid Condition

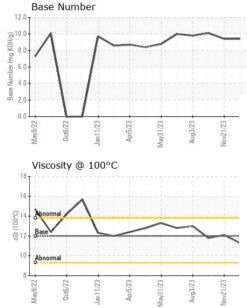
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0116916	PCA0105749	PCA0105840
Sample Date		Client Info		05 Apr 2024	21 Nov 2023	11 Sep 2023
Machine Age	mls	Client Info		192058	176098	166511
Oil Age	mls	Client Info		6983	9387	1905
Oil Changed		Client Info		Changed	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	23	25	9
Chromium	ppm	ASTM D5185m	>20	1	1	<1
Nickel	ppm	ASTM D5185m	>4	1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	2	2
Lead	ppm	ASTM D5185m	>40	3	0	0
Copper	ppm	ASTM D5185m	>330	2	0	<1
Tin	ppm	ASTM D5185m	>15	2	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
	1-1-				0	
ADDITIVES	1- 1-	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base		-	history2 5
				current	history1	
Boron	ppm	ASTM D5185m	2	current 4	history1 1	5
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0	current 4 <1	history1 1 4	5 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 4 <1 64	history1 1 4 66	5 0 57
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 4 <1 64 1	history1 1 4 66 0	5 0 57 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 4 <1 64 1 891	history1 1 4 66 0 870	5 0 57 0 833
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current           4           <1           64           1           891           1142	history1 1 4 66 0 870 1206	5 0 57 0 833 1151
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	current           4           <1           64           1           891           1142           1144	history1 1 4 66 0 870 1206 1073	5 0 57 0 833 1151 969
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	current           4           <1           64           1           891           1142           1144           1202	history1 1 4 66 0 870 1206 1073 1228	5 0 57 0 833 1151 969 1215
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	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 <1 64 1 891 1142 1144 1202 3333	history1 1 4 66 0 870 1206 1073 1228 3524	5 0 57 0 833 1151 969 1215 3363
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	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           <1           64           1           891           1142           1144           1202           3333           current	history1 1 4 66 0 870 1206 1073 1228 3524 history1	5 0 57 0 833 1151 969 1215 3363 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b>	current           4           <1           64           1           891           1142           1144           1202           3333           current           4	history1           1           4           66           0           870           1206           1073           1228           3524           history1           0	5 0 57 0 833 1151 969 1215 3363 history2 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m 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 <b>limit/base</b>	current           4           <1           64           1           891           1142           1144           1202           3333           current           4           2	history1           1           4           66           0           870           1206           1073           1228           3524           history1           0           0           0	5 0 57 0 833 1151 969 1215 3363 history2 3 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	current         4         <1         64         1         891         1142         1144         1202         3333         current         4         2         2	history1           1           4           66           0           870           1206           1073           1228           3524           history1           0           0           0           0           0           0	5 0 57 0 833 1151 969 1215 3363 history2 3 0 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3	current         4         <1         64         1         891         1142         1144         1202         3333         current         4         2         2         2         2         current	history1         1         4         66         0         870         1206         1073         1228         3524         history1         0         0         0         0         0         0         0         0         0         0         history1	5 0 57 0 833 1151 969 1215 3363 history2 3 0 1 1 history2
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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3	current         4         <1         64         1         891         1142         1144         1202         3333         current         4         2         2         current         1.5	history1         1         4         66         0         870         1206         1073         1228         3524         history1         0         0         0         0         0         0         2.5	5 0 57 0 833 1151 969 1215 3363 history2 3 0 1 1 history2 1.4
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	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         <1         64         1         891         1142         1144         1202         3333         current         4         2         current         1.5         9.6	history1         1         4         66         0         870         1206         1073         1228         3524         history1         0         0         0         0         0         0         1073         1228         3524	5 0 57 0 833 1151 969 1215 3363 history2 3 0 1 1 history2 1.4 8.0
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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 <b>imit/base</b> >3 >20	current         4         <1         64         1         891         1142         1144         1202         3333         current         4         2         2         current         1.5         9.6         21.0	history1         1         4         66         0         870         1206         1073         1228         3524         history1         0         0         0         0         0         11228         3524         history1         2.5         11.5         23.3	5 0 57 0 833 1151 969 1215 3363 <b>history2</b> 3 0 1 <b>history2</b> 1.4 8.0 20.7



# **OIL ANALYSIS REPORT**





	VISUAL		method	limit/base	current	histo	ry1	his	story2
	White Metal	scalar	*Visual	NONE	NONE	NONE		NON	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE		NON	
	Precipitate	scalar	*Visual	NONE	NONE	NONE		NON	
	Silt	scalar	*Visual	NONE	NONE	NONE		NON	
	Debris	scalar	*Visual	NONE	NONE	NONE		NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE		NON	
- 1/23	Appearance	scalar	*Visual	NORML	NORML	NORM		NOF	
Nov21/23	Odor	scalar	*Visual	NORML	NORML	NORM		NOF	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	_	NEG	
	Free Water	scalar	*Visual		NEG	NEG		NEG	
	FLUID PROPE	RTIES	method	limit/base	current	histo	ry1	his	story2
	Visc @ 100°C	cSt	ASTM D445	12.00	11.3	12.1		11.8	1
	GRAPHS								
	Iron (ppm)				Lead (ppm)	)			
23 -	200 Severe				Severe				
Nov21/23	150			C					
2	Aunormal			а а 4	Abnormal				
	50			2					
	0								
	May9/22 0ct6/22 Jan 11/23	Apr5/23 Mav31/23	Aug3/23	Nov21/23	May9/22 0ct6/22	lan 1 1/23 Apr5/23	May31/23	Aug3/23	Nov21/23
	Jan O	A	Au	Nov	M	Jan Aç	May	Au	Nov
-	Aluminum (ppm)			-	Chromium	(ppm)			
	50 Severe			5	C				
	40 - 0			4					
/23 -	a 20 Abnormal			یے ط	Abnormal				
Nov21/23	10			1					
_		$\sim$							
	May9/22 - 0ct6/22 - Jan11/23 -	Apr5/23 -	Aug3/23	Nov21/23	May9/22	Jan 1 1/23 - Apr5/23 -	May31/23 -	Aug3/23 -	Nov21/23 -
	May Oct	Ap Mav3	Aug	Novi		7	May3	Aug	Nov2
	Copper (ppm)		Silicon (ppn	ppm)					
	400 Severe			6			1		
	툡 200 -			ud 4	Abnormal				
	100-			2	0-	~			
				m					
	May9/22 0ct6/22 Jan 11/23	Apr5/23 Mav31/23	Aug3/23	Nov21/23	May9/22 0ct6/22	Jan 11/23 Apr5/23	May31/23	Aug3/23	Nov21/23
	≥	2	Ā	N	≥ ° Base Numb	7	Ma	А	No
	18			12. 	0	CI			
				(B/HO) Base Numerical Control (Control (Contro) (Contro) (Contro) (Contro) (Contro) (Contro)		1-	/		-
	g 12 - Base		-	E 6.	0				
			~	quinny 4.	0				
	10 - Abnormal			se 2.					
	0ct6/22	Apr5/23 -	3/23			an 11/23 + Apr5/23 +	/23 -	3/23 -	/23 -
	May9/22 0ct6/22 Jan11/23	Apr5/23 Mav31/23	Aug3/23	Nov21/23	May9/22 0ct6/22	Jan 11/23 Apr5/23	May31/23	Aug3/23	Nov21/23
ue Number	: WearCheck USA - 50 : PCA0116916 : 06146912 : 10976990 : MOB 1 ( Additional Te	Recei Teste Diagr	ved : 12 d : 15 losed : 15	, NC 27513 2 Apr 2024 5 Apr 2024 6 Apr 2024 - W		MILLER TR 63 REPAU LOC	PO ST GAN TO	ATION	I ROA HIP, I 080

Test Package : MO Certificate L2367 To discuss this sample report, cont \* - 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)

Report Id: MILLOG [WUSCAR] 06146912 (Generated: 04/15/2024 10:37:16) Rev: 1

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