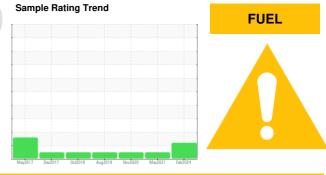


OIL ANALYSIS REPORT





Machine Id **CATERPILLAR 906M 30-50 (S/N 906M-H66-US)** Component **Diesel Engine** Fluid

PETRO CANADA DURON XL SYN BLEND 15W40 (3 GAL)

	、 ,	May2017	Dec2017 Oct2018	Aug2019 Nov2020 May2021	Feb2024	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0056818	PCA0035987	PCA002405
Sample Date		Client Info		06 Feb 2024	28 May 2021	03 Nov 2020
Machine Age	hrs	Client Info		3838	3282	2662
Oil Age	hrs	Client Info		199	620	440
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL
CONTAMINA	ΓΙΟΝ	method	limit/base	current	history1	history2
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	4	10	8
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	<1	3	<1
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m		0	<1	14
Tin	ppm		>15	0	<1	<1
Antimony	ppm	ASTM D5185m	210		0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	1	29	16	4
Barium	ppm	ASTM D5185m	1	0	0	0
Molybdenum	ppm	ASTM D5185m	60	53	62	55
Manganese	ppm	ASTM D5185m	1	0	<1	<1
Magnesium	ppm	ASTM D5185m	1010	815	855	835
Calcium	ppm	ASTM D5185m	1070	1124	1171	1050
Phosphorus	ppm	ASTM D5185m	1150	967	1029	974
Zinc	ppm	ASTM D5185m	1270	1178	1213	1147
Sulfur	ppm	ASTM D5185m	2060	3460	2713	2511
CONTAMINA	NTS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	4	2	3
Sodium	ppm	ASTM D5185m		<1	1	1
Potassium	ppm	ASTM D5185m	>20	0	2	0
Fuel	%	ASTM D3524	>5	6 5.6	<1.0	<1.0
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.1	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	6.9	7.7	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.9	19.2	19.5
FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.8	14.9	15.8
Base Number (BN)		ASTM D2896		8.0		
Dase Multiber (DN)	ing Noning	10110102030	0.0	0.0		

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil.

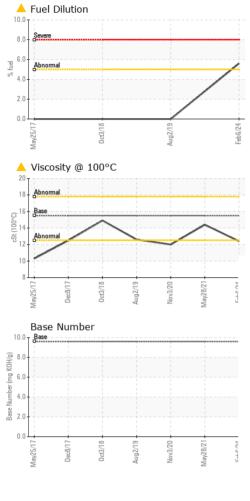
Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Contact/Location: GENE GARDNER - JOHLANPCA



OIL ANALYSIS REPORT



	VISUAL		method	limit/base	current	history	'1 hist	tory2
	White Metal	scalar	*Visual	NONE	NONE	NONE	NON	E
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NON	E
/	Precipitate	scalar	*Visual	NONE	NONE	NONE	NON	E
	Silt	scalar	*Visual	NONE	NONE	NONE	NON	E
	Debris	scalar	*Visual	NONE	NONE	NONE	NON	E
Sand/Dirt		scalar			NONE	NONE	NONE NONE	
6/24 -	Appearance	scalar	*Visual	NORML	NORML	NORML	NOR	ML
Feb	Odor	scalar	*Visual	NORML	NORML	NORML	NOR	ML
	Emulsified Water		*Visual	>0.2				
	Free Water	scalar	*Visual		NEG	NEG	NEG	
	FLUID PROPI	ERTIES	method	limit/base	current	history	1 hist	tory2
	Visc @ 100°C	cSt	ASTM D445	15.5	12.4	14.4	12.0	
	GRAPHS							
	Iron (ppm)			1	Lead (ppm)			
	Sellere				Severe			
V28/2	200	1	I I I I			I I I I	I I I I	
M ai	E Abnormal			E.	Ab			
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	40 Severe				0 Severe			
8/21-	Abnormal			đ,	Abnormal			
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	W	Aug	May	Fel	\geq		May	
	400-					l)		
					0			
	흡 ²⁰⁰			dd	Abnormal			
	100			2	.0 -			
					0			_
	y25/17 ec8/17 bc3/18	ug2/19	ov3/20 1y28/21	eb6/24	y25/17	0ct3/18 ug2/19	ov3/20 1/28/21	
	×		N M	LL.	2		N M	
	20 T							
			1 1	KOH/	.0			
	© 16 - Base	1		ш, б	.0			
	Abnormal			- ag 4	.0+			
	10			Se Z	.0 -			
	8			0				
	/25/17 sc8/17	g2/16	/28/2	b6/24	/25/1	ct3/18	v3/2(
	May D	Au	Man	e.	May	0 M	Man	
Unique Number Test Package	: PCA0056818 : 06120502 : 10929335	Recei Teste Diagr Tests: Fue	ived : 18 d : 20 nosed : 20 IDilution, Per	3 Mar 2024 0 Mar 2024 Mar 2024 - Do rcentFuel, TE	ISON DAVIS CONTRACTOR 604 HILBRATH D LANTANA, F US 3346 Contact: GENE GARDNE ggardner@johnsondavis.com			
	Sample No. Lab Number Unique Number Test Package	White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROP Visc @ 100°C GRAPHS Iron (ppm) 4000 5000 5000 5000 5000 5000 5000 500	White Metal scalar Yellow Metal scalar Precipitate scalar Debris scalar Sand/Dirt scalar Appearance scalar Odor scalar Emulsified Water scalar Free Water scalar Free Water scalar Free Water scalar Free Water scalar Free Water scalar Free Water scalar Odor c st GRAPHS Tron (ppm) Opport (ppm) Opport (ppm) Opport (ppm) Opport (ppm) Opport (ppm) Opport (ppm) Opport (ppm) Opport (ppm) Opport (ppm) WearCheck USA - 501 Madisc PCANOS6118 Rece 10929335 Diag MOB 1 (Additional Tests: Fuel	White Metal scalar *Visual Precipitate scalar *Visual Debris scalar *Visual Debris scalar *Visual Debris scalar *Visual Odor scalar *Visual Odor scalar *Visual Free Water scala	Vibre Metal scalar 'Visual NONE Yellow Metal scalar 'Visual NONE Sitt scalar 'Visual NONE Sitt scalar 'Visual NONE Sand/Dirt scalar 'Visual NONE Sand/Dirt scalar 'Visual NONE Sand/Dirt scalar 'Visual NONE Emulsified Water scalar 'Visual NORML Emulsified Water scalar 'Visual NORML If the Metal Scalar 'Visual NORML Emulsified Water s	White Metal scalar *Visual NONE NONE Precipitate scalar *Visual NONE NONE Precipitate scalar *Visual NONE NONE Sand/Dirt Scalar *Visual NONE NONE Sand/Dirt Scalar *Visual NONE NONE Appearance scalar *Visual NORML NORML Odor scalar *Visual NORML N	White Metal scalar Visual NONE NONE NONE NONE Precipitate scalar Visual NONE NONE NONE Precipitate scalar Visual NONE NONE NONE Sand/Dirt scalar Visual NONE NONE NONE Appearance scalar Visual NONE NONE Emulsified Water scalar Visual NORML NORML NORML Bernustried Water scalar Visual NORML NORML NORML NORML NORML NORML Visual NORML NORM	Laboratory Weiden Weiden Scalar Visual NONE NONE NONE NONE NONE NONE NONE NON

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