

OIL ANALYSIS REPORT

Sample Rating Trend





(50AK4A) 929087-260320

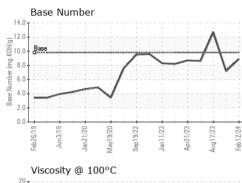
Component **Diesel Engine** Fluid

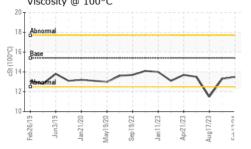
PETRO CANADA DU	RON 5HP 15W40 (-	GAL)	eb2019 Jun2	019 Jan2020 May2020	Sep2022 Jan2023 Apr2023 Aug	2023 Feb 2024	
DIAGNOSIS	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
ecommendation	Sample Number		Client Info		GFL0108080	GFL0090658	GFL0090643
esample at the next service interval to monitor.	Sample Date		Client Info		12 Feb 2024	05 Sep 2023	17 Aug 2023
ear	Machine Age	hrs	Client Info		25857	25700	25597
l component wear rates are normal.	Oil Age	hrs	Client Info		117	600	0
ontamination	Oil Changed		Client Info		Not Changd	Changed	Not Changd
nere is no indication of any contamination in the	Sample Status				NORMAL	NORMAL	SEVERE
	CONTAMINAT	ION	method	limit/base	current	history1	history2
luid Condition he BN result indicates that there is suitable	Fuel		WC Method	>3.0	<1.0	2.6	13.4
alinity remaining in the oil. The condition of the	Water		WC Method	>0.2	NEG	NEG	NEG
I is suitable for further service.	Glycol		WC Method		NEG	NEG	0.10
	WEAR METAL	.S	method	limit/base	current	history1	history2
	Iron	ppm	ASTM D5185m	>120	8	11	21
	Chromium	ppm	ASTM D5185m	>20	0	<1	1
	Nickel	ppm	ASTM D5185m	>5	1	<1	<1
	Titanium	ppm	ASTM D5185m	>2	<1	0	0
	Silver	ppm	ASTM D5185m	>2	0	0	0
	Aluminum	ppm	ASTM D5185m	>20	8	4	4
	Lead	ppm	ASTM D5185m	>40	0	1	<1
	Copper	ppm	ASTM D5185m	>330	<1	1	18
	Tin	ppm	ASTM D5185m	>15	<1	<1	<1
	Vanadium	ppm	ASTM D5185m		0	0	0
	Cadmium	ppm	ASTM D5185m		0	0	0
	ADDITIVES		method	limit/base	current	history1	history2
	Boron	ppm	ASTM D5185m	0	3	4	72
	Barium	ppm	ASTM D5185m	0	0	0	0
	Molybdenum	ppm	ASTM D5185m	60	54	59	100
	Manganese	ppm	ASTM D5185m	0	<1	1	<1
	Magnesium	ppm	ASTM D5185m	1010	841	931	847
	Calcium	ppm	ASTM D5185m	1070	986	1175	939
	Phosphorus	ppm	ASTM D5185m	1150	942	1018	960
	Zinc	ppm	ASTM D5185m	1270	984	1271	1160
	Sulfur	ppm	ASTM D5185m	2060	2757	3705	3568
	CONTAMINAN	ITS	method	limit/base	current	history1	history2
	Silicon	ppm	ASTM D5185m	>25	11	5	4 25
	Sodium	ppm	ASTM D5185m		4	4	1 503
	Potassium	ppm	ASTM D5185m	>20	0	2	8
	INFRA-RED		method	limit/base	current	history1	history2
	Soot %	%	*ASTM D7844	>4	0.3	0.8	0.3
	Nitration	Abs/cm	*ASTM D7624	>20	7.0	10.7	9.8
	Sulfation	Abs/.1mm	*ASTM D7415	>30	18.2	21.4	17.7
	FLUID DEGRA		method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	14.8	17.9	13.2
	Base Number (BN)	ma KOH/a	ASTM D2896	9.8	8.9	7.2	12.7



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VISUAL





Λ							
	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
/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Aug 17/23 Feb 12/24	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
4	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual	20.2	NEG	NEG	NEG
					NEG	NLG	
	FLUID PROPE		method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.4	13.5	13.3	▲ 11.5
\bigvee	GRAPHS Ferrous Alloys						
Ť	¹⁶⁰ T						
1/23	140 - iron chromium						
Aug 17/23	120 - nickel						
	100						
	튭 80-						
	60						
	40						
	20						
	Feb26/19 Jun3/19 Jan21/20 May19/20	Sep19/22	Apr21/23 Aug17/23	Feb 12/24			
	Jan Ju May	Sep	Apr	율			
	Non-ferrous Meta	als					
	¹⁸	ls					
	18 16 copper lead	ls					
	16 14 14 14	als					
	16 16 14 12	als					
	16 14 14 14	als					
	18 16 14 12 10	ıls					
	18 16 14 12 12 10 8 8 A	ıls					
	18 16 14 12 10 8 6 4 2						
	18 16 14 12 10 8 6 4 2 0	~					
	18 16 14 12 10 8 6 4 2 0	~					
	May19/200 May19/	Sep19/22	a second	Feb12/24			
	Viscosity @ 100°	Sep19/22		Feb 12/24	Base Numbe	r	
	18 16 14 12 10 8 6 4 2 0 6 1/2 10 6 1/2 10 6 1/2 10 0 0 0 1/2 10 0 0 0 0 0 1/2 10 0 0 0 0 0 0 0 0 0 0 0 0 0	Sep19/22				r	
	18 16 14 12 10 8 6 4 2 0 6 1/2 10 6 1/2 10 6 1/2 10 0 0 0 0 1/2 10 0 0 0 0 0 0 0 0 0 0 0 0 0	Sep19/22		47272193 14.0 12.0		r	Λ
	и	Sep19/22		47272193 14.0 12.0		r	
	и	Sep19/22		47272193 14.0 12.0		r	
	18 16 14 12 10 8 6 4 2 0 6 1/2 0 0 0 0 1/2 10 0 0 0 0 0 0 0 0 0 0 0 0 0	Sep19/22		47272193 14.0 12.0		r	
	и	Sep19/22		47272193 14.0 12.0		r	
	Viscosity @ 100°0	Sep19/22		14.0 12.0 (b)(10.0 Bu) apqumpet 8.0 8.0 9.0 9.0 9.0 9.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0 12		r	
	Viscosity @ 100°0	Sep19/22		14.0 12.0 (0)H000 But Jacobie But Jacobie Jacobie But Jacobie But Jacobie Jacobie Jacobie Jacobie Jacobie Jacobie Jacobie Jacobie Jacobie		r	
	Coopper in in in in in in in in in in	C Sept 19/22 Man 11/23	Api21/23	14.0 12.0 (B)HOX Bu Jaquin 6.0 2.0 0.0	Base	\checkmark	
	Coopper in in in in in in in in in in	C Sept 19/22 Man 11/23	Api21/23	14.0 12.0 (B)HOX Bu Jaquin 6.0 2.0 0.0	Base	\checkmark	ug 1723
	Coopper in in in in in in in in in in	Sep19/22	Ap(21/23	14.0 12.0 (0)H000 But Jacobie But Jacobie Jacobie But Jacobie But Jacobie Jacobie Jacobie Jacobie Jacobie Jacobie Jacobie Jacobie Jacobie	Base	May19/20 Asp19/22 Asp19/22 Asp19/22 Asp19/22 Asp19/23 Asp	Apr21/23 Aug17/23 Feb12/24
boratory	is WearCheck USA - 50	C C C C C C C C C C C C C C C C C C C	EZILIBINY EZILIBINY EZILIBINY A CONTRACT OF CONTRACT EZILIBINY	14.0 12.0 (0) HOX BU 8.0 2.0 2.0 4.0 2.0 0.0 4.0 2.0 0.0 7 7, NC 27513	Feb26/19	02/61/me 22/61/02/61/me 22/61/02/61/me 22/7/11/02/60/00/00/00/00/00/00/00/00/00/00/00/00/	Kansas City Hauling
mple No.	is WearCheck USA - 50 : GFL0108080	C ZZZGEL deg ZZZGEL deg ZZZZGEL deg ZZZGEL deg ZZZZGEL deg ZZZGEL deg ZZZGEL deg ZZZGEL deg ZZZGEL	EZILIBINY EZILIDINY EZILIDINY EZILIDINY EZILIDINY EZILIDINY EZILIDINY EZILIDINY EZILIDINY EZILIDINY EZILIDINY EZILIDINY	14.0 12.0 (PHOY BE 8.0 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 0	Feb26/19		Kansas City Haulin Ist Truman Road
mple No. b Number	¹⁸ ¹⁹ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹⁰	C ZZGELENS C ZZ	EZILIBINY EZILIBINY A Ave., Cary ved : 23 d : 26	14.0 12.0 (Anoy 12.0 (Anoy 10.0 but as a 4.0 2.0 0.0 7, NC 27513 3 Feb 2024 5 Feb 2024	Base 6 L/92 Opt 6 L/92 Opt GFL Env		Kansas City Hauling Ist Truman Road Kansas City, MC
mple No. b Number ique Number	¹⁸ ¹⁹ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹⁰	C ZZZGEL deg ZZZGEL deg ZZZZGEL deg ZZZGEL deg ZZZZGEL deg ZZZGEL deg ZZZGEL deg ZZZGEL deg ZZZGEL	EZILIBINY EZILIBINY A Ave., Cary ved : 23 d : 26	14.0 12.0 (PHOY BE 8.0 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 0	Base 6 L/92 Opt 6 L/92 Opt GFL Env		Kansas City Hauling Ist Truman Road Kansas City, MC US 64126
mple No. b Number ique Number st Package	¹⁸ ¹⁹ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹⁰	C 2006 1 deg C 2006 1 deg 2006 1 deg	EZILIDINY EZILIDINY AVE., Cary ved : 23 d : 26 osed : 26	14.0 12.0 (0)(10.0)(10.0) 12.0 (0)(10.0	Base 6 L/92 Opt 6 L/92 Opt GFL Env	vironmental - 836 - I 7801 Ea k	Kansas City Hauling Ist Truman Road Kansas City, MC

To discuss this sample * - 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)

Certificate L2367

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