

OIL ANALYSIS REPORT

Sample Rating Trend

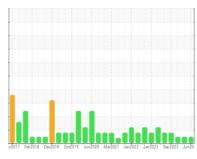
NORMAL

Area SPAM MFG

B58891 - DODGE GEAR REDUCER DAY MIXER 4

Gearbox

PETRO CANADA PURITY FG EP GEAR OIL 220 (27 QTS)





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

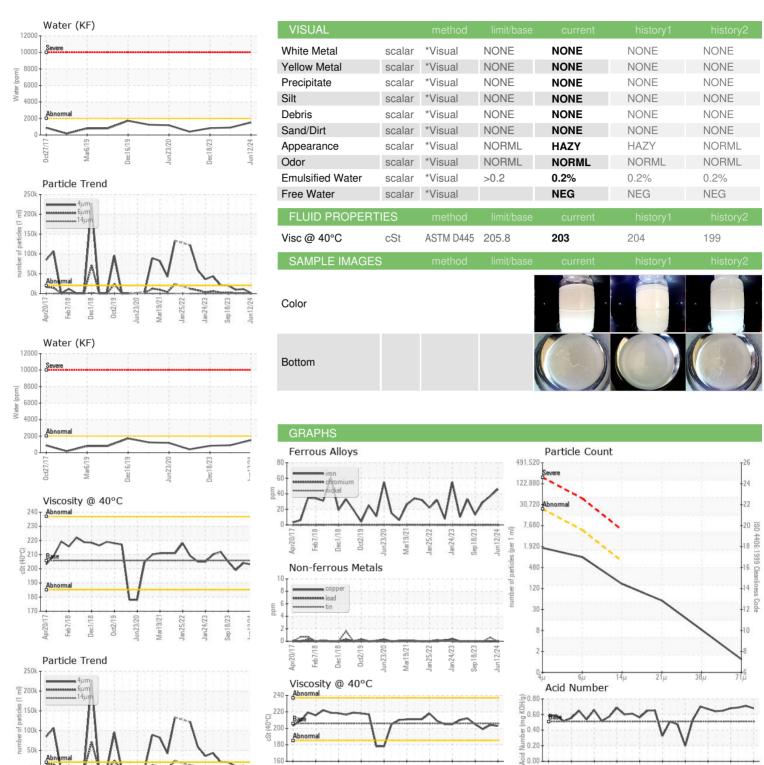
Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sample Number Client Info WC0943529 WC0894863 WC0872 Sample Date Client Info 12 Jun 2024 05 Mar 2024 18 Dec 2 Machine Age mths Client Info 0	. 220 (27 QTS)		3/2017 Feb 201	8 Dec2018 Oct2019 Jun20	Dec2018 Oct2019 Jun2020 Mac2021 Jan2022 Jan2023 Sep2023 Jun20			
Sample Date Client Info 12 Jun 2024 05 Mar 2024 18 Dec 24 Machine Age	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2	
Machine Age mths Client Info 0 0 0 0 0 0 0 0 0	Sample Number		Client Info		WC0943529	WC0894863	WC0872377	
Oil Changed	Sample Date		Client Info		12 Jun 2024	05 Mar 2024	18 Dec 2023	
Cilic Changed Sample Status	Machine Age	mths	Client Info		0	0	0	
NORMAL NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 his	Oil Age	mths	Client Info		0	0	0	
WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >200 46 37 29 Chromium ppm ASTM D5185m >15 0 0 0 Nickel ppm ASTM D5185m >15 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m >25 0 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 Lead ppm ASTM D5185m >20 0 0 0 Lead ppm ASTM D5185m >20 0 0 0 Vanadium ppm ASTM D5185m >20 0 1 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 <t< td=""><td></td><td></td><td>Client Info</td><td></td><td>N/A</td><td>N/A</td><td>N/A</td></t<>			Client Info		N/A	N/A	N/A	
Chromium	Sample Status				NORMAL	NORMAL	NORMAL	
Chromium ppm ASTM D5185m >15 0 0 0 Nickel ppm ASTM D5185m >15 0 0 0 Titanium ppm ASTM D5185m >10 0 0 <1 Siliver ppm ASTM D5185m >25 0 0 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 0 Lead ppm ASTM D5185m >200 0 0 0 0 0 Lead ppm ASTM D5185m >200 0 0 0 0 0 Copper ppm ASTM D5185m >20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	WEAR METALS		method	limit/base	current	history1	history2	
Nickel	ron	ppm	ASTM D5185m	>200	46	37	29	
Description	Chromium	ppm	ASTM D5185m	>15	0	0	0	
Silver	Nickel	ppm	ASTM D5185m	>15	0	0	0	
Astronomic As	Titanium	ppm	ASTM D5185m		0	0	<1	
December Part December	Silver	ppm	ASTM D5185m		0	0	0	
Description	Aluminum	ppm	ASTM D5185m	>25	0	0	0	
Tin	_ead	ppm	ASTM D5185m	>100	0	0	0	
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 3 6 4 Phosphorus ppm ASTM D5185m 3 6 4 Phosphorus ppm ASTM D5185m 459 457 435 Zinc ppm ASTM D5185m 8 1 7 Sulfur ppm ASTM D5185m 8 1 7 CONTAMINANTS method limit/base current	Copper	ppm	ASTM D5185m	>200	0	0	0	
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 3 6 4 Phosphorus ppm ASTM D5185m 3 6 4 Phosphorus ppm ASTM D5185m 8 1 7 Zinc ppm ASTM D5185m 8 1 7 Sulfur ppm ASTM D5185m 1419 1225 1169 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m 2 <1	Tin	ppm	ASTM D5185m	>25	0	<1	0	
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	0	
Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 3 6 4 Phosphorus ppm ASTM D5185m 459 457 435 Zinc ppm ASTM D5185m 8 1 7 Sulfur ppm ASTM D5185m 8 1 7 Sulfur ppm ASTM D5185m >50 1 1 1 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >50 1 1 1 Sodium ppm ASTM D5185m 20 0 0 0 Water % ASTM D5185m >20 0 0 </td <td>Cadmium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <td>0</td> <td>0</td> <td>0</td>	Cadmium	ppm	ASTM D5185m		0	0	0	
Description	ADDITIVES		method	limit/base	current	history1	history2	
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m <1 0 <1 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 3 6 4 Phosphorus ppm ASTM D5185m 459 457 435 Zinc ppm ASTM D5185m 8 1 7 Sulfur ppm ASTM D5185m 1419 1225 1169 CONTAMINANTS method limit/base current history1 history1 history1 history1 history1 history1 history1 history2 ASTM D5185m 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Boron	ppm	ASTM D5185m		0	0	0	
Manganese ppm ASTM D5185m <1 0 <1 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 3 6 4 Phosphorus ppm ASTM D5185m 459 457 435 Zinc ppm ASTM D5185m 8 1 7 Sulfur ppm ASTM D5185m 1419 1225 1169 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >50 1 1 1 Coldium ppm ASTM D5185m >20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Vater % ASTM D6185m >20 0 0 0 Vater % ASTM D6185m >20 0 0 0 Vater % ASTM D6304	Barium	ppm	ASTM D5185m		0	0	0	
Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 3 6 4 Phosphorus ppm ASTM D5185m 459 457 435 Zinc ppm ASTM D5185m 8 1 7 Sulfur ppm ASTM D5185m 1419 1225 1169 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >50 1 1 1 Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D5185m >20 0 0 0 Particles > 4µm ASTM D6304	Molybdenum	ppm	ASTM D5185m		0	0	0	
Calcium ppm ASTM D5185m 3 6 4 Phosphorus ppm ASTM D5185m 459 457 435 Zinc ppm ASTM D5185m 8 1 7 Sulfur ppm ASTM D5185m 1419 1225 1169 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >50 1 1 1 Sodium ppm ASTM D5185m >20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D5185m >20 0 0 0 Water % ASTM D5185m >20 0 0 0 Water % ASTM D5185m >20 0 0 0 Particles >4µm ASTM D6304 >0.2 0.151 0.090 0.083 Particles >4µm AST	Manganese	ppm	ASTM D5185m		<1	0	<1	
Phosphorus ppm ASTM D5185m 459 457 435 Zinc ppm ASTM D5185m 8 1 7 Sulfur ppm ASTM D5185m 1419 1225 1169 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >50 1 1 1 Sodium ppm ASTM D5185m >20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D6304 >0.2 0.151 0.090 0.083 opm Water ppm ASTM D6304 >2000 1510 900 830 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 >5000 839 1132 1004 Particles >21μm ASTM D7647 >640 143 10 15	Magnesium		ASTM D5185m				0	
Sulfur ppm ASTM D5185m 8 1 7	Calcium	ppm	ASTM D5185m		3	6	4	
Sulfur ppm ASTM D5185m 1419 1225 1169 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >50 1 1 1 Sodium ppm ASTM D5185m 2 <1	Phosphorus	ppm	ASTM D5185m		459	457	435	
CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >50 1 1 1 Sodium ppm ASTM D5185m 2 <1	Zinc	ppm	ASTM D5185m		8	1	7	
Silicon ppm ASTM D5185m >50 1 1 1 1	Sulfur	ppm	ASTM D5185m		1419	1225	1169	
Sodium ppm ASTM D5185m 2 <1 <1 <1 <1 <1 <1 <1	CONTAMINANTS		method	limit/base	current	history1	history2	
Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D6304 >0.2 0.151 0.090 0.083 ppm Water ppm ASTM D6304 >2000 1510 900 830 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 >20000 1540 11419 9409 Particles >6μm ASTM D7647 >5000 839 1132 1004 Particles >14μm ASTM D7647 >640 143 10 15 Particles >21μm ASTM D7647 >160 48 2 5 Particles >38μm ASTM D7647 >40 7 0 1 Particles >71μm ASTM D7647 >10 1 0 1 Dil Cleanliness ISO 4406 (c) >21/19/16 18/17/14 21/17/10 20/17 FLUID DEGRADATION method limit/base current history1	Silicon	ppm	ASTM D5185m	>50	1	1	1	
Water % ASTM D6304 >0.2 0.151 0.090 0.083 opm Water ppm ASTM D6304 >2000 1510 900 830 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 >20000 1540 11419 9409 Particles >6μm ASTM D7647 >5000 839 1132 1004 Particles >14μm ASTM D7647 >640 143 10 15 Particles >21μm ASTM D7647 >160 48 2 5 Particles >38μm ASTM D7647 >40 7 0 1 Particles >71μm ASTM D7647 >10 1 0 1 Oil Cleanliness ISO 4406 (c) >21/19/16 18/17/14 21/17/10 20/17 FLUID DEGRADATION method limit/base current history1 history1	Sodium	ppm	ASTM D5185m		2	<1	<1	
Opm Water ppm ASTM D6304 >2000 1510 900 830 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 >20000 1540 11419 9409 Particles >6μm ASTM D7647 >5000 839 1132 1004 Particles >14μm ASTM D7647 >640 143 10 15 Particles >21μm ASTM D7647 >160 48 2 5 Particles >38μm ASTM D7647 >40 7 0 1 Particles >71μm ASTM D7647 >10 1 0 1 Particles >71μm ASTM D7647 >10 1 0 1 Poil Cleanliness ISO 4406 (c) >21/19/16 18/17/14 21/17/10 20/17	Potassium	ppm	ASTM D5185m	>20	0	0	0	
FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 >20000 1540 11419 9409 Particles >6μm ASTM D7647 >5000 839 1132 1004 Particles >14μm ASTM D7647 >640 143 10 15 Particles >21μm ASTM D7647 >160 48 2 5 Particles >38μm ASTM D7647 >40 7 0 1 Particles >71μm ASTM D7647 >10 1 0 1 Dil Cleanliness ISO 4406 (c) >21/19/16 18/17/14 21/17/10 20/17 FLUID DEGRADATION method limit/base current history1 history1	Nater	%	ASTM D6304	>0.2	0.151	0.090	0.083	
Particles >4μm ASTM D7647 >20000 1540 11419 9409 Particles >6μm ASTM D7647 >5000 839 1132 1004 Particles >14μm ASTM D7647 >640 143 10 15 Particles >21μm ASTM D7647 >160 48 2 5 Particles >38μm ASTM D7647 >40 7 0 1 Particles >71μm ASTM D7647 >10 1 0 1 Oil Cleanliness ISO 4406 (c) >21/19/16 18/17/14 21/17/10 20/17 FLUID DEGRADATION method limit/base current history1 history1	opm Water	ppm	ASTM D6304	>2000	1510	900	830	
Particles >6μm ASTM D7647 >5000 839 1132 1004 Particles >14μm ASTM D7647 >640 143 10 15 Particles >21μm ASTM D7647 >160 48 2 5 Particles >38μm ASTM D7647 >40 7 0 1 Particles >71μm ASTM D7647 >10 1 0 1 Oil Cleanliness ISO 4406 (c) >21/19/16 18/17/14 21/17/10 20/17 FLUID DEGRADATION method limit/base current history1 history1	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2	
Particles >14μm ASTM D7647 >640 143 10 15 Particles >21μm ASTM D7647 >160 48 2 5 Particles >38μm ASTM D7647 >40 7 0 1 Particles >71μm ASTM D7647 >10 1 0 1 Dil Cleanliness ISO 4406 (c) >21/19/16 18/17/14 21/17/10 20/17/15 FLUID DEGRADATION method limit/base current history1 history1	Particles >4µm		ASTM D7647	>20000	1540	11419	9409	
Particles >21μm ASTM D7647 >160 48 2 5 Particles >38μm ASTM D7647 >40 7 0 1 Particles >71μm ASTM D7647 >10 1 0 1 Oil Cleanliness ISO 4406 (c) >21/19/16 18/17/14 21/17/10 20/17 FLUID DEGRADATION method limit/base current history1 history1	Particles >6µm		ASTM D7647	>5000	839	1132	1004	
Particles >38μm ASTM D7647 >40 7 0 1 Particles >71μm ASTM D7647 >10 1 0 1 Oil Cleanliness ISO 4406 (c) >21/19/16 18/17/14 21/17/10 20/17 FLUID DEGRADATION method limit/base current history1 history1	Particles >14μm		ASTM D7647	>640	143	10	15	
Particles >71µm ASTM D7647 >10 1 0 1 Oil Cleanliness ISO 4406 (c) >21/19/16 18/17/14 21/17/10 20/17 FLUID DEGRADATION method limit/base current history1 history1	Particles >21µm		ASTM D7647	>160	48	2	5	
Oil Cleanliness ISO 4406 (c) >21/19/16 18/17/14 21/17/10 20/17/17/19 FLUID DEGRADATION method limit/base current history1 history1	Particles >38µm		ASTM D7647	>40	7	0	1	
FLUID DEGRADATION method limit/base current history1 history1	Particles >71µm		ASTM D7647	>10	1	0	1	
	Oil Cleanliness		ISO 4406 (c)	>21/19/16	18/17/14	21/17/10	20/17/11	
Acid Number (AN) mg KOH/g ASTM D8045 0.51 0.68 0.71 0.69	FLUID DEGRADA	TION	method	limit/base	current	history1	history2	
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.51	0.68	0.71	0.69	



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No. Lab Number

: WC0943529 : 06208694 Unique Number : 11076155

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 13 Jun 2024 **Tested** : 20 Jun 2024

Diagnosed : 20 Jun 2024 - Jonathan Hester Test Package : IND 2 (Additional Tests: KF, PrtCount)

To discuss this sample report, contact Customer Service at 1-800-237-1369.

 st - 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)

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