

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 923024-205221

Component **Natural Gas Engine** Fluid

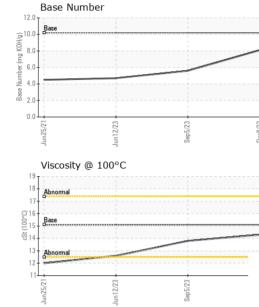
PETRO CANADA DURON GEO LD 15W40 (10 LTR)

DIAGNOSIS	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Recommendation	Sample Number		Client Info		GFL0081042	GFL0081046	GFL0081067
Resample at the next service interval to monitor.	Sample Date		Client Info		08 Dec 2023	05 Sep 2023	12 Jun 2023
Wear	Machine Age	hrs	Client Info		101853	7555	101853
All component wear rates are normal.	Oil Age	hrs	Client Info		20	600	600
Contamination	Oil Changed		Client Info		Not Changd	Changed	Changed
There is no indication of any contamination in the	Sample Status				NORMAL	NORMAL	ABNORMAL
oil.	CONTAMINAT	ION	method	limit/base	current	history1	history2
Fluid Condition The BN result indicates that there is suitable	Water		WC Method	>0.1	NEG	NEG	NEG
alkalinity remaining in the oil. The condition of the oil is suitable for further service.	WEAR METAL	.S	method	limit/base	current	history1	history2
on is suitable for further service.	Iron	ppm	ASTM D5185m	>50	4	10	13
	Chromium	ppm	ASTM D5185m	>5	0	<1	<1
	Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
	Titanium	ppm	ASTM D5185m	>5	<1	<1	<1
	Silver	ppm	ASTM D5185m	>3	0	0	0
	Aluminum	ppm	ASTM D5185m	>25	2	5	3
	Lead	ppm	ASTM D5185m	>40	<1	2	7
	Copper	ppm	ASTM D5185m	>150	0	<1	1
	Tin	ppm	ASTM D5185m	>4	<1	<1	<1
	Antimony	ppm	ASTM D5185m				
	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	50	24	14	14
	Barium	ppm	ASTM D5185m	5	0	0	0
	Molybdenum	ppm	ASTM D5185m	50	48	50	48
	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
	Magnesium	ppm	ASTM D5185m	560	552	530	467
	Calcium	ppm	ASTM D5185m	1510	1477	1636	1428
	Discourse						1120
	Phosphorus	ppm	ASTM D5185m	780	829	739	620
	Zinc	ppm ppm	ASTM D5185m ASTM D5185m		829 962	739 974	
				870			620
	Zinc	ppm ppm	ASTM D5185m	870	962	974	620 826
	Zinc Sulfur	ppm ppm	ASTM D5185m ASTM D5185m	870 2040 limit/base	962 2458	974 2923	620 826 2156
	Zinc Sulfur CONTAMINAN	ppm ppm ITS	ASTM D5185m ASTM D5185m method	870 2040 limit/base	962 2458 current	974 2923 history1	620 826 2156 history2
	Zinc Sulfur CONTAMINAN Silicon	ppm ppm JTS ppm	ASTM D5185m ASTM D5185m method ASTM D5185m	870 2040 limit/base >25	962 2458 current 4	974 2923 history1 4	620 826 2156 history2 4
	Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ITS ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	870 2040 limit/base >25	962 2458 current 4 22 8	974 2923 history1 4 12	620 826 2156 history2 4 4
	Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ITS ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	870 2040 limit/base >25 >20	962 2458 current 4 22 8	974 2923 history1 4 12 <1	620 826 2156 history2 4 4 2
	Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ITS ppm ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m method	870 2040 limit/base >25 >20 limit/base	962 2458 current 4 22 8 current	974 2923 history1 4 12 <1 history1	620 826 2156 history2 4 4 2 2 history2
	Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ITS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844	870 2040 limit/base >25 >20 limit/base >20	962 2458 current 4 22 8 current 0.1	974 2923 history1 4 12 <1 kistory1 0.2	620 826 2156 history2 4 4 2 2 history2 0.2
	Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm JTS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624	870 2040 limit/base >25 >20 limit/base >20	962 2458 current 4 22 8 current 0.1 7.5 19.7	974 2923 history1 4 12 <1 istory1 0.2 9.8	620 826 2156 history2 4 4 2 history2 0.2 10.2
	Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm JTS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415	870 2040 limit/base >25 >20 limit/base >20 >30	962 2458 current 4 22 8 current 0.1 7.5 19.7 current	974 2923 history1 4 12 <1 history1 0.2 9.8 20.9 history1	620 826 2156 history2 4 4 2 history2 0.2 10.2 23.0 history2
	Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRA	ppm ppm JTS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415 method *ASTM D7414	870 2040 limit/base >25 >20 limit/base >20 >30 limit/base >25	962 2458 current 4 22 8 current 0.1 7.5 19.7	974 2923 history1 4 12 <1 history1 0.2 9.8 20.9	620 826 2156 history2 4 4 2 history2 0.2 10.2 23.0



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VISUAL



	Laboratory Sample No. Lab Number Unique Number Test Package	: WearCheck USA - : GFL0081042 : 06034083 : 10789312	501 Madis Received Diagnose Diagnost	son Ave., Ca I : 13 ed : 14	n Ave., Cary, NC 27513 GFL En : 13 Dec 2023 : 14 Dec 2023			wironmental - 884 - Lake County - Tavare 321 Southridge Industrial Way Tavares, Fl US 32774 Contact: RON FERAGOTT		
		17 316 15 15 14 13 Abnormal 12 11		Sep5/23	(D)HO) Base Mumber Base 2 2		2/3	Sep5/23	Dec 8/23	
		2 0 12/52 10 10 10 10 10 10 10 10 10 10	с	Sep 5/23	CEC69990	Base	per			
		Non-ferrous Meta	als	23	0					
		20 udd 10 5 0 125 10 5 0 127 5 10 127 5 10 127 5 10 127 5 10 127 5 10 127 5 10 127 5 10 127 127 10 10 127 127 10 10 10 10 10 10 10 10 10 10 10 10 10		Sep5/23	Dec8/23					
orecos Suecos		Visc @ 100°C GRAPHS Ferrous Alloys	cSt	ASTM D445	15.1	14.3	13.8	12.	6	
		FLUID PROPE	ERTIES	method	limit/base	current	histor	y1 h	istory2	
CmrE/J3	Jep3123	Appearance Odor Emulsified Water Free Water	scalar scalar scalar scalar	*Visual *Visual *Visual *Visual	NORML NORML >0.1	NORML NORML NEG NEG	NORMI NORMI NEG NEG			
	Silt Debris Sand/Dirt	scalar scalar scalar	*Visual *Visual *Visual	NONE NONE	NONE NONE NONE	NONE NONE NONE	NC	NE NE		
	Yellow Metal Precipitate	scalar scalar	*Visual *Visual	NONE NONE	NONE NONE	NONE NONE		NE NE		

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Submitted By: Daniel Wheeler Page 2 of 2