

OIL ANALYSIS REPORT

Sample Rating Trend

GLYCOL

Machine Id

929086-205277

PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels remain high.

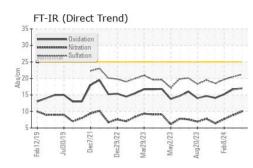
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

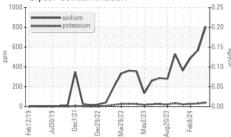
SAMPLE INFORM	/ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0115377	GFL0115352	GFL0110878
Sample Date		Client Info		04 Apr 2024	29 Feb 2024	08 Feb 2024
Machine Age	hrs	Client Info		53681	53534	53378
Oil Age	hrs	Client Info		147	156	160
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	71	69	58
Chromium	ppm	ASTM D5185m	>20	1	1	1
Nickel	ppm	ASTM D5185m	>4	2	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	2	1
Lead	ppm	ASTM D5185m	>40	4	3	1
Copper	ppm	ASTM D5185m	>330	2	3	2
Tin	ppm	ASTM D5185m	>15	<1	0	<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	16	11	11
Barium	ppm	ASTM D5185m	0	0	0	<1
Molybdenum	ppm	ASTM D5185m	60	89	82	74
					01	
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
-	ppm ppm	ASTM D5185m ASTM D5185m	0 1010	<1 972		<1 940
Magnesium					<1	
Manganese Magnesium Calcium Phosphorus	ppm	ASTM D5185m	1010	972	<1 1122	940
Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m	1010 1070	972 1104	<1 1122 1214	940 1007
Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150	972 1104 1051	<1 1122 1214 1171	940 1007 1035
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270	972 1104 1051 1298	<1 1122 1214 1171 1391	940 1007 1035 1204
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base	972 1104 1051 1298 3654	<1 1122 1214 1171 1391 3585	940 1007 1035 1204 3101
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1010 1070 1150 1270 2060 limit/base	972 1104 1051 1298 3654 current	<1 1122 1214 1171 1391 3585 history1	940 1007 1035 1204 3101 history2
Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base	972 1104 1051 1298 3654 current 15	<1 1122 1214 1171 1391 3585 history1 11	940 1007 1035 1204 3101 history2 9
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium	ppm ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >25	972 1104 1051 1298 3654 <u>current</u> 15 ▲ 806	<1 1122 1214 1171 1391 3585 history1 11 ▲ 570	940 1007 1035 1204 3101 history2 9 ▲ 489
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >25	972 1104 1051 1298 3654 <u>current</u> 15 ▲ 806 39	<1 1122 1214 1171 1391 3585 history1 11 570 30	940 1007 1035 1204 3101 history2 9 ▲ 489 27
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982	1010 1070 1150 1270 2060 limit/base >25 >20	972 1104 1051 1298 3654 <u>current</u> 15 ▲ 806 39 NEG	<1 1122 1214 1171 1391 3585 history1 11 ▲ 570 30 NEG	940 1007 1035 1204 3101 history2 9 ▲ 489 27 NEG
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm ppm ppm ppm ppm TS ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982	1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	972 1104 1051 1298 3654 current 15 ▲ 806 39 NEG current	<1 1122 1214 1171 1391 3585 history1 11 570 30 NEG history1	940 1007 1035 1204 3101 history2 9 ▲ 489 27 NEG history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium Glycol	ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 *ASTM D2982	1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	972 1104 1051 1298 3654 current 15 ▲ 806 39 NEG current 0.3	<1 1122 1214 1171 1391 3585 history1 11 570 30 NEG history1 0.2	940 1007 1035 1204 3101 history2 9 ▲ 489 27 NEG history2 0.2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm % %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 *ASTM D2982 *ASTM D7844 *ASTM D7844	1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	972 1104 1051 1298 3654 current 15 ▲ 806 39 NEG current 0.3 10.0	<1 1122 1214 1171 1391 3585 history1 11	940 1007 1035 1204 3101 history2 9 ▲ 489 27 NEG history2 0.2 7.7
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm % %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 *ASTM D2982 *ASTM D7844 *ASTM D7844	1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >3 >20 >30	972 1104 1051 1298 3654 current 15 ▲ 806 39 NEG current 0.3 10.0 21.2	<1 1122 1214 1171 1391 3585 history1 11 570 30 NEG history1 0.2 8.9 20.5	940 1007 1035 1204 3101 history2 9 ▲ 489 27 NEG 0.2 0.2 0.2 7.7 19.7

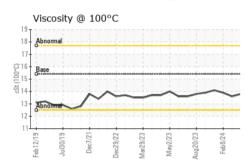


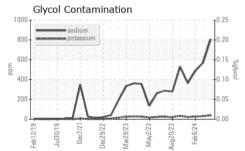
OIL ANALYSIS REPORT







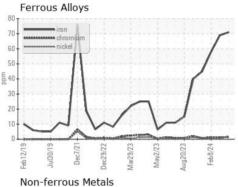


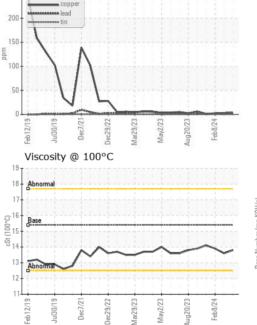


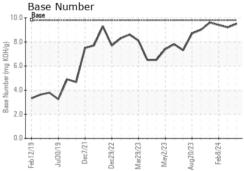
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	DTIEC	method	limit/base	current	history1	history2
FLUID FROFE	n IIES	method	IIIIII/Dase	current	Thistory I	TIIStOF y2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.6	13.9
Срурнс						

GRAPHS

250







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 814 - Little Rock Hauling Sample No. : GFL0115377 Received : 10 Apr 2024 4005 Hwy 161 N. Lab Number : 06145162 Tested LIttle Rock, AR : 15 Apr 2024 Unique Number : 10969970 Diagnosed : 15 Apr 2024 - Jonathan Hester US 72117 Contact: Brad Koenig Test Package : FLEET (Additional Tests: Glycol) Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. bkoenig@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

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Report Id: GFL814 [WUSCAR] 06145162 (Generated: 04/15/2024 20:28:01) Rev: 1

Submitted By: Nicole Walls Page 2 of 2