

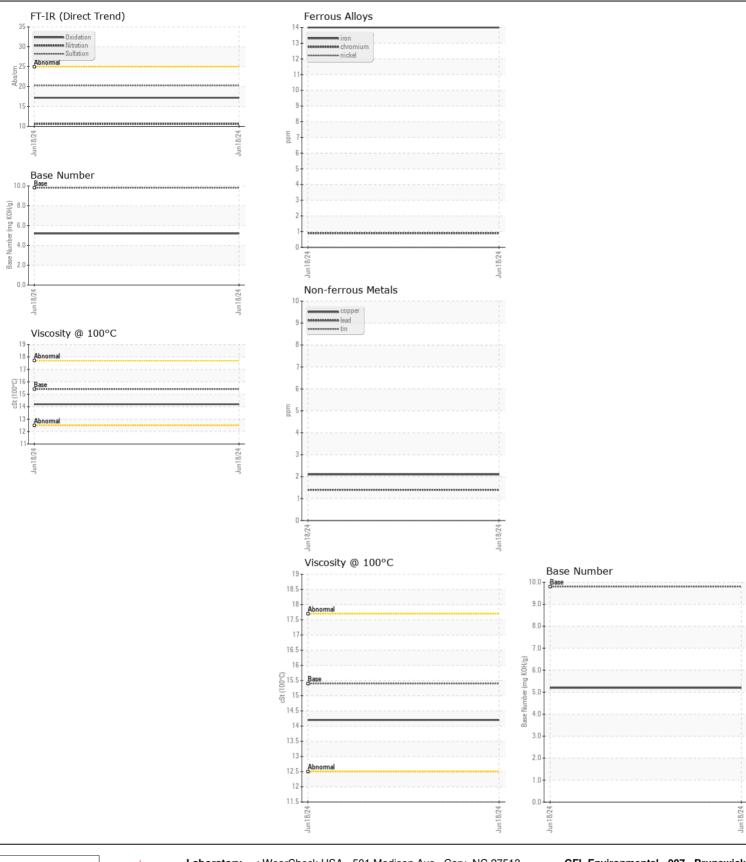
Machine Id **3638** Component **Diesel Engine** Fluid **PETRO CANADA DURON SHP 15W40 (--- GAL)**

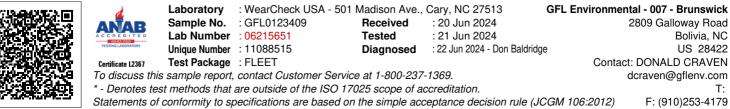
Recommendation Test UDM Method utility History2 Resample at the next service interval to monitor. Sample Nather Client Into GR120020								
Resample at the next service interval to monitor. Sample Date Machine Age Nachine Age	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Simple Date Orient into Backine picks Orient into Backine picks Image into Content into Backine picks Image into		Sample Number		Client Info		GFL0123409		
Oil Age hrs Client Indo 150 iii or iii or Pilter Age Vrs Client Indo No Chang iii or iii or Oil Ornage Client Indo No Chang iii or iii or iii or Bitter Changed Client Indo No Chang iii or iii or iii or WEAR Iron pp ASIND5En 340 14 iii or iii or All component wear rates are normal. Iron pp ASIND5En 20 1 iii or iii or Note Chang pp ASIND5En 200 1 iii or iii or Note Chang pp ASIND5En 200 1 iii or iii or Note Chang pp ASIND5En 200 1 iii or iii or Note Chang pp ASIND5En 200 1 iii or iii or Note Chang pp ASIND5En 200 1 iii or iii or Note C		Sample Date		Client Info		18 Jun 2024		
Filter Age ins Client Info ISO in- In- OIC Chenged Client Info No Change in- in-<		Machine Age	hrs	Client Info		4662		
Oil Changed Client Info Net Change Nick Net Change Nick <td>Oil Age</td> <td>hrs</td> <td>Client Info</td> <td></td> <td></td> <td></td> <td></td>		Oil Age	hrs	Client Info				
Filter Changel Sample Status Client Info Not Changel NORMA		•	hrs	Client Info				
Sample Status Normal normal Sample Status Normal normal Normal Normal normal Nicel ppm ASTM0518s >0 14 0 0 0 Nicel ppm ASTM0518s >0 0		-		Client Info		Not Changd		
VEAR Iron ppm ASTM 0518m >100 14 All component wear rates are normal. Potomium ppm ASTM 0518m >20 <1		-		Client Info		Not Changd		
All component wear rates are normal. Chromium ppm ASTM Distem 200 <1 Nickel ppm ASTM Distem 0 Nickel ppm ASTM Distem 0 Silver ppm ASTM Distem 3 0 Lead ppm ASTM Distem -30 0		Sample Status				NORMAL		
All component wear rates are normal. Nickel ppm ASTM 0518m >4 0 Titanium ppm ASTM 0518m Titanium ppm ASTM 0518m Aluminum ppm ASTM 0518m 1 Lead ppm ASTM 0518m Copper ppm ASTM 0518m	WEAR	Iron	ppm	ASTM D5185m	>100	14		
Nutcket ppm Astributed prime Astributed prim Astrib	All component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	<1		
Silver ppm ASTU D318m >3 0 Aluminum ppm ASTU D318m >20 1 Lead ppm ASTU D318m >300 2 Copper ppm ASTU D318m >330 2 Vanadium ppm ASTU D318m >16		Nickel	ppm	ASTM D5185m	>4	0		
Aluminum ppm ASTM D5185m >20 1 Lead ppm ASTM D5185m >40 1 Copper ppm ASTM D5185m >30 2 Tin ppm ASTM D5185m >10 Vanadium ppm ASTM D5185m >15 0 White Metal scalar Visual NONE NONE Stillcon ppm ASTM D5185m >25 6 Potassium ppm ASTM D5185m >20 3 Potassium ppm ASTM D5185m >20 3 Rigod WC Method >0 Glycol WC Method >0.0 Sold %0 %STM 0764 >30 0.0		Titanium	ppm	ASTM D5185m		<1		
Lead pp ASTM D5185m >-40 1 Copper ppm ASTM D5185m >-15 0 Tin ppm ASTM D5185m -15 0 Vanadium ppm ASTM D5185m -15 0 White Metal scalar Visual NONE NONE There is no indication of any contamination in the oil. Silicon ppm ASTM D5185m -20 3 Fuel WC Method >.50 <1.0		Silver	ppm	ASTM D5185m	>3	0		
Copper ppm ASTM D5185m >330 2 Tin ppm ASTM D5185m >15 0 Vanadium ppm ASTM D5185m -1 White Metal scalar 'Visual NONE NONE CONTAMINATION Silicon ppm ASTM D5185m >25 6 There is no indication of any contamination in the oil. Potassium ppm ASTM D5185m >25 6 Water WC Method >5 <1.0		Aluminum	ppm	ASTM D5185m	>20	1		
Tin pm ASTM 058m >15 0 Vanadium pp ASTM 058m - -		Lead	ppm	ASTM D5185m	>40	1		
Vanadium ppm ASTM D5185m <1 White Metal Yellow Metal scalar 'Visual NONE NONE CONTAMINATION Silicon ppm ASTM D5185m >-25 6 There is no indication of any contamination in the oil. Silicon ppm ASTM D5185m >-20 3 Water ppm ASTM D5185m >-20 3 Glycol WC Method >0.2 NEG Soft % % 'ASTM D5185m >20 3 Water WC Method >0.2 NEG Soft % % 'ASTM D7624 >30 0 Silicon Abs/am 'ASTM D7624 >30 0.0.8 Silidon Abs/am 'Visual NONE NONE		Copper	ppm	ASTM D5185m	>330	2		
White Metal Yellow Metal scalar 'Visual NONE NONE I I CONTAMINATION Silicon ppm ASTM D518m >20 3 I I Potassium ppm ASTM D518m >20 3 I I Fuere is no indication of any contamination in the oil. Silicon ppm ASTM D518m >20 3 I I Glycol WC Method >0.2 NEG I I I Silicon AStM D764 >3 0 I I I Silitaion Abs/rm 'ASTM 0764 >30 I I I Silitaion Abs/rm 'ASTM 0764 >30 I-0.6 I I Silitaion Abs/rm 'ASTM 0764 >30 I0.6 I I Silitaion Scalar 'Visual NONE NONE I I Appearance Scalar 'Visual NORML		Tin	ppm	ASTM D5185m	>15	0		
Yellow MetalscalarVisualNONENONECONTAMINATIONSiliconppmASTM D5185n>256PotassiumppmASTM D5185n>203PuelWC Method>5<1.0		Vanadium	ppm	ASTM D5185m		<1		
CONTAMINATION Silicon ppm ASTM D5185m >25 6 There is no indication of any contamination in the oil. Silicon ppm ASTM D5185m >20 3 Fuel WC Method >5 <1.0		White Metal	scalar	*Visual	NONE	NONE		
Potassium pp ASTM D5/85m >20 3 I Fuel WC Method >5 <1.0		Yellow Metal	scalar	*Visual	NONE	NONE		
Potassium pp ASTM D5/85m >20 3 I Fuel WC Method >5 <1.0	CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	6		
Fuel WC Method S3 C1.0 III.0 IIII.0 IIII.0 IIII.0 IIII.0 IIII.0 IIIIII.0 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		Potassium	ppm	ASTM D5185m	>20	3		
Giycol WC Method NEG	There is no indication of any contamination in the oil.	Fuel		WC Method	>5	<1.0		
Soot % % *ASTM D7844 >3 0 Nitration Abs/m *ASTM D7624 >20 10.6 Sulfation Abs/m *ASTM D7624 >20 20.3 Sulfation Abs/m *Visual NONE NONE Silt Scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NORM NONE Appearance scalar *Visual NORM NORML Odor scalar *Visual NORML NORML Debris scalar *Visual NORML NORML Appearance scalar *Visual NORML NORML Bronon		Water		WC Method	>0.2	NEG		
NitrationAbs/cm'ASTM D762>2010.6SulfationAbs/tm'ASTM D7415>3020.3Siltscalar'VisualNONENONEDebrisscalar'VisualNONENONESadd/Dirtscalar'VisualNORENONEAppearancescalar'VisualNORMNORMOdrscalar'VisualNORMNORMOdrscalar'VisualNORMNORMDebrisscalar'VisualNORMNORMAppearancescalar'VisualNORMNORMMorescalar'VisualNORMBoronppmASTM D5185m012BoronppmASTM D5185m012MaganeseppmASTM D5185m0<		Glycol		WC Method		NEG		
SulfationAbs/.tmYASTM D7415>-3020.3Siltscalar*VisualNONENONEDebrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORNORMLOdorscalar*VisualNORNORMLOdorscalar*VisualNORNORMLEmulsified Waterscalar*VisualNORNORMLSodiumppmASTM D5185m012BoronppmASTM D5185m00BariumppmASTM D5185m00MolybdenumppmASTM D5185m0<		Soot %	%	*ASTM D7844	>3	0		
Siltscalar*VisualNONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMNORMLAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLBrunsifiedWaterscalar*VisualNORMLNORMLBrunsifiedWaterscalar*VisualNORNORMLBrunsifiedWaterppmASTM D5185m012BrunsppmASTM D5185m0StalarMarganeseppmASTM D5185m1010Stalar<		Nitration	Abs/cm	*ASTM D7624	>20	10.6		
Debrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMNORMLNORMLOdorscalar*VisualNORMNORMLNORMLEmulsified Waterscalar*VisualNORMNORMLNEGNEGBoronppmASTM D5185m012BariumppmASTM D5185m012MolybdenumppmASTM D5185m012MaganeseppmASTM D5185m016MaganesiumppmASTM D5185m1010596CalciumppmASTM D5185m10101842MagnesiumppmASTM D5185m10101842CalciumppmASTM D5185m10101842CalciumppmASTM D5185m10101842MagnesiumppmASTM D5185m10101842CalciumppmASTM D5185m10101842MagnesiumppmASTM D5185m11508466MagnesiumppmAS		Sulfation	Abs/.1mm	*ASTM D7415	>30	20.3		
Sand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGSodiumppmASTM D5185m012BoronppmASTM D5185m012BariumppmASTM D5185m00MolybdenumppmASTM D5185m053MaganeseppmASTM D5185m053MaganeseppmASTM D5185m1010556MagnesiumppmASTM D5185m1010556MagnesiumppmASTM D5185m1010556MagnesiumppmASTM D5185m1010546PhosphorusppmASTM D5185m1150646SulfurppmASTM D5185m12701097SulfurppmASTM D5185m20603086OxidationAst"ASTM D714i>2511.2CoxidationAst"ASTM D714i-2511.2CoxidationAst"ASTM D714i-2511.2Coxida		Silt	scalar	*Visual	NONE	NONE		
Appearance Odorscalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGFLUID CONDITIONSodiumppmASTM D5185m012BoronppmASTM D5185m012BariumppmASTM D5185m00MolybdenumppmASTM D5185m00MaganeseeppmASTM D5185m0MagnesiumppmASTM D5185m1010596PhosphorusppmASTM D5185m10701842		Debris	scalar	*Visual	NONE	NONE		
Odorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGSodiumppmASTM D5185m012BoronppmASTM D5185m0012BariumppmASTM D5185m000MolybdenumppmASTM D5185m000ManganeseppmASTM D5185m0<11		Sand/Dirt	scalar	*Visual	NONE	NONE		
Emulsified Waterscalar*Visual>0.2NEGFLUID CONDITIONThe BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.SodiumppmASTM D5185m012BariumppmASTM D5185m00MolybdenumppmASTM D5185m0533MaganeseppmASTM D5185m01010596MagnesiumppmASTM D5185m1010596PhosphorusppmASTM D5185m10101842SulfurppmASTM D5185m12701097OxidationAbs/1m*ASTM D5185m20603086OxidationAbs/1m*ASTM D7141>2517.2		Appearance	scalar	*Visual	NORML	NORML		
Sodium ppm ASTM D5185m 6 Boron ppm ASTM D5185m 0 12 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 53 Manganese ppm ASTM D5185m 0 <11		Odor	scalar	*Visual	NORML	NORML		
BoronppmASTM D5185m012BariumppmASTM D5185m000BariumppmASTM D5185m000MolybdenumppmASTM D5185m6053ManganeseppmASTM D5185m010105960MagnesiumppmASTM D5185m10105960CalciumppmASTM D5185m107018422PhosphorusppmASTM D5185m11508466SulfurppmASTM D5185m127010977SulfurppmASTM D5185m206030866OxidationAbs/.1mm*ASTM D7141>2517.2		Emulsified Water	scalar	*Visual	>0.2	NEG		
BoronppmASTM D5185m012BariumppmASTM D5185m000BariumppmASTM D5185m000MolybdenumppmASTM D5185m60533ManganeseppmASTM D5185m010105966MagnesiumppmASTM D5185m10105966CalciumppmASTM D5185m107018422PhosphorusppmASTM D5185m11508466SulfurppmASTM D5185m127010977SulfurppmASTM D5185m206030866OxidationAbs/.1mm*ASTM D7141>2517.2	FLUID CONDITION	Sodium	ppm	ASTM D5185m		6		
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 60 53 0 Manganese ppm ASTM D5185m 0 <1					0	12		
Molybdenum ppm ASTM D5185m 60 53 Manganese ppm ASTM D5185m 0 <1		Barium	ppm	ASTM D5185m	0	0		
Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 1010 596 Calcium ppm ASTM D5185m 1070 1842 Phosphorus ppm ASTM D5185m 1150 846 Zinc ppm ASTM D5185m 1270 1097 Sulfur ppm ASTM D5185m 2060 3086 Oxidation Abs/.1mm *ASTM D7141 >25 17.2						53		
Magnesium ppm ASTM D5185m 1010 596 Calcium ppm ASTM D5185m 1070 1842 Phosphorus ppm ASTM D5185m 1150 846 Zinc ppm ASTM D5185m 1270 1097 Sulfur ppm ASTM D5185m 2060 30866 Oxidation Abs/.1mm *ASTM D7414 >25 17.2		•						
Calcium ppm ASTM D5185m 1070 1842 Phosphorus ppm ASTM D5185m 1150 846a Zinc ppm ASTM D5185m 1270 10977 Sulfur ppm ASTM D5185m 2060 3086a Oxidation Abs/.1mm *ASTM D7141 >25 17.2		-		ASTM D5185m	1010	596		
Phosphorus ppm ASTM D5185m 1150 846 Zinc ppm ASTM D5185m 1270 1097 Sulfur ppm ASTM D5185m 2060 3086 Oxidation Abs/.1mm *ASTM D7144 >25 17.2		Calcium						
Zinc ppm ASTM D5185m 1270 1097 Sulfur ppm ASTM D5185m 2060 3086 Oxidation Abs/.1mm *ASTM D7114 >25 17.2				ASTM D5185m	1150	846		
Sulfur ppm ASTM D5185m 2060 3086 Oxidation Abs/.1mm *ASTM D7414 >25 17.2								
Oxidation Abs/.1mm *ASTM D7414 >25 17.2								
			mg KOH/g					

Visc @ 100°C cSt

ASTM D445 15.4

14.2





Contact/Location: DONALD CRAVEN - GFL007 Page 2 of 2