

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

DSHP13BLKBOTTOM

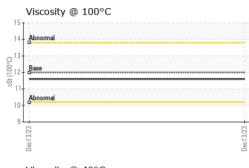
Component 5 New (Unused) Oil Fluid

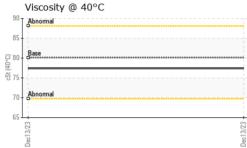
PETRO CANADA DURON SHP 10W30 (--- LTR)

Sample Number Clicht Info PC	DIAGNOSIS			method	limit/base	current	history1	history2
This is asseline read-out on the submitted sample. Simple Date Citent Info 13 Dec 2023 Wear (not applicable) Oil Age his Citent Info 0 Containination (not applicable) Citent Info NA Fuid Condition NA Fuid Condition NA Fuid Condition Nachine Age Northolog Northolog If out applicable) CONTAMINATION method Initebase caurent Hactory1 Hactory1 Fuid Condition ppm ASTV Dis5m 0 Iron ppm ASTV Dis5m 0 Silver ppm ASTV Dis5m 0 Aurinium pm ASTV Dis5m 0 0 Iron ppm ASTV Dis5m 0 0								
sample. Machine Age hrs Cleant Into O								
Wear (not applicable) Contamination (not applicable) No Fuid Condition (not applicable) Coint Info N/A Fuid Condition (not applicable) Coint MinA IIIO N/A Fuid Condition (not applicable) MORMAL Fuid Condition (not applicable) Male Veal Water WC Method NEG Value WC Method Malease carrent Hadcoy1 Hadcoy1 Value WC Method NBS 0 Value WC Method NBS 0 Notekel ppm ASM 20158m 0 Notekel ppm ASM 20158m 0 Aurinium ppm ASM 20158m 0 Copper ppm ASM 20158m 0 <								
(ind cipalicabile) Oil Changed Cleint Info NA (ind applicabile) Sample Status Initibase current Nacions Nacions	•	-						
Sample Status NORMAL CONTAMINATION method functoase current history1 history2 Water WCM NEG Water WCM inntbase current history1 history2 Iron ppm ASTM SISKing 0 Otromulum ppm ASTM SISKing 0 Nickel ppm ASTM SISKing 0 Silver ppm ASTM SISKing 0 Aduminum ppm ASTM SISKing 0 Coopper ppm ASTM SISKing 0 Aduminum ppm ASTM SISKing 0 Coopper ppm ASTM SISKing 0 Mandum ppm ASTM SISKing 0 Coopper		•	hrs					
CONTAMINATION method imitbase current history1 history1 Fluid Condition (not applicable) Water WC Method NEG WeAR METALS method Imitbase current history1 Hatory2 Iron ppm ASTM 058(k) <1 Nickel ppm ASTM 058(k) 0 Silver ppm ASTM 058(k) 0 Qopper ppm ASTM 058(k) 0 Laad ppm ASTM 058(k) 0 Astminomy ppm ASTM 058(k) 0 Cabrium ppm ASTM 058(k) 0 Tin ppm ASTM 058(k) 0 Cabrium ppm ASTM 058(k) 0 Distributer ppm ASTM 058(k) 0 <th></th> <th></th> <th></th> <th>Client Info</th> <th></th> <th></th> <th></th> <th></th>				Client Info				
Fluid Condition (not applicable) Note Note Note Note Note Note Note Note		Sample Status				NORMAL		
Water WC Melhod imbba current History1 History2 Ivon applicable) MAR METALS method imitbase current History2 Ivon applicable SIM USESIm 0 Onromium ppm SIM USESIm 0 Nickel ppm SIM USESIm 0 Aluminum ppm SIM USESIm 0 Auminum ppm SIM USESIm 0 Laad ppm SIM USESIm 0 Laad ppm SIM USESIm 0 Autimony ppm SIM USESIm 0 Autimony ppm SIM USESIm 0 Autimony ppm SIM USESIm 0 0		CONTAMINAT	ΓION	method	limit/base	current	history1	history2
Iron ppm ASTM 0585/m] <1		Water		WC Method		NEG		
Chromium ppm ASTN 2585m 0 Nickel ppm ASTN 2585m 0 Silver ppm ASTN 2585m 0 Aluminum ppm ASTN 2585m 0 Aluminum ppm ASTN 2585m 0 Copper ppm ASTN 2585m 0 Copper ppm ASTN 2585m 0 Antimony ppm ASTN 2585m 0 Vanadium ppm ASTN 2585m 0 Boryllium ppm ASTN 2585m 0 0 ADDITIVES method Imit/base current Historyl Historyl Barium ppm ASTN 2585m 5 58 ASTN 2585m 0 0 0 <th></th> <th>WEAR METAL</th> <th>S</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>		WEAR METAL	S	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185(m) 0 Titanium ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) 0 Aluminum ppm ASTM D5185(m) 0 Aluminum ppm ASTM D5185(m) 0 Copper ppm ASTM D5185(m) 0 Tit ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITIVES med Imit/Dase current history1 history2 Barium ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m)		Iron	ppm	ASTM D5185(m)		<1		
Titanium ppm ASTM DS185(m) 0 Silver ppm ASTM DS185(m) 0 Auminum ppm ASTM DS185(m) 0 Lead ppm ASTM DS185(m) 0 Lead ppm ASTM DS185(m) 0 Antimony ppm ASTM DS185(m) 0 Antimony ppm ASTM DS185(m) 0 Berginjlium ppm ASTM DS185(m) 0 ADDITIVES method Imiltbase current history1 Manganese ppm ASTM DS185(m) 0 0 Manganese ppm ASTM DS185(m) 0 0 Calcium ppm ASTM DS185(m) 0 0 Sulfur ppm		Chromium	ppm	ASTM D5185(m)		0		
Silver ppm ASTU D5183(m) 0 Aluminum ppm ASTU D5183(m) 0 Lead ppm ASTU D5183(m) 0 Copper ppm ASTU D5183(m) 0 Tin ppm ASTU D5183(m) 0 Vanadium ppm ASTU D5183(m) 0 Vanadium ppm ASTU D5183(m) 0 Beryllium ppm ASTU D5183(m) 0 Cadmium ppm ASTU D5183(m) 0 0 Boron ppm ASTU D5183(m) 0 0 Molybdenum ppm ASTU D5183(m) 0.0 Magnessum ppm ASTU D5183(m) 0.0 Molybdenum ppm ASTU D5183(m)		Nickel	ppm	ASTM D5185(m)		0		
Aluminum ppm KSILUS185m 1 Lead ppm ASTN 05185m 0 Copper ppm ASTN 05185m 0 Tin ppm ASTN 05185m 0 Antimony ppm ASTN 05185m 0 Antimony ppm ASTN 05185m 0 Andium ppm ASTN 05185m 0 Cadmium ppm ASTN 05185m 0 ADDITVES method limit/base current history1 history2 Boron ppm ASTN 05185m 0 0 Magnesium ppm ASTN 05185m 5 58 Magnesium ppm ASTN 05185m 1050 1020 Calcium ppm ASTN 05185m		Titanium	ppm	ASTM D5185(m)		0		
Lead ppm ASTM D5185(m) 0 Copper ppm ASTM D5185(m) 0 Tin ppm ASTM D5185(m) 0 Antimony ppm ASTM D5185(m) 0 Vanadlum ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 Barium ppm ASTM D5185(m) 0 0 Barium ppm ASTM D5185(m) 0 0 Marganese ppm ASTM D5185(m) 0 0 Marganese ppm ASTM D5185(m) 050 1020 Marganese ppm ASTM D5185(m) 0 0 Suf		Silver	ppm	ASTM D5185(m)		0		
Copper ppm ASTM D5165(m) 0 Tin ppm ASTM D5165(m) 0 Antimony ppm ASTM D5165(m) 0 Vanadium ppm ASTM D5165(m) 0 Beryllium ppm ASTM D5165(m) 0 ADDITIVES method imil/base current History1 history2 Boron ppm ASTM D5165(m) 0 0 Molybdenum ppm ASTM D5165(m) 0 0 Magnesium ppm ASTM D5165(m) 0 0 Magnesium ppm ASTM D5165(m) 0 0 Magnesium ppm ASTM D5165(m) 0 0 Vangnesium ppm ASTM D5165(m) 1050 1050		Aluminum	ppm	ASTM D5185(m)		1		
Copper ppm ASTIM D5185(m) 0 Tin ppm ASTM D5185(m) 0 Antimony ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 ADDITIVES method imil/base current History1 history2 Boron ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Manganesie ppm ASTM D5185(m) 0 0 Manganesie ppm ASTM D5185(m) 0 0 Sulfur ppm ASTM D5185(m) 05.0 102.0 Sulfur ppm ASTM D5185(m) 105.0		Lead	ppm			0		
Antimony ppm ASTM D5165m 0 Vanadium ppm ASTM D5165m 0 Beryllium ppm ASTM D5165m 0 Cadmium ppm ASTM D5165m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5165m 0 0 Mappinese ppm ASTM D5165m 0 0 Magnesium ppm ASTM D5165m 0 0 Calcium ppm ASTM D5165m 950 1020 Calcium ppm ASTM D5165m 950 1090 Calcium ppm ASTM D5165m 950 1090 Sulfur ppm ASTM D5165m 2600 2890 <		Copper	ppm	ASTM D5185(m)		0		
Antimony ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 2 1 Magnesium ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 950 1020 Calcium ppm ASTM D5185(m) 1050 1050 Zinc pm ASTM D5185(m) 1180 1980 Sulfur ppm ASTM D5185(m) 2600 2890		Tin	ppm	ASTM D5185(m)		0		
Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limi/base current history1 history2 Boron ppm ASTM D5185(m) 2 1 Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 050 1020 Mangenesium ppm ASTM D5185(m) 950 1090 Phosphorus ppm ASTM D5185(m) 950 1090 Sulfur ppm ASTM D5185(m) 1180 1190 Sulfur ppm ASTM D5185(m) 2600 2890 Sulfur ppm ASTM D5185(m)		Antimony		ASTM D5185(m)		0		
Beryllium ppm ASTM DS185(m) 0 Cadmium ppm ASTM DS185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM DS185(m) 2 1 Barium ppm ASTM DS185(m) 0 0 Molybdenum ppm ASTM DS185(m) 0 0 Maganesium ppm ASTM DS185(m) 050 1020 Zinc ppm ASTM DS185(m) 950 1090 Zinc ppm ASTM DS185(m) 950 1090 Sulfur ppm ASTM DS185(m) 950 1090 Sulfur ppm ASTM DS185(m) 950 1090 Sulfur ppm ASTM DS185(m) 2600 2890 </th <th></th> <th>Vanadium</th> <th></th> <th></th> <th></th> <th>0</th> <th></th> <th></th>		Vanadium				0		
Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 2 1 Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 50 58 Magnessium ppm ASTM D5185(m) 50 1020 Calcium ppm ASTM D5185(m) 1950 1020 Calcium ppm ASTM D5185(m) 995 1090 Calcium ppm ASTM D5185(m) 995 1090 Sulfur ppm ASTM D5185(m) 995 1090 Sulfur ppm ASTM D5185(m) 2600 2890 Sulfur ppm ASTM D5185(m) 21 Sodium ppm ASTM D5185		Beryllium						
Boron ppm ASTM D5185(m) 2 1 Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 50 58 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 950 1020 Phosphorus ppm ASTM D5185(m) 955 1090 Zinc ppm ASTM D5185(m) 955 1090 Sulfur ppm ASTM D5185(m) 955 1090 Sulfur ppm ASTM D5185(m) 956 1980 Sulfur ppm ASTM D5185(m) 2600 2890 Sulfur ppm ASTM D5185(m) <-1 Solicon ppm ASTM D5185(m) <-1 Sodium ppm						0		
Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 50 58 Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 950 1020 Calcium ppm ASTM D5185(m) 1050 1050 Phosphorus ppm ASTM D5185(m) 1050 1090 Sulfur ppm ASTM D5185(m) 950 1090 Sulfur ppm ASTM D5185(m) 950 2890 Lithium ppm ASTM D5185(m) <1190 Sulfur ppm ASTM D5185(m) <41 Sulfur ppm ASTM D5185(m) <41 Sodium ppm ASTM D5185(m) >20 <1 Pota		ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185(m) 50 58 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 950 1020 Calcium ppm ASTM D5185(m) 1050 1050 Phosphorus ppm ASTM D5185(m) 1050 1090 Zinc ppm ASTM D5185(m) 1180 1190 Sulfur ppm ASTM D5185(m) 2600 2890 Lithium ppm ASTM D5185(m) 2600 2890 Sulfur ppm ASTM D5185(m) 260 2890 Sulfur ppm ASTM D5185(m) 20 <1 Sulfur ppm ASTM D5185(m) >20 <1 Potassium ppm ASTM D5185(m) >20 <1		Boron	ppm	ASTM D5185(m)	2	1		
Marganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 950 1020 Calcium ppm ASTM D5185(m) 950 1050 Phosphorus ppm ASTM D5185(m) 995 1090 Zinc ppm ASTM D5185(m) 995 1090 Sulfur ppm ASTM D5185(m) 2600 2890 Sulfur ppm ASTM D5185(m) <		Barium	ppm	ASTM D5185(m)	0	0		
Manganesse ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 950 1020 Calcium ppm ASTM D5185(m) 1050 1050 Phosphorus ppm ASTM D5185(m) 995 1090 Zinc ppm ASTM D5185(m) 995 1090 Sulfur ppm ASTM D5185(m) 2600 2890 Sulfur ppm ASTM D5185(m) 2600 2890 Ithium ppm ASTM D5185(m) <		Molybdenum	ppm	ASTM D5185(m)	50	58		
Calcium ppm ASTM D5185(m) 1050 Phosphorus ppm ASTM D5185(m) 995 1090 Zinc ppm ASTM D5185(m) 1180 1190 Sulfur ppm ASTM D5185(m) 2600 2890 Lithium ppm ASTM D5185(m) 2600 2890 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) 4 Sodium ppm ASTM D5185(m) <1 Potassium ppm ASTM D5185(m) <20 <1 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* 0 Nitration Abs/cm ASTM D7415* 17.1 FLUID DEGRADATION Method limit/base current		Manganese	ppm	ASTM D5185(m)	0	0		
Calcium ppm ASTM D5185(m) 1050 1050 Phosphorus ppm ASTM D5185(m) 995 1090 Zinc ppm ASTM D5185(m) 1180 1190 Sulfur ppm ASTM D5185(m) 2600 2890 Sulfur ppm ASTM D5185(m) 2600 2890 Lithium ppm ASTM D5185(m) Current history1 history2 Silicon ppm ASTM D5185(m) 4 Sodium ppm ASTM D5185(m) <		Magnesium	ppm	ASTM D5185(m)	950	1020		
Phosphorus ppm ASTM D5185(m) 995 1090 Zinc ppm ASTM D5185(m) 1180 1190 Sulfur ppm ASTM D5185(m) 2600 2890 Lithium ppm ASTM D5185(m) 2600 2890 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) - 4 Sodium ppm ASTM D5185(m) - 4 Potassium ppm ASTM D5185(m) >20 <1 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844' 0 Nitration Abs/cm ASTM D7415' 17.1 FLUID DEGRADTION method limit/base current history1 history2		Calcium				1050		
Zinc ppm ASTM D5185(m) 1180 1190 Sulfur ppm ASTM D5185(m) 2600 2890 Lithium ppm ASTM D5185(m) 2600 2890 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) 4 Sodium ppm ASTM D5185(m) <1 Potassium ppm ASTM D5185(m) <1 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* 0 Nitration Abs/cm ASTM D7624* 4.0 Sulfation Abs/tmm ASTM D7415* 17.1 FLUID DEGRADATION method limit/base current history1 history2		Phosphorus				1090		
SulfurppmASTM D5185(m)26002890LithiumppmASTM D5185(m) </th <th></th> <th></th> <th></th> <th>. ,</th> <th></th> <th></th> <th></th> <th></th>				. ,				
LithiumppmASTM D5185(m)<1								
SiliconppmASTM D5185(m)4SodiumppmASTM D5185(m)<1PotassiumppmASTM D5185(m)>20<1INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%ASTM D7844*0NitrationAbs/cmASTM D7624*4.0SulfationAbs/.1mmASTM D7415*17.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2								
SodiumppmASTM D5185(m)<1		CONTAMINAN	NTS	method	limit/base	current	history1	history2
SodiumppmASTM D5185(m)<1		Silicon	ppm	ASTM D5185(m)		4		
PotassiumppmASTM D5185(m)>20<1INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%ASTM D7844*0NitrationAbs/cmASTM D7624*4.0SulfationAbs/.1mmASTM D7415*17.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2				ASTM D5185(m)				
Soot % % ASTM D7844* 0 Nitration Abs/cm ASTM D7624* 4.0 Sulfation Abs/1mm ASTM D7415* 17.1 FLUID DEGRADATION method limit/base current history1 history2		Potassium			>20			
NitrationAbs/cmASTM D7624*4.0SulfationAbs/.1mmASTM D7415*17.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2		INFRA-RED		method	limit/base	current	history1	history2
NitrationAbs/cmASTM D7624*4.0SulfationAbs/.1mmASTM D7415*17.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2		Soot %	%	ASTM D7844*		0		
Sulfation Abs/.1mm ASTM D7415* 17.1 FLUID DEGRADATION method limit/base current history1 history2								
FLUID DEGRADATION method limit/base current history1 history2								
			DATION	method_	limi <u>t/base</u>	current	history1	history2
						12.0		



OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE		
Yellow Metal	scalar	Visual*	NONE	NONE		
Precipitate	scalar	Visual*	NONE	NONE		
Silt	scalar	Visual*	NONE	NONE		
Debris	scalar	Visual*	NONE	NONE		
Sand/Dirt	scalar	Visual*	NONE	NONE		
Appearance	scalar	Visual*	NORML	NORML		
Odor	scalar	Visual*	NORML	NORML		
Emulsified Water	scalar	Visual*		NEG		
Free Water	scalar	Visual*		NEG		
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	80.1	77.4		
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	11.6		
Viscosity Index (VI)	Scale	ASTM D2270*	144	142		
SAMPLE IMAG	iES	method	limit/base	current	history1	history2
Color					no image	no image
Bottom					no image	no image
GRAPHS						

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Petro-Canada Technical/Nick Finelli Laboratory CALA Sample No. : PC Recieved : 22 Dec 2023 Lab Number : 02604939 Diagnosed : 28 Dec 2023 Mississauga, ON ISO 17025:2017 Accredited Laboratory Unique Number : 5698024 Diagnostician : Kevin Marson CA L5J 1K2 Test Package : TEST (Additional Tests: FT-IR, ICP, ICP-NEWOIL, KV100, KV40, Spat, VI) Contact: Nick Finelli To discuss this sample report, contact Customer Service at 1-800-268-2131. nick.finelli@hfsinclair.com Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: Validity of results and interpretation are based on the sample and information as supplied. F: (877)352-8916