

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 922039-282

Component **Diesel Engine** Fluid

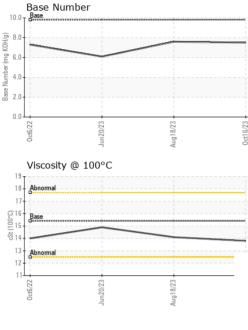
PETRO CANADA DURON SHP 15W40 (--- LTR)

	,		0ct2023		-	ct2023	
DIAGNOSIS	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Recommendation	Sample Number		Client Info		GFL0066126	GFL0066131	GFL0066129
Resample at the next service interval to monitor.	Sample Date		Client Info		16 Oct 2023	18 Aug 2023	20 Jun 2023
Wear	Machine Age	hrs	Client Info		8089	7585	7098
All component wear rates are normal.	Oil Age	hrs	Client Info		600	600	500
Contamination	Oil Changed		Client Info		Changed	Changed	Changed
There is no indication of any contamination in the	Sample Status				NORMAL	NORMAL	NORMAL
oil.	CONTAMINAT		method	limit/base	current	history1	history2
Fluid Condition							
The BN result indicates that there is suitable	Fuel		WC Method		<1.0	<1.0	<1.0
alkalinity remaining in the oil. The condition of the	Water		WC Method	>0.2	NEG	NEG	NEG
oil is suitable for further service.	Glycol		WC Method		NEG	NEG	NEG
	WEAR METAL	.S	method	limit/base	current	history1	history2
	Iron	ppm	ASTM D5185m	>120	12	43	25
	Chromium	ppm	ASTM D5185m	>20	1	1	1
	Nickel	ppm	ASTM D5185m	>5	0	<1	<1
	Titanium	ppm	ASTM D5185m	>2	0	<1	0
	Silver	ppm	ASTM D5185m	>2	0	0	0
	Aluminum	ppm	ASTM D5185m	>20	2	2	3
	Lead	ppm	ASTM D5185m	>40	0	1	<1
	Copper	ppm	ASTM D5185m	>330	0	3	2
	Tin	ppm	ASTM D5185m	>15	0	<1	<1
	Vanadium	ppm	ASTM D5185m		0	<1	0
	Cadmium	ppm	ASTM D5185m		0	<1	0
	ADDITIVES		method	limit/base	current	history1	history2
	Boron	ppm	ASTM D5185m	0	0	3	7
	Barium	ppm	ASTM D5185m	0	4	0	0
	Molybdenum	ppm	ASTM D5185m	60	61	47	68
	Manganese	ppm	ASTM D5185m	0	0	1	<1
	Magnesium	ppm	ASTM D5185m	1010	932	736	1032
	Calcium	ppm	ASTM D5185m	1070	1075	1054	1168
	Phosphorus	ppm	ASTM D5185m	1150	960	802	1050
	Zinc	ppm	ASTM D5185m	1270	1181	1018	1369
	Sulfur	ppm	ASTM D5185m	2060	2861	2655	3303
	CONTAMINAN	ITS	method	limit/base	current	history1	history2
	Silicon	ppm	ASTM D5185m	>25	0	5	5
	Sodium	ppm	ASTM D5185m		4	9	10
	Potassium	ppm	ASTM D5185m	>20	0	4	3
	INFRA-RED		method	limit/base	current	history1	history2
	Soot %	%	*ASTM D7844	>4	0.8	0.7	1.1
	Nitration	Abs/cm	*ASTM D7624		9.5	8.5	11.8
	Sulfation	Abs/.1mm	*ASTM D7415		21.2	20.4	26.0
	FLUID DEGRAI	DAT <u>IO</u> N	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	17.5	15.6	22.7
			AGTIVI D7414	>20	17.5	10.0	<u> </u>
	Base Number (BN)	ma KOU/a	ASTM D2806	0.8	7.5	7.6	6.1



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VISUAL



	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
- 23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
0ct16/23	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
-	Emulsified Water		*Visual				
		scalar		>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG
	FLUID PROPI		method	limit/base	current	history1	history2
************	Visc @ 100°C	cSt	ASTM D445	15.4	13.8	14.1	14.9
	GRAPHS						
	Ferrous Alloys						
	40 iron						
	35 - nickel		\sim				
	30-	/					
	E 25 20						
			-				
	15-						
	10-						
	5		1				
	0		23	/23			
	0ct6/22 Jun20/23		Aug18/23 .	0ct16/23			
			A	0			
	Non-ferrous Meta	115					
	copper						
	8 - tin						
	6						
	udd						
			~				
	2						
				2020			
	0		2/23	2/23			
	0		4ug18/23	0ct16/23			
	0ct6/22 + + + + + + + + + + + + + + + + + +		Aug18/23	0ct16/23			
	0	C	Aug18/23		Base Number		
	0 27 27 27 27 27 27 27 27 27 27	C	Aug 18/23		Base Number		
	0 27 27 27 27 27 27 27 27 27 27	C	Aug18/23	10.1	Base		
	0 27 27 27 27 27 27 27 27 27 27	C	Aug18/23	10.1	Base		
	0 27 27 27 27 27 27 27 27 27 27	C	Aug18/23	10.1	Base		
	0 27 27 27 27 27 27 27 27 27 27	C	Aug18/23	10.1	Base		
	Viscosity @ 100°	C	Aug18/23	10.1	Base		
	Viscosity @ 100° ¹⁹ ¹⁹ ¹⁰ ¹⁹ ¹⁰ ¹⁰ ¹⁹ ¹⁰ ¹¹ ¹⁰ ¹¹	C	Aug18/23	10. (б) 8. Оно х Бш, Бл ад	Base		
	Viscosity @ 100° ¹⁹ ¹⁹ ¹⁰ ¹⁹ ¹⁰ ¹⁰ ¹⁹ ¹⁰ ¹⁰ ¹⁹ ¹⁰ ¹¹ ¹⁰ ¹¹	C	Aug18/23	10.0 (0)HOX (0)HOX (0) (0)HOX (0)HOX (0) (0)HOX (0)HOX (0) (0)HOX (0)HOX	Base		
	Viscosity @ 100°	C		10.0 (0)HOX b0.1 Lagun 4.1 B828 2.9 0.0	Base	3	
	Viscosity @ 100°	C		10.0 (0)HOX b0.1 Lagun 4.1 B828 2.9 0.0	Base	1803	
	Viscosity @ 100° banomal ban	C	Aug18/23	10.0 (0)HOX (0)HOX (0) (0)HOX (0)HOX (0) (0)HOX (0)HOX (0) (0)HOX (0)HOX	Base	Jun2023	
	Viscosity @ 100° ¹⁹ ¹⁹ ¹⁰ ¹⁹ ¹⁰ ¹⁰ ¹⁹ ¹⁰ ¹¹		Aug18/23	0ct 19/33 0ct 19/33 10 0ct 19/33 10 0ct 19/33 10 0ct 19/33 10 0ct 19/33	Base.		
pratory	Viscosity @ 100° ¹⁹ ¹⁹ ¹⁰ ¹⁹ ¹⁰	501 Madii	czał bie son Ave., Ca	10.0 (0)HOX 00 (0)HOX 00 (0)HOX 00 (0) (0)HOX 00 (0) (0) (0) (0) (0) (0) (0) (0) (0) (Base.	nvironmental -	904A - Thorp
pratory ple No.	Viscosity @ 100° ¹⁹ ¹⁰ ¹¹	501 Madia	ECOR Ave., Ca	10.0 (0)HOX 000 6.1 000 000 100 100 000 6.1 000 000 000 000 000 000 1000 000 000 0	Base.	nvironmental -	904A - Thorp 85 Tieman Av
oratory ple No. Number	Viscosity @ 100° ¹⁹ ¹⁰ ¹⁰ ¹⁹ ¹⁰ ¹¹	501 Madia Recieved Diagnose	son Ave., Ca 1 : 02 . ed : 03 .	10.0 (0)HOX 000 6.1 (0)HOX 000 6.1 (Base.	nvironmental -	904A - Thorp 85 Tieman Av Thorp, V
pratory ple No. Number Je Number Package	Viscosity @ 100° ¹⁹ ¹⁰ ¹¹	501 Madia	son Ave., Ca 1 : 02 . ed : 03 .	10.0 (0)HOX 000 6.1 000 000 100 100 000 6.1 000 000 000 000 000 000 1000 000 000 0	Base.	nvironmental - N149	904A - Thorp 85 Tieman Av

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

* - 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)

Certificate L2367

F:

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