

## **OIL ANALYSIS REPORT**

Sample Rating Trend

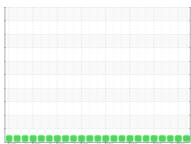
NORMAL



## MONTGOMERY **MACK 928112**

Component **Diesel Engine** Fluid

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



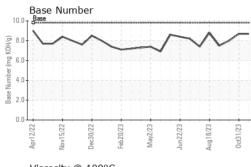


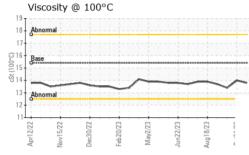
## 2/27 Nov/277 Dec/077 Feb/203 Max/273 Lun2023 Aux/2023 0-503

Beample at the next service interval to monitor. As at the next service interval to monitor. Is any lead to a service at the next service interval. Interval is no indication of any contamination in the it. Uid Condition the BN result indicates that there is suitable Kulhi y contaming in the oil. The condition of the is suitable for further service.     Sample Date interval     Client Info     GFL0087944 F80     GFL0087944 GFL0087945     GFL0087944 GFL008794     GFL0087944 GFL008794     GFL0087945     GFL008796     GFL008796     GFL008796     GFL0087966     GFL0087966     GFL0087966     GFL0087966     GFL0087966     GFL0087966	DIAGNOSIS	SAMPLE INFOR	ΜΑΤΙΟΝ	method	limit/base	current	history1	history2
esample at the next service interval to monitor.       Kear     Client Info     16 Bory 2023     31 Oct 2023     02 Oct 2023       Machine Age     hrs     Client Info     19701     13572     13386       Iomanoment wear rates are normal.     Ont Age     hrs     Client Info     19701     13572     13386       Iot Age     hrs     Client Info     Not Changd     Not Changd     Not Changd       Ind Contion     hrs     Client Info     Not Okangd     Not Changd     Not Changd       Is is suitable for further service.     WC Method     3.0     <1.0								
Appendix   Appendix   Clean line   10 Appendix	Resample at the next service interval to monitor.							
Decomponent wear rates are normal.   Oil Age   hts   Client Info   769   640   434     Detailstoin of any contamination in the Lindo Chongo   Nort Chango			hrs					
Orithminition Intere is no indication of any contamination in the L.     OI Chanaged Sample Status     Client Info     Not Changed NORMAL     Not Changed NORMAL     Not Changed NORMAL       total Contamine heal Drive unit indicates that there is suitable for further service.     CONTAMINATION     method     Imit base     current     heatsoy     NEG		Ŭ						
Sample Status     NORMAL     NORMAL     NORMAL     NORMAL       uid condition he BN result indicates that there is suitable It is suitable for further service.     CONTAMINATION     method     limitbase     current     history1     history2       Vial     Water     WC Method     >3.0     <1.0	•	•						
Util Condition ne BN result indicates that there is suitable klinify menining in the oil. The condition of the it is suitable for further service.     UCM Intel VS     WCM Method     >0.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0	Contamination					-		
Picel   W0 (Method   >3.0   <1.0	il.	CONTAMINAT	ION	method	limit/base	current	history1	history2
Water     WC Method     So.2     NEG     NEG     NEG       Glycod     WC     WC Method     So.2     NEG     NEG     NEG       Glycod     WC     WC Method     WC Method     So.2     NEG     NEG     NEG       Wear     glycod     WC Method     WC Method     So.2     NEG     NEG     NEG       Wear     ppm     ASTM Distism     >20     <1		Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Bit is suitable for further service.     Glycol     WC Method     Imat/base     NEG     NEG     NEG       Vis a suitable for further service.     Glycol     WC Method     Imat/base     current     Nistory1     Nistory1       I'ron     ppm     ASTM D5156n     >100     c1     c1     c1       Nickel     ppm     ASTM D5156n     >2     c1     c1     c1       Nickel     ppm     ASTM D5156n     >2     c1     c1     c1       Nickel     ppm     ASTM D5156n     >20     5     4     6       Lead     ppm     ASTM D5156n     >20     5     4     1       Copoper     ppm     ASTM D515m     300     c1     c1     c1       Tin     ppm     ASTM D515m     300     c1     c1     0       ADDITIVES     method     Imm/base     current     History1     History2       Molydenum     ppm     ASTM D515m     0     c1     0       Cadicium     ppm     ASTM D		Water		WC Method	>0.2		NEG	NEG
Iron   ppm   ASTM D5185m   >120   2   4   10     Chromium   ppm   ASTM D5185m   >20   <1   <1   <1     Nickel   ppm   ASTM D5185m   >5   0   <1   <1   <1     Nickel   ppm   ASTM D5185m   >2   0   0   0     Attminum   ppm   ASTM D5185m   >2   0   0   0     Attminum   ppm   ASTM D5185m   >2   0   0   0     Attminum   ppm   ASTM D5185m   >2   0   0   0     Copper   ppm   ASTM D5185m   >10   0   1   0     Quadium   ppm   ASTM D5185m   0   4   0   2     Cadmium   ppm   ASTM D5185m   0   4   0   2   1     Barium   ppm   ASTM D5185m   0   4   2   1   3     Barium   ppm   ASTM D5185m   0   0   0   0   1   0     Manganese   ppm <t< td=""><td>il is suitable for further service.</td><td></td><td></td><td></td><td></td><th></th><td></td><td></td></t<>	il is suitable for further service.							
Chromium     ppm     ASTM D5185m     >20     <1     <1     <1       Nickel     ppm     ASTM D5185m     >2     0     <1		WEAR METAL	.S	method	limit/base	current	history1	history2
Chromium     ppm     ASTM DS185m     >20     <1     <1     <1       Nickel     ppm     ASTM DS185m     >2     0     <1		Iron	ppm	ASTM D5185m	>120	2	4	10
Nickel     ppm     ASTM D5185m     >5     0     <1     0       Titanium     ppm     ASTM D5185m     >2     <1		Chromium		ASTM D5185m	>20			<1
Titanium   ppm   ASTM D5186m   >2   <1   <1   <1     Silver   ppm   ASTM D5186m   >2   0   0   0     Aluminum   ppm   ASTM D5186m   >2   0   0   0     Lead   ppm   ASTM D5186m   >40   <1								
Silver   ppm   ASTM D5185m   >20   0   0   0     Aluminum   ppm   ASTM D5185m   >200   5   4   6     Leada   ppm   ASTM D5185m   >200   <1   0   0     Copper   ppm   ASTM D5185m   >3300   <1   <1   0   0     Copper   ppm   ASTM D5185m   >15   0   <10   0     Cadmium   ppm   ASTM D5185m   0   <10   0   0   0   0   0   0     ADDITIVES   method   limit/base   current   history1   history2   0     Barium   ppm   ASTM D5185m   0   4   2   <1     Barium   ppm   ASTM D5185m   0   0   0   0   0     Molybdenum   ppm   ASTM D5185m   0   0   0   0   0   0     Molybdenum   ppm   ASTM D5185m   010   9   0   0101   950   976     Calcium   ppm   ASTM D5185m   1010								
Aluminum     ppm     ASTM D5185m     >20     5     4     6       Lead     ppm     ASTM D5185m     >40     <1								
Lead     ppm     ASTM D5185m     >40     <1     0     0       Copper     ppm     ASTM D5185m     >330     <1								
Copper     ppm     ASTM D5185m     >330     <1     <1     <1       Tin     ppm     ASTM D5185m     >15     0     <1								
Tin   ppm   ASTM D5185m   >15   0   <1   0     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   4   2   <1     Barium   ppm   ASTM D5185m   0   4   2   <1     Barium   ppm   ASTM D5185m   0   4   2   <1     Molybdenum   ppm   ASTM D5185m   0   0   <1   00   <1     Magnesium   ppm   ASTM D5185m   1010   960   959   976     Calcium   ppm   ASTM D5185m   1010   940   1018   980     Zinc   ppm   ASTM D5185m   1010   940   1018   980     Zinc   ppm   ASTM D5185m   1270   1226   1242   1243     Sulfur   ppm   ASTM D5185m   2060   3051   3								
Vanadium     ppm     ASTM D5185m     0     <1     0       Cadmium     ppm     ASTM D5185m     0     <1								
Cadmium     ppm     ASTM D5185m     0     <1     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     4     2     <1					>15			
ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     4     2     <1								
Boron   ppm   ASTM D5185m   0   4   2   <1     Barium   ppm   ASTM D5185m   0   0   <1   0     Molybdenum   ppm   ASTM D5185m   60   59   64   56     Manganese   ppm   ASTM D5185m   0   0   0   <1     Magnesium   ppm   ASTM D5185m   1010   960   959   976     Calcian   ppm   ASTM D5185m   1010   960   959   976     Calcian   ppm   ASTM D5185m   1010   940   1018   980     Phosphorus   ppm   ASTM D5185m   1070   1226   1242   1243     Sulfur   ppm   ASTM D5185m   1270   1226   1242   1243     Sulfur   ppm   ASTM D5185m   2060   3051   3768   2869     CONTAMINANTS   method   imit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >20   3   5   6     INFRA-RED   method   limit/bas			ppm		l:			
Barium     ppm     ASTM D5185m     0     0     <1     0       Molybdenum     ppm     ASTM D5185m     60     59     64     56       Manganese     ppm     ASTM D5185m     0     0     0     <1								
Molybdenum   ppm   ASTM D5185m   60   59   64   56     Manganese   ppm   ASTM D5185m   0   0   0   <1								
Marganese     prm     ASTM D5185m     0     0     0     <1       Magnesium     ppm     ASTM D5185m     1010     960     959     976       Calcium     ppm     ASTM D5185m     1070     1050     1061     1030       Phosphorus     ppm     ASTM D5185m     1150     940     1018     980       Zinc     ppm     ASTM D5185m     1270     1226     1242     1243       Sulfur     ppm     ASTM D5185m     2060     3051     3768     2869       CONTAMINANTS     method     imit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     3     5     6       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     'ASTM D7844     >4     0.2     0.2     0.6       Nitration     Abs/cm     'ASTM D7644     >20     5.4     5.1     7.5       Sulfation     Abs/cm     'ASTM D7644<			ppm					
Magnesium   ppm   ASTM D5185m   1010   960   959   976     Calcium   ppm   ASTM D5185m   1070   1050   1061   1030     Phosphorus   ppm   ASTM D5185m   1150   940   1018   980     Zinc   ppm   ASTM D5185m   1270   1226   1242   1243     Sulfur   ppm   ASTM D5185m   2060   3051   3768   2869     CONTAMINANTS   method   imit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   4   5   13     Sodium   ppm   ASTM D5185m   >260   3051   5   6     INFRA-RED   ppm   ASTM D5185m   >20   3   5   6     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7644   >4   0.2   0.2   0.6     Nitration   Abs/tm   *ASTM D7624   >20   5.4   5.1   7.5     Sulfation   Abs/tm			ppm					
Calcium   ppm   ASTM D5185n   1070   1050   1061   1030     Phosphorus   ppm   ASTM D5185n   1150   940   1018   980     Zinc   ppm   ASTM D5185n   1270   1226   1242   1243     Sulfur   ppm   ASTM D5185n   2060   3051   3768   2869     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185n   >25   4   5   13     Sodium   ppm   ASTM D5185n   >20   3   5   6     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D5185n   >20   3   5   6     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >4   0.2   0.2   0.6     Nitration   Abs/cm   *ASTM D7845   >30   17.6   17.8   19.3     FLUID DEGRADATION   Method		0	ppm					
Phosphorus   ppm   ASTM D5185m   1150   940   1018   980     Zinc   ppm   ASTM D5185m   1270   1226   1242   1243     Sulfur   ppm   ASTM D5185m   2060   3051   3768   2869     CONTAMINATY   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   4   5   13     Sodium   ppm   ASTM D5185m   >25   4   6   9     Potassium   ppm   ASTM D5185m   >25   4   6   9     Ntertation   ppm   ASTM D5185m   >20   3   5   6     INFRA-RED   method   limit/base   current   history1   history2   0.2   0.2   0.6     Nitration   Abs/rm   'ASTM D7614   >4   0.2   0.2   0.2   0.6     Nitration   Abs/rm   'ASTM D7624   >20   5.4   5.1   7.5     Sulfation   Abs/rm   'ASTM D7415   >30   17.6   17.8   19.			ppm					
Zinc   ppm   ASTM D5185m   1270   1226   1242   1243     Sulfur   ppm   ASTM D5185m   2060   3051   3768   2869     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   4   5   13     Sodium   ppm   ASTM D5185m   >25   4   6   9     Potassium   ppm   ASTM D5185m   >20   3   5   6     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D5185m   >20   3   5   6     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >4   0.2   0.2   0.6     Nitration   Abs/m   *ASTM D7624   >20   5.4   5.1   7.5     Sulfation   Abs/imm   *ASTM D7815   >30   17.6   17.8   19.3     FLUID DEGRADATION   Method   lim			ppm	ASTM D5185m	1070	1050	1061	1030
SulfurppmASTM D5185m2060305137682869CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>254513SodiumppmASTM D5185m>20469PotassiumppmASTM D5185m>20356INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>40.20.20.6NitrationAbs/cm*ASTM D7624>205.45.17.5SulfationAbs/tm*ASTM D7415>3017.617.819.3FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/tm*ASTM D7414>2513.613.514.7		Phosphorus	ppm			940	1018	980
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m<>254513SodiumppmASTM D5185m>25469PotassiumppmASTM D5185m>20356INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>40.20.20.6NitrationAbs/cm*ASTM D7414>205.45.17.5SulfationAbs/.1mm*ASTM D7415>3017.617.819.3FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2513.613.514.7		Zinc	ppm	ASTM D5185m	1270	1226	1242	1243
SiliconppmASTM D5185m>254513SodiumppmASTM D5185mI469PotassiumppmASTM D5185m>20356INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>40.20.20.6NitrationAbs/cm*ASTM D7624>205.45.17.5SulfationAbs/1m*ASTM D7624>3017.617.819.3FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/1m*ASTM D7414>2513.613.514.7		Sulfur	ppm	ASTM D5185m	2060	3051	3768	2869
SodiumppmASTM D5185m469PotassiumppmASTM D5185m>20356INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>40.20.20.6NitrationAbs/cm*ASTM D7624>205.45.17.5SulfationAbs/.1mm*ASTM D7415>3017.617.819.3FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2513.613.514.7		CONTAMINAN	ITS	method	limit/base	current	history1	history2
PotassiumppmASTM D5185m>20356INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>40.20.20.6NitrationAbs/cm*ASTM D7624>205.45.17.5SulfationAbs/.1mm*ASTM D7415>3017.617.819.3FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2513.613.514.7			ppm		>25	4		
INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>40.20.20.6NitrationAbs/cm*ASTM D7624>205.45.17.5SulfationAbs/.1mm*ASTM D7415>3017.617.819.3FLUID DEGRADATION methodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2513.613.514.7		Sodium	ppm	ASTM D5185m		4	6	9
Soot %     %     *ASTM D7844     >4     0.2     0.2     0.6       Nitration     Abs/cm     *ASTM D7624     >20     5.4     5.1     7.5       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.6     17.8     19.3       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     13.6     13.5     14.7		Potassium	ppm	ASTM D5185m	>20	3	5	6
Nitration     Abs/cm     *ASTM D7624     >20     5.4     5.1     7.5       Sulfation     Abs/.1mm     *ASTM D7615     >30     17.6     17.8     19.3       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     13.6     13.5     14.7		INFRA-RED		method	limit/base	current	history1	history2
Sulfation     Abs/.1mm     *ASTM D7415     >30     17.6     17.8     19.3       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     13.6     13.5     14.7		Soot %	%	*ASTM D7844	>4	0.2	0.2	0.6
Sulfation     Abs/.1mm     *ASTM D7415     >30     17.6     17.8     19.3       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     13.6     13.5     14.7		Nitration	Abs/cm	*ASTM D7624	>20	5.4	5.1	7.5
Oxidation     Abs/.1mm     *ASTM D7414     >25     13.6     13.5     14.7		Sulfation	Abs/.1mm				17.8	19.3
		FLUID DEGRAI	DATION	method	limit/base	current	history1	history2
		Oxidation	Abs/.1mm	*ASTM D7414	>25	13.6	13.5	14.7
		Base Number (BN)				8.7	8.7	8.0

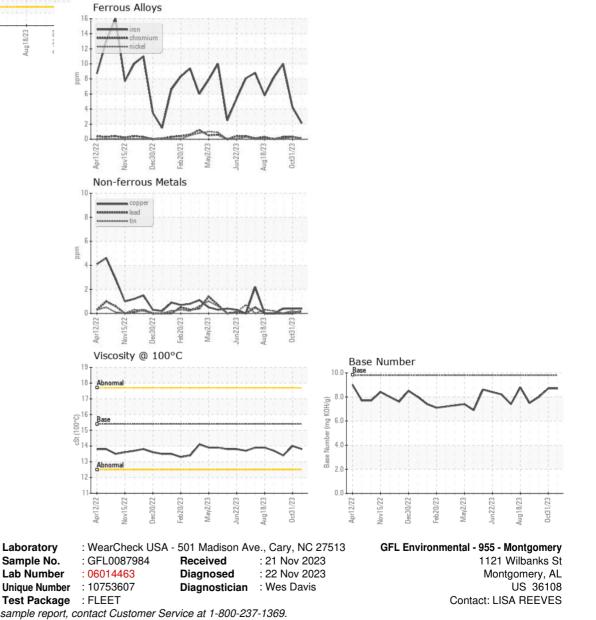


## **OIL ANALYSIS REPORT**





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	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	14.0	13.4
GRAPHS						





Certificate 12367 Test Package : FLEET 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)

T: F: