

OIL ANALYSIS REPORT

Sample Rating Trend



2 (S/N GZJ00315)

Component **Natural Gas Engine**

Fluid

PETRO CANADA SENTRON CG 40 (145 GAL)

DIRT

corrective action is recommended at this time, sample 3 the normal of service interval to monitor, storer sample 3 comment: Total oil added 155 (1) Sample 3 the normal. Client Info 111329	DIAGNOSIS	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
sample 1the next service interval to monitor.() Machine Age hrs. Cilent Info 111439 111328 111107 var component wear rates are normal. Cilent Info 1920 NA NAChong M.A ABNORMAL AB	A Recommendation	Sample Number		Client Info		WC0699030	WC0699034	WC0699027
Storner Sample Comment: Total oil added 155 () Nation () State ()	No corrective action is recommended at this time.	Sample Date		Client Info		11 Jul 2022	06 Jul 2022	27 Jun 2022
Dir Age Image Image <thimage< th=""> Image Image <t< td=""><td>Resample at the next service interval to monitor. (</td><td>Machine Age</td><td>hrs</td><td>Client Info</td><td></td><td>111439</td><td>111328</td><td>111107</td></t<></thimage<>	Resample at the next service interval to monitor. (Machine Age	hrs	Client Info		111439	111328	111107
Dir Oli Changed Clientino NA Not Changed NA componenti wear rates are normal. Sample Status Image Status ARNORMAL ARNO	•	Oil Age	hrs	Client Info		929	818	597
component wear rates are normal. CONTAMINATION method imilibase current history1 history2 content negligible. Elemental level of silicon j above normal. Water WC Method s.0 NEG NEG NEG Bit result indicates that there is suitable alinity remaining in the oil. The AN level is into the oil silicon of the oil silicon table for further service. NEM NEM S.1 NEG NEG<	gal)	Oil Changed		Client Info		N/A	Not Changd	N/A
Automitation above normal. Water WC Method >.0.1 NEG NEG NEG a Water WC Method >.0.1 NEG NEG NEG a BM requiring the oil, the AN level is apathele for further service. Pm ASTM05188 >.60 8 7 5 a Main requiring the oil, the AN level is apathele for further service. Pm ASTM05188 >.2 0 0 0 a Main requiring the oil, the AN level is apathele for further service. Pm ASTM05188 >.2 0 0 0 a Main requiring the oil, the AN level is apathele for further service. Pm ASTM05188 >.3 0 -1 0 a Main requiring the oil, the AN level is apathele for further service. Pm ASTM05188 >.3 0 -1 0 a Main requiring the oil, the AN level is apathele for further service. Pm ASTM05188 >.3 3 3 2 Copper pm ASTM05188 >.4 7 6 5 5 Copper pm ASTM05188 >.4 7 6 5 Manabum pm ASTM05188 >.4 7 6 5 Copper pm ASTM05188 >.4 7 6	Wear All component wear rates are normal.	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
) show normai. Ind Condition e BN result indicates that there is suitable alinity remaining in the oil. The AN level is table for further service. Nickel prom ASTM Distism >4.0 4.1 4.1 4.1 4.1 Nickel prom ASTM Distism >2.0 0.0 10.0 Titanium prom ASTM Distism >3.0 4.1 4.1 0.0 Titanium prom ASTM Distism >3.0 4.1 0.0 Titanium prom ASTM Distism >3.0 4.1 0.0 Aluminum prom ASTM Distism >3.0 3.1 0.0 Aluminum prom ASTM Distism >4.1 7.0 6.0 5.0 Aluminum prom ASTM Distism 1.0 2.1 0.0 0.0 Aluminum prom ASTM Distism 1.0 2.1 0.0 0.0 Aluminum prom ASTM Distism 1.0 2.1 0.0 1.0 Aluminum prom ASTM Distism 2.2 3.2.0 2.7.5 0.0 Aluminum prom ASTM Distism 2.1 0.0 1.0 Aluminum prom ASTM Distism 2.1 0.0 1.0 Aluminum prom ASTM Distism 2.0 1.0 1.0 0.1 Aluminum prom ASTM Distism 2.0 1.0 0.1 Aluminum prom A	Contamination	CONTAMINATION	J	method	limit/base	current	history1	history2
Id Condition Ppm ASTM D516m >50 8 7 5 Diring in the oil into of the oil is table for further service. Diring in the oil into of the oil is table for further service. Nickel ppm ASTM D516m >4 <1	Fuel content negligible. Elemental level of silicon (Si) above normal.			WC Method			NEG	NEG
alinity remaining in the 0il The AN level is hickel ppm ASTMD5185m >4 <1	Fluid Condition	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185n >2 0 0 0 Itanium ppm ASTM D5185n >3 0 <1	The BN result indicates that there is suitable	Iron	ppm	ASTM D5185m	>50	8	7	5
table for further service. Titanium ppm Minit Mission C <thc< th=""> C C C <</thc<>	alkalinity remaining in the oil. The AN level is	Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Intanium ppm ASTM D5165m >3 0 <1 0 0 Aluminum ppm ASTM D5165m >9 4 3 3 3 Lead ppm ASTM D5165m >30 3 3 2 Copper ppm ASTM D5165m >30 3 3 2 Tin ppm ASTM D5165m >30 3 3 2 Vanadium ppm ASTM D5165m >30 3 3 2 Vanadium ppm ASTM D5165m >4 7 6 5 Vanadium ppm ASTM D5165m 0 0 0 0 Cadmium ppm ASTM D5165m 1 2 3 3 Barium ppm ASTM D5165m 1 2 1 1 Magnesium ppm ASTM D5165m 2 2 1 1 Magnesium ppm ASTM D5165m 2 2 3 3 Sulfur ppm ASTM D5165m 2 2	•	Nickel	ppm	ASTM D5185m	>2	0	0	0
Aluminum ppm ASTM D5185m >9 4 3 3 Lead ppm ASTM D5185m >30 3 3 2 Copper ppm ASTM D5185m >30 3 3 2 Tin ppm ASTM D5185m >4 7 6 5 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 1 0 0 0 0 ADDITIVES method Imit/base current history1 history2 Barium ppm ASTM D5185m 1 2 3 3 Molybdenum ppm ASTM D5185m 2 2 1 1 Magnesium ppm ASTM D5185m 2 2 30 2 Sulfur ppm ASTM D5185m 2 2 31 3677 Sulfur ppm ASTM D5185m 2 34 363			ppm			0	0	0
Lead ppm ASTM D5185m >300 3 3 2 Copper ppm ASTM D5185m >4 7 6 5 Tin ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method Imit/base current history1 history2 Boron ppm ASTM D5185m 0 2 3 3 Barum ppm ASTM D5185m 0 2 3 3 Manganese ppm ASTM D5185m 1 2 0 -1 Magnesium ppm ASTM D5185m 12 10 14 Calcium ppm ASTM D5185m 9 12 10 14 Calcium ppm ASTM D5185m 9 12 10 14 Calcium ppm ASTM D5185m 92 324 267 319 Zinc ppm ASTM D5185m 2423 3718 3677 <		Silver	ppm			0	<1	0
Copper ppm ASTM D5165m >355 3 3 2 Tin ppm ASTM D5165m >4 7 6 5 Vanadium ppm ASTM D5165m > 0 0 0 Carnium ppm ASTM D5165m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5165m 1 2 0 <1		Aluminum	ppm	ASTM D5185m	>9	4	3	3
TinppmASTM D5185m>-4765VanadiumppmASTM D5185m0000CadmiumppmASTM D5185m0233BariumppmASTM D5185m120-<1			ppm	ASTM D5185m	>30	3	3	2
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 1 2 3 3 Barium ppm ASTM D5185m 1 2 0 <11		Copper	ppm	ASTM D5185m	>35	3	3	2
CadmiumppmASTM D5165m000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5165m0233BariumppmASTM D5165m120<1		Tin	ppm	ASTM D5185m	>4	7	6	5
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m0233BariumppmASTM D5185m120<1			ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 2 3 3 Barium ppm ASTM D5185m 1 2 0 <1 Molybdenum ppm ASTM D5185m 2 2 1 1 Maganese ppm ASTM D5185m 1 <1 <1 <1 Magnesium ppm ASTM D5185m 9 12 10 14 Galcium ppm ASTM D5185m 9/212 3330 2785 3074 Phosphorus ppm ASTM D5185m 29/2 324 267 319 Zinc ppm ASTM D5185m 2575 4223 3718 3637 Sulfur ppm ASTM D5185m 2-75 4223 363 269 Solicon ppm ASTM D5185m 2-100 389 363 269 Solicon ppm ASTM D5185m 2-20 1 0 2 Potassium ppm ASTM D5185m 2-00 1 0.1 0.1 0.1 Fuel % ASTM D5185m		Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 1 2 0 <1		ADDITIVES		method	limit/base	current	history1	history2
MolybdenumppmASTM D5185m2211ManganeseppmASTM D5185m1<1		Boron	ppm	ASTM D5185m	0	2	3	3
MarganeseppmASTM D5185m1<1<1<1<1MagnesiumppmASTM D5185m9121014CalciumppmASTM D5185m271233300278503074PhosphorusppmASTM D5185m2923242677319ZincppmASTM D5185m34241773344398SulfurppmASTM D5185m2575422337183677CONTAMINANTSmethodimit/basscurrenthistory1history2SiliconppmASTM D5185m>+1003893633269SodiumppmASTM D5185m>20110PotassiumppmASTM D5185m>2010.30.60.3INFRA-REDmethodimit/bass20.01.00.10.10.1NitrationAbs/tm'ASTM D784>207.36.66.22.1Sulfationib.11m'ASTM D764>207.36.66.22.1FLUID DEGRADATIONmethodimit/basscurrenthistory1history11.5OxidationAbs/tm'ASTM D744>2516.915.413.9		Barium	ppm	ASTM D5185m	1	2	0	<1
Magnesium ppm ASTM D5185m 9 12 10 14 Calcium ppm ASTM D5185m 2712 3330 2785 3074 Phosphorus ppm ASTM D5185m 292 324 267 319 Zinc ppm ASTM D5185m 342 417 334 398 Sulfur ppm ASTM D5185m 2575 4223 3718 3677 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 389 363 269 Sodium ppm ASTM D5185m >+100 363 269 Sodium ppm ASTM D5185m >20 1 0 2 Potassium ppm ASTM D5185m >20 1 0 3 3 Fuel % ASTM D5185m >20 1 1 0 3 Soti% % ASTM D5185m >20 1 0.1 0.1 0.1 0.1 0.1		Molybdenum	ppm	ASTM D5185m	2	2	1	1
CalciumppmASTM D5185m2712333027853074PhosphorusppmASTM D5185m292324267319ZincppmASTM D5185m342417334398SulfurppmASTM D5185m2575422337183677CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>+100389363269SodiumppmASTM D5185m>20110PotassiumppmASTM D5185m>20110Fuel%ASTM D5185m>20110SodiumppmASTM D5185m>2010.60.3Fuel%ASTM D5185m>2010.10.1Fuel%*ASTM D7844>207.36.66.2SolfationAbs/1mm*ASTM D744>2516.915.413.9		Manganese	ppm	ASTM D5185m	1			
PhosphorusppmASTM D5185m292324267319ZincppmASTM D5185m342417334398SulfurppmASTM D5185m2575422337183677CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>+100389363269SodiumppmASTM D5185m>+1003893633269PotassiumppmASTM D5185m>20110Fuel%ASTM D5185m>20110INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%%STM D7644>400.10.10.1NitrationAbs/cm*ASTM D7624>207.36.66.2Sulfationkbs/tmm*ASTM D7415>3025.723.422.1Child DEGRADTIONMathoredLimit/basecurrenthistory1history1OxidationAbs/tmm*ASTM D7414>2516.915.413.9		Magnesium	ppm	ASTM D5185m	9	12	10	14
ZincppmASTM D5185n342417334398SulfurppmASTM D5185n2575422337183677CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185n>+1003893633269SodiumppmASTM D5185n>+1003893633269SodiumppmASTM D5185n>20110PotassiumppmASTM D5185n>20110Fuel%ASTM D5185n>2010.60.3INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D78440.10.10.1NitrationAbs/rm*ASTM D744>207.36.66.2SulfationAbs/rm*ASTM D7455>3025.723.422.1FLUID DEGRAD-TIONmethodlimit/basecurrenthistory1history2OxidationAbs/rm*ASTM D7414>2516.915.413.9		Calcium	ppm		2712			
SulfurppmASTM D5185m2575422337183677CONTAMINANTS:methodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>+1003893633269SodiumppmASTM D5185m>20102PotassiumppmASTM D5185m>20110Fuel%ASTM D5185m>2010.630.33INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D78440.10.10.1NitrationAbs/.tm*ASTM D7624>207.36.66.2SulfationAbs/.tm*ASTM D7445>30325.723.422.1FLUID DEGRAD-TIONmethodlimit/basecurrenthistory1history2OxidationAbs/.tm*ASTM D7445>2516.915.413.9		·	ppm					
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>+1003893633269SodiumppmASTM D5185m<			ppm					
SiliconppmASTM D5185m>+100389363269SodiumppmASTM D5185m02PotassiumppmASTM D5185m>20110Fuel%ASTM D3524>4.00.30.60.3INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D78440.10.10.1NitrationAbs/cm*ASTM D7624>207.36.66.2SulfationAbs/1mm*ASTM D7415>3025.723.422.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/1mm*ASTM D7414>2516.915.413.9			ppm	ASTM D5185m	2575	4223	3718	3677
Sodium ppm ASTM D5185m <1								
PotassiumppmASTM D5185m>20110Fuel%ASTM D3524>4.00.30.60.3INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D78440.10.10.10.1NitrationAbs/cm*ASTM D7624>207.36.66.2SulfationAbs/1mm*ASTM D7415>3025.723.422.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/1mm*ASTM D7414>2516.915.413.9					>+100			
Fuel%ASTM D3524>4.00.30.60.3INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D78440.10.10.1NitrationAbs/cm*ASTM D7624>207.36.66.2SulfationAbs/.1mm*ASTM D7415>3025.723.422.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2516.915.413.9			ppm				0	
INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D78440.10.10.1NitrationAbs/cm*ASTM D7624>207.36.66.2SulfationAbs/tmm*ASTM D7415>3025.723.422.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/tmm*ASTM D7414>2516.915.413.9								
Soot % % *ASTM D7844 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 7.3 6.6 6.2 Sulfation Abs/.1mm *ASTM D7415 >30 25.7 23.4 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.9 15.4 13.9			%	ASTM D3524	>4.0	0.3	0.6	
Nitration Abs/cm *ASTM D7624 >20 7.3 6.6 6.2 Sulfation Abs/.1mm *ASTM D7415 >30 25.7 23.4 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.9 15.4 13.9					limit/base			
Sulfation Abs/.1mm *ASTM D7415 >30 25.7 23.4 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.9 15.4 13.9		Soot %	%	*ASTM D7844			0.1	
FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2516.915.413.9		Nitration	Abs/cm	*ASTM D7624	>20	7.3	6.6	6.2
Oxidation Abs/.1mm *ASTM D7414 >25 16.9 15.4 13.9		Sulfation	Abs/.1mm	*ASTM D7415	>30	25.7	23.4	22.1
		FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D8045 0.98 1.58 1.51 1.18		Oxidation	Abs/.1mm	*ASTM D7414	>25	16.9	15.4	13.9
		Acid Number (AN)	mg KOH/g	ASTM D8045	0.98	1.58	1.51	1.18

Base Number (BN) mg KOH/g ASTM D2896 8.1

5.85

5.75

5.85



OIL ANALYSIS REPORT

method

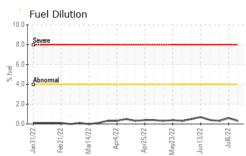
limit/base

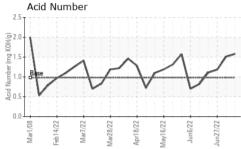
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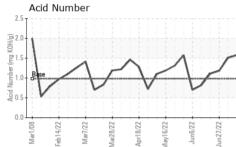
history1

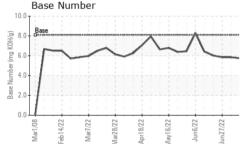
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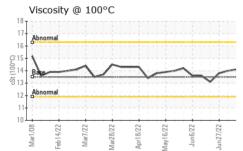
VISUAL



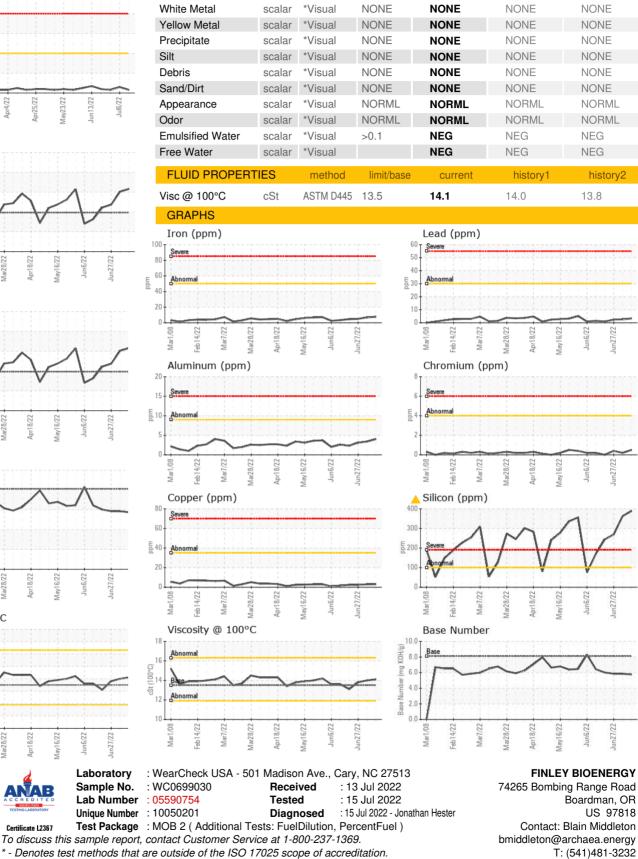








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* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Certificate L2367

Page 2 of 2

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