

OIL ANALYSIS REPORT

Sample Rating Trend



ROUTS BLOWER 5100

Blower

Fluid CHEVRON HIPERSYN OIL ISO 100 (--- GAL)

DIAGNOSIS

Recommendation

No further action required. This sample looks sooo good that it looks like it is right out of the drum.

Wear

There is no wear debris in the sample

Contamination

There are no fluid contaminants denoted for this sample.

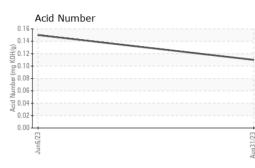
Fluid Condition

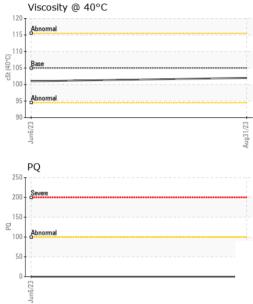
Lubricant health suggests the oil is acceptable for continued use.

SAMPLE INFORMATION method limit/base current history1 history2 Sample Number Client Info 31 Aug 2023 06 Jun 2023 Sample Date Client Info 0 0 Oil Age hrs Client Info 0 0 Oil Age hrs Client Info 0 0 Oil Age hrs Client Info NA N/A Sample Status Client Info NC NCRMAL CONTAMINATION method Imit/base current history1 history2 Water WC Method NEG NEG Wetar MSTM 0518/m >20 0 0 Nickel ppm ASTM 0518/m >20 0 Nickel ppm ASTM 0518/m >20 0 Silver ppm ASTM 0518/m >20 0				Jun2023	Aug2023		
Sample Date Client Info 31 Aug 2023 06 Jun 2023 Machine Age hrs Client Info 0 0 Oil Age hrs Client Info 0 0 Sample Status Client Info N/A N/A Sample Status Client Info N/A N/A CONTAMINATION method imit/base current history1 history2 Water WC Method NEG NEG WEAR METALS method imit/base current history1 history2 PQ ASTM D5185(m) 20 0 0 Nickel ppm ASTM D5185(m) 20 0 0 Silver ppm ASTM D5185(m) 20 0 Copper ppm ASTM D5185(m) 20 0 Antimony ppm ASTM D5185(m) 20	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 Oil Age hrs Client Info 0 0 Oil Changed Client Info N/A N/A N/A Sample Status NORMAL NORMAL CONTAMINATION method Imit/base current history1 history2 Water WC Method NEG history2 PQ ASTM D8184' 0 0 Iron ppm ASTM D8185(m) >20 0 0 Titanium ppm ASTM D5185(m) >20 0 Silver ppm ASTM D5185(m) >20 0 Copper ppm ASTM D5185(m) >20 0 Aluminum ppm ASTM D5185(m) >20 0 Autinum <	Sample Number		Client Info		PLS0000770	WC0820469	
Oil Age hrs Client Info 0 Oil Changed Client Info N/A N/A N/A Sample Status method limit/base current history1 history2 Water WC Method NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184/ 0 0 VEAR METALS method limit/base current history1 history2 PQ ASTM D8184// 0 0 Nickel ppm ASTM D5185(m) >20 0 Nickel ppm ASTM D5185(m) >20 0 Lead ppm ASTM D5185(m) >20 0 Lead ppm ASTM D5185(m) 20 0 Atluminum ppm ASTM D5185(m) 0 0	Sample Date		Client Info		31 Aug 2023	06 Jun 2023	
Oil Changed Sample Status Client Info N/A N/A N/A Sample Status Image Status Image Status NORMAL NORMAL CONTAMINATION method Imit/base current history1 history2 Water WC Method NEG NEG WEAR METALS method Imit/base current history1 history2 PQ ASTM D8184/ 0 0 Iron ppm ASTM D5185(m) >20 0 0 Nickel ppm ASTM D5185(m) >20 0 Silver ppm ASTM D5185(m) >20 0 Lead ppm ASTM D5185(m) >20 0 Tin ppm ASTM D5185(m) >20 0 Autimony ppm ASTM D5185(m) 0 0	Machine Age	hrs	Client Info		0	0	
Sample Status NORMAL NORMAL NORMAL CONTAMINATION method imit/base current history1 history2 Water WC Method NEG NEG WEAR METALS method imit/base current history1 history2 PQ ASTM D8184/ 0 0 Iron ppm ASTM D5185(m) >20 0 0 Nickel ppm ASTM D5185(m) >20 0 0 Aluminum ppm ASTM D5185(m) >20 0 0 Aluminum ppm ASTM D5185(m) >20 0 Aluminum ppm ASTM D5185(m) >20 0 Aluminum ppm ASTM D5185(m) >20 0 Add ppm ASTM D5185(m) >20 0 Lead ppm	Oil Age	hrs	Client Info		0	0	
CONTAMINATION method limit/base current history1 history2 Water WC Method NEG method limit/base current history1 history2 PQ ASTM D6186/m >20 0 0 Iron ppm ASTM D6186/m >20 0 0 Nickel ppm ASTM D6186/m >20 0 0 Nickel ppm ASTM D6186/m >20 0 0 Nickel ppm ASTM D6186/m >20 0 0 Aluminum ppm ASTM D6186/m >20 0 <1 Lead ppm ASTM D6186/m >20 0 <1 Antimony ppm ASTM D6186/m >20 0 <1 Vanadium ppm ASTM D6186/m 0 0 Antimony ppm ASTM D6186/m	Oil Changed		Client Info		N/A	N/A	
Water WC Method NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184* 0 0	Sample Status				NORMAL	NORMAL	
WEAR METALS method limit/base current history1 history2 PQ ASTM D8184' 0 0	CONTAMINATIO	ON	method	limit/base	current	history1	history2
PQ ASTM D8184' 0 0 Iron ppm ASTM D5185(m) >20 0 0 Nickel ppm ASTM D5185(m) >20 0 0 Nickel ppm ASTM D5185(m) >20 0 0 Nickel ppm ASTM D5185(m) >20 0 0 Silver ppm ASTM D5185(m) >20 0 <11 Lead ppm ASTM D5185(m) >20 0 <11 Lead ppm ASTM D5185(m) >20 0 <11 Lead ppm ASTM D5185(m) >20 0 <11 Antimony ppm ASTM D5185(m) 0 0 Antimony ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0	Water		WC Method		NEG	NEG	
Iron ppm ASTM D5185(m) >20 0 0 Chromium ppm ASTM D5185(m) >20 0 0 Nickel ppm ASTM D5185(m) >20 0 0 Nickel ppm ASTM D5185(m) >20 0 0 Silver ppm ASTM D5185(m) >20 0 0 Aluminum ppm ASTM D5185(m) >20 0 0 Lead ppm ASTM D5185(m) >20 0 <1 Copper ppm ASTM D5185(m) >20 0 <1 Antimony ppm ASTM D5185(m) 0 0 Nistory Beryllium ppm ASTM D5185(m) 0 0 Beryllium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m)	WEAR METALS		method	limit/base	current	history1	history2
Chromium ppm ASTM D5185(m) >20 0 0 Nickel ppm ASTM D5185(m) >20 0 0 Titanium ppm ASTM D5185(m) 0 0 Silver ppm ASTM D5185(m) 20 0 0 Aluminum ppm ASTM D5185(m) >20 0 0 Lead ppm ASTM D5185(m) >20 0 0 Copper ppm ASTM D5185(m) >20 0 <1 Antimony ppm ASTM D5185(m) >20 0 <1 Antimony ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 Boron ppm ASTM D5185(m) 0 0	PQ		ASTM D8184*		0	0	
Nickel ppm ASTM D5185(m) >20 0 0 Titanium ppm ASTM D5185(m) 0 0 Silver ppm ASTM D5185(m) >20 0 <1 Lead ppm ASTM D5185(m) 0 0 Antimony ppm ASTM D5185(m) 0 0 Antimony ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 Boron ppm ASTM D5185(m) 0 0 Magneseum ppm ASTM D5185(m) 0 0 <	Iron	ppm	ASTM D5185(m)	>20	0	0	
Titanium ppm ASTM D5185(m) 0 0 Silver ppm ASTM D5185(m) >20 0 <1 Aluminum ppm ASTM D5185(m) >20 0 0 Lead ppm ASTM D5185(m) >20 0 0 Copper ppm ASTM D5185(m) >20 0 <1 Tin ppm ASTM D5185(m) >20 0 <1 Antimony ppm ASTM D5185(m) 0 0 Vanadium ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 Boron ppm ASTM D5185(m) <1 <1 Molybdenum ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) <1	Chromium	ppm	ASTM D5185(m)	>20	0	0	
Number ppm ASTM D5185(m) 0 0	Nickel	ppm	ASTM D5185(m)	>20	0	0	
Aluminum ppm ASTM D5185(m) >20 0 <1 Lead ppm ASTM D5185(m) >20 0 0 Copper ppm ASTM D5185(m) >20 <1 0 Tin ppm ASTM D5185(m) >20 0 <1 Antimony ppm ASTM D5185(m) >20 0 <1 Antimony ppm ASTM D5185(m) 0 0 Vanadium ppm ASTM D5185(m) 0 0 Vanadium ppm ASTM D5185(m) 0 0 Beryllium ppm ASTM D5185(m) 0 0	Titanium	ppm	ASTM D5185(m)		0	0	
Lead ppm ASTM D5185(m) >20 0 0 Copper ppm ASTM D5185(m) >20 <1 0 Tin ppm ASTM D5185(m) >20 0 <1 Antimony ppm ASTM D5185(m) 0 0 Vanadium ppm ASTM D5185(m) 0 0 Vanadium ppm ASTM D5185(m) 0 0 Beryllium ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 <td< th=""><th>Silver</th><th>ppm</th><th>ASTM D5185(m)</th><th></th><th>0</th><th>0</th><th></th></td<>	Silver	ppm	ASTM D5185(m)		0	0	
Copper ppm ASTM D5185(m) >20 <1	Aluminum	ppm	ASTM D5185(m)	>20	0	<1	
Tin ppm ASTM D5185(m) >20 0 <1	Lead	ppm	ASTM D5185(m)	>20	0	0	
Antimony ppm ASTM D5185(m) 0 0 Vanadium ppm ASTM D5185(m) 0 0 Beryllium ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) <1 <1 Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Maganesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) <11 0 Vinc ppm ASTM D5185(m) <11 Calcium ppm ASTM D5185(m) 11 <1 Sulfur ppm ASTM D5185(m) 107 1111 <td< th=""><th>Copper</th><th>ppm</th><th>ASTM D5185(m)</th><th>>20</th><th><1</th><th>0</th><th></th></td<>	Copper	ppm	ASTM D5185(m)	>20	<1	0	
Vanadium ppm ASTM D5185(m) 0 0 Beryllium ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) <1	Tin	ppm	ASTM D5185(m)	>20	0	<1	
Beryllium ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) <1	Antimony	ppm	ASTM D5185(m)		0	0	
Cadmium ppm ASTM D5185(m) 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) <1	Vanadium	ppm	ASTM D5185(m)		0	0	
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185(m)<1<1BariumppmASTM D5185(m)00MolybdenumppmASTM D5185(m)00ManganeseppmASTM D5185(m)00MagnesiumppmASTM D5185(m)00CalciumppmASTM D5185(m)00PhosphorusppmASTM D5185(m)<10ZincppmASTM D5185(m)11<1SulfurppmASTM D5185(m)107111LithiumppmASTM D5185(m)<1<1SoliconppmASTM D5185(m)>15<1<1SoliumppmASTM D5185(m)>2000FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Beryllium	ppm	ASTM D5185(m)		0	0	
Boron ppm ASTM D5185(m) <1	Cadmium	ppm	ASTM D5185(m)		0	0	
Barium ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) <1 0 Phosphorus ppm ASTM D5185(m) 818 844 Sulfur ppm ASTM D5185(m) 1 <1 Sulfur ppm ASTM D5185(m) 107 111 Lithium ppm ASTM D5185(m) <1 <1 Sodium ppm ASTM D5185(m) >15 <1 <1 Sodium ppm ASTM D5185(m) >20 0 <1 Potassium ppm ASTM D5185(m) >20 0	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) <1 0 Calcium ppm ASTM D5185(m) 818 844 Zinc ppm ASTM D5185(m) 1 <1 Sulfur ppm ASTM D5185(m) 107 111 Lithium ppm ASTM D5185(m) <1 <1 Sulfur ppm ASTM D5185(m) >15 <1 <1 Sulfur ppm ASTM D5185(m) >15 <1 <1 Sulfur ppm ASTM D5185(m) >15 <1 <1 Sodium ppm ASTM D5185(m)	Boron	ppm	ASTM D5185(m)		<1	<1	
Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) <1 0 Calcium ppm ASTM D5185(m) 818 844 Phosphorus ppm ASTM D5185(m) 1 <1 Zinc ppm ASTM D5185(m) 107 111 Sulfur ppm ASTM D5185(m) 107 111 Lithium ppm ASTM D5185(m) <1 <1 Solicon ppm ASTM D5185(m) >15 <1 <1 Sodium ppm ASTM D5185(m) >15 <1 <1 Sodium ppm ASTM D5185(m) >20 0 <1 FLUID DEGRADATION method limit/base current history1 history2	Barium	ppm	ASTM D5185(m)		0	0	
Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) <1 0 Phosphorus ppm ASTM D5185(m) 818 844 Zinc ppm ASTM D5185(m) 1 <1 Sulfur ppm ASTM D5185(m) 107 111 Sulfur ppm ASTM D5185(m) 107 111 Lithium ppm ASTM D5185(m) <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 <1 <1 Sodium ppm ASTM D5185(m) >20 0 <1 FLUID DEGRADATION method limit/base current history1 history2	Molybdenum	ppm	ASTM D5185(m)		0	0	
Calcium ppm ASTM D5185(m) <1	Manganese	ppm	ASTM D5185(m)		0	0	
Phosphorus ppm ASTM D5185(m) 818 844 Zinc ppm ASTM D5185(m) 1 <1 Sulfur ppm ASTM D5185(m) 107 111 Lithium ppm ASTM D5185(m) 107 111 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 <1 <1 Sodium ppm ASTM D5185(m) >20 0 <1 FLUID DEGRADATION method limit/base current history1 history2	Magnesium	ppm	ASTM D5185(m)		0	0	
Zinc ppm ASTM D5185(m) 1 <1	Calcium	ppm	ASTM D5185(m)		<1	0	
Sulfur ppm ASTM D5185(m) 107 111 Lithium ppm ASTM D5185(m) <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 <1 <1 Sodium ppm ASTM D5185(m) >20 0 0 Potassium ppm ASTM D5185(m) >20 0 <1 FLUID DEGRADATION method limit/base current history1 history2	Phosphorus	ppm	ASTM D5185(m)		818	844	
LithiumppmASTM D5185(m)<1	Zinc	ppm	ASTM D5185(m)		1	<1	
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>15<1<1SodiumppmASTM D5185(m)00PotassiumppmASTM D5185(m)>200<1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Sulfur	ppm	ASTM D5185(m)		107	111	
Silicon ppm ASTM D5185(m) >15 <1	Lithium	ppm	ASTM D5185(m)		<1	<1	
SodiumppmASTM D5185(m)00PotassiumppmASTM D5185(m) >200<1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	CONTAMINANT	S	method	limit/base	current	history1	history2
PotassiumppmASTM D5185(m)>200<1	Silicon	ppm	ASTM D5185(m)	>15	<1	<1	
PotassiumppmASTM D5185(m)>200<1	Sodium	ppm	ASTM D5185(m)		0	0	
	Potassium		ASTM D5185(m)	>20	0	<1	
Acid Number (AN) mg KOH/g ASTM D974* 0.11 0.15	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974*		0.11	0.15	



OIL ANALYSIS REPORT





	VISUAL		method				history2
	White Metal	scalar	Visual*	NONE	NONE	NONE	
	Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
	Precipitate	scalar	Visual*	NONE	NONE	NONE	
	Silt	scalar	Visual*	NONE	NONE	NONE	
	Debris	scalar	Visual*	NONE	VLITE	NONE	
	Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	
23	Appearance	scalar	Visual*	NORML	NORML	NORML	
Aug31/23	Odor		Visual*	NORML		NORML	
A	Emulsified Water	scalar	Visual*	NORME	NEG	NEG	
		scalar	Visual*				
	Free Water	scalar			NEG	NEG	
	FLUID PROPE		method	limit/base	current	history1	history2
	Visc @ 40°C	cSt	ASTM D7279(m)	105	102	101	
	SAMPLE IMAG	ES	method	limit/base	current	history1	history2
Aug31/23	Color						no image
	Bottom						no image
	GRAPHS						
-	Ferrous Alloys				PQ		
	d			180) 🗕 🕂		
				160).		
	Non-ferrous Me	tals		160 140)		
	Non-ferrous Me	tals		160 140 EZ/[EBINH 02)- - - - - - -		
	Non-ferrous Me	tals		160 140 2120 40 100 80 60)- - - - - - - -		
	Non-ferrous Me	tals		EX 140 EX 120 B 100 80 60 40 20 20 20 100 100 100 100 100 100 100 1)		
	Non-ferrous Me			160 140 EZ ICE 120 100 80 60 40	Abnormal Abnormal		
	Non-ferrous Me			EZ/LEBINY BUD EZ/LEBINY COL EZ/LEBINY EZ/LEBINY	Abnormal		
	Non-ferrous Me			EZ/LEBINY BUD EZ/LEBINY COL EZ/LEBINY EZ/LEBINY	Abnormal		
13-05	Non-ferrous Me			EZ/LEBINY BUD EZ/LEBINY COL EZ/LEBINY EZ/LEBINY	Abnormal		
13-05	Non-ferrous Me Non-ferrous Me Und Und Und Und Unit Unit Unit Unit Unit Unit Unit Unit			EZ/LEBINY BUD EZ/LEBINY COL EZ/LEBINY EZ/LEBINY	Abnormal		
13-05	Non-ferrous Me Non-ferrous Me Und Und Und Und Und Viscosity @ 40° Viscosity @ 40°			40 140 140 122 100 100 100 100 100 100 10	Abnormal Abnormal		
13-05	Non-ferrous Me			EZ ICE Manual Manual M	Abnormal Acid Number		
13-04	Non-ferrous Me Non-ferrous Me Und Und Und Und Und Viscosity @ 40° Viscosity @ 40°			40 100 100 100 100 100 100 100 1	Abnormal Abnormal		
poratory nple No. 9 Number que Number te Package	Non-ferrous Me	C 1175 Apple Received Diagnos Diagnosi	d : 05 ed : 08 tician : Mik	EZ/IE ^{BMW} EZ/IE ^{BMW} COLUCE	Abnormal Abnormal Acid Number	12621 - 15	66th Street NV Edmonton, A CA T5V 1E stin Woodwar

To discuss this sample report, Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

CALA

ISO 17025:2017 Accredited Laboratory

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