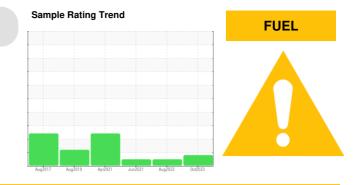


PROBLEM SUMMARY

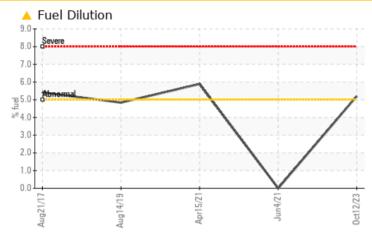


Area CONSTRUCTORS, INC Machine Id CATERPILLAR 3306 06-0222 Component

Front Diesel Engine Fluid MOBIL DELVAC 1300 SUPER 10W30 (--- GAL)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the fuel injection system. Resample at the next service interval to monitor. (Customer Sample Comment: CHECKING FOR FUEL IN OIL - DIDN`T CHANGE)

PROBLEMATIC TEST RESULTS							
Sample Status				ABNORMAL	NORMAL	NORMAL	
Fuel	%	ASTM D3524	>5	<u> </u>	<1.0	<1.0	

Customer Id: CONLINNE Sample No.: SBP0004910 Lab Number: 05980285 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Jonathan Hester +1 919-379-4092 x4092 jhester@wearcheckusa.com

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED A	ENDED ACTIONS				
Action	Status	Date	Done By	Description	
Check Fuel/injector System			?	We advise that you check the fuel injection system.	

HISTORICAL DIAGNOSIS

NORMAL



Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



view report

04 Jun 2021 Diag: Wes Davis

17 Aug 2022 Diag: Wes Davis



Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

15 Apr 2021 Diag: Wes Davis



We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The oil is no longer serviceable due to the presence of contaminants.









OIL ANALYSIS REPORT

CONSTRUCTORS, INC **CATERPILLAR 3306 06-0222** Component

Sample Rating Trend FUEL

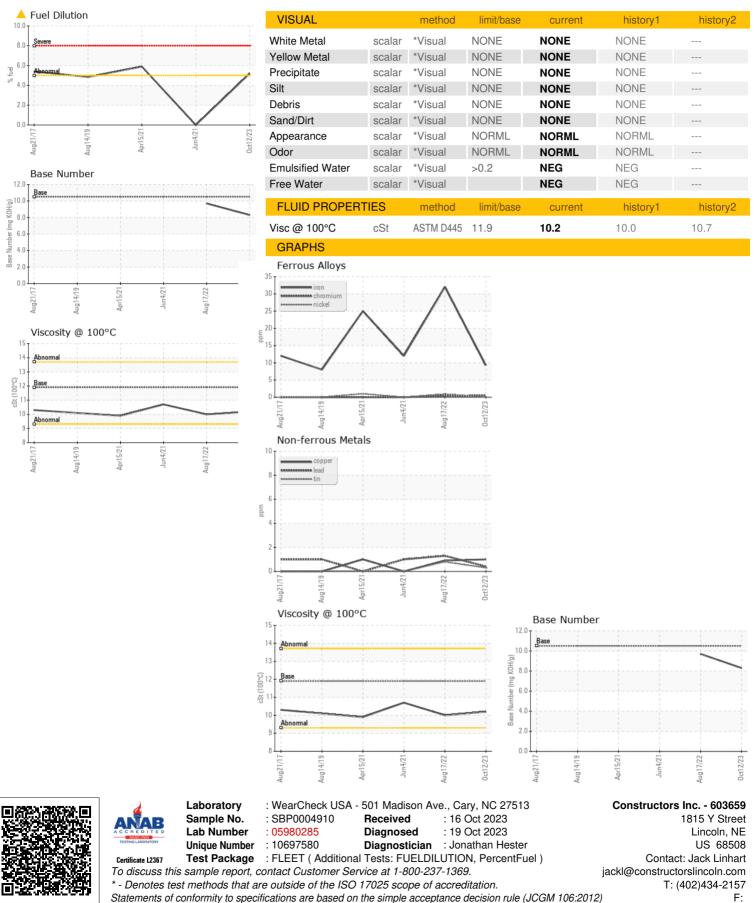
Front Diesel Engine

~ * • •

RecommendationSample NumberClient InfoSBP0004910SBP0001173SBP5927401I'e advise that you check the fuel injection system.Sample DateClient Info12 Oct 202317 Aug 202204 Jun 2021Sample DateClient Info908789218529Ustomer Sample Comment: CHECKING FORMachine AgehrsClient Info908789218529Oil AgehrsClient Info16644250Oil ChangedClient InfoNot ChangdNot ChangdNot ChangdI component wear rates are normal.CONTAMINATIONmethodlimit/basecurrenthistory1history2Oil ContaminationGlycolWC MethodNEGNEG0.00.0WEAR METALSmethodlimit/basecurrenthistory1history2IronppmASTM D5185m<>10593212	MOBIL DELVAC 1300	SUPER 10W30 (GAL)	Aug2017	Aug2019 Apr2021	Jun2021 Aug2022	Oct2023	
is advise inter jou orbed: her liel injection system Sample Date Cilent Info 12.021202 17.402.022 04.Jun 2021 Liel IN OL DOIDY 6829 612 0012 0827 0821 0829 Liel IN OL DOIDY CHARDARD Client Info Not Changed Not	DIAGNOSIS	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
esampla it he next service interval to monitor (Marione Age of the Client info interval in	Recommendation	Sample Number		Client Info		SBP0004910	SBP0001173	SBP59274012
esampla it he next service interval to monitor (Marione Age of the Client info interval in	We advise that you check the fuel injection system.	Sample Date		Client Info		12 Oct 2023	17 Aug 2022	04 Jun 2021
JEL IN OL - DIDN'T CHANGE) Contaged Coll changed Not Changed Changed	Resample at the next service interval to monitor. (Machine Age	hrs	Client Info		9087	8921	
Car Not Changed Clerk India Not Changed		Oil Age	hrs	Client Info		166	442	50
Component wear rates are normal. CONTAMINATION mathod MinData Control Nickory2 Control Glycol WC Method Immitbase current history2 0.0 ne Bia moderate amount of fuel present in the salinity remaining in the oil. Glycol WC Method Immitbase current history1 history2 No cell ppm ASTM 0516m >5 4 <1		Oil Changed		Client Info		Not Changd	Changed	Not Changd
Contamination prefix is anoderate amount of fuel present in the . CONTAMINATION method Imitbase outrent history1 history2 uid Condition re BM result indicates that here is suitable kalinity remaining in the oil. WERA METALS method Imitbase ourrent history1 fibrory2 Iron ppm ASTI/0516m >105 9 22 12 Iron ppm ASTI/0516m >4 4 0 0 Nickel ppm ASTI/0516m >4 1 0 0 Silver ppm ASTI/0516m >22 4 0 0 Queed ppm ASTI/0516m >16 1 1 1 Copper ppm ASTI/0516m >22 4 1 0 Vanadium ppm ASTI/0516m <1	Wear All component wear rates are normal.	Sample Status				ABNORMAL	NORMAL	NORMAL
Vietar METALS method imit/base current history1 history2 uid Condition e BM result indicates that there is suitable kainity remaining in the oil. Iron pm ASTM 05186n >105 9 32 12 Dromium ppm ASTM 05186n >4 <1	Contamination	CONTAMINATION		method	limit/base	current	history1	history2
uid Contion ppm ASTM 05185n >105 9 32 12 kainity remaining in the oil. ppm ASTM 05185n >2 <1	There is a moderate amount of fuel present in the bil.	Glycol		WC Method		NEG	NEG	0.0
non ppm ASTN 05160 >105 9 32 12 Name ppm ASTN 05160 >40 <1	Fluid Condition	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTN 0518m >4 <1 <1 0 Titanium ppm ASTN 0518m >2 <1	The BN result indicates that there is suitable	Iron	ppm	ASTM D5185m	>105	9	32	12
Titanium ppm ASTM D3168m >2 <1 0 0 Silver ppm ASTM D3168m >2 0 0 0 Silver ppm ASTM D3168m >10 1 <1 0 Lead ppm ASTM D3168m >140 1 <1 0 Copper ppm ASTM D3168m >140 1 <1 0 Vanadium ppm ASTM D3168m >44 <1 0 0 0 Vanadium ppm ASTM D3168m <4 <1 0 0 0 ADDITIVES method limit/base current mistory1 mistory1 mistory2 Barium ppm ASTM D3168m 5 56 56 57 58 Barium ppm ASTM D3168m 5 52 29 25 56 63	Ikalinity remaining in the oil.	Chromium	ppm	ASTM D5185m	>5	<1	<1	0
Silver ppm ASTIL D5185m >2 0 0 Aluminum ppm ASTIL D5185m >10 1 <1		Nickel	ppm	ASTM D5185m	>4	<1	<1	0
SilverppmASTIA D5185m>2000AluminumppmASTIA D5185m>101<1				ASTM D5185m	>2	<1	0	0
Aluminum ppm ASTM D5185m >10 1 <1		Silver	ppm			0	0	0
Copper ppm ASTM D516m >140 1 <1 0 Tin ppm ASTM D518m >4 <1				ASTM D5185m	>10	1	<1	0
Tin ppm ASTM D5185m >4 <1 <1 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m c1 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 56 57 Barium ppm ASTM D5185m 5 56 57 Barium ppm ASTM D5185m 5 52 29 25 Manganese ppm ASTM D5185m 5 6 31 0 Manganese ppm ASTM D5185m 952 1464 1288 Phosphorus ppm ASTM D5185m 952 1464 1288 Phosphorus ppm ASTM D5185m 952 1464 328 Suffur ppm ASTM D5185m 952 3 5 5 Sodium ppm ASTM D5185m 2604 234 CONTAMINATS method <td></td> <td>Lead</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>15</td> <td><1</td> <td>1</td> <td>1</td>		Lead	ppm	ASTM D5185m	>15	<1	1	1
Vanadium CadmiumppmASTM D5185m000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m55657BariumppmASTM D5185m522925MolybdenumppmASTM D5185m522925ManganeseppmASTM D5185m794479421CalciumppmASTM D5185m794479421CalciumppmASTM D5185m9521464188PhosphorusppmASTM D5185m835653617ZincppmASTM D5185m1030793681SuffurppmASTM D5185m26042345CONTAMINANTmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m20413PotassiumppmASTM D5185m20413PotassiumppmASTM D5185m2041.02Fuel%ASTM D5185m2041.03OtassiumppmASTM D5185m2041.03PotassiumppmASTM D5185m2041.03PotassiumppmASTM D5185m2041.03PotassiumppmASTM D5185m205.241.041.0Notifation%ASTM D5185m205.241.041.0Notifation% </td <td></td> <td>Copper</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>140</td> <td>1</td> <td><1</td> <td>0</td>		Copper	ppm	ASTM D5185m	>140	1	<1	0
Cadmium prm ASTM D5185m 1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 56 57 Barium ppm ASTM D5185m 5 56 57 Barium ppm ASTM D5185m 52 29 25 Manganese ppm ASTM D5185m 57 41 410 1288 Magnesium ppm ASTM D5185m 794 479 421 Calcium ppm ASTM D5185m 835 653 617 Zinc ppm ASTM D5185m 835 663 617 Zinc ppm ASTM D5185m 2604 2345 Sulfur ppm ASTM D5185m 2604 2345 Sulfur ppm ASTM D5185m 25 3 5 5 Sodium ppm ASTM D5185m 20 <1		Tin	ppm	ASTM D5185m	>4	<1	<1	0
ADDITIVES method imit/base current history1 history2 Boron ppm ASTM D5185m 5 56 57 Barium ppm ASTM D5185m 52 29 25 Manganese ppm ASTM D5185m 52 29 25 Manganesium ppm ASTM D5185m 52 29 25 Manganesium ppm ASTM D5185m 52 29 25 Phosphorus ppm ASTM D5185m 794 479 421 Calcium ppm ASTM D5185m 952 1464 1288 Phosphorus ppm ASTM D5185m 952 653 651 Sulfur ppm ASTM D5185m 2604 2345 CONTAMINANTS method imit/base current history1 history2 Silicon ppm ASTM D5185m 25 3 5 5 Sodium ppm ASTM D5185m 22		Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 5 56 57 Barium ppm ASTM D5185m 3 0 0 Molybdenum ppm ASTM D5185m 52 29 25 Manganese ppm ASTM D5185m 52 29 421 Calcium ppm ASTM D5185m 794 479 421 Calcium ppm ASTM D5185m 952 1464 1288 Phosphorus ppm ASTM D5185m 835 653 617 Zine ppm ASTM D5185m 1030 793 681 Sulfur ppm ASTM D5185m 2604 2345 CONTAMIINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 3 5 5 Sodium ppm ASTM D5185m >20 4 3 Potassium ppm ASTM D5185m >20 10.0 2 Fuel % ASTM D5185m >20 1.0.0 -1.		Cadmium	ppm	ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 3 0 0 Molybdenum ppm ASTM D5185m 52 29 25 Manganese ppm ASTM D5185m < 1 <1 0 Magnesium ppm ASTM D5185m 1 <1 0 Magnesium ppm ASTM D5185m 794 479 421 Calcium ppm ASTM D5185m 952 1464 1283 Phosphorus ppm ASTM D5185m 835 653 617 Zinc ppm ASTM D5185m 1030 793 681 Sulfur ppm ASTM D5185m 2604 2345 Soliton ppm ASTM D5185m >22 3 5 5 Sodium ppm ASTM D5185m >22 3 5 5 Sodium ppm ASTM D5185m >22 3 5 5 Sodium ppm ASTM D5185m >22 <1.0 21.0 21.0		ADDITIVES		method	limit/base	current	history1	history2
MolybdenumppmASTM D5185m522925ManganeseppmASTM D5185m<		Boron	ppm	ASTM D5185m		5	56	57
Manganese ppm ASTM D5185m 1 <1 <1 0 Magnesium ppm ASTM D5185m 794 479 421 Calcium ppm ASTM D5185m 952 1464 1288 Phosphorus ppm ASTM D5185m 835 653 617 Zinc ppm ASTM D5185m 835 653 617 Sulfur ppm ASTM D5185m 1030 793 681 Sulfur ppm ASTM D5185m 2604 2345 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 3 5 5 Sodium ppm ASTM D5185m >20 <1.0		Barium	ppm	ASTM D5185m		3	0	0
MagnesiumppmASTM D5185m794479421CalciumppmASTM D5185m95214641288PhosphorusppmASTM D5185m835653617ZincppmASTM D5185m1030793681SulfurpmASTM D5185m26042345CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25355SodiumppmASTM D5185m>20<1<		Molybdenum	ppm	ASTM D5185m		52	29	25
Calcium ppm ASTM D5185m 952 1464 1288 Phosphorus ppm ASTM D5185m 835 653 617 Zinc ppm ASTM D5185m 1030 793 681 Sulfur ppm ASTM D5185m 2604 2345 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 5 5 Sodium ppm ASTM D5185m >25 3 5 5 Sodium ppm ASTM D5185m >20 <1		Manganese	ppm	ASTM D5185m		<1	<1	0
Phosphorus ppm ASTM D5185m 8335 653 617 Zinc ppm ASTM D5185m 1030 793 681 Sulfur ppm ASTM D5185m 2604 2345 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 5 5 Sodium ppm ASTM D5185m >20 <1		Magnesium	ppm	ASTM D5185m		794	479	421
ZincppmASTM D5185m1030793681SulfurppmASTM D5185m26042345CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25355SodiumppmASTM D5185m>20355SodiumppmASTM D5185m>20<1		Calcium	ppm	ASTM D5185m		952	1464	1288
SulfurppmASTM D5185m26042345CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25355SodiumppmASTM D5185m>20355SodiumppmASTM D5185m>20<1		Phosphorus	ppm	ASTM D5185m		835	653	617
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25355SodiumppmASTM D5185m243PotassiumppmASTM D5185m>20<1		Zinc	ppm	ASTM D5185m		1030	793	681
SiliconppmASTM D5185m>25355SodiumppmASTM D5185m243PotassiumppmASTM D5185m>20<1		Sulfur	ppm	ASTM D5185m		2604	2345	
SodiumppmASTM D5185m243PotassiumppmASTM D5185m>20<1		CONTAMINANTS		method	limit/base	current	history1	history2
PotassiumppmASTM D5185m>20<102ChlorineppmASTM D5185m \sim \sim \sim 0Fuel%ASTM D5324>5 \checkmark 5.2<1.0<1.0INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>30.10.30.24NitrationAbs/cm*ASTM D7624>205.910.0SulfationAbs/.1mm*ASTM D7415>3017.022.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2513.221.3		Silicon	ppm	ASTM D5185m	>25	3	5	5
Chlorine ppm ASTM D5185m 0 Fuel % ASTM D3524 >5 \$5.2 <1.0		Sodium	ppm	ASTM D5185m		2	4	3
Fuel%ASTM D3524>55.2<1.0<1.0INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>30.10.30.24NitrationAbs/cm*ASTM D7624>205.910.0SulfationAbs/.1mm*ASTM D7415>3017.022.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2513.221.3		Potassium	ppm	ASTM D5185m	>20	<1	0	2
INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>30.10.30.24NitrationAbs/cm*ASTM D7624>205.910.0SulfationAbs/.tm*ASTM D7415>3017.022.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.tm*ASTM D7414>2513.221.3		Chlorine	ppm	ASTM D5185m				0
Soot % *ASTM D7844 >3 0.1 0.3 0.24 Nitration Abs/cm *ASTM D7624 >20 5.9 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 17.0 22.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.2 21.3		Fuel	%	ASTM D3524	>5	5.2	<1.0	<1.0
Nitration Abs/cm *ASTM D7624 >20 5.9 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 17.0 22.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.2 21.3		INFRA-RED		method	limit/base	current	history1	history2
SulfationAbs/.1mm*ASTM D7415>3017.022.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2513.221.3		Soot %	%	*ASTM D7844	>3	0.1	0.3	0.24
FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2513.221.3		Nitration	Abs/cm	*ASTM D7624	>20	5.9	10.0	
Oxidation Abs/.1mm *ASTM D7414 >25 13.2 21.3		Sulfation	Abs/.1mm	*ASTM D7415	>30	17.0	22.2	
		FLUID DEGRADAT	TION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 10.5 8.3 9.7		Oxidation	Abs/.1mm	*ASTM D7414	>25	13.2	21.3	
		Base Number (BN)	mg KOH/g	ASTM D2896	10.5	8.3	9.7	



OIL ANALYSIS REPORT



Submitted By: Jack Linhart Page 4 of 4