

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



OKLAHOMA/102/EG - CRANE Machine Id 22.66L [OKLAHOMA^102^EG - CRANE]

Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil

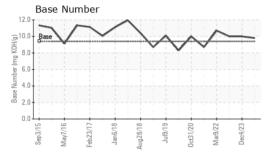
Fluid Condition

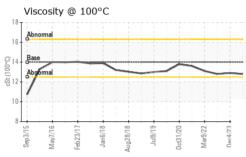
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method limit/base current history1 history2	ep2015 May/2016 Feb2017 Jan/2018 Jul/2019 Oct2020 May/2022 Dec2023						
Sample Date	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Date	Sample Number		Client Info		WC0873976	WC0832323	WC0807961
Oil Age hrs Client Info 207 72 279 Oil Changed Client Info Changed N/A Changed Sample Status Client Info Changed N/A Changed Fuel WC Method >5 <1.0	Sample Date		Client Info		03 Jan 2024	04 Dec 2023	02 Jun 2023
Oil Changed Sample Status Client Info Changed NORMAL NORMAL NORMAL Changed NORMAL NORMAL NORMAL Changed NORMAL NORMAL 1.0	Machine Age	hrs	Client Info		5207	7294	4943
Sample Status	Oil Age	hrs	Client Info		207	72	279
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <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	Oil Changed		Client Info		Changed	N/A	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method Of Med >0.2 NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 <1 2 4 Chromium ppm ASTM D5185m >20 0 0 <1 Nickel ppm ASTM D5185m >4 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >20 1 <1 <1 Lead ppm ASTM D5185m >40 <1 0 0 Copper ppm ASTM D5185m >330 0 <1 <1 Vanadium ppm ASTM D5185m >15 <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current his	CONTAMINATION	l	method	limit/base	current	history1	history2
Calipacian Wichest W	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 <1 2 4 Chromium ppm ASTM D5185m >20 0 0 <1 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >3 0 0 0 Lead ppm ASTM D5185m >40 <1 0 0 Copper ppm ASTM D5185m >40 <1 0 0 Copper ppm ASTM D5185m >40 <1 0 0 Vanadium ppm ASTM D5185m 0 <1 <1 <1 Cadmium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 47 54	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 0 0 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100			4
Titanium	Chromium	ppm	ASTM D5185m	>20		0	<1
Silver	Nickel	ppm	ASTM D5185m	>4			
Aluminum	Titanium	ppm	ASTM D5185m		0	0	0
Lead ppm ASTM D5185m >40 <1	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >330 0 <1	Aluminum	ppm	ASTM D5185m	>20	1	<1	<1
Tin ppm ASTM D5185m >15 <1	Lead	ppm	ASTM D5185m	>40	<1	0	0
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 0 47 54 40 Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 0 41 35 38 Manganese ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>330	0	<1	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 47 54 40 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 41 35 38 Manganese ppm ASTM D5185m 0 41 35 38 Magnesium ppm ASTM D5185m 0 517 478 518 Calcium ppm ASTM D5185m 0 517 478 518 Calcium ppm ASTM D5185m 1603 1463 1773 Phosphorus ppm ASTM D5185m 780 734 785 Zinc ppm ASTM D5185m 914 870 941 Sulfur ppm ASTM D5185m 25 4 4 4 CONTAMIN	Tin	ppm	ASTM D5185m	>15	<1	0	0
Boron ppm ASTM D5185m 0 47 54 40	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 47 54 40 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 41 35 38 Manganese ppm ASTM D5185m 0 517 478 518 Calcium ppm ASTM D5185m 0 517 478 518 Calcium ppm ASTM D5185m 1603 1463 1773 Phosphorus ppm ASTM D5185m 780 734 785 Zinc ppm ASTM D5185m 914 870 941 Sulfur ppm ASTM D5185m 2514 2715 3064 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >20 10 2 10 <	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 41 35 38 Manganese ppm ASTM D5185m -1 0 -1 Magnesium ppm ASTM D5185m 0 517 478 518 Calcium ppm ASTM D5185m 1603 1463 1773 Phosphorus ppm ASTM D5185m 780 734 785 Zinc ppm ASTM D5185m 914 870 941 Sulfur ppm ASTM D5185m 2514 2715 3064 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >20 10 2 10 INFRA-RED method limit/base current history1 history2 So	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 41 35 38 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m	0	47	54	40
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 0 517 478 518 Calcium ppm ASTM D5185m 1603 1463 1773 Phosphorus ppm ASTM D5185m 780 734 785 Zinc ppm ASTM D5185m 914 870 941 Sulfur ppm ASTM D5185m 2514 2715 3064 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >20 10 2 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7414 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7414 >25 20.3 19.1 bistory	Molybdenum	ppm	ASTM D5185m	0	41		
Calcium ppm ASTM D5185m 1603 1463 1773 Phosphorus ppm ASTM D5185m 780 734 785 Zinc ppm ASTM D5185m 914 870 941 Sulfur ppm ASTM D5185m 2514 2715 3064 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >20 10 2 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 20.7 22.1 FLUID DEGRADATION method limit/base current history1 <th>Manganese</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th><1</th> <th>0</th> <th><1</th>	Manganese	ppm	ASTM D5185m		<1	0	<1
Phosphorus ppm ASTM D5185m 780 734 785 Zinc ppm ASTM D5185m 914 870 941 Sulfur ppm ASTM D5185m 2514 2715 3064 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >20 10 2 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 20.7 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.3	Magnesium	ppm	ASTM D5185m	0			
Zinc ppm ASTM D5185m 914 870 941 Sulfur ppm ASTM D5185m 2514 2715 3064 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m 6 1 8 Potassium ppm ASTM D5185m >20 10 2 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 20.7 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.3	Calcium	ppm	ASTM D5185m				
Sulfur ppm ASTM D5185m 2514 2715 3064 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m 6 1 8 Potassium ppm ASTM D5185m >20 10 2 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 20.7 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.3 19.1 20.8		ppm	ASTM D5185m				
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m 6 1 8 Potassium ppm ASTM D5185m >20 10 2 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 20.7 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.3 19.1 20.8		ppm	ASTM D5185m		914	870	941
Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m 6 1 8 Potassium ppm ASTM D5185m >20 10 2 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 20.7 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.3 19.1 20.8		ppm			2514		
Sodium ppm ASTM D5185m 6 1 8 Potassium ppm ASTM D5185m >20 10 2 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 20.7 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.3 19.1 20.8	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 10 2 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 20.7 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.3 19.1 20.8		ppm		>25			
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 20.7 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.3 19.1 20.8	Sodium	ppm	ASTM D5185m		6	1	8
Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 20.7 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.3 19.1 20.8	Potassium	ppm	ASTM D5185m	>20	10	2	10
Nitration Abs/cm *ASTM D7624 >20 6.1 6.3 7.4 Sulfation Abs/.1mm *ASTM D7615 >30 21.8 20.7 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.3 19.1 20.8	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 21.8 20.7 22.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.3 19.1 20.8	Soot %		*ASTM D7844	>3	0.1		0.1
FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2520.319.120.8	Nitration	Abs/cm	*ASTM D7624	>20	6.1	6.3	7.4
Oxidation Abs/.1mm *ASTM D7414 >25 20.3 19.1 20.8	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.8	20.7	22.1
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.4 9.8 10.0 10.0	Oxidation	Abs/.1mm	*ASTM D7414	>25	20.3	19.1	20.8
	Base Number (BN)	mg KOH/g	ASTM D2896	9.4	9.8	10.0	10.0



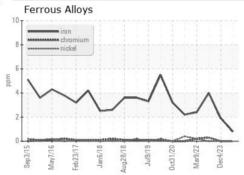
OIL ANALYSIS REPORT

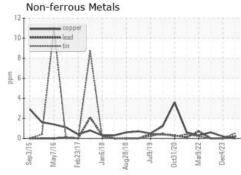


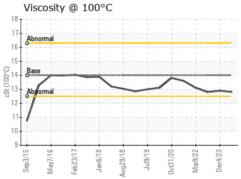


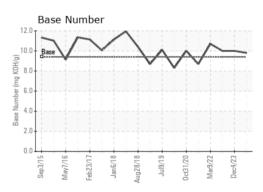
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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 PROPERTIES		method				history2
Visc @ 100°C	cSt	ASTM D445	14	12.8	12.9	12.8













Laboratory Sample No. Lab Number Unique Number : 10832263

: WC0873976 : 06060881

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 16 Jan 2024 Diagnosed

: 17 Jan 2024 Diagnostician : Wes Davis

Test Package : CONST (Additional Tests: TBN)

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)

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