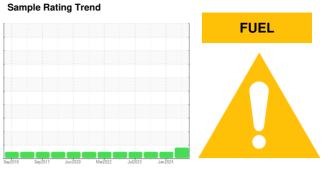


OIL ANALYSIS REPORT

OKLAHOMA/102/HY - ROLLER/COMPACTOR 64.26L [OKLAHOMA^102^HY - ROLLER/COMPACTOR]

Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)



DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

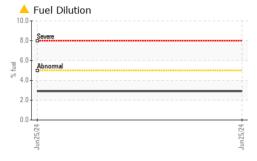
Fluid Condition

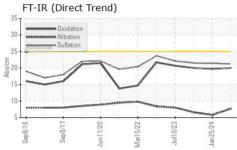
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

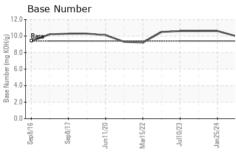
Sample Number Client Info WC0935265 WC0886884 WC0887 Sample Date Client Info 25 Jun 2024 25 Jun 2024 20 Nov 2 Machine Age hrs Client Info 3796 3674 3583 Oil Age hrs Client Info 246 250 155 Oil Changed Client Info Changed Changed Changed Changed Oil Changed Client Info Changed Changed Changed Changed Ward Wc Method Imitibase Current history1 history1 Water Wc Method NeG NEG NEG Riccolor Wc Method NeG NEG NEG WEAR METALS method limit/base current history1 history1 Iron pp ASTM D5185m >100 9 17 Chromium ppm ASTM D5185m >20 4 1 0 Iron ppm ASTM D5185m >20							
Sample Date Client Info 25 Jun 2024 25 Jun 2024 20 Nov 2 Machine Age hrs Client Info 3796 3674 3883 Oil Age hrs Client Info 246 250 155 Oil Changed Client Info Changed Changed Changed Changed Sample Status MARGINAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history1 Water WC Method NEG NEG NEG NEG WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >100 20 9 17 Chromium ppm ASTM D5185m >20 <1 0 0 Iron ppm ASTM D5185m >3 0 <1 0 0 Iron ppm ASTM D5185m >20 4 2 2 <t< th=""><th>SAMPLE INFORM</th><th>MATION</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 246 250 155	Sample Number		Client Info		WC0935265	WC0886884	WC0857338
Oil Age hrs Client Info 246 250 155 Oil Changed Client Info Changed	Sample Date		Client Info		25 Jun 2024	25 Jan 2024	20 Nov 2023
Contained Client Info Changed Changed Changed Changed Changed Changed Changed Changed NORMAL NO	Machine Age	hrs	Client Info		3796	3674	3583
MARGINAL NORMAL NORMAL NORMAL	Oil Age	hrs	Client Info		246	250	155
CONTAMINATION method limit/base current history1 history1 history1 history2 history3 history3 history3 history3 history3 history3 history3 history3 history4 number 1 number 2 current history4 number 2 current number 2 current number 2 current number 2	Oil Changed		Client Info		Changed	Changed	Changed
Water WC Method >0.2 NEG NEG NEG NEG WEAR METALS method limit/base current history1 no 0	Sample Status				MARGINAL	NORMAL	NORMAL
Colycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >100 20 9 17 Chromium ppm ASTM D5185m >20 <1	CONTAMINATION	V	method	limit/base	current	history1	history2
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1 0 0 Nickel ppm ASTM D5185m >4 0 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	ron	ppm	ASTM D5185m	>100	20	9	17
Silver	Chromium	ppm	ASTM D5185m	>20	<1	0	0
Silver	Nickel	ppm	ASTM D5185m	>4	0	<1	0
Aluminum	Titanium	ppm	ASTM D5185m		<1	0	0
Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >330 1 <1 0 Vanadium ppm ASTM D5185m >15 <1 <1 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 38 55 44 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 40 37 40 Manganese ppm ASTM D5185m 0 40 37 40 Manganesium ppm ASTM D5185m 0 477 521 Calcium ppm ASTM D5185m 1774 1552 1731 Phosphorus ppm ASTM D5185m 829 741 818	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >330 1 <1 0 Tin ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>20	4	2	2
Tin	Lead	ppm	ASTM D5185m	>40	0	0	0
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 38 55 44 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 40 37 40 Manganese ppm ASTM D5185m 0 40 37 40 Magnesium ppm ASTM D5185m 0 500 477 521 Calcium ppm ASTM D5185m 1774 1552 1731 Phosphorus ppm ASTM D5185m 829 741 818 Zinc ppm ASTM D5185m 959 850 1009 Sulfur ppm ASTM D5185m 25 7 5 7 Sodium ppm </td <td>Copper</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>330</td> <td>1</td> <td><1</td> <td>0</td>	Copper	ppm	ASTM D5185m	>330	1	<1	0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 38 55 44 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 40 37 40 Manganese ppm ASTM D5185m 0 40 37 40 Magnesium ppm ASTM D5185m 0 500 477 521 Calcium ppm ASTM D5185m 0 500 477 521 Calcium ppm ASTM D5185m 1774 1552 1731 Phosphorus ppm ASTM D5185m 959 850 1009 Sulfur ppm ASTM D5185m 2514 2388 2664 CONTAMINANTS method limit/base current history1 history1	Tin	ppm	ASTM D5185m	>15	<1	<1	0
ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 38 55 44 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 40 37 40 Manganese ppm ASTM D5185m 0 40 37 40 Magnesium ppm ASTM D5185m 0 500 477 521 Calcium ppm ASTM D5185m 1774 1552 1731 Phosphorus ppm ASTM D5185m 829 741 818 Zinc ppm ASTM D5185m 959 850 1009 Sulfur ppm ASTM D5185m 2514 2388 2664 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m 2.5 7 5 7	Vanadium	ppm	ASTM D5185m		<1	0	0
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 40 37 40 Manganese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 40 37 40 Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m 0 500 477 521 Calcium ppm ASTM D5185m 0 500 477 521 Phosphorus ppm ASTM D5185m 1774 1552 1731 Phosphorus ppm ASTM D5185m 829 741 818 Zinc ppm ASTM D5185m 959 850 1009 Sulfur ppm ASTM D5185m 2514 2388 2664 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 7 5 7 Sodium ppm ASTM D5185m >20 2 1 0 Fuel % ASTM D5185m >20 2 1 0 Sodium	Boron	ppm	ASTM D5185m	0	38	55	44
Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m 0 500 477 521 Calcium ppm ASTM D5185m 1774 1552 1731 Phosphorus ppm ASTM D5185m 829 741 818 Zinc ppm ASTM D5185m 959 850 1009 Sulfur ppm ASTM D5185m 2514 2388 2664 CONTAMINANTS method limit/base current history1 history1 history1 history1 history2 ppm ASTM D5185m >25 7 5 7 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 8 1 0	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 0 500 477 521 Calcium ppm ASTM D5185m 1774 1552 1731 Phosphorus ppm ASTM D5185m 829 741 818 Zinc ppm ASTM D5185m 959 850 1009 Sulfur ppm ASTM D5185m 2514 2388 2664 CONTAMINANTS method limit/base current history1 history1 history1 history1 history2 history1 history2 pm ASTM D5185m >25 7 5 7 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 7 5 7 7 5 8 1 0 1 0 1 0 1 0 1 0 1	Molybdenum	ppm	ASTM D5185m	0	40	37	40
Calcium ppm ASTM D5185m 1774 1552 1731 Phosphorus ppm ASTM D5185m 829 741 818 Zinc ppm ASTM D5185m 959 850 1009 Sulfur ppm ASTM D5185m 2514 2388 2664 CONTAMINANTS method limit/base current history1 history1 history1 history1 history1 history2 Nicrosion ppm ASTM D5185m >25 7 5 7 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 7 5 8 2 1 0 0 1 0 1 0 1 0 1 0 1 0	Manganese	nnm	ASTM D5185m		0	<1	0
Phosphorus ppm ASTM D5185m 829 741 818 Zinc ppm ASTM D5185m 959 850 1009 Sulfur ppm ASTM D5185m 2514 2388 2664 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 7 5 7 Sodium ppm ASTM D5185m 20 2 1 0 Fuel % ASTM D5185m >20 2 1 0 Soot % % *ASTM D5185m >20 2.9 <1.0		PPIII					
Zinc ppm ASTM D5185m 959 850 1009 Sulfur ppm ASTM D5185m 2514 2388 2664 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 7 5 7 Sodium ppm ASTM D5185m 1 3 2 Potassium ppm ASTM D5185m >20 2 1 0 Fuel % ASTM D3524 >5 ▲ 2.9 <1.0	Magnesium		ASTM D5185m	0	500	477	521
Sulfur ppm ASTM D5185m 2514 2388 2664 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 5 7 Sodium ppm ASTM D5185m >20 2 1 0 Potassium ppm ASTM D5185m >20 2 1 0 Fuel % ASTM D3524 >5 ▲ 2.9 <1.0		ppm		0			
CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 7 5 7 Sodium ppm ASTM D5185m 1 3 2 Potassium ppm ASTM D5185m >20 2 1 0 Fuel % ASTM D3524 >5 ▲ 2.9 <1.0	Calcium	ppm	ASTM D5185m	0	1774	1552	1731
Silicon ppm ASTM D5185m >25 7 5 7 Sodium ppm ASTM D5185m 1 3 2 Potassium ppm ASTM D5185m >20 2 1 0 Fuel % ASTM D3524 >5 ▲ 2.9 <1.0 <1.0 INFRA-RED method limit/base current history1 history1 history1 Soot % % *ASTM D7844 >3 0.4 0.1 0.3 Nitration Abs/cm *ASTM D7624 >20 7.7 5.8 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 21.2 21.4 21.5 FLUID DEGRADATION method limit/base current history1 history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 20.0 19.7 20.0	Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m	0	1774 829	1552 741	1731 818
Sodium ppm ASTM D5185m 1 3 2 Potassium ppm ASTM D5185m >20 2 1 0 Fuel % ASTM D3524 >5 ▲ 2.9 <1.0	Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	1774 829 959	1552 741 850	1731 818 1009
Potassium ppm ASTM D5185m >20 2 1 0 Fuel % ASTM D3524 >5 ▲ 2.9 <1.0 <1.0 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 >3 0.4 0.1 0.3 Nitration Abs/cm *ASTM D7624 >20 7.7 5.8 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 21.2 21.4 21.5 FLUID DEGRADATION method limit/base current history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 20.0 19.7 20.0	Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		1774 829 959 2514	1552 741 850 2388	1731 818 1009 2664
Fuel % ASTM D3524 >5 ▲ 2.9 <1.0 <1.0 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 >3 0.4 0.1 0.3 Nitration Abs/cm *ASTM D7624 >20 7.7 5.8 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 21.2 21.4 21.5 FLUID DEGRADATION method limit/base current history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 20.0 19.7 20.0	Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	limit/base	1774 829 959 2514 current	1552 741 850 2388 history1	1731 818 1009 2664 history2
INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 >3 0.4 0.1 0.3 Nitration Abs/cm *ASTM D7624 >20 7.7 5.8 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 21.2 21.4 21.5 FLUID DEGRADATION method limit/base current history1 history1 history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 20.0 19.7 20.0	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	limit/base	1774 829 959 2514 current	1552 741 850 2388 history1	1731 818 1009 2664 history2
Soot % % *ASTM D7844 >3 0.4 0.1 0.3 Nitration Abs/cm *ASTM D7624 >20 7.7 5.8 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 21.2 21.4 21.5 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 20.0 19.7 20.0	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	limit/base >25	1774 829 959 2514 current 7	1552 741 850 2388 history1 5	1731 818 1009 2664 history2 7
Nitration Abs/cm *ASTM D7624 >20 7.7 5.8 6.6 Sulfation Abs/.1mm *ASTM D7615 >30 21.2 21.4 21.5 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 20.0 19.7 20.0	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >25 >20	1774 829 959 2514 current 7 1	1552 741 850 2388 history1 5 3	1731 818 1009 2664 history2 7 2 0
Sulfation Abs/.1mm *ASTM D7415 >30 21.2 21.4 21.5 FLUID DEGRADATION method limit/base current history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 20.0 19.7 20.0	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >25 >20 >5	1774 829 959 2514 current 7 1 2 2.9	1552 741 850 2388 history1 5 3 1 <1.0	1731 818 1009 2664 history2 7 2 0 <1.0
FLUID DEGRADATION method limit/base current history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 20.0 19.7 20.0	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 Method	limit/base >25 >20 >5 limit/base	1774 829 959 2514 current 7 1 2 2.9 current	1552 741 850 2388 history1 5 3 1 <1.0	1731 818 1009 2664 history2 7 2 0 <1.0
Oxidation Abs/.1mm *ASTM D7414 >25 20.0 19.7 20.0	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 method *ASTM D7844	limit/base >25 >20 >5 limit/base >3	1774 829 959 2514 current 7 1 2 ▲ 2.9 current 0.4	1552 741 850 2388 history1 5 3 1 <1.0 history1 0.1	1731 818 1009 2664 history2 7 2 0 <1.0 history2
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	limit/base >25 >20 >5 limit/base >3 >20	1774 829 959 2514 current 7 1 2 2.9 current 0.4 7.7	1552 741 850 2388 history1 5 3 1 <1.0 history1 0.1 5.8	1731 818 1009 2664 history2 7 2 0 <1.0 history2 0.3 6.6
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm Abs/.tmm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	limit/base >25	1774 829 959 2514 current 7 1 2 ▲ 2.9 current 0.4 7.7 21.2	1552 741 850 2388 history1 5 3 1 <1.0 history1 0.1 5.8 21.4	1731 818 1009 2664 history2 7 2 0 <1.0 history2 0.3 6.6 21.5
Base Number (BN) mg KOH/g ASTM D2896 9.4 10.0 10.6 10.6	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm % % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 Method *ASTM D7844 *ASTM D7624 *ASTM D7415 Method	limit/base >25 >20 >5 limit/base >3 >20 >3 limit/base	1774 829 959 2514 current 7 1 2 2 2.9 current 0.4 7.7 21.2 current	1552 741 850 2388 history1 5 3 1 <1.0 history1 0.1 5.8 21.4 history1	1731 818 1009 2664 history2 7 2 0 <1.0 history2 0.3 6.6 21.5 history2

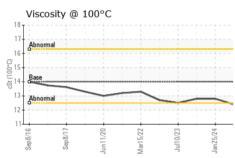


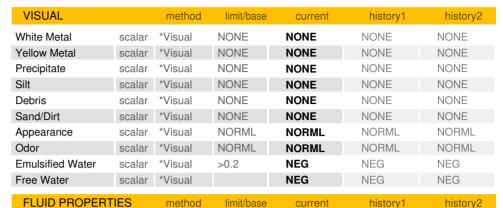
OIL ANALYSIS REPORT









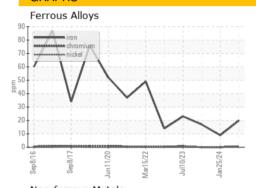


12.4

12.8

12.8

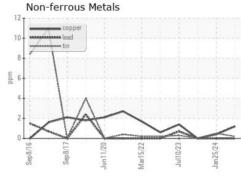
Visc @	100°C
GRAF	PHS

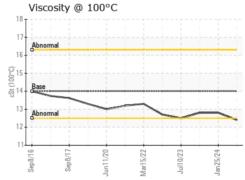


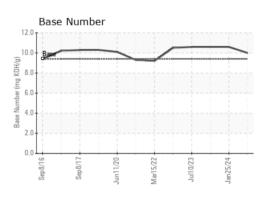
cSt

ASTM D445

14











Certificate 12367

Laboratory Sample No.

: WC0935265 Lab Number : 06234564

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested** Unique Number : 11123398

: 12 Jul 2024 : 16 Jul 2024 Diagnosed

: 16 Jul 2024 - Wes Davis Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

WICHITA, KS US 67213 Contact: DOUG KING doug.king@sherwood.net T: (316)617-3161

3219 WEST MAY ST

SHERWOOD CONSTRUCTION CO INC

To discuss this sample report, contact Customer Service at 1-800-237-1369. st - 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)

Report Id: SHEWIC [WUSCAR] 06234564 (Generated: 07/16/2024 08:49:58) Rev: 1

Submitted By: RUSTY RILEY

F: x: