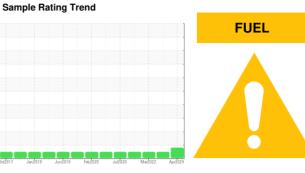




KANSAS/44/EG - OTHER SERVICE 88.13L [KANSAS^44^EG - OTHER SERVICE]

**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.

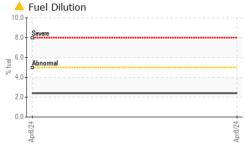
# **Fluid Condition**

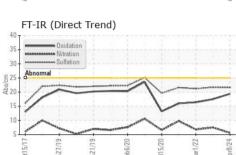
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

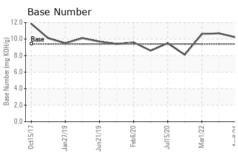
SAMPLE INFORMATION   Inhitbase   Current   Inhistory1   Inistory2	`						
Sample Date         Client Info         08 Apr 2024         23 Aug 2022         01 Mar 2022           Machine Age         hrs         Client Info         5277         5058         4779           Oil Age         hrs         Client Info         219         279         4527           Oil Changed         Client Info         Changed         Changed         Changed         Changed         Changed         Changed         Changed         Changed         NCRMAL         NORMAL           CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.2         NEG         NEG         NEG           Ifron         MRATIN DSISS         >10.0         4         4         4           Chromium         ppm         ASTM 05185m         >20         <1         0         <1           Irical         ppm         ASTM 05185m         >20         <1         0         <1           Irical         ppm         ASTM 05185m         >2         0         1         <1           Irical         ppm         ASTM 05185m         >2         0         1         <1           Irical	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         297         4527           Oil Age         hrs         Client Info         219         279         4527           Oil Changed         Client Info         Changed         Changed         Changed         Changed           Sample Status         Tempto         Imitibase         current         history1         history2           Water         WC Method         20.2         NEG         NEG         NEG           Glycol         WC Method         limit/base         current         history1         history2           Iron         ppm         ASTM DS185m         >100         4         4         4           Chromium         ppm         ASTM DS185m         >20         <1         0         <1           Nickel         ppm         ASTM DS185m         >2         0         0         0           Alluminum         ppm         ASTM DS185m         >2         0         1         <1           Lead         ppm         ASTM DS185m         >2         0         1         <1           Actional         ppm         ASTM DS185m         >2         0         1         <1           Lead <th>Sample Number</th> <th></th> <th>Client Info</th> <th></th> <th>WC0918155</th> <th>WC0712203</th> <th>WC0665294</th>	Sample Number		Client Info		WC0918155	WC0712203	WC0665294
Oil Age Oil Changed Oil Changed Sample Status         hrs Client Info         Changed Changed Changed Changed Changed Changed Changed Changed NORMAL	Sample Date		Client Info		08 Apr 2024	23 Aug 2022	01 Mar 2022
Oil Changed Sample Status         Client Info         Changed MARGINAL NORMAL NORMAL         Changed NORMAL NORMAL         Cournet Inistory1         history2         NEG	Machine Age	hrs	Client Info		5277	5058	4779
Sample Status         method         limit/base         current         history1         history2           Water         WC Method         >0.2         NEG         NEG         NEG           Glycol         WC Method         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >20         <1         0         <1           Nickel         ppm         ASTM D5185m         >20         <1         0         <1           Nickel         ppm         ASTM D5185m         >2         0         0         0           Nickel         ppm         ASTM D5185m         >2         0         <1         <1           Aluminum         ppm         ASTM D5185m         >2         0         <1         <1           Lead         ppm         ASTM D5185m         >30         1         1         <1           Lead         ppm         ASTM D5185m         >30         1         1         <1           Antimony         ppm         ASTM D5185m         >0         <1         <1           Vanadium <t< th=""><th>Oil Age</th><th>hrs</th><th>Client Info</th><th></th><th>219</th><th>279</th><th>4527</th></t<>	Oil Age	hrs	Client Info		219	279	4527
CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.2.2         NEG         NEG         NEG           Glycol         WC Method         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         4         4         4           Chromium         ppm         ASTM D5185m         >20         <1         0         <1           Nickel         ppm         ASTM D5185m         >20         0         0         0           Silver         ppm         ASTM D5185m         >2         0         1         <1           Aluminum         ppm         ASTM D5185m         >2         0         1         <1           Lead         ppm         ASTM D5185m         >300         1         1         1           Copper         ppm         ASTM D5185m         >300         1         1         1           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cada	Oil Changed		Client Info		Changed	Changed	Changed
Water Glycol         WC Method (Plycol)         NEG (NEG (NEG (NEG (NEG (NEG (NEG (NEG (	Sample Status				MARGINAL	NORMAL	NORMAL
WEAR METALS	CONTAMINATION	١	method	limit/base	current	history1	history2
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         4         4         4           Chromium         ppm         ASTM D5185m         >20         <1         0         <1           Nickel         ppm         ASTM D5185m         >2         0         0         0           Silver         ppm         ASTM D5185m         >2         0         1         <1           Aluminum         ppm         ASTM D5185m         >2         0         1         <1           Lead         ppm         ASTM D5185m         >2         0         1         <1           Lead         ppm         ASTM D5185m         >330         1         1         1           Lead         ppm         ASTM D5185m         >15         0         <1         <1           Copper         ppm         ASTM D5185m         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         63         95         77	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium         ppm         ASTM D5185m         >20         <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel         ppm         ASTM D5185m         >2         0         0         0           Titanium         ppm         ASTM D5185m         >2         0         <1	Iron	ppm	ASTM D5185m	>100	4	4	4
Titanium         ppm         ASTM D5185m         >2         0         -1         0           Silver         ppm         ASTM D5185m         >2         0         1         <1	Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Silver         ppm         ASTM D5185m         >2         0         1         <1           Aluminum         ppm         ASTM D5185m         >25         1         <1         <1           Lead         ppm         ASTM D5185m         >40         0         <1         <1           Copper         ppm         ASTM D5185m         >330         1         1         1           Trin         ppm         ASTM D5185m         >15         0         <1         <1           Antimony         ppm         ASTM D5185m         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           Boron         ppm         ASTM D5185m         0         63         95         77           Barium         ppm         ASTM D5185m         0         39         18         17           Manganese         ppm         ASTM D5185m         0         489         586         624           Magnesium         ppm         ASTM D5185m         1754         1394         1503 <th>Nickel</th> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;2</td> <th>0</th> <td>0</td> <td>0</td>	Nickel	ppm	ASTM D5185m	>2	0	0	0
Aluminum         ppm         ASTM D5185m         >25         1         <1         <1           Lead         ppm         ASTM D5185m         >40         0         <1	Titanium	ppm	ASTM D5185m	>2	0	<1	0
Lead         ppm         ASTM D5185m         >40         0         <1         <1           Copper         ppm         ASTM D5185m         >330         1         1         1           Tin         ppm         ASTM D5185m         >15         0         <1         <1           Antimony         ppm         ASTM D5185m         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         63         95         77           Boron         ppm         ASTM D5185m         0         63         95         77           Barium         ppm         ASTM D5185m         0         63         95         77           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         39         18         17           Manganese         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         1754         1394         150a	Silver	ppm	ASTM D5185m	>2	0	1	<1
Copper         ppm         ASTM D5185m         >330         1         1         1           Tin         ppm         ASTM D5185m         >15         0         <1	Aluminum	ppm	ASTM D5185m	>25	1	<1	<1
Tin         ppm         ASTM D5185m         >15         0         <1         <1           Antimony         ppm         ASTM D5185m           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         63         95         77           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         39         18         17           Manganese         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         1754         1394         1503           Phosphorus         ppm         ASTM D5185m         852         678         752           Zinc         ppm         ASTM D5185m         942         815         878           Sulfur         ppm         ASTM	Lead	ppm	ASTM D5185m	>40	0	<1	<1
Antimony         ppm         ASTM D5185m           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         63         95         77           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         39         18         17           Manganese         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         1754         1394         1503           Phosphorus         ppm         ASTM D5185m         852         678         752           Zinc         ppm         ASTM D5185m         942         815         878           Sulfur         ppm         ASTM D5185m         2724         2542         2387           CONTAMINANTS         method	Copper	ppm	ASTM D5185m	>330	1	1	1
Vanadium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method limit/base current         history1         history2           Boron         ppm         ASTM D5185m         0         633         95         77           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         39         18         17           Manganese         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         1754         1394         1503           Phosphorus         ppm         ASTM D5185m         852         678         752           Zinc         ppm         ASTM D5185m         2724         2542         2387           CONTAMINANTS         method         limit/base         current         history1         history2 <th>Tin</th> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;15</td> <th>0</th> <td>&lt;1</td> <td>&lt;1</td>	Tin	ppm	ASTM D5185m	>15	0	<1	<1
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         63         95         77           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         39         18         17           Manganese         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         1754         1394         1503           Phosphorus         ppm         ASTM D5185m         852         678         752           Zinc         ppm         ASTM D5185m         942         815         878           Sulfur         ppm         ASTM D5185m         2724         2542         2387           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon	Antimony	ppm	ASTM D5185m				0
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         63         95         77           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         39         18         17           Manganese         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         1754         1394         1503           Phosphorus         ppm         ASTM D5185m         852         678         752           Zinc         ppm         ASTM D5185m         942         815         878           Sulfur         ppm         ASTM D5185m         2724         2542         2387           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         25         20         4         4	Vanadium	ppm	ASTM D5185m		0	0	0
Boron         ppm         ASTM D5185m         0         63         95         77           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         39         18         17           Manganese         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         1754         1394         1503           Phosphorus         ppm         ASTM D5185m         852         678         752           Zinc         ppm         ASTM D5185m         942         815         878           Sulfur         ppm         ASTM D5185m         2724         2542         2387           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         20         4         4           Sodium         ppm         ASTM D5185m         >22         3         3           Potassium	Cadmium	ppm	ASTM D5185m		0	0	0
Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         39         18         17           Manganese         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         1754         1394         1503           Phosphorus         ppm         ASTM D5185m         852         678         752           Zinc         ppm         ASTM D5185m         942         815         878           Sulfur         ppm         ASTM D5185m         2724         2542         2387           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         20         4         4           Sodium         ppm         ASTM D5185m         2         3         3         3           Potassium         ppm         ASTM D5185m         >20         2         <1         2           Fuel         %         ASTM D5185m         >20         2         <1         2           Soo							
Molybdenum         ppm         ASTM D5185m         0         39         18         17           Manganese         ppm         ASTM D5185m         0         <1	ADDITIVES		method	limit/base	current	history1	history2
Manganese         ppm         ASTM D5185m         0         <1         <1           Magnesium         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         1754         1394         1503           Phosphorus         ppm         ASTM D5185m         852         678         752           Zinc         ppm         ASTM D5185m         942         815         878           Sulfur         ppm         ASTM D5185m         2724         2542         2387           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         20         4         4           Sodium         ppm         ASTM D5185m         >20         2         3         3           Potassium         ppm         ASTM D5185m         >20         2         <1		ppm					
Magnesium         ppm         ASTM D5185m         0         489         586         624           Calcium         ppm         ASTM D5185m         1754         1394         1503           Phosphorus         ppm         ASTM D5185m         852         678         752           Zinc         ppm         ASTM D5185m         942         815         878           Sulfur         ppm         ASTM D5185m         2724         2542         2387           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         20         4         4           Sodium         ppm         ASTM D5185m         >22         3         3           Potassium         ppm         ASTM D5185m         >20         2         <1	Boron		ASTM D5185m	0	63	95	77
Calcium         ppm         ASTM D5185m         1754         1394         1503           Phosphorus         ppm         ASTM D5185m         852         678         752           Zinc         ppm         ASTM D5185m         942         815         878           Sulfur         ppm         ASTM D5185m         2724         2542         2387           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         20         4         4           Sodium         ppm         ASTM D5185m         2         3         3           Potassium         ppm         ASTM D5185m         >20         2         <1	Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	63 0	95 0	77 0
Phosphorus         ppm         ASTM D5185m         852         678         752           Zinc         ppm         ASTM D5185m         942         815         878           Sulfur         ppm         ASTM D5185m         2724         2542         2387           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         20         4         4           Sodium         ppm         ASTM D5185m         >25         20         4         4           Sodium         ppm         ASTM D5185m         >20         2         <1	Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	63 0 39	95 0 18	77 0 17
Zinc         ppm         ASTM D5185m         942         815         878           Sulfur         ppm         ASTM D5185m         2724         2542         2387           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         20         4         4           Sodium         ppm         ASTM D5185m         2         3         3           Potassium         ppm         ASTM D5185m         >20         2         <1	Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	63 0 39 0	95 0 18 <1	77 0 17 <1
Sulfur         ppm         ASTM D5185m         2724         2542         2387           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         20         4         4           Sodium         ppm         ASTM D5185m         2         3         3           Potassium         ppm         ASTM D5185m         >20         2         <1         2           Fuel         %         ASTM D3524         >5         ▲ 2.4         <1.0         <1.0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         5.6         7.5         6.8           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.6         21.7         21.2           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25	Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	63 0 39 0 489	95 0 18 <1 586	77 0 17 <1 624
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         20         4         4           Sodium         ppm         ASTM D5185m         2         3         3           Potassium         ppm         ASTM D5185m         >20         2         <1	Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	63 0 39 0 489 1754	95 0 18 <1 586 1394	77 0 17 <1 624 1503
Silicon         ppm         ASTM D5185m         >25         20         4         4           Sodium         ppm         ASTM D5185m         2         3         3           Potassium         ppm         ASTM D5185m         >20         2         <1	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	63 0 39 0 489 1754 852	95 0 18 <1 586 1394 678	77 0 17 <1 624 1503 752
Sodium         ppm         ASTM D5185m         2         3         3           Potassium         ppm         ASTM D5185m         >20         2         <1         2           Fuel         %         ASTM D3524         >5         ▲ 2.4         <1.0         <1.0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         5.6         7.5         6.8           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.6         21.7         21.2           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.4         17.5         16.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	63 0 39 0 489 1754 852 942	95 0 18 <1 586 1394 678 815	77 0 17 <1 624 1503 752 878
Potassium         ppm         ASTM D5185m         >20         2         <1         2           Fuel         %         ASTM D3524         >5         ▲ 2.4         <1.0         <1.0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         5.6         7.5         6.8           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.6         21.7         21.2           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.4         17.5         16.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	63 0 39 0 489 1754 852 942 2724	95 0 18 <1 586 1394 678 815 2542	77 0 17 <1 624 1503 752 878 2387
Fuel         %         ASTM D3524         >5         ▲ 2.4         <1.0	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0	63 0 39 0 489 1754 852 942 2724 current	95 0 18 <1 586 1394 678 815 2542 history1	77 0 17 <1 624 1503 752 878 2387 history2
INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         5.6         7.5         6.8           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.6         21.7         21.2           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.4         17.5         16.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0	63 0 39 0 489 1754 852 942 2724 current 20	95 0 18 <1 586 1394 678 815 2542 history1	77 0 17 <1 624 1503 752 878 2387 history2
Soot %         %         *ASTM D7844 >3         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624 >20         5.6         7.5         6.8           Sulfation         Abs/.1mm         *ASTM D7415 >30         21.6         21.7         21.2           FLUID DEGRADATION method limit/base current history1 history2           Oxidation         Abs/.1mm         *ASTM D7414 >25         19.4         17.5         16.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 limit/base >25	63 0 39 0 489 1754 852 942 2724 current 20 2	95 0 18 <1 586 1394 678 815 2542 history1 4	77 0 17 <1 624 1503 752 878 2387 history2 4
Nitration         Abs/cm         *ASTM D7624         >20         5.6         7.5         6.8           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.6         21.7         21.2           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.4         17.5         16.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 limit/base >25 >20	63 0 39 0 489 1754 852 942 2724 current 20 2	95 0 18 <1 586 1394 678 815 2542 history1 4 3 <1	77 0 17 <1 624 1503 752 878 2387 history2 4 3 2
Nitration         Abs/cm         *ASTM D7624         >20         5.6         7.5         6.8           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.6         21.7         21.2           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.4         17.5         16.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 limit/base >25 >20 >5	63 0 39 0 489 1754 852 942 2724 current 20 2 2 2 2.4	95 0 18 <1 586 1394 678 815 2542 history1 4 3 <1 <1.0	77 0 17 <1 624 1503 752 878 2387 history2 4 3 2 <1.0
Sulfation         Abs/.1mm         *ASTM D7415         >30         21.6         21.7         21.2           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.4         17.5         16.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524	0 0 0 0 	63 0 39 0 489 1754 852 942 2724 current 20 2 2 2 2.4 current	95 0 18 <1 586 1394 678 815 2542 history1 4 3 <1 <1.0 history1	77 0 17 <1 624 1503 752 878 2387 history2 4 3 2 <1.0
Oxidation Abs/.1mm *ASTM D7414 >25 <b>19.4</b> 17.5 16.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 	63 0 39 0 489 1754 852 942 2724 current 20 2 2 2 2 2.4 current 0.1	95 0 18 <1 586 1394 678 815 2542 history1 4 3 <1 <1.0 history1 0.1	77 0 17 <1 624 1503 752 878 2387 history2 4 3 2 <1.0 history2 0.1
-	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 0 0 limit/base >25 >20 >5 limit/base >3 >20	63 0 39 0 489 1754 852 942 2724 current 20 2 2 2 2 2.4 current 0.1 5.6	95 0 18 <1 586 1394 678 815 2542 history1 4 3 <1 <1.0 history1 0.1 7.5	77 0 17 <1 624 1503 752 878 2387 history2 4 3 2 <1.0 history2 0.1 6.8
-	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 0 0 0 limit/base >25 >20 >5 limit/base >3 >20 >30	63 0 39 0 489 1754 852 942 2724	95 0 18 <1 586 1394 678 815 2542 history1 4 3 <1 <1.0 history1 0.1 7.5 21.7	77 0 17 <1 624 1503 752 878 2387 history2 4 3 2 <1.0 history2 0.1 6.8 21.2
	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7824 *ASTM D7844 *ASTM D7624 *ASTM D7415 method	0 0 0 0 0 	63 0 39 0 489 1754 852 942 2724	95 0 18 <1 586 1394 678 815 2542 history1 4 3 <1 <1.0 history1 0.1 7.5 21.7 history1	77 0 17 <1 624 1503 752 878 2387 history2 4 3 2 <1.0 history2 0.1 6.8 21.2 history2

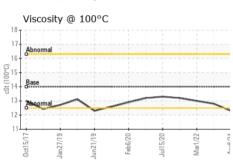


# **OIL ANALYSIS REPORT**







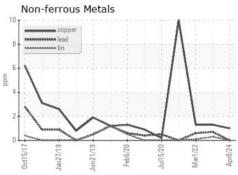


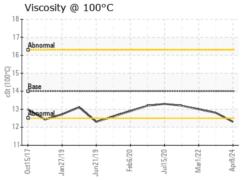
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

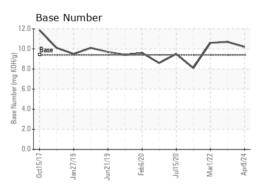
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	12.3	12.8	13.0

# **GRAPHS**

Ferrous Alloys











Certificate 12367

Laboratory Sample No.

Lab Number : 06151841

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0918155

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

Received : 17 Apr 2024 **Tested** Unique Number : 10981919 Diagnosed

: 22 Apr 2024 : 22 Apr 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

\* - 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] 06151841 (Generated: 04/22/2024 08:04:56) Rev: 1

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