

## Machine Id **4167** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 30 (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 30. Please confirm. Please specify the component make and model with your next sample.

WEAR

All component wear rates are normal.

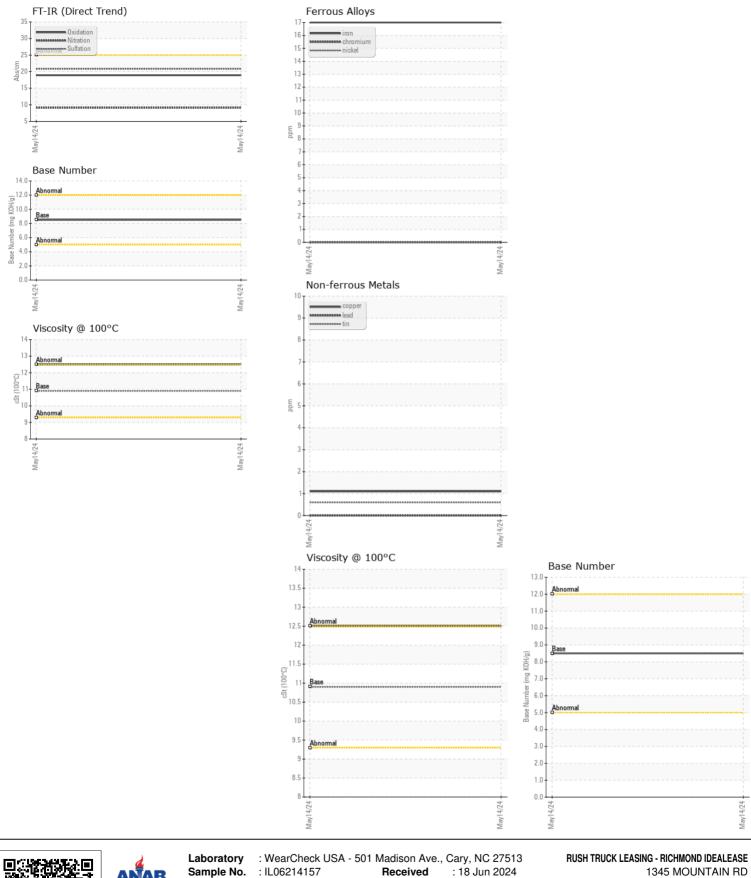
## CONTAMINATION

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.

Test         UOM         Method         Limit/Ab         Current         History1         History2           Sample Number         Client Info         IL06214157             Machine Age         mls         Client Info         152280             Oil Age         mls         Client Info         0             Oil Age         mls         Client Info         0             Oil Changed         Client Info         N/A             Sample Status          N/A             Iron         ppm         ASTM D5185m<>100         17             Chromium         ppm         ASTM D5185m<>20         0             Silver         ppm         ASTM D5185m<>30         0             Silver         ppm         ASTM D5185m<>30         1             Silver         ppm         ASTM D5185m<>330         1             Silver         ppm         ASTM D5185m<>20         4							
Sample Date         Client Info         14 May 2024             Machine Age         mls         Client Info         152280             Oil Age         mls         Client Info         15000             Oil Age         mls         Client Info         N/A             Oil Changed         Client Info         N/A             Filter Age         Mls         Client Info         N/A             Sample Status         Virial               Iron         ppm         ASTM D5185m         >100         17             Nickel         ppm         ASTM D5185m         >20         0             Silver         ppm         ASTM D5185m         >20         5             Lead         ppm         ASTM D5185m         >20         5             Copper         pm         ASTM D5185m         >20         1             Vanadium         ppm         ASTM D5185m<	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age         mis         Client Info         152280             Filter Age         mis         Client Info         0             Filter Age         mis         Client Info         N/A             Filter Changed         Client Info         N/A             Sample Status         Client Info         N/A             Iron         ppm         ASTM D5185m<>100         17             Nickel         ppm         ASTM D5185m<>20         0             Silver         ppm         ASTM D5185m         20         0             Aluminum         ppm         ASTM D5185m         20         5             Lead         ppm         ASTM D5185m         5         1             Vanadium         ppm         ASTM D5185m         5         <1             Vanadium         ppm         ASTM D5185m         25         4             Veltow Metal         scalar         'Visual	Sample Number		Client Info		IL06214157		
Machine Age         mis         Client Info         152280             Filter Age         mis         Client Info         0             Filter Age         mis         Client Info         N/A             Filter Changed         Client Info         N/A             Sample Status         Client Info         N/A             Iron         ppm         ASTM D5185m<>100         17             Nickel         ppm         ASTM D5185m<>20         0             Silver         ppm         ASTM D5185m         20         0             Aluminum         ppm         ASTM D5185m         20         5             Lead         ppm         ASTM D5185m         5         1             Vanadium         ppm         ASTM D5185m         5         <1             Vanadium         ppm         ASTM D5185m         25         4             Veltow Metal         scalar         'Visual	Sample Date		Client Info		14 May 2024		
Filter Age         mis         Client Info         0             Oil Changed         Client Info         N/A             Filter Changed         Client Info         N/A             Sample Status         NORMAL             Iron         ppm         ASTM D5185m         >100         17             Chromium         ppm         ASTM D5185m         >20         0             Nickel         ppm         ASTM D5185m         >40         0             Silver         ppm         ASTM D5185m         >30         0             Copper         ppm         ASTM D5185m         >40         0             Vanadium         ppm         ASTM D5185m         >40         0             Veltow Metal         scalar         'Visual         NONE         NONE             Veltow Metal         scalar         'Visual         NONE         NONE             Veltow Metal         scalar		mls	Client Info		152280		
Oil Changed         Client Info         N/A             Filter Changed         Client Info         N/A             Sample Status         NORMAL             Iron         ppm         ASTM D5185m         >100         17            Nickel         ppm         ASTM D5185m         4         0            Nickel         ppm         ASTM D5185m         4         0            Silver         ppm         ASTM D5185m         >20         5            Aluminum         ppm         ASTM D5185m         >30         1            Vanadium         ppm         ASTM D5185m         >30         1            Vanadium         ppm         ASTM D5185m         >20         5            Vanadium         ppm         ASTM D5185m         5         4            Vanadium         ppm         ASTM D5185m         >25         4            Vellow Metal         scalar         'Visual         NONE             Solicon         ppm         ASTM D5185m	Oil Age	mls	Client Info		15000		
Filter Changed Sample Status         Client Info         N/A             Iron         ppm         ASTM D5185m         >100         17             Iron         ppm         ASTM D5185m         >20         0             Nickel         ppm         ASTM D5185m         >20         0             Nickel         ppm         ASTM D5185m         >20         0             Silver         ppm         ASTM D5185m         >30         0             Lead         ppm         ASTM D5185m         >30         1             Vanadium         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         >20         0             Vanadium         ppm         ASTM D5185m         >25         4             Vellow Metal         scalar         *Visual         NONE              Silicon         ppm         ASTM D5185m         >20         4	Filter Age	mls	Client Info		0		
Filter Changed         Client Info         N/A             Sample Status          NORMAL             Iron         ppm         ASTM D5185m         >100         17             Chromium         ppm         ASTM D5185m         >20         0             Nickel         ppm         ASTM D5185m         >20         0             Silver         ppm         ASTM D5185m         >3         0             Lead         ppm         ASTM D5185m         >20         5             Lead         ppm         ASTM D5185m         >30         1             Vanadium         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         >25         4             Vellow Metal         scalar         *Visual         NONE             Yellow Metal         scalar         *Visual         NONE             Fuel	Oil Changed		Client Info		N/A		
Sample Status         NORMAL             Iron         ppm         ASTM D5185m<>100         17             Chromium         ppm         ASTM D5185m         >20         0             Nickel         ppm         ASTM D5185m         >4         0             Silver         ppm         ASTM D5185m         >20         5             Aluminum         ppm         ASTM D5185m         >20         5             Copper         ppm         ASTM D5185m         >40         0             Vanadium         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         >20         4             Veltow Metal         scalar         *Visual         NONE             Silicon         ppm         ASTM D7815m<>>20         4 <td< th=""><th>-</th><th></th><th>Client Info</th><th></th><th>N/A</th><th></th><th></th></td<>	-		Client Info		N/A		
Iron         ppm         ASTM D5185m         >100         17             Chromium         ppm         ASTM D5185m         >20         0             Nickel         ppm         ASTM D5185m         >4         0             Titanium         ppm         ASTM D5185m         >3         0             Aluminum         ppm         ASTM D5185m         >30         0             Lead         ppm         ASTM D5185m         >30         1             Copper         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         >20         4             Vanadium         ppm         ASTM D5185m         >25         4             Silicon         ppm         ASTM D5185m         >20         4             Fuel         WC Method         >0.2	J. J				NORMAL		
Interview         ppm         ASTM D5185m         >20         0             Nickel         ppm         ASTM D5185m         >4         0             Silver         ppm         ASTM D5185m         >20         5             Aluminum         ppm         ASTM D5185m         >20         5             Lead         ppm         ASTM D5185m         >40         0             Copper         ppm         ASTM D5185m         >40         0             Vanadium         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         >20         4             Vellow Metal         scalar         *Visual         NONE         NONE             Silicon         ppm         ASTM D5185m         >20         4             Vater         WC Method         >0.2         NEG             Soot %         %         'ASTM D7624         >20					-		
Nickel         ppm         ASTM D5185m         >4         0             Titanium         ppm         ASTM D5185m         >3         0             Silver         ppm         ASTM D5185m         >20         5             Lead         ppm         ASTM D5185m         >20         5             Copper         ppm         ASTM D5185m         >40         0             Vanadium         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         >20         4             Vanadium         ppm         ASTM D5185m         >20         4             Vallow Metal         scalar         *Visual         NONE             Fuel         WC Method         >5.2         4             Fuel         WC Method         >0.2         NEG	Iron	ppm	ASTM D5185m	>100	17		
Titanium         ppm         ASTM D5185m         0             Silver         ppm         ASTM D5185m         >3         0             Aluminum         ppm         ASTM D5185m         >20         5             Lead         ppm         ASTM D5185m         >40         0             Copper         ppm         ASTM D5185m         >15         <1             Wanadium         ppm         ASTM D5185m         >15         <1             White Metal         scalar         *Visual         NONE         NONE             Yellow Metal         scalar         *Visual         NONE              Silicon         ppm         ASTM D5185m         >20         4             Fuel         WC Method         >0.2         NEG             Glycol         WC Method         >0.2         NEG             Solf %         %         *ASTM D784         >3         0.3	Chromium	ppm	ASTM D5185m	>20	0		
Silver         ppm         ASTM D5185m         >3         0             Aluminum         ppm         ASTM D5185m         >20         5             Lead         ppm         ASTM D5185m         >20         0             Copper         ppm         ASTM D5185m         >330         1             Vanadium         ppm         ASTM D5185m         >15         <1             White Metal         scalar         *Visual         NONE             Vanadium         ppm         ASTM D5185m         >20         4             White Metal         scalar         *Visual         NONE              Silicon         ppm         ASTM D5185m<>20         4              Fuel         WC Method         >0.2         NEG              Sot %         %         *ASTM D7184         >3         0.3             Sot %         %         *ASTM D71624	Nickel	ppm	ASTM D5185m	>4	0		
Aluminum         ppm         ASTM D5185m         >20         5             Lead         ppm         ASTM D5185m         >300         1             Copper         ppm         ASTM D5185m         >330         1             Vanadium         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         >25         4             Yellow Metal         scalar         *Visual         NONE         NONE             Solicon         ppm         ASTM D5185m         >20         4             Water         WC Method         >0.2         NEG             Glycol         WC Method         >0.2         9.1             Solf %         % 6         YASTM D7624         >20	Titanium	ppm	ASTM D5185m		0		
Lead         ppm         ASTM D5185m         >40         0             Copper         ppm         ASTM D5185m         >330         1             Vanadium         ppm         ASTM D5185m         >15         <1             White Metal         scalar         *Visual         NONE         NONE             Yellow Metal         scalar         *Visual         NONE         NONE             Silicon         ppm         ASTM D5185m<>20         4             Potassium         ppm         ASTM D5185m<>20         4             Water         WC Method         >0.2         NEG             Glycol         WC Method         >0.2         NEG             Sott %         %         YaSTM D7624         >20         9.1             Sulfation         Abs/.mm         YaSTM D7624         >20         9.1             Sodt %         %         YaSTM D7624         >20         9.1        <	Silver	ppm	ASTM D5185m	>3	0		
Copper         ppm         ASTM D5185m         >330         1             Tin         ppm         ASTM D5185m         >15         <1             Vanadium         ppm         ASTM D5185m         0             White Metal         scalar         *Visual         NONE         NONE             Yellow Metal         scalar         *Visual         NONE         NONE             Silicon         ppm         ASTM D5185m<>25         4              Potassium         ppm         ASTM D5185m<>20         4              Water         WC Method         >0.2         NEG              Glycol         WC Method         >0.2         NEG              Sott %         %         'ASTM D7624<>20         9.1              Sulfation         Abs/.mm         'ASTM D7614<>30         20.8              Sulfation         Abs./Imm         'ASTM D7614<>30 </th <th>Aluminum</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;20</th> <th>5</th> <th></th> <th></th>	Aluminum	ppm	ASTM D5185m	>20	5		
Tin         ppm         ASTM D5185m         >15         <1	Lead	ppm	ASTM D5185m	>40	0		
Vanadium         ppm         ASTM D5185m         0             White Metal         scalar         *Visual         NONE         NONE             Yellow Metal         scalar         *Visual         NONE         NONE             Silicon         ppm         ASTM D5185m         >20         4             Potassium         ppm         ASTM D5185m         >20         4             Fuel         WC Method         >5         <1.0              Glycol         WC Method         >0.2         NEG              Sott %         %         *ASTM D7624         >20         9.1             Sulfation         Abs/tmm *ASTM D715         >30         20.8             Sulfation         Abs/tmm *ASTM D71415         >30         20.8             Debris         scalar         *Visual         NONE         NONE             Appearance         scalar         *Visual         NORML </th <th>Copper</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;330</th> <th>1</th> <th></th> <th></th>	Copper	ppm	ASTM D5185m	>330	1		
Vanadium         ppm         ASTM D5185m         0             White Metal         scalar         *Visual         NONE         NONE             Yellow Metal         scalar         *Visual         NONE         NONE             Silicon         ppm         ASTM D5185m         >20         4             Potassium         ppm         ASTM D5185m         >20         4             Fuel         WC Method         >5         <1.0              Glycol         WC Method         >0.2         NEG              Sott %         %         *ASTM D7624         >20         9.1             Sulfation         Abs/tmm *ASTM D715         >30         20.8             Sulfation         Abs/tmm *ASTM D71415         >30         20.8             Debris         scalar         *Visual         NONE         NONE             Appearance         scalar         *Visual         NORML </th <th>Tin</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;15</th> <th>&lt;1</th> <th></th> <th></th>	Tin	ppm	ASTM D5185m	>15	<1		
White Metal         scalar         *Visual         NONE         NONE             Yellow Metal         scalar         *Visual         NONE         NONE             Silicon         ppm         ASTM D5185m         >20         4             Potassium         ppm         ASTM D5185m         >20         4             Fuel         WC Method         >5         <1.0              Glycol         WC Method         >0.2         NEG              Soot %         %         *ASTM D7844         >3         0.3             Sulfation         Abs/cm< *ASTM D7415         >30         20.8             Sulfation         Abs/tmm *ASTM D7415         >30         20.8             Debris         scalar         *Visual         NONE         NONE             Appearance         scalar         *Visual         NORML         NORML             Appearance         scalar	Vanadium	ppm	ASTM D5185m				
Silicon         ppm         ASTM D5185m         >25         4             Potassium         ppm         ASTM D5185m         >20         4             Fuel         WC Method         >5         <1.0             Water         WC Method         >0.2         NEG             Glycol         WC Method         >0.3             Soot %         %         *ASTM D7824         >30         0.3            Sulfation         Abs/cm         *ASTM D7824         >20         9.1            Sulfation         Abs/tmm         *ASTM D7815         >30         20.8            Sulfation         Abs/tmm         *ASTM D7815         >30         20.8            Sulfation         Abs/tmm         *ASTM D7818         >30         20.8             Sulfation         Abs/tmm         *ASTM D7814         >30         20.8             Sulfation         Abs/tmm         *ASTM D7818         NONE              Sand/Diri	White Metal		*Visual	NONE	NONE		
Silicon         ppm         ASTM D5185m         >25         4             Potassium         ppm         ASTM D5185m         >20         4             Fuel         WC Method         >5         <1.0             Water         WC Method         >0.2         NEG             Glycol         WC Method         >0.2         NEG             Soot %         %         *ASTM D7844         >3         0.3             Sulfation         Abs/cm         *ASTM D7624         >20         9.1             Sulfation         Abs/cm         *ASTM D7615         >30         20.8             Sulfation         Abs/.1mm         *ASTM D715         >30         20.8             Sulfation         Abs/.1mm         *ASTM D715         >30         20.8             Sulfation         Abs/.1mm         *ASTM D715         >30         20.8             Sulfation         scalar         *Visual         NONE	Yellow Metal	scalar	*Visual	NONE	NONE		
Potassium         ppm         ASTM D5185m         >20         4            Fuel         WC Method         >5         <1.0            Water         WC Method         >0.2         NEG            Glycol         WC Method         >0.2         NEG            Soot %         %         *ASTM D7844         >3         0.3            Nitration         Abs/cm         *ASTM D7624         >20         9.1            Sulfation         Abs/.imm         *ASTM D7624         >20         9.1            Sulfation         Scalar         *Visual         NONE         NORME							
Fuel         WC Method         >5         <1.0	Silicon	ppm	ASTM D5185m	>25	4		
Water         WC Method         >0.2         NEG            Glycol         WC Method         NEG             Soot %         %         *ASTM D7844         >3         0.3             Nitration         Abs/cm         *ASTM D7844         >3         0.3             Sulfation         Abs/cm         *ASTM D7624         >20         9.1             Sulfation         Abs/.1mm         *ASTM D7618         >30         20.8             Debris         scalar         *Visual         NONE              Sand/Dirt         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         NORML         N	Potassium	ppm	ASTM D5185m	>20	4		
Glycol         WC Method         NEG             Soot %         %         *ASTM D7844         >3         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.1             Sulfation         Abs/tmm         *ASTM D7624         >20         9.1             Sulfation         Abs/tmm         *ASTM D7624         >20         9.1             Sulfation         Abs/tmm         *ASTM D7615         >30         20.8             Sulfation         Abs/tmm         *ASTM D7614         >30         20.8             Sulfation         scalar         *Visual         NONE         NONE             Debris         scalar         *Visual         NOR         NORML             Appearance         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         >0.2         NEG             Boron         ppm         ASTM D5185m	Fuel		WC Method	>5	<1.0		
Soot %         %         *ASTM D7844         >3         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.1             Sulfation         Abs/tm         *ASTM D7415         >30         20.8             Silt         scalar         *Visual         NONE         NONE             Debris         scalar         *Visual         NONE         NONE             Sand/Dirt         scalar         *Visual         NOR         NORE             Appearance         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         >0.2         NEG             Sodium         ppm         ASTM D5185m         250         5             Boron         ppm         ASTM D5185m         100         0             Magnesium         ppm	Water		WC Method	>0.2	NEG		
Nitration         Abs/cm         *ASTM D7624         >20         9.1             Sulfation         Abs/.1mm         *ASTM D7624         >30         20.8             Silt         scalar         *Visual         NONE         NONE             Debris         scalar         *Visual         NONE         NONE             Sand/Dirt         scalar         *Visual         NONE         NONE             Appearance         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         >0.2         NEG             Boron         ppm         ASTM D5185m         250         5             Barium         ppm         ASTM D5185m         100         0             Magnesium         ppm <th>Glycol</th> <th></th> <th>WC Method</th> <th></th> <th>NEG</th> <th></th> <th></th>	Glycol		WC Method		NEG		
Sulfation         Abs/.tmm         *ASTM D7415         >30         20.8             Silt         scalar         *Visual         NONE         NONE         NONE             Debris         scalar         *Visual         NONE         NONE             Sand/Dirt         scalar         *Visual         NONE         NONE             Appearance         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         NORML         NORML             Emulsified Water         scalar         *Visual         NORML         NORML             Boron         ppm         ASTM D5185m         >75         2             Barium         ppm         ASTM D5185m         100         0             Magnesium         ppm         ASTM D5185m         100         600             Magnesium         ppm         ASTM D5185m         100         600	Soot %	%	*ASTM D7844	>3	0.3		
Siltscalar*VisualNONENONEDebrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGSodiumppmASTM D5185m>752BoronppmASTM D5185m2505BariumppmASTM D5185m100MolybdenumppmASTM D5185m100600MagnesiumppmASTM D5185m30001089PhosphorusppmASTM D5185m11501155ZincppmASTM D5185m13501316SulfurppmASTM D5185m42503812DistrictprASTM D7141>2518.9Base Number (BN)mg KOHgASTM D28968.58.5	Nitration	Abs/cm	*ASTM D7624	>20	9.1		
Debrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGSodiumppmASTM D5185m>752BoronppmASTM D5185m2505BariumppmASTM D5185m100MolybdenumppmASTM D5185m100600MagnesiumppmASTM D5185m450966CalciumppmASTM D5185m11501155PhosphorusppmASTM D5185m13501316ZincppmASTM D5185m13501316SulfurppmASTM D5185m42503812DxidationAbs/:htm*ASTM D28968.58.5Base Number (BN)mg KOHgASTM D28968.58.5	Sulfation	Abs/.1mm	*ASTM D7415	>30	20.8		
Sand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGSodiumppmASTM D5185m>752BoronppmASTM D5185m2505BariumppmASTM D5185m100MolybdenumppmASTM D5185m100600MagneseppmASTM D5185m30001089MagnesiumppmASTM D5185m13501316PhosphorusppmASTM D5185m13501316SulfurppmASTM D5185m42503812DxidationAbs/.1mm*ASTM D28968.58.5Base Number (BN)mg KOHgASTM D28968.58.5	Silt	scalar	*Visual	NONE	NONE		
Appearance         scalar         *Visual         NORML         NORML            Odor         scalar         *Visual         NORML         NORML             Emulsified Water         scalar         *Visual         >0.2         NEG             Sodium         ppm         ASTM D5185m         >75         2             Boron         ppm         ASTM D5185m         250         5             Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         600             Magnese         ppm         ASTM D5185m         100         600             Magnesium         ppm         ASTM D5185m         100         600             Magnesium         ppm         ASTM D5185m         3000         1089             Phosphorus         ppm         ASTM D5185m         1350         1316             Sulfur         ppm	Debris	scalar	*Visual	NONE	NONE		
Odor         scalar         *Visual         NORML         NORML             Emulsified Water         scalar         *Visual         >0.2         NEG             Sodium         ppm         ASTM D5185m         >75         2             Boron         ppm         ASTM D5185m         250         5             Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         600             Manganese         ppm         ASTM D5185m         100         600             Magnesium         ppm         ASTM D5185m         100         600             Calcium         ppm         ASTM D5185m         3000         1089             Phosphorus         ppm         ASTM D5185m         1350         1316             Sulfur         ppm         ASTM D5185m         1350         3812             Oxidation	Sand/Dirt	scalar	*Visual	NONE	NONE		
Emulsified Water         scalar         *Visual         >0.2         NEG            Sodium         ppm         ASTM D5185m         >75         2             Boron         ppm         ASTM D5185m         250         5             Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         600             Manganese         ppm         ASTM D5185m         100         600             Magnesium         ppm         ASTM D5185m         450         966             Calcium         ppm         ASTM D5185m         3000         1089             Phosphorus         ppm         ASTM D5185m         1150         1155             Zinc         ppm         ASTM D5185m         1350         1316             Sulfur         ppm         ASTM D5185m         4250         3812             Oxidation         Abs/.1mm	Appearance	scalar	*Visual	NORML	NORML		
Sodium         ppm         ASTM D5185m         >75         2             Boron         ppm         ASTM D5185m         250         5             Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         600             Manganese         ppm         ASTM D5185m         100         600             Magnesium         ppm         ASTM D5185m         450         966             Calcium         ppm         ASTM D5185m         3000         1089             Phosphorus         ppm         ASTM D5185m         1150         1155             Zinc         ppm         ASTM D5185m         1350         1316             Sulfur         ppm         ASTM D5185m         4250         3812             Oxidation         Abs/.1mm         *ASTM D2896         8.5         8.5	Odor	scalar	*Visual	NORML	NORML		
Boron         ppm         ASTM D5185m         250         5             Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         600             Manganese         ppm         ASTM D5185m         100         600             Magnesium         ppm         ASTM D5185m         450         966             Calcium         ppm         ASTM D5185m         3000         1089             Phosphorus         ppm         ASTM D5185m         1150         1155             Zinc         ppm         ASTM D5185m         1350         1316             Sulfur         ppm         ASTM D5185m         4250         3812             Oxidation         Abs/.1mm         *ASTM D2896         8.5         8.5	Emulsified Water	scalar	*Visual	>0.2	NEG		
Boron         ppm         ASTM D5185m         250         5             Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         600             Manganese         ppm         ASTM D5185m         100         600             Magnesium         ppm         ASTM D5185m         450         966             Calcium         ppm         ASTM D5185m         3000         1089             Phosphorus         ppm         ASTM D5185m         1150         1155             Zinc         ppm         ASTM D5185m         1350         1316             Sulfur         ppm         ASTM D5185m         4250         3812             Oxidation         Abs/.1mm         *ASTM D2896         8.5         8.5							
Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         60             Manganese         ppm         ASTM D5185m         100         60             Magnesium         ppm         ASTM D5185m         450         966             Calcium         ppm         ASTM D5185m         3000         1089             Phosphorus         ppm         ASTM D5185m         3000         1089             Zinc         ppm         ASTM D5185m         1150         1155             Sulfur         ppm         ASTM D5185m         1350         1316             Oxidation         Abs/.1mm         *ASTM D7414         >25         18.9             Base Number (BN)         mg KOH/g         ASTM D2896         8.5         8.5							
Molybdenum         ppm         ASTM D5185m         100         60             Manganese         ppm         ASTM D5185m          <1             Magnesium         ppm         ASTM D5185m         450         966             Calcium         ppm         ASTM D5185m         3000         1089             Phosphorus         ppm         ASTM D5185m         1150         1155             Zinc         ppm         ASTM D5185m         1350         1316             Sulfur         ppm         ASTM D5185m         4250         3812             Oxidation         Abs/.1mm         *ASTM D7414         >25         18.9             Base Number (BN)         mg KOH/g         ASTM D2896         8.5         8.5							
Manganese         ppm         ASTM D5185m         <							
Magnesium         ppm         ASTM D5185m         450         966             Calcium         ppm         ASTM D5185m         3000         1089             Phosphorus         ppm         ASTM D5185m         1150         1155             Zinc         ppm         ASTM D5185m         1350         1316             Sulfur         ppm         ASTM D5185m         4250         3812             Oxidation         Abs/.1mm         *ASTM D7414         >25         18.9             Base Number (BN)         mg KOH/g         ASTM D2896         8.5         8.5				100			
Calcium         ppm         ASTM D5185m         3000         1089             Phosphorus         ppm         ASTM D5185m         1150         1155             Zinc         ppm         ASTM D5185m         1350         1316             Sulfur         ppm         ASTM D5185m         4250         3812             Oxidation         Abs/.1mm         *ASTM D7414         >25         18.9             Base Number (BN)         mg KOH/g         ASTM D2896         8.5         8.5	-						
Phosphorus         ppm         ASTM D5185m         1150         1155             Zinc         ppm         ASTM D5185m         1350         1316             Sulfur         ppm         ASTM D5185m         4250         3812             Oxidation         Abs/.1mm         *ASTM D7414         >25         18.9             Base Number (BN)         mg KOH/g         ASTM D2896         8.5         8.5	•						
Zinc         ppm         ASTM D5185m         1350         1316             Sulfur         ppm         ASTM D5185m         4250         3812             Oxidation         Abs/.1mm         *ASTM D7414         >25         18.9             Base Number (BN)         mg KOH/g         ASTM D2896         8.5         8.5							
Sulfur         ppm         ASTM D5185m         4250         3812             Oxidation         Abs/.1mm         *ASTM D7414         >25         18.9             Base Number (BN)         mg KOH/g         ASTM D2896         8.5         8.5	•	ppm					
Oxidation         Abs/.1mm         *ASTM D7414         >25 <b>18.9</b> Base Number (BN)         mg KOH/g         ASTM D2896         8.5 <b>8.5</b>	-						
Base Number (BN)         mg KOH/g         ASTM D2896         8.5         8.5							
Visc @ 100°C cSt ASTM D445 10.9 ( 12.5 /							
	Visc @ 100°C	cSt	ASTM D445	10.9	12.5		



Lab Number : 06214157 Tested : 20 Jun 2024 GLEN ALLEN, VA Diagnosed Unique Number : 11087021 : 20 Jun 2024 - Wes Davis US 23060 Test Package : FLEET Contact: MIKE LEATHERWOOD Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. leatherwoodm@rushenterprises.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (804)200-1977 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (804)545-7016

Contact/Location: MIKE LEATHERWOOD - IDERICVA