

## Machine Id SUL Component **Port Reduction Gear** CHEVRON DELO 400 SYNTHETIC 5W40 (--- GAL)

No concluse action is recommended at this time. restample at the next service interval to monitor.     Sample Date     Client Info     0     0     26600       Oil Age     hrs     Client Info     0     0     977       Machine Age     hrs     Client Info     0     0     977       Filter Age     hrs     Client Info     N/A     N/A     Changed       Oil Changed     Client Info     N/A     N/A     Changed       Filter Changed     Client Info     N/A     N/A     Changed       The copper level is abnormal. All other component wear rates are normal.     fron     ppm     ASTM/DSISm     10     1     1     2     <1       Nickel     ppm     ASTM/DSISm     550     67     84     66       Chromium     ppm     ASTM/DSISm     10     1     2     <1       Nickel     ppm     ASTM/DSISm     10     1     2     2       Lead     ppm     ASTM/DSISm     500     2     1     2     3     1       Vanaduu	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
next service interval to monitor. Sample Date Client Inci V   No V		Sample Number		Client Info		MW0060674	MW0031821	MWM636806
Oil AgehrsClient Info00997Filter AgehrsClient InfoNANAChangedOIC DetainedClient InfoNANAChangedBitter ChangedClient InfoNANAChangedSample StatusVVSEVERESEVENESEVENEWEARInnopmASTM D58mSIDG1G1G1The copper level is abnormal. All other component wear rates are normal.InnopmASTM D58mSIDG1G1G1NiceppmASTM D58mSIDG1<		Sample Date		Client Info		27 Jun 2024	05 Jun 2023	30 Mar 2021
Filte Age   hrs   Client Into   N   N   Changed     OI Changed   Client Into   NA   NA   Changed     Filte Changed   Simple Status   Client Into   NA   NA   Changed     WEAN   Iron   pm   ASIN0585   150   67   84   66     The copper level is abnormal. All other component wear rates are normal.   pm   ASIN0585   100   41   2   1     Nickel   pm   ASIN0585   100   41   2   1   2   1     Silver   pm   ASIN0585   100   41   2   1   1   2   1   1   2   1   1   2   1   1   2   1   1		Machine Age	hrs	Client Info		0	0	26660
Oil Changed Oil Changed Client Info NA NA Changed   Filler Changed Client Info NA NA Changed   Sample Status ABNORMA SEVERE   WEAR Inn pm ASIM DSISS 5150 G A G   The copper lavel is abnormal. All other component wear rates are normal. from pm ASIM DSISS >100 -1 0 0   Titanium pm ASIM DSISS >100 -1 2 -1   Aluminum pm ASIM DSISS >250 3 2 2   Copper pm ASIM DSISS >100 1 3 2   Copper pm ASIM DSISS >100 1 3 2   Copper pm ASIM DSISS >100 1 3 2   Madeum pm ASIM DSISS >100 1 3 2   Copper pm ASIM DSISS >100 1 3 2   Maedum pm ASIM DSISS >100 2 3 10   Maredum pm ASIM DSISS >100 2 3 10   Maedum pm ASIM DSISS		Oil Age	hrs	Client Info		0	0	997
Filter Changed Sample Status     Cilent Into     INA     NA     NA     Changed ABNORMA     SEVERE       WEAR     Iron     pm     ASTM D5185     >150     67     8.40     66       The copper level is abnormal. All other component wear rates are normal.     Nickel     ppm     ASTM D5185     >10     <1     0		Filter Age	hrs	Client Info		0	0	0
Sample Status   ABNORMA   SEVEREI     WEAR   Iron   pm   ASIA DS16m   >150   670   8.4   661     The copper level is abnormal. All other component wear rates are normal.   Chromium   pm   ASIM DS16m   >10   11   2   1     Nickel   pm   ASIM DS16m   >10   11   2   1   1   2   1   1   2   1   1   2   1   1   2   1   1   2   1   1   2   1   1   2   1   1   2   1   1   2   1   1   2   1   1   2   1   1   2   1   1   2   1   1   2   1   1   2   2   1   1   2   2   1   1   2   2   1   1   2   2   1   1   2   2   1   1   1   2   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1 <t< th=""><th>Oil Changed</th><th></th><th>Client Info</th><th></th><th>N/A</th><th>N/A</th><th>Changed</th></t<>		Oil Changed		Client Info		N/A	N/A	Changed
WEAR     Iron     ppm     ASTM D5185m     >150     677     8.84     660       The copper level is abnormal. All other component wear rates are normal.     Chromium     ppm     ASTM D5185m     10     <1     <1     <1       Nickel     ppm     ASTM D5185m     10     <1     0     0     1       Nickel     ppm     ASTM D5185m     10     <1     0     1     1     2     <1       Silver     ppm     ASTM D5185m     >10     1     0     1     3     2     2     2     2     2     1     0     1     3     2     2     2     2     3     1     1     0     1     3     2     2     2     3     1     1     3     2     2     2     3     1     1     3     2     1     1     3     2     1     1     3     3     1     1     3     3     1     1     1     1     1		Filter Changed		Client Info		N/A	N/A	Changed
Chromium     pm     ASTM 05185m           Nickel     ppm     ASTM 05185m     <10     <11     0     0       Titanium     ppm     ASTM 05185m     <10     <11     0     0       Silver     ppm     ASTM 05185m     <10     <10     2     <1       Auminum     ppm     ASTM 05185m     >50     3     2     2       Lead     ppm     ASTM 05185m     >100     1     3     2     3     3       Copper     ppm     ASTM 05185m     >100     1     3     2     3     3       Vanadium     ppm     ASTM 05185m     >100     1     0		Sample Status				ABNORMAL	ABNORMAL	SEVERE
Nickel   ppm   ASTM 05/8m   >10   <1   0   0     Titanium   ppm   ASTM 05/8m   <1   2   <1     Silver   ppm   ASTM 05/8m   <1   2   <1     ASTM 05/8m   ppm   ASTM 05/8m   <1   0   1     ASTM 05/8m   ppm   ASTM 05/8m   <1   0   1     ASTM 05/8m   ppm   ASTM 05/8m   <1   0   1   2   2     Lead   ppm   ASTM 05/8m   >10   1   3   2   369     Tin<   ppm   ASTM 05/8m   >10   2   3   1   0   0     Vanadium   ppm   ASTM 05/8m   >10   RONE   NONE   NONE <th>WEAR</th> <th>Iron</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;150</th> <th>67</th> <th>84</th> <th>66</th>	WEAR	Iron	ppm	ASTM D5185m	>150	67	84	66
Nickel     ppm     ASTM D585m     >10     c1     0     0       Titanium     ppm     ASTM D585m      1     2     <1       Silver     ppm     ASTM D585m     >25     3     2     2       Lead     ppm     ASTM D585m     >10     1     3     2       Copper     ppm     ASTM D585m     >10     1     3     2       Copper     ppm     ASTM D585m     >10     1     3     2       Vanadium     ppm     ASTM D585m     >10     1     3     3       Vanadium     ppm     ASTM D585m     NONE     NONE <th rowspan="11"></th> <th>Chromium</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;10</th> <th>&lt;1</th> <th>&lt;1</th> <th>&lt;1</th>		Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Silver     ppm     ASTM D518m     -     -     1     0     1       Aluminum     ppm     ASTM D518m     >25     3     2     2       Lead     ppm     ASTM D518m     >100     1     3.0     2.0       Coppe     ppm     ASTM D518m     >100     1     3.69     3.69       Tin     ppm     ASTM D518m     >50     4     20     3.69       Vanadium     ppm     ASTM D518m     >10     2     3.69     3.69       Vanadium     ppm     ASTM D518m     >0     2     3.69     3.69       Vanadium     ppm     ASTM D518m     >0     2     3.69     3.69       Velow Metal     scalar     Visual     NONE     NONE </th <th>Nickel</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;10</th> <th>&lt;1</th> <th>0</th> <th>0</th>		Nickel	ppm	ASTM D5185m	>10	<1	0	0
Aluminum     ppm     ASTM D518m     >25     3     2     2       Lead     ppm     ASTM D518m     >100     1     3     2       Copper     ppm     ASTM D518m     >500     ▲ 210     ▲ 162     ▲ 369       Tin     ppm     ASTM D518m     >10     2     30     1       Vanadum     ppm     ASTM D518m     >10     <1     0     0       White Metal     scalar     Visual     NONE     NONE     NONE     NONE     NONE       CONTAMINATION     Silicon     ppm     ASTM D518m     >50     6     7     7       There is no indication of any contamination in the oil.     Silicon     ppm     ASTM D518m     >20     7     17     0       Water     WC Method     >.01     NEG     NONE		Titanium	ppm	ASTM D5185m		1	2	<1
Lead     pp     ASTM D5185     >100     1     3     2       Copper     pp     ASTM D5185     >50     2     10     162     369       Tin     pp     ASTM D5185     >10     2     3     1       Vanadium     pp     ASTM D5185     >10     2     3     1       Vanadium     pp     ASTM D5185     >10     <     10     0		Silver	ppm	ASTM D5185m		<1	0	1
Copper     pm     ASTM D5185m     ≤0     ▲ 210     ▲ 162     ▲ 369       Tin     pm     ASTM D5185m     <0     2     3     1       Vanadium     ppm     ASTM D5185m     <0     2     3     1       Vanadium     ppm     ASTM D5185m     <0     2     3     1       Vanadium     ppm     ASTM D5185m     NONE     N		Aluminum	ppm	ASTM D5185m	>25	3	2	2
Tin     ppm     ASTM D5185m     >10     2     3     1       Vanadium     ppm     ASTM D5185m     <     <1     0.0     0       White Metal     scalar     Visual     NONE     NORM     NORM     NORM     NORM     NORM     NORM     NORM     NORM <t< th=""><th>Lead</th><th>ppm</th><th>ASTM D5185m</th><th>&gt;100</th><th>1</th><th>3</th><th>2</th></t<>		Lead	ppm	ASTM D5185m	>100	1	3	2
VanadiumppmASTM D5185m<		Copper	ppm	ASTM D5185m	>50	<b>A</b> 210	🔺 162	▲ 369
White Metal   scalar   "Visual   NONE   NON		Tin	ppm	ASTM D5185m	>10	2	3	1
Yellow Metal   scalar   'Visual   NONE   NONE   NONE   NONE     CONTAMINATION   Silicon   pm   ASTM D5185m   >50   6   7   7     Potassium   pm   ASTM D5185m   >20   7   17   0     Water   WC Method   >0.1   NEG   NEG   NEG     Debris   scalar   'Visual   NONE   NONE   NONE   NONE   NONE     Sand/Dirt   scalar   'Visual   NONE   NONE <td< th=""><th>Vanadium</th><th>ppm</th><th>ASTM D5185m</th><th></th><th>&lt;1</th><th>0</th><th>0</th></td<>		Vanadium	ppm	ASTM D5185m		<1	0	0
CONTAMINATION     Silicon     ppm     ASTM D5185m     >50     6     7     7       There is no indication of any contamination in the oil.     Potassium     ppm     ASTM D5185m     >20     7     17     0       Water     WC Method     >0.1     NEG     NEG     NEG     NONE     NORM     NORM <th>White Metal</th> <th>scalar</th> <th>*Visual</th> <th>NONE</th> <th>NONE</th> <th>NONE</th> <th>MODER</th>		White Metal	scalar	*Visual	NONE	NONE	NONE	MODER
Potassium   pm   ASTM D51850   >20   7   17   0     Water   WC Method   >0.1   NEG   NEG   NEG   NEG     Silt   scalar   'Visual   NONE   NONE   NONE   NONE   NONE   LIGHT     Debris   scalar   'Visual   NONE   NONE   NONE   NONE   NONE   NONE     Sand/Dirt   scalar   'Visual   NOR   NORE   NORE   NORM		Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Water   WC Method >0.1   NEG   NEG   NEG     Silt   scalar   *Visual   NONE   NONE   NONE   NONE     Debris   scalar   *Visual   NONE   NONE   NONE   LIGHT     Sand/Dirt   scalar   *Visual   NONE   NONE   NONE   NONE   NONE     Appearance   scalar   *Visual   NORM   NORML   NORML   NORML   NORML   NORML     Odor   scalar   *Visual   NORM   NORML   <	CONTAMINATION							-
Water   WC Method →0.   NEG   NEG   NEG   NEG     Silt   scalar   *Visual   NONE   NONE   NONE   NONE   LIGHT     Debris   scalar   *Visual   NONE   NONE   NONE   NONE   LIGHT     Sand/Dirt   scalar   *Visual   NONE   NONE   NONE   NONE   NONE     Appearance   scalar   *Visual   NOR   NORM   NORM <t< th=""><th>CONTAMINATION</th><th>Silicon</th><th>ppm</th><th>ASTM D5185m</th><th>&gt;50</th><th>6</th><th>7</th><th>/</th></t<>	CONTAMINATION	Silicon	ppm	ASTM D5185m	>50	6	7	/
Debris   scalar   *Visual   NONE   NONE   LIGHT     Sand/Dirt   scalar   *Visual   NONE   NONE   NONE   NONE     Appearance   scalar   *Visual   NOR   NORM								
Sand/Dirt   scalar   *Visual   NONE   NONE   NONE   NONE     Appearance   scalar   *Visual   NORM   NO   NO   NO   NO   NO<		Potassium		ASTM D5185m	>20	7	17	0
Appearancescalar*VisualNORML<		Potassium Water	ppm	ASTM D5185m WC Method	>20 >0.1	7 NEG	17 NEG	0 NEG
Odor   scalar   *Visual   NORML   <		Potassium Water Silt	ppm scalar	ASTM D5185m WC Method *Visual	>20 >0.1 NONE	7 NEG NONE	17 NEG NONE	0 NEG NONE
Emulsified Waterscalar*Visual>0.1NEGNEGNEGFLUID CONDITIONSodiumppmASTM D5185m2120The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.SodiumppmASTM D5185mG69353606BariumppmASTM D5185mI0<10<1MolybdenumppmASTM D5185mI0<107ManganeseppmASTM D5185mI110<1MagnesiumppmASTM D5185mI631653534CalciumppmASTM D5185mI155116351680PhosphorusppmASTM D5185m11506807941003		Potassium Water Silt Debris	ppm scalar scalar	ASTM D5185m WC Method *Visual *Visual	>20 >0.1 NONE NONE	7 NEG NONE NONE	17 NEG NONE NONE	0 NEG NONE LIGHT
Sodium   ppm   ASTM D5185m   2   12   0     The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.   Sodium   ppm   ASTM D5185m   369   353   606     Barium   ppm   ASTM D5185m   <1   0   <1     Molybdenum   ppm   ASTM D5185m   <1   0   <1     Manganese   ppm   ASTM D5185m   <1   1   <1     Magnesium   ppm   ASTM D5185m   631   653   534     Calcium   ppm   ASTM D5185m   1150   1635   1680     Phosphorus   ppm   ASTM D5185m   1150   680   794   1003		Potassium Water Silt Debris Sand/Dirt	ppm scalar scalar scalar	ASTM D5185m WC Method *Visual *Visual	>20 >0.1 NONE NONE	7 NEG NONE NONE NONE	17 NEG NONE NONE NONE	0 NEG NONE LIGHT
Boron   ppm   ASTM D5185m   369   353   606     Barium   ppm   ASTM D5185m		Potassium Water Silt Debris Sand/Dirt Appearance	ppm scalar scalar scalar scalar	ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>20 >0.1 NONE NONE NONE	7 NEG NONE NONE NONE NORML	17 NEG NONE NONE NONE NORML	0 NEG NONE LIGHT NONE NORML
Barium   ppm   ASTM D5185m   <1		Potassium Water Silt Debris Sand/Dirt Appearance Odor	ppm scalar scalar scalar scalar scalar	ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>20 >0.1 NONE NONE NORML	7 NEG NONE NONE NONE NORML NORML	17 NEG NONE NONE NONE NORML NORML	0 NEG NONE LIGHT NONE NORML NORML
Barium   ppm   ASTM D5185m   <1		Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm scalar scalar scalar scalar scalar	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	>20 >0.1 NONE NONE NORML	7 NEG NONE NONE NORML NORML NEG	17 NEG NONE NONE NORML NORML NEG	0 NEG NONE LIGHT NONE NORML NORML NEG
Manganese   ppm   ASTM D5185m   <1	There is no indication of any contamination in the oil.	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>20 >0.1 NONE NONE NORML	7 NEG NONE NONE NORML NORML NEG 2	17 NEG NONE NONE NORML NORML NEG 12	0 NEG NONE LIGHT NONE NORML NORML NEG 0
Magnesium     ppm     ASTM D5185m     631     653     534       Calcium     ppm     ASTM D5185m     1551     1635     1680       Phosphorus     ppm     ASTM D5185m     1150     680     794     1003	There is no indication of any contamination in the oil. FLUID CONDITION The AN level is acceptable for this fluid. The condition of the oil is	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	ppm scalar scalar scalar scalar scalar scalar ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>20 >0.1 NONE NONE NORML	7 NEG NONE NONE NORML NORML NEG 2 369	17 NEG NONE NONE NORML NORML NEG 12 353	0 NEG NONE LIGHT NORML NORML NEG 0 606
Calcium     ppm     ASTM D5185m     1551     1635     1680       Phosphorus     ppm     ASTM D5185m     1150     680     794     1003	There is no indication of any contamination in the oil. FLUID CONDITION The AN level is acceptable for this fluid. The condition of the oil is	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>20 >0.1 NONE NONE NORML	7 NEG NONE NONE NORML NORML NEG 2 369 <1	17 NEG NONE NONE NORML NORML NEG 12 353 0	0 NEG NONE LIGHT NORML NORML NEG 0 606 <1
Phosphorus     ppm     ASTM D5185m     1150     680     794     1003	There is no indication of any contamination in the oil. FLUID CONDITION The AN level is acceptable for this fluid. The condition of the oil is	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.1 NONE NONE NORML	7 NEG NONE NONE NORML NORML NEG 2 369 <1 127	17 NEG NONE NONE NORML NORML NEG 12 353 0 100	0 NEG NONE LIGHT NORML NORML NEG 0 606 <1 107
	There is no indication of any contamination in the oil. FLUID CONDITION The AN level is acceptable for this fluid. The condition of the oil is	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.1 NONE NONE NORML	7 NEG NONE NONE NORML NORML NEG 2 369 <1 127 <1	17 NEG NONE NONE NORML NORML NEG 12 353 0 100 100	0 NEG NONE LIGHT NORML NORML NEG 0 606 <1 107 <1
Zinc ppm ASTM D5185m 1270 818 892 1146	There is no indication of any contamination in the oil. FLUID CONDITION The AN level is acceptable for this fluid. The condition of the oil is	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Barium Molybdenum Manganese Magnesium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.1 NONE NONE NORML	7 NEG NONE NONE NORML NORML NEG 2 369 <1 127 <1 127 <1 631	17 NEG NONE NONE NORML NORML NEG 12 353 0 100 100 1 653	0 NEG NONE LIGHT NORML NORML NEG 0 606 <1 107 <1 534
	There is no indication of any contamination in the oil. FLUID CONDITION The AN level is acceptable for this fluid. The condition of the oil is	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Barium Molybdenum Manganese Magnesium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.1 NONE NONE NORML >0.1	7 NEG NONE NONE NORML NORML 2 369 <1 127 <1 127 <1 631 1551	17 NEG NONE NONE NORML NORML NEG 12 353 0 120 12 353 0 12 353 0 12 353 12 353 12 353 12 353 100	0 NEG NONE LIGHT NORML NORML NEG 0 606 <1 107 <1 534 1680

Sulfur

Visc @ 40°C

ppm ASTM D5185m 2900

Acid Number (AN) mg KOH/g ASTM D8045

cSt

ASTM D445 88.5 67.96 68.0 Contact/Location: Dale Grimshaw - AMECAS

3660

0.96

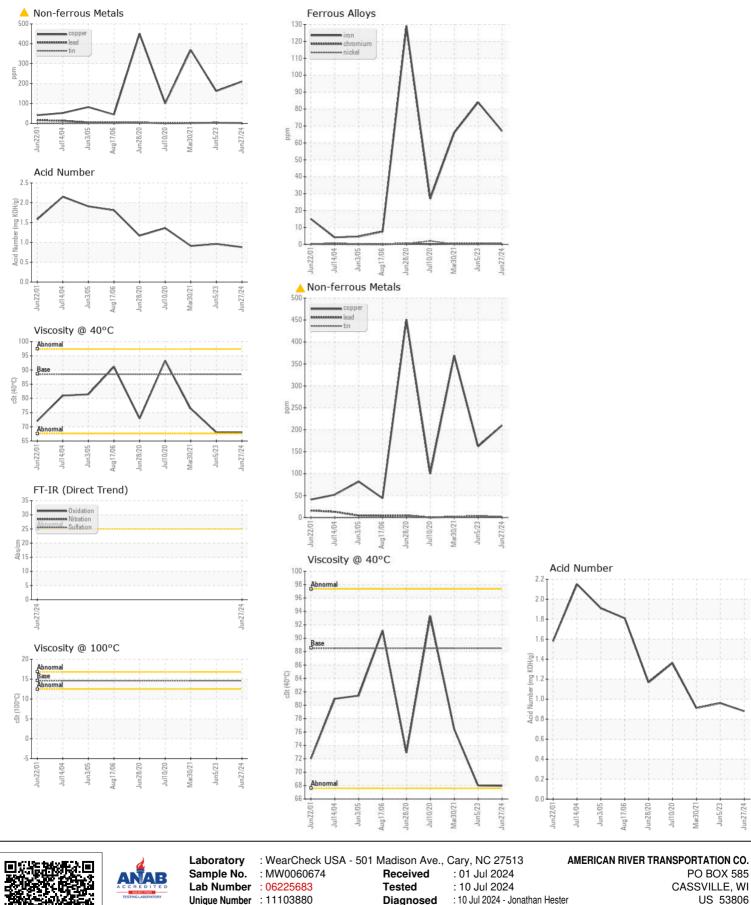
2332

0.880

2799

0.911

76.4



Certificate L2367 Test Package : MAR 2 ( Additional Tests: FT-IR, KV100 )

- To discuss this sample report, contact Customer Service at 1-800-237-1369.
- \* Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: Dale Grimshaw - AMECAS Page 2 of 2

Contact: Dale Grimshaw

T: (608)725-2311

F:

Dale.Grimshaw@adm.com