

# **COOLANT REPORT**

## Area West Virginia [West Virginia] Coolant - Port Genset Component

Coolant

CAT EXTENDED LIFE COOLANT (ELC) (--- GAL)

### DIAGNOSIS

#### Recommendation

We recommend that you perform a partial drain and top off with straight antifreeze to increase level of glycol. ( Customer Sample Comment: Thurman Richardson )

#### Corrosion

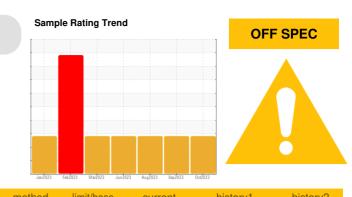
All metal levels are normal indicating no corrosion in the cooling system.

#### Contaminants

There is no indication of any contamination in the coolant.

#### Coolant Condition

The glycol level is lower than acceptable. The pH level of this fluid is within the acceptable limits.



Sample NumberClient InfoWC0805458WC0805329WC0769030Sample DateIClient InfoZ 7 Oct 202302 Sep 202306 Aug 2023Machine AgehrsClient Info26183000Oil AgehrsClient InfoIN/AN/AN/ASample StatusIClient InfoN/AN/AN/AABNORMALPHYSICAL TEST RESULTSmethodlimit/basecurrenthistory1history2Specific Gravity'ASTM D1281.0221.0191.022pHSale (MASTM D128I.0221.0191.022pHSale (MASTM D128I.0221.0191.022pHSale (MASTM D128I.0221.0191.022pHSale (MASTM D128I.0221.0191.022pHSale (MASTM D128I.0221.0191.022precentage Glycol%ASTM D132II.021.07.5Freezing Point°FASTM D133II.031.04.5carboxylateIImit/basecurrenthistory1history2SiliconppmASTM D1300450PhosphorusppmASTM D1300035MolybdenumppmASTM D13051<11QurboxylateppmASTM D13010<1<11InnamppmASTM D13051<1<1<	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine AgehrsClient Info26183025219Oil AgehrsClient Info000Oil ChangedClient InfoN/AN/AN/ASample StatusIImit/basecurrenthistory1ABNORMALPHYSICAL TEST FEULTSmethodimit/basecurrenthistory1history2Specific Gravity'ASTM D129Inc221.0191.022pHScale040'ASTM D1218.398.498.41Reserve AlkalinityScale020'ASTM D1321Inc17.715.917.7Precentage Glycol%ASTM D3321Int192119Total DissolveSolveSolveInt1921104.5104.5CarboxylateIFMath D61300450PhosphorusppmASTM D61300450ProcentopyppmASTM D61300122183224CORROSION INHEmethodimit/basecurrenthistory1history2SiliconppmASTM D61300122183224CORROSIONppmASTM D613011<111IronppmASTM D61301011CorrentppmASTM D61301011IronppmASTM D61301011IronppmASTM D613010111IronppmASTM D6130<	Sample Number		Client Info		WC0805458	WC0805329	WC0769030
Oil AgehrsClient Info0000Oil ChangedClient InfoN/AN/AN/ASample StatusIImit/basecurrenthistory1ABNORMALPHYSICAL TEST RESULTSmethodimit/basecurrenthistory1history2Specific Gravity'ASTM D12981.0221.0191.022pHScale0-14ASTM D12878.398.498.41NitritesppmAP-053:2009600336184Reserve AlkalinityScale0-20'ASTM D132115.917.7Freezing Point°FASTM D3321192119Total Dissolved Solids1910.4.510.4.5CARROSION INHIBITORSmethodlimit/basecurrenthistory1history2SiliconppmASTM D61300450PhosphorusppmASTM D61300450BoronppmASTM D6130950122183224CORROSIONmethodlimit/basecurrenthistory1history2IronppmASTM D6130>100<11AuminumppmASTM D6130>100<1<1IronppmASTM D6130>10<1<1<1IconppmASTM D6130>10<1<1<1IconppmASTM D6130>10<1<1<1Icon<	Sample Date		Client Info		27 Oct 2023	02 Sep 2023	06 Aug 2023
Oil ChangedClient InfoN/AN/AN/AN/ASample StatusImage StatusImage StatusImage StatusN/AABNORMALABNORMALPHYSICAL TEST RESULTSmethodImit/basecurrenthistory1history2Specific Gravity'ASTM D1287I.0221.0191.022pHState-14ASTM D1287I.0221.0191.022pHState-14ASTM D1287Image State8.398.498.41NitritesppmAP-053:2009600336184Reserve AlkalinityState-20ASTM D1287Image StateImage State1.77Precentage Glyce/%ASTM D3321Image StateImage State1.77Freezing Point°FASTM D3321Image StateImage State1.77Treezing Point°FASTM D3321Image StateImage State1.77Treezing Point°FASTM D3321Image StateImage State1.77Treezing Point°FASTM D3321Image StateImage StateImage StateCARROSION INHUETORSmethodImage StateImage StateImage StateImage StateSiliconppmASTM D61300450PhosphorusppmASTM D6130Image StateImage StateImage StateNolvbdenumppmASTM D6130Image StateImage StateImage StateIronppmASTM D6130Image StateImage StateImage St	Machine Age	hrs	Client Info		26183	0	25219
Sample Status     Imit     ABNORMAL     ABNORMAL     ABNORMAL     ABNORMAL       PHYSICAL TEST RESULTS     method     limit/base     current     history1     history2       Specific Gravity     'ASTM D128     1.022     1.019     1.022       pH     Scale 0:41     ASTM D1287     8.39     8.49     8.41       Nitrites     ppm     AP-053:2009     600     336     184       Reserve Alkalinity     Scale 0:40     'ASTM D1281          Percentage Glycol     %     ASTM D3321     4     17.7     15.9     A     17.7       Freezing Point     °F     ASTM D3321     19     21     19     104.5       Total Dissolved Solidis     Imit/base     current     fail     107.5     104.5       Corbaxylate     ppm     ASTM D6130     0     4     5     0       Phosphorus     ppm     ASTM D6130     0     1     0     0       Boron     ppm     ASTM D6130     10     current <th>Oil Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>0</th> <th>0</th> <th>0</th>	Oil Age	hrs	Client Info		0	0	0
PHYSICAL TEST RESULTS     method     limit/base     current     history1     history2       Specific Gravity     'ASTM D1298     1.022     1.019     1.022       pH     Scale 0.44     ASTM D1287     8.39     8.49     8.41       Nitrites     ppm     AP-053:2009     600     336     184       Reserve Alkalinity     Scale 0.20     'ASTM D1321          Percentage Glycol     %     ASTM D3321     4     17.7     15.9     4     17.7       Freezing Point     °F     ASTM D3321     19     21     19       Total Dissolved Solids      Tr.7     1611     fail     fail     fail       CORROSION INHUBITORS     method     limit/base     current     history1     history2       Slicon     ppm     ASTM D6130     0     4     5     0       Phosphorus     ppm     ASTM D6130     0     122     183     224       CORROSION     ppm     ASTM D6130     15     1	Oil Changed		Client Info		N/A	N/A	N/A
Specific Gravity   'ASTM D1298   1.022   1.019   1.022     pH   Scale 0-14   ASTM D1287   8.39   8.49   8.41     Nitrites   ppm   AP-053:2009   600   336   184     Reserve Alkalinity   Scale 0-20   'ASTM D121        Percentage Glycol   %   ASTM D321   17.7   15.9   17.7     Freezing Point   °F   ASTM D321   19   21   19     Total Dissolved Solids   -   fail   fail   fail   fail     CORROSION INH/// State 0.0   114.5   107.5   104.5     Silicon   ppm   ASTM D6130   0   4   5   0     Phosphorus   ppm   ASTM D6130   0   4   5   0     Boron   ppm   ASTM D6130   0   3   224     CORROSION   ppm   ASTM D6130   950   122   183   224     Inon   ppm   ASTM D6130   >10   0   0   0     Copper   ppm   ASTM D6130   >1	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
pH     Scale 0+14     ASTM D1287     8.39     8.49     8.41       Nitrites     ppm     AP-053:2009     600     336     184       Reserve Alkalinity     Scale 0:20     'ASTM D1121          Percentage Glycol     %     ASTM D321     17.7     15.9     17.7       Freezing Point     °F     ASTM D321     19     21     19       Total Dissolved Solids      fail     fail     fail     fail       CORROSION INH/// State 0:20     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D6130     0     4     5     0       Phosphorus     ppm     ASTM D6130     0     3     5     0       Boron     ppm     ASTM D6130     0     0     3     224       CORROSION     method     limit/base     current     history1     history2       Iron     ppm     ASTM D6130<>10     0     0     1     1  Alum	PHYSICAL TEST R	ESULTS	method	limit/base	current	history1	history2
Nitrites     ppm     AP-053:2009     600     336     184       Reserve Alkalinity     Scale 0:20     *ASTM D1321          Percentage Giycol     %     ASTM D3321     ▲     17.7     ▲     15.9     ▲     17.7       Freezing Point     °F     ASTM D3321     19     21     19       Total Dissolved Solids     Intel Dissolved Solids     114.5     107.5     104.5       Carboxylate     Imit Dass     current     history1     history2       Silicon     ppm     ASTM D6130     0     4     5     0       Phosphorus     ppm     ASTM D6130     0     <122	Specific Gravity		*ASTM D1298		1.022	1.019	1.022
Reserve Alkalinity     Scale 0.20     *ASTM D1121          Percentage Glycol     %     ASTM D3321     ▲ 17.7     ▲ 15.9     ▲ 17.7       Freezing Point     °F     ASTM D3321     19     21     19       Total Dissolved Solids     Intervention     114.5     107.5     104.5       Carboxylate     Image: Correct fail     fail     fail     fail     fail       CORROSION INHUBITORS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D6130     0     4     5     0       Phosphorus     ppm     ASTM D6130     0     c1     0     0       Boron     ppm     ASTM D6130     950     122     183     224       CORROSION     method     limit/base     current     history1     history2       Iron     ppm     ASTM D6130     >10     0     0     0     0       Copper     ppm     ASTM D6130     >10     c1     0 <td>рН</td> <td>Scale 0-14</td> <td>ASTM D1287</td> <td></td> <th>8.39</th> <td>8.49</td> <td>8.41</td>	рН	Scale 0-14	ASTM D1287		8.39	8.49	8.41
Percentage Glycol%ASTM D3321▲ 17.7▲ 15.9▲ 17.7Freezing Point°FASTM D3321192119Total Dissolved SolidsImage of the term of term	Nitrites	ppm	AP-053:2009		600	336	184
Freezing Point     °F     ASTM D3321     19     21     19       Total Dissolved Solids     114.5     107.5     104.5       Carboxylate     Imit/base     current     history1     history2       Silicon     ppm     ASTM D6130     0     4     5     0       Phosphorus     ppm     ASTM D6130     0     <1	Reserve Alkalinity	Scale 0-20	*ASTM D1121				
Total Dissolved Solids114.5107.5104.5CarboxylateImit/basecurrenthistory1history2SiliconppmASTM D61300450PhosphorusppmASTM D61300<1	Percentage Glycol	%	ASTM D3321		<b>1</b> 7.7	<b>1</b> 5.9	<b>1</b> 7.7
CarboxylateImage: Correct of the story of the	Freezing Point	°F	ASTM D3321		19	21	19
CORROSION INHIBITORSmethodlimit/basecurrenthistory1history2SiliconppmASTM D61300450PhosphorusppmASTM D61300<1	Total Dissolved Solids				114.5	107.5	104.5
Silicon     ppm     ASTM D6130     0     4     5     0       Phosphorus     ppm     ASTM D6130     0     <1	Carboxylate				fail	fail	fail
Phosphorus     ppm     ASTM D6130     0     <1	CORROSION INH	<b>IBITORS</b>	method	limit/base	current	history1	history2
Boron MolybdenumppmASTM D61300035MolybdenumppmASTM D6130950122183224CORROSIONmethodlimit/basecurrenthistory1history2IronppmASTM D6130>151<11AluminumppmASTM D6130>10000CopperppmASTM D6130>10<1<1<1LeadppmASTM D6130>10<1<1<1LeadppmASTM D6130>10<100ZincppmASTM D6130>10<100CONTAMINANTSmethodlimit/basecurrenthistory1history2ChlorineppmASTM D6130265148CARRIER SALTSmethodlimit/basecurrenthistory1history2SodiumppmASTM D6130145225542710PotassiumppmASTM D6130327341SCALE POTENTIALmethodlimit/basecurrenthistory1history2CalciumppmASTM D613032327341Story2ppmASTM D613032323331Methodlimit/basecurrenthistory1history2ColorerppmASTM D613032327341Story2ppmASTM D6130381811	Silicon	ppm	ASTM D6130	0	4	5	0
Molybdenum     ppm     ASTM D6130     950     122     183     224       CORROSION     method     limit/base     current     history1     history2       Iron     ppm     ASTM D6130     >15     1     <1	Phosphorus	ppm	ASTM D6130	0	<1	0	0
CORROSIONmethodlimit/basecurrenthistory1history2IronppmASTM D6130>151<1	Boron	ppm	ASTM D6130	0	0	3	5
Iron     ppm     ASTM D6130<>15     1     <1     1       Aluminum     ppm     ASTM D6130<>10     0     0     0       Copper     ppm     ASTM D6130<>10     <1	Molybdenum	ppm	ASTM D6130	950	122	183	224
Aluminum     ppm     ASTM D6130     >10     0     0     0       Copper     ppm     ASTM D6130     >10     <1     <1     <1       Lead     ppm     ASTM D6130     >10     0     0     <11	CORROSION		method	limit/base	current	history1	history2
Copper     ppm     ASTM D6130     >10     <1     <1     <1       Lead     ppm     ASTM D6130     >10     0     0     <1     <1       Tin     ppm     ASTM D6130     >10     <1     0     0     <1       Zinc     ppm     ASTM D6130     >10     <1     0     0     0       CONTAMINANTS     method     limit/base     current     history1     history2       Chlorine     ppm     ASTM D6130     26     51     48       CARRIER SALTS     method     limit/base     current     history1     history2       Sodium     ppm     ASTM D6130     1452     2554     2710       Potassium     ppm     ASTM D6130     32     73     41       SCALE POTENTIAL     method     limit/base     current     history1     history2       Calcium     ppm     ASTM D6130     32     18     11	Iron	ppm	ASTM D6130	>15	1	<1	1
Lead     ppm     ASTM D6130     >10     0     0     <1       Tin     ppm     ASTM D6130     >10     <1	Aluminum	ppm	ASTM D6130	>10	0	0	0
TinppmASTM D6130>10<100ZincppmASTM D61300000CONTAMINANTSmethodlimit/basecurrenthistory1history2ChlorineppmASTM D6130265148CARRIER SALTSmethodlimit/basecurrenthistory1history2SodiumppmASTM D6130145225542710PotassiumppmASTM D6130327341SCALE POTENTIALmethodlimit/basecurrenthistory1history2CalciumppmASTM D613081811	Copper	ppm	ASTM D6130	>10	<1		<1
ZincppmASTM D613000CONTAMINANTSmethodlimit/basecurrenthistory1history2ChlorineppmASTM D6130265148CARRIER SALTSmethodlimit/basecurrenthistory1history2SodiumppmASTM D6130145225542710PotassiumppmASTM D6130327341SCALE POTENTIALmethodlimit/basecurrenthistory1history2CalciumppmASTM D613081811	Lead	ppm	ASTM D6130	>10	0	0	<1
CONTAMINANTSmethodlimit/basecurrenthistory1history2ChlorineppmASTM D6130265148CARRIER SALTSmethodlimit/basecurrenthistory1history2SodiumppmASTM D6130145225542710PotassiumppmASTM D6130327341SCALE POTENTIALmethodlimit/basecurrenthistory1history2CalciumppmASTM D613081811	Tin	ppm	ASTM D6130	>10	<1	0	0
ChlorineppmASTM D6130265148CARRIER SALTSmethodlimit/basecurrenthistory1history2SodiumppmASTM D6130145225542710PotassiumppmASTM D6130327341SCALE POTENTIALmethodlimit/basecurrenthistory1history2CalciumppmASTM D613081811	Zinc	ppm	ASTM D6130		0	0	0
CARRIER SALTSmethodlimit/basecurrenthistory1history2SodiumppmASTM D6130145225542710PotassiumppmASTM D6130327341SCALE POTENTIALmethodlimit/basecurrenthistory1history2CalciumppmASTM D613081811	CONTAMINANTS		method	limit/base	current	history1	history2
Sodium     ppm     ASTM D6130     1452     2554     2710       Potassium     ppm     ASTM D6130     32     73     41       SCALE POTENTIAL     method     limit/base     current     history1     history2       Calcium     ppm     ASTM D6130     8     18     11	Chlorine	ppm	ASTM D6130		26	51	48
PotassiumppmASTM D6130327341SCALE POTENTIALmethodlimit/basecurrenthistory1history2CalciumppmASTM D613081811	CARRIER SALTS		method	limit/base	current	history1	history2
PotassiumppmASTM D6130327341SCALE POTENTIALmethodlimit/basecurrenthistory1history2CalciumppmASTM D613081811	Sodium	ppm	ASTM D6130		1452	2554	2710
Calcium ppm ASTM D6130 8 18 11	Potassium		ASTM D6130		32	73	41
in the second seco	SCALE POTENTI	AL	method	limit/base	current	history1	history2
	Calcium	ppm	ASTM D6130		8	18	11
	Magnesium	ppm					



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