

# **OIL ANALYSIS REPORT**

## SYNOIL 8K ATLAS COPCO GA-180 AIF067757 - AMCOR Component

Compressor

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

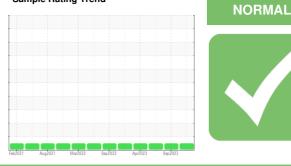
All component wear rates are normal.

#### Contamination

Moderate concentration of visible dirt/debris present in the oil.

#### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



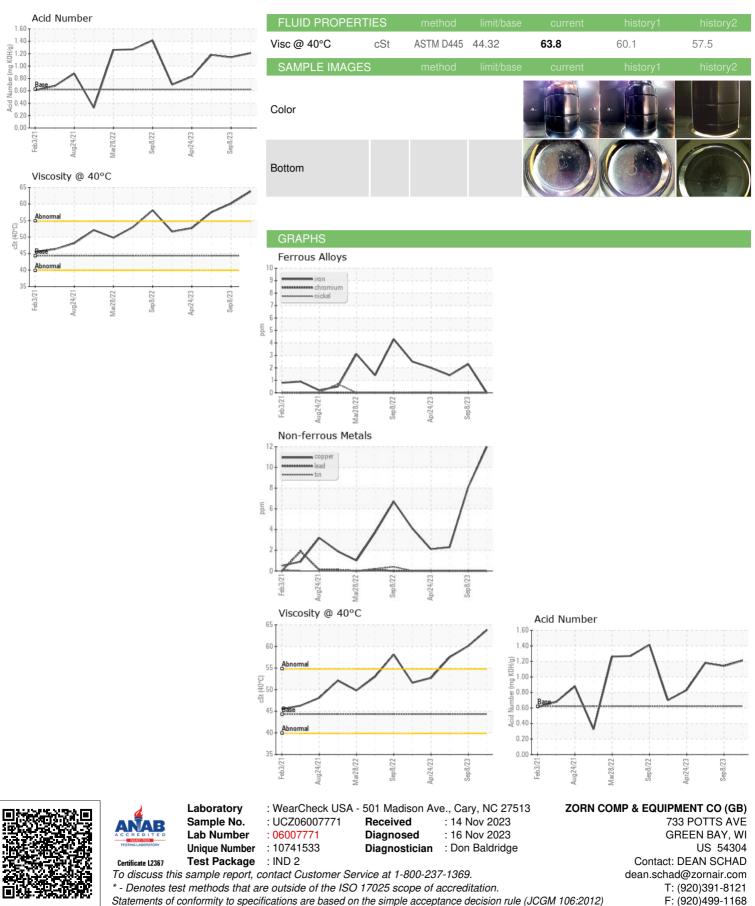
Sample Rating Trend



Sample Date     Client Info     01 Nov 2023     08 Sep 2023     07 Jul 2023       Machine Age     hrs     Client Info     164710     163414     161913       Oil Age     hrs     Client Info     6700     5403     3402       Oil Changed     Client Info     N/A     N/A     N/A       Sample Status     Imit Not Stam     NORMAL     NORMAL     NORMAL       WEAR METALS     method     Imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     0     0     0       Nickel     ppm     ASTM D5185m     >50     0     0     0       Silver     ppm     ASTM D5185m     >15     0     0     0     0       Copper     ppm     ASTM D5185m     >65     12     8     2     1       Chadium     ppm     ASTM D5185m     >10     0     0     0     0       Copper     ppm     ASTM D5185m     0.3     0     0     0	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age     hrs     Client Info     164710     163414     161913       Oil Age     hrs     Client Info     6700     5403     3402       Oil Changed     Client Info     N/A     N/A     N/A       Sample Status     Imit Dot     NORMAL     NORMAL     NORMAL       WEAR METALS     method     Imit/Dase     current     History1     History2       Iron     ppm     ASTM D5185m     >50     0     0     0       Nickel     ppm     ASTM D5185m     0     0     0     0       Silver     ppm     ASTM D5185m     >55     0     0     0       Silver     ppm     ASTM D5185m     >15     0     0     0       Copper     ppm     ASTM D5185m     >55     0     0     0     0       Cadmium     ppm     ASTM D5185m     >10     0     0     0       Cadmium     ppm     ASTM D5185m     0.3     0     0     0       Cadmium	Sample Number		Client Info		UCZ06007771	UCZ05951512	UCZ05901917
Oil Age     hrs     Client Info     6700     5403     3402       Oil Changed     Client Info     N/A     N/A     N/A     N/A       Sample Status     Imit/Dase     current     history1     history2       Iron     ppm     ASTM D5185m     >50     0     2     1       Chromium     ppm     ASTM D5185m     >50     0     0     0       Nickel     ppm     ASTM D5185m     0     0     0     0       Silver     ppm     ASTM D5185m     >55     0     0     0       Cadmium     ppm     ASTM D5185m     >10     0     0     0       Cadmium     ppm     ASTM D5185m     >10     0     0     0       Cadmium     ppm     ASTM D5185m     0.3     0     0     0       Cadmium     ppm     ASTM D5185m     0.3     0     0     0       Cadmium     ppm     ASTM D5185m     0.3     0     0     0       Radium	Sample Date		Client Info		01 Nov 2023	08 Sep 2023	07 Jul 2023
Oil Changed Sample Status Client Info N/A N/A N/A N/A   Sample Status method limit/base current history1 history2   Iron ppm ASTM D5165m >50 0 2 1   Chromium ppm ASTM D5165m >50 0 0 0   Nickel ppm ASTM D5165m >50 0 0 0   Silver ppm ASTM D5165m <10 0 0   Lead ppm ASTM D5165m >55 0 0 0   Copper ppm ASTM D5165m >55 0 0 0   Cadmium ppm ASTM D5165m >55 0 0 0   Cadmium ppm ASTM D5165m >55 0 0 0   Cadmium ppm ASTM D5165m >10 0 0 0   Cadmium ppm ASTM D5165m >10 0 0 0   Boron ppm ASTM D5165m 0.3 0 0 0   Barium ppm ASTM D5165m 0.3 0 0 0   Magnesium ppm ASTM D5165m 0.3	Machine Age	hrs	Client Info		164710	163414	161913
Sample Status     Image of the status     NORMAL     NORMAL     NORMAL     NORMAL       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     0     2     1       Chromium     ppm     ASTM D5185m     >5     0     0     0       Nickel     ppm     ASTM D5185m     0     0     0     0       Silver     ppm     ASTM D5185m     >55     0     0     0     0       Aluminum     ppm     ASTM D5185m     >15     0     0     0     0       Copper     ppm     ASTM D5185m     >65     12     8     2     0       Tin     ppm     ASTM D5185m     >65     12     8     0     0     0     0       Cadmium     ppm     ASTM D5185m     >10     0     0     0     0     0       ASTM D5185m     0.3     0     0     0     0     0 <td< th=""><th>Oil Age</th><th>hrs</th><th>Client Info</th><th></th><th>6700</th><th>5403</th><th>3402</th></td<>	Oil Age	hrs	Client Info		6700	5403	3402
WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     0     2     1       Chromium     ppm     ASTM D5185m     >50     0     0     0       Nickel     ppm     ASTM D5185m     0     0     0     0       Silver     ppm     ASTM D5185m     15     0     0     0       Aluminum     ppm     ASTM D5185m     >15     0     0     0       Lead     ppm     ASTM D5185m     >15     0     0     0       Capper     ppm     ASTM D5185m     >10     0     0     0       Cadmium     ppm     ASTM D5185m     0.3     0     0     0       Cadmium     ppm     ASTM D5185m     0.3     0     0     0       Cadmium     ppm     ASTM D5185m     0.2     0     <1     0       Boron     ppm     ASTM D5185m     0.2     0     <1     0<	Oil Changed		Client Info		N/A	N/A	N/A
Iron     ppm     ASTM D5185m     >50     0     2     1       Chromium     ppm     ASTM D5185m     >55     0     0     0       Nickel     ppm     ASTM D5185m     0     0     0     0       Silver     ppm     ASTM D5185m     >10     0     0     0       Aluminum     ppm     ASTM D5185m     >15     0     0     0     0       Lead     ppm     ASTM D5185m     >65     12     8     2     1       Lead     ppm     ASTM D5185m     >65     12     8     2     1     0	Sample Status				NORMAL	NORMAL	NORMAL
Chromium     ppm     ASTM D5185m     >55     0     0     0       Nickel     ppm     ASTM D5185m     0     0     0       Silver     ppm     ASTM D5185m     >15     0     0     0       Aluminum     ppm     ASTM D5185m     >15     0     0     0       Lead     ppm     ASTM D5185m     >65     12     8     2       Tin     ppm     ASTM D5185m     >10     0     0     0       Cadmium     ppm     ASTM D5185m     >10     0     0     0       Cadmium     ppm     ASTM D5185m     0.3     0     0     0       Cadmium     ppm     ASTM D5185m     0.3     0     0     0       Boron     ppm     ASTM D5185m     0.3     0     0     0       Magnese     ppm     ASTM D5185m     0.2     0     <1     0       Magnesium     ppm     ASTM D5185m     0.2     0     <1     0  <	WEAR METALS		method	limit/base	current	history1	history2
Nickel     ppm     ASTM D5185m     0     0     0       Titanium     ppm     ASTM D5185m     <1     0     0       Silver     ppm     ASTM D5185m     >15     0     0     0       Aluminum     ppm     ASTM D5185m     >65     0     0     0       Copper     ppm     ASTM D5185m     >65     12     8     2       Tin     ppm     ASTM D5185m     >65     12     8     2       Copper     ppm     ASTM D5185m     >10     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     0.3     0     0     0       Boron     ppm     ASTM D5185m     0.3     0     0     0       Magnesium     ppm     ASTM D5185m     0.3     0     0     0       Groon     ppm     ASTM D5185m     0.2     0     <1     0       Magnesi	Iron	ppm	ASTM D5185m	>50	0	2	1
Titanium     ppm     ASTM D5185m     <1	Chromium	ppm	ASTM D5185m	>5	0	0	0
Silver     ppm     ASTM D5185m     0     0     0       Aluminum     ppm     ASTM D5185m     >15     0     0     1       Lead     ppm     ASTM D5185m     >65     0     0     0       Copper     ppm     ASTM D5185m     >65     12     8     2       Tin     ppm     ASTM D5185m     >10     0     0     0       Vanadium     ppm     ASTM D5185m     >10     0     0     0       Cadmium     ppm     ASTM D5185m      0     0     0       Cadmium     ppm     ASTM D5185m     0.3     0     0     0       Boron     ppm     ASTM D5185m     0.3     0     0     0       Magnese     ppm     ASTM D5185m     0.2     0     <1     0       Magnesium     ppm     ASTM D5185m     0.2     0     <11     10       Sulfur     ppm     ASTM D5185m     0.3     0     111     10	Nickel	ppm	ASTM D5185m		0	0	0
Aluminum     ppm     ASTM D5185m     >15     0     0     1       Lead     ppm     ASTM D5185m     >65     0     0     0       Copper     ppm     ASTM D5185m     >65     12     8     2       Tin     ppm     ASTM D5185m     >10     0     0     0       Vanadium     ppm     ASTM D5185m     <10     0     0     0       Cadmium     ppm     ASTM D5185m     <10     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0.3     0     0     0       Malybdenum     ppm     ASTM D5185m     0.3     0     0     0       Magnesium     ppm     ASTM D5185m     0.2     0     <1     0       Calcium     ppm     ASTM D5185m     0.3     0     11     10       Sulfur     ppm     ASTM D5185m     0.3     0     0	Titanium	ppm	ASTM D5185m		<1	0	0
Lead     ppm     ASTM D5185m     >665     0     0     0       Copper     ppm     ASTM D5185m     >665     12     8     2       Tin     ppm     ASTM D5185m     >10     0     0     0       Vanadium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0.3     0     0     0       Magnesium     ppm     ASTM D5185m     0.3     0     0     0       Magnesium     ppm     ASTM D5185m     0.2     0     <1     0       Calcium     ppm     ASTM D5185m     0.2     0     <11     10       Sulfor     ppm     ASTM D5185m     0.2     0     529     607       Contakium     ppm     ASTM D5185m     0     0     0	Silver	ppm	ASTM D5185m		0	0	0
Copper     ppm     ASTM D5185m<>65     12     8     2       Tin     ppm     ASTM D5185m<>10     0     0     0       Vanadium     ppm     ASTM D5185m     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0.3     0     0     0       Malybdenum     ppm     ASTM D5185m     0.3     0     0     0       Magnesium     ppm     ASTM D5185m     0.9     0     <1     0       Magnesium     ppm     ASTM D5185m     0.2     0     <1     0       Calcium     ppm     ASTM D5185m     0.2     0     <11     10       Sulfur     ppm     ASTM D5185m     0.3     0     111     10       Sulfur     p	Aluminum	ppm	ASTM D5185m	>15	0	0	1
Tin     ppm     ASTM D5185m     >10     0     0     0       Vanadium     ppm     ASTM D5185m     0     <10	Lead	ppm	ASTM D5185m	>65	0	0	
Vanadium     ppm     ASTM D5185m     <1		ppm					
CadmiumppmASTM D5185m000ADDITIVESppmASTM D5185m0.3000BoronppmASTM D5185m0.3000BariumppmASTM D5185m0.3000MolybdenumppmASTM D5185m0.90<10MaganeseppmASTM D5185m0.90<10MagnesiumppmASTM D5185m0.20<10CalciumppmASTM D5185m0.1000PhosphorusppmASTM D5185m0.301110SulfurppmASTM D5185m13360529607CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m335000SodiumppmASTM D5185m>35000PotassiumppmASTM D5185m>200<1<1PotassiumppmASTM D5185m>200<1<1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2Kiti Mumber (AN)mg KOHgASTM D80450.6221.211.141.18VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONE<	Tin	ppm	ASTM D5185m	>10	0	0	0
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m0.3000BariumppmASTM D5185m0.3000MolybdenumppmASTM D5185m0.90<10MaganeseppmASTM D5185m0.20<10MagnesiumppmASTM D5185m0.20<10CalciumppmASTM D5185m0.1000PhosphorusppmASTM D5185m0.301110SulfurppmASTM D5185m13360529607CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m335000SodiumppmASTM D5185m>35000PotassiumppmASTM D5185m>200<1<1PotassiumppmASTM D5185m>200<1<1PotassiumppmASTM D5185m>200<1<1PotassiumppmASTM D5185m>200<1<1VISUALmethodlimit/basecurrenthistory1history2VisualNONENONENONENONENONENONEVisualNONENONENONENONENONENONEPrecipitatescalar*VisualNONENONE	Vanadium	ppm	ASTM D5185m			0	0
Boron     ppm     ASTM D5185m     0.3     0     0     0       Barium     ppm     ASTM D5185m     0.3     0     0     0     0       Molybdenum     ppm     ASTM D5185m     0     0     0     0     0       Magnesee     ppm     ASTM D5185m     0.9     0     <1     0       Magnesium     ppm     ASTM D5185m     0.2     0     <1     0       Calcium     ppm     ASTM D5185m     0.1     0     0     0       Phosphorus     ppm     ASTM D5185m     0.3     0     11     10       Sulfur     ppm     ASTM D5185m     1336     0     529     607       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >35     0     0     0       Sodium     ppm     ASTM D5185m     >20     0     <1     <1       Potassium     ppm     ASTM D5185m     <	Cadmium	ppm	ASTM D5185m		0	0	0
Barium     ppm     ASTM D5185m     0.3     0     0     0       Molybdenum     ppm     ASTM D5185m     0     0     0     0       Manganese     ppm     ASTM D5185m     0.9     0     <1     0       Magnesium     ppm     ASTM D5185m     0.2     0     <1     0       Calcium     ppm     ASTM D5185m     0.1     0     0     0       Phosphorus     ppm     ASTM D5185m     0.3     0     11     10       Sulfur     ppm     ASTM D5185m     1336     0     529     607       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >35     0     0     0       Sodium     ppm     ASTM D5185m     >20     0     <1     <1       Potassium     ppm     ASTM D5185m     >20     0     <1     <1       FLUID DEGRADATION     method     limit/base     current	ADDITIVES		method	limit/base	current	history1	history2
MolybdenumppmASTM D5185m00000ManganeseppmASTM D5185m0.9000MagnesiumppmASTM D5185m0.200000CalciumppmASTM D5185m0.10000000PhosphorusppmASTM D5185m0.1000000PhosphorusppmASTM D5185m429206313317317ZincppmASTM D5185m0.3011110SulfurppmASTM D5185m0.30529607CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>350000SodiumppmASTM D5185m>200<11	Boron	ppm	ASTM D5185m	0.3	0	0	0
Marganese     pm     ASTM D5185m     0.9     0     <1	Barium	ppm	ASTM D5185m	0.3	0	0	0
MagnesiumppmASTM D5185m0.20<1	Molybdenum	ppm	ASTM D5185m	0	0	0	0
CalciumppmASTM D5185m0.1000PhosphorusppmASTM D5185m429206313317ZincppmASTM D5185m0.301110SulfurppmASTM D5185m13360529607CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>35000SodiumppmASTM D5185m>35000SodiumppmASTM D5185m>200<1<1PotassiumppmASTM D5185m>200<1<1PotassiumppmASTM D5185m>200<1<1PotassiumppmASTM D5185m>200<1<1PotassiumppmASTM D80450.6221.211.141.18VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONENONESiltscalar*VisualNONENONENONENONENONEDebrisscalar*VisualNONEMODERNONENONENONE	Manganese	ppm	ASTM D5185m	0.9	0	<1	0
PhosphorusppmASTM D5185m429206313317ZincppmASTM D5185m0.301110SulfurppmASTM D5185m13360529607CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>35000SodiumppmASTM D5185m>35000PotassiumppmASTM D5185m>200<1<1PotassiumppmASTM D5185m>200<1<1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2Acid Number (AN)mg KOH/gASTM D80450.6221.211.141.18VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONENONESiltscalar*VisualNONENONENONENONENONENONEDebrisscalar*VisualNONEMODERNONENONENONENONE	Magnesium	ppm	ASTM D5185m	0.2	0	<1	0
ZincppmASTM D5185m0.301110SulfurppmASTM D5185m13360529607CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>35000SodiumppmASTM D5185m>35000SodiumppmASTM D5185m>200<1<1PotassiumppmASTM D5185m>200<1<1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2Acid Number (AN)mg KOH/gASTM D80450.6221.211.141.18VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONENONESiltscalar*VisualNONENONENONENONENONEDebrisscalar*VisualNONEMODERNONENONENONE	Calcium	ppm	ASTM D5185m	0.1	0	0	0
SulfurppmASTM D5185m13360529607CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>35000SodiumppmASTM D5185m>35000PotassiumppmASTM D5185m>200<1<1PotassiumppmASTM D5185m>200<1<1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2Acid Number (AN)mg KOH/gASTM D80450.6221.211.141.18VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONENONESiltscalar*VisualNONENONENONENONENONENONEDebrisscalar*VisualNONEMODERNONENONENONE	Phosphorus	ppm	ASTM D5185m	429	206	313	317
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>35000SodiumppmASTM D5185m>35000PotassiumppmASTM D5185m>200<1<1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2Acid Number (AN)mg K0H/gASTM D80450.6221.211.141.18VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONENONESiltscalar*VisualNONENONENONENONENONENONEDebrisscalar*VisualNONEMODERNONENONENONE	-	ppm			-		
SiliconppmASTM D5185m>35000SodiumppmASTM D5185m <t1< td="">10PotassiumppmASTM D5185m&gt;200&lt;1&lt;1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2Acid Number (AN)mg KOH/gASTM D80450.6221.211.141.18VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONENONESiltscalar*VisualNONENONENONENONENONENONEDebrisscalar*VisualNONEMODERNONENONENONE</t1<>		ppm	ASTM D5185m	1336	0	529	
SodiumppmASTM D5185m<1	CONTAMINANTS		method	limit/base	current	history1	history2
PotassiumppmASTM D5185m>200<1		ppm		>35	-		
FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2Acid Number (AN)mg KOH/gASTM D80450.6221.211.141.18VISUALmethodlimit/basecurrenthistory1history1history2White Metalscalar*VisualNONENONENONENONENONEYellow Metalscalar*VisualNONENONENONENONENONEPrecipitatescalar*VisualNONENONENONENONENONESiltscalar*VisualNONENONENONENONENONEDebrisscalar*VisualNONEMODERNONENONE		ppm					
Acid Number (AN)mg KOH/gASTM D80450.6221.211.141.18VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONEMODERNONENONE			ASTM D5185m		0	<1	<1
VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONEMODERNONENONE	FLUID DEGRADA	TION	method	limit/base	current	history1	
White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONEMODERNONENONE	Acid Number (AN)	mg KOH/g	ASTM D8045	0.622	1.21	1.14	1.18
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONEMODERNONENONE	VISUAL		method		current	history1	history2
Precipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONEMODERNONENONE	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Siltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONEMODERNONENONE	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debris scalar *Visual NONE MODER NONE NONE	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
		scalar		NONE		NONE	NONE
Sand/Dirt scalar *Visual NONE NONE NONE NONE	Sand/Dirt	scalar	*Visual		NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORML		scalar					
Odor scalar *Visual NORML NORML NORML NORML		scalar	*Visual	NORML		NORML	NORML
Emulsified Water scalar *Visual >0.1 NEG NEG NEG		scalar		>0.1			
Free Water     scalar     *Visual     NEG     NEG     NEG       5:15:54) Pay: 1     Contract/Location: DEAN SCHAD     UCZOPGR		scalar	*Visual				



# **OIL ANALYSIS REPORT**



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

Contact/Location: DEAN SCHAD - UCZORGRE