

Machine Id 040-R0006 Component Right Final Drive Fluid SCHAEFFER SCHAEFFER 293 MOLY 75W90 (2 QTS)

RECOMMENDATION

The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

	W	EA	R
--	---	----	---

Gear wear is indicated.

CONTAMINATION

There is a light concentration of water present in the oil.

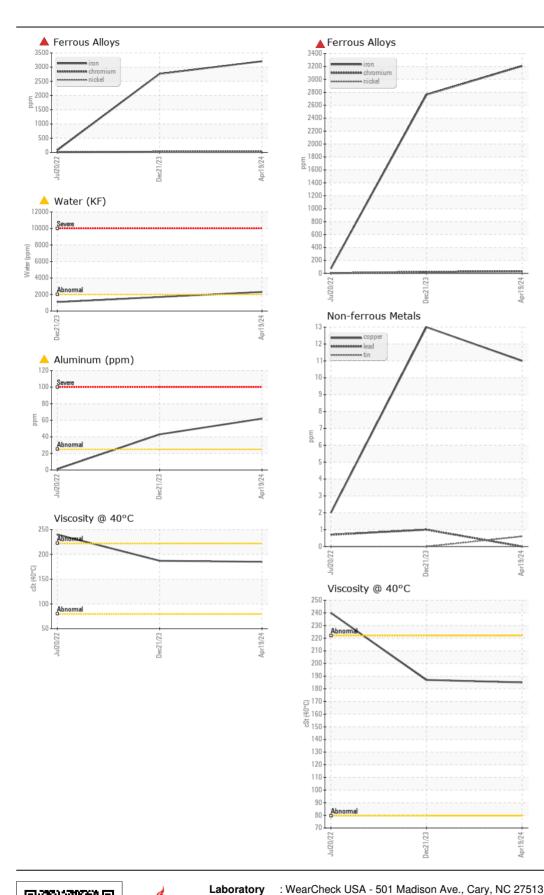
FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sample DateClient InfoIP Apr 202421 Dec 202320 Jul 2022Machine AgehrsClient Info694564592244Oil AgehrsClient Info663100Filter AgehrsClient InfoChangedNot ChangeFilter ChangedClient InfoN/ANot ChangeNot ChangeFilter ChangedClient InfoN/ANot ChangeNot ChangeSample StatusClient InfoN/ANot ChangeNot ChangeIronppmASTM D5185>5003206276274IronppmASTM D5185>1032222NickelppmASTM D5185>10110ItraniumppmASTM D5185>10111LeadppmASTM D5185>5011132CopperppmASTM D5185>5011132TinppmASTM D5185>5011132TinppmASTM D5185>5011132SilconppmASTM D5185>5011132SilconppmASTM D5185>501000Vellow Metalscalar'VisualNONENONENONENONESilconppmASTM D5185>7559253PotassiumppmASTM D5185>2030.109Siltscalar'Vi	QIS)						
Sample DateClient InfoIP Apr 202421 Dec 202320 Jul 2022Machine AgehrsClient Info694564592244Oil AgehrsClient Info663100Filter AgehrsClient InfoChangedNot ChangeFilter ChangedClient InfoN/ANot ChangeNot ChangeFilter ChangedClient InfoN/ANot ChangeNot ChangeSample StatusClient InfoN/ANot ChangeNot ChangeIronppmASTM D5185>5003206276274IronppmASTM D5185>1032222NickelppmASTM D5185>10110ItraniumppmASTM D5185>10111LeadppmASTM D5185>5011132CopperppmASTM D5185>5011132TinppmASTM D5185>5011132TinppmASTM D5185>5011132SilconppmASTM D5185>5011132SilconppmASTM D5185>501000Vellow Metalscalar'VisualNONENONENONENONESilconppmASTM D5185>7559253PotassiumppmASTM D5185>2030.109Siltscalar'Vi	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine AgehrsClient Into694564592244Oil AgehrsClient Into6631000Filter AgehrsClient IntoChangedNot ChangeNot ChangeClient IntoIYANot ChangeNot ChangeFilter ChangedClient IntoIVANot ChangeNot ChangeSample StatusIter Ter Ter Ter Ter Ter Ter Ter Ter Ter T	Sample Number		Client Info		WC0903846	WC0868438	WC0698081
Oil Age Filter AgehrsClient Info663100Filter AgehrsClient Info000Oil ChangedClient InfoNANot ChangedNot ChangedFilter ChangedOClient InfoNANot ChangedNot ChangedSample StatusClient InfoNASEVERESEVERENORMALIronppmASTM D5185m500A 3206A 276274ChromiumppmASTM D5185m10A 32A 2222NickelppmASTM D5185m10110TitaniumppmASTM D5185m0000AluminumppmASTM D5185m50011132CopperppmASTM D5185m50011132VanaduumppmASTM D5185m501100VanaduumppmASTM D5185m501100VanaduumppmASTM D5185m501100VanaduumppmASTM D5185m501100VanaduumppmASTM D5185m503263263VatarNORENONENONENONENONENONEVatarScalar'VisualNONENONENONENONESiliconppmASTM D5185m20321010.00SiliconppmASTM D5185m20321010.00-	Sample Date		Client Info		19 Apr 2024	21 Dec 2023	20 Jul 2022
Filter Origonal SectorInsClient InfoOOOOil ChangedClient InfoChangedNot ChangedNot ChangedNot ChangedNot ChangedFilter ChangedClient InfoN/ANot ChangedNot ChangedNot ChangedSample StatusSEVERESEVERESEVERESEVERENORMALLIronppmASTM D5185m>500A 3206A 276274ChromiumppmASTM D5185m>10A 3210NickelppmASTM D5185m>1011<1	Machine Age	hrs	Client Info		6945	6459	2244
Oil ChangedClient InfoChangedNot ChangedNot ChangedNot ChangedFilter ChangedClient InfoN/ANot ChangedNot ChangedSample StatusSEVERESEVERESEVERENORMALLIronppmASTM D5185m>500 1 32022NickelppmASTM D5185m>10 1 10NickelppmASTM D5185m>10 1 11SilverppmASTM D5185m>25 0 1-1SilverppmASTM D5185m>25 0 1-1CapperppmASTM D5185m>5011132TinppmASTM D5185m>5011132TinppmASTM D5185m>5011132Yellow Metalscalar'VisualNONENONENONENONEYellow Metalscalar'VisualNONENONENONENONESiliconppmASTM D5185m>20 35 249Water%ASTM D5185m>20 35 249Water%ASTM D5185m>20 35 249SiliconppmASTM D5185m>20 35 249Water%ASTM D5185m>20 35 249Water%ASTM D5185m>20 35 249Goringscalar'VisualNONENONENONE<	Oil Age	hrs	Client Info		6631	0	0
Filter Changed Sample StatusClient IntoNANot Changed SEVERENot Changed SEVERENot Changed SEVERENot Changed SEVEREIronppmASTM D5185m500 Å 3206Å 276274ChroniumppmASTM D5185m1 Å 32Å 2222NickelppmASTM D5185m1110TitaniumppmASTM D5185m1110SilverppmASTM D5185m25 Å 62 443LeadppmASTM D5185m550111332TinppmASTM D5185m550111332TinppmASTM D5185m550111332Yellow Metalscalar'VisualNONENONENONENONEYellow Metalscalar'VisualNONENONENONENONESiliconppmASTM D5185m>7559253PotassiumppmASTM D5185m>2035249ppm Water%ASTM D6304>200231010.90Silitscalar'VisualNONENONENONENONEAstm D5185m>74S0ASTM D5185m262.33PotassiumppmASTM D5185m>2035249Silitscalar'VisualNONENONENONENONEAstm D5185m>20ASTM D5185m20	Filter Age	hrs	Client Info		0	0	0
Sample Status SEVERE SEVERE SEVERE SEVERE SEVERE NORMAL Iron ppm ASTM D5185m >10 A 3206 A 2762 74 Chromium ppm ASTM D5185m >10 A 32 A 222 2 Nickel ppm ASTM D5185m >10 1 1 0 Titanium ppm ASTM D5185m >10 1 1 -1 Silver ppm ASTM D5185m >10 0 0 0 Aluminum ppm ASTM D5185m >25 6 62 A 43 1 Lead ppm ASTM D5185m >25 11 13 2 Tin ppm ASTM D5185m >10 <1 0 0 Vanadium ppm ASTM D5185m >10 <1 100 0 Vanadium ppm ASTM D5185m >75 59 25 3 Yellow Metal scalar *Usual NONE<	Oil Changed		Client Info		Changed	Not Changd	Not Chango
Iron ppm ASTM D5185m >500 A 3206 A 2762 74 Chromium ppm ASTM D5185m >10 A 32 A 22 2 Nickel ppm ASTM D5185m >10 1 1 0 Titanium ppm ASTM D5185m >10 1 1 <1	Filter Changed		Client Info		N/A	Not Changd	Not Change
Chromium ppm ASTM D5185m >10 ▲ 32 ▲ 22 2 Nickel ppm ASTM D5185m >10 1 1 0 Titanium ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >25 ▲ 62 ▲ 43 1 Lead ppm ASTM D5185m >25 0 1 <1 1 Copper ppm ASTM D5185m >50 11 13 2 1 Copper ppm ASTM D5185m >10 <1 0 0 0 Vanadium ppm ASTM D5185m >10 <1 0 0 0 Vanadium ppm ASTM D5185m >10 <1 0 0 0 Vanadium ppm ASTM D5185m >20 35 24 9 0 0 Silicon ppm ASTM D5185m >20 2310 10109 </th <th>Sample Status</th> <th></th> <th></th> <th></th> <th>SEVERE</th> <th>SEVERE</th> <th>NORMAL</th>	Sample Status				SEVERE	SEVERE	NORMAL
Chromium ppm ASTM D5185m >10 ▲ 32 ▲ 22 2 Nickel ppm ASTM D5185m >10 1 1 0 Titanium ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >25 ▲ 62 ▲ 43 1 Lead ppm ASTM D5185m >25 0 1 <1 1 Copper ppm ASTM D5185m >50 11 13 2 1 Copper ppm ASTM D5185m >10 <1 0 0 0 Vanadium ppm ASTM D5185m >10 <1 0 0 0 Vanadium ppm ASTM D5185m >10 <1 0 0 0 Vanadium ppm ASTM D5185m >20 35 24 9 0 0 Silicon ppm ASTM D5185m >20 2310 10109 </th <th>Iron</th> <th></th> <th></th> <th>. 500</th> <th>A 2006</th> <th>A 0760</th> <th>74</th>	Iron			. 500	A 2006	A 0760	74
NickelppmASTM D5185m>10110TitaniumppmASTM D5185mIII </th <th>-</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	-						
Titanium ppm ASTM D5185m I 1 1 <1							
Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >25 62 433 1 Lead ppm ASTM D5185m >25 0 1 <1 Copper ppm ASTM D5185m >50 11 133 2 Tin ppm ASTM D5185m >10 <1 0 0 Vanadium ppm ASTM D5185m >10 <1 0 0 Vanadium ppm ASTM D5185m >10 <1 0 0 0 Vanadium ppm ASTM D5185m >10 <1 0 0 0 Vanadium ppm ASTM D5185m >75 59 25 3 Potassium ppm ASTM D5185m >20 35 24 9 Water % ASTM D5185m >20 35 24 9 Water ppm ASTM D5185m >20 2310				>10			÷
Aluminum ppm ASTM D5185m >25 A 62 4 43 1 Lead ppm ASTM D5185m >25 0 1 <1 Copper ppm ASTM D5185m >500 11 13 2 Tin ppm ASTM D5185m >10 <1 0 0 Vanadium ppm ASTM D5185m >10 <1 10 0 White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE 0.231 0.109 Yellow Metal scalar *Visual NONE NONE NONE NONE Soliton scalar *Visual NORE NONE NORE NORE					-		
Lead ppm ASTM D5185m >25 0 1 <1				> 2F	-		
Copper ppm ASTM D5185m >50 11 13 2 Tin ppm ASTM D5185m >10 <1 0 0 Vanadium ppm ASTM D5185m >10 <1 <1 0 White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Silicon ppm ASTM D5185m >75 59 25 3 Potassium ppm ASTM D5185m >20 35 24 9 Water % ASTM D504 >0.2 ▲ 0.231 0.109 Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NORML Appearance scalar *Visual NORE NORML NORML NORML Godor							
TinppmASTM D5185m< >10<1				_			
Vanadium ppm ASTM D5185m <1							
White Metal Yellow Metalscalar*VisualNONENONENONENONENONESiliconppmASTM D5185m>7559253PotassiumppmASTM D5185m>2035249Water%ASTM D6304>20.0▲ 231010.90ppm WaterppmASTM D6304>2000▲ 231010.90Siltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMLOdorscalar*VisualNORENORMLNORMLNORMLBoronppmASTM D5185m2312124MolybdenumppmASTM D5185m23182ManganeseppmASTM D5185m23182MagnesiumppmASTM D5185m1227817PhosphorusppmASTM D5185m126110711227ZincppmASTM D5185m977457SulfurppmASTM D5185m287252401225077				>10		-	
Yellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m<>7559253PotassiumppmASTM D5185m<>2035249Water%ASTM D6304>0.2▲ 0.2310.109ppm WaterppmASTM D6304>2000▲ 231010900Siltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLCodorscalar*VisualNOR12130.2%SodiumppmASTM D5185m272013BoronppmASTM D5185m23121424MolybdenumppmASTM D5185m23182ManganeseppmASTM D5185m23182MagnesiumppmASTM D5185m1327817PhosphorusppmASTM D5185m977457SulfurppmASTM D5185m977457SulfurppmASTM D5185m972401225077							
SiliconppmASTM D5185m<>7559253PotassiumppmASTM D5185m>2035249Water%ASTM D6304>0.2▲ 0.2310.109ppm WaterppmASTM D6304>2000▲ 231010900Siltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLBoronppmASTM D5185m272013BoronppmASTM D5185m2312124MolybdenumppmASTM D5185m23182ManganeseppmASTM D5185m12182MangensiumppmASTM D5185m1327817PhosphorusppmASTM D5185m977457SulfurppmASTM D5185m977457SulfurppmASTM D5185m977457				-			
Potassium ppm ASTM D5185m >20 35 24 9 Water % ASTM D6304 >0.2 \wedge 0.231 0.109 ppm Water ppm ASTM D6304 >2000 \wedge 2310 1090 Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NORML NORML Appearance scalar *Visual NORM NORML Scalar *Visual >0.2 0.2% 13 Scalar	Yellow Metal	scalar	^Visual	NONE	NONE	NONE	NONE
Water % ASTM D6304 >0.2 A 0.231 0.109 ppm Water ppm ASTM D6304 >2000 A 2310 1090 Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORM NORML NORML </th <th>Silicon</th> <th>ppm</th> <th>ASTM D5185m</th> <th>>75</th> <th>59</th> <th>25</th> <th>3</th>	Silicon	ppm	ASTM D5185m	>75	59	25	3
ppm Water ppm ASTM D6304 >2000 A 2310 1090 Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORM NORML NORML NORML NORML Odor scalar *Visual NORM NORML NORML NORML NORML Sodium scalar *Visual >0.2 0.2% 0.2% NEG Sodium ppm ASTM D5185m 27 20 13 Boron ppm ASTM D5185m 27 20 13 Molybdenum ppm ASTM D5185m 23 12 2 Magnesium ppm ASTM D5185m 23 18 2 Magnesium ppm	Potassium	ppm	ASTM D5185m	>20	35	24	9
Siltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%0.2%NEGSodiumppmASTM D5185m272013BoronppmASTM D5185m12124MolybdenumppmASTM D5185m233182ManganeseppmASTM D5185m1327817PhosphorusppmASTM D5185m126110711227ZincppmASTM D5185m287252401225077	Water	%	ASTM D6304	>0.2	A 0.231	0.109	
Debrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNORNORNORENONENOREAppearancescalar*VisualNORMNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%0.2%NORMLNORMLSodiumppmASTM D5185m2720131313131313141	ppm Water	ppm	ASTM D6304	>2000	A 2310	1090	
Sand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%0.2%NEGSodiumppmASTM D5185m272013BoronppmASTM D5185m99655258BariumppmASTM D5185m121124MolybdenumppmASTM D5185m23182MagnesiumppmASTM D5185m132182PhosphorusppmASTM D5185m1327817PhosphorusppmASTM D5185m126110711227ZincppmASTM D5185m287252401225077	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%0.2%NEGSodiumppmASTM D5185m272013BoronppmASTM D5185m99655258BariumppmASTM D5185m12124MolybdenumppmASTM D5185m12182MagnesiumppmASTM D5185m125<1CalciumppmASTM D5185m1327817PhosphorusppmASTM D5185m126110711227ZincppmASTM D5185m977457SulfurppmASTM D5185m287252401225077	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%0.2%NEGSodiumppmASTM D5185m272013BoronppmASTM D5185m9965258BariumppmASTM D5185m12124MolybdenumppmASTM D5185m12182ManganeseppmASTM D5185m233182MagnesiumppmASTM D5185m1327817PhosphorusppmASTM D5185m126110711227ZincppmASTM D5185m977457SulfurppmASTM D5185m287252401225077	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water scalar *Visual >0.2 0.2% 0.2% NEG Sodium ppm ASTM D5185m 27 20 13 Boron ppm ASTM D5185m 99 65 258 Barium ppm ASTM D5185m 12 1 24 Molybdenum ppm ASTM D5185m < 12 2 2 Manganese ppm ASTM D5185m 23 18 2 Magnesium ppm ASTM D5185m 12 5 <1 Calcium ppm ASTM D5185m 132 78 17 Phosphorus ppm ASTM D5185m 132 78 17 Phosphorus ppm ASTM D5185m 1261 1071 1227 Zinc ppm ASTM D5185m 97 74 57 Sulfur ppm ASTM D5185m 28725 24012 25077	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Sodium ppm ASTM D5185m 27 20 13 Boron ppm ASTM D5185m 99 65 258 Barium ppm ASTM D5185m 12 1 24 Molybdenum ppm ASTM D5185m <1 2 2 Manganese ppm ASTM D5185m <1 2 2 Magnesium ppm ASTM D5185m 12 18 2 Calcium ppm ASTM D5185m 12 5 <1 Phosphorus ppm ASTM D5185m 132 78 17 Phosphorus ppm ASTM D5185m 1261 1071 1227 Zinc ppm ASTM D5185m 97 74 57 Sulfur ppm ASTM D5185m 28725 24012 25077	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Boron ppm ASTM D5185m 99 65 258 Barium ppm ASTM D5185m 12 1 24 Molybdenum ppm ASTM D5185m <1 2 2 Manganese ppm ASTM D5185m 23 18 2 Magnesium ppm ASTM D5185m 12 5 <1 Calcium ppm ASTM D5185m 132 78 17 Phosphorus ppm ASTM D5185m 1261 1071 1227 Zinc ppm ASTM D5185m 97 74 57 Sulfur ppm ASTM D5185m 28725 24012 25077	Emulsified Water	scalar	*Visual	>0.2	0.2%	0.2%	NEG
Boron ppm ASTM D5185m 99 65 258 Barium ppm ASTM D5185m 12 1 24 Molybdenum ppm ASTM D5185m <1 2 2 Manganese ppm ASTM D5185m 23 18 2 Magnesium ppm ASTM D5185m 12 5 <1 Calcium ppm ASTM D5185m 132 78 17 Phosphorus ppm ASTM D5185m 1261 1071 1227 Zinc ppm ASTM D5185m 97 74 57 Sulfur ppm ASTM D5185m 28725 24012 25077	Sodium	mag	ASTM D5185m		27	20	13
Barium ppm ASTM D5185m 12 1 24 Molybdenum ppm ASTM D5185m <	Boron		ASTM D5185m		99	65	258
Manganese ppm ASTM D5185m 23 18 2 Magnesium ppm ASTM D5185m 12 5 <1	Barium		ASTM D5185m		12	1	24
Manganese ppm ASTM D5185m 23 18 2 Magnesium ppm ASTM D5185m 12 5 <1	Molybdenum	ppm	ASTM D5185m		<1	2	2
Magnesium ppm ASTM D5185m 12 5 <1	-					18	
Calcium ppm ASTM D5185m 132 78 17 Phosphorus ppm ASTM D5185m 1261 1071 1227 Zinc ppm ASTM D5185m 97 74 57 Sulfur ppm ASTM D5185m 28725 24012 25077	Magnesium		ASTM D5185m			5	<1
Phosphorus ppm ASTM D5185m 1261 1071 1227 Zinc ppm ASTM D5185m 97 74 57 Sulfur ppm ASTM D5185m 28725 24012 25077	0						
Zinc ppm ASTM D5185m 97 74 57 Sulfur ppm ASTM D5185m 28725 24012 25077							1227
Sulfur ppm ASTM D5185m 28725 24012 25077			ASTM D5185m			74	
			ASTM D5185m				
	Visc @ 40°C	cSt	ASTM D445		185	187	240

Report Id: AECCHATN [WUSCAR] 06159496 (Generated: 04/26/2024 11:24:56) Rev: 1

Submitted By: TECH TECHNICIAN



SHIMMICK CONSTRUCTION 5535 TRAILHEAD DRIVE

CHATTANOOGA, TN

US 37415

T:

F:



Diagnosed Unique Number : 10994919 : 26 Apr 2024 - Jonathan Hester Test Package : CONST (Additional Tests: KF) Contact: DANIEL LISELLA To discuss this sample report, contact Customer Service at 1-800-237-1369. daniel.lisella@shimmick.com * - 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)

Received

Tested

: 24 Apr 2024

: 25 Apr 2024

: WC0903846

Submitted By: TECH TECHNICIAN Page 2 of 2