

Machine Id LIEBHERR HS895 188297

Luffing Winch

## PETRO CANADA TRAXON 75W90 SYNTHETIC (--- GAL)

RECOMMENDATION

We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

**WEAR** 

All component wear rates are normal.

## CONTAMINATION

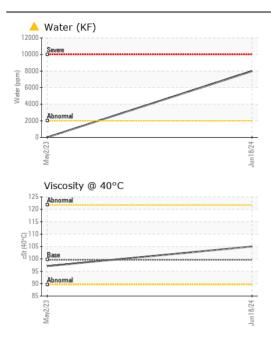
There is a moderate concentration of water present in the oil.

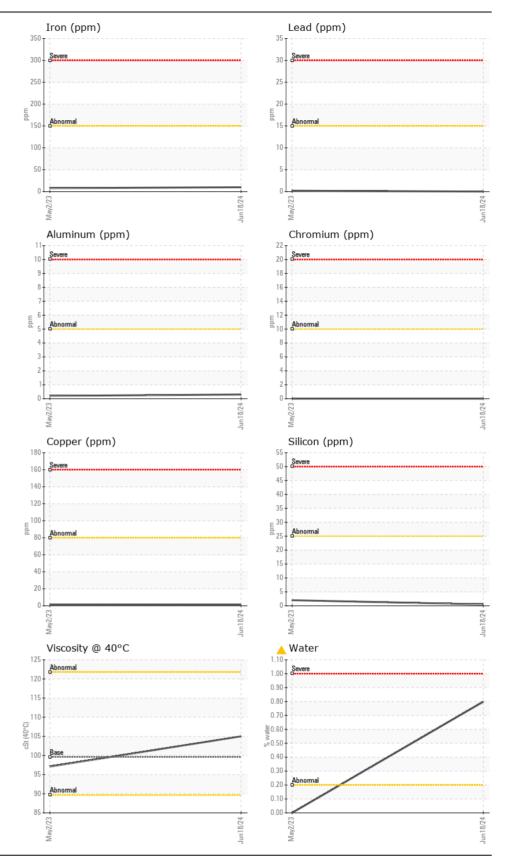
	DITION

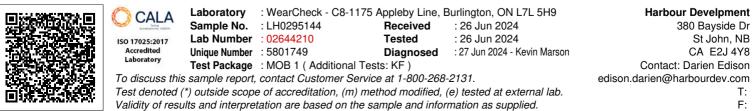
The oil is no longer serviceable due to the presence of contaminants.

TestUOMMethodLimit MCurrentHistory1History2Sample NumberCClient InoIsH0295144H0260279Sample DateClient InoIsBlun202420:May2023Machine AgehrsClient InoIsBlun202420:May2023Filter AgehrsClient InoIsN/AN/AGil ChangedrClient InoN/AN/AFilter AgeMClient InoN/AN/ASample StatusClient InoN/AN/ATronpmASTMDSt80>100RRNickelpmASTMDSt80>100Client0NickelpmASTMDSt80>100Client0SilverpmASTMDSt80>10ClientSilverpmASTMDSt80>10ClientGandminpmASTMDSt80>10ClientGuadianpmASTMDSt80>10ClientSilconpmASTMDSt80>10ClientSilconpmASTMDSt80>200GlientSilconpmASTMDSt80>200GlientSilconpmASTMDSt80>200GlientSilconpmASTMDSt80S20 <t< th=""><th></th><th></th><th><b>`</b></th><th>/</th><th></th><th></th><th></th></t<>			<b>`</b>	/			
Sample DateClient InfoI8 Jun20200.2May 2023Machine AgehrsClient InfoIG88513473Oil AgehrsClient Info00Filter AgehrsClient InfoN/AN/AOil ChangedClient InfoN/AN/AFilter ChangedClient InfoN/AN/ASample StatusClient InfoN/AN/ASample StatusStatusStatusNoRMALIronpmASTM051850>108NickelpmASTM051850>100NickelpmASTM051850>100SilverpmASTM051850>10<-1AuminumpmASTM051850>150<NaminumpmASTM051850>150<AugentimpmASTM051850>150<CopperpmASTM051850>150<Yellow MetalscalaVisual*NONENONENONESilconpmASTM051850>150SilconpmASTM051850>22-12SilconpmASTM051850>22-12SilconpmASTM051850>22-12SilconpmASTM051850>22-1NONE <t< th=""><th>Test</th><th>UOM</th><th>Method</th><th>Limit/Abn</th><th>Current</th><th>History1</th><th>History2</th></t<>	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age NineNrsClient InfoIG38513473Oil Age hrsKrsClient Info00Filter Age bil ChangedKrsClient InfoN/AN/AGoil ChangedClient InfoN/AN/AFilter ChangedClient InfoN/AN/ASample StatusClient InfoN/AN/AIronppmASTM05185(m)>150108ChromiumppmASTM05185(m)>10100NickelppmASTM05185(m)>10100SilverppmASTM05185(m)>101AluminumppmASTM05185(m)>50AluminumppmASTM05185(m)>5010VanadiumppmASTM05185(m)>50100VanadiumppmASTM05185(m)>50100VanadiumppmASTM05185(m)>2040VanadiumppmASTM05185(m)>22VanadiumppmASTM05185(m)>22VanadiumppmASTM05185(m)>22VanadiumppmASTM05185(m)>22VanadiumppmASTM05185(m)>22Vanadiumppm	Sample Number		Client Info		LH0295144	LH0260279	
Oil AgehrsClient InfoOOFilter AgehrsClient InfoN/AN/AOil ChangedClient InfoN/AN/AFilter ChangedClient InfoN/AN/ASample StatusABNORMALNORMALIronppmASTM05185(m)>1008IronppmASTM05185(m)>1000NickelppmASTM05185(m)>100NickelppmASTM05185(m)>100SilverppmASTM05185(m)>100AluminumppmASTM05185(m)>50-1AgeppmASTM05185(m)>50-1VanadiumppmASTM05185(m)>50100VanadiumppmASTM05185(m)>2040ValderscalarVisual*NONENONENONEValderppmASTM05185(m)>2240SiliconppmASTM05185(m)>2240Valder%ASTM05185(m)>2240SiliconppmASTM05185(m)>2240SiliconppmASTM05185(m)>2240SiliconppmASTM05185(m)PANORE<	Sample Date		Client Info		18 Jun 2024	02 May 2023	
Filter Age Oil ChangedInsClient InfoInvN/AInvClient InfoN/AN/AN/AInvFilter ChangedClient InfoN/AN/AInvSample StatusSample StatusABNORMALNORMALInvIronppmASTM D5185(m)>10000InvNickelppmASTM D5185(m)>1000InvInvNickelppmASTM D5185(m)>100InvInvNickelppmASTM D5185(m)Inv0InvInvSilverppmASTM D5185(m)>50<1IntIntAluminumppmASTM D5185(m)>50IntIntIntAluminumppmASTM D5185(m)>50IntIntIntNanadiumppmASTM D5185(m)>50IntIntIntVanadiumppmASTM D5185(m)>50IntIntIntYellow MetalscalarVisual*NONENONENONEIntYellow MetalscalarVisual*NONEIntIntIntSiliconppmASTM D5185(m)>204IntIntYellow MetalscalarVisual*NONEInt<IntIntSiliconppmASTM D5185(m)>204IntIntSiliconppmASTM D5185(m)IntIntIntIntSiliconppmASTM D5185(m)Int </th <th>Machine Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>16385</th> <th>13473</th> <th></th>	Machine Age	hrs	Client Info		16385	13473	
Oli ChangedClient InfoN/AN/AFilter ChangedClient InfoN/AN/ASample StatusNormalNORMALIronppmASTM D5185(m)>1000NickelppmASTM D5185(m)>1000NickelppmASTM D5185(m)>1000NickelppmASTM D5185(m)>1000SilverppmASTM D5185(m)<<10AluminumppmASTM D5185(m)>50<1<1LeadppmASTM D5185(m)>5011CopperppmASTM D5185(m)>5011Yellow MetalscalarVisual*NONENONENONEYellow MetalscalarVisual*NONENONENONESiliconppmASTM D5185(m)>2040Yellow MetalscalarVisual*NONENONESiliconppmASTM D5185(m)>2040SiliconppmASTM D5185(m)>20ASiliconppmASTM D5185(m)>20A0SiliconppmASTM D5185(m)>20ASiliconppmASTM D5185(m)>20ASiliconppmASTM D5185(m)>20<	Oil Age	hrs	Client Info		0	0	
Filter ChangedClient InfoIvAN/AN/ASample StatusClient InfoABNORMALNORMALIronppmASTMD5185(m)>1008NickelppmASTMD5185(m)>1000NickelppmASTMD5185(m)>10C10.0SilverppmASTMD5185(m)>10C10AluminumppmASTMD5185(m)>5c1c1LeadppmASTMD5185(m)>50c11CopperppmASTMD5185(m)>50111VanadiumppmASTMD5185(m)>50111VanadiumppmASTMD5185(m)>50111Yellow MetalscalarVisual*NONENONENONEYellow MetalscalarVisual*NONENONESiliconppmASTMD5185(m)>2040Yellow MetalscalarVisual*NONENONESiliconppmASTMD5185(m)>2040.0SiliconppmASTMD5185(m)>20A0.0SiliconppmASTMD5185(m)>20A0.0SiliconscalarVisual*NONENONESodiumscalarVisual*NORMNORME<	Filter Age	hrs	Client Info		0	0	
Sample StatusABNORMANORMALIronppmASTM D518(m)>150108.8ChroniumppmASTM D518(m)>1000NickelppmASTM D518(m)>104.10.0NickelppmASTM D518(m)>104.10.0SilverppmASTM D518(m)>504.10.0AluminumppmASTM D518(m)>501.11.1LeadppmASTM D518(m)>501.11.1CopperppmASTM D518(m)>501.11.1VanadiumppmASTM D518(m)>100.0VanadiumppmASTM D518(m)>201.00.0VanadiumppmASTM D518(m)>20A1VanadiumppmASTM D518(m)>20A1VanadiumppmASTM D518(m)>20A10.0VanadiumppmASTM D518(m)>20A1VanadiumppmASTM D518(m)>20A10.0VanadiumppmASTM D518(m)>20A1VanadiumppmASTM D518(m)>20A1SiliconppmASTM D518(m)>20A1SiliconscalarVisual* <th>Oil Changed</th> <th></th> <th>Client Info</th> <th></th> <th>N/A</th> <th>N/A</th> <th></th>	Oil Changed		Client Info		N/A	N/A	
IronppmASTM DS185(m)>1008ChromiumppmASTM DS185(m)>1000NickelppmASTM DS185(m)>1000TitaniumppmASTM DS185(m)>1000SilverppmASTM DS185(m)<<10AluminumppmASTM DS185(m)>5<1<1LeadppmASTM DS185(m)>10<11CopperppmASTM DS185(m)>1000VanadiumppmASTM DS185(m)>1000VanadiumppmASTM DS185(m)>20A00Vallow MetalscalarVisual*NONENONENONESiliconppmASTM DS185(m)>20A00Yellow MetalscalarVisual*NONENONENONESiliconppmASTM DS185(m)>20AASiliconppmASTM DS185(m)>20AASiliconppmASTM DS185(m)>20AASiliconppmASTM DS185(m)>20AASiliconppmASTM DS185(m)NONENONENONESiliconppmASTM	Filter Changed		Client Info		N/A	N/A	
ChromiumppmASTM D5185(m)>100NickelppmASTM D5185(m)10TitaniumppmASTM D5185(m)00SilverppmASTM D5185(m)>50<1<11AluminumppmASTM D5185(m)>50<11LeadppmASTM D5185(m)>50<1111CopperppmASTM D5185(m)>50<0<VanadiumppmASTM D5185(m)<80100VanadiumppmASTM D5185(m)<000VanadiumppmASTM D5185(m)>20<1400Yellow MetalscalarVisual*NONENONENONESiliconppmASTM D5185(m)>20<1400Yellow MetalscalarVisual*NONENONENONESiliconppmASTM D5185(m)>20<1400Yellow MetalscalarVisual*NONENONENONESiliconscalarVisual*NONENONENONESiliconscalarVisual*NONENONENONESiliconscalarVisual*NONENONENONESiliconscalarVisual*NONENONENONESodu/Dirit <th>Sample Status</th> <th></th> <th></th> <th></th> <th>ABNORMAL</th> <th>NORMAL</th> <th></th>	Sample Status				ABNORMAL	NORMAL	
NickelppmASTM D5186(m)>10<1	Iron	ppm	ASTM D5185(m)	>150	10	8	
TitaniumppmASTM D5185(m)C0SilverppmASTM D5185(m)<<10AluminumppmASTM D5185(m)>5<1<1LeadppmASTM D5185(m)>501111CopperppmASTM D5185(m)>6000VanadiumppmASTM D5185(m)0000VanadiumppmASTM D5185(m)0000Vellow MetalscalarVisual*NONENONENONESiliconppmASTM D5185(m)>25<12PotassiumppmASTM D5185(m)>20400Water%ASTM D5185(m)>2040.0SiliconppmASTM D5185(m)>2040.0SilitscalarVisual*NONENONESilitscalarVisual*NONENONENONESilitscalarVisual*NONENONENONESodumscalarVisual*NONENONENONESodumscalarVisual*NORMNONENONESodumscalarVisual*NORMNONESodiumppmASTM D5185(m)100SodiumppmASTM D518	Chromium	ppm	ASTM D5185(m)	>10	0	0	
SilverppmASTM D5185(m)AluminumppmASTM D5185(m)>5-1<1LeadppmASTM D5185(m)>150<1CopperppmASTM D5185(m)>8011TinppmASTM D5185(m)>8011VanadiumppmASTM D5185(m)>80100VanadiumppmASTM D5185(m)>00Vellow MetalscalarVisual*NONENONENONEYellow MetalscalarVisual*NONEACTSiliconppmASTM D5185(m)>20-12PotassiumppmASTM D5185(m)>2040Water%ASTM D6304*>.0.2-1.0788SilitscalarVisual*NONENONENONESilitscalarVisual*NONENONENONESand/DirtscalarVisual*NORNORENONEAppearancescalarVisual*NORNORMNORMSodiumppmASTM D5185(m)100BoronppmASTM D5185(m)10MagnaeseppmASTM D5185(m)10MagnesiumppmASTM D5185(m)10-	Nickel	ppm	ASTM D5185(m)	>10	<1	0	
AluminumppmASTM D518(m)>5<1	Titanium	ppm	ASTM D5185(m)		0	0	
LeadppmASTM D518(m) ASTM D518(m)>150<11	Silver	ppm	ASTM D5185(m)		<1	0	
LeadNormASTM D518(m)>150<1	Aluminum		ASTM D5185(m)	>5		<1	
TinppmASTM D5185(m)00VanadiumppmASTM D5185(m)I00White MetalscalarVisual*NONENONENONENONEYellow MetalscalarVisual*NONENONENONESiliconppmASTM D5185(m)>2040PotassiumppmASTM D5185(m)>2040Water%ASTM D5185(m)>2040ppm WaterppmASTM D5185(m)>2040SiltscalarVisual*NONENONENONEDebrisscalarVisual*NONENONENONESand/DirtscalarVisual*NORMAWGOILNORMLAppearancescalarVisual*NORMMORMLNORMLGodorscalarVisual*NORMLAWGOILNORMLSodiumppmASTM D5185(m)328182312ManganeseppmASTM D5185(m)100ManganeseppmASTM D5185(m)779ManganesippmASTM D5185(m)779ManganesippmASTM D	Lead	ppm	ASTM D5185(m)	>15	0	<1	
TinppmASTM D5185(m)O0VanadiumppmASTM D5185(m)IO0White MetalscalarVisual*NONENONENONENONEYellow MetalscalarVisual*NONENONENONESiliconppmASTM D5185(m)>2040PotassiumppmASTM D5185(m)>2040Water%ASTM D5185(m)>2040SiliconppmASTM D5185(m)>2040Water%ASTM D5185(m)>2040SilitscalarVisual*NONENONENONESilitscalarVisual*NONENONENONEDebrisscalarVisual*NONENONENONEAppearancescalarVisual*NORMMORMLNORMLGodorscalarVisual*NORMLMORMLNORMLSodiumppmASTM D5185(m)328182312BoronppmASTM D5185(m)100MaganeseppmASTM D5185(m)1222MagnesiumppmASTM D5185(m)779PhosphorusppmASTM D5185(m)779MagnesiumppmASTM D518	Copper		ASTM D5185(m)	>80	1	1	
White MetalscalarVisual*NONENONENONENONENONEYellow MetalscalarVisual*NONENONENONENONESiliconppmASTM D5185(m)>25<12PotassiumppmASTM D5185(m)>20400Water%ASTM D6304*>0.2▲ 0.798ppm WaterppmASTM D6304*>2000▲ 7980SilitscalarVisual*NONENONENONEDebrisscalarVisual*NONENONENONESand/DirtscalarVisual*NORMNORMNORMAppearancescalarVisual*NORMMORMLNORMLGodorscalarVisual*NORMNORMLNORMLSodiumppmASTM D5185(m)2<1SodiumppmASTM D5185(m)182312BariumppmASTM D5185(m)10MagnesiumppmASTM D5185(m)1222MagnesiumppmASTM D5185(m)779PhosphorusppmASTM D5185(m)7321SoliumppmASTM D5185(m)79MagnesiumppmASTM D5185(m)779<	Tin	ppm	ASTM D5185(m)		0	0	
Yellow MetalscalarVisual*NONENONENONENONESiliconppmASTM D5185(m) >2040PotassiumppmASTM D5185(m) >2040Water%ASTM D6304*>0.2▲ 0.798ppm WaterppmASTM D6304*>2000▲ 7980SiltscalarVisual*NONENONENONEDebrisscalarVisual*NONENONENONESand/DirtscalarVisual*NONENONENONEAppearancescalarVisual*NORMMORMLNORMLOdorscalarVisual*NORMMORMLNORMLSodiumppmASTM D5185(m)2▲ 182312BariumppmASTM D5185(m)100MaganeseppmASTM D5185(m)122MagnesiumppmASTM D5185(m)779PhosphorusppmASTM D5185(m)32832219MagnesiumppmASTM D5185(m)779PhosphorusppmASTM D5185(m)711441387SulfurppmASTM D5185(m)33219MagnesiumppmASTM D5185(m)179092062022158 <th>Vanadium</th> <th>ppm</th> <th>ASTM D5185(m)</th> <th></th> <th>0</th> <th>0</th> <th></th>	Vanadium	ppm	ASTM D5185(m)		0	0	
SiliconppmASTM D5185(m)>25<1	White Metal	scalar	Visual*	NONE	NONE	NONE	
Potassium  ppm  ASTM D5185(m)  >20  4  0     Water  %  ASTM D6304*  >0.2  ▲ 0.798      ppm Water  ppm  ASTM D6304*  >2000  ▲ 7980      Silt  scalar  Visual*  NONE  NONE  NONE     Debris  scalar  Visual*  NONE  NONE  NONE     Appearance  scalar  Visual*  NORM  ▲ WGOIL  NORML     Odor  scalar  Visual*  NORM  ▲ WGOIL  NORML     Sodium  ppm  ASTM D5185(m)  >0.2  ▲ 1%  NORML     Boron  ppm  ASTM D5185(m)  >0.2  ▲ 1%  NEG     Malganese  ppm  ASTM D5185(m)  328  182  312     Molybdenum  ppm  ASTM D5185(m)  1  0      Magnesium	Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
Potassium  ppm  ASTM D5185(m)  >20  4  0     Water  %  ASTM D6304*  >0.2  ▲ 0.798      ppm Water  ppm  ASTM D6304*  >2000  ▲ 7980      Silt  scalar  Visual*  NONE  NONE  NONE     Debris  scalar  Visual*  NONE  NONE  NONE     Appearance  scalar  Visual*  NORM  ▲ WGOIL  NORML     Odor  scalar  Visual*  NORM  ▲ WGOIL  NORML     Sodium  ppm  ASTM D5185(m)  >0.2  ▲ 1%  NORML     Boron  ppm  ASTM D5185(m)  >0.2  ▲ 1%  NEG     Malganese  ppm  ASTM D5185(m)  328  182  312     Molybdenum  ppm  ASTM D5185(m)  1  0      Magnesium							
Water  %  ASTM D6304*  >0.2 $\land$ 0.798      ppm Water  ppm  ASTM D6304*  >2000 $\land$ 7980      Silt  scalar  Visual*  NONE  NONE  NONE     Debris  scalar  Visual*  NONE  NONE  NONE     Sand/Dirt  scalar  Visual*  NONE  NONE  NONE     Appearance  scalar  Visual*  NORM <b>A</b> WGOIL  NORML     Odor  scalar  Visual*  NORM <b>MORML</b> NORML     Sodium  scalar  Visual*  NORML <b>NORML</b> NORM     Sodium  ppm  ASTM D5185(m)  328 <b>182</b> 312     Barium  ppm  ASTM D5185(m)  1  0      Magnaese  ppm  ASTM D5185(m)  1  2  2     Magnesium	Silicon	ppm		>25	<1	2	
ppm WaterppmASTM D6304*>2000▲ 7980SiltscalarVisual*NONENONENONEDebrisscalarVisual*NONENONENONESand/DirtscalarVisual*NONENONENONEAppearancescalarVisual*NORMLMORMLNORMLOdorscalarVisual*NORMLMORMLNORMLNORMLEmulsified WaterscalarVisual*NORMLNORMLNORMLSodiumppmASTM D5185(m)328182312BariumppmASTM D5185(m)100MalganeseppmASTM D5185(m)10MagnesiumppmASTM D5185(m)779PhosphorusppmASTM D5185(m)11441387ZincppmASTM D5185(m)323219SulfurppmASTM D5185(m)17902062022158	Potassium	ppm	ASTM D5185(m)	>20	4	0	
SiltscalarVisual*NONENONENONENONEDebrisscalarVisual*NONENONENONESand/DirtscalarVisual*NONENONENONEAppearancescalarVisual*NORMLMGOILNORMLOdorscalarVisual*NORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2▲ 1%NEGSodiumppmASTM D5185(m)328182312BoronppmASTM D5185(m)100MalganeseppmASTM D5185(m)100MagnesiumppmASTM D5185(m)779PhosphorusppmASTM D5185(m)11441387ZincppmASTM D5185(m)3283219MagnesiumppmASTM D5185(m)779PhosphorusppmASTM D5185(m)779SulfurppmASTM D5185(m)3219SulfurppmASTM D5185(m)17902062022158	Water	%		>0.2	<b>A</b> 0.798		
DebrisscalarVisual*NONENONENONESand/DirtscalarVisual*NONENONENONEAppearancescalarVisual*NORMLMGOILNORMLOdorscalarVisual*NORMLNORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2▲ 1%NEGSodiumppmASTM D5185(m)328182312BoronppmASTM D5185(m)100MolybdenumppmASTM D5185(m)100MagnesiumppmASTM D5185(m)122PhosphorusppmASTM D5185(m)779PhosphorusppmASTM D5185(m)11441387SulfurppmASTM D5185(m)3219	ppm Water	ppm	ASTM D6304*	>2000	<b>A</b> 7980		
Sand/DirtscalarVisual*NONENONENONENONEAppearancescalarVisual*NORMLWGOILNORMLOdorscalarVisual*NORMLNORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2▲ 1%NEGSodiumppmASTM D5185(m)328182312BoronppmASTM D5185(m)100MolybdenumppmASTM D5185(m)100MagnesiumppmASTM D5185(m)122PhosphorusppmASTM D5185(m)779PhosphorusppmASTM D5185(m)11441387ZincppmASTM D5185(m)3219SulfurppmASTM D5185(m)33219	Silt	scalar	Visual*	NONE	NONE	NONE	
AppearancescalarVisual*NORML▲ WGOILNORMLOdorscalarVisual*NORMLNORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2▲ 1%NEGSodiumppmASTM D5185(m)2<1BoronppmASTM D5185(m)328182312BariumppmASTM D5185(m)100MolybdenumppmASTM D5185(m)100MagnesiumppmASTM D5185(m)122PhosphorusppmASTM D5185(m)779PhosphorusppmASTM D5185(m)11441387ZincppmASTM D5185(m)323219SulfurppmASTM D5185(m)17902062022158	Debris	scalar	Visual*	NONE	NONE	NONE	
OdorscalarVisual*NORMLNORMLNORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2▲ 1%NEGSodiumppmASTM D5185(m)32.81%2<1BoronppmASTM D5185(m)32.8182312BariumppmASTM D5185(m)100MolybdenumppmASTM D5185(m)100ManganeseppmASTM D5185(m)122MagnesiumppmASTM D5185(m)779PhosphorusppmASTM D5185(m)114511441387ZincppmASTM D5185(m)33219SulfurppmASTM D5185(m)17902062022158	Sand/Dirt	scalar	Visual*		-		
Emulsified WaterscalarVisual*>0.2 $\land$ 1%NEGSodiumppmASTM D5185(m)3281% $2$ $<1$ BoronppmASTM D5185(m)328182312BariumppmASTM D5185(m)100MolybdenumppmASTM D5185(m)100ManganeseppmASTM D5185(m)122MagnesiumppmASTM D5185(m)779PhosphorusppmASTM D5185(m)114511441387ZincppmASTM D5185(m)33219SulfurppmASTM D5185(m)17902062022158	Appearance	scalar	Visual*	NORML	A WGOIL	NORML	
Sodium  ppm  ASTM D5185(m)  2  <1	Odor	scalar		NORML	NORML	NORML	
Boron  ppm  ASTM D5185(m)  328  182  312     Barium  ppm  ASTM D5185(m)  1  0  0     Molybdenum  ppm  ASTM D5185(m)  1  0  0     Manganese  ppm  ASTM D5185(m)  -  <1  0     Magnesium  ppm  ASTM D5185(m)  1  2  2     Calcium  ppm  ASTM D5185(m)  7  7  9     Phosphorus  ppm  ASTM D5185(m)  1145  1144  1387     Zinc  ppm  ASTM D5185(m)  3  32  19     Sulfur  ppm  ASTM D5185(m)  1790  20620  22158	Emulsified Water	scalar	Visual*	>0.2	<mark>▲</mark> 1%	NEG	
Barium  ppm  ASTM D5185(m)  1  0  0     Molybdenum  ppm  ASTM D5185(m)  0  0  0     Manganese  ppm  ASTM D5185(m)  1  0  0     Magnesium  ppm  ASTM D5185(m)  1  2  2     Calcium  ppm  ASTM D5185(m)  7  7  9     Phosphorus  ppm  ASTM D5185(m)  1145  1144  1387     Zinc  ppm  ASTM D5185(m)  3  32  19     Sulfur  ppm  ASTM D5185(m)  17909  20620  22158	Sodium	ppm	ASTM D5185(m)		2	<1	
Molybdenum  ppm  ASTM D5185(m)  0  0     Manganese  ppm  ASTM D5185(m)  <1  0     Magnesium  ppm  ASTM D5185(m)  1  2  2     Calcium  ppm  ASTM D5185(m)  7  7  9     Phosphorus  ppm  ASTM D5185(m)  1145  1144  1387     Zinc  ppm  ASTM D5185(m)  3  32  19     Sulfur  ppm  ASTM D5185(m)  17909  20620  22158	Boron	ppm	ASTM D5185(m)	328	182	312	
Manganese  ppm  ASTM D5185(m)  <1	Barium	ppm	ASTM D5185(m)	1	0	0	
Magnesium  ppm  ASTM D5185(m)  1  2  2     Calcium  ppm  ASTM D5185(m)  7  7  9     Phosphorus  ppm  ASTM D5185(m)  1145  1144  1387     Zinc  ppm  ASTM D5185(m)  3  32  19     Sulfur  ppm  ASTM D5185(m)  17909  20620  22158	Molybdenum	ppm	ASTM D5185(m)		0	0	
Calcium  ppm  ASTM D5185(m)  7  7  9     Phosphorus  ppm  ASTM D5185(m)  1145  1144  1387     Zinc  ppm  ASTM D5185(m)  3  32  19     Sulfur  ppm  ASTM D5185(m)  17909  20620  22158	Manganese	ppm	ASTM D5185(m)		<1	0	
Phosphorus  ppm  ASTM D5185(m)  1145  1144  1387     Zinc  ppm  ASTM D5185(m)  3  32  19     Sulfur  ppm  ASTM D5185(m)  17909  20620  22158	Magnesium	ppm	ASTM D5185(m)	1	2	2	
Zinc  ppm  ASTM D5185(m)  3  32  19     Sulfur  ppm  ASTM D5185(m)  17909  20620  22158	Calcium	ppm	ASTM D5185(m)	7	7	9	
Sulfur  ppm  ASTM D5185(m)  17909  20620  22158	Phosphorus	ppm	ASTM D5185(m)	1145	1144	1387	
	Zinc	ppm	ASTM D5185(m)	3	32	19	
Visc @ 40°C cSt ASTM D7279(m) 99.6 105 97.1	Sulfur	ppm	ASTM D5185(m)	17909	20620	22158	
	Visc @ 40°C	cSt	ASTM D7279(m)	99.6	105	97.1	

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Contact/Location: Darien Edison - HAR380STJ Page 2 of 2