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KINDER MORGAN FE-2 (S/N 30108)

Component Rear Differential

AMSOIL SEVERE GEAR SYN EP LUBE 75W140 SVO (--- QTS)

RECOMMENDATION	Test UOM Method
Resample at the next service interval to monitor.	Sample Number Client Info
	Sample Date Client Info
	Machine Age mls Client Info
	Oil Age mls Client Info
	Filter Age mls Client Info
	Oil Changed Client Info
	Filter Changed Client Info
	Sample Status
AR	Iron ppm ASTM D5185n
component wear rates are normal.	Chromium ppm ASTM D5185m
onent wear rates are normal.	Nickel ppm ASTM D5185m
	Titanium ppm ASTM D5185m
	Silver ppm ASTM D5185m
	Aluminum ppm ASTM D5185m
	Lead ppm ASTM D5185n
	Copper ppm ASTM D5185m
	Tin ppm ASTM D5185m
	Vanadium ppm ASTM D5185m
	White Metal scalar *Visual
	Yellow Metal scalar *Visual

CONTAMINATION

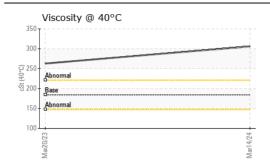
There is no indication of any contamination in the oil.

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

TestUOMMethodLimit/MCurrentHistory1History2Sample NumberCClient InfoMC0800563WC0800574Sample DateCClient Info14 Mar 202420 Mar 2023Machine AgemlsClient InfoI1466512823Oil AgemlsClient Info000Oil ChangedClient InfoN/AN/AN/AFilter AgemlsClient InfoN/AN/ASample StatusClient InfoN/AN/ATronppmASTM D5185>5002339NickelppmASTM D5185>10<1NickelppmASTM D5185>10<10SilverppmASTM D5185>200SilverppmASTM D5185>10<1AuminumppmASTM D5185>10<1YanadiumppmASTM D5185>10<1YanadiumppmASTM D5185>10<1YanadiumppmASTM D5185>200YanadiumppmASTM D5185>200YanadiumppmASTM D5185>202YanadiumppmASTM D5185>202 <t< th=""><th></th><th></th><th></th><th></th><th>~</th><th></th><th></th></t<>					~		
Sample DateClient InfoI4 Mar 202420Mar 2023Machine AgemlsClient InfoI466512823Oil AgemlsClient Info012823Filter AgemlsClient InfoN/AN/AGli ChangedClient InfoN/AN/AFilter ChangedClient InfoN/AN/ASample StatusClient InfoN/AN/AIronppmASTM D5185>5002339.9NickelppmASTM D5185>10<10NickelppmASTM D5185>10<10SilverppmASTM D5185>2000AluminumppmASTM D5185>10<1QopperppmASTM D5185>10<1SilverppmASTM D5185>10<1YanadiumppmASTM D5185>10<1YanadiumppmASTM D5185>10<1YanadiumppmASTM D5185>10<1YanadiumppmASTM D5185>10<1YanadiumppmASTM D5185>20202YanadiumppmASTM D5185>20202YanadiumppmASTM D5185>20	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine AgemisClient Info1466512823Oil AgemisClient Info012823Filter AgemisClient Info00Oil ChangedClient InfoN/AN/AN/AFilter ChangedClient InfoN/AN/AN/ASample StatusClient InfoN/AN/ANORMALTronppASTM D5185SD02339ChromiumppASTM D5185-10<11NickelppASTM D5185-10<10SilverppASTM D5185-2500AluminumppASTM D5185>10<1<1AuminumppASTM D5185>10<1<1YanadiumppASTM D5185>10<1<1YanadiumppASTM D5185>10<1<1YanadiumppASTM D5185>10<1<1YanadiumppASTM D5185>10<1<1YanadiumppASTM D5185>10<1<1YanadiumppASTM D5185>222YanadiumppASTM D5185>57YanadiumppASTM D5185>202YanadiumppASTM D5185S0	Sample Number		Client Info		WC0800563	WC0800574	
Oil AgemissClient InfoIo012823Filter AgemissClient InfoN/AN/AOil ChangedClient InfoN/AN/AFilter ChangedIClient InfoN/AN/ASample StatusClient InfoN/AN/AN/AIronppmASTM D518s50023399ChromiumppmASTM D518s50021319NickelppmASTM D518s100<10NickelppmASTM D518s100<10SilverppmASTM D518s52521AluminumppmASTM D518s52500AgadiappmASTM D518s500<1<1VanadiumppmASTM D518s500<1<1VanduimppmASTM D518s500<1<1VanduimppmASTM D518s500<1<1VanduimppmASTM D518s500<1<1VanduimppmASTM D518s500<1<1SiliconppmASTM D518s500222SiliconppmASTM D518s500NONEAnoneSiliconppmASTM D518s>20AnoneSilicon	Sample Date		Client Info		14 Mar 2024	20 Mar 2023	
Filter Age OII ChangedClient Info00Oil ChangedClient InfoN/AN/AFilter ChangedClient InfoN/AN/ASample StatusVIVNORMALNORMALIronppmASTM D5185m>5002339NickelppmASTM D5185m>10<1	Machine Age	mls	Client Info		14665	12823	
Oli ChangedClient InfoN/AN/AFilter ChangedClient InfoN/AN/ASample StatusNORMALN/AIronppmASTM D5185>5002339ChromiumppmASTM D5185>10<1<1NickelppmASTM D5185>10<10TitaniumppmASTM D5185>10<10AluminumppmASTM D5185>221AluminumppmASTM D5185>2500CopperppmASTM D5185>10<1<1YanadiumppmASTM D5185>10<1<1VanadiumppmASTM D5185>101<1Yellow Metalscalar'VisualNONENONENONEYallow Metalscalar'VisualNONENONENONESiliconppmASTM D5185>2022Yallow Metalscalar'VisualNONENONENONESiliconppmASTM D5185>2022Yallow Metalscalar'VisualNONENONENONEYallow Metalscalar'VisualNONENONENONEYallow Metalscalar'VisualNONENONENONESilicon	Oil Age	mls	Client Info		0	12823	
Filter Changed Sample StatusClient InfoN/AN/AN/ASample StatusNORMALNORMALNORMALIronppmASTM D5185m>50023399NickelppmASTM D5185m>10<10NickelppmASTM D5185m>10<10SilverppmASTM D5185m>10<10AluminumppmASTM D5185m>2500AluminumppmASTM D5185m>100<1<1LeadppmASTM D5185m>100<1<1YanadiumppmASTM D5185m>100<1<1VanadiumppmASTM D5185m>100<1<1Yellow Metalscalar*VisualNONENONENONE<SiliconppmASTM D5185m>2022Yellow Metalscalar*VisualNONENONENONESiliconppmASTM D5185m>2022SiliconppmASTM D5185m>2022SiliconppmASTM D5185m>202NORESoliconppmASTM D5185m>2022SoliconppmASTM D5185m>20NORENORESoliconppmASTM D5185m>20 <t< th=""><th>Filter Age</th><th>mls</th><th>Client Info</th><th></th><th>0</th><th>0</th><th></th></t<>	Filter Age	mls	Client Info		0	0	
Sample StatusNORMALNORMALNORMALIronppmASTM D5185m>5002339ChromiumppmASTM D5185m>10<1<1<NickelppmASTM D5185m>10<10TitaniumppmASTM D5185m<00SilverppmASTM D5185m>25211<AluminumppmASTM D5185m>2500LeadppmASTM D5185m>2500CopperppmASTM D5185m>10<11<1YanadiumppmASTM D5185m>10<11<VanadiumppmASTM D5185m>10<11<1Yellow Metalscalar*VisualNONENONENONE<Yellow Metalscalar*VisualNONENONENONE<SiliconppmASTM D5185m>7557SiliconppmASTM D5185m>202222SiliconppmASTM D5185m>202222SiliconppmASTM D5185m>202222SiliconppmASTM D5185m>202222SoliconppmASTM D5185mNONENONENONESoliconppmASTM D5185mNORENORE<	Oil Changed		Client Info		N/A	N/A	
Iron ppm ASTM D5185m >500 23 39 Chromium ppm ASTM D5185m >10 <1 <1 Nickel ppm ASTM D5185m >10 <1 0 Titanium ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m >25 2 1 Aluminum ppm ASTM D5185m >25 0 0 Lead ppm ASTM D5185m >25 0 0 Copper ppm ASTM D5185m >10 <1 <1 Vanadium ppm ASTM D5185m >10 <1 <1 Vanadium ppm ASTM D5185m >10 <1 <1 Vanadium ppm ASTM D5185m >7 5 7 Vanadium ppm ASTM D5185m >7 <	Filter Changed		Client Info		N/A	N/A	
ChromiumppmASTM D5185m>10<1	Sample Status				NORMAL	NORMAL	
NickelpmASTM D5185m>10<1	Iron	ppm	ASTM D5185m	>500	23	39	
TitaniumppmASTM D5185m<10SilverppmASTM D5185m00AluminumppmASTM D5185m>2521LeadppmASTM D5185m>2500CopperppmASTM D5185m>100<1	Chromium	ppm	ASTM D5185m	>10	<1	<1	
SilverppmASTM D5185mC00AluminumppmASTM D5185m>2521LeadppmASTM D5185m>2500CopperppmASTM D5185m>100<1	Nickel	ppm	ASTM D5185m	>10	<1	0	
AluminumppmASTM D5185m>2521LeadppmASTM D5185m>2500CopperppmASTM D5185m>100<1	Titanium	ppm	ASTM D5185m		<1	0	
LeadppmASTM D5185m>2500CopperppmASTM D5185m>100<1	Silver	ppm	ASTM D5185m		0	0	
Copper ppm ASTM D5185m >100 <1	Aluminum	ppm	ASTM D5185m	>25	2	1	
TinppmASTM D5185m>10<1	Lead	ppm	ASTM D5185m	>25	0	0	
VanadiumppmASTM D5185mI00White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m>7557PotassiumppmASTM D5185m>2022WaterWC Method>.2NEGNONESilitscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLSodiumppmASTM D5185m>.2NEGNEGBoronppmASTM D5185mI2111MolybdenumppmASTM D5185mI413MagnesiumppmASTM D5185mI4397MagnesiumppmASTM D5185mI10071090IMagnesiumppmASTM D5185mI2754MagnesiumppmASTM D5185mI21IIMagnesiumppmASTM D5185mI4397PhosphorusppmASTM D5185mI10071090I <tr< th=""><th>Copper</th><th>ppm</th><th>ASTM D5185m</th><th>>100</th><th><1</th><th><1</th><th></th></tr<>	Copper	ppm	ASTM D5185m	>100	<1	<1	
White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONESiliconppmASTM D5185m>7557PotassiumppmASTM D5185m>2022WaterWC Method>.2NEGNONESilitscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMNORMLNORMLOdorscalar*VisualNORMNORMLNORMLSodiumppmASTM D5185mNORMLNORMLBoronppmASTM D5185mI2732522ManganeseppmASTM D5185m-11MagnesiumppmASTM D5185m-433MagnesiumppmASTM D5185mI4397PhosphorusppmASTM D5185mI10071090ISulfurppmASTM D5185mI27354	Tin	ppm	ASTM D5185m	>10	<1	<1	
Yellow Metalscalar*VisualNONENONENONESiliconppmASTM D5185m>7557PotassiumppmASTM D5185m>2022WaterWC Method>.2NEGNEGSiltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLSodiumppmASTM D5185mC02BoronppmASTM D5185mC02ManganeseppmASTM D5185m411MangensiumppmASTM D5185m4397PhosphorusppmASTM D5185m2754SuffurppmASTM D5185m2754	Vanadium	ppm	ASTM D5185m		0	0	
SiliconppmASTM D5185m>7557PotassiumppmASTM D5185m>20220WaterWC Method>.2NEGNEGSiltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLGodorscalar*VisualNORMLNORMLNORMLBoronppmASTM D5185m022BariumppmASTM D5185m-00ManganeseppmASTM D5185m-4397MagnesiumppmASTM D5185m-4397PhosphorusppmASTM D5185m-22754SulfurppmASTM D5185m-27754	White Metal	scalar	*Visual	NONE	NONE	NONE	
PotassiumppmASTM D5185m>20222WaterWC Method>.2NEGNEGSiltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*VisualNORMLNORMLNORMLSodiumppmASTM D5185mC02BariumppmASTM D5185mI41ManganeseppmASTM D5185mI413MagnesiumppmASTM D5185mI43977PhosphorusppmASTM D5185mI10071090ISulfurppmASTM D5185mI2754	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
WaterWC Method>.2NEGNEGSiltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEGNEGSodiumppmASTM D5185m02BariumppmASTM D5185m000MalganeseppmASTM D5185m<111MagnesiumppmASTM D5185m43977PhosphorusppmASTM D5185m10071090ZincppmASTM D5185m227544SulfurppmASTM D5185m2438824113	Silicon	ppm	ASTM D5185m	>75	5	7	
Siltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEGNEGSodiumppmASTM D5185m02BoronppmASTM D5185m00MalganeseppmASTM D5185m<111MagnesiumppmASTM D5185m4397PhosphorusppmASTM D5185m10071090ZincppmASTM D5185m227544SulfurppmASTM D5185m2438824113	Potassium	ppm	ASTM D5185m	>20	2	2	
Debrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEGNEGSodiumppmASTM D5185m02BoronppmASTM D5185m00MolybdenumppmASTM D5185m00MagnesiumppmASTM D5185m<111MagnesiumppmASTM D5185m<43977PhosphorusppmASTM D5185m<10071090ZincppmASTM D5185m<2754SulfurppmASTM D5185m2438824113	Water		WC Method	>.2	NEG	NEG	
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEGNEGSodiumppmASTM D5185m02BoronppmASTM D5185m000MalybdenumppmASTM D5185m<11MagnesiumppmASTM D5185m<413PhosphorusppmASTM D5185m43977ZincppmASTM D5185m10071090SulfurppmASTM D5185m24113	Silt	scalar	*Visual	NONE	NONE	NONE	
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLIOdorscalar*VisualNORMLNORMLNORMLNORMLIIEmulsified Waterscalar*Visual>.2NEGNEGIISodiumppmASTM D5185mI02IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Debris	scalar	*Visual	NONE	NONE	NONE	
Odorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEGNEGSodiumppmASTM D5185m02BoronppmASTM D5185m00BariumppmASTM D5185m00MolybdenumppmASTM D5185m<111ManganeseppmASTM D5185m<112MagnesiumppmASTM D5185m<43977PhosphorusppmASTM D5185m10071090ZincppmASTM D5185m22754SulfurppmASTM D5185m2438824113	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Emulsified Waterscalar*Visual>.2NEGNEGSodiumppmASTM D5185m02BoronppmASTM D5185m273252BariumppmASTM D5185m00MolybdenumppmASTM D5185m<111ManganeseppmASTM D5185m<112MagnesiumppmASTM D5185m<43977PhosphorusppmASTM D5185m10071090ZincppmASTM D5185m27754SulfurppmASTM D5185m2438824113	Appearance	scalar	*Visual	NORML	NORML	NORML	
Sodium ppm ASTM D5185m 0 2 Boron ppm ASTM D5185m 273 252 Barium ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m <1 1 Manganese ppm ASTM D5185m <1 2 Magnesium ppm ASTM D5185m <1 2 Phosphorus ppm ASTM D5185m 43 977 Zinc ppm ASTM D5185m 1007 10900 Sulfur ppm ASTM D5185m 24388 24113	Odor	scalar	*Visual	NORML	NORML	NORML	
Boron ppm ASTM D5185m 273 252 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m <1 Manganese ppm ASTM D5185m <11 < Magnesium ppm ASTM D5185m <1 2 < Magnesium ppm ASTM D5185m <43 3 < Phosphorus ppm ASTM D5185m <43 977 < Zinc ppm ASTM D5185m <1007 10900 < Sulfur ppm ASTM D5185m 24388 24113 <	Emulsified Water	scalar	*Visual	>.2	NEG	NEG	
Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m <1 1 Manganese ppm ASTM D5185m <1 2 Magnesium ppm ASTM D5185m <1 2 Magnesium ppm ASTM D5185m <4 3 Calcium ppm ASTM D5185m <43 977 Phosphorus ppm ASTM D5185m <1007 10900 Zinc ppm ASTM D5185m 227 54 Sulfur ppm ASTM D5185m 24388 24113	Sodium	ppm	ASTM D5185m		0	2	
Molybdenum ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		273	252	
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	0	
Magnesium ppm ASTM D5185m 4 3 Calcium ppm ASTM D5185m 43 97 Phosphorus ppm ASTM D5185m 1007 1090 Zinc ppm ASTM D5185m 27 54 Sulfur ppm ASTM D5185m 24388 24113	Molybdenum	ppm	ASTM D5185m		<1	1	
Calcium ppm ASTM D5185m 43 97 Phosphorus ppm ASTM D5185m 1007 1090 Zinc ppm ASTM D5185m 27 54 Sulfur ppm ASTM D5185m 24388 24113	Manganese	ppm	ASTM D5185m		<1	2	
Phosphorus ppm ASTM D5185m 1007 1090 Zinc ppm ASTM D5185m 27 54 Sulfur ppm ASTM D5185m 24388 24113	Magnesium	ppm	ASTM D5185m		4	3	
Zinc ppm ASTM D5185m 27 54 Sulfur ppm ASTM D5185m 24388 24113	Calcium	ppm	ASTM D5185m		43	97	
Sulfur ppm ASTM D5185m 24388 24113	Phosphorus	ppm	ASTM D5185m		1007	1090	
	Zinc	ppm	ASTM D5185m		27	54	
	Sulfur	ppm	ASTM D5185m		24388	24113	
			ASTM D445	184.3			

Contact/Location: TODD ZACHERL - MARLAMTX



> INDUSTRIAL APPARATUS SERVICES SIDDONS-MARTIN 4903 A FM 1765, 14233 INTERDRIVE W LA MARQUE, TX : 21 Mar 2024 - Jonathan Hester US 77568 Contact: TODD ZACHERL tzacherl@siddons-martin.com T: (409)655-3005 F:



Unique Number : 10936916 Diagnosed Test Package : CONST Certificate L2367 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)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

Tested

: 19 Mar 2024

: 20 Mar 2024

Laboratory

Sample No.

Lab Number : 06122765

: WC0800563