

OIL ANALYSIS REPORT

Sample Rating Trend

VISUAL METAL



Hydraulic System

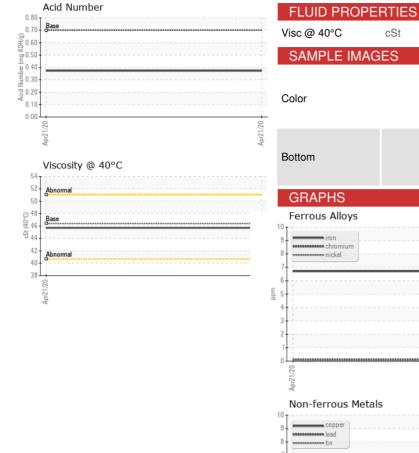
PETRO CANADA HYDREX AW 46 (--- GAL)

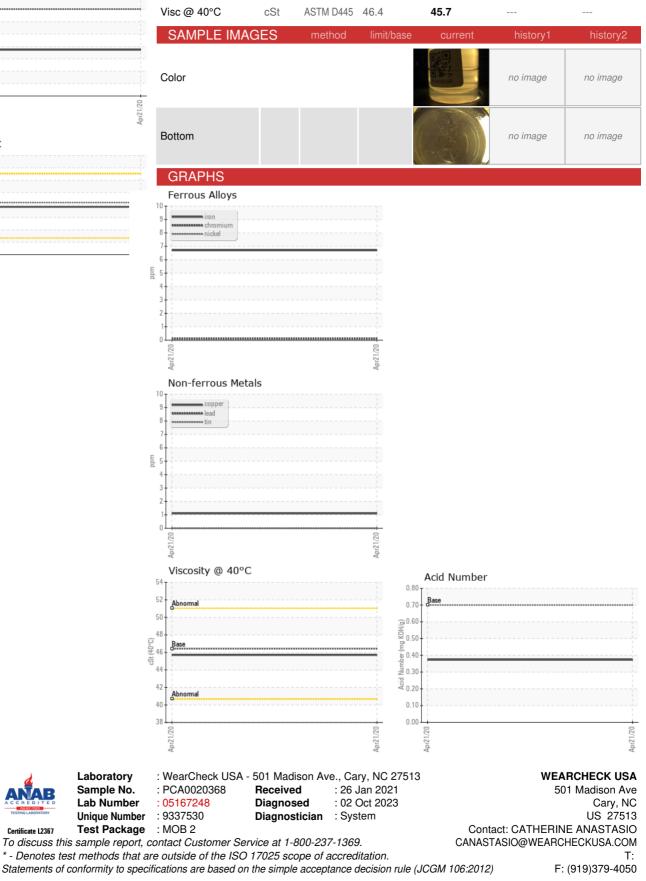
DIAGNOSIS

Machine Age hrs Client Info 0 Oil Age hrs Client Info 0 Sample Status Client Info N/A WEAR METALS method Imit/base current history1 History2 Iron ppm ASTM 05185n >20 7 Chromium ppm ASTM 05185n >10 <1 Nickel ppm ASTM 05185n >10 0 Copper ppm ASTM 05185n >10 0 Adminum ppm ASTM 05185n >10 0 Adminum ppm ASTM 05185n 0 0 Adminum ppm ASTM 05185n 0 0 Adminum ppm ASTM 05185n 0 0					Apr2020		
Sample Date Client Info 21 Apr 2020 Machine Age hrs Client Info 0 Oil Age hrs Client Info 0 Oil Changed Client Info N/A Sample Status Imit/base current history1 Mistory2 fron ppm ASTM 05185n >20 7 Chromium ppm ASTM 05185n >10 <1 Nickel ppm ASTM 05185n >10 <1 Lead ppm ASTM 05185n >10 0 Autimium ppm ASTM 05185n 10 0 Autimium ppm ASTM 05185n 0 0 Cadmium ppm ASTM 05185n 0 0 Astim 05185n 0	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Date Client Info 21 Apr 2020 Machine Age hrs Client Info 0 Oil Age hrs Client Info 0 Oil Changed Client Info N/A Sample Status Imit/base current history1 Mistory2 fron ppm ASTM 05185n >20 7 Chromium ppm ASTM 05185n >10 <1 Nickel ppm ASTM 05185n >10 <1 Lead ppm ASTM 05185n >10 0 Autimium ppm ASTM 05185n 10 0 Autimium ppm ASTM 05185n 0 0 Cadmium ppm ASTM 05185n 0 0 Astim 05185n 0	Sample Number		Client Info		PCA0020368		
Oil Age hrs Client Info 0 Sample Status Client Info N/A WEAR METALS method Init/base current history1 history2 Iron ppm ASTM 05185m >20 7 Nickel ppm ASTM 05185m 0 Nickel ppm ASTM 05185m 0 Aluminum ppm ASTM 05185m >10 <1 Aluminum ppm ASTM 05185m >10 0 Aluminum ppm ASTM 05185m >10 0 Adadium ppm ASTM 05185m 0 0 Adamium ppm ASTM 05185m 0 <1 Adamium ppm ASTM 05185m 0 <1 Adamium	Sample Date		Client Info		21 Apr 2020		
Oil Changed Client Info N/A Sample Status Image of the set of the se	Machine Age	hrs	Client Info		0		
Sample Status SEVERE WEAR METALS method limit/base current history1 history2 tron ppm ASTM D5185m >20 7 Chromium ppm ASTM D5185m >10 <1 Nickel ppm ASTM D5185m 0 Silver ppm ASTM D5185m >10 <1 Adaminum ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Antimony ppm ASTM D5185m >10 0 Antimony ppm ASTM D5185m 0 Antimony ppm ASTM D5185m 0 AstM D5185m 0 0	Oil Age	hrs	Client Info		0		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 7 Nickel ppm ASTM D5185m 0 Nickel ppm ASTM D5185m 0 Silver ppm ASTM D5185m <1 Auminum ppm ASTM D5185m >10 0 Auminum ppm ASTM D5185m >10 0 Auminum ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Antimony ppm ASTM D5185m 0 0 Astm D5185m 0 <1 Boron ppm ASTM D5185m 0 0 Mol	Oil Changed		Client Info		N/A		
Iron ppm ASTM D5185m >20 7 Chromium ppm ASTM D5185m >10 <1 Nickel ppm ASTM D5185m 0 Silver ppm ASTM D5185m <0 Aluminum ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >75 1 ASTM D5185m >10 0 ASTM D5185m >0 0 ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0	Sample Status				SEVERE		
Dromium ppm ASTM D5185m >10 <1	WEAR METAL	.S	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m 0 Titanium ppm ASTM D5185m <1	Iron	ppm	ASTM D5185m	>20	7		
Titanium ppm ASTM D5185m 0 Silver ppm ASTM D5185m >10 <1	Chromium	ppm	ASTM D5185m	>10	<1		
Silver ppm ASTM D5185m <1 Aluminum ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >75 1 Tin ppm ASTM D5185m >75 1 Antimony ppm ASTM D5185m >10 0 Antimony ppm ASTM D5185m 0 0 Addmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Nickel	ppm	ASTM D5185m		0		
Aluminum ppm ASTM D5185m >10 <1 Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >75 1 Antimony ppm ASTM D5185m 0 Antimony ppm ASTM D5185m 0 Addition ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Titanium	ppm	ASTM D5185m		0		
Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >75 1 Antimony ppm ASTM D5185m >10 0 Antimony ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Silver	ppm	ASTM D5185m		<1		
Copper ppm ASTM D5185m >75 1 Tin ppm ASTM D5185m >10 0 Antimony ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Aluminum	ppm	ASTM D5185m	>10	<1		
Tin ppm ASTM D5185m >10 0 Antimony ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Molydehum ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 2 Magnesium ppm ASTM D5185m 0 2 Magnesium ppm ASTM D5185m 0 2 Calcium ppm ASTM D5185m 30 322 Sulfur ppm ASTM D5185m >20 <1	Lead	ppm		>10	0		
Antimony ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Copper	ppm	ASTM D5185m	>75	1		
VanadiumppmASTM D5185m0CadmiumppmASTM D5185m0ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m0<1	Tin	ppm	ASTM D5185m	>10	0		
CadmiumppmASTM D5185m0ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m0<1	Antimony	ppm	ASTM D5185m		0		
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m0<1	Vanadium	ppm	ASTM D5185m		0		
BoronppmASTM D5185m0<1	Cadmium	ppm	ASTM D5185m		0		
Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 <1 Manganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 2 Calcium ppm ASTM D5185m 50 60 Calcium ppm ASTM D5185m 50 60 Calcium ppm ASTM D5185m 50 600 Stifur ppm ASTM D5185m 330 322 Sulfur ppm ASTM D5185m 760 686 Solicon ppm ASTM D5185m >20 <1 Solicon ppm ASTM D5185m >20 0 FLUID DEGRADATION method limit/base current	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	0	<1		
MarganeseppmASTM D5185m00MagnesiumppmASTM D5185m02CalciumppmASTM D5185m5060CalciumppmASTM D5185m330322PhosphorusppmASTM D5185m330322ZincppmASTM D5185m430425SulfurppmASTM D5185m760686CONTAMINANTSmethodlimit/basecurrenthistory1history2SoliumppmASTM D5185m>20<1	Barium	ppm	ASTM D5185m	0	0		
MagnesiumppmASTM D5185m02CalciumppmASTM D5185m5060PhosphorusppmASTM D5185m330322ZincppmASTM D5185m430425SulfurppmASTM D5185m760686CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20<1	Molybdenum	ppm	ASTM D5185m	0	<1		
CalciumppmASTM D5185m5060PhosphorusppmASTM D5185m330322ZincppmASTM D5185m430425SulfurppmASTM D5185m760686CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20<1	Manganese	ppm	ASTM D5185m	0	0		
PhosphorusppmASTM D5185m330322ZincppmASTM D5185m430425SulfurppmASTM D5185m760686CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20<1	Magnesium	ppm	ASTM D5185m	0	2		
ZincppmASTM D5185m430425SulfurppmASTM D5185m760686CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20<1	Calcium	ppm	ASTM D5185m	50	60		
SulfurppmASTM D5185m760686CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20<1	Phosphorus	ppm	ASTM D5185m	330	322		
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20<1SodiumppmASTM D5185m<1PotassiumppmASTM D5185m>200FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2Acid Number (AN)mg KOH/gASTM D80450.700.373VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONEMODERYellow Metalscalar*VisualNONENONESiltscalar*VisualNONENONESiltscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLCodorscalar*VisualNORMLNORMLEmulsified Waterscalar*VisualNORMLNORML	Zinc	ppm	ASTM D5185m	430	425		
SiliconppmASTM D5185m>20<1	Sulfur	ppm	ASTM D5185m	760	686		
SodiumppmASTM D5185m<1	CONTAMINAN	ITS	method	limit/base	current	history1	history2
PotassiumppmASTM D5185m>200FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2Acid Number (AN)mg KOHgASTM D80450.700.373VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONEMODERYellow Metalscalar*VisualNONENONEPrecipitatescalar*VisualNONENONESiltscalar*VisualNONENONEDebrisscalar*VisualNONENONESand/Dirtscalar*VisualNORMLNORMLAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEG	Silicon	ppm	ASTM D5185m	>20	<1		
FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2Acid Number (AN)mg KOHgASTM D80450.700.373VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONEMODERYellow Metalscalar*VisualNONENONEPrecipitatescalar*VisualNONENONESiltscalar*VisualNONENONEDebrisscalar*VisualNONENONESand/Dirtscalar*VisualNORMLNORMLAppearancescalar*VisualNORMLNORMLCodorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEG	Sodium	ppm	ASTM D5185m		<1		
Acid Number (AN)mg KOH/gASTM D80450.700.373VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONE<	Potassium	ppm	ASTM D5185m	>20	0		
VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONEMODERYellow Metalscalar*VisualNONENONEPrecipitatescalar*VisualNONENONESiltscalar*VisualNONENONEDebrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEG	FLUID DEGRAI	DATION	method	limit/base	current	history1	history2
White Metalscalar*VisualNONEMODERYellow Metalscalar*VisualNONENONEPrecipitatescalar*VisualNONENONESiltscalar*VisualNONENONEDebrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEG	Acid Number (AN)	mg KOH/g	ASTM D8045	0.70	0.373		
Yellow Metalscalar*VisualNONENONEPrecipitatescalar*VisualNONENONESiltscalar*VisualNONENONEDebrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEG	VISUAL		method	limit/base	current	history1	history2
Precipitatescalar*VisualNONENONESiltscalar*VisualNONENONEDebrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEG	White Metal	scalar	*Visual	NONE	MODER		
Siltscalar*VisualNONENONEDebrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEG	Yellow Metal	scalar	*Visual	NONE	NONE		
Debrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEG	Precipitate	scalar	*Visual	NONE	NONE		
Sand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEG	Silt	scalar	*Visual	NONE	NONE		
Appearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEG	Debris	scalar	*Visual	NONE	NONE		
Odor scalar *Visual NORML NORML Emulsified Water scalar *Visual >0.1 NEG	Sand/Dirt	scalar	*Visual	NONE	NONE		
Emulsified Water scalar *Visual >0.1 NEG	Appearance	scalar	*Visual	NORML	NORML		
	Odor	scalar	*Visual	NORML	NORML		
Free Water scalar *Visual NEG RINE ANASTASIOWEACA	Emulsified Water	scalar	*Visual	>0.1	NEG		
	Free Water	scalar	*Visual		NEG	ERINE ANASTA	SIO WEACAF



OIL ANALYSIS REPORT





Certificate L2367