

WL137

WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL

## KEMP QUARRIES / PRYOR STONE [69258]

Rear Right Final Drive

PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. ( Customer Sample Comment: Pm3 performed. All oil samples taken. Engine oil, engine oil filters, fuel filters, air filters, and cabin air filters changed. )

**WEAR** 

All component wear rates are normal.

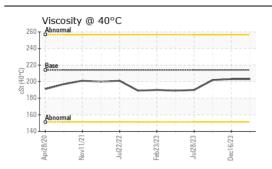
## CONTAMINATION

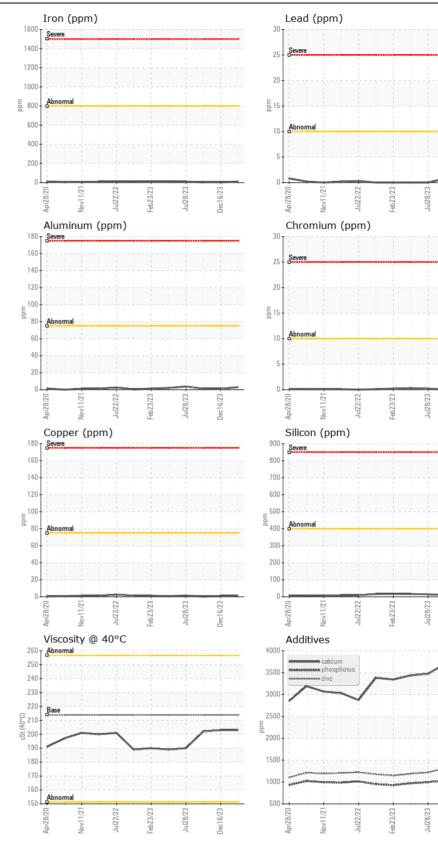
There is no indication of any contamination in the oil.

## FLUID CONDITION

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

TestUOMMethodLimit/ADCurrentHistory1History1Sample NumberIClient InfoIPCA0086330PCA0084404PCA0088230Sample DateClient InfoISA83269032269Machine AgehrsClient InfoISA8905484Filter AgehrsClient InfoISA8905484Filter AgehrsClient InfoISA8905484Filter AgehrsClient InfoISA8905484Filter AgehrsClient InfoISAN/AN/ASample StatusClient InfoN/AN/AN/AChromiumppmASTMD5185>8001044ChromiumppmASTMD5185>104100NickelppmASTMD5185>15<100SilverppmASTMD5185>10<1<11LeadppmASTMD5185>10<1<1<1LeadppmASTMD5185>10<1<1<1LeadppmASTMD5185>10<1<1<1LeadppmASTMD5185>10<1<1<1LeadppmASTMD5185>201<1<1LeadppmASTMD5185>400<1<1<1LeadppmASTMD5185>40011<1<1LeadppmASTMD5185>400 <th></th> <th></th> <th>/</th> <th></th> <th></th> <th></th> <th></th>			/				
Sample DateClient InfoV2 Apr 20216 Dec 202306 Oct 2023Machine AgehrsClient Info333333269032269Oil AgehrsClient Info1548905484Filter AgehrsClient InfoO00Oil ChangedClient InfoOil AddeedOil AddeedOil AddeedFilter ChangedClient InfoN/AN/AN/ASample StatusClient InfoN/AN/AN/ASample StatusSample StatusSample StatusNORMALOIronppmASTM D5185>8001044ChromiumppmASTM D5185>10c100NickelppmASTM D5185>5c100SilverppmASTM D5185>2000AluminumppmASTM D5185>753c1c1LeadppmASTM D5185>751c1c1CopperppmASTM D5185>4001011c1VanadiumppmASTM D5185>400NONENONENONEYellow Metalscalar"VisualNONENONENONENONESiliconppmASTM D5185>400121011PdassiumppmASTM D5185>2010NONESiliconppmASTM D5185>2010NONESoliconppmASTM D5185	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age Nachine Age NikeIssClient InfoIs483269032269Oil Age HrsKilent InfoIs48905484Filter Age Itler ChangedKilent InfoIs48905484Filter ChangedClient InfoN/AN/AN/ASample StatusClient InfoN/AN/AN/ASample StatusVN/AN/AN/AIronppmASTM D5185m>8001044ChromiumppmASTM D5185m>55<100NickelppmASTM D5185m>55<100SilverppmASTM D5185m>753<11LeadppmASTM D5185m>751<1<1CopperppmASTM D5185m>751<1<1VanadiumppmASTM D5185m>751<1<1VanadiumppmASTM D5185m>751<1<1VanadiumppmASTM D5185m>751<1<1VanadiumppmASTM D5185m>40010NONENONEVellow Metalscalar'VisualNONENONENONENONEVallosscalar'VisualNONENONENONENONENONESiliconppmASTM D5185mscalarNONENONENONENONESiliconppmASTM D5185mScalarNONENONENON	Sample Number		Client Info		PCA0086634	PCA0084404	PCA0086230
Oil AgehrsClient InfoIs48905484Filter AgehrsClient InfoIO00Oil AdadedClient InfoIAN/AN/AN/ASample StatusClient InfoN/AN/AN/AN/ASample StatusVVSTM D5185mS8001044ChromiumppmASTM D5185mS4001044ChromiumppmASTM D5185mS4001044ChromiumppmASTM D5185mS10<100NickelppmASTM D5185mS2C100SilverppmASTM D5185mS10<1<11LeadppmASTM D5185mS10<1<1<1CopperppmASTM D5185mS10<1<1<1VanadiumppmASTM D5185mS20I1<1<1VanadiumppmASTM D5185mS20I1<1<1VanadiumppmASTM D5185mS20I1<1<1VanadiumppmASTM D5185mS20I1<1<1ValueScalar'VisualNONENONENONENONESiliconppmASTM D5185mS20I10<1<1PotassiumppmASTM D5185mS20I10<1NONESiliconppmASTM D5185mS20I10<1	Sample Date		Client Info		02 Apr 2024	16 Dec 2023	06 Oct 2023
Filter Age OhrsClient InfoOOOOil ChangedClient InfoOil AddedOil AddedOil AddedOil AddedFilter ChangedClient InfoN/AN/AN/ASample StatusVNORMALNORMALNORMALIronppmASTM D5185m>8001044ChromiumppmASTM D5185m>50<100NickelppmASTM D5185m>55<100NickelppmASTM D5185m>55<100SilverppmASTM D5185m>753<1<1LeadppmASTM D5185m>753<1<1CopperppmASTM D5185m>751<1<1VanadiumppmASTM D5185m>751<1<1VanadiumppmASTM D5185m>751<1<1VanadiumppmASTM D5185m>201<1<1VanadiumppmASTM D5185m>201<1<1VanadiumppmASTM D5185m>201<1<1VanadiumppmASTM D5185m>201<1<1VanadiumppmASTM D5185m>201<1<1VanadiumppmASTM D5185m>201<1<1VanadiumppmASTM D5185m>201<1<1Vanadiumppm<	Machine Age	hrs	Client Info		33333	32690	32269
Oil ChangedClient IntoOil AddedOil AddedOil AddedOil AddedFilter ChangedClient IntoN/AN/AN/ASample StatusNORMALNORMALNORMALNORMALIronppmASTM D5185m>8001044ChromiumppmASTM D5185m>50<100NickelppmASTM D5185m>55<100NickelppmASTM D5185m>55<100SilverppmASTM D5185m>753<1<1LeadppmASTM D5185m>753<1<1CopperppmASTM D5185m>751<1<1VanadiumppmASTM D5185m>80<1<1<1VanadiumppmASTM D5185m>601000White Metalscalar'VisualNONENONENONENONEVellow Metalscalar'VisualNONENONENONENONESiliconppmASTM D5185m>2010<1PotassiumppmASTM D5185m>2010<1PotassiumppmASTM D5185m>2010NONENONESiliconppmASTM D5185m>2010<1PotassiumppmASTM D5185m>2010<1PotassiumppmASTM D5185m>2010NONE <th>Oil Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>1548</th> <th>905</th> <th>484</th>	Oil Age	hrs	Client Info		1548	905	484
Filter ChangedClient InfoN/AN/AN/ASample StatusClient InfoN/AN/AN/AIronppmASTM D5185>8001044ChromiumppmASTM D5185>10<100NickelppmASTM D5185>5<100NickelppmASTM D5185>5<100SilverppmASTM D5185>2000AluminumppmASTM D5185>2000LeadppmASTM D5185>753<11<11LeadppmASTM D5185>751<1<<1VanadiumppmASTM D5185>8<11<1<<1VanadiumppmASTM D5185>8<11<1<<1VanadiumppmASTM D5185>8<1100White Metalscalar*VisualNONENONENONENONEVellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185>400121011PotassiumppmASTM D5185>2010<1Vellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185>2010<1NONESiliconppmASTM D5185>20NONENONENONENONE <t< th=""><th>Filter Age</th><th>hrs</th><th>Client Info</th><th></th><th>0</th><th>0</th><th>0</th></t<>	Filter Age	hrs	Client Info		0	0	0
Sample StatusNORMALNORMALNORMALNORMALIronppmASTM D5185>8001044ChromiumppmASTM D5185>10<100NickelppmASTM D5185>5<100NickelppmASTM D5185>5<100SilverppmASTM D5185>2000AluminumppmASTM D5185>2000LeadppmASTM D5185>751<1<1CopperppmASTM D5185>751<1<1TinppmASTM D5185>8<1<1<1VanadiumppmASTM D5185>8<100White Metalscalar*VisualNONENONENONENONEVellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185>400121011PotassiumppmASTM D5185>2010<1Vellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185>2010<1NONESiliconppmASTM D5185NONENONENONENONENONESiliconppmASTM D5185>2010<1NONESodar*VisualNONENONENONENONE <th>Oil Changed</th> <th></th> <th>Client Info</th> <th></th> <th>Oil Added</th> <th>Oil Added</th> <th>Oil Added</th>	Oil Changed		Client Info		Oil Added	Oil Added	Oil Added
IronppmASTM D5185m>80001044ChromiumppmASTM D5185m>10<100NickelppmASTM D5185m>5<100TitaniumppmASTM D5185m>2000SilverppmASTM D5185m>2000AluminumppmASTM D5185m>2000AluminumppmASTM D5185m>753<1<1LeadppmASTM D5185m>10<1<1<1CopperppmASTM D5185m>8<1<1<1VanadiumppmASTM D5185m>8<1<1<1VanadiumppmASTM D5185m>8<1<1<1Yellow Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m>400121011PotassiumppmASTM D5185m>2010<1VaterWC Method>0.2NEGNORENORENORESilitonscalar*VisualNONENONENONENORESolitascalar*VisualNORENORENORENORESolitascalar*VisualNORENORENORENORESolitascalar*VisualNORENORENO	Filter Changed		Client Info		N/A	N/A	N/A
Chromium ppm ASTM D5185m >10 <1	Sample Status				NORMAL	NORMAL	NORMAL
Chromium ppm ASTM D5185m >10 <1					40		
NickelppmASTM D5185m>5<1	-				-		
TitaniumppmASTM D5185m>15<1							
SilverppmASTM D5185m>2000AluminumppmASTM D5185m>753<11LeadppmASTM D5185m>10<1<1<1CopperppmASTM D5185m>751<1<1TinppmASTM D5185m>8<1<1<1VanadiumppmASTM D5185m>8<1<1<1VanadiumppmASTM D5185m>8<100White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m>400121011PotassiumppmASTM D5185m>2010<1WaterWC Method>0.2NEGNEGNONENONESilitscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNORNORENONENOREAppearancescalar*VisualNORMNORMLNORMLNORMLGoronppmASTM D5185m2000BariumppmASTM D5185m0<10<1MarganeseppmASTM D5185m0<10<1MarganeseppmASTM D5185m0<10<1MarganeseppmASTM D5185m0<10 <th></th> <th></th> <th></th> <th></th> <th></th> <th>-</th> <th>÷</th>						-	÷
AluminumppmASTM D5185m>753<1							
Lead ppm ASTM D5185m >10 <1					-		÷
Copper ppm ASTM D5185m >75 1 <1	Aluminum	ppm	ASTM D5185m	>75	3	<1	1
TinppmASTM D5185m>8<1		ppm					
VanadiumppmASTM D5185m<1	Copper	ppm	ASTM D5185m	>75	1	<1	<1
White Metalscalar*VisualNONENONENONENONENONEYellow Metalscalar*VisualNONENONENONENONENONESiliconppmASTM D5185m>400121011PotassiumppmASTM D5185m>2010<1WaterWC Method>0.2NEGNEGNEGSilitscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLBronnppmASTM D5185m2000BariumppmASTM D5185m0<1<10MaganeseppmASTM D5185m0<1<10MagnesiumppmASTM D5185m3114356833243704PhosphorusppmASTM D5185m111510851317SulfurppmASTM D5185m1245111510851317SulfurppmASTM D5185m7086428941314954	Tin	ppm	ASTM D5185m	>8	<1	<1	<1
Yellow Metalscalar*VisualNONENONENONENONENONESiliconppmASTM D5185m>400121011PotassiumppmASTM D5185m>2010<1WaterWC Method>0.2NEGNEGNEGSiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLOdorscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m2000BariumppmASTM D5185m0<10<1ManganeseppmASTM D5185m0<1<10MagnesiumppmASTM D5185m3114356833243704PhosphorusppmASTM D5185m111510851317SulfurppmASTM D5185m1245111510851317	Vanadium	ppm	ASTM D5185m		<1	0	0
SiliconppmASTM D5185m>400121011PotassiumppmASTM D5185m>2010<1WaterWC Method>0.2NEGNEGNEGSiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLBoronppmASTM D5185m2000BariumppmASTM D5185m0<10<1MaganeseppmASTM D5185m0<10<1MagnesiumppmASTM D5185m11120<1PhosphorusppmASTM D5185m111120<1MagnesiumppmASTM D5185m111510853704PhosphorusppmASTM D5185m10998828951028ZincppmASTM D5185m1245111510851317SulfurppmASTM D5185m7086428941314954	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
PotassiumppmASTM D5185m>2010<1	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
WaterWC Method>0.2NEGNEGNEGSiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m2000BariumppmASTM D5185m200<1ManganeseppmASTM D5185m0<1<10MagnesiumppmASTM D5185m3114356833243704PhosphorusppmASTM D5185m10998828951028ZincppmASTM D5185m1245111510851317SulfurppmASTM D5185m7086428941314954	Silicon	ppm	ASTM D5185m	>400	12	10	11
Siltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m2000BoronppmASTM D5185m2000BariumppmASTM D5185m0<100ManganeseppmASTM D5185m0<100MagnesiumppmASTM D5185m3114356833243704PhosphorusppmASTM D5185m10998828951028ZincppmASTM D5185m1245111510851317SulfurppmASTM D5185m7086428941314954	Potassium	ppm	ASTM D5185m	>20	1	0	<1
Debrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m2000BoronppmASTM D5185m0<100BariumppmASTM D5185m0<100MalganeseppmASTM D5185m0<1<10MagnesiumppmASTM D5185m3114356833243704PhosphorusppmASTM D5185m10998828951028ZincppmASTM D5185m7086428941314954	Water		WC Method	>0.2	NEG	NEG	NEG
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m2000BoronppmASTM D5185m2000BariumppmASTM D5185m0<100MolybdenumppmASTM D5185m0<100ManganeseppmASTM D5185m0<1<100CalciumppmASTM D5185m3114356833243704PhosphorusppmASTM D5185m10998828951028ZincppmASTM D5185m7086428941314954	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m2000BoronppmASTM D5185m2000BariumppmASTM D5185m0<100MolybdenumppmASTM D5185m0<100ManganeseppmASTM D5185m0<100CalciumppmASTM D5185m3114356833243704PhosphorusppmASTM D5185m10998828951028ZincppmASTM D5185m7086428941314954	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m1<10BoronppmASTM D5185m2000BariumppmASTM D5185m0<100MolybdenumppmASTM D5185m0<10<1ManganeseppmASTM D5185m0<1<10MagnesiumppmASTM D5185m911120CalciumppmASTM D5185m1049356833243704PhosphorusppmASTM D5185m10998828951028ZincppmASTM D5185m1245111510851317SulfurppmASTM D5185m7086428941314954	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m1<10BoronppmASTM D5185m2000BariumppmASTM D5185m0<100MolybdenumppmASTM D5185m0<100ManganeseppmASTM D5185m0<1<10MagnesiumppmASTM D5185m911120CalciumppmASTM D5185m3114356833243704PhosphorusppmASTM D5185m10998828951028ZincppmASTM D5185m1245111510851317SulfurppmASTM D5185m7086428941314954	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Sodium ppm ASTM D5185m 1 <1	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Boron ppm ASTM D5185m 2 0 0 0   Barium ppm ASTM D5185m 0 <1 0 0   Molybdenum ppm ASTM D5185m 0 <1 0 <1   Manganese ppm ASTM D5185m 0 <1 <1 0   Magnesium ppm ASTM D5185m 9 11 12 0   Calcium ppm ASTM D5185m 9 11 12 0   Phosphorus ppm ASTM D5185m 3114 3568 3324 3704   Phosphorus ppm ASTM D5185m 1099 882 895 1028   Zinc ppm ASTM D5185m 1245 1115 1085 1317   Sulfur ppm ASTM D5185m 7086 4289 4131 4954	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Barium ppm ASTM D5185m 0 <1	Sodium	ppm	ASTM D5185m		1	<1	0
Molybdenum ppm ASTM D5185m 0 2 0 <1	Boron	ppm	ASTM D5185m	2	0	0	0
Manganese ppm ASTM D5185m 0 <1	Barium	ppm	ASTM D5185m	0	<1	0	0
Magnesium ppm ASTM D5185m 9 11 12 0   Calcium ppm ASTM D5185m 3114 <b>3568</b> 3324 3704   Phosphorus ppm ASTM D5185m 1099 <b>882</b> 895 1028   Zinc ppm ASTM D5185m 1245 <b>1115</b> 1085 1317   Sulfur ppm ASTM D5185m 7086 <b>4289</b> 4131 4954	Molybdenum	ppm	ASTM D5185m	0	2	0	<1
Calcium ppm ASTM D5185m 3114 3568 3324 3704   Phosphorus ppm ASTM D5185m 1099 882 895 1028   Zinc ppm ASTM D5185m 1245 1115 1085 1317   Sulfur ppm ASTM D5185m 7086 4289 4131 4954	Manganese	ppm	ASTM D5185m	0	<1	<1	0
Phosphorus ppm ASTM D5185m 1099 882 895 1028   Zinc ppm ASTM D5185m 1245 1115 1085 1317   Sulfur ppm ASTM D5185m 7086 4289 4131 4954	Magnesium	ppm	ASTM D5185m	9	11	12	0
Phosphorus ppm ASTM D5185m 1099 882 895 1028   Zinc ppm ASTM D5185m 1245 1115 1085 1317   Sulfur ppm ASTM D5185m 7086 4289 4131 4954	Calcium	ppm	ASTM D5185m	3114	3568	3324	3704
Zinc ppm ASTM D5185m 1245 1115 1085 1317   Sulfur ppm ASTM D5185m 7086 4289 4131 4954	Phosphorus			1099	882	895	1028
Sulfur ppm ASTM D5185m 7086 4289 4131 4954			ASTM D5185m			1085	1317
Visc @ 40°C cSt ASTM D445 213.9 ( 203 ) 203 202	Sulfur	ppm	ASTM D5185m	7086	4289	4131	4954





Kemp Quarries - Pryor Stone - Pryor Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 1050 E 520 Rd Sample No. : PCA0086634 Received : 15 Apr 2024 Lab Number : 06149708 : 16 Apr 2024 Pryor, OK Tested Unique Number : 10979786 : 18 Apr 2024 - Don Baldridge US 74361 Diagnosed Test Package : MOB 1 Contact: Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. pryor@pryorstone.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Т: F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

lec16/23

lec16/73

Dec16/23