Xp3 Improves Lubricity and Reduces Maintenance Costs

Trial Dates: March 2014 – January 2015

Vehicle: 2009 Chevrolet Impala

Trial Starting and Ending Mileage: 34,556 – 47,351

Fuel Type: Gasoline

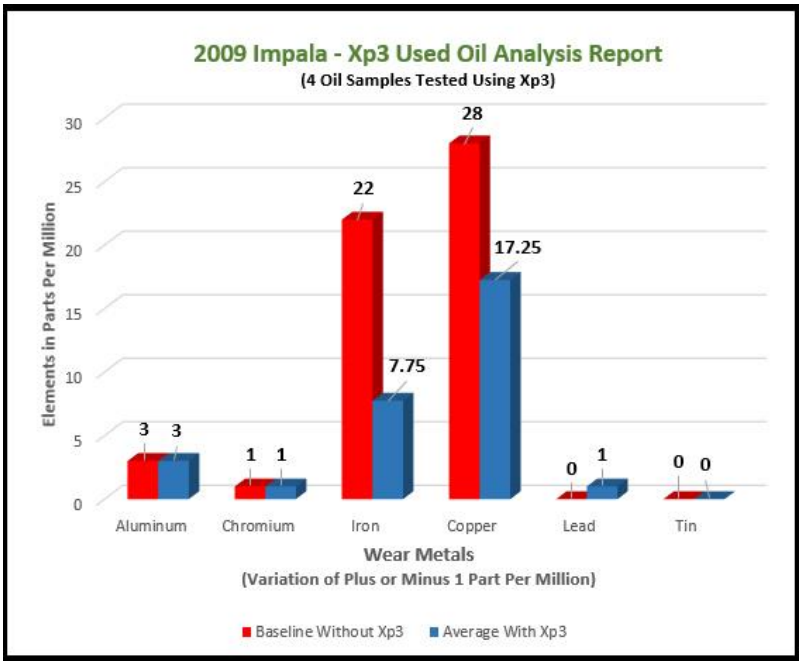
Trial Summary:

To start the trial, the customer performed a "baseline" used oil analysis without using Xp3 to establish the current operating condition of the vehicle. Then, the customer began treating each tank of fuel with Xp3 following the recommended treatment ratio throughout the trial period. The customer changes oil about every 3,000 miles and continued to follow that maintenance schedule during this trial, which resulted in 4 additional used oil analysis being performed from March 2014 to January 2015.

In the graph below, you will see proof that Xp3 improves lubricity and significantly reduces "wear metals" in the oil. In the notes on the oil analysis (see page 6 of this document), you will also see the customer can now extend the oil change interval to every 5,000 miles, which extends the life of the oil up to 66% and reduces maintenance costs compared to changing oil every 3,000 miles.

This independent lab data, proves that using Xp3 increases lubricity and will extend the life of your engine, which keeps it running better, longer, and saves you money on expensive repairs.

Remember, less metal in your oil means less money out of your pocketbook!



BLACKSTONE LABORATORIES

OIL REPORT

LAB NUMBER: G56276 UNIT ID: 09 IMPALA
REPORT DATE: 1/23/2015 CLIENT ID: 58887
CODE: 20/75 PAYMENT: Prepaid

UNIT

MAKE/MODEL: GM 3.5L V-6
FUEL TYPE: Gasoline (Unleaded)
ADDITIONAL INFO:

OIL TYPE & GRADE: Pennzoil Synthetic 5W/30
OIL USE INTERVAL: 3,100 Miles

CLIENT

MATT [redacted]

The analysis on 3/10/14 was used as a baseline and the fuel used leading up to that analysis was not treated with Xp3

COMMENTS

MATT: This initial sample from your '09 Impala raised our eyebrows a bit, but luckily you are a diligent sampler and we were able to see this engine's progression without our crystal ball. This report showed elevated levels of iron (from steel parts) and copper (from brass/bronze parts) compared to our universal averages, which are based on about 5,500 miles on the oil. With this interval being about 2,400 miles shorter, we wondered if there might be a problem brewing. We can assure you, however, that these readings improve in future samples. More on next report...

ELEMENTS IN PARTS PER MILLION

		UNIT / LOCATION AVERAGES						UNIVERSAL AVERAGES
MI/HR on Oil	3,100							
MI/HR on Unit	34,556							
Sample Date	03/10/14							
Make Up Oil Added								
ALUMINUM	3	2						4
CHROMIUM	1	1						1
IRON	22	11						16
COPPER	28	19						15
LEAD	0	1						4
TIN	0	0						1
MOLYBDENUM	16	31						71
NICKEL	0	0						0
MANGANESE	2	1						2
SILVER	0	0						0
TITANIUM	20	5						1
POTASSIUM	8	4						2
BORON	29	20						44
SILICON	5	4						12
SODIUM	198	113						61
CALCIUM	1409	1912						1964
MAGNESIUM	10	13						171
PHOSPHORUS	519	569						668
ZINC	597	654						793
BARIUM	0	0						0

PROPERTIES

		Values Should Be*					
SUS Viscosity @ 210°F	52.4	55-63					
cSt Viscosity @ 100°C	7.99	8.8-11.3					
Flashpoint in °F	365	>365					
Fuel %	TR	<2.0					
Antifreeze %	?	0.0					
Water %	0.0	<0.1					
Insolubles %	0.3	<0.6					
TBN							
TAN							
ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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BLACKSTONE LABORATORIES

OIL REPORT

LAB NUMBER: G56277 UNIT ID: 09 IMPALA
REPORT DATE: 1/23/2015 CLIENT ID: 58887
CODE: 20/501 PAYMENT: Prepaid

UNIT

MAKE/MODEL: GM 3.5L V-6
FUEL TYPE: Gasoline (Unleaded)
ADDITIONAL INFO:

OIL TYPE & GRADE: Pennzoil Synthetic 5W/30
OIL USE INTERVAL: 3,200 Miles

CLIENT

MATT [redacted]

The analysis on 3/10/14 was used as a baseline and the fuel used leading up to that analysis was not treated with Xp3

COMMENTS

MATT: As you can see, this report shows rather astonishing improvement over the previous one. This oil was run for a similar duration, but the readings recovered nicely. The high levels of sodium, potassium, and titanium from before had us scratching our heads, as they are not typical additives for Pennzoil Synthetic 5W/30 (maybe residual from a previous fill?). The combination of high potassium and sodium can sometimes indicate antifreeze contamination, but clearly, that's not an issue for your engine. Physically, the oil looked good and had a TBN of 4.0. Much better here!

ELEMENTS IN PARTS PER MILLION

		UNIT / LOCATION AVERAGES						UNIVERSAL AVERAGES
MI/HR on Oil	3,200		3,100					
MI/HR on Unit	37,100		34,556					
Sample Date	05/10/14		03/10/14					
Make Up Oil Added								
ALUMINUM	2	2	3					4
CHROMIUM	1	1	1					1
IRON	8	11	22					16
COPPER	22	19	28					15
LEAD	0	1	0					4
TIN	0	0	0					1
MOLYBDENUM	43	31	16					71
NICKEL	0	0	0					0
MANGANESE	1	1	2					2
SILVER	0	0	0					0
TITANIUM	3	5	20					1
POTASSIUM	5	4	8					2
BORON	12	20	29					44
SILICON	3	4	5					12
SODIUM	37	113	198					61
CALCIUM	1976	1912	1409					1964
MAGNESIUM	11	13	10					171
PHOSPHORUS	576	569	519					668
ZINC	660	654	597					793
BARIUM	0	0	0					0

PROPERTIES

		Values Should Be*					
SUS Viscosity @ 210°F	60.1	55-63	52.4				
cSt Viscosity @ 100°C	10.26	8.8-11.3	7.99				
Flashpoint in °F	405	>365	365				
Fuel %	<0.5	<2.0	TR				
Antifreeze %	0.0	0.0	?				
Water %	0.0	<0.1	0.0				
Insolubles %	0.1	<0.6	0.3				
TBN	4.0	>1.0					
TAN							
ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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BLACKSTONE LABORATORIES

OIL REPORT

LAB NUMBER: G56278 UNIT ID: 09 IMPALA
REPORT DATE: 1/23/2015 CLIENT ID: 58887
CODE: 20/501 PAYMENT: Prepaid

UNIT

MAKE/MODEL: GM 3.5L V-6
FUEL TYPE: Gasoline (Unleaded)
ADDITIONAL INFO:

OIL TYPE & GRADE: Gasoline Engine Oil
OIL USE INTERVAL: 3,200 Miles

CLIENT

MATT [redacted]

The analysis on 3/10/14 was used as a baseline and the fuel used leading up to that analysis was not treated with Xp3

COMMENTS

MATT: This third sample from your Impala looked even better than the last! After another similar interval, iron and copper continued to drop, and a TBN of 3.3 is fine. You didn't indicate the type of oil used on this run, but the jump in sodium leads us to believe it's not the Pennzoil from before. However, the viscosity was within range for a 5W/30. The type of oil you use doesn't really affect our data or the performance of your engine, but knowing what it is allows us to more accurately interpret our findings. In any event, things are looking ever better for this engine!

ELEMENTS IN PARTS PER MILLION

MI/HR on Oil	3,200	UNIT / LOCATION AVERAGES	3,200	3,100				UNIVERSAL AVERAGES
MI/HR on Unit	40,359		37,100	34,556				
Sample Date	08/04/14		05/10/14	03/10/14				
Make Up Oil Added								
ALUMINUM	2	2	2	3				4
CHROMIUM	0	1	1	1				1
IRON	6	11	8	22				16
COPPER	21	19	22	28				15
LEAD	1	1	0	0				4
TIN	0	0	0	0				1
MOLYBDENUM	9	31	43	16				71
NICKEL	1	0	0	0				0
MANGANESE	1	1	1	2				2
SILVER	0	0	0	0				0
TITANIUM	1	5	3	20				1
POTASSIUM	6	4	5	8				2
BORON	3	20	12	29				44
SILICON	3	4	3	5				12
SODIUM	261	113	37	198				61
CALCIUM	1879	1912	1976	1409				1964
MAGNESIUM	16	13	11	10				171
PHOSPHORUS	572	569	576	519				668
ZINC	671	654	660	597				793
BARIUM	0	0	0	0				0

PROPERTIES

		Values Should Be*					
SUS Viscosity @ 210°F	58.3		60.1	52.4			
cSt Viscosity @ 100°C	9.72		10.26	7.99			
Flashpoint in °F	395	>365	405	365			
Fuel %	<0.5	<2.0	<0.5	TR			
Antifreeze %	0.0	0.0	0.0	?			
Water %	0.0	<0.1	0.0	0.0			
Insolubles %	0.2	<0.6	0.1	0.3			
TBN	3.3	>1.0	4.0				
TAN							
ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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BLACKSTONE LABORATORIES

OIL REPORT

LAB NUMBER: G56279 UNIT ID: 09 IMPALA
REPORT DATE: 1/23/2015 CLIENT ID: 58887
CODE: 20/501 PAYMENT: Prepaid

UNIT

MAKE/MODEL: GM 3.5L V-6
FUEL TYPE: Gasoline (Unleaded)
ADDITIONAL INFO:

OIL TYPE & GRADE: Gasoline Engine Oil
OIL USE INTERVAL: 3,400 Miles

CLIENT

MATT [redacted]

The analysis on 3/10/14 was used as a baseline and the fuel used leading up to that analysis was not treated with Xp3

COMMENTS

MATT: The Impala's impressive trend continues in this fourth sample. Copper read even lower this time, and sodium decreased dramatically. We couldn't be sure what type of oil was used on this run either, but the viscosity remained on target for a 5W/30. The TBN was 4.7, indicating plenty of active additive left in the oil. Still no contamination from fuel, antifreeze, or moisture. The fluctuation in elements like molybdenum and calcium is harmless and due to variations in additive packages. (Spoiler alert! The final report - the finale, if you will - is another splendid one!)

ELEMENTS IN PARTS PER MILLION

	MI/HR on Oil	3,400	UNIT / LOCATION AVERAGES	3,200	3,200	3,100			UNIVERSAL AVERAGES
	MI/HR on Unit	43,981		40,359	37,100	34,556			
	Sample Date	09/29/14		08/04/14	05/10/14	03/10/14			
	Make Up Oil Added								
	ALUMINUM	2	2	2	2	3			4
	CHROMIUM	0	1	0	1	1			1
	IRON	6	11	6	8	22			16
	COPPER	15	19	21	22	28			15
	LEAD	1	1	1	0	0			4
	TIN	0	0	0	0	0			1
	MOLYBDENUM	43	31	9	43	16			71
	NICKEL	0	0	1	0	0			0
	MANGANESE	0	1	1	1	2			2
	SILVER	0	0	0	0	0			0
	TITANIUM	0	5	1	3	20			1
	POTASSIUM	3	4	6	5	8			2
	BORON	3	20	3	12	29			44
	SILICON	3	4	3	3	5			12
	SODIUM	53	113	261	37	198			61
	CALCIUM	2078	1912	1879	1976	1409			1964
	MAGNESIUM	12	13	16	11	10			171
	PHOSPHORUS	571	569	572	576	519			668
	ZINC	668	654	671	660	597			793
	BARIUM	0	0	0	0	0			0

PROPERTIES

			Values Should Be*					
	SUS Viscosity @ 210°F	59.2		58.3	60.1	52.4		
	cSt Viscosity @ 100°C	9.99		9.72	10.26	7.99		
	Flashpoint in °F	385	>365	395	405	365		
	Fuel %	<0.5	<2.0	<0.5	<0.5	TR		
	Antifreeze %	0.0	0.0	0.0	0.0	?		
	Water %	0.0	<0.1	0.0	0.0	0.0		
	Insolubles %	0.2	<0.6	0.2	0.1	0.3		
	TBN	4.7	>1.0	3.3	4.0			
	TAN							
	ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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BLACKSTONE LABORATORIES

OIL REPORT

LAB NUMBER: G56280 UNIT ID: 09 IMPALA
REPORT DATE: 1/23/2015 CLIENT ID: 58887
CODE: 20/501 PAYMENT: Prepaid

UNIT

MAKE/MODEL: GM 3.5L V-6
FUEL TYPE: Gasoline (Unleaded)
ADDITIONAL INFO:

OIL TYPE & GRADE: Pennzoil Synthetic 5W/30
OIL USE INTERVAL: 3,400 Miles

CLIENT

MATT [redacted]

The analysis on 3/10/14 was used as a baseline and the fuel used leading up to that analysis was not treated with Xp3

COMMENTS

MATT: We're pleased to report that this most recent sample tells us your 3.5L V-6 is performing well! Nothing here is suggestive of any problems brewing. Quite frankly, it's gratifying for us to watch an engine progress from a perplexing first set of data to a pristine bill of health. Wear metals look great, and the oil is still free of contaminants. The TBN was a perfectly acceptable 3.9. You returned to Pennzoil this time, and the viscosity was fine. You could easily go 5,000 miles on the next oil, and if things continue to look this great, you might go even longer after that!

ELEMENTS IN PARTS PER MILLION

			UNIT / LOCATION AVERAGES						UNIVERSAL AVERAGES
	MI/HR on Oil	3,400		3,400	3,200	3,200	3,100		
	MI/HR on Unit	47,351		43,981	40,359	37,100	34,556		
	Sample Date	01/08/15		09/29/14	08/04/14	05/10/14	03/10/14		
	Make Up Oil Added								
	ALUMINUM	3	2	2	2	2	3		4
	CHROMIUM	1	1	0	0	1	1		1
	IRON	11	11	6	6	8	22		16
	COPPER	11	19	15	21	22	28		15
	LEAD	1	1	1	1	0	0		4
	TIN	0	0	0	0	0	0		1
	MOLYBDENUM	43	31	43	9	43	16		71
	NICKEL	1	0	0	1	0	0		0
	MANGANESE	1	1	0	1	1	2		2
	SILVER	1	0	0	0	0	0		0
	TITANIUM	0	5	0	1	3	20		1
	POTASSIUM	0	4	3	6	5	8		2
	BORON	55	20	3	3	12	29		44
	SILICON	4	4	3	3	3	5		12
	SODIUM	16	113	53	261	37	198		61
	CALCIUM	2219	1912	2078	1879	1976	1409		1964
	MAGNESIUM	14	13	12	16	11	10		171
	PHOSPHORUS	608	569	571	572	576	519		668
	ZINC	676	654	668	671	660	597		793
	BARIUM	0	0	0	0	0	0		0

PROPERTIES

			Values Should Be*				
	SUS Viscosity @ 210°F	56.7	55-63	59.2	58.3	60.1	52.4	
	cSt Viscosity @ 100°C	9.26	8.8-11.3	9.99	9.72	10.26	7.99	
	Flashpoint in °F	385	>365	385	395	405	365	
	Fuel %	<0.5	<2.0	<0.5	<0.5	<0.5	TR	
	Antifreeze %	0.0	0.0	0.0	0.0	0.0	?	
	Water %	0.0	<0.1	0.0	0.0	0.0	0.0	
	Insolubles %	0.2	<0.6	0.2	0.2	0.1	0.3	
	TBN	3.9	>1.0	4.7	3.3	4.0		
	TAN							
	ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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