United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street Building 201
Richmond, CA 94804

Subject: **Analytical Testing Results - Project R16E01**
SDG: 16203C

From: **Peter Husby, Director**
EPA Region 9 Laboratory
EMD-3-1

To: **Janice Chan**
Enforcement Division, Air Section
ENF-2-1

Revised Report

Attached are the results from the analysis of samples from the **Catalytic Converter Analysis FY2016** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Peter Husby, the Lab Project Manager at (510)412-2300.

CC: salazar.matt@epa.gov

Electronic CC: zellinger.andrew@epa.gov
dancher.nathan@epa.gov
felix.elfego@epa.gov
adeduro.kingsley@epa.gov

Analyses included in this report:

PGM Metals by XRF

United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Revised Report

Project Manager: Janice Chan	**Enforcement Division, Air Section**	**SDG:** 16203C
Project Number: R16E01	**75 Hawthorne Street**	**Reported:** 09/01/16 11:31
Project: Catalytic Converter Analysis FY2016	**San Francisco CA, 94105**	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
LYH21BGA5GJ000340	1607050-08	Solid	07/19/16 00:00	07/21/16 10:00

SDG ID 16203C

Work Order(s)

1607050

Revised Report: This represents a revised report for Sample 1607050-08. Results could not be reported for the original analysis because the sample contained a catalyst made of stainless steel. As a result, separation of substrate and washcoat with magnets was not possible and results could not be calculated. The remaining catalyst was reprocessed using a different preparation procedure to obtain active metals concentrations .

United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Revised Report

Project Manager:	Janice Chan	**Enforcement Division, Air Section**		**SDG:**	16203C
Project Number:	R16E01	**75 Hawthorne Street**		**Reported:**	09/01/16 11:31
Project:	Catalytic Converter Analysis FY2016	**San Francisco CA, 94105**			

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1607050-08**									**Solid - Sampled: 07/19/16 00:00**
Sample ID: **LYH21BGA5GJ000340**									**XRF Analysis of Platinum Group Metals**
Platinum	RE1	190		150	mg/kg	B16H112	08/25/16	08/25/16	XRF
Palladium	RE1	58		40	"	"	"	"	XRF
Rhodium	RE1	ND	U	40	"	"	"	"	XRF

United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Revised Report

Project Manager: Janice Chan	**Enforcement Division, Air Section**	**SDG:** 16203C
Project Number: R16E01	**75 Hawthorne Street**	**Reported:** 09/01/16 11:31
Project: Catalytic Converter Analysis FY2016	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B16H112 - - General Biology - Platinum Group Metals by XRF										**Prepared & Analyzed: 08/25/16** **XRF Analysis of Platinum Group Metals - Quality Control**
Blank (B16H112-BLK1)										
Platinum	ND	U	150	mg/kg						
Palladium	ND	U	40	"						
Rhodium	ND	U	40	"						
Blank (B16H112-BLK2)										
Platinum	ND	U	150	mg/kg						
Palladium	ND	U	40	"						
Rhodium	ND	U	40	"						
Blank (B16H112-BLK3)										
Platinum	ND	U	150	mg/kg						
Palladium	ND	U	40	"						
Rhodium	ND	U	40	"						
Reference (B16H112-SRM1)										
Platinum	760			mg/kg	697		109	85-115		
Palladium	290			"	326		89	85-115		
Rhodium	51			"	51.2		100	85-115		
Reference (B16H112-SRM2)										
Platinum	1,200			mg/kg	1130		106	85-115		
Palladium	230			"	233		99	85-115		
Rhodium	150			"	135		108	85-115		
Reference (B16H112-SRM3)										
Platinum	1,700			mg/kg	1780		97	85-115		
Palladium	280			"	279		102	85-115		
Rhodium	350			"	338		104	85-115		
Reference (B16H112-SRM4)										
Platinum	760			mg/kg	697		109	85-115		
Palladium	290			"	326		89	85-115		
Rhodium	52			"	51.2		102	85-115		
Reference (B16H112-SRM5)										
Platinum	1,200			mg/kg	1130		103	85-115		
Palladium	230			"	233		97	85-115		
Rhodium	140			"	135		105	85-115		
Reference (B16H112-SRM6)										
Platinum	1,800			mg/kg	1780		98	85-115		
Palladium	290			"	279		105	85-115		
Rhodium	360			"	338		105	85-115		
Reference (B16H112-SRM7)										
Platinum	780			mg/kg	697		111	85-115		
Palladium	290			"	326		88	85-115		
Rhodium	53			"	51.2		104	85-115		
Reference (B16H112-SRM8)										

United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Revised Report

Project Manager: Janice Chan	**Enforcement Division, Air Section**	**SDG:** 16203C
Project Number: R16E01	**75 Hawthorne Street**	**Reported:** 09/01/16 11:31
Project: Catalytic Converter Analysis FY2016	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B16H112 - - General Biology - Platinum Group Metals by XRF										**Prepared & Analyzed: 08/25/16**
								XRF Analysis of Platinum Group Metals - Quality Control		
Reference (B16H112-SRM8)										
Platinum	1,200			mg/kg	1130		103	85-115		
Palladium	230			"	233		100	85-115		
Rhodium	140			"	135		107	85-115		
Reference (B16H112-SRM9)										
Platinum	1,800			mg/kg	1780		99	85-115		
Palladium	290			"	279		103	85-115		
Rhodium	350			"	338		104	85-115		

United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Revised Report

Project Manager: Janice Chan	**Enforcement Division, Air Section**	**SDG:** 16203C
Project Number: R16E01	**75 Hawthorne Street**	**Reported:** 09/01/16 11:31
Project: Catalytic Converter Analysis FY2016	**San Francisco CA, 94105**	

Qualifiers and Comments

U	Not Detected
NR	Not Reported
RE1, RE2, etc:	Result is from a sample re-analysis.

VIN Number	Engine Family	SAMPLE ID	Catalyst Type	Substrate Len.	Substrate Dia.	Substrate Vol.	Substrate Area	Cells	CPSI
				(cm)	(cm)	(cm^3)	(in^2)	#	
LYH21BGA5GJ000340	GDKNC.049J21	1607050-08	Honeycomb*	9.04	3.20	72.7	1.25	228	183

*The honeycomb substrate was made of stainless steel. Therefore, the washcoat could not be separated from the substrate using magnets.

VIN Number	Engine Family	SAMPLE ID	Pt	Pd	Rh	Ratio	Active Material
			mg/Kg	mg/Kg	mg/Kg	Pt:Pd:Rh	Loading (g/ft3)*
LYH21BGA5GJ000340	GDKNC.049J21	1607050-08	190	58	27	7:2:1	NA