

Test = EPA 75

Options = CVS Bag ShowToI Methane MethaneRF

Test Init Start = 17 June 2020 08:32:37 Test Start = 17 June 2020 08:43:07  
Posttest Completed At = 17 June 2020 09:33:15 Test Finish = 17 June 2020 09:23:34  
Hot Soak Start Time = 16 June 2020 15:30:00

Personnel Information:

Driver = REDACTED Operator = REDACTED  
Requestor = REDACTED Supervisor = REDACTED

Vehicle Information:

VIN = [REDACTED] Cert Tracking ID = 2964-ECRXT03.05PV-217  
Vehicle Model = FCA RAM Model Year = 2014  
Engine Family = ECRXT03.05PV Eng. Disp. = 3.0L  
Ignition Status = No Transmission =  
Automatic = 1 Idle RPM =  
Sample Delay =

Vehicle Conditions:

Soak Start Time: = JUNE 16, 2020 15:30 Ambient Limit Type = OTHER7

Test Specifications:

TO-Number = W0110 CVS BulkStream Flow : = 3) 625 scfm  
TestNet Number = 2964

Dynamometer:

Inertia = 6000 (lb) Road Load A = 5.75 (lbs)  
Road Load B = 0.3209 Road Load C = 0.03152

Fuel Information:

Fuel = DIE-DJ1621HW10 Specific gravity = 0.8520  
NHV = 18083.00 Fuel R-Factor = 0.60  
CWF = 0.8710 OWF = 0.0000  
HWF = 0.1290 Fuel Calculation Type = Diesel/EPA Calcs

Phase Information:

Shift Tables  
Phase 1 AUTO  
Phase 2 Con't  
Phase 3 AUTO

Response Factors:

Bag Methane = 1.05

Pre Test Remarks:

TEST #1 AS RECEIVED

Post Test Remarks:

Non-Critical Information:

Begin Odo = 99599 Idle RPM =  
Test end Odometer = 99610 Driveability = Good  
Engine performance = No Problem Brakes = No Problem  
Transmission = No Problem Vehicle stalls = None

SUMMARY REPORT

Test = EPA 75 Test Id = ONT50891 TestNet Number = 2964  
 Options = CVS Bag ShowTol Methane MethaneRF  
 Test Init Start = 17 June 2020 08:32:37 Fuel Calculation Type = Diesel/EPA Calcs Idle RPM = Driver = **REDACTED**

MASS calculated by DF method

Phase 1 Bag 1	THC (ppmC)	CO (ppm)	NOX (ppm)	CO2 (%)	CH4 (ppmC)	NM-HC (wRF)	FE (mpg)
Range	30.0	50.0	30.0	1.00	30.0		
Sample	14.913	39.936	3.313	0.7405	5.572		
Range	30.0	50.0	30.0	1.00	30.0		
Ambient	3.118	0.859	0.119	0.0504	1.876		
Net Conc.	11.969	39.125	3.201	0.6929	3.800	7.9902	
Grams/ph.	0.9009	5.9430	0.7585	1654.6719	0.3308	0.6014	21.9597
Grams/mi	0.2503	1.6509	0.2107	459.6474	0.0919	0.1671	

Phase 2 Bag 2	THC (ppmC)	CO (ppm)	NOX (ppm)	CO2 (%)	CH4 (ppmC)	NM-HC (wRF)	FE (mpg)
Range	10.0	50.0	30.0	1.00	10.0		
Sample	5.884	0.799	0.021	0.4385	4.442		
Range	10.0	50.0	30.0	1.00	10.0		
Ambient	3.379	0.778	-0.021	0.0503	2.433		
Net Conc.	2.615	0.047	0.021	0.3898	2.088	0.4290	
Grams/ph.	0.3377	0.0123	0.0085	1596.7019	0.3119	0.0554	24.5036
Grams/mi	0.0877	0.0032	0.0022	414.7851	0.0810	0.0144	

Phase 3 Bag 3	THC (ppmC)	CO (ppm)	NOX (ppm)	CO2 (%)	CH4 (ppmC)	NM-HC (wRF)	FE (mpg)
Range	10.0	50.0	30.0	1.00	10.0		
Sample	7.060	2.156	0.475	0.6139	5.488		
Range	10.0	50.0	30.0	1.00	10.0		
Ambient	3.243	0.796	-0.058	0.0530	2.087		
Net Conc.	3.966	1.397	0.475	0.5634	3.497	0.3050	
Grams/ph.	0.2979	0.2117	0.1101	1342.4246	0.3038	0.0229	27.1821
Grams/mi	0.0829	0.0589	0.0307	373.7506	0.0846	0.0064	

----- Dyno Information -----  
 Inertia = 6000  
 Inertia Units = 1b  
 Dynamometer will be set manually = False  
 Dyno Coefficient Units = 2  
 Road Load A = 5.75  
 Road Load B = 0.3209  
 Road Load C = 0.03152  
 Use Augmented Braking System? = True

Test Summary	THC	CO	NOX	CO2	CH4	NM-HC (wRF)	FE (mpg)
Wtd Results							
Grams g/mi	0.1202	0.3609	0.0534	412.8175	0.0843	0.0439	24.5825
Grams g/mi	0.120	0.36	0.05	413	0.084	0.044	
Phs1&2 gms	1.2386	5.9554	0.7670	3251.3738	0.6428	0.6568	
Phs1&2 g/mi	0.1663	0.7994	0.1030	436.4647	0.0863	0.0882	23.2440
Phs2&3 gms	0.6356	0.2240	0.1186	2939.1265	0.6157	0.0783	
Phs2&3 g/mi	0.0854	0.0301	0.0159	394.9784	0.0827	0.0105	25.7409

CVS Bag report  
 MASS calculated by DF method

Phase 1 Bag 1	THC (ppmC)	CO (ppm)	NOX (ppm)	CO2 (%)	CH4 (ppmC)	NM-HC (wRF)	FE (mpg)	Test Info	Times Info
Range	30.0	50.0	30.0	1.00	30.0			Baro(inHg) = 28.94	Phase Start = 08:43:07
Sample	14.913	39.936	3.313	0.7405	5.572			Temp( F) = 72.8	Phase Finish = 08:51:32
Range	30.0	50.0	30.0	1.00	30.0			Tdew( F) = 53.7	Analysis End = 08:59:05
Ambient	3.118	0.859	0.119	0.0504	1.876			Rhum(%) = 51.3	Elapsed (sec) = 505.7
Net Conc.	11.969	39.125	3.201	0.6929	3.800	7.9902		Ahum(gr/lb) = 63.6	Bag Fill (sec)= 506.0
Grams/ph.	0.9009	5.9430	0.7585	1654.6719	0.3308	0.6014	21.9597	NOX Factor = 0.9493	Bag Anl (sec) = 453.1
Grams/mi	0.2503	1.6509	0.2107	459.6474	0.0919	0.1671		Vmix(ft3 20 C) = 4608.45	Drv Err (sec) = 0.0
								Dilu. Factor = 17.9641	Crank Time = 0.7
								Dist(mi) = 3.5999	

Phase 2 Bag 2	THC (ppmC)	CO (ppm)	NOX (ppm)	CO2 (%)	CH4 (ppmC)	NM-HC (wRF)	FE (mpg)	Test Info	Times Info
Range	10.0	50.0	30.0	1.00	10.0			Baro(inHg) = 28.94	Phase Start = 08:51:32
Sample	5.884	0.799	0.021	0.4385	4.442			Temp( F) = 72.7	Phase Finish = 09:06:02
Range	10.0	50.0	30.0	1.00	10.0			Tdew( F) = 52.9	Analysis End = 09:12:05
Ambient	3.379	0.778	-0.021	0.0503	2.433			Rhum(%) = 49.8	Elapsed (sec) = 869.6
Net Conc.	2.615	0.047	0.021	0.3898	2.088	0.4290		Ahum(gr/lb) = 61.6	Bag Fill (sec)= 870.0
Grams/ph.	0.3377	0.0123	0.0085	1596.7019	0.3119	0.0554	24.5036	NOX Factor = 0.9407	Bag Anl (sec) = 363.6
Grams/mi	0.0877	0.0032	0.0022	414.7851	0.0810	0.0144		Vmix(ft3 20 C) = 7905.63	Drv Err (sec) = 0.0
								Dilu. Factor = 30.5170	Stop Time = 0.7
								Dist(mi) = 3.8495	

Soak Start = 09:06:02  
 Soak Finish = 09:15:09  
 Elapsed (sec) = 546.8

Phase 3 Bag 3	THC (ppmC)	CO (ppm)	NOX (ppm)	CO2 (%)	CH4 (ppmC)	NM-HC (wRF)	FE (mpg)	Test Info	Times Info
Range	10.0	50.0	30.0	1.00	10.0			Baro(inHg) = 28.94	Phase Start = 09:15:09
Sample	7.060	2.156	0.475	0.6139	5.488			Temp( F) = 72.7	Phase Finish = 09:23:34
Range	10.0	50.0	30.0	1.00	10.0			Tdew( F) = 51.8	Analysis End = 09:29:27
Ambient	3.243	0.796	-0.058	0.0530	2.087			Rhum(%) = 48.1	Elapsed (sec) = 505.9
Net Conc.	3.966	1.397	0.475	0.5634	3.497	0.3050		Ahum(gr/lb) = 59.2	Bag Fill (sec)= 506.0
Grams/ph.	0.2979	0.2117	0.1101	1342.4246	0.3038	0.0229	27.1821	NOX Factor = 0.9311	Bag Anl (sec) = 353.1
Grams/mi	0.0829	0.0589	0.0307	373.7506	0.0846	0.0064		Vmix(ft3 20 C) = 4598.30	Drv Err (sec) = 0.0
								Dilu. Factor = 21.7949	Crank Time = 0.9
								Dist(mi) = 3.5918	

Test Summary	THC	CO	NOX	CO2	CH4	NM-HC (wRF)	FE (mpg)
Wtd Results							
Grams g/mi	0.1202	0.3609	0.0534	412.8175	0.0843	0.0439	24.5825
Grams g/mi	0.120	0.36	0.05	413	0.084	0.044	
Phs1&2 gms	1.2386	5.9554	0.7670	3251.3738	0.6428	0.6568	
Phs1&2 g/mi	0.1663	0.7994	0.1030	436.4647	0.0863	0.0882	23.2440
Phs2&3 gms	0.6356	0.2240	0.1186	2939.1265	0.6157	0.0783	
Phs2&3 g/mi	0.0854	0.0301	0.0159	394.9784	0.0827	0.0105	25.7409

Avg Test Info	
Baro(inHg)	= 28.94
Temp( F)	= 72.7
Tdew( F)	= 52.8
Rhum(%)	= 49.8
Ahum(gr/lb)	= 61.5
NOX Factor	= 0.9404

CVS Bag report  
MASS calculated by DF method

Grams To Total (Bags) (gm/mi)			
	Bag1	Bag2	Bag3
THC	0.0520	0.0454	0.0228
CO	0.3430	0.0017	0.0162
NOX	0.0438	0.0011	0.0084
NM-HC (wRF)	0.0347	0.0074	0.0018

Legend  
\* denotes Unstable Reading  
(wRF) denotes with Response Factor  
(woRF) denotes without Response Factor

DATA VALIDATION

PARAMETER DESCRIPTION	VALUE OF PARAMETER	LIMIT OF PARAMETER
Temperature	VALID	68 - 86 (degF)
Barometer	VALID	26.99 - 33.0001 (inHg)
Dew Point	VALID	-20 - 200 (degF)
Absolute Humidity	VALID	0 - 150 (gr/lb)
Crank Time	VALID	5 (sec)
Restart Attempts	VALID	1
Shutdown Time	VALID	5 (sec)
Pretest Soak Time	VALID	12 - 36 (hr)
Phase Length	VALID	2 (%)
Distance	VALID	2 (%)
Test Hold Conditions	VALID	60 (sec)
Leak Check	VALID	1
Bag Analysis Time	VALID	1200 (sec)
Bag Fill Time	VALID	5 (sec)
Ambient Bag Readings	VALID	THC -0.55 - 10 (ppm) CO -0.55 - 15 (ppm) NOX -0.55 - 2 (ppm) CO2 350 - 850 (ppm) CH4 -0.55 - 10 (ppm)
Sample Bag Readings	VALID	THC -0.55 (ppm) CO -0.55 (ppm) NOX -0.55 (ppm) CO2 350 (ppm) CH4 -0.55 (ppm)
Bag Read Sequence	VALID	Stabilization Time (T2) 10 (sec) Integration Time (T3) 3 (sec) Stability Time Out (T4) 30 (sec) Stability Chk Tolerance 2 (%)
Bag Zero/Span Sequence	VALID	Pre-Bag Z/S Offset 25 (%) Pre-Bag Zero Drift 1 (%) Post-Bag Z/S Drift 2 (%) Stabilization Time (T2) 10 (sec) Integration Time (T3) 3 (sec) Stability Time Out (T4) 30 (sec) Stability Chk Tolerance 2 (%)
Hot Soak Length	VALID	540 - 660 (sec)
Analyzer Overscale	VALID	10 (sec)
Venturi Inlet Temperature	VALID	32 - 300 (degF)

Bag Pair 1 Zero/Span Concentrations ( Offset Limit = 25.0% ReZero Limit = 1.0% )														
Samp	Gas	Range	Fullscale	Zero	Offset	Std Dev	Spec	Span	Offset	Std Dev	Rezero	Drift	Std Dev	Status
BAG	LCO	(1)	50.0ppm	0.448	0.90	0.05059	46.352	46.347	-0.01	0.02253	-0.010	-0.02	0.02071	PASS
BAG	CO2	(1)	1.00%	0.0042	0.42	0.02016	0.9303	0.9304	0.02	0.06042	-0.0002	-0.02	0.01478	PASS
BAG	THC	(2)	30.0ppm	0.114	0.38	0.01997	28.130	28.298	0.56	0.02166	-0.054	-0.18	0.01526	PASS
BAG	NOX	(2)	30.0ppm	0.054	0.18	0.30376	28.000	28.318	1.06	0.23129	0.062	0.21	0.21341	PASS
BAG	CH4	(2)	30.0ppm	-0.024	-0.08	0.11431	27.600	28.079	1.60	0.01935	0.022	0.07	0.07428	PASS

Bag Pair 1 Post Bag Check ( Drift Limit = 2.0% )														
Samp	Gas	Range	Fullscale	Zero	Drift	Std Dev	Spec	Span	Drift	Std Dev	Status			
BAG	LCO	(1)	50.0ppm	0.054	0.11	0.06234	46.352	46.493	0.28	0.03457	PASS			
BAG	CO2	(1)	1.00%	-0.0002	-0.02	0.00939	0.9303	0.9310	0.08	0.03817	PASS			
BAG	THC	(2)	30.0ppm	0.074	0.25	0.00684	28.130	27.800	-1.10	0.01036	PASS			
BAG	NOX	(2)	30.0ppm	0.063	0.21	0.41824	28.000	27.833	-0.56	0.32120	PASS			
BAG	CH4	(2)	30.0ppm	-0.076	-0.25	0.29230	27.600	27.029	-1.90	0.04225	PASS			

Bag Pair 2 Zero/Span Concentrations ( Offset Limit = 25.0% ReZero Limit = 1.0% )														
Samp	Gas	Range	Fullscale	Zero	Offset	Std Dev	Spec	Span	Offset	Std Dev	Rezero	Drift	Std Dev	Status
BAG	LCO	(1)	50.0ppm	0.413	0.83	0.05008	46.352	46.542	0.38	0.11482	0.107	0.21	0.05676	PASS
BAG	CO2	(1)	1.00%	0.0039	0.39	0.01809	0.9303	0.9300	-0.03	0.04740	-0.0001	-0.01	0.01831	PASS
BAG	THC	(1)	10.0ppm	0.060	0.60	0.03533	9.382	9.382	0.00	0.03116	0.011	0.11	0.02647	PASS
BAG	NOX	(2)	30.0ppm	0.151	0.50	0.11152	28.000	28.036	0.12	0.25859	-0.067	-0.22	0.28848	PASS
BAG	CH4	(1)	10.0ppm	0.037	0.37	0.52540	9.368	9.373	0.05	0.11103	-0.003	-0.03	0.13277	PASS

Bag Pair 2 Post Bag Check ( Drift Limit = 2.0% )														
Samp	Gas	Range	Fullscale	Zero	Drift	Std Dev	Spec	Span	Drift	Std Dev	Status			
BAG	LCO	(1)	50.0ppm	0.049	0.10	0.07584	46.352	46.326	-0.05	0.06108	PASS			
BAG	CO2	(1)	1.00%	0.0006	0.06	0.01683	0.9303	0.9326	0.24	0.04406	PASS			
BAG	THC	(1)	10.0ppm	0.037	0.37	0.05089	9.382	9.464	0.82	0.02680	PASS			
BAG	NOX	(2)	30.0ppm	-0.102	-0.34	0.20314	28.000	27.810	-0.63	0.22603	PASS			
BAG	CH4	(1)	10.0ppm	0.090	0.90	0.24513	9.368	9.251	-1.18	0.07877	PASS			

Bag Pair 3 Zero/Span Concentrations ( Offset Limit = 25.0% ReZero Limit = 1.0% )														
Samp	Gas	Range	Fullscale	Zero	Offset	Std Dev	Spec	Span	Offset	Std Dev	Rezero	Drift	Std Dev	Status
BAG	LCO	(1)	50.0ppm	0.362	0.72	0.06258	46.352	46.484	0.27	0.05600	0.022	0.04	0.05644	PASS
BAG	CO2	(1)	1.00%	0.0040	0.40	0.01802	0.9303	0.9297	-0.05	0.03935	0.0000	0.00	0.01277	PASS
BAG	THC	(1)	10.0ppm	0.094	0.94	0.01983	9.382	9.380	-0.03	0.14510	-0.040	-0.40	0.02221	PASS
BAG	NOX	(2)	30.0ppm	0.175	0.58	0.12123	28.000	28.108	0.36	0.10920	-0.053	-0.18	0.36119	PASS
BAG	CH4	(1)	10.0ppm	0.194	1.94	0.16642	9.368	9.370	0.02	0.08692	0.027	0.27	0.32738	PASS

Bag Pair 3 Post Bag Check ( Drift Limit = 2.0% )														
Samp	Gas	Range	Fullscale	Zero	Drift	Std Dev	Spec	Span	Drift	Std Dev	Status			
BAG	LCO	(1)	50.0ppm	0.126	0.25	0.06406	46.352	46.275	-0.15	0.03473	PASS			
BAG	CO2	(1)	1.00%	0.0004	0.04	0.01126	0.9303	0.9335	0.32	0.04483	PASS			
BAG	THC	(1)	10.0ppm	-0.002	-0.02	0.04180	9.382	9.392	0.09	0.01379	PASS			
BAG	NOX	(2)	30.0ppm	0.034	0.11	0.26816	28.000	27.903	-0.32	0.21177	PASS			
BAG	CH4	(1)	10.0ppm	-0.001	-0.01	0.10725	9.368	9.352	-0.16	0.08309	PASS			