## **⊘** Air Resources Board

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: The engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	ENGINE SIZES (L)	FUEL TYPE 1	STANDARDS & TEST PROCEDURE	INTENDED SERVICE CLASS	ECS & SPECIAL FEATURES 3	DIAGNOSTIC 6				
IEAR						2TWC, SFI, 2HO2S(2)	N/A				
2012	CBYTE06.0C10	6.0	CNG	Otto	HDO	21440, 311, 211023(2)					
PRIMARY ENGINE'S IDLE EMISSIONS CONTROL  ADDITIONAL IDLE EMISSIONS CONTROL											
	N/A	N/A									
ENGINE (	L)	ENGINE MODELS / CODES (rated power, in hp)									
6.0	· ·	GM 6.0L / 1 (323)									
* =not appli	icable: GVWR=gross vehicle v	weight rating; 13 CC	R xyz=Title 13, California Code of	Regulations, Sect	ion xyz; 40 CF	R 86.abc=Title 40, Code of Federal Regulation	s, Section 86.abc;				

L=liter; hp=horsepower; kw=kilowatt; hr=hour;

CNG/LNG=compressed/liquefied natural gas; LPG=liquefied petroleum gas; E85=85% ethanol fuel; MF=multi fuel a.k.a. BF=bi fuel; DF=dual fuel; FF=flexible fuel;

L/M/H HDD=light/medium/heavy heavy-duty diesel; UB=urban bus; HDO=heavy duty Otto;

ECS-emission control system; TWC/OC=three-way/oxidizing catalyst; NAC=NOx adsorption catalyst; SCR-U/SCR-N=selective catalytic reduction – urea / – ammonia; WU (prefix) =warm-up catalyst; DPF=diesel particulate filter, PTOX=periodic trap oxidizer; HO2S/O2S=heated/oxygen sensor; HAFS/AFS=heated/air-fuel-ratio sensor (a.k.a., universal or linear oxygen sensor); TBI=throttle body fuel injection; SFI/MFI=sequential/multi port fuel injection; DGI=direct gasoline injection; GCARB=gaseous carburetor; IDI/DDI=indirect/direct diesel injection; TC/SC=lurbo/ super charger; CAC=charge air cooler; EGR / EGR-C=exhaust gas recirculation / cooled EGR; PAIR/AIR=pulsed/secondary air injection; SPL=smoke puff limiter; ECM/PCM=engine/powertrain control module; EM=engine modification; 2 (prefix)=parallel; (2) (suffix)=in series; AMOX: ammonia oxidation catalyst.

ESS=engine shutdown system (per 13 CCR 1956.8(a)(6)(A)(1); 30g=30 g/hr NOx (per 13 CCR 1956.8(a)(6)(C); APS = internal combustion auxiliary power system; ALT=alternative method (per 13 CCR 1956.8(a)(6)(D); Exempt=exempted per 13 CCR 1956.8(a)(6)(B) or for CNG/LNG fuel systems; N/A=not applicable (e.g., Otto engines and vehicles);

EMD=engine manufacturer diagnostic system (13 CCR 1971); OBD(F)/(P)/(\$)=full/ partial/ partial with fine/ on-board diagnostic.

Following are: 1) the FTP exhaust emission standards, or family emission limit(s) as applicable, under 13 CCR 1956.8; 2) the EURO and NTE limits under the applicable California exhaust emission standards and test procedures for heavyduty diesel engines and vehicles (Test Procedures); and 3) the corresponding certification levels, for this engine family. "Diesel" CO. EURO and NTE certification compliance may have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for default operation permitted in 13 CCR 1956.8 are in parentheses.).

in	NMHC		NOx		NMHC+NOx		co		PM PM		нсно	
g/bhp-hr	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO
STD	0.14	*	0.20	7.7		٠	14.4	*	0.01	*	0.01	•
FEL	*	*	*			*	*	*	*	*	*	*
CERT	0.02	*	0.15	•	•	*	4.1	*	0.003	*	0.000	*
NTE	*				•		*		*		*	

g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; EURO=Euro III European Steady-State Cycle, including RMCSET=ram mode cycle supplemental emissions testing: NTE=Not-to-Exceed; STD=standard or emission test cap; FEL=family emission limit; CERT=certification level; NMHC/HC=non-methane/hydrocarbon; NOx=oxides of nitroget

BE IT FURTHER RESOLVED: Certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

BE IT FURTHER RESOLVED: For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels), and 13 CCR 2035 et seq. (emission control

BE IT FURTHER RESOLVED: That the listed engine models are conditionally certified on the condition that the manufacturer provides additional durability data to show compliance with useful-life emission standards. Failure to submit the required demonstration data by September 30, 2012, or failure of the submitted demonstration data to show compliance with the test procedures, shall be cause for the Executive Officer to rescind this conditional certification, in which case all engines covered under this conditional certification would be deemed uncertified and subject to civil penalties pursuant to Health and Safety Code Section 43154.

Engines certified under this Executive Order must conform to all applicable California emission regulations. The Bureau of Automotive Repair will be notified by copy of this Executive Order. This Executive Order hereby supersedes Executive Order A-330-0233 dated June 22, 2012.

Executed at El Monte, California on this day of August 2012.

> Annette Hebert, Chief Mebile Source Operations Division