Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2011	BVSXL12.8T4I	12.8	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Modules, Smoke Puff Limiter, Exhaust Gas Recirculation, Periodic Trap Oxidizer	Loaders, Articulated Hauler, Excavators, Other Industrial Equipment

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Tier 4 / ALT NOx	STD	0.19	2.0	N/A	3.5	0.02	N/A	N/A	N/A
		CERT	0.01	1.8	--	0.1	0.01	--	--	--

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 17th day of December 2010.

Annette Hebert, Chief
Mobile Source Operations Division

Attachment 1 of 1

Engine Model Summary Template

V-R-003-0058
12-7-10

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm^3/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm^3/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
BVSXL12.8T4I	13-6*) 13-20	D13H	441@1900	248 ± 4%	157 ± 4%	1741@1200	335 ± 4%	134 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	**)Ref to 13-6	D13H	432@1900	243 ± 4%	154 ± 4%	1706@1200	328 ± 4%	131 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	13-8, 13-22	D13H	288@1700	179 ± 4%	101 ± 4%	1165@1300	226 ± 4%	98 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	13-9, 13-25	D13H	355@1800	206 ± 4%	123 ± 4%	1328@1350	257 ± 4%	116 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	13-12, 13-23	D13H	261@1900	151 ± 4%	96 ± 4%	1380@1050	263 ± 4%	92 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	**)Ref to 13-12	D13H	261@1900	151 ± 4%	96 ± 4%	1058@1050	206 ± 4%	72 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	***)Ref to 13-12	D13H	261@1900	151 ± 4%	96 ± 4%	1121@1050	218 ± 4%	76 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	13-13, 13-24	D13H	286@1900	164 ± 4%	104 ± 4%	1497@1000	290 ± 4%	97 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	**)Ref to 13-13	D13H	286@1900	164 ± 4%	104 ± 4%	1184@1000	232 ± 4%	77 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	***)Ref to 13-13	D13H	286@1900	164 ± 4%	104 ± 4%	1195@1000	233 ± 4%	78 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	13-14, 13-26	D13H	331@1900	186 ± 4%	118 ± 4%	1646@1100	313 ± 4%	115 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	**)Ref to 13-14	D13H	331@1900	186 ± 4%	118 ± 4%	1305@1100	250 ± 4%	92 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	***)Ref to 13-14	D13H	331@1900	186 ± 4%	118 ± 4%	1335@1100	256 ± 4%	94 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	13-15, 13-27	D13H	382@1900	211 ± 4%	134 ± 4%	1646@1100	313 ± 4%	115 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	**)Ref to 13-15	D13H	354@1900	198 ± 4%	125 ± 4%	1646@1100	314 ± 4%	115 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	***)Ref to 13-15	D13H	354@1900	198 ± 4%	125 ± 4%	1350@1100	258 ± 4%	95 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF
BVSXL12.8T4I	****)Ref to 13-15	D13H	354@1900	198 ± 4%	125 ± 4%	1401@1100	268 ± 4%	98 ± 4%	EM,ECM,TC,CAC,EGR,SPL,DPF

*) Test engine

**) MultiTorque Curve Level 1

***)MultiTorque Curve Level 2

****)MultiTorque Curve Level 3