

**Emissions Reductions from Diesel Engine using Pre-Combustion Technology  
On Ford F-350 Utility Truck**

First Run

	With Pre-Combustion Technology - Maximo Diesel RV-3300			Baseline		
N rpm	800	1500	2500	800	1500	2500
O2 %	17.1	17	15.9	16.4	16.5	16
CO2 %	2.9	3	3.8	3.4	3.4	3.7
CO ppm	1244	1255	1829	1265	1361	1831
NO ppm	7	8	13	13	13	18
NO2 ppm	14	17	16	17	18	18
NOX ppm	22	24	29	30	31	36
CO ppm – Ref. O2 = 3%	5820	5635	6551	5032	5436	6655
NO ppm – Ref. O2 = 3%	34	35	46	51	53	67
NO2 ppm – Ref. O2 = 3%	67	75	56	69	70	64
NOX ppm – Ref. O2 = 3%	101	110	102	120	123	138
Excess Air %	468.61	394.37	295.76	338.88	340.44	301.62
Gas temperature F	141.2	189.8	254.5	183.5	198.6	251
Air temperature F	77.6	78.8	79.5	183.5	81.6	82.3
Difference temperature F	63.6	111	175.1	102.4	117.1	168.6
Eff. Net %	87.2	83.7	81	85.5	84.3	81.2
Loss net	12.8%	16.3	19	14.5	15.7	18.8

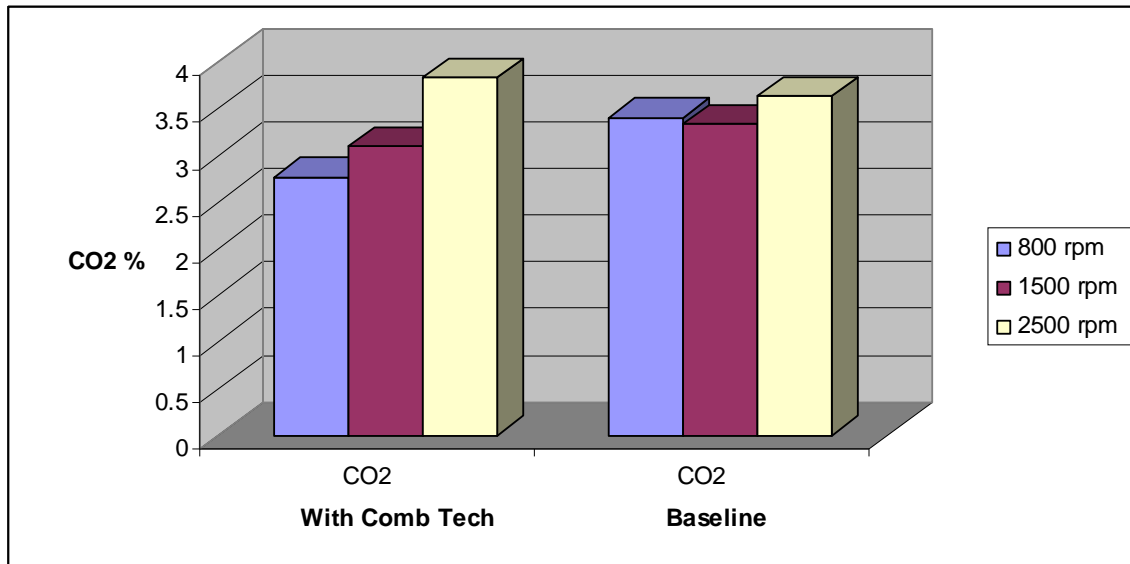
Second Run

	With Pre Combustion Technology - Reactor Maximo Diesel			Baseline		
N rpm	800	1500	2500	800	1500	2500
O2 %	17.2	16.7	15.9	16.4	16.5	16.1
CO2 %	2.8	3.2	3.8	3.4	3.3	3.6
CO ppm	1244	1255	1799	1257	1396	1814
NO ppm	7	11	13	13	13	18
NO2 ppm	15	16	14	14	18	16
NOX ppm	23	27	27	26	31	34
CO ppm – Ref. O2 = 3%	6017	5311	6337	4996	5683	6696
NO ppm – Ref. O2 = 3%	35	47	46	51	55	68
NO2 ppm – Ref. O2 = 3%	75	66	49	54	71	57
NOX ppm – Ref. O2 = 3%	110	113	95	105	126	125

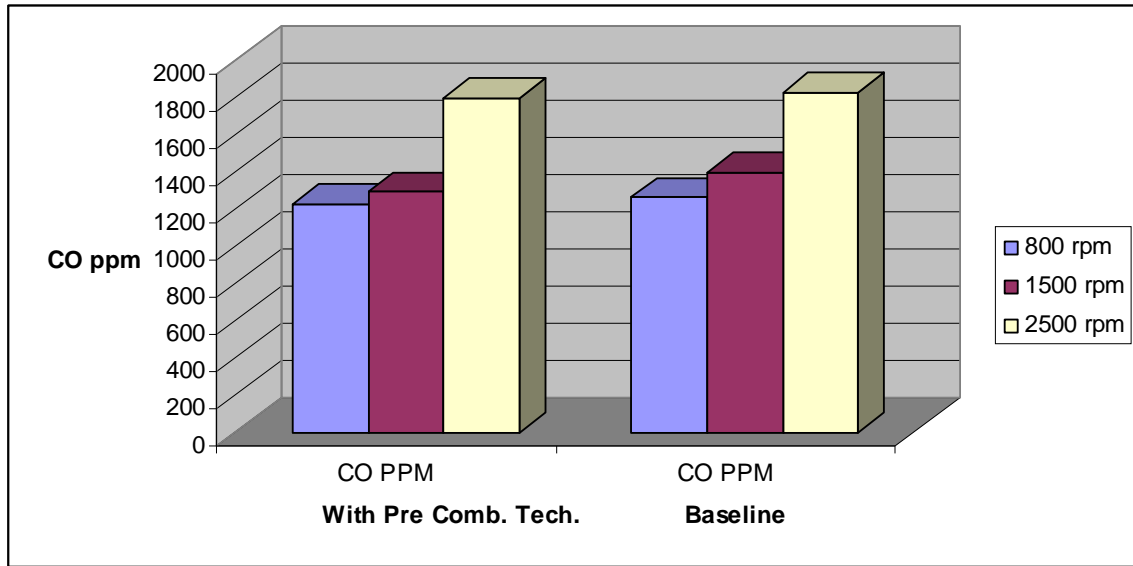
Third run

	With Pre Combustion Technology - Reactor Maximo Diesel			Baseline		
N rpm	800	1500	2500	800	1500	2500
O2 %	17.5	16.8	15.8	16.4	16.6	16.5
CO2 %	2.6	3.1	3.9	3.4	3.3	3.4
CO ppm	1182	1357	1751	1256	1428	1819
NO ppm	6	9	14	13	15	19
NO2 ppm	12	15	15	13	16	17
NOX ppm	18	24	29	26	31	36
CO ppm – Ref. O2 = 3%	6116	5931	6116	4992	5839	7261
NO ppm – Ref. O2 = 3%	31	41	49	53	64	74
NO2 ppm – Ref. O2 = 3%	62	64	53	50	65	70
NOX ppm – Ref. O2 = 3%	93	105	102	102	129	144

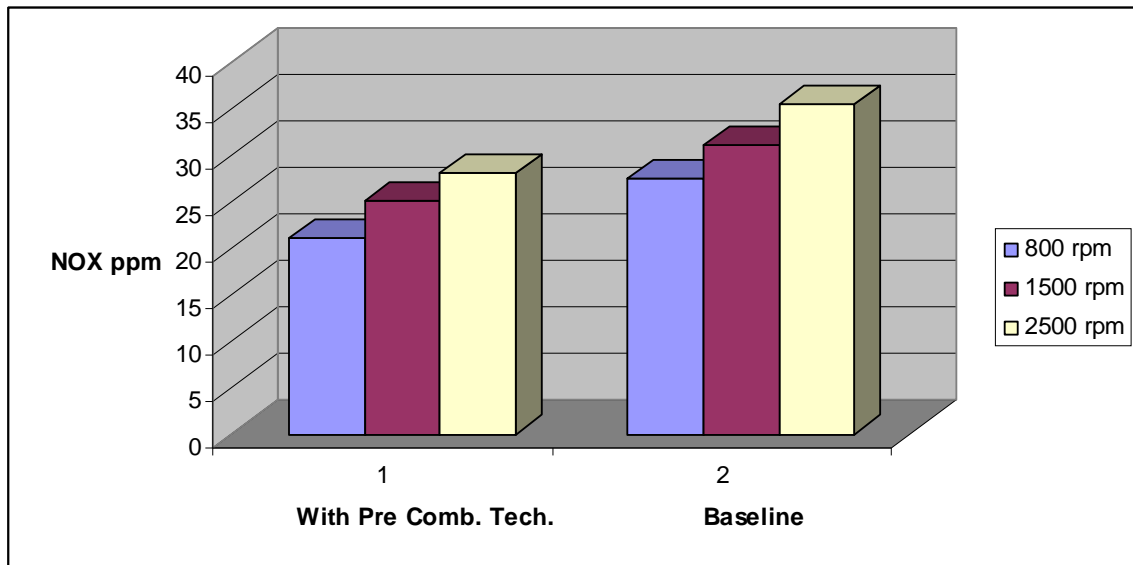
### 1. CO2 Emissions



## 2. CO Emissions

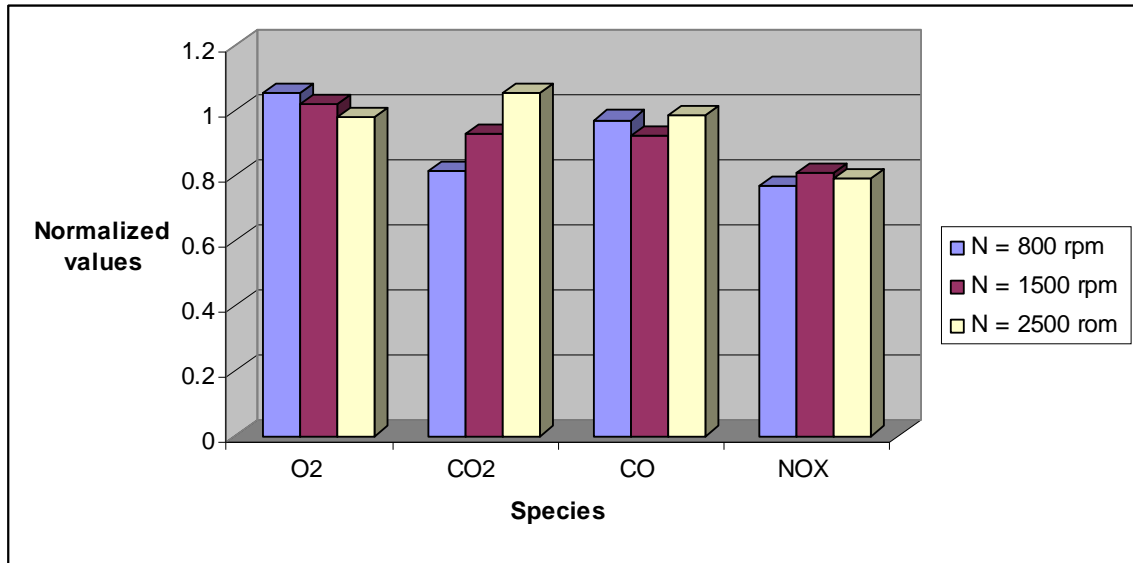


## 3. NOX Emissions



#### 4. Normalized value

The results of engine emissions with the pre-combustion technology are normalized by the baseline data (without pre combustion technology)



Tests completed by Dr. Ghenai at Florida Atlantic University on October 25, 2010 with portable 5-gas analyzer on 1993 Ford F-350 utility truck.