



**700 HP – NATURAL GAS-FIRED CLEAVER BROOKS BOILER
 EMISSION COMPLIANCE TEST RESULTS
 CATASTAKTM SELECTIVE CATALYTIC REDUCTION SYSTEM**

<u>Parameter</u>	<u>Run 1</u>	<u>Run 2</u>	<u>Run 3</u>	<u>Average</u>
NOx Emissions				
ppm volume dry	<0.5	<0.5	<0.5	<0.5
ppmvd @ 3% O ₂	<0.5	<0.5	<0.5	<0.5
NH₃ Emissions				
ppm volume dry	0.6	0.1	0.1	0.3
ppmvd @ 3% O ₂	0.6	0.1	0.1	0.3

* The results for NOx are less than the detection limit of the method used during the emissions compliance testes.

As a result, the NOx results are reported at less than the minimum detection limit of the method.

Minimum Detection Limit = 2.0% of span

Span = 25 ppm

**700 HP – NATURAL GAS-FIRED CLEAVER BROOKS BOILER
START-UP DATA SHEET
CATASTAK™ SELECTIVE CATALYTIC REDUCTION SYSTEM**

TEST	#	1	2	3	4	5	6	7	8	9	10	11
FIRING RATE	%	LO	10	20	30	40	50	60	70	80	90	100
GAS FLOW	%	14.2	21.6	29.1	36.6	44.1	51.6	59.0	66.5	74.0	81.5	89.8
GAS FLOW	kscfh	4.6	7.0	9.4	11.8	14.2	16.7	19.1	21.5	23.9	26.3	29.0
SCR GAS INLET TEMP.	°F	330	335	349	352	354	358	361	364	366	373	382
AMBIENT TEMPERATURE	°F	54.0	54.0	54.0	54.0	54.0	54.0	55.0	55.0	56.0	58.0	58.0
O2	%	7.3	6.3	6.6	6.2	5.9	5.7	4.7	3.8	3.6	3.1	3.0
CO	ppm	0	0	0	0	1	1	0	0	2	0	0
NO SCR INLET	ppm	45	56	56	57	58	59	60	59	62	61	61
NO (CORRECTED TO 3%)	ppm	59.2	68.7	70.1	69.4	69.2	69.5	66.3	61.8	64.2	61.3	61.0
NO SCR OUTLET	ppm	1	1	1	1	1	1	1	1	1	1	2
NO (CORRECTED TO 3%)	ppm	1.3	1.2	1.3	1.2	1.2	1.2	1.1	1.0	1.0	1.0	2.0
AMMONIA SETPOINT	%	10.0	13.5	17.0	20.5	24.0	27.5	31.0	34.5	38.0	41.5	45.0
AMMONIA FLOW	lbs/hr	0.200	0.270	0.340	0.410	0.480	0.550	0.620	0.690	0.760	0.830	0.900
AMMONIA SUPPLY PRESS.	psig	75	75	72	70	70	70	70	70	68	68	68
AMMONIA REGULATOR PRESS.	psig	30	30	34	30	30	36	32	30	30	29	29
AMMONIA VALVE POSITION	%	2.1	4.9	6.6	10.2	16.4	18.1	25	33.1	37.8	39.7	42.5
AMMONIA DILUTION AIR PRESS.	psig	13	13	13	13	13	13	13	13.2	13.3	13.3	13.3
AMMONIA SLIP	ppm		<.25				<.25					<.25
SCR DP PRESSURE	inwc		0.1				0.3					1.2

NOTES:

LOW INSTR. AIR PRESS. SW	60	psig
LOW AMMONIA PRESS. SW	50	psig
HIGH AMMONIA PRESS. SW	235	psig
LOW DILUTION AIR FLOW SW	10	inwc
LOW STACK TEMPERATURE	310	°F
HIGH STACK TEMPERATURE	700	°F