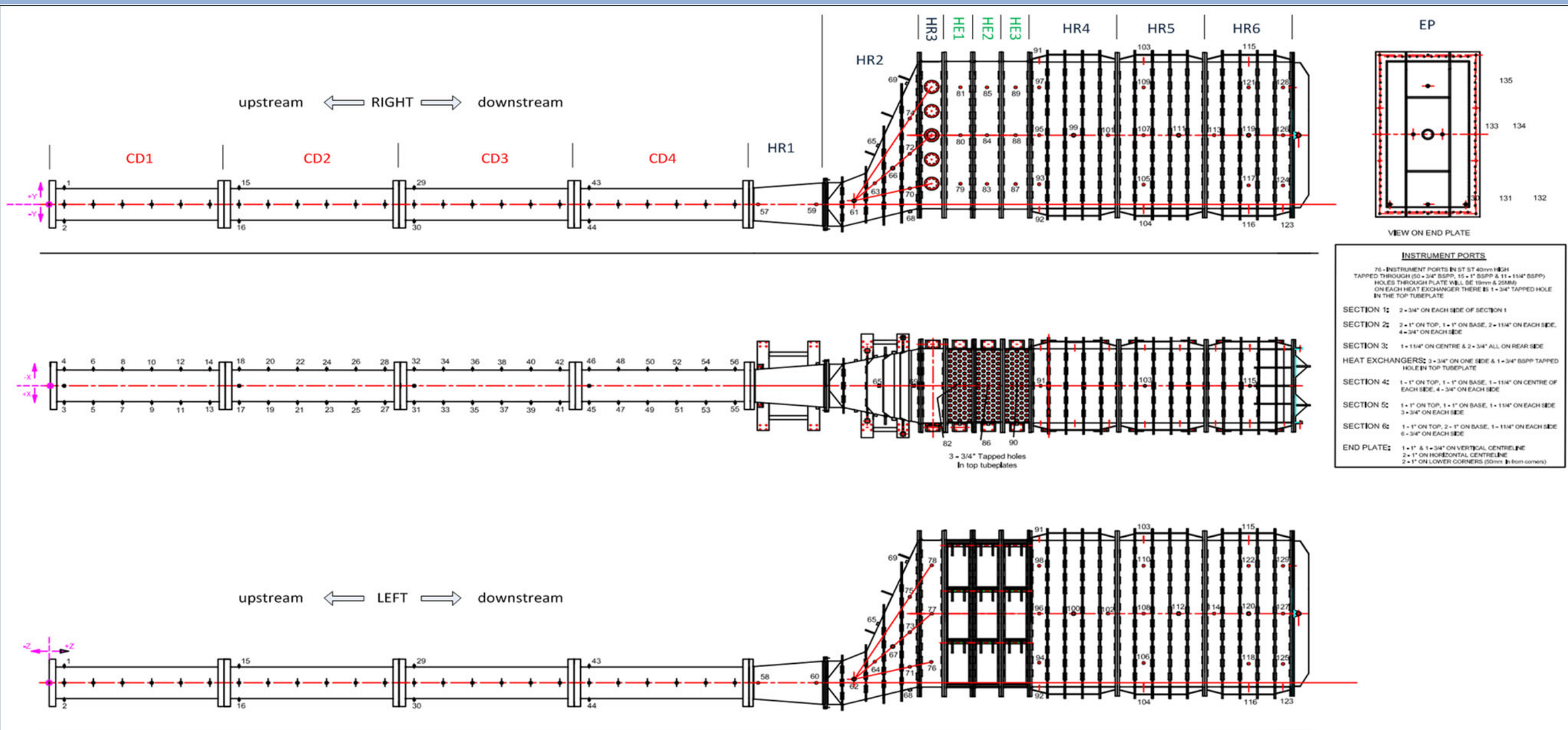


Date	17 December 2018	<b>General Comments: (weather, rig configuration)</b>  Weather: Sunny and autumnal. Cold and crisp, light wind. Early mist cleared ahead of test.  Rig configuration: 4 x 3m circular duct; expansion section and HRSG attached. End Plate attached. Igniter 258mm from beginning of 2nd circular duct section  Engine Speed: 40%; 11,800 rpm  Test on 60% H2 40% H2 at an intended EQR of 0.65  The test gave a strong combustion event and most sensors provided an identifiable response.  Highest overpressure of 990 mbar seen near end plate on KU10
Time	14:35:40	
Test Number	HRSG Test 26	
Mixture Composition	60/40 H2/CH4	
Ambient Temperature	8 °C	
Ambient Pressure	965	
Wind Speed	2.2 m/s	
Wind direction	SW	
Relative Humidity	92.00%	
Mass Flow	9.9890 kg/s	
Equivalence Ratio	0.65	

		Ionisation Probes		Ionisation Rakes		Optical Probes	
Max overpressure		Max. gas temperature		Max. flame speed		Max. flame speed	
990 mbar		1335 °C		291 m/s		218 m/s	
		Initial gas temperature				Max. flame speed	
		458 °C				357 m/s	
Location of Max. Overpressure		Location of Max. Temperature		Location of Max. Flame Speed		Location of Max. Flame Speed	
sensor	KU10	sensor	TC2	sensor	IP16	sensor	RA4
label	HR6-L5L	label	CD2-R3	label	HR4-L5M	label	HR4-R3L
distance	21165 mm	distance	4258 mm	distance	18165 mm	distance	17575 mm
						istance	11758 mm



Naming Convention		
Section Identifier i.e. HE, HR, CD or EP	HR 1 - R 1 U	Vertical position in section (sides only) i.e. U, M or L. Absence of letter denotes centreline
Section Number (1-6) Numbered from downstream to upstream	Side i.e. R, L, T or B	Longitudinal position in section (numbered from 1)

Key			
CD	Circular duct	U	Upper
HR	HRSG	M	Middle
HE	Heat Exchanger	L	Lower
EP	End Plate	R	Right Side (when viewed downstream from engine)
		L	Left Side
		T	Top
		B	Bottom

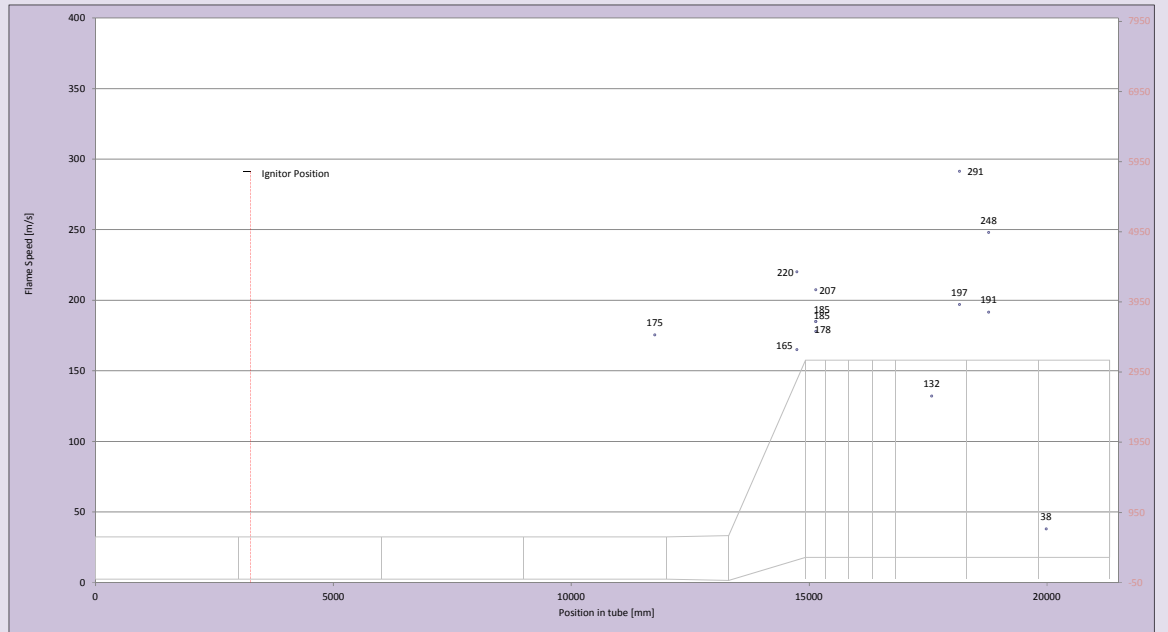
There are 13 sections on the rig

4 circular duct sections (CD1 to CD4)  
 6 HRSG sections (HR1 to HR6)  
 3 heat exchanger sections (HE1 to HE3)  
 located between HR3 and HR4

Location of igniter  mm      Time of ignition  seconds

IP Number	Location label	Data Name	Position in tube (mm)	Flame arrival time (s)	Avg Flame speed from last sensor (m/s)
IP0	CD4-L6	Ionisation probe 0	11758	21.36889	175
IP1	HR2-L5L	Ionisation probe 1	14745	21.38246	220
IP2	HR2-L5M	Ionisation probe 2	14745	21.38700	165
IP3	HR2-L5U	Ionisation probe 3	14745	21.40113	
IP4	HR3-R1L	Ionisation probe 4	15140	21.38472	185
IP5	HR3-R1LM	Ionisation probe 5	15140	21.38469	185
IP6	HR3-R1M	Ionisation probe 6	15140	21.38727	178
IP7	HR3-R1U	Ionisation probe 7	15140	21.37776	207
IP8	HR3-L1U	Ionisation probe 8	15140	21.39653	
IP9	HE2-R1M	Ionisation probe 9	16090	21.38896	
IP10	HR4-L1L	Ionisation probe 10	16985	NW	
IP11	HR4-L1M	Ionisation probe 11	16985	21.38879	
IP12	HR4-L1U	Ionisation probe 12	16985	NW	
IP13	HR4-R1U	Ionisation probe 13	16985	NW	
IP14	HR4-R3U	Ionisation probe 14	17575	21.39619	132
IP15	HR4-L5L	Ionisation probe 15	18165	NW	
IP16	HR4-L5M	Ionisation probe 16	18165	21.39284	291
IP17	HR4-L5U	Ionisation probe 17	18165	21.40205	
IP18	HR4-R5M	Ionisation probe 18	18165	21.39950	197
IP19	HR5-L2L	Ionisation probe 19	18775	21.41504	
IP20	HR5-L2M	Ionisation probe 20	18775	21.39530	248
IP21	HR5-L2U	Ionisation probe 21	18775	21.37409	
IP22	HR5-R2U	Ionisation probe 22	18775	21.40246	191
IP23	HR6-L1M	Ionisation probe 23	19985	21.42721	38

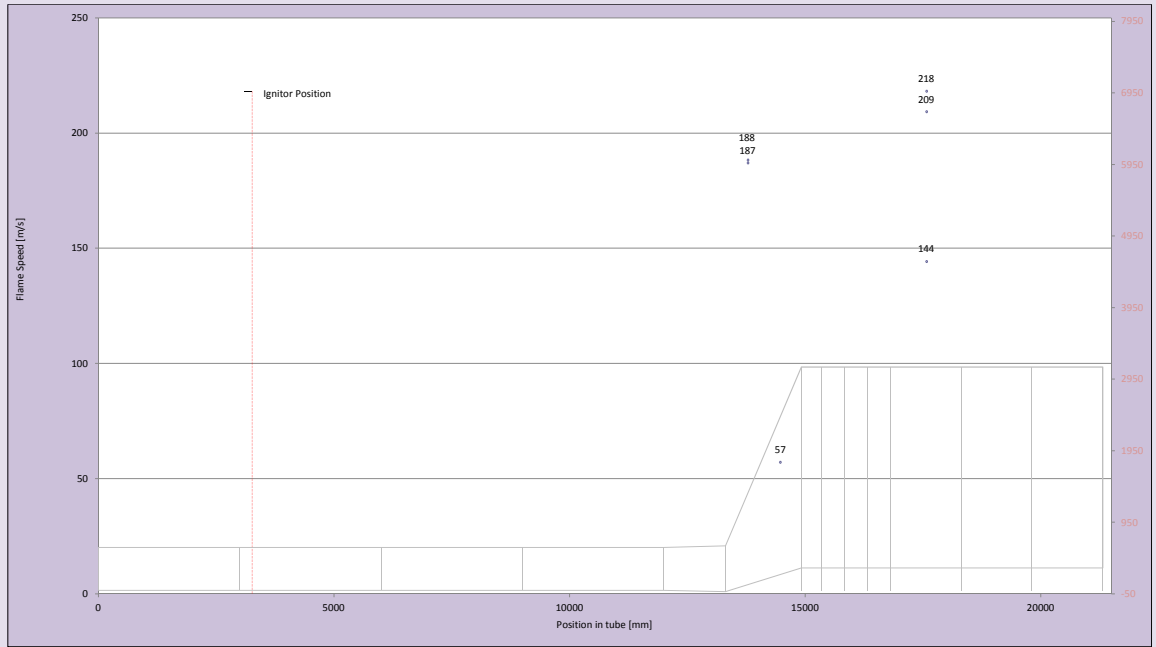
KEY: ND - not detected - sensor working but flame too weak to be picked up  
 NW - not working - sensor not working



Location of igniter 3258 mm Time of ignition 21.32044 seconds

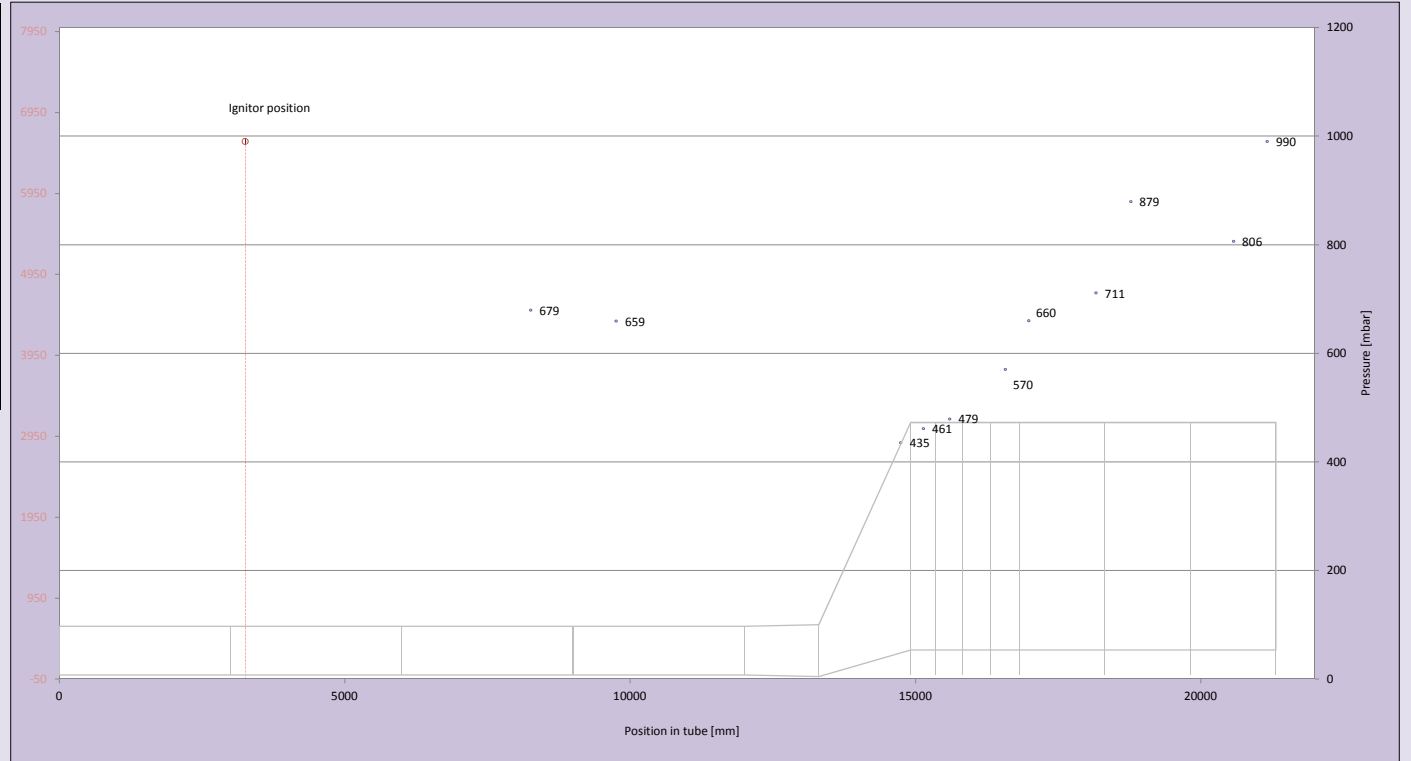
Rake Number	IP Number	Location label	Data Name	Position in tube (mm)	Flame arrival time (s)	Avg Flame speed from last sensor (m/s)
RA1	IP24	HR2-R2M	IP24	13785	21.3767	187
RA1	IP25	HR2-R2M	IP25	13785	21.3763	188
RA1	IP26	HR2-R2M	IP26	13785	NW	
RA2	IP27	HR2-R4M	IP27	14475	21.3888	57
RA2	IP28	HR2-R4M	IP28	14475	NW	
RA2	IP29	HR2-R4M	IP29	14475	NW	
RA3	IP30	HR4-R3M	IP30	17575	NW	
RA3	IP31	HR4-R3M	IP31	17575	NW	
RA3	IP32	HR4-R3M	IP32	17575	NW	
RA4	IP33	HR4-R3L	IP33	17575	21.4030	144
RA4	IP34	HR4-R3L	IP34	17575	21.3945	209
RA4	IP35	HR4-R3L	IP35	17575	21.3941	218

KEY: ND - not detected - sensor working but flame too weak to be picked up  
 NW - not working - sensor not working



Location of igniter 3258 mm

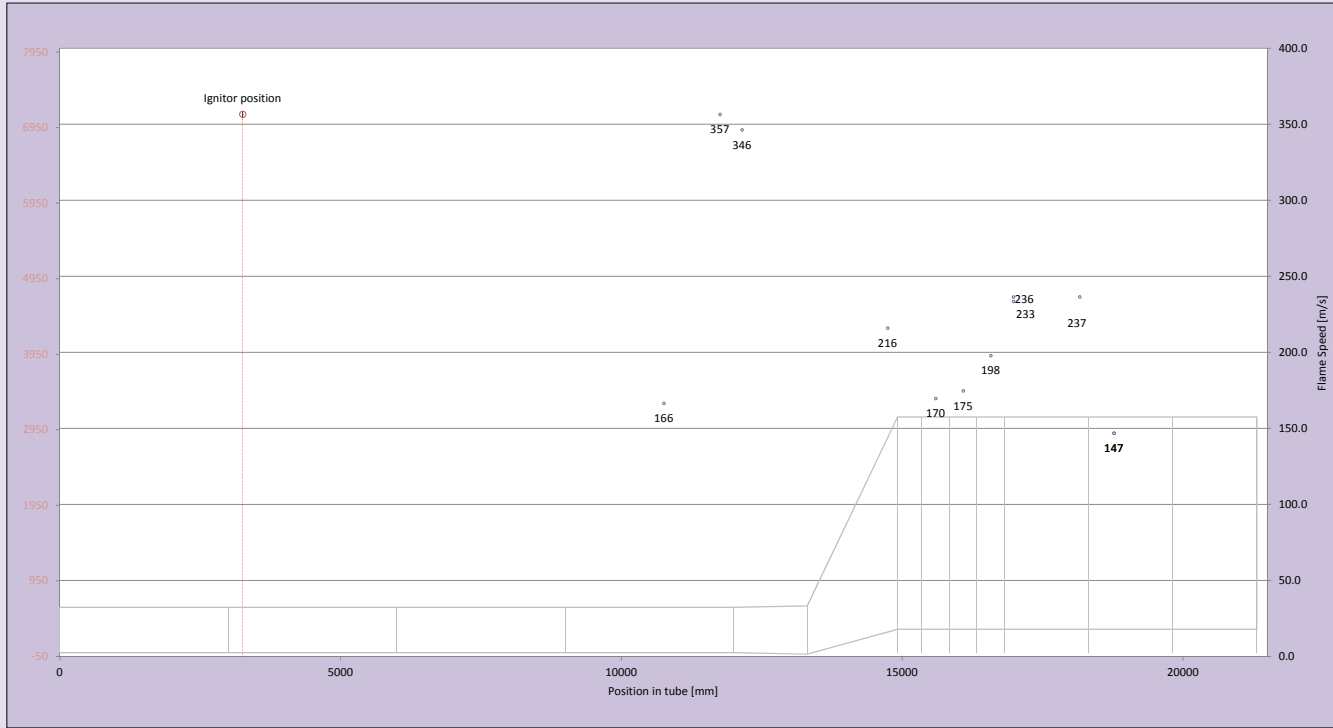
Transducer number	Location	Position in tube [mm]	$\Delta P_{max}$ [mbar]	Time $\Delta P_{max}$ [sec]
KU0	CD3-R5	8258	679	21.4190
KU1	CD4-R2	9758	659	21.4178
KU2	HR2-T5	14745	435	21.3961
KU3	HR3-L1L	15140	461	21.4118
KU4	HE1-R1U	15600	479	21.3947
KU5	HE3-R1L	16580	570	21.4062
KU6	HR4-R1L	16985	660	21.3921
KU7	HR4-R5U	18165	711	21.4062
KU8	HR5-R2L	18775	879	21.4033
KU9	HR6-R3L	20575	806	21.4015
KU10	HR6-L5L	21165	990	21.4022



Location of igniter  mm      Time of ignition  seconds

OP Number	Location label	Position in tube (mm)	Flame arrival time (s)	Average flame speed (m/s)
OP0	CD4-L4	10758	21.3655	166.4
OP1	CD4-R6	11758	21.3683	356.5
OP2	HR1-R1	12152	21.3695	346.3
OP3	HR2-R5M	14745	21.3840	215.9
OP4	HE1-T1	15600	21.3940	169.6
OP5	HE2-T1	16090	21.3960	174.7
OP6	HE3-T1	16580	21.3949	197.9
OP7	HR4-T1	16985	21.3918	236.4
OP8	HR4-R1M	16985	21.3922	233.4
OP9	HR4-R5L	18165	21.3968	236.5
OP10	HR5-T2	18775	21.4201	146.8
OP11	HR5-R2M	18775	21.4201	146.8

KEY: ND - not detected - sensor working but flame too weak to be picked up  
 NW - not working - sensor not working

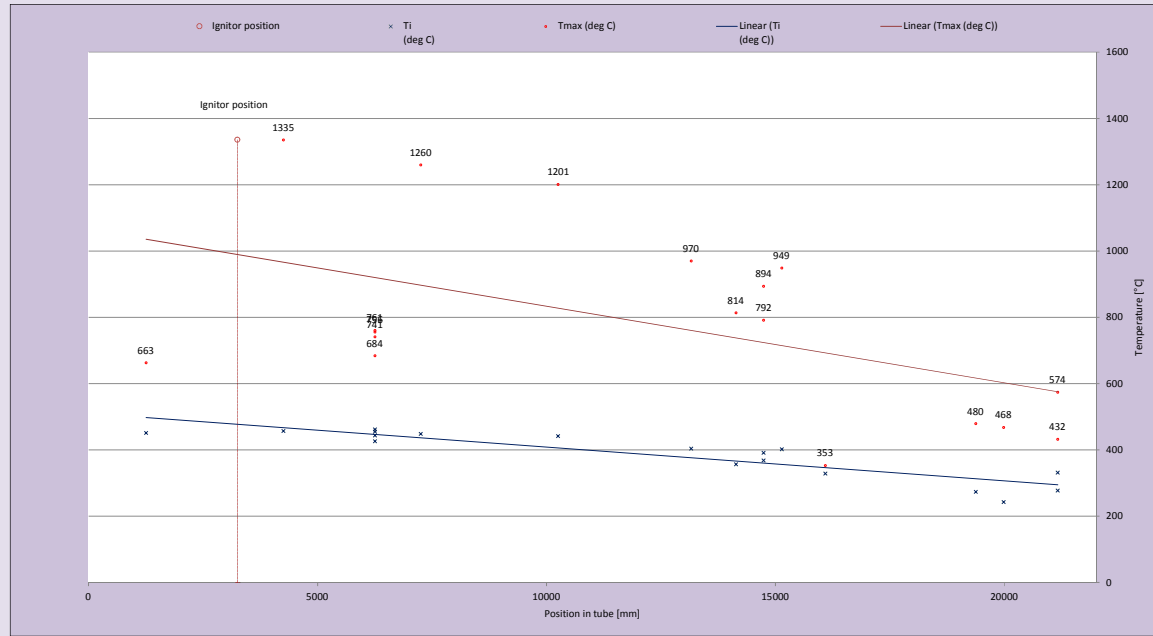


Location of igniter  mm Time of ignition  seconds

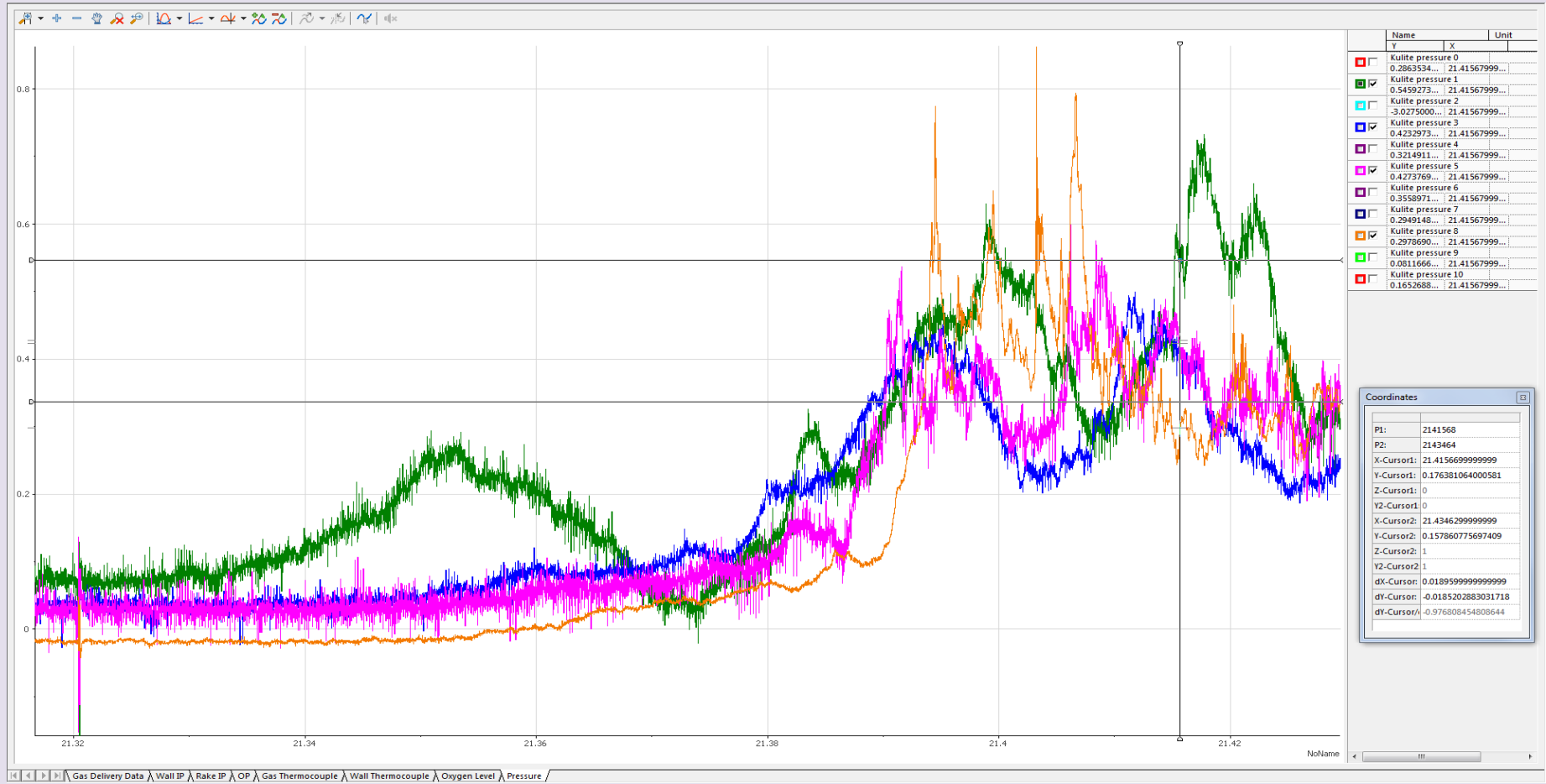
Thermocouple number	Location	Position in tube (mm)	Flame arrival time (s)	Average flame speed (m/s)	T <sub>max</sub> (deg C)	T <sub>i</sub> (deg C)
TC0	CD1-R3	1258	21.453		663	452
TC2	CD2-R3	4258	21.316		1335	458
TC4	CD3-R3	7258	21.321	600	1260	449
TC6	CD4-R3	10258	21.335	498	1201	442
TC8	HR1-R2	13160	21.349	353	970	404
TC12	CD3-T1	6258	21.369		741	444
TC13	CD3-L1	6258	21.400		756	456
TC14	CD3-B1	6258	21.381		684	427
TC15	CD3-R1	6258	21.430		761	462
TC16	HR2-R3M	14140	21.350	374	814	357
TC17	HR2-R5L	14745	21.353	358	894	392
TC18	HR2-R5U	14745	21.366	255	792	369
TC19	HR3-L1M	15140	21.365	270	949	402
TC20	HE2-R1L	16090				
TC21	HE2-R1U	16090	21.363	305	353	329
TC22	HR5-R4M	19375	21.373	310	480	274
TC23	HR6-R1M	19985	21.374	315	468	243
TC24	HR6-R5L	21165	21.556		432	278
TC25	HR6-R5U	21165	21.397		574	332

surface thermocouples [not plotted]

TC1	CD1-T2	1508	333	325
TC3	CD2-T2	4508	319	267
TC5	CD3-T2	7508	285	275
TC7	CD4-T2	10508	207	198

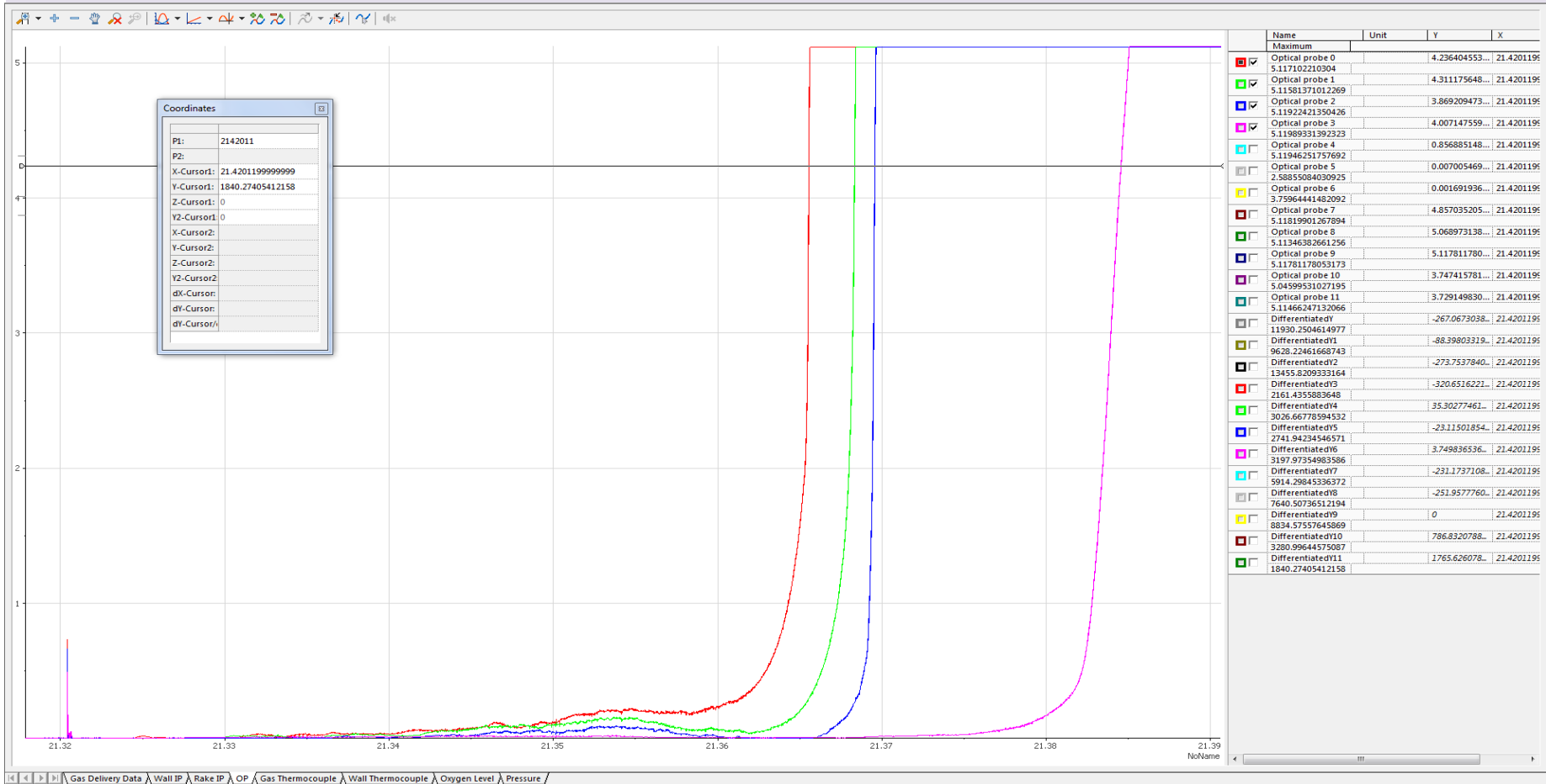


# Pressure





# Optical Probes



Coordinates

P1: 2142011

P2:

X-Cursor1: 21.4201199999999

Y-Cursor1: 1840.27405412158

Z-Cursor1: 0

Y2-Cursor1: 0

X-Cursor2:

Y-Cursor2:

Z-Cursor2:

Y2-Cursor2:

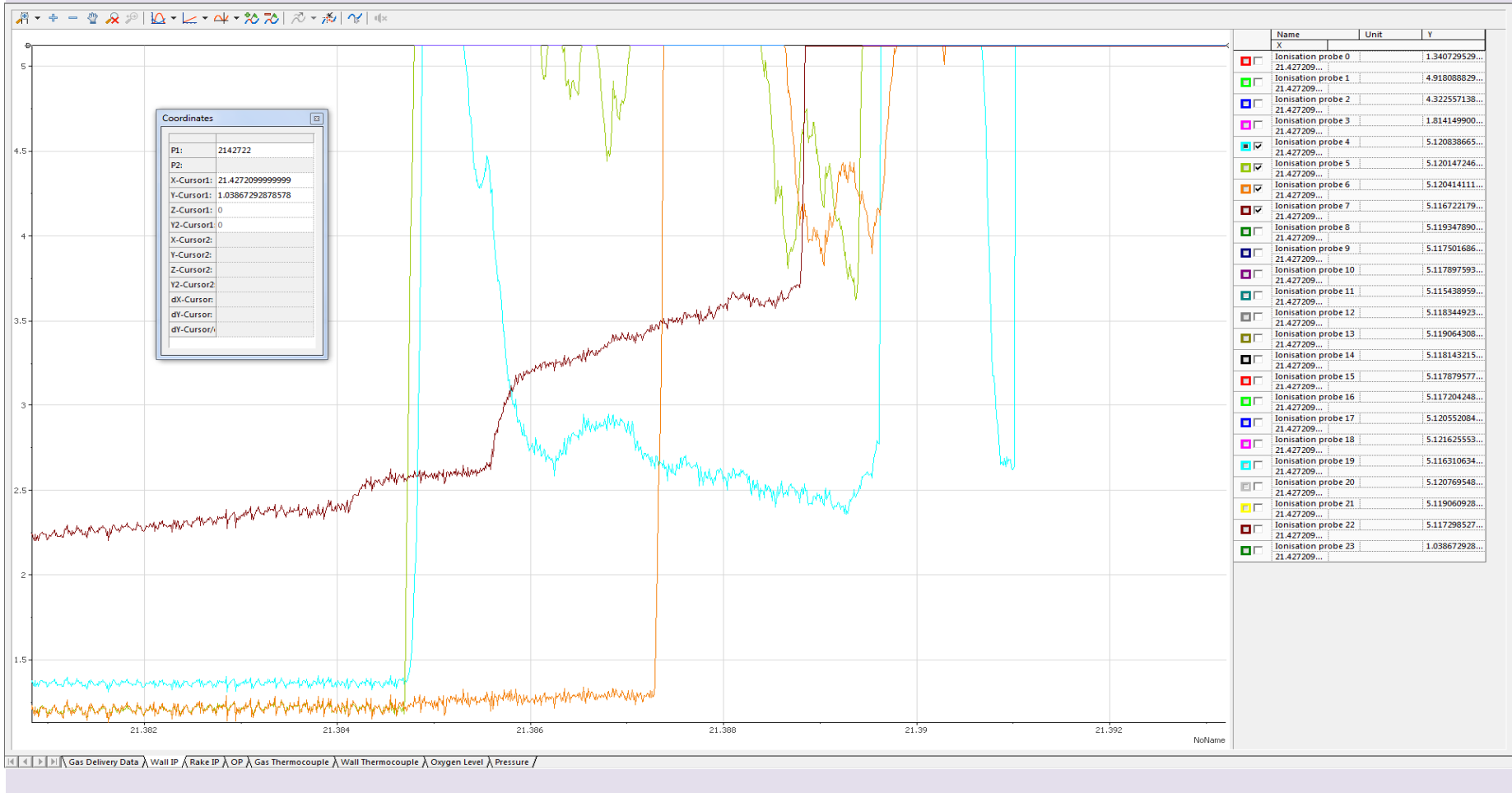
dX-Cursor:

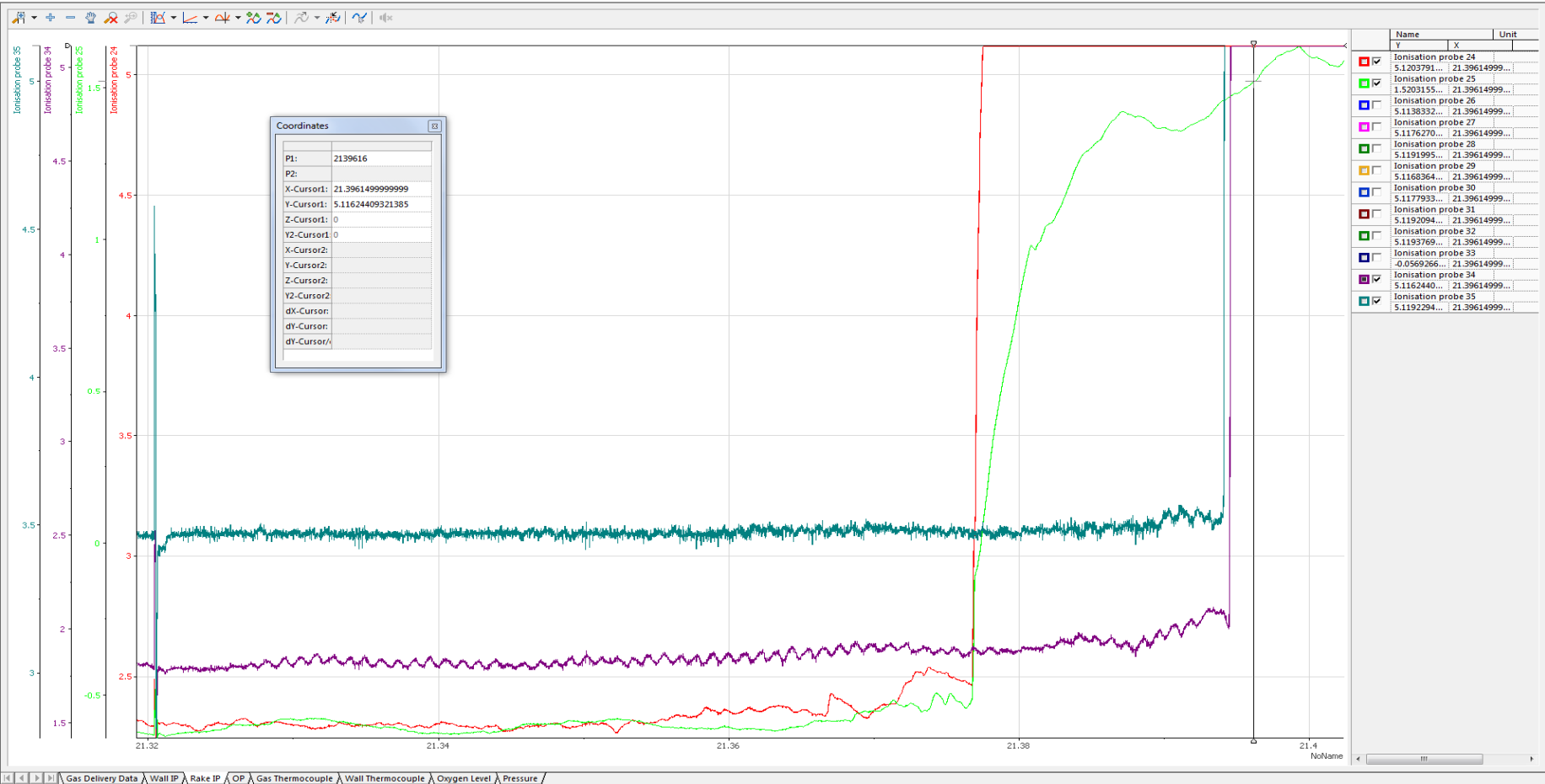
dY-Cursor:

dZ-Cursor:

Gas Delivery Data | Wall IP | Rake IP | OP | Gas Thermocouple | Wall Thermocouple | Oxygen Level | Pressure /

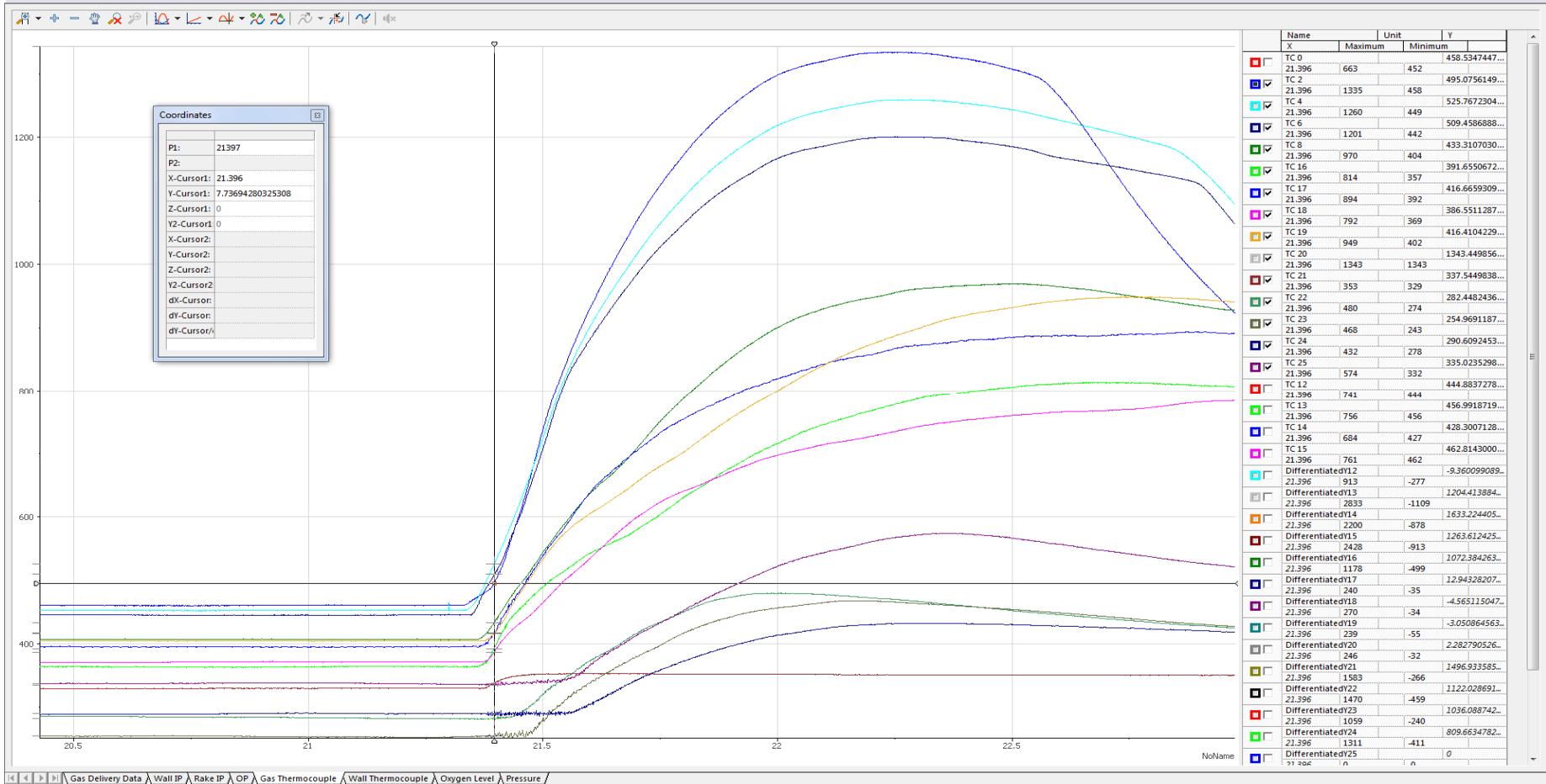
# Ionisation Probes





Name	Y	X	Unit
<input checked="" type="checkbox"/> Ionisation probe 24	5.1203791...	21.39614999...	
<input checked="" type="checkbox"/> Ionisation probe 25	1.5203155...	21.39614999...	
<input type="checkbox"/> Ionisation probe 26	5.1138332...	21.39614999...	
<input type="checkbox"/> Ionisation probe 27	5.1176270...	21.39614999...	
<input type="checkbox"/> Ionisation probe 28	5.1191995...	21.39614999...	
<input type="checkbox"/> Ionisation probe 29	5.1168364...	21.39614999...	
<input type="checkbox"/> Ionisation probe 30	5.1177933...	21.39614999...	
<input checked="" type="checkbox"/> Ionisation probe 31	5.1192094...	21.39614999...	
<input type="checkbox"/> Ionisation probe 32	5.1193769...	21.39614999...	
<input type="checkbox"/> Ionisation probe 33	-0.0569266...	21.39614999...	
<input checked="" type="checkbox"/> Ionisation probe 34	5.1162440...	21.39614999...	
<input checked="" type="checkbox"/> Ionisation probe 35	5.1192294...	21.39614999...	

# Temperature



Gas Delivery Data | Wall IP | Rake IP | OP | Gas Thermocouple | Wall Thermocouple | Oxygen Level | Pressure

Sensor	OLD DESIGNATION	NEW DESIGNATION	Section	Section Number	Side	Horizontal Location	Vertical Location	PORT REF	SIZE	"X"	"Y"	"Z"
-		CD1-T1	CD	1	T	1		1	1" BSPP	0	298	258
TC1	TS1-1	CD1-T2	CD	1	T	2		NA	SURFACE	0	298	1508
-		CD1-B1	CD	1	B	1		2	1" BSPP	0	-298	258
-	NS1-1	CD1-R1	CD	1	R	1		3	3/4" BSPP	298	0	258
-	FS1-1	CD1-L1	CD	1	L	1		4	3/4" BSPP	-298	0	258
-	NS1-2	CD1-R2	CD	1	R	2		5	3/4" BSPP	298	0	758
-	FS1-2	CD1-L2	CD	1	L	2		6	3/4" BSPP	-298	0	758
TC0	NS1-3	CD1-R3	CD	1	R	3		7	3/4" BSPP	298	0	1258
-	FS1-3	CD1-L3	CD	1	L	3		8	3/4" BSPP	-298	0	1258
-	NS1-4	CD1-R4	CD	1	R	4		9	3/4" BSPP	298	0	1758
-	FS1-4	CD1-L4	CD	1	L	4		10	3/4" BSPP	-298	0	1758
-	NS1-5	CD1-R5	CD	1	R	5		11	3/4" BSPP	298	0	2258
-	FS1-5	CD1-L5	CD	1	L	5		12	3/4" BSPP	-298	0	2258
-	NS1-6	CD1-R6	CD	1	R	6		13	3/4" BSPP	298	0	2758
-	FS1-6	CD1-L6	CD	1	L	6		14	3/4" BSPP	-298	0	2758
IGN		CD2-T1	CD	2	T	1		15	1" BSPP	0	298	3258
TC3	TS2-1	CD2-T2	CD	2	T	2		NA	SURFACE	0	298	4508
-		CD2-B1	CD	2	B	1		16	1" BSPP	0	-298	2358
-	NS2-1	CD2-R1	CD	2	R	1		17	3/4" BSPP	298	0	3258
-	FS2-1	CD2-L1	CD	2	L	1		18	3/4" BSPP	-298	0	3258
-	NS2-2	CD2-R2	CD	2	R	2		19	3/4" BSPP	298	0	3758
-	FS2-2	CD2-L2	CD	2	L	2		20	3/4" BSPP	-298	0	3758
TC2	NS2-3	CD2-R3	CD	2	R	3		21	3/4" BSPP	298	0	4258
-	FS2-3	CD2-L3	CD	2	L	3		22	3/4" BSPP	-298	0	4258
-	NS2-4	CD2-R4	CD	2	R	4		23	3/4" BSPP	298	0	4758
-	FS2-4	CD2-L4	CD	2	L	4		24	3/4" BSPP	-298	0	4758
-	NS2-5	CD2-R5	CD	2	R	5		25	3/4" BSPP	298	0	5258
-	FS2-5	CD2-L5	CD	2	L	5		26	3/4" BSPP	-298	0	5258
-	NS2-6	CD2-R6	CD	2	R	6		27	3/4" BSPP	298	0	5758
-	FS2-6	CD2-L6	CD	3	L	6		28	3/4" BSPP	-298	0	5758
TC12		CD3-T1	CD	3	T	1		29	1" BSPP	0	298	6258
TC5	TS1-1	CD3-T2	CD	3	T	2		NA	SURFACE	0	298	7508
TC14		CD3-B1	CD	3	B	1		30	1" BSPP	0	-298	6258
TC15	NS3-1	CD3-R1	CD	3	R	1		31	3/4" BSPP	298	0	6258
TC13	FS3-1	CD3-L1	CD	3	L	1		32	3/4" BSPP	-298	0	6258
-	NS3-2	CD3-R2	CD	3	R	2		33	3/4" BSPP	298	0	6758
-	FS3-2	CD3-L2	CD	3	L	2		34	3/4" BSPP	-298	0	6758
TC4	NS3-3	CD3-R3	CD	3	R	3		35	3/4" BSPP	298	0	7258
-	FS3-3	CD3-L3	CD	3	L	3		36	3/4" BSPP	-298	0	7258
-	NS3-4	CD3-R4	CD	3	R	4		37	3/4" BSPP	298	0	7758
-	FS3-4	CD3-L4	CD	3	L	4		38	3/4" BSPP	-298	0	7758
KU0	NS3-5	CD3-R5	CD	3	R	5		39	3/4" BSPP	298	0	8258
-	FS3-5	CD3-L5	CD	3	L	5		40	3/4" BSPP	-298	0	8258
-	NS3-6	CD3-R6	CD	3	R	6		41	3/4" BSPP	298	0	8758
-	FS3-6	CD3-L6	CD	3	L	6		42	3/4" BSPP	-298	0	8758
-		CD4-T1	CD	4	T	1		43	1" BSPP	0	298	9258
TC7	TS1-1	CD4-T2	CD	4	T	2		NA	SURFACE	0	298	10508
-		CD4-B1	CD	4	B	1		44	1" BSPP	0	-298	9258
-	NS4-1	CD4-R1	CD	4	R	1		45	3/4" BSPP	298	0	9258
-	FS4-1	CD4-L1	CD	4	L	1		46	3/4" BSPP	-298	0	9258
KU1	NS4-2	CD4-R2	CD	4	R	2		47	3/4" BSPP	298	0	9758
-	FS4-2	CD4-L2	CD	4	L	2		48	3/4" BSPP	-298	0	9758
TC6	NS4-3	CD4-R3	CD	4	R	3		49	3/4" BSPP	298	0	10258
-	FS4-3	CD4-L3	CD	4	L	3		50	3/4" BSPP	-298	0	10258
-	NS4-4	CD4-R4	CD	4	R	4		51	3/4" BSPP	298	0	10758
OP0	FS4-4	CD4-L4	CD	4	L	4		52	3/4" BSPP	-298	0	10758
-	NS4-5	CD4-R5	CD	4	R	5		53	3/4" BSPP	298	0	11258
-	FS4-5	CD4-L5	CD	4	L	5		54	3/4" BSPP	-298	0	11258
OP1	NS4-6	CD4-R6	CD	4	R	6		55	3/4" BSPP	298	0	11758

Sensor	OLD DESIGNATION	NEW DESIGNATION	Section	Section Number	Side	Horizontal Location	Vertical Location	PORT REF	SIZE	"X"	"Y"	"Z"
IP0	FS4-6	CD4-L6	CD	4	L	6		56	3/4" BSPP	-298	0	11758
OP2		HR1-R1	HR	1	R	1		57	3/4" BSPP	308	0	12152
-		HR1-L1	HR	1	L	1		58	3/4" BSPP	-308	0	12152
TC8		HR1-R2	HR	1	R	2		59	3/4" BSPP	393	0	13160
-		HR1-L2	HR	1	L	2		60	3/4" BSPP	-393	0	13160
RA1		HR2-R2M	HR	2	R	2	M	61	11/4" BSPP	448	70	13785
RA1		HR2-L2M	HR	2	L	2	M	62	11/4" BSPP	-448	70	13785
TC16		HR2-R3M	HR	2	R	3	M	63	3/4" BSPP	528	410	14140
-		HR2-L3M	HR	2	L	3	M	64	3/4" BSPP	-528	410	14140
-		HR2-T3	HR	2	T	3		65	1" BSPP	0	1122	14215
RA2		HR2-R4M	HR	2	R	4	M	66	11/4" BSPP	598	700	14475
RA2		HR2-L4M	HR	2	L	4	M	67	11/4" BSPP	-598	700	14475
-		HR2-B5	HR	2	B	5		68	1" BSPP	0	-100	14745
KU2		HR2-T5	HR	2	T	5		69	1" BSPP	0	2315	14745
TC17		HR2-R5L	HR	2	R	5	L	70	3/4" BSPP	662	310	14745
IP1		HR2-L5L	HR	2	L	5	L	71	3/4" BSPP	-662	310	14745
OP3		HR2-R5M	HR	2	R	5	M	72	3/4" BSPP	662	975	14745
IP2		HR2-L5M	HR	2	L	5	M	73	3/4" BSPP	-662	975	14745
TC18		HR2-R5U	HR	2	R	5	U	74	3/4" BSPP	662	1660	14745
IP3		HR2-L5U	HR	2	L	5	U	75	3/4" BSPP	-662	1660	14745
KU3		HR3-L1L	HR	3	L	1	L	76	3/4" BSPP	-700	400	15140
TC19		HR3-L1M	HR	3	L	1	M	77	11/4" BSPP	-700	1335	15140
IP8		HR3-L1U	HR	3	L	1	U	78	3/4" BSPP	-700	2270	15140
IP4		HR3-R1L	HR	3	R	1	L	136	3/4" BSPP	700	400	15140
IP5		HR3-R1LM	HR	3	R	1	LM	137	3/4" BSPP	700	868	15140
IP6		HR3-R1M	HR	3	R	1	M	138	3/4" BSPP	700	1335	15140
-		HR3-R1UM	HR	3	R	1	UM	139	3/4" BSPP	700	1802	15140
IP7		HR3-R1U	HR	3	R	1	U	140	3/4" BSPP	700	2270	15140
-		HE1-R1L	HE	1	R	1	L	79	3/4" BSPP	700	400	15600
-		HE1-R1M	HE	1	R	1	M	80	3/4" BSPP	700	1335	15600
KU4		HE1-R1U	HE	1	R	1	U	81	3/4" BSPP	700	2270	15600
TC20		HE2-R1L	HE	2	R	1	L	83	3/4" BSPP	700	400	16090
IP9		HE2-R1M	HE	2	R	1	M	84	3/4" BSPP	700	1335	16090
TC21		HE2-R1U	HE	2	R	1	U	85	3/4" BSPP	700	2270	16090
KU5		HE3-R1L	HE	3	R	1	L	87	3/4" BSPP	700	400	16580
-		HE3-R1M	HE	3	R	1	M	88	3/4" BSPP	700	1335	16580
-		HE3-R1U	HE	3	R	1	U	89	3/4" BSPP	700	2270	16580
OP4		HE1-T1	HE	1	T	1		82	3/4" BSPP HOLE	-47	2735	15600
OP5		HE2-T1	HE	2	T	1		86	3/4" BSPP HOLE	0	2735	16090
OP6		HE3-T1	HE	3	T	1		90	3/4" BSPP HOLE	-47	2735	16580
OP7		HR4-T1	HR	4	T	1		91	1" BSPP	0	2735	16985
-		HR4-B1	HR	4	B	1		92	1" BSPP	0	-65	16985
KU6		HR4-R1L	HR	4	R	1	L	93	3/4" BSPP	700	400	16985
IP10		HR4-L1L	HR	4	L	1	L	94	3/4" BSPP	-700	400	16985
OP8		HR4-R1M	HR	4	R	1	M	95	3/4" BSPP	700	1335	16985
IP11		HR4-L1M	HR	4	L	1	M	96	3/4" BSPP	-700	1335	16985
IP13		HR4-R1U	HR	4	R	1	U	97	3/4" BSPP	700	2270	16985
IP12		HR4-L1U	HR	4	L	1	U	98	3/4" BSPP	-700	2270	16985
RA3		HR4-R3M	HR	4	R	3	M	99	11/4" BSPP	700	1335	17575
RA3		HR4-L3M	HR	4	L	3	M	100	11/4" BSPP	-700	1335	17575
RA4		HR4-R3L	HR	4	R	3	L	141	11/4" BSPP	700	400	17575
IP14		HR4-R3U	HR	4	R	3	U	142	3/4" BSPP	700	2270	17575
RA4		HR4-L3L	HR	4	L	3	L	143	11/4" BSPP	-700	400	17575
-		HR4-L3U	HR	4	L	3	U	144	3/4" BSPP	-700	2270	17575
IP18		HR4-R5M	HR	4	R	5	M	101	3/4" BSPP	700	1335	18165
IP16		HR4-L5M	HR	4	L	5	M	102	3/4" BSPP	-700	1335	18165
OP9		HR4-R5L	HR	4	R	5	L	145	3/4" BSPP	700	400	18165
KU7		HR4-R5U	HR	4	R	5	U	146	3/4" BSPP	700	2270	18165
IP15		HR4-L5L	HR	4	L	5	L	147	3/4" BSPP	-700	400	18165

Sensor	OLD DESIGNATION	NEW DESIGNATION	Section	Section Number	Side	Horizontal Location	Vertical Location	PORT REF	SIZE	"X"	"Y"	"Z"
IP17		HR4-L5U	HR	4	L	5	U	148	3/4" BSPP	-700	2270	18165
-		HR5-R1M	HR	5	R	1	M	NA	SURFACE	700	1200	18455
OP10		HR5-T2	HR	5	T	2		103	1" BSPP	0	2735	18775
-		HR5-B2	HR	5	B	2		104	1" BSPP	0	-65	18775
KU8		HR5-R2L	HR	5	R	2	L	105	3/4" BSPP	700	400	18775
IP19		HR5-L2L	HR	5	L	2	L	106	3/4" BSPP	-700	400	18775
OP11		HR5-R2M	HR	5	R	2	M	107	3/4" BSPP	700	1335	18775
IP20		HR5-L2M	HR	5	L	2	M	108	3/4" BSPP	-700	1335	18775
IP22		HR5-R2U	HR	5	R	2	U	109	3/4" BSPP	700	2270	18775
IP21		HR5-L2U	HR	5	L	2	U	110	3/4" BSPP	-700	2270	18775
TC22		HR5-R4M	HR	5	R	4	M	111	11/4" BSPP	700	1335	19375
-		HR5-L4M	HR	5	L	4	M	112	11/4" BSPP	-700	1335	19375
TC23		HR6-R1M	HR	6	R	1	M	113	3/4" BSPP	700	1335	19985
IP23		HR6-L1M	HR	6	L	1	M	114	3/4" BSPP	-700	1335	19985
-		HR6-T3	HR	6	T	3		115	1" BSPP	0	2735	20575
-		HR6-B3	HR	6	B	3		116	3/4" BSPP	0	-65	20575
KU9		HR6-R3L	HR	6	R	3	L	117	3/4" BSPP	700	400	20575
-		HR6-L3L	HR	6	L	3	L	118	3/4" BSPP	-700	400	20575
-		HR6-R3M	HR	6	R	3	M	119	11/4" BSPP	700	1335	20575
-		HR6-L3M	HR	6	L	3	M	120	11/4" BSPP	-700	1335	20575
-		HR6-R3U	HR	6	R	3	U	121	3/4" BSPP	700	2270	20575
-		HR6-L3U	HR	6	L	3	U	122	3/4" BSPP	-700	2270	20575
-		HR6-B5	HR	6	B	5		123	1" BSPP	0	-65	21165
TC24		HR6-R5L	HR	6	R	5	L	124	3/4" BSPP	700	400	21165
KU10		HR6-L5L	HR	6	L	5	L	125	3/4" BSPP	-700	400	21165
-		HR6-R5M	HR	6	R	5	M	126	3/4" BSPP	700	1335	21165
-		HR6-L5M	HR	6	L	5	M	127	3/4" BSPP	-700	1335	21165
TC25		HR6-R5U	HR	6	R	5	U	128	3/4" BSPP	700	2270	21165
-		HR6-L5U	HR	6	L	5	U	129	3/4" BSPP	-700	2270	21165
-		EP-1L	EP			1	L	130	1" BSPP	650	-15	21330
-		EP-2L	EP			2	L	131	1" BSPP	0	-15	21330
-		EP-3L	EP			3	L	132	1" BSPP	-650	-15	21330
-		EP-1M	EP			1	M	133	1" BSPP	250	1335	21330
-		EP-2M	EP			2	M	134	1" BSPP	-250	1335	21330
-		EP-1U	EP			1	U	135	3/4" BSPP	0	2270	21330

