Appendix D4

Clovis 4 Field Data Sheets

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C41
Clovis 4
6/29/05
G Todd/R. Butz
4206

FIELD DATA RECORD

PITOT TUBE FACTOR 0.84
NOZZLE DIAMETER 0.375 in.
PROBE LENGTH 4 ft.

PAGE 1 of 1
PROJECT NO. 04-014
PLANT NAME Clovis Specialty
AMBIENT TEMP (F) 85-90
METER TEMP (F) 68
BAR. PRESS ("Hg) 29.57
STATIC PRESSURE ("H2O) -2.4
ASSUMED MOISTURE (%) 1.0
ASSUMED O2 (%) 20.9
ASSUMED CO2 (%) <1
ASSUMED MW (WET, %)
ASSUMED MW (DRY, %)

SAMPLE TRAIN LEAK TEST
BEFORE 15 in. ~~H2O~~ Hg ok
AFTER 15 in. ~~H2O~~ Hg
PITOT TUBE LEAK TEST
BEFORE 4.7" ok AFTER 5.7 ok

$\overline{\Delta P}$

	POINT	CLOCK TIME	DRY GAS METER (cu. ft.)	VELOCITY dP (in. H2O)	ORIFICE dH (in. H2O) DESIRED	ORIFICE dH (in. H2O) ACTUAL	TEMPERATURES (F) STACK	~~PROBE~~	~~FILTER~~	~~RESIN~~	IMPGR Ex.T	PUMP VAC (in. Hg)
0	START	0	802.45	—	—	—	—	—	—	—	—	
1	NW-1	5		0.08	1.6	1.6	84				52	
2	2	10	810.2	0.15	3.0	3.0	86				53	8
3	3	15	815.4	0.16	3.2	3.2	86				52	
4	4	20	820.0	0.17	3.4	3.4	86				52	9.5
5	5	25	825.6	0.15	3.0	3.0	86				52	9.0
6	6	30	830.2	0.16	3.2	3.2	~~92~~ 86				52	10.0
7	7	35	835.3	0.15	3.0	3.0	~~96~~ 86				52	11.0
8	8	40	840.0	0.17	3.4	3.4	~~93~~ 87				52	9.0
9	9	45	845.6	0.18	3.6	3.6	~~99~~ 87				53	13.0
10	10	50	851.3	0.19	3.8	3.8	~~100~~ 87				53	13.5
11	11	55	856.7	0.19	3.8	3.8	~~106~~ 87				53	14.5
12	12	60	862.10	0.18	3.6	3.6	~~102~~ 88				53	13.0
NE 13	1	65	868.1	0.15	3.6	3.6	~~99~~ 87				57	12.0
14	2	70	872.3	0.17	3.4	3.4	~~98~~ 88				54	11.0
15	3	75	877.8	0.16	3.2	3.2	~~100~~ 88				55	10.0
16	4	80	882.60	0.17	3.4	3.4	88				54	10
17	5	85	887.50	0.15	3.0	3.0	89				55	9
18	6	90	891.62	0.10	2.0	2.0	89				56	7
19	7	95	895.42	0.09	1.8	1.8	89				57	6
20	8	100	899.38 3.96	0.09	1.8	1.8	89				57	6
21	9	105	903.29 4.05	~~1.0~~ 0.10	2.0	2.0	89				57	6
22	10	110	907.34 4.05	~~1.0~~ 0.10	2.0	2.0	89				57	6
23	11	115	911.38	~~1.0~~ 0.10	2.0	2.0	89				57	6
24	12	120	915.42	~~1.0~~ 0.10	2.0	2.0	89				57	6
		Theta: 120	Vm: 112.97	avg dP: 0.37 0.54		avg dH:	avg Ts					

C-42
Clovis 4
6/30/05
Todd/R. Butz
4206

8:30 / 10:30

K 20
ΔH 20 Or
ΔP 10

12
0.973
1.752

FIELD DATA RECORD

0.84
0.375 in.
4 ft.

FTE 15 n ~~H2O~~ Hg
15" n ~~H2O~~ Hg
BE LEAK TEST
4.5 OK A 5.5 OK

LA
A
IM
M MW %
W %

04-014
Clovis Specialty

60
29.54
-0.17
% 1.0
20.9
% <1

POINT	CLOCK TIME	DRY GAS METER (cu. ft.)	VELOCITY dP (in. H2O)	ORIFICE dH (in. H2O) DESIRED	ORIFICE dH (in. H2O) ACTUAL	TEMPERATURES (F) STACK	~~PROBE~~	~~FILTER~~	~~RESIN~~	IMPGR	PUMP VAC (in. Hg)
START	0	915.63	—	—	—	—	—	—	—	—	—
NE-1	5	920.0	.09	1.8	1.8	87				58	8.0
2	10	924.4	0.1	2.0	2.0	87				54	9.0
3	15	928.7	0.12	2.4	2.4	87				54	11.0
4	20	933.23	0.11	2.2	2.2	87				54	10
5	25	937.47	0.10	2.0	2.0	87				53	9
6	30	941.64	0.10	2.0	2.0	87				52	9
7	35	945.24	0.12	2.4	2.4	87				52	11
8	40	950.23	0.10	2.0	2.0	87				52	9
9	45	954.32	0.10	2.0	2.0	87				52	9
10	50	958.42	0.10	2.0	2.0	87				54	9
11	55	962.7	0.11	2.2	2.2	88				52	10
12	60	966.82	0.10	2.0	2.0	87				52	9
NW-1	65	969.99	0.06	1.2	1.2	86				54	6
2	70	973.99	0.11	2.2	2.2	87				53	8
3	75	978.12	0.11	2.2	2.2	87				52	8
4	80	982.0	0.09	1.8	1.8	88				52	7
5	85	986.2	0.09	1.8	1.8	88				53	8
6	90	990.3	0.10	2.0	2.0	88				53	8.5
7	95	994.25	0.10	2.0	2.0	88				53	8.5
8	100	998.6	0.12	~~2.2~~ 2.4	2.4	89				53	10.0
9	105	1003.27	0.13	2.6	2.6	88				53	11
10	110	1007.93	0.14	2.8	2.8	88				52	12
11	115	1012.7	0.15	3.0	3.0	88				52	13
12	120	1017.90	0.16	3.2	3.2	89				52	14.5
	Theta: 120	Vm: 102.27	avg √dP: 2.61 0.3298		avg dH: 52.2 2.175	avg Ts 2.099 87.450					

FIELD DATA RECORD

PAGE 1

RUN NO. C-43
LOCATION Clovis 4
DATE 6/30/05
OPERATOR Wood/R. Butz
METER BOX NO. 4206
LOCAL TIME
START/STOP 12:40 / 1440

STACK DIAMETER 12"
Vm: 0.973
H@: 1.752

$\frac{\Delta H}{\Delta P} = \frac{20.0}{1.0}$

PITOT TUBE FACTOR 0.84
NOZZLE DIAMETER 0.375 in.
PROBE LENGTH 4 ft.

SAMPLE TRAIN LEAK TEST
BEFORE 15 ok in. ~~H2O~~ Hg
AFTER 14 ok in. ~~H2O~~ Hg
PITOT TUBE LEAK TEST
BEFORE 4.7 OK AFTER

PROJECT NO. 04-014
PLANT NAME Clovis Spec
AMBIENT TEMP (F) 95
METER TEMP (F) 60
BAR. PRESS ("Hg) 29.52
STATIC PRESSURE ("H2O) -2.0
ASSUMED MOISTURE (%) 1.0
ASSUMED O2 (%) 20.9
ASSUMED CO2 (%) <1
ASSUMED MW (WET, %)
ASSUMED MW (DRY, %)

	POINT	CLOCK TIME	DRY GAS METER (cu. ft.)	VELOCITY dP (in. H2O)	ORIFICE dH (in. H2O) DESIRED	ORIFICE dH (in. H2O) ACTUAL	TEMPERATURES (F) STACK	~~PROBE~~	~~FILTER~~	~~RESIN~~	IMPGR	PUMP VAC (in. Hg)
0	START	0	18.12	—	—	—	—	—	—	—	—	
1	NW-1	5	22.3	.08	1.6	1.6	92				66	6
2	2	10	25.91	0.10	2.0	2.0	92				59	6.5
3	3	15	29.99	0.11	2.2	2.2	94				55	7.5
4	4	20	34.16	.0x90	1.8	1.8	94				55	6.5
5	5	25	38.0	0.10	2.0	2.0	94				55	6.5
6	6	30	42.35	0.10	2.0	2.0	95				55	6.5
7	7	35	46.69	0.11	2.2	2.2	95				54	7.5
8	8	40	50.35	0.13	2.6	2.6	95				53	8.5
9	9	45	56.2	0.14	2.8	2.8	95				52	9.0
10	10	50	60.65	0.15	3.0	3.0	96				52	9.5
11	11	55	65.90	0.15	3.0	3.0	96				52	9.5
12	12	60	70.43	0.15	3.0	3.0	95				53	9.5
13	NE-1	65	74.50	0.11	2.2	2.2	94				57	7.0
14	2	70	78.9	0.12	2.4	2.4	95				54	7.5
15	3	75	83.41	0.12	2.4	2.4	95				53	7.5
16	4	80	87.62	0.11	2.2	2.2	96				54	7.0
17	5	85	91.98	0.12	2.4	2.4	96				54	8.0
18	6	90	96	0.11	2.2	2.2	96				54	7
19	7	95	100.33	0.10	2.0	2.0	96				55	7
20	8	100	104.52	0.11	2.2	2.2	96				60	7
21	9	105	108.90	0.12	2.4	2.4	96				56	
22	10	110	112	0.12	2.4	2.4	96				56	
23	11	115	117.69	0.12	2.4	2.4	97				57	
24	12	120	122.23	0.13	2.6	2.6	97				56	
	Theta:		Vm: ~~50.71~~ 104.11	avg √dP: 2.0 0.34156		avg dH: 2.6	2.283					

FIELD DATA RECORD

PAGE 1 of

PROJECT NO. 04-014
PLANT NAME Clovis Specialty
AMBIENT TEMP (F) ~~78~~ 77
METER TEMP (F) 60
BAR. PRESS ("Hg) 29.88
STATIC PRESSURE ("H2O) -0.19
ASSUMED MOISTURE (%) 1.0
ASSUMED O2 (%)
ASSUMED CO2 (%)
ASSUMED MW (WET, %)
ASSUMED MW (DRY, %)

K = 20
STACK DIAMETER
$\frac{\Delta H}{\Delta P} = \frac{20.0}{1.0}$ Vm:
H@:

SAMPLE TRAIN LEAK TEST
BEFORE 15" ok in. ~~H2O~~ Hg
AFTER 20 ok in. ~~H2O~~ Hg
PITOT TUBE LEAK TEST
BEFORE 4.8" ok AFTER 5.2 ok

POINT	CLOCK TIME	DRY GAS METER (cu. ft.)	VELOCITY dP (in. H2O)	ORIFICE dH (in. H2O) DESIRED	ORIFICE dH (in. H2O) ACTUAL	TEMPERATURES (F) STACK	~~PROBE~~	~~FILTER~~	~~RESIN~~	IMPGR	PUMP VAC (in. Hg)
START	0	2.46	—	—	—	—	—	—	—	—	
SW-1	5		0.09 ~~1.8~~ 0.9	1.8	1.8	76				66	18
2	10		0.09 ~~0.10~~	~~2.0~~ 1.8	~~2.0~~ 1.8	77				63	17
3	15		0.09	1.8	1.8	77				61	16
4	20		0.09	1.8	1.8	77				57	16
5	25		0.09	1.8	1.8	77				55	16
6	30		0.09	1.8	1.8	77				55	16
7	35		0.11	2.2	2.2 max	77				54	20
8	40		0.10	2.0	2.0	77				54	20
9	45		0.10	2.0		77				53	18
10	50		0.11	2.2		78				52	20
11	55		0.11	2.2		78				50	20
12	60		0.11	2.2		77				49	20
NW-1	65		0.10	2.0	2	77				49	20
2	70		0.11	2.2		77				48	20
3	75		0.10	2.0	2	77				49	20
4	80	188.57	0.11	2.2	2.2	77				49	20
5	85	192.	0.10	2.0	2.0	77				49	
6	90	197.0	0.10	2.0	2.0	77				49	
7	95	200.76	0.09	1.8	1.8	78				50	
8	100	204.67	0.09	1.8	1.8	78				50	
9	105	208	0.09	1.8	1.8	78				51	15
10	110	212.54	0.09	1.8	1.8	79				52	15
11	115	217	0.08	[illegible]	1.6	79				52	13
12	120	219.94	0.08		1.6	78	1.857			52	13
	Theta:	Vm: 97.48	avg √dP: 0.311		avg dH: 46.0	avg Ts					

California Air Resources Board
Monitoring & Laboratory Division

Method 425 Recovery Field Data Sheet

Project: CLOVIS 4
Project #:

Page: 1 of 1
Project Lead:

Run #: C-41	Container No.1 (Probe Rinse)	Container No. 2 (Impinger 1)	Container No. 3 (Impinger 2)	Silica Gel Cartridge (Weight Only)	Total Stack Moisture, gm	
pH	10	10	10		----	
Tare (gm)	—	100.4	100.5	1117.8	1318.7	
Final (gm)	74.7	105.0	105.9	1139.1	1350.0	31.3
Diff (gm)	----	4.6	5.4	21.3	31.3	

Run #: C42	Container No.1 (Probe Rinse)	Container No. 2 (Impinger 1)	Container No. 3 (Impinger 2)	Silica Gel Cartridge (Weight Only)	Total Stack Moisture, gm	
pH	10	10	10		----	
Tare (gm)	—	100.6	101.0	1150.1	1351.7	
Final (gm)	73.9	108.4	108.6	1169.4	1386.4	34.7
Diff (gm)	----	7.8	7.6	19.3	34.7	

Run #: ~~C43~~	Container No.1 (Probe Rinse)	Container No. 2 (Impinger 1)	Container No. 3 (Impinger 2)	Silica Gel Cartridge (Weight Only)	Total Stack Moisture, gm	
pH					----	
Tare (gm)	—	~~100.6~~	~~100.3~~	~~1124.9~~		
Final (gm)			106.6			
Diff (gm)	----					

Run #: C43 ~~SPARE~~	Container No.1 (Probe Rinse)	Container No. 2 (Impinger 1)	Container No. 3 (Impinger 2)	Silica Gel Cartridge (Weight Only)	Total Stack Moisture, gm	
pH					----	
Tare (gm)	—	100.2	100.4	1124.9	1326.2	
Final (gm)	92.9	105.8	106.6	1141.5	1353.9	27.7
Diff (gm)	----	4.9	6.2	16.6	27.7	

Run #: C44-Post	Container No.1 (Probe Rinse)	Container No. 2 (Impinger 1)	Container No. 3 (Impinger 2)	Silica Gel Cartridge (Weight Only)	Total Stack Moisture, gm	
pH	10.0	10.0	10.0		----	
Tare (gm)	—	101.6	100.4	1127.5	1329.5	
Final (gm)	163.2	127.2	65.6	1148.4	1341.2	
Diff (gm)	----	25.6	-34.8	20.9	11.7	11.