

CYANIDE CALCULATIONS

CLIENT:	ExxonMobil	AA
TEST NUMBER:	1-HCN	VMSTD(DSCF): 39.44
TEST DATE:	6/28/2011	QSD(DSCF/MIN): 228873
T REF (F)	68	CO2, %: 14.07
		O2, %: 5.03

NAME	ug/train	ug/dscm	ug/dscm at 7% O2	lb/hr
Cyanide (Impingers #1 and #2)	15406	13791.9	12081.2	11.82
Cyanide (Impinger #3)	3451	3089.4	2706.2	2.65
Total Cyanide	18857	16881.3	14787.4	14.46

CYANIDE CALCULATIONS

CLIENT:	ExxonMobil	AA
TEST NUMBER:	2-HCN	VMSTD(DSCF): 63.93
TEST DATE:	6/29/2011	QSD(DSCF/MIN): 233227
T REF (F)	68	CO2,%: 13.67
		O2,%: 5.34

NAME	ug/train	ug/dscm	ug/dscm at 7% O2	lb/hr
Cyanide (Impingers #1 and #2)	9648	5329.0	4761.8	4.65
Cyanide (Impinger #3)	3918	2164.1	1933.7	1.89
Total Cyanide	13566	7493.1	6695.5	6.54

CYANIDE CALCULATIONS

CLIENT:	ExxonMobil	INITIALS:	AA
TEST NUMBER:	3-HCN	VMSTD(DSCF):	40.39
TEST DATE:	6/29/2011	QSD(DSCF/MIN):	238486
T REF (F)	68	CO2,%:	13.91
		O2,%:	5.26

NAME	ug/train	ug/dscm	ug/dscm at 7% O2	lb/hr
Cyanide (Impingers #1 and #2)	14031	12267.5	10900.3	10.95
Cyanide (Impinger #3)	5039	4405.7	3914.6	3.93
Total Cyanide	19070	16673.2	14814.9	14.88

Delta
Hydrogen Cyanide Test Summary

Client/Location.....	ExxonMobil			Reference Temp (F):	68
Sample Location.....	FCC 2F-7 Stack			Fuel.....	Refinery
				Data By.....	AA
Test No.....	1-CN	2-CN	3-CN	Average	
Date.....	June 28, 2011	June 29, 2011	June 29, 2011	*	
Start/Stop Time.....	1306/1426	757/1005	1246/1407	*	
Bar Press (in Hg).....	29.77	29.85	29.85	*	
Test Method.....	EPA M23	EPA M23	EPA M23	*	
Sample Time (Min).....	72	120	72	*	
Sample Train.....	12WCS	12WCS	12WCS	*	
Meter Cal Factor.....	1.005	1.005	1.005	*	
Pitot Factor.....	0.84	0.84	0.84	*	
Nozzle Diam (in).....	0.202	0.202	0.202	*	
Stack Area (sq ft).....	94.31	94.31	94.31		
Stack O2 (%).....	5.03	5.34	5.26	5.21	
Stack CO2 (%).....	14.07	13.67	13.91	13.88	
Stack Press (iwg).....	-1.30	-1.30	-1.30	-1.30	
Stack Temp (F).....	480.5	474.3	475.4	476.7	
Vel Head (iwg).....	1.35	1.29	1.44	1.36	
Meter Temp (F).....	80	70	72	74	
Meter Press (iwg).....	0.96	0.90	1.02	0.96	
Meter Vol (acf).....	40.256	63.810	40.498	48.19	
Liquid Vol (ml).....	180.3	216.1	176.7	191.0	
Std Sample Vol (SCF).....	39.443	63.927	40.386	47.92	
Std Sample Vol (SCM).....	1.117	1.810	1.144	1.357	
Moisture Fraction.....	0.177	0.138	0.171	0.162	
Stack Gas Mol Wt.....	28.24	28.70	28.31	28.41	
Stack Gas Velocity (ft/sec).....	88.33	85.06	90.60	88.00	
Isokinetic Ratio (%).....	101.4	96.8	99.6	99.3	
Stack Flow Rate (wacfm).....	499852	481330	512686	497956	
Stack Flow Rate (dscfm).....	228873	233227	238486	233529	
Stack Flow Rate (mdscf/h).....	137.32	139.94	143.09	140.12	

HCN Test Sample Data											
Client/Location:		Exxon/Mobil						Sample Location:		2F-7 Stack	
Unit:		FCC						Data By:		AA	
Test No:	1-CN	ISO	Assumed Moisture		Sample Factor	Delta H =	0.70	x Delta P			
Date:	6/28/2011	101.4	14			Time per Point =	3	Static Pressure =		-1.30	
Port	Point	Time	Meter Volume	Delta P	Factor	Delta H	Stack Temp.	Meter In	Meter Out	Probe	Vacuum
A	6	13:06:00	892.218	1.00	0.70	0.70	480	81	80	246	3
A	5	13:09:00	893.680	1.10	0.70	0.77	480	81	80	247	3
A	4	13:12:00	895.200	1.00	0.70	0.70	481	81	80	248	3
A	3	13:15:00	896.680	1.05	0.70	0.74	481	81	80	249	3
A	2	13:18:00	898.160	0.90	0.70	0.63	480	80	80	241	3
A	1	13:21:00	899.550	0.75	0.70	0.53	479	80	80	245	3
	Stop	13:24:00	900.847								
B	6	13:26:00	900.847	1.20	0.70	0.84	480	81	80	250	3
B	5	13:29:00	902.400	1.30	0.70	0.91	479	80	80	257	3
B	4	13:32:00	904.050	1.30	0.70	0.91	480	81	80	255	3
B	3	13:35:00	905.650	1.30	0.70	0.91	480	80	80	255	3
B	2	13:38:00	907.370	1.20	0.70	0.84	480	81	80	250	3
B	1	13:41:00	908.930	1.00	0.70	0.70	480	81	80	251	3
	Stop	13:44:00	910.388								
C	6	13:47:00	910.388	1.20	0.70	0.84	480	81	80	255	3
C	5	13:50:00	912.000	1.50	0.70	1.05	480	81	80	249	3
C	4	13:53:00	913.800	1.60	0.70	1.13	482	81	80	251	3
C	3	13:56:00	915.600	1.60	0.70	1.13	482	80	80	249	3
C	2	13:59:00	917.500	1.50	0.70	1.05	481	80	80	248	3
C	1	14:02:00	919.150	1.40	0.70	0.98	480	80	80	250	3
	Stop	14:05:00	920.886								
D	6	14:08:00	920.886	1.50	0.70	1.05	480	80	79	249	3
D	5	14:11:00	922.630	1.60	0.70	1.13	480	80	79	250	3
D	4	14:14:00	924.500	1.80	0.70	1.27	482	80	79	251	3
D	3	14:17:00	926.500	1.90	0.70	1.34	482	80	79	251	3
D	2	14:20:00	928.400	2.00	0.70	1.41	482	80	79	250	3
D	1	14:23:00	930.400	2.00	0.70	1.41	481	80	79	245	3
	Stop	14:26:00	932.474								
Total/Average		72	40.256	1.3524		0.96	481	80	80	250	3

HCN Test Sample Data											
Client/Location:		ExxonMobil						Sample Location:		2F-7 Stack	
Unit:		FCC						Data By:		AA	
Test No:	2-CN	ISO	Moisture		Sample Factor	Delta H =	0.70	x Delta P			
Date:	6/29/2011	96.8	14			Time per Point =	5	Static Pressure =		-1.3	
Port	Point	Time	Meter Volume	Delta P	Factor	Delta H	Stack Temp.	Meter In	Meter Out	Probe	Vacuum
A	6	7:57:00	11.319	1.10	0.70	0.77	470	64	63	250	4
A	5	8:02:00	13.857	1.00	0.70	0.70	472	64	62	252	4
A	4	8:07:00	16.258	1.00	0.70	0.70	474	65	63	250	4
A	3	8:12:00	18.647	1.00	0.70	0.70	473	64	63	253	4
A	2	8:17:00	21.039	1.00	0.70	0.70	472	65	64	254	4
A	1	8:22:00	23.432	1.00	0.70	0.70	473	64	63	254	4
	Stop	8:27:00	25.843								
B	6	8:30:00	25.843	1.20	0.70	0.84	473	64	63	250	4
B	5	8:35:00	28.284	1.30	0.70	0.91	472	63	63	251	4
B	4	8:40:00	30.695	1.30	0.70	0.91	470	64	63	253	4
B	3	8:45:00	33.763	1.20	0.70	0.84	476	72	68	253	4
B	2	8:50:00	36.352	1.10	0.70	0.77	475	72	69	256	4
B	1	8:55:00	38.812	1.00	0.70	0.70	474	72	69	257	4
	Stop	9:00:00	41.231								
C	6	9:03:00	41.231	1.20	0.70	0.84	472	72	70	252	4
C	5	9:08:00	43.801	1.50	0.70	1.05	471	73	70	254	4
C	4	9:13:00	46.676	1.60	0.70	1.13	473	74	70	255	4
C	3	9:18:00	49.562	1.60	0.70	1.13	478	74	71	251	4
C	2	9:23:00	52.439	1.60	0.70	1.13	478	75	71	250	4
C	1	9:28:00	55.331	1.50	0.70	1.05	478	76	73	250	4
	Stop	9:33:00	58.222								
D	6	9:35:00	58.222	1.20	0.70	0.84	478	76	73	250	4
D	5	9:40:00	60.778	1.30	0.70	0.91	477	77	73	251	4
D	4	9:45:00	63.483	1.60	0.70	1.13	476	77	74	250	4
D	3	9:50:00	66.374	1.50	0.70	1.05	478	78	74	250	4
D	2	9:55:00	69.304	1.60	0.70	1.13	475	76	75	253	4
D	1	10:00:00	72.265	1.40	0.70	0.98	476	76	75	252	4
	Stop	10:05:00	75.129								
Total/Average		120	63.810	1.2859		0.90	474	71	68		

HCN Test Sample Data											
Client/Location:	ExxonMobil							Sample Location:		2F-7 Stack	
Unit:	FCC							Data By:		AA	
Test No:	3-CN	ISO	Moisture		Sample Factor	Delta H =	0.70	x Delta P			
Date:	6/29/2011	99.6	14			Time per Point =	3	Static Pressure =		-1.3	
Port	Point	Time	Meter Volume	Delta P	Factor	Delta H	Stack Temp.	Meter In	Meter Out	Probe	Vacuum
A	6	12:46:00	157.300	1.4	0.70	0.98	474	74	73	250	4
A	5	12:49:00	160.143	1.5	0.70	1.05	475	73	72	250	4
A	4	12:52:00	161.672	1.5	0.70	1.05	475	73	71	251	4
A	3	12:55:00	163.201	1.1	0.70	0.77	476	74	72	252	4
A	2	12:58:00	164.239	1.1	0.70	0.77	475	74	71	253	4
A	1	13:01:00	165.768	1.1	0.70	0.77	476	74	72	254	4
	Stop	13:04:00	166.788								
B	6	13:05:00	166.788	1.4	0.70	0.98	476	74	71	256	4
B	5	13:08:00	168.487	1.3	0.70	0.91	475	74	72	254	4
B	4	13:11:00	170.109	1.3	0.70	0.91	474	74	73	254	4
B	3	13:14:00	171.732	1.2	0.70	0.84	476	72	72	252	4
B	2	13:17:00	173.292	1.1	0.70	0.77	475	73	72	252	4
B	1	13:20:00	174.802	1.0	0.70	0.70	476	72	71	251	4
	Stop	13:23:00	176.299								
C	6	13:28:00	176.299	1.5	0.70	1.05	476	75	72	252	4
C	5	13:31:00	178.075	1.6	0.70	1.13	475	74	71	251	4
C	4	13:34:00	179.869	1.9	0.70	1.34	477	73	70	251	4
C	3	13:37:00	181.758	2.0	0.70	1.41	478	72	71	258	4
C	2	13:40:00	183.671	2.0	0.70	1.41	473	71	70	255	4
C	1	13:43:00	185.616	2.0	0.70	1.41	472	71	71	256	4
	Stop	13:46:00	187.564								
D	6	13:49:00	187.564	1.3	0.70	0.91	473	73	72	249	4
D	5	13:52:00	189.202	1.5	0.70	1.05	476	72	71	250	4
D	4	13:55:00	190.923	1.5	0.70	1.05	476	73	72	250	4
D	3	13:58:00	192.649	1.6	0.70	1.13	477	72	71	251	4
D	2	14:01:00	194.389	1.5	0.70	1.05	476	71	71	250	4
D	1	14:04:00	196.089	1.5	0.70	1.05	477	71	71	250	4
	Stop	14:07:00	197.798								
Total/Average		72	40.498	1.4		1.02	475	73	71		
								72			



Imp. #	Contents	Post-Test - Pre-Test = Difference
1	100ml 6N NaOH	783.8 - 783.8
2	"	782.9 - 782.9
3	"	791.6 - 791.6
4	50	913.8 - 913.8
Total:		

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Comments: Top 1 4/14, 1 4/14, 3 4/14

Date of last revision 3/30/2010



CLIENT: Exxon Mobil
LOCATION: FCC / 2F-7 Stack
DATE: 6-28-11
RUN NO: 1-HN
OPERATOR: Dave Wondolky
METER BOX NO: 12-wcs
METER AH@: 1.643
METER Yd: 1.005
STACK AREA, FT²:
TRAVERSE POINTS, MIN/POINT: 3+24
 $\Delta H = 0.7$ X ΔP :
Probe Condition, pre/post test: ☒
Silica Gel Expended, Y/N: ☒
Filter Condition after Test: ☒
Check Weight:

AMBIENT TEMPERATURE: 75°
 BAROMETRIC PRESSURE: 29.74
 ASSUMED MOISTURE: 11%
 PITOT TUBE COEFF. Cp: 0.89
 PROBE ID NO/MATERIAL: 89- 51451
 PROBE LENGTH: 9'
 NOZZLE ID NO/MATERIAL: F31451
 NOZZLE DIAMETER: 0.202
 FILTER NO/TYPE: QAL7
 PRE-TEST LEAK RATE: 0.005 CFM@ 15" in. Hg.
 POST-TEST LEAK RATE: 0.005 CFM@ 10" in. Hg.
 PITOT LEAK CHECK - PRE: OK POST: OK
 CHAIN OF CUSTODY: SAMPLE CUSTODIAN AA
 SAMPLER DW
 SAMPLE CUSTODIAN AA

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

Imp. #	Contents	Post-Test	Pre-Test	Difference
1	100 mL 6N NaOH	834.2	721.5	112.7
2	"	645.8	607.2	38.6
3	"	744.1	728.1	16.0
4	9.6	885.4	872.4	13.0

Total:

508

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WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Exxon Mobil
LOCATION: FCC / 2F-7 Stack
DATE: 6-28-11
RUN NO: 1-1461
OPERATOR: Dave Wrench
METER BOX NO: 12-wcs
METER ΔH@: 1.643
METER Yd: 1.005
STACK AREA, FT²:
TRAVERSE POINTS, MIN/POINT: 3 / 2.4
ΔH= 0. X ΔP:
Probe Condition, pre/post test:
Silica Gel Expended, Y/N:
Filter Condition after Test:
Check Weight:

AMBIENT TEMPERATURE: 75
BAROMETRIC PRESSURE: 29.73
ASSUMED MOISTURE: 11%
PITOT TUBE COEFF, Cp: 0.84
PROBE ID NO/MATERIAL: #85-91455
PROBE LENGTH: 6'
NOZZLE ID NO/MATERIAL: 91455
NOZZLE DIAMETER: 0.202
FILTER NO/TY: 02042
PRE-TEST LEAK RATE: CFM@ in. Hg.
POST-TEST LEAK RATE: CFM@ in. Hg.
PITOT LEAK CHECK - PRE: POST:
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER

Imp. # Contents Post-Test - Pre-Test = Difference

500 PJ

Total:

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
N 6	1347	910.388	1.2	0.84	480	255	251	65	81 80	3		
5	1350	912.0	1.5	1.05	480	254	255	65	81 80	3		-1.3
4	1353	913.8	1.6	1.12	482	251	253	64	81 80	3		
3	1356	915.6	1.6	1.12	482	249	251	64	80 80	3		
2	1359	917.5	1.5	1.05	481	249	252	63	80 80	3		
1	1402	919.15	1.4	0.98	480	250	252	61	80 80	3		
Sum	1405	920.896										
W 6	1408	920.886	1.5	1.05	480	249	250	61	80 79	3		
5	1411	922.67	1.6	1.12	480	250	245	61	80 79	3		
4	1414	924.5	1.8	1.26	482	251	246	60	80 79	3		
3	1417	926.5	1.9	1.37	482	251	248	60	80 79	3		
2	1420	928.4	2.0	1.4	482	250	250	60	80 79	3		
1	1423	930.4	2.0	1.4	481	245	247	60	80 75	3		
Sum	1426	932.474										
Average:												
Comments:												



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Exxon Mobil
LOCATION: FCC / 2F-7 Stack
DATE: 6/29/11
RUN NO: 6129/11
OPERATOR: D. A. L. / 10
METER BOX NO: 12-4005
METER ΔH@: 585
METER Yd: 1.005
STACK AREA, FT²:
TRAVERSE POINTS, MIN/POINT: 9/24
ΔH= 5.7 X ΔP:
Probe Condition, pre/post test: ✓
Silica Gel Expended, Y/N:
Filter Condition after Test: ✓
Check Weight:

AMBIENT TEMPERATURE: 78°
BAROMETRIC PRESSURE: 29.85
ASSUMED MOISTURE: 1.5%
PITOT TUBE COEFF, Cp: 0.99
PROBE ID NO/MATERIAL: 411 gphs
PROBE LENGTH: 111 gphs
NOZZLE ID NO/MATERIAL: 7 gphs
NOZZLE DIAMETER: 0.002
FILTER NO/TYPE: 0.002
PRE-TEST LEAK RATE: 0.002 CFM@ 10" in. Hg.
POST-TEST LEAK RATE: 0.002 CFM@ 10" in. Hg.
PITOT LEAK CHECK - PRE: OK POST:
CHAIN OF CUSTODY: SAMPLE CUSTODIAN SP
SAMPLER
SAMPLE CUSTODIAN SP

Imp. # Contents Post-Test - Pre-Test = Difference
1 100-16NNH 940-4 7878 1526
2 " 835-4 7870 489
3 " 797.7 7924 1.3
4 SP- 926.6 933 13.3
Total: 216.1

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
6	0757	011.319	1.1	.77	470	250	256	58	64 63	4.0	3%	-1.3
5	0802	013.857	1.0	.70	472	252	256	58	64 62	4.0		
4	0807	016.258	1.0	.70	474	250	259	57	65 63	4.0		
3	0812	018.647	1.0	.70	473	253	256	57	64 63	4.0		
2	0817	020.039	1.0	.70	472	254	254	57	65 64	4.0		
1	0822	023.432	1.0	.70	473	254	255	56	64 63	4.0		
0	0827	025.873										
6	0830	025.843	1.2	.84	473	250	253	56	64 63	4.0		
5	0835	028.284	1.3	.91	472	251	254	56	63 63	4.0		
4	0840	030.695	1.3	.91	470	253	253	56	64 63	4.0		
3	0845	033.763	1.2	.84	476	253	258	57	72 68	4.0		
2	0850	036.352	1.1	.77	475	256	257	57	72 69	4.0		
1	0855	038.812	1.0	.70	474	257	256	57	72 69	4.0		
0	0900	041.231										
		041.231										
Average:												
Comments:												

Date of last revision 3/30/2010

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WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Exxon Mobil
LOCATION: FCC / 2F-7 Stack
DATE: 6/27/11
RUN NO: 2-20
OPERATOR: D. Anib
METER BOX NO: 12-0015
METER ΔH@: 585
METER Yd: 1-005
STACK AREA, FT²:
TRAVERSE POINTS, MIN/POINT: 9/24
ΔH = 7 X ΔP:
Probe Condition, pre/post test:
Silica Gel Expended, Y/N:
Filter Condition after Test:
Check Weight:
AMBIENT TEMPERATURE: 78.5
BAROMETRIC PRESSURE: 29.85
ASSUMED MOISTURE:
PITOT TUBE COEFF, Cp:
PROBE ID NO/MATERIAL:
PROBE LENGTH:
NOZZLE ID NO/ MATERIAL:
NOZZLE DIAMETER: 0.102
FILTER NO/TYPER:
PRE-TEST LEAK RATE: CFM@ in. Hg.
POST-TEST LEAK RATE: CFM@ in. Hg.
PITOT LEAK CHECK- PRE: POST:
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER
SAMPLE CUSTODIAN
Imp. # Contents Post-Test - Pre-Test = Difference
Total: 1

Point	Time	Motor Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
6	0923	041.231	1.2	.84	472	252	255	57	72 70	4.0	3%	-1.3
5	0928	043.801	1.5	1.05	471	254	256	57	73 70	4.0		
4	0913	040.676	1.6	1.12	473	255	256	58	74 70	4.0		
3	0918	049.562	1.6	1.12	478	251	259	58	74 71	4.0		
2	0923	052.439	1.6	1.12	478	250	259	58	75 71	4.0		
1	0928	055.331	1.5	1.05	478	250	259	58	76 72	4.0		
0	0933	058.222	1.2	.84	478	250	259	58	76 73	4.0		
6	0940	060.778	1.3	.91	477	251	259	57	77 73	4.0		
4	0945	063.483	1.6	1.12	476	250	258	57	77 74	4.0		
3	0950	066.374	1.5	1.05	478	250	259	57	78 74	4.0		
2	0955	069.304	1.6	1.12	475	253	258	59	76 75	4.0		
1	1000	072.265	1.4	.98	476	252	256	59	76 75	4.0		
0	1005	075.129										
Average:												
Comments:												



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Exxon Mobil
LOCATION: FCC / 2F-7 Stack
DATE: 6-20-11
RUN NO: 3- HCN
OPERATOR: DA
METER BOX NO: 12403
METER ΔH@: 585
METER Yd: 1.005
STACK AREA, FT²:
TRAVERSE POINTS, MIN/POINT: 3/24
ΔH= 671 X ΔP:
Probe Condition, pre/post test:
Silica Gel Expended, Y/N:
Filter Condition after Test:
Check Weight:

AMBIENT TEMPERATURE: 88
BAROMETRIC PRESSURE: 29.77 24.85
ASSUMED MOISTURE: 1.4%
PITOT TUBE COEFF, Cp: 0.84
PROBE ID NO/MATERIAL: 81
PROBE LENGTH: 6
NOZZLE ID NO/ MATERIAL: 76695
NOZZLE DIAMETER: 0.12
FILTER NO/TYPE: Quinzy
PRE-TEST LEAK RATE: 2000 CFM@ 12 in. Hg.
POST-TEST LEAK RATE: 2000 CFM@ 12 in. Hg.
PITOT LEAK CHECK - PRE: POST:
CHAIN OF CUSTODY: SAMPLE CUSTODIAN 38
SAMPLER 63
SAMPLE CUSTODIAN 38

Imp. # Contents Post-Test - Pre-Test = Difference
1 100 ml 6 ft 14061 887.7 779.6 108.1
2 " 818.5 780.4 38.1
3 " 806.8 788.1 18.7
4 5.125 938.4 926.6 11.8
Total: 176.7

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
6	1316	151.300	1.4	.98	474	252	255	55	74 73	4.0	3%	-1.3
5	1319	160.193	1.5	1.05	475	250	256	55	73 72	4.0		
4	1323	161.672	1.5	1.05	475	251	256	55	73 71	4.0		
3	1325	163.201	1.1	.77	476	252	254	56	74 73	4.0		
2	1328	164.239	1.1	.77	475	253	255	56	74 71	4.0		
1	1330	165.768	1.1	.77	476	254	260	56	74 70	4.0		
0	1330	166.788	1.4	.98	476	256	250	57	74 71	4.0		
5	1335	168.487	1.3	.91	475	254	252	57	74 72	4.0		
4	1311	176.109	1.3	.91	474	254	254	57	74 73	4.0		
3	1314	171.732	1.2	.84	476	252	250	59	72 72	4.0		
2	1317	173.292	1.1	.77	475	252	250	59	73 72	4.0		
1	1320	174.802	1.0	.70	476	251	252	59	72 71	4.0		
0	1323	176.299	1.0	.70								
Average:												
Comments: #1-2 11.5 Pk. added 70 ml. GN H2O 14 3 12.5 Pk												



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Exxon Mobil
LOCATION: FCC / 2F-7 Stack
DATE: 6/29/11
RUN NO: 3-H66
OPERATOR: DA
METER BOX NO: 12605
METER ΔH@: .585
METER Yd: 1.005
STACK AREA, FT²:
TRAVERSE POINTS, MIN/POINT: 3/24
ΔH= 0.7 X ΔP:
Probe Condition, pre/post test:
Silica Gel Expended, Y/N:
Filter Condition after Test:
Check Weight:

AMBIENT TEMPERATURE: _____
BAROMETRIC PRESSURE: 29.85
ASSUMED MOISTURE: _____
PITOT TUBE COEFF, Cp: _____
PROBE ID NO/MATERIAL: _____
PROBE LENGTH: _____
NOZZLE ID NO/MATERIAL: _____
NOZZLE DIAMETER: _____
FILTER NO/TY: _____
PRE-TEST LEAK RATE: _____ CFM@ _____ in. Hg.
POST-TEST LEAK RATE: _____ CFM@ _____ in. Hg.
PITOT LEAK CHECK - PRE: _____ POST: _____
CHAIN OF CUSTODY: _____
SAMPLE CUSTODIAN: _____
SAMPLER: _____
SAMPLE CUSTODIAN: _____
Total: _____

Imp. # Contents Post-Test - Pre-Test = Difference

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
6	1328	116.249	1.5	1.05	476	252	253	59	75 72	4.0	3%	-1.3
5	1331	178.015	1.6	1.12	475	251	252	59	74 71	4.0		
4	1334	179.869	1.9	1.33	477	251	250	59	73 70	4.0		
3	1337	181.152	2.0	1.4	478	258	252	59	72 71	4.0		
2	1340	183.611	2.0	1.4	473	255	256	57	71 70	4.0		
1	1343	185.616	2.0	1.4	472	256	255	57	71 71	4.0		
0	1346	187.512										
6	1349	187.564	1.3	.91	473	249	250	59	73 72	4.0		
5	1352	189.202	1.5	1.05	476	250	250	59	73 71	4.0		
4	1355	190.923	1.5	1.05	476	250	255	59	73 72	4.0		
3	1358	192.649	1.6	1.12	477	251	250	59	72 71	4.0		
2	1401	194.389	1.5	1.05	476	250	256	59	71 71	4.0		
1	1404	196.089	1.5	1.05	477	250	255	58	71 71	4.0		
0	1407	197.798										
Average:												
Comments:												

ExxonMobil
STACK O₂, CO₂ DATA

Test #: 1-CN
Date: 6/28/2011
Time: 1306/1426

	O ₂	CO ₂
Range	10	20
Cal Gas	5.00	10.16
Analyzer Zero	0.05	0.02
Analyzer Span	4.98	9.74
Pre-Bias Zero	0.04	0.01
Pre-Bias Span	5.00	10.01
Post-Bias Zero	0.08	0.05
Post-Bias Span	4.89	9.87
Pre-test zero bias	-0.1%	0.0%
Pre-test span bias	0.1%	1.3%
Post-test zero bias	0.3%	0.2%
Post-test span bias	-0.9%	0.6%
Zero Drift	0.4%	0.2%
Span Drift	-1.0%	-0.7%
	PASS	PASS
Average	4.97	13.75
Cal Corrected	5.03	14.07

**ExxonMobil
1-CN**

Date	Time	O2 %	CO2 %
6/28/2011	1:07:00 PM	4.911	13.772
6/28/2011	1:08:00 PM	4.887	13.805
6/28/2011	1:09:00 PM	4.917	13.776
6/28/2011	1:10:00 PM	4.933	13.77
6/28/2011	1:11:00 PM	4.889	13.822
6/28/2011	1:12:00 PM	4.908	13.792
6/28/2011	1:13:00 PM	4.898	13.798
6/28/2011	1:14:00 PM	4.893	13.813
6/28/2011	1:15:00 PM	4.889	13.797
6/28/2011	1:16:00 PM	4.896	13.809
6/28/2011	1:17:00 PM	4.938	13.79
6/28/2011	1:18:00 PM	4.936	13.812
6/28/2011	1:19:00 PM	5	13.748
6/28/2011	1:20:00 PM	5.019	13.717
6/28/2011	1:21:00 PM	5.007	13.706
6/28/2011	1:22:00 PM	5.019	13.724
6/28/2011	1:23:00 PM	5.026	13.705
6/28/2011	1:24:00 PM	5.077	13.661
6/28/2011	1:27:00 PM	5.057	13.68
6/28/2011	1:28:00 PM	5.035	13.693
6/28/2011	1:29:00 PM	5.039	13.693
6/28/2011	1:30:00 PM	5.043	13.682
6/28/2011	1:31:00 PM	5.022	13.697
6/28/2011	1:32:00 PM	4.955	13.758
6/28/2011	1:33:00 PM	4.925	13.785
6/28/2011	1:34:00 PM	4.975	13.755
6/28/2011	1:35:00 PM	5.045	13.691
6/28/2011	1:36:00 PM	5.047	13.692
6/28/2011	1:37:00 PM	5.05	13.681
6/28/2011	1:38:00 PM	5.072	13.666
6/28/2011	1:39:00 PM	5.024	13.706
6/28/2011	1:40:00 PM	5.019	13.709
6/28/2011	1:41:00 PM	4.994	13.732
6/28/2011	1:42:00 PM	4.986	13.753
6/28/2011	1:43:00 PM	4.994	13.745
6/28/2011	1:44:00 PM	5.006	13.73
6/28/2011	1:48:00 PM	4.955	13.771
6/28/2011	1:49:00 PM	4.96	13.784
6/28/2011	1:50:00 PM	4.976	13.755
6/28/2011	1:51:00 PM	4.977	13.749
6/28/2011	1:52:00 PM	5.007	13.713
6/28/2011	1:53:00 PM	4.97	13.748
6/28/2011	1:54:00 PM	5	13.706
6/28/2011	1:55:00 PM	5.001	13.717
6/28/2011	1:56:00 PM	5.01	13.715
6/28/2011	1:57:00 PM	4.974	13.752
6/28/2011	1:58:00 PM	4.963	13.77

6/28/2011	1:59:00 PM	4.963	13.772
6/28/2011	2:00:00 PM	4.912	13.835
6/28/2011	2:01:00 PM	4.96	13.764
6/28/2011	2:02:00 PM	5	13.733
6/28/2011	2:03:00 PM	5.078	13.675
6/28/2011	2:04:00 PM	5.048	13.693
6/28/2011	2:05:00 PM	5.056	13.673
6/28/2011	2:09:00 PM	5.037	13.687
6/28/2011	2:10:00 PM	4.996	13.722
6/28/2011	2:11:00 PM	4.974	13.766
6/28/2011	2:12:00 PM	4.979	13.74
6/28/2011	2:13:00 PM	4.965	13.752
6/28/2011	2:14:00 PM	4.896	13.839
6/28/2011	2:15:00 PM	4.908	13.815
6/28/2011	2:16:00 PM	4.937	13.795
6/28/2011	2:17:00 PM	4.939	13.783
6/28/2011	2:18:00 PM	4.93	13.792
6/28/2011	2:19:00 PM	4.996	13.745
6/28/2011	2:20:00 PM	4.973	13.755
6/28/2011	2:21:00 PM	4.877	13.845
6/28/2011	2:22:00 PM	4.891	13.84
6/28/2011	2:23:00 PM	4.928	13.796
6/28/2011	2:24:00 PM	4.923	13.802
6/28/2011	2:25:00 PM	4.921	13.801
6/28/2011	2:26:00 PM	4.958	13.759
Average		4.97	13.75

ExxonMobil
STACK O₂, CO₂ DATA

Test #: 2-CN
Date: 6/29/2011
Time: 757/1005

	O ₂	CO ₂
Range	10	20
Cal Gas	5.00	10.16
Analyzer Zero	0.05	0.02
Analyzer Span	4.98	9.74
Pre-Bias Zero	0.06	0.02
Pre-Bias Span	5.02	9.87
Post-Bias Zero	0.06	0.03
Post-Bias Span	5.05	9.94
Pre-test zero bias	0.1%	0.0%
Pre-test span bias	0.3%	0.6%
Post-test zero bias	0.1%	0.1%
Post-test span bias	0.7%	1.0%
Zero Drift	0.0%	0.1%
Span Drift	0.4%	0.3%
	PASS	PASS
Average	5.38	13.32
Cal Corrected	5.34	13.67

**ExxonMobil
2-CN**

Date	Time	O2 %	CO2 %
6/29/2011	7:58:00 AM	5.808	14.146
6/29/2011	7:59:00 AM	5.9	14.227
6/29/2011	8:00:00 AM	5.473	13.187
6/29/2011	8:01:00 AM	5.46	13.186
6/29/2011	8:02:00 AM	5.442	13.242
6/29/2011	8:03:00 AM	5.495	13.212
6/29/2011	8:04:00 AM	5.508	13.161
6/29/2011	8:05:00 AM	5.491	13.232
6/29/2011	8:06:00 AM	5.473	13.249
6/29/2011	8:07:00 AM	5.437	13.289
6/29/2011	8:08:00 AM	5.441	13.279
6/29/2011	8:09:00 AM	5.376	13.362
6/29/2011	8:10:00 AM	5.381	13.369
6/29/2011	8:11:00 AM	5.453	13.318
6/29/2011	8:12:00 AM	5.482	13.173
6/29/2011	8:13:00 AM	5.46	13.192
6/29/2011	8:14:00 AM	5.494	13.168
6/29/2011	8:15:00 AM	5.486	13.165
6/29/2011	8:16:00 AM	5.463	13.177
6/29/2011	8:17:00 AM	5.418	13.197
6/29/2011	8:18:00 AM	5.391	13.231
6/29/2011	8:19:00 AM	5.429	13.209
6/29/2011	8:20:00 AM	5.403	13.22
6/29/2011	8:21:00 AM	5.408	13.232
6/29/2011	8:22:00 AM	5.402	13.216
6/29/2011	8:23:00 AM	5.341	13.27
6/29/2011	8:24:00 AM	5.336	13.285
6/29/2011	8:25:00 AM	5.339	13.265
6/29/2011	8:26:00 AM	5.364	13.262
6/29/2011	8:27:00 AM	5.393	13.236
6/29/2011	8:31:00 AM	5.324	13.29
6/29/2011	8:32:00 AM	5.304	13.301
6/29/2011	8:33:00 AM	5.274	13.343
6/29/2011	8:34:00 AM	5.337	13.28
6/29/2011	8:35:00 AM	5.331	13.291
6/29/2011	8:36:00 AM	5.388	13.271
6/29/2011	8:37:00 AM	5.403	13.262
6/29/2011	8:38:00 AM	5.392	13.27
6/29/2011	8:39:00 AM	5.39	13.279
6/29/2011	8:40:00 AM	5.389	13.272
6/29/2011	8:41:00 AM	5.442	13.212
6/29/2011	8:42:00 AM	5.384	13.281
6/29/2011	8:43:00 AM	5.387	13.285
6/29/2011	8:44:00 AM	5.436	13.247
6/29/2011	8:45:00 AM	5.436	13.252
6/29/2011	8:46:00 AM	5.41	13.253
6/29/2011	8:47:00 AM	5.465	13.198

6/29/2011	8:48:00 AM	5.456	13.21
6/29/2011	8:49:00 AM	5.442	13.211
6/29/2011	8:50:00 AM	5.409	13.235
6/29/2011	8:51:00 AM	5.346	13.311
6/29/2011	8:52:00 AM	5.315	13.317
6/29/2011	8:53:00 AM	5.259	13.382
6/29/2011	8:54:00 AM	5.306	13.344
6/29/2011	8:55:00 AM	5.331	13.332
6/29/2011	8:56:00 AM	5.349	13.299
6/29/2011	8:57:00 AM	5.367	13.277
6/29/2011	8:58:00 AM	5.372	13.291
6/29/2011	8:59:00 AM	5.411	13.245
6/29/2011	9:00:00 AM	5.374	13.265
6/29/2011	9:04:00 AM	5.329	13.3
6/29/2011	9:05:00 AM	5.313	13.32
6/29/2011	9:06:00 AM	5.321	13.323
6/29/2011	9:07:00 AM	5.327	13.313
6/29/2011	9:08:00 AM	5.358	13.293
6/29/2011	9:09:00 AM	5.424	13.245
6/29/2011	9:10:00 AM	5.402	13.25
6/29/2011	9:11:00 AM	5.384	13.277
6/29/2011	9:12:00 AM	5.361	13.285
6/29/2011	9:13:00 AM	5.281	13.38
6/29/2011	9:14:00 AM	5.292	13.354
6/29/2011	9:15:00 AM	5.309	13.353
6/29/2011	9:16:00 AM	5.346	13.319
6/29/2011	9:17:00 AM	5.336	13.322
6/29/2011	9:18:00 AM	5.321	13.339
6/29/2011	9:19:00 AM	5.351	13.319
6/29/2011	9:20:00 AM	5.365	13.29
6/29/2011	9:21:00 AM	5.335	13.316
6/29/2011	9:22:00 AM	5.38	13.276
6/29/2011	9:23:00 AM	5.351	13.302
6/29/2011	9:24:00 AM	5.349	13.299
6/29/2011	9:25:00 AM	5.371	13.28
6/29/2011	9:26:00 AM	5.374	13.288
6/29/2011	9:27:00 AM	5.331	13.313
6/29/2011	9:28:00 AM	5.315	13.337
6/29/2011	9:29:00 AM	5.303	13.342
6/29/2011	9:30:00 AM	5.345	13.306
6/29/2011	9:31:00 AM	5.326	13.306
6/29/2011	9:32:00 AM	5.32	13.327
6/29/2011	9:33:00 AM	5.288	13.359
6/29/2011	9:36:00 AM	5.323	13.334
6/29/2011	9:37:00 AM	5.319	13.344
6/29/2011	9:38:00 AM	5.33	13.325
6/29/2011	9:39:00 AM	5.309	13.354
6/29/2011	9:40:00 AM	5.313	13.343
6/29/2011	9:41:00 AM	5.313	13.36
6/29/2011	9:42:00 AM	5.287	13.373
6/29/2011	9:43:00 AM	5.244	13.418
6/29/2011	9:44:00 AM	5.217	13.467

6/29/2011	9:45:00 AM	5.29	13.4
6/29/2011	9:46:00 AM	5.295	13.447
6/29/2011	9:47:00 AM	5.318	13.453
6/29/2011	9:48:00 AM	5.358	13.43
6/29/2011	9:49:00 AM	5.358	13.459
6/29/2011	9:50:00 AM	5.331	13.498
6/29/2011	9:51:00 AM	5.477	13.761
6/29/2011	9:52:00 AM	5.447	13.731
6/29/2011	9:53:00 AM	5.289	13.4
6/29/2011	9:54:00 AM	5.317	13.361
6/29/2011	9:55:00 AM	5.302	13.398
6/29/2011	9:56:00 AM	5.314	13.406
6/29/2011	9:57:00 AM	5.324	13.369
6/29/2011	9:58:00 AM	5.338	13.364
6/29/2011	9:59:00 AM	5.336	13.354
6/29/2011	10:00:00 AM	5.295	13.038

Average	5.38	13.32
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ExxonMobil
STACK O₂, CO₂ DATA

Test #: 3-CN
Date: 6/29/2011
Time: 1246/1407

	O ₂	CO ₂
Range	10	20
Cal Gas	5.00	10.16
Analyzer Zero	0.05	0.02
Analyzer Span	4.98	9.74
Pre-Bias Zero	0.06	0.02
Pre-Bias Span	4.98	9.82
Post-Bias Zero	0.06	0.02
Post-Bias Span	4.98	9.84
Pre-test zero bias	0.1%	0.0%
Pre-test span bias	0.0%	0.4%
Post-test zero bias	0.1%	0.0%
Post-test span bias	0.0%	0.5%
Zero Drift	0.0%	0.0%
Span Drift	0.0%	0.1%
	PASS	PASS
Average	5.23	13.44
Cal Corrected	5.26	13.91

**ExxonMobil
3-CN**

Date	Time	O2 %	CO2 %
6/29/2011	12:47:00 PM	5.208	13.439
6/29/2011	12:48:00 PM	5.201	13.463
6/29/2011	12:49:00 PM	5.202	13.468
6/29/2011	12:50:00 PM	5.26	13.411
6/29/2011	12:51:00 PM	5.266	13.413
6/29/2011	12:52:00 PM	5.3	13.371
6/29/2011	12:53:00 PM	5.291	13.368
6/29/2011	12:54:00 PM	5.232	13.434
6/29/2011	12:55:00 PM	5.234	13.429
6/29/2011	12:56:00 PM	5.211	13.472
6/29/2011	12:57:00 PM	5.285	13.378
6/29/2011	12:58:00 PM	5.259	13.407
6/29/2011	12:59:00 PM	5.29	13.373
6/29/2011	1:00:00 PM	5.218	13.433
6/29/2011	1:01:00 PM	5.156	13.498
6/29/2011	1:02:00 PM	5.19	13.475
6/29/2011	1:03:00 PM	5.282	13.391
6/29/2011	1:04:00 PM	5.262	13.401
6/29/2011	1:06:00 PM	5.323	13.341
6/29/2011	1:07:00 PM	5.337	13.315
6/29/2011	1:08:00 PM	5.299	13.353
6/29/2011	1:09:00 PM	5.258	13.38
6/29/2011	1:10:00 PM	5.196	13.445
6/29/2011	1:11:00 PM	5.202	13.451
6/29/2011	1:12:00 PM	5.198	13.456
6/29/2011	1:13:00 PM	5.201	13.461
6/29/2011	1:14:00 PM	5.281	13.39
6/29/2011	1:15:00 PM	5.2	13.468
6/29/2011	1:16:00 PM	5.2	13.468
6/29/2011	1:17:00 PM	5.231	13.447
6/29/2011	1:18:00 PM	5.257	13.424
6/29/2011	1:19:00 PM	5.318	13.36
6/29/2011	1:20:00 PM	5.339	13.332
6/29/2011	1:21:00 PM	5.338	13.331
6/29/2011	1:22:00 PM	5.302	13.366
6/29/2011	1:23:00 PM	5.237	13.415
6/29/2011	1:29:00 PM	5.185	13.501
6/29/2011	1:30:00 PM	5.222	13.436
6/29/2011	1:31:00 PM	5.258	13.4
6/29/2011	1:32:00 PM	5.23	13.437
6/29/2011	1:33:00 PM	5.207	13.492
6/29/2011	1:34:00 PM	5.179	13.522
6/29/2011	1:35:00 PM	5.199	13.515
6/29/2011	1:36:00 PM	5.269	13.439
6/29/2011	1:37:00 PM	5.266	13.435
6/29/2011	1:38:00 PM	5.24	13.468
6/29/2011	1:39:00 PM	5.199	13.513

6/29/2011	1:40:00 PM	5.276	13.437
6/29/2011	1:41:00 PM	5.33	13.371
6/29/2011	1:42:00 PM	5.259	13.441
6/29/2011	1:43:00 PM	5.26	13.449
6/29/2011	1:44:00 PM	5.238	13.444
6/29/2011	1:45:00 PM	5.142	13.527
6/29/2011	1:46:00 PM	5.15	13.532
6/29/2011	1:50:00 PM	5.166	13.516
6/29/2011	1:51:00 PM	5.164	13.517
6/29/2011	1:52:00 PM	5.209	13.483
6/29/2011	1:53:00 PM	5.144	13.557
6/29/2011	1:54:00 PM	5.201	13.517
6/29/2011	1:55:00 PM	5.214	13.491
6/29/2011	1:56:00 PM	5.211	13.49
6/29/2011	1:57:00 PM	5.167	13.535
6/29/2011	1:58:00 PM	5.21	13.473
6/29/2011	1:59:00 PM	5.251	13.43
6/29/2011	2:00:00 PM	5.226	13.454
6/29/2011	2:01:00 PM	5.228	13.443
6/29/2011	2:02:00 PM	5.261	13.42
6/29/2011	2:03:00 PM	5.217	13.448
6/29/2011	2:04:00 PM	5.113	13.541
6/29/2011	2:05:00 PM	5.154	13.526
6/29/2011	2:06:00 PM	5.172	13.497
6/29/2011	2:07:00 PM	5.224	13.459
Average		5.23	13.44

DAT Reports®

Data Analysis Technologies, Inc.

7715 Corporate Blvd.
Plain City, OH 43064
800-733-8644

Sample Analysis Certificate

Client: Atmospheric Analysis & Consulting, Inc.
Address: 1534 Eastman Avenue, Suite A
Ventura, CA 93003

Date: 7/25/2011
DAT Project ID: 0711009
Date Received: 7/8/2011
Date Analyzed: 7/22/2011

Attn: Marcus Hueppe
Client Project: 1F-7 # 110573
Analysis: OTM29

The following samples were received on 7/8/2011:

DAT Sample ID	Client Sample ID	Date Sampled	Matrix
0711009-01	51388	6/28/2011	Liquid
0711009-02	51389	6/28/2011	Liquid
0711009-03	51390	6/28/2011	Liquid
0711009-04	51391	6/28/2011	Liquid
0711009-05	51392	6/28/2011	Liquid
0711009-06	51393	6/28/2011	Liquid
0711009-07	51394	6/28/2011	Liquid
0711009-08	51395	6/28/2011	Liquid
0711009-09	51396	6/28/2011	Liquid
0711009-10	51397	6/28/2011	Liquid
0711009-11	51398	6/30/2011	Liquid
0711009-12	51399	6/30/2011	Liquid

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Results: See attached summary.

QC: Met the criteria for the method. See attached summary.

Reviewed and approved for release by:


Ronald K. Mitchum, Ph.D.
President, DAT

Date:

7/25/11

Data Analysis Technologies, Inc.

7715 Corporate Blvd.

Plain City, OH 43064

Data Summary Table

Client: Atmospheric Analysis & Consulting, Inc.
 Client Project: 2F-7 #110573
 Analysis: Cyanide by OTM-29
 DAT Project: 0711009
 Extraction Date: 6/28/11
 Analysis Date: 7/22/11

Client ID	DAT ID		MDL ug	Total Cyanide Conc., ug	Q
51394 NaOH-Blank	0711009-	7	0.550	ND	
51388 1-CN -#1 and #2	0711009-	1	243.900	15406	D
51389 1-CN-#3	0711009-	2	119.000	3451	D
51390 2-CN -#1 and #2	0711009-	3	335.000	9648	D
51391 2-CN-#3	0711009-	4	118.000	3918	D
51392 3-CN -#1 and #2	0711009-	5	279.500	14031	D
51393 3-CN-#3	0711009-	6	110.500	5039	D
51395 FS-CN -1	0711009-	8	0.600	98	
51396 FB-CN-#1 and #2	0711009-	9	1.350	ND	
51397 FB-CN-#3	0711009-	10	0.600	ND	
51398 FS-CN -2	0711009-	11	5.700	467	D
51399 FS-CN -3	0711009-	12	30.500	915	D

D= Value from a dilution

Data Analysis Technologies, Inc.

7715 Corporate Blvd.

Plain City, OH 43064

QC Summary Table

Client: Atmospheric Analysis & Consulting, Inc.
Client Project: 2F-7 #110573
Analysis: Cyanide by OTM-29
DAT Project: 0711009
Extraction Date: 6/28/11
Analysis Date: 7/22/11
Spike Amt. Added, ug: 0.2

Client ID:	DAT ID:	% Rec	% RPD	Q
Cal Check Standard	Concal 1 ug/mL ()	100		
Instr Blank	ACN Blank ()			
Sample	0711009-6			
Sample Duplicate	0711009-6 Dup		4	
Cal Check Standard	Concal 1 ug/mL ()	106		
Instr Blank	ACN Blank ()			
Matrix Spike	0711009-3 MS	106		
Matrix Spike Duplicate	0711009-3 MSD	102	2	
Field Spike 1	0711009-8	98		
Field Spike 2	0711009-11	93		
Field Spike 3	0711009-12	92		
Lab Spike	LS	104		
Cal Check Standard	Concal 1 ug/mL ()	106		
Instr Blank	ACN Blank ()			

ND = Not detected at the reporting limit shown.

DOCUMENTATION



ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aacilab.com

AAC Project No. 110573

Page 1 of 1

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client Name AAC, Inc.		Project Name 2F-7		Analysis Requested		Send Report	
Project Mgr (Print Name) Marcus Hueppe		Project Number 110573		Analysis Requested		Attn: Marcus Hueppe	
Sampler's Name (Print Name)		Sampler's Signature		Analysis Requested		Phone #: 805-650-1642	
AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of containers	Analysis Requested	Fax #: 805-650-1644
51388	6/28/2011		Liquid	1 - CN - #1 and #2	1	OTM29	Send Invoice to:
51389	5/28/2011		Liquid	1 - CN - #3	1		
51390	6/28/2011		Liquid	2 - CN - #1 and #2	1		
51391	6/28/2011		Liquid	2 - CN - #3	1		Attn: Marcus Hueppe
51392	6/28/2011		Liquid	3 - CN - #1 and #2	1		P.O. #
51393	6/28/2011		Liquid	3 - CN - #3	1		Turn Around Time 24-Hr 48-Hr
51394	6/28/2011		Liquid	NaOH - Blank	1		5 day Normal X
91395	6/28/2011		Liquid	FS - CN - 1	1		Other (Specify)
91396	6/28/2011		Liquid	FB - CN # 1 and #2	1		Special Instructions / remarks: HCN Analysis by OTM 29
91397	6/28/2011		Liquid	FB - CN #3	1		
91398	6/30/2011		Liquid	FS - CN - 2	1		
51399	6/30/2011		Liquid	FS - CN - 3	1		
Relinquished by (Signature)		Print name:		Date/Time		Received by (Signature)	
Wesley Horn		Wesley Horn		7/7/2011 1420		Print Name	
Relinquished by (Signature)		Print name:		Date/Time		Received by (Signature)	
Juda		Juda		7-8-11 1500		Print Name	

0711009

DAT SAMPLE RECEIVING

7715 Corporate Blvd. Plain City, OH 43064.

Project Number: 0711009

Date Received: 7/8/2011

Client Name: Atomospheric Analysis &

Tracking number: 794950476707

Custody Seals ?: No

Carrier: Fed-X overnight

Analysis: OTM29

Package Temp: 10.6 (Ice-Cooler)

COC: ☒ check if COC from client

Sample Information

Client ID:	Laboratory ID	Date	Matrix:	Container:	Comment:
51388	0711009-01	6/28/2011	Liquid	500ml Brown Nalgene Bottle	
51389	0711009-02	6/28/2011	Liquid	500ml Brown Nalgene Bottle	
51390	0711009-03	6/28/2011	Liquid	1liter Brown Nalgene Bottle	
51391	0711009-04	6/28/2011	Liquid	500ml Brown Nalgene Bottle	
51392	0711009-05	6/28/2011	Liquid	1liter Brown Nalgene Bottle	
51393	0711009-06	6/28/2011	Liquid	500ml Brown Nalgene Bottle	
51394	0711009-07	6/28/2011	Liquid	500ml Brown Nalgene Bottle	


Laboratory Receiving Initials

0711009

7/8/2011 4:29:36 PM

DAT SAMPLE RECEIVING

7715 Corporate Blvd. Plain City, OH 43064.

Project Number: 0711009

Client ID:	Laboratory ID	Date	Matrix:	Container:	Comment:
51395	0711009-08	6/28/2011	Liquid	500ml Brown Nalgene Bottle	
51396	0711009-09	6/28/2011	Liquid	500ml Brown Nalgene Bottle	
51397	0711009-10	6/28/2011	Liquid	500ml Brown Nalgene Bottle	
51398	0711009-11	6/30/2011	Liquid	500ml Brown Nalgene Bottle	
51399	0711009-12	6/30/2011	Liquid	500ml Brown Nalgene Bottle	



Laboratory Receiving Initials

0711009

7/8/2011 4:29:36 PM

DAT Labs Inc. **Sample Receipt Report**

Client/Number: Atmospheric Analysis & Consulting (10141) The client has been contacted. Yes ☐ No ☐

Custodian Initial: LE Date: 7-8-11

Secondary Review: Initials: _____ Date: _____

Upon receipt of samples, check if any of the following discrepancies have been noted.

Discrepancy Type	Specify applicable client ID or "all"
<input checked="" type="checkbox"/> COC and samples do not match	
<input type="checkbox"/> No unique sample identifications	
<input type="checkbox"/> Samples received outside of the required temp criteria.	Receipt Temp: <u>10.0</u> C
<input type="checkbox"/> No preservation type was noted	Correction Factor: <u>0.6</u> C
<input type="checkbox"/> No date of collection stated	Corrected Temp: <u>10.6</u> C
<input checked="" type="checkbox"/> No time of collection stated	<u>(1cc - 100kr)</u>
<input checked="" type="checkbox"/> The sample collector was not named	
<input type="checkbox"/> Sample containers were not appropriate	
<input type="checkbox"/> Sample labels were destroyed or unreadable	
<input type="checkbox"/> Samples were received outside of holding time	
<input type="checkbox"/> There was not enough sample to perform the requested analysis.	
<input type="checkbox"/> Samples showed sign of damage or contamination.	
<input type="checkbox"/> Aqueous samples for volatile analysis: Headspace? Y N	If Yes, list sample ID(s) in details:

Details: _____

Sample pH for nonvolatile aqueous samples and presence or absence of headspace (Y or N) for VOA aqueous samples shall be recorded at time of sample log-in. Under no circumstances shall VOA vials be opened at time of sample receipt.

Other Discrepancies:

Sample ID

Discrepancy

Container Return

0711009-001411

COC. States 91395 ex... thru 91398 Bottles

Yes / No

are labeled 51395 ex... thru 51398

Price:

Used Bottle label

Size:

Return Spl wt:

☒

0711009

Upon receipt, the samples met all of DAT's acceptance criteria.

DAT Project #

From: (805) 650-1642
 Wesley Horn
 AAC
 1534 EASTMAN AVENUE, SUITE A
 VENTURA, CA 93003

Origin ID: OXRA



Ship Date: 07JUL11
 ActWgt: 10.0 LB
 CAD: 1251647/INET3180

Delivery Address Bar Code



SHIP TO: (800) 733-8644
Ronald K. Mitchum
DAT Laboratory
7715 CORPORATE BLVD

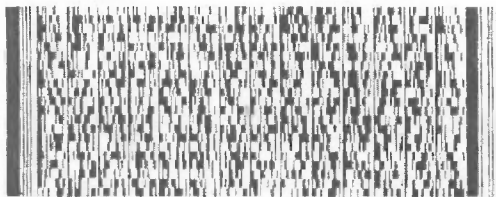
PLAIN CITY, OH 43064

BILL SENDER

Ref #
 Invoice #
 PO #
 Dept #

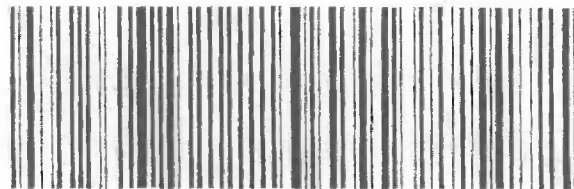
FRI - 08 JUL A2
STANDARD OVERNIGHT

TRK# 7949 5047 6707
 0201



NK CMHA

43064
 OH-US
LCK



0707201104

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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