

APPENDIX D
ANALYTICAL RESULTS



CH2M HILL
Applied Sciences Laboratory
2300 NW Walnut Blvd
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

June 5, 2006

RE: Laboratory Report for
Applied Sciences Laboratory Reference No. B1579-01

Dear Ray Poland and Sons:

On April 26th, CH2M HILL Applied Sciences Laboratory received 1 sample with a request for analysis of selected parameters. All analyses were performed by CH2M HILL unless otherwise indicated below.

The analytical results and associated quality control data are enclosed. Any unusual difficulties encountered during the analysis of your samples are discussed in the case narrative. This data package meets standards requested by client and is not intended or implied to meet any other standard.

CH2M HILL Applied Sciences Laboratory appreciates your business and looks forward to serving your analytical needs again. If you should have any questions concerning the data, or if you need additional information, please call Kathy McKinley at (541) 758-0235, extension 3144.

Sincerely,

A handwritten signature in black ink that reads "Dayna Kaumanns". The signature is written in a cursive style with a large, looped initial 'D'.

Dayna Kaumanns

Enclosures

CASE NARRATIVE
GENERAL CHEMISTRY

Lab Reference No.: B1579-01

Client/Project:

- I. Holding Time:
All acceptance criteria were met.
- II. Digestion Exceptions:
None.
- III. Analysis:
- A. Calibration:
All acceptance criteria were met.
- B. Method Blank(s):
All acceptance criteria were met.
- C. Duplicate Sample(s):
Not applicable.
- D. Spike Sample(s):
Not applicable.
- E. Lab Control Sample(s):
All acceptance criteria were met.
- F. Other:
Not applicable.
- IV. Documentation Exceptions:
None.
- V. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, except for the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Prepared by: Rayna Korman Date: 6/5/06

Reviewed by: [Signature] Date: 6-6-06

CH2M HILL Applied Sciences Laboratory

Client Sample ID: METHOD BLANK

Project Name: Ray Poland and Sons

Sampling Date: N/A

Sampling Time: N/A

Lab Information

Lab Batch ID: B1579

Date Received: 04/26/2006

Report Revision No.: 0

Reported By: DHK

Reviewed By: [Signature]

Analyte	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
General Chemistry BOD-30 Day	2	2	U	mg/L	EPA 405.1	05/03/2006 14:40:00 PM

U=Not detected at specified reporting limits

CH2M HILL Applied Sciences Laboratory

Client Information

Client Sample ID: 06186A

Project Name: Ray Poland and Sons

Sampling Date: 04/18/2006

Sampling Time: 13:54

Lab Information

Lab Batch ID: B1579-01

Date Received: 04/26/2006

Report Revision No.: 0

Reported By: DHK

Reviewed By: *RKD*

Analyte	MRL	Sample Result	% of Total Product Biodegradation	Qualifier	Units	Analysis Method	Date Analyzed
General Chemistry BOD-30 Day	2	1554	51.60%		mg/L	EPA 405.1	05/03/2006 14:50:00 PM

U=Not detected at specified reporting limits

5-Day BOD Bench Sheet										
			Date set-up 05/03/2006				Date off		06/02/2006	
			Time 14:00				Time		12:00	
			Analyst DHK				Analyst		dhk	
			mL Seed/L	Vol. seed	B1 seed	B2 seed	DO used seed			
			30	10	8.50	4.70	3.80			
	Sample ID, pH									
TIME		No.	Dilution	Volume			DO used	f	BOD	Comments
14:30	Blank w/o seed	9	1	300	8.55	8.50	0.05	0.000	0	IN t= 22
		31	1	300	8.55	8.50	0.05	0.000	0	do= 8.72
		11	1	300	8.55	8.60	-0.05	0.000	0	Room =20
14:35	SEED	6	150	2	8.50	7.80	0.70	0.894	-405	INC003=20
	3-PGC-39-8A	23	60	5	8.50	7.10	1.40	0.885	-118	
		1A	30	10	8.50	4.70	3.80	0.870	15	
		40	12	25	8.50	0.20	8.30	0.825	62	OUT t=19
		21	12	25	8.50	0.20	8.30	0.825	62	do=
14:40	WB1-0503	7	1	300	8.50	5.40	3.10	0.000	3	INC003=20
	Blank w/seed	63	1	300	8.50	5.80	2.70	0.000	3	Room = 20
		432	1	300	8.50	5.50	3.00	0.000	3	
14:50	1B1579-01	410	1500	0.2	8.50	4.30	4.20	0.899	1173	2 MLS 10X DIL.
	0.4% SOLUTION	28	750	0.4	8.50	2.95	5.55	0.899	1601	4 MLS 10X DIL.
	30-DAY	4	600	0.5	8.50	2.60	5.90	0.899	1491	5 MLS 10X DIL.
		55	500	0.6	8.50	1.35	7.15	0.898	1868	6 MLS 10X DIL.
		417	400	0.75	8.50	1.00	7.50	0.898	1635	7.5 MLS 10X DIL.
		24	300	1	8.50	0.00	8.50	0.897	1527	10 MLS 10X DIL. x
		50	200	1.5	8.50	0.00	8.50	0.896	1019	15 MLS 10X DIL. x
		20	150	2	8.50	0.00	8.50	0.894	765	x
							average=		1553.9	
			#DIV/0!				0.00	0.900	#DIV/0!	
			#DIV/0!				0.00	0.900	#DIV/0!	
			#DIV/0!				0.00	0.900	#DIV/0!	
			#DIV/0!				0.00	0.900	#DIV/0!	
			#DIV/0!				0.00	0.900	#DIV/0!	
							average=		#DIV/0!	
			#DIV/0!				0.00	0.900	#DIV/0!	
			#DIV/0!				0.00	0.900	#DIV/0!	
			#DIV/0!				0.00	0.900	#DIV/0!	
			#DIV/0!				0.00	0.900	#DIV/0!	
			#DIV/0!				0.00	0.900	#DIV/0!	
			#DIV/0!				0.00	0.900	#DIV/0!	
							average=		#DIV/0!	
	X = Depletion requirements not met									
	Diluted samples are prepared with 10 mls of sample brought to 100mls with buffered seeded water									



CH2MHILL
Applied Sciences Laboratory

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May 15, 2006

RE: Laboratory Report for
Applied Sciences Laboratory Reference No. 1B1579-01

Dear Ray Poland and Sons:

On April 26th, CH2M HILL Applied Sciences Laboratory received 1 sample with a request for analysis of selected parameters. All analyses were performed by CH2M HILL unless otherwise indicated below.

The analytical results and associated quality control data are enclosed. Any unusual difficulties encountered during the analysis of your samples are discussed in the case narrative. This data package meets standards requested by client and is not intended or implied to meet any other standard.

CH2M HILL Applied Sciences Laboratory appreciates your business and looks forward to serving your analytical needs again. If you should have any questions concerning the data, or if you need additional information, please call Kathy McKinley at (541) 758-0235, extension 3144.

Sincerely,

Dayna Kaumanns


Enclosures

**CASE NARRATIVE
GENERAL CHEMISTRY**

Lab Reference No.: 1B1579-01

Client/Project:

- I. Holding Time:
All acceptance criteria were met.
- II. Digestion Exceptions:
None.
- III. Analysis:
- A. Calibration:
All acceptance criteria were met.
 - B. Method Blank(s):
All acceptance criteria were met.
 - C. Duplicate Sample(s):
Analysis performed in accordance with standard operating procedure.
 - D. Spike Sample(s):
Analysis performed in accordance with standard operating procedure.
 - E. Lab Control Sample(s):
All acceptance criteria were met.
 - F. Other:
Not applicable.
- IV. Documentation Exceptions:
None.
- V. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, except for the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Prepared by:  Date: 5/15/06

Reviewed by: _____ Date: _____

CH2M HILL Applied Sciences Laboratory

Client Information

Client Sample ID: 06186A

Project Name: Ray Poland and Sons

Sampling Date: 04/18/2006

Sampling Time: 13:54

Lab Information

Lab Batch ID: 1B1579-01

Date Received: 04/26/2006

Report Revision No.: 0

Reported By: DHK

Reviewed By:

Analyte	MRL	Sample Result	% of Total Product Biodegradation	Qualifier	Units	Analysis Method	Date Analyzed
General Chemistry							
BOD-5 Day	2	1118	37.12		mg/L	EPA 405.1	05/03/2006 14:50:00 PM
COD	20	3012			mg/L	EPA 410.4	04/27/2005

U=Not detected at specified reporting limits

5/8/06
OK

5-Day BOD Bench Sheet										
		Date set-up 05/03/2006				Date off		05/08/2006		
		Time 14:00		Time		13:00				
		Analyst DHK		Analyst		DHK				
		mL Seed/L	Vol seed	B1 seed	B2 seed	DO used seed				
		30	25	8.50	3.10	5.40				
Sample ID, pH										
TIME	No.	Dilution	Volume			DO used	f	BOD	Comments	
14:30	Blank w/o seed	24	1	300	8.55	8.50	0.05	0.000	0	IN t= 19
		6	1	300	8.55	8.50	0.05	0.000	0	do= 9.26
		25	1	300	8.55	8.50	0.05	0.000	0	Room =20
14:35	SEED	59	12	25	8.50	3.00	5.50			INC003=20
	3-PGC-39-8A	11	12	25	8.50	3.10	5.40			OUT t=19
		33	6	50	8.50	0.50	8.00			do=9.26
14:40	WB1-0503	38	1	300	8.50	6.60	1.90	0.000	1	INC003=20
	Blank w/seed	63	1	300	8.50	6.60	1.90	0.000	1	Room = 20
		189	1	300	8.50	6.50	2.00	0.000	1	
14:45	BS1W0503	14	150	2	8.50	3.90	4.60	0.358	200	
	2-PGC-98-6	429	150	2	8.50	3.90	4.60	0.358	200	
	Hach 14865-10	5	150	2	8.50	4.00	4.50	0.358	193	TV=198
							average=		197.7	99.83%
14:50	1B1579-01	5	600	0.5	8.50	4.10	4.40	0.359	1476	5 MLS 10X DIL.
	0.4% SOLUTION	18	500	0.6	8.50	4.35	4.15	0.359	1105	6 MLS 10X DIL.
		9	400	0.75	8.50	3.90	4.60	0.359	1064	7.5 MLS 10X DIL.
	5-DAY	8	300	1	8.50	3.80	4.70	0.359	829	10 MLS 10X DIL.
		1	200	1.5	8.50	0.00	8.50	0.358	1313	15 MLS 10X DIL. X
		7	150	2	8.50	0.00	8.50	0.358	985	X
		14	60	5	8.50	0.00	8.50	0.354	395	X
							average=		1118.4	
14:55	F1635-01	23	12	25	8.60	5.20	3.40	0.330	19	
	ENTEK	28	6	50	8.70	4.30	4.40	0.300	17	
	pH adj. to 7.19	4	3	100	8.95	2.15	6.80	0.240	17	
		48	2	150	9.20	0.00	9.20	0.180	16	X
		21	1.5	200	9.40	0.00	9.40	0.120	13	X
							average=		17.5	
15:00	F1642-01	7	12	25	8.60	5.80	2.80	0.330	12	
	ENTEK	55	6	50	8.80	5.20	3.60	0.300	12	
	pH adj. to 6.83	5	3	100	9.05	4.20	4.85	0.240	11	
		114	2	150	9.50	2.50	7.00	0.180	12	
		54	1.5	200	9.90	1.60	8.30	0.120	11	
							average=		11.7	
	F1657-01	316	12	25	8.60	5.50	3.10	0.330	16	
	ENTEK	27	6	50	8.80	4.70	4.10	0.300	15	
	pH adj. to 6.89	11	3	100	9.05	3.00	6.05	0.240	14	
		11	2	150	9.50	1.10	8.40	0.180	15	
		8	1.5	200	9.90	0.00	9.90	0.120	14	X
							average=		15.0	
X = Depletion requirements not met										
Diluted samples are prepared with 10 mls of sample brought to 100mls with buffered seeded water										

COD-Reactor Digestion Method-EPA 410.4, SM5220 D

CH2MHILL

Applied Sciences Laboratory

Date: 4/27/06 Clients: BioPSSy 0-150 PPM Range @ 420 nm (stored program 45)
 Analyst: PHK 0-1500 PPM Range @ 620 nm (stored program 46)
 Page: 1 of 1 check wavelength w/ preprogrammed value

	Lab ID/Client ID	Range	mL sample	final volume	spike: mL/ppm	DF	Conc. Reading	mg/L	Comments
A	BLANK WJBI-0427	1500	2 mL	2 mL			SET 0		
B	CVI-0427	↓	↓	↓	2/1000		224	1024	TV=1000 mg/L 10
C	B51W-0427	↓	↓	↓	2/300		308	308	TV=300 mg/L 10
	dup								
	MS 161579-01	1500	0.5 mL	2 mL	0.5/1000		943		250 mg/L spike 99%
	MSD 161579-01	↓	↓	↓	0.5/1000		998		↓
1	161579-01	1500	0.5 mL	2 mL		4	753	3012	
2	161579-01	↓	1 mL	2 mL		2	1449	2898	
3	↓	↓	0.25 mL	2 mL		8	390	3088	
4	↓	↓	0.5 mL	2 mL		4	753	3012	
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Reagent	Lot #	Expiration Date
1500 vials	3-P66-46-8	10/31/2010
500 mg/L	3-P66-13-9	4/30/10
1000 mg/L	1-P66-5/91	5/31/10

LCS must be ±20% T.V.
 MSMSD must be ±15% T.V.
 CCV must be ±15% T.V.
 T.V.= True Value

