

Attachment C

Waste Stream Field Logs

Hudson River Treatability Study

Sediment Log

Sediment ID	Decanted	Percent Solids	PCB Sample	Grain Size Sample	Consumed
S1-01	7/7/04 SF	84.42	7/12/04 SF	7/12/04 SF	Not Used
S1-02	7/7/04 SF	81.69	7/12/04 SF	7/12/04 SF	7/13/04 SF
S1-03	7/7/04 SF	82.60	7/12/04 SF	7/12/04 SF	7/22/04 MS
S1-04	7/7/04 SF	82.49	7/13/04 SF	7/13/04 SF	8/9/04 JL
S1-05	7/14/04 MS	82.44	7/14/04 MS	7/14/04 MS	8/2/04 JL
S1-06	7/14/04 MS	81.81	7/14/04 MS	7/14/04 MS	8/2/04 JL
S1-07	7/14/04 MS	81.12	7/14/04 MS	7/14/04 MS	8/5/04 JL
S1-08	7/28/04 MS	81.84	7/28/04 MS	7/28/04 MS	8/3/04 JL
S1-09	7/28/04 MS	82.66	7/28/04 MS	7/28/04 MS	Not Used
S1-10	7/28/04 MS	82.71	7/28/04 MS	7/28/04 MS	Not Used
S1-11	8/3/04 MS	83.04	8/3/04 MS	8/3/04 MS	8/3/04 JL
S1-12	8/3/04 MS	81.63	8/3/04 MS	8/3/04 MS	8/5/04 JL
S1-13	8/3/04 MS	82.26	8/3/04 MS	8/3/04 MS	8/4/04 SC
S1-14	8/3/04 MS	81.24	8/3/04 MS	8/3/04 MS	8/9/04 JL
S1-15	8/3/04 MS	82.18	8/3/04 MS	8/3/04 MS	8/6/04 JL
S1-16	8/3/04 MS	82.43	8/3/04 MS	8/3/04 MS	8/6/04 JL
S1-17	8/3/04 MS	84.90	8/3/04 MS	8/3/04 MS	8/6/04 JL
S1-18	8/3/04 MS	82.40	8/3/04 MS	8/3/04 MS	8/6/04 JL
S1-19	8/3/04 MS	80.52	8/3/04 MS	8/3/04 MS	8/9/04 JL
S1-20	8/10/04 JL	82.69	8/10/04 JL	8/10/04 JL	
S1-21	8/10/04 JL	82.34	8/10/04 JL	8/10/04 JL	Sent to GE 12/8/04
S1-22	8/10/04 JL	81.78	8/10/04 JL	8/10/04 JL	
S1-23	8/10/04 JL	82.16	8/10/04 JL	8/10/04 JL	
S1-24	8/10/04 JL	82.90	8/10/04 JL	8/10/04 JL	
S1-25	8/10/04 JL	80.78	8/10/04 JL	8/10/04 JL	
S1-26	8/10/04 JL	81.86	8/10/04 JL	8/10/04 JL	
S1-27	8/10/04 JL	81.70	8/10/04 JL	8/10/04 JL	
S1-28	8/17/04 MS	84.36	8/17/04 MS	8/17/04 MS	
S2-01	7/7/04 SF	59.90	7/12/04 SF	7/12/04 SF	7/13/04 SF
S2-02	7/7/04 SF	59.06	7/13/04 SF	7/13/04 SF	7/14/04 SC
S2-03	7/7/04 SF	58.99	7/13/04 SF	7/13/04 SF	7/14/04 SC
S2-04	7/7/04 SF	60.43	7/13/04 SF	7/13/04 SF	7/14/04 SC
S2-05	7/14/04 MS	61.92	7/14/04 MS	7/14/04 MS	7/27/04 JL
S2-06	7/14/04 MS	61.78	7/14/04 MS	7/14/04 MS	7/27/04 JL
S2-07	7/14/04 MS	60.35	7/14/04 MS	7/14/04 MS	8/24/04 MS
S2-08	7/14/04 MS	60.47	7/14/04 MS	7/14/04 MS	7/29/04 JL
S2-09	7/28/04 MS	61.51	7/28/04 MS	7/28/04 MS	7/29/04 JL
S2-10	7/28/04 MS	56.55	7/28/04 MS	7/28/04 MS	7/30/04 JL
S2-11	7/28/04 MS	56.72	7/28/04 MS	7/28/04 MS	7/30/04 JL
S2-12	7/28/04 MS	61.66	7/28/04 MS	7/28/04 MS	7/30/04 JL
S2-13	7/30/04 MS	61.17	7/30/04 MS	7/30/04 MS	8/24/04 MS
S2-14	7/30/04 MS	57.03	7/30/04 MS	7/30/04 MS	8/10/04 JL
S2-15	7/30/04 MS	54.00	7/30/04 MS	7/30/04 MS	8/10/04 JL
S2-16	8/3/04 MS	55.70	8/3/04 MS	8/3/04 MS	

Sediment ID	Decanted	Percent Solids	PCB Sample	Grain Size Sample	Consumed
S2-17	8/17/04 MS	57.13	8/17/04 MS	8/17/04 MS	8/24/04 JL
S3-01	7/7/04 SF	61.85	7/13/04 MS	7/13/04 MS	7/13/04 SF
S3-02	7/7/04 SF	58.34	7/13/04 SF	7/13/04 SF	7/14/04 SC
S3-03	7/7/04 SF	59.70	7/13/04 SF	7/13/04 SF	7/14/04 SC
S3-04	7/7/04 SF	61.79	7/13/04 SF	7/13/04 SF	7/23/04 JL
S3-05	7/14/04 MS	62.34	7/14/04 MS	7/14/04 MS	7/27/04 JL
S3-06	7/14/04 MS	59.73	7/14/04 MS	7/14/04 MS	7/27/04 JL
S3-07	7/14/04 MS	57.22	7/14/04 MS	7/14/04 MS	7/27/04 JL
S3-08	7/14/04 MS	60.46	7/14/04 MS	7/14/04 MS	8/31/04 MS
S3-09	7/28/04 MS	62.01	7/28/04 MS	7/28/04 MS	7/29/04 JL
S3-10	7/28/04 MS	60.00	7/28/04 MS	7/28/04 MS	7/29/04 JL
S3-11	7/28/04 MS	57.80	7/28/04 MS	7/28/04 MS	7/30/04 JL
S3-12	7/28/04 MS	60.01	7/28/04 MS	7/28/04 MS	7/30/04 JL
S3-13	7/30/04 MS	58.01	7/30/04 MS	7/30/04 MS	8/2/04 MS
S3-14	7/30/04 MS	57.88	7/30/04 MS	7/30/04 MS	8/2/04 MS
S3-15	7/30/04 MS	57.54	7/30/04 MS	7/30/04 MS	8/2/04 MS
S3-16	7/30/04 MS	57.67	7/30/04 MS	7/30/04 MS	8/2/04 MS
S3-17	7/30/04 MS	57.96	7/30/04 MS	7/30/04 MS	8/31/04 MS
S3-18	8/3/04 MS	57.65	8/3/04 MS	8/3/04 MS	8/16/04 JL
S3-19	8/3/04 MS	64.81	8/3/04 MS	8/3/04 MS	8/16/04 JL
S3-20	8/3/04 MS	58.79	8/3/04 MS	8/3/04 MS	8/16/04 MS
S3-21	8/3/04 MS	58.85	8/3/04 MS	8/3/04 MS	8/16/04 MS
S3-22	8/3/04 MS	60.64	8/3/04 MS	8/3/04 MS	
S3-23	8/17/04 MS	62.24	8/17/04 MS	8/17/04 MS	8/31/04 MS
S4B-01	7/7/04 SF	33.64	7/8/04 JL	7/8/04 JL	7/13/04 SF
S4B-02	7/7/04 SF	33.58	7/13/04 SF	7/13/04 SF	7/21/04 JL
S4B-03	7/7/04 SF	33.65	7/13/04 SF	7/13/04 SF	8/2/04 SC
S4B-04	7/7/04 SF	33.54	7/13/04 SF	7/13/04 SF	8/12/04 SF
S4B-05	7/28/04 MS	34.49	7/28/04 MS	7/28/04 MS	8/3/04 JL
S4B-06	7/28/04 MS	34.13	7/28/04 MS	7/28/04 MS	8/5/04 MS
S4B-07	7/28/04 MS	34.37	7/28/04 MS	7/28/04 MS	8/5/04 MS
S4B-08	8/17/04 MS	33.61	8/17/04 MS	8/17/04 MS	9/9/04 JL
S4B-09	8/5/04 MS	34.90	8/5/04 MS	8/5/04 MS	8/6/04 MS
S4B-10	8/5/04 MS	34.75	8/5/04 MS	8/5/04 MS	8/6/04 MS
S4B-11	8/5/04 MS	34.98	8/5/04 MS	8/5/04 MS	8/6/04 MS
S4B-12	8/5/04 MS	34.73	8/5/04 MS	8/5/04 MS	8/6/04 MS
S4B-13	8/5/04 MS	34.77	8/5/04 MS	8/5/04 MS	8/10/04 JL
S4B-14	8/5/04 MS	34.61	8/5/04 MS	8/5/04 MS	8/27/04 SC
S4B-15	8/5/04 MS	34.71	8/5/04 MS	8/5/04 MS	8/12/04 MS
S4B-16	8/10/04 JL	34.47	8/10/04 JL	8/10/04 JL	8/24/04 MS
S4B-17	8/10/04 JL	34.68	8/10/04 JL	8/10/04 JL	8/24/04 MS
S4B-18	8/10/04 JL	34.11	8/10/04 JL	8/10/04 JL	8/24/04 MS
S4B-19	8/10/04 JL	34.45	8/10/04 JL	8/10/04 JL	9/9/04 JL
S4B-20	8/10/04 JL	34.26	8/10/04 JL	8/10/04 JL	9/9/04 JL
S4B-21	8/10/04 JL	34.64	8/10/04 JL	8/10/04 JL	
S4-01	8/17/04 MS	52.12	8/17/04 MS	8/17/04 MS	
S4-02	8/17/04 MS	50.48	8/17/04 MS	8/17/04 MS	8/18/04 JL
S4-03	8/17/04 MS	51.17	8/17/04 MS	8/17/04 MS	8/18/04 JL

Sediment ID	Decanted	Percent Solids	PCB Sample	Grain Size Sample	Consumed
S4-04	8/17/04 MS	48.84	8/17/04 MS	8/17/04 MS	8/18/04 JL
S4-05	8/17/04 MS	51.36	8/17/04 MS	8/17/04 MS	8/18/04 JL
S4-06	8/17/04 MS	52.06	8/17/04 MS	8/17/04 MS	8/18/04 JL
S4-07	8/17/04 MS	50.85	8/17/04 MS	8/17/04 MS	8/18/04 JL
S4-08	8/17/04 MS	52.65	8/17/04 MS	8/17/04 MS	9/9/04 JL
S4-09	8/25/04 SC	51.51	8/25/04 SC	8/25/04 SC	8/31/04 JL
S4-10	8/25/04 SC	50.15	8/25/04 SC	8/25/04 SC	8/31/04 JL
S4-11	8/25/04 SC	53.91	8/25/04 SC	8/25/04 SC	8/31/04 JL
S4-12	8/25/04 SC	52.70	8/25/04 SC	8/25/04 SC	8/31/04 JL
S4-13	8/25/04 SC	53.52	8/25/04 SC	8/25/04 SC	9/9/04 JL
S4-14	8/25/04 SC	59.47	8/25/04 SC	8/25/04 SC	9/9/04 JL
S4-15	8/25/04 SC	53.07	8/25/04 SC	8/25/04 SC	
S4-16	8/25/04 SC	56.19	8/25/04 SC	8/25/04 SC	
S4-17	8/24/04 SC	54.16	8/24/04 SC	8/24/04 SC	
S4-18	8/24/04 SC	52.19	8/24/04 SC	8/24/04 SC	
S4-19	8/24/04 SC	53.02	8/24/04 SC	8/24/04 SC	
S4-20	8/24/04 SC	52.87	8/24/04 SC	8/24/04 SC	
S4A-01	9/16/04 JL	65.07	9/16/04 SC	9/16/04 SC	
S4A-02	9/16/04 JL	65.14	9/16/04 SC	9/16/04 SC	9/20/2004 JL
S4A-03	9/16/04 JL	64.26	9/16/04 SC	9/16/04 SC	9/20/2004 JL
S4A-04	9/16/04 JL	64.81	9/16/04 SC	9/16/04 SC	9/20/2004 JL
S4A-05	9/16/04 JL	64.85	9/16/04 SC	9/16/04 SC	9/20/2004 JL
S4A-06	9/16/04 JL	64.36	9/16/04 SC	9/16/04 SC	9/21/2004 JL
S4A-07	9/16/04 JL	63.69	9/16/04 SC	9/16/04 SC	9/21/2004 JL
S4A-08	9/16/04 JL	64.46	9/16/04 SC	9/16/04 SC	9/21/2004 JL
S4A-09	9/16/04 JL	63.92	9/16/04 SC	9/16/04 SC	9/21/2004 JL
S4A-10	9/16/04 JL	64.23	9/16/04 SC	9/16/04 SC	9/21/2004 JL
S4A-11	9/16/04 JL	63.92	9/16/04 SC	9/16/04 SC	9/21/2004 JL
S4A-12	9/16/04 JL	63.76	9/16/04 SC	9/16/04 SC	9/22/2004 JL
S4A-13	9/16/04 JL	64.46	9/16/04 SC	9/16/04 SC	9/22/2004 JL
S4A-14	9/16/04 JL	63.04	9/16/04 SC	9/16/04 SC	9/22/2004 JL
S4A-15	9/16/04 JL	62.67	9/16/04 SC	9/16/04 SC	
S4A-16	9/16/04 JL	63.41	9/16/04 SC	9/16/04 SC	
S4A-17	9/16/04 JL	64.72	9/16/04 SC	9/16/04 SC	
S4A-18	9/16/04 JL	62.64	9/16/04 SC	9/16/04 SC	
S4A-19	9/16/04 JL	63.81	9/16/04 SC	9/16/04 SC	

GE / Hudson River Treatability Study

Received 12/04

Sediment Log

Sediment ID	Decanted	Percent Solids (w/w)	Sampled	Consumed
S2-2-01	12/9/04 JL	63.69	12/9/04 SC	12/10/04 JL
S2-2-02	12/9/04 JL	63.76	12/9/04 SC	12/10/04 JL
S2-2-03	12/9/04 JL	63.20	12/9/04 SC	12/10/04 JL
S2-2-04	12/9/04 JL	63.98	12/9/04 SC	12/10/04 JL
S2-2-05	12/9/04 JL	63.34	12/9/04 SC	12/13/04 SC
S2-2-06	12/9/04 JL	64.40	12/9/04 SC	
S2-2-07	12/9/04 JL	63.37	12/9/04 SC	6/1/2005 SC
S2-2-08	12/9/04 JL	63.48	12/9/04 SC	
S2-2-09	12/9/04 JL	64.18	12/9/04 SC	
S2-2-10	12/9/04 JL	60.77	12/9/04 SC	
S2-2-11	12/9/04 JL	62.19	12/9/04 SC	
S2-2-12	12/9/04 JL	63.40	12/9/04 SC	
S2-2-13	12/9/04 JL	63.59	12/9/04 SC	
S2-2-14	12/9/04 JL	64.10	12/9/04 SC	
S2-2-15	12/9/04 JL	64.04	12/9/04 SC	
S2-2-16	12/9/04 JL	63.11	12/9/04 SC	
S2-2-17	12/9/04 JL	64.09	12/9/04 SC	
S2-2-18	12/9/04 JL	63.78	12/9/04 SC	
S2-2-19	12/9/04 JL	62.39	12/9/04 SC	
S3-3-01	12/9/04 JL	59.08	12/9/04 SC	
S3-3-02	12/9/04 JL	59.26	12/9/04 SC	
S3-3-03	12/9/04 JL	59.19	12/9/04 SC	
S3-3-04	12/9/04 JL	59.02	12/9/04 SC	
S3-3-05	12/9/04 JL	57.72	12/9/04 SC	
S4B-2-01	12/9/04 JL	41.91	12/9/04 SC	
S4B-2-02	12/9/04 JL	40.81	12/9/04 SC	
S4B-2-03	12/9/04 JL	41.16	12/9/04 SC	
S4B-2-04	12/9/04 JL	41.36	12/9/04 SC	
S3-4-01	no free water	59.76	12/14/04 HS	12/16/04 HS
S3-4-02	no free water	58.76	12/14/04 HS	12/15/04 JL
S3-4-03	no free water	59.27	12/14/04 HS	12/15/04 JL
S3-4-04	no free water	59.85	12/14/04 HS	12/15/04 JL
S3-4-05	no free water	59.48	12/14/04 HS	12/15/04 JL
S3-4-06	no free water	59.96	12/14/04 HS	12/15/04 JL
S3-4-07	no free water	59.5	12/14/04 HS	12/15/04 JL
S3-4-08	no free water	57.99	12/14/04 HS	
S3-4-09	no free water	59.88	12/14/04 HS	

Hudson River Treatability Study

Slurry Preparation Quick Reference

M1

Sediment to Water Ratio - 80:20 (4 parts sediment, 1 part water by volume)

* If free liquid present in sediment bucket, pour off first. Mix; take % solids.

Add 80% by volume sediment, 20% by volume water to make slurry.

Mix for 5 min; Allow to settle for 30 min.

Decant free liquid.

Remix and take % solids.

Use in tests, remix before use (do not decant free water again).

H1

* If free liquid present in sediment bucket, pour off first. Mix; take % solids.

Solids to Water Ratio - 25:75 (by Weight)

Dry Weight = Wet Weight x (%Solids/100)

Water Volume = (Dry Weight/0.25) - Wet Weight

Mix for 5 min @ 300 rpm or till uniform, take % solids.

Do not allow to settle before use, remix each time used.

H2

* If free liquid present in sediment bucket, pour off first. Mix; take % solids.

Solids to Water Ratio - 5:95 (by Weight)

Dry Weight = Wet Weight x (%Solids/100)

Water Volume = (Dry Weight/0.05) - Wet Weight

Mix for 5 min @ 300 rpm or till uniform, take % solids.

Do not allow to settle before use, remix each time used.

Hudson River Treatability Study

Slurry Preparation Data Sheet

Slurry Designation	Batch #	Sediment Used	In Situ % Solids (w/w)	Weight/Vol. of Sediment	Weight/Vol. of Water	Total Volume Prepared	Date / Time Prepared	Exp. Date	Initials	% Solids (w/w) Prepared	Comments
M1S1	M1S1-01	S1-01	84.42	12 L	3 L	15 L	7/8/04, 1130	7/11/2004	SC	Sample not used	
M1S1	M1S1-02	S1-02	81.69	12 L	3 L	15 L	7/8/04, 1200	7/11/2004	SC	67.61	
M1S2	M1S2-01	S2-01	59.90	12 L	3 L	15 L	7/8/04, 1410	7/11/2004	SC	53.57	
M1S3	M1S3-01	S3-01	61.85	12 L	3 L	15 L	7/8/04, 1430	7/11/2004	SF	54.52	
M1S4B	M1S4B-01	S4B-01	33.64	12 L	3 L	15 L	7/8/04, 1510	7/11/2004	SC	27.81	
H1S2	H1S2-01	S2-01	59.90	6 kg	8.36 L	---	7/12/04, 1000	7/15/2004	MS	10.32	
H1S1	H1S1-01	S1-02,03	81.69	6 kg	13.6 L	---	7/12/04, 1030	7/15/2004	MS	4.75	
M1S1	M1S1-03	S1-03	82.60	4 L	1L	5 L	7/12/04, 1515	7/15/2004	SC	76.23	
M1S2	M1S2-02	S2-02	59.06	6 L	1.5 L	7.5 L	7/12/04, 1530	7/15/2004	SC	48.55	
M1S3	M1S3-02	S3-01	61.85	4 L	1 L	5 L	7/12/04, 1530	7/15/2004	SC	55.63	
M1S4B	M1S4B-02	S4B-01, 02	33.64, 33.58	12 L	3 L	15 L	7/12/04, 1600	7/15/2004	SC	27.72	
H1S2	H1S2-02	S2-02, 03, 04	59.06, 58.99, 60.43	54.73 kg	63.7 L	100 L	7/14/04, 1500	7/17/2004	SC	11.63	
H1S3	H1S3-02	S3-02, 03, 04	58.39, 59.70, 61.79	51.58 kg	66.9 L	100 L	7/14/04, 1630	7/17/2004	SC	19.18	

Slurry Designation	Batch #	Sediment Used	In Situ % Solids (w/w)	Weight/Vol. of Sediment	Weight/Vol. of Water	Total Volume Prepared	Date / Time Prepared	Exp. Date	Initials	% Solids (w/w) Prepared	Comments
H1S2	H1S2-03	S2-05	61.92	0.67 kg	1 L	---	7/15/04, 1145	7/18/2004	MS	24.01	*Entire volume dried
H1S1	H1S1-03	S1-04	82.49	0.44 kg	1 L	---	7/15/04, 1145	7/18/2004	MS	24.20	*Entire volume dried
H1S2	H1S2-04	S2-05	61.92	0.67 kg	1 L	---	7/15/04, 1145	7/18/2004	MS	10.10, 10.78, 14.80, 14.51	* Four trials w/ same slurry
H1S1	H1S1-04	S1-04	82.49	0.44 kg	1 L	---	7/15/04, 1145	7/18/2004	MS	5.82, 32.71, 4.09, 4.24	* Four trials w/ same slurry
H1S1	H1S1-05	S1-03	82.60	3.06 kg	8.56 L	---	7/19/04, 1000	7/22/2004	SC	3.72	water volume added was incorrect, slurry diluted more than necessary; % solids of final slurry is correct at 3.72%, after decanting fines from coarse fraction
H1S1	H1S1-06	S1-03	82.60	3.00 kg	8.50 L	---	7/19/04, 1445	7/22/2004	SF	3.43	water volume added was incorrect, slurry diluted more than necessary; % solids of final slurry is correct at 3.43%, after decanting fines from coarse fraction
H1S3	H1S3-03	S3-04	61.79	4.79 kg	7.05 L	10 L	7/20/04, 1100	7/23/2004	SC	12.09	
H1S4B	H1S4B-01	S4B-02	33.58	8.97 kg	3.08 L	~10 L	7/20/04, 1130	7/23/2004	JL	24.97	
H2S1	H2S1-01	S1-04	82.49	0.05 kg	775 mL	---	7/21/04, 1050	7/24/2002	MS	0.80, 0.77, 0.82, 1.19	* Four trials w/ same slurry
H2S2	H2S2-02	S2-05	61.92	0.05 kg	570 mL	---	7/21/04, 1310	7/24/2002	MS	1.07, 1.24, 1.24, 1.13	* Four trials w/ same slurry
H1S4B	H1S4B-02	S4B-02, S4B-03	33.58	8.97 kg	3.08 L	~10 L	7/21/04, 1400	7/24/2002	JL	25.29	
H1S3	H1S3-04	S3-04	61.79	5.2 kg	7.65 L	~10 L	7/21/04, 1610	7/24/2002	JL	13.42	
H2S1	H2S1-02	S1-04	82.49	0.05 kg	775 mL	---	7/21/04, 1615	7/24/2002	MS	4.96	*Entire volume dried
H2S2	H2S2-02	S2-05	61.92	0.05 kg	570 mL	---	7/21/04, 1620	7/24/2002	MS	5.01	*Entire volume dried
H1S3	H1S3-05	S3-04	61.79	2.5 kg	3.68 L	~5 L	7/22/04, 1215	7/25/2004	JL	16.34	
H1S1	H1S1-07	S1-03, S1-04	82.60	3.7 kg	8.52 L	~10 L	7/22/04, 1305	7/25/2004	JL	3.94	
H1S1	H1S1-08	S1-04	82.49	4.0 kg	9.20 L	~10 L	7/22/04, 1430	7/25/2004	MS	4.09	

Slurry Designation	Batch #	Sediment Used	In Situ % Solids (w/w)	Weight/Vol. of Sediment	Weight/Vol. of Water	Total Volume Prepared	Date / Time Prepared	Exp. Date	Initials	% Solids (w/w) Prepared	Comments
H1S1	H1S1-09	S1-04	82.49	4.5 kg	10.35 L	---	7/22/04, 1555	7/25/2004	MS	4.64	
H1S2	H1S2-05	S2-05	61.92	8 kg	11.81 L	---	7/22/04, 1605	7/25/2004	MS	8.46	
H1S1	H1S1-10	S1-04	82.49	1.5 kg	3.45 L	---	7/23/04, 0910	7/26/2004	MS	4.83	
H1S3	H1S3-06	S3-04	61.79	8 kg	11.77 L	---	7/23/04, 1600	7/26/2004	MS	12.97	
H1S2	H1S2-06	S2-05	61.92	1 kg	1.48 L	---	7/23/04, 1605	7/26/2004	MS	8.38	
H1S2	H1S2-07	S2-05	61.92	4 kg	5.91 L	---	7/26/04, 1435	7/29/2004	SF	8.53	
H1S3	H1S3-07	S3-05, S3-06, S3-07	~59.00	77 kg	104.72 L	~150 L	7/27/04, 0945	7/30/2004	JL	14.62	
H1S2	H1S2-08	S2-05	61.92	4 kg	5.92 L	---	7/27/04, 1100	7/30/2004	SC	7.98	
H1S2	H1S2-09	S2-05, S2-06, S2-07	~61.00	44 kg	63.36 L	~80 L	7/27/04, 1600	7/30/2004	JL	10.11	
H1S4B	H1S4B-03	S4B-03	33.65	9 kg	3.12 L	~10 L	7/29/04, 0930	8/1/2004	SC	24.84	
H1S2	H1S2-10	S2-08, 09	60.99	62.7 kg	90.26 L	---	7/29/04, 1330	8/1/2004	JL	8.31	
H1S3	H1S3-08	S3-09, 10	61.00	60.9 kg	87.70 L	---	7/29/04, 1330	8/1/2004	JL	12.33	
H1S2	H1S2-11	S2-10, 11	56.64	61.36 kg	77.66 L	---	7/30/2004	8/2/2004	JL	8.94	
H1S3	H1S3-09	S3-11, 12	58.91	58.18 kg	78.91 L	---	7/30/2004	8/2/2004	JL	9.88	
H1S2	H1S2-12	S2-12	61.66	31.82 kg	46.66 L	---	7/30/2004	8/2/2004	JL	12.07	
H2S4B	H2S4B-01	S4B-03	33.65	0.10 kg	0.57 L	---	7/30/04, 1620	8/2/2004	SC	3.37	
H1S3	H1S3-10	S3-08	60.46	0.25 kg	0.35 L	0.60 L	7/30/04, 1630	8/2/2004	SF	17.32	

Slurry Designation	Batch #	Sediment Used	In Situ % Solids (w/w)	Weight/Vol. of Sediment	Weight/Vol. of Water	Total Volume Prepared	Date / Time Prepared	Exp. Date	Initials	% Solids (w/w) Prepared	Comments
H1S3	H1S3-11	S3-13, 14	57.95	56.36 kg	74.28 L	---	8/2/04, 0910	8/5/2004	MS	14.25	
H1S3	H1S3-12	S3-08	60.46	6.0 kg	8.52 L	---	8/2/04, 0930	8/5/2004	SC	14.61	
H1S4B	H1S4B-04	S4B-04	33.54	9.0 kg	3.08 L	---	8/2/04, 1000	8/5/2004	SC	24.90	
H1S3	H1S3-13	S3-16, 15	avg: 57.61	59.55 kg	77.68 L	---	8/2/2004	8/5/2004	JL	14.50	
H2S2	H2S2-03	S2-13	61.17	8.0 kg	89.8 L	---	8/2/2004	8/5/2004	JL	1.16	
H2S3	H2S3-01	S3-17	57.96	8.0 kg	84.7 L	---	8/2/2004	8/5/2004	JL	1.80	
H1S1	H1S1-10	S1-5, 6	avg: 82.13	67.27 kg	153.73 L	---	8/2/2004	8/5/2004	JL	3.15	
H2S4B	H2S4B-02	S4B-04	33.54	0.5 kg	2.85 L	---	8/2/04, 1130	8/5/2004	SC	5.20	
H1S1	H1S1-11	S1-7, 8	81.31	67.27 kg	151.53 L	---	8/3/2004	8/6/2004	JL	3.08	
H1S1	H1S1-12	S1-11, 12	avg: 82.34	66.82 kg	153.26 L	---	8/3/2004	8/6/2004	JL	2.56	
H2S4B	H2S4B-03	S4B-05	34.49	25.9 kg	152.76 L	---	8/3/2004	8/6/2004	JL	3.62	
H1S1	H1S1-13	S1-13	82.26	35 kg	80.16 L	~100 L	8/4/2004	8/7/2004	SC	3.24	
H2S4B	H2S4B-04	S4B-04, 06	avg: 33.84	11 kg	63.45 L	~100 L	8/4/2004	8/7/2004	SC	4.33	
H1S4B	H1S4B-05	S4B-06, 07	avg: 34.25	47 kg	17.39 L	~53 L	8/5/2004	8/8/2004	MS	24.88	
H1S1	H1S1-14	S1-15, 16	82.31	65.91 kg	151.09 L	~40 gal	8/6/2004	8/9/2004	JL	3.46	
H1S4B	H1S4B-06	S4B-09,10,11,12	avg: 34.84	87 kg	34.24 L	---	8/6/2004	8/9/2004	JL	24.10	
H1S1	H1S1-15	S1-17, 18	83.65	64.55 kg	151.43 L	---	8/6/2004	8/9/2004	JL	5.23	

Slurry Designation	Batch #	Sediment Used	In Situ % Solids (w/w)	Weight/Vol. of Sediment	Weight/Vol. of Water	Total Volume Prepared	Date / Time Prepared	Exp. Date	Initials	% Solids (w/w) Prepared	Comments
H1S1	H1S1-16	S1-11, 14, 19	81.09	70.46 kg	158.07 L	---	8/9/2004	8/12/2004	JL	2.86	
H2S4B	H2S4B-05	S4B-13, 14	avg: 34.69	2.5 kg	14.85 L	~ 5 gal	8/11/2004	8/14/2004	SF	4.29	
H2S4B	H2S4B-06	S4B-13	34.77	23.5 kg	139.92 L	---	8/10/2004	8/13/2004	JL	4.35	
H2S4B	H2S4B-07	S4B-14	34.61	2.5 kg	14.81 L	~ 5 gal	8/11/04, 1400	8/14/2004	SF	4.81	
H2S4B	H2S4B-08	S4B-15	34.71	21.50 kg	127.75 L	---	8/12/04, 0930	8/15/2004	MS	4.92	
H1S3	H1S3-14	S3-08	60.46	0.5 kg	0.71 L	~ 1 L	8/13/2004	8/16/2004	SC	14.36	
H1S2	H1S2-13	S2-14,15	55.52	61.36 kg	74.92 L	---	8/16/2004	8/19/2004	JL	11.87	
H1S3	H1S3-15	S3-18,19	61.23	59.09 kg	85.63 L	---	8/16/2004	8/19/2004	JL	13.48	
H1S3	H1S3-16	S3-20, 21	58.82	58.18 kg	78.71 L	---	8/16/04, 1345	8/19/2004	MS	15.89	
M1S1	M1S1-04	S1-21	82.69	4 L	1 L	5 L	8/17/04, 0930	8/20/2004	SC	53.50	
M1S2	M1S2-03	S2-07	60.35	2 L	.50 L	2.50 L	8/17/04, 0930	8/20/2004	SC	56.21	
M1S3	M1S3-03	S3-08	60.45	2 L	.50 L	2.50 L	8/17/04, 0930	8/20/2004	SC	56.44	
M1S4B	M1S4B-03	S4B-14	34.61	4 L	1 L	5 L	8/17/04, 0930	8/20/2004	SC	29.03	
H1S2	H1S2-14	S2-7, 13, 17	59.55	39.01 kg	53.91 L	---	8/24/04, 1015	8/27/2004	MS	7.23	
H1S4B	H1S4B-07	S4B-16, 17, 18	34.42	70.91 kg	26.72 L	---	8/24/04, 1545	8/27/2004	MS	23.83	
H1S1	H1S1-17	S1-28	84.36	7 kg	16.62 L	~ 5 gal	8/27/04, 1000	8/30/2004	SC	2.18	
H1S4	H1S4-1	S4-09	51.51	10.3 kg	10.92 L	~ 5 gal	8/27/04, 1000	8/30/2004	SC	12.04	

Hudson River Treatability Study

DRET Data Sheet

Date: 7/15/04

Technician: JL

Test Number: DRET-01-S1

Sediment I.D.: S1-05

Sediment Volume/Weight: 48.52 g

Test Volume: 4 L

Water Temp.: 22.8 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

No noticeable odor
Approximately 25 mL volume loss after aeration
No sheen
Layer of sand on bottom (<50 mL)
Very thin layer of silt on top of sand

Turbidity: 656 NTU

DO: 7.16 mg/L

pH: 7.16

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 7/15/04

Technician: JL

Test Number: DRET-02-S1

Sediment I.D.: S1-05

Sediment Volume/Weight: 48.52 g

Test Volume: 4 L

Water Temp.: 22.8 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

No noticeable odor
Approximately 30 mL volume loss after aeration
No sheen
Layer of sand on bottom (<50 mL)
Very thin layer of silt on top of sand

Turbidity: 621 NTU

DO: 8.59 mg/L

pH: 7.24

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 7/15/04

Technician: JL

Test Number: DRET-03-S1

Sediment I.D.: S1-05

Sediment Volume/Weight: 48.52 g

Test Volume: 4 L

Water Temp.: 22.8 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

No noticeable odor
Approximately 20 mL volume loss after aeration
No sheen
Layer of sand on bottom (<50 mL)
Very thin layer of silt on top of sand

Turbidity: 637 NTU

DO: 8.40 mg/L

pH: 6.93

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 7/15/04

Technician: JL

Test Number: DRET-01-S2

Sediment I.D.: S2-05

Sediment Volume/Weight: 64.60 g

Test Volume: 4 L

Water Temp.: 22.8 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

~20 mL volume loss
no interface
thin layer of sand
~50 mL silt on top of sand

Turbidity: 726 NTU

DO: 4.51 mg/L

pH: 7.13

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 7/15/04

Technician: JL

Test Number: DRET-02-S2

Sediment I.D.: S2-05

Sediment Volume/Weight: 64.60 g

Test Volume: 4 L

Water Temp.: 22.8 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

~30 mL volume loss
no interface
thin layer of sand
~50 mL silt on top of sand

Turbidity: 733 NTU

DO: 4.56 mg/L

pH: 6.75

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 7/15/04

Technician: JL

Test Number: DRET-03-S2

Sediment I.D.: S2-05

Sediment Volume/Weight: 64.60 g

Test Volume: 4 L

Water Temp.: 22.8 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

~30 mL volume loss
no interface
thin layer of sand
~50 mL silt on top of sand

Turbidity: 820 NTU

DO: 4.43 mg/L

pH: 7.17

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 7/16/04

Technician: JL

Test Number: DRET-01-S3

Sediment I.D.: S3-05

Sediment Volume/Weight: 64.16 g

Test Volume: 4 L

Water Temp.: 22.5 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

Earthy odor
no sheen
~50 mL settled out, equal parts sand/silt
No volume loss

Turbidity: 867 NTU
DO: 6.07 mg/L
pH: 7.04

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 7/16/04

Technician: JL

Test Number: DRET-02-S3

Sediment I.D.: S3-05

Sediment Volume/Weight: 64.16 g

Test Volume: 4 L

Water Temp.: 22.5 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

Earthy odor
no sheen
~50 mL settled out, equal parts sand/silt
No volume loss

Turbidity: 763 NTU
DO: 5.39 mg/L
pH: 7.18

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 7/16/04

Technician: JL

Test Number: DRET-03-S3

Sediment I.D.: S3-05

Sediment Volume/Weight: 64.16 g

Test Volume: 4 L

Water Temp.: 22.5 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

Earthy odor
no sheen
~50 mL settled out, equal parts sand/silt
No volume loss

Turbidity: 733 NTU
DO: 5.32 mg/L
pH: 7.18

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 7/16/04

Technician: JL

Test Number: DRET-01-S4B

Sediment I.D.: S4B-04

Sediment Volume/Weight: 119.26 g

Test Volume: 4 L

Water Temp.: 22.6 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

Earthy odor
no sheen
~150 mL settled out, equal parts sand/silt
No volume loss

Turbidity: 1148 NTU
DO: 8.73 mg/L
pH: 7.23

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 7/16/04

Technician: JL

Test Number: DRET-02-S4B

Sediment I.D.: S4B-04

Sediment Volume/Weight: 119.26 g

Test Volume: 4 L

Water Temp.: 22.6 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

Earthy odor
no sheen
~150 mL settled out, equal parts sand/silt
No volume loss

Turbidity: 1495 NTU
DO: 10.27 mg/L
pH: 7.16

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 7/16/04

Technician: JL

Test Number: DRET-03-S4B

Sediment I.D.: S4B-04

Sediment Volume/Weight: 119.26 g

Test Volume: 4 L

Water Temp.: 22.6 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

Earthy odor
no sheen
~150 mL settled out, equal parts sand/silt
No volume loss

Turbidity: 1226 NTU
DO: 7.96 mg/L
pH: 7.21

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 9/28/04

Technician: JL

Test Number: DRET2-01-S1

Sediment I.D.: S1-20

Sediment Volume/Weight: 48.37 g

Test Volume: 4 L

Water Temp.: 22.8 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

No odor

No sheen

~50 mL settled out, coarse sand covered by a thin layer of silt

No volume loss

Turbidity: 337 NTU

DO: 4.41 mg/L

pH: 7.22

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 9/28/04

Technician: JL

Test Number: DRET2-02-S1

Sediment I.D.: S1-20

Sediment Volume/Weight: 48.37 g

Test Volume: 4 L

Water Temp.: 22.8 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

No odor

No sheen

~50 mL settled out, coarse sand covered by a thin layer of silt

No volume loss

Turbidity: 416 NTU

DO: 4.28 mg/L

pH: 7.23

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 9/28/04

Technician: JL

Test Number: DRET2-03-S1

Sediment I.D.: S1-20

Sediment Volume/Weight: 48.37 g

Test Volume: 4 L

Water Temp.: 22.8 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

No odor

No sheen

~50 mL settled out, coarse sand covered by a thin layer of silt

No volume loss

Turbidity: 347 NTU

DO: 4.68 mg/L

pH: 7.25

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 9/28/04

Technician: JL

Test Number: DRET2-01-S2

Sediment I.D.: S2-16

Sediment Volume/Weight: 71.81 g

Test Volume: 4 L

Water Temp.: 22.6 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

No odor
No sheen
~100 mL settled out, equal parts sand/gravel and silt
No volume loss

Turbidity: 356 NTU
DO: 4.41 mg/L
pH: 7.35

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 9/28/04

Technician: JL

Test Number: DRET2-02-S2

Sediment I.D.: S2-16

Sediment Volume/Weight: 71.81 g

Test Volume: 4 L

Water Temp.: 22.6 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

No odor
No sheen
~100 mL settled out, equal parts sand/gravel and silt
No volume loss

Turbidity: 484 NTU
DO: 4.72 mg/L
pH: 7.24

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 9/28/04

Technician: JL

Test Number: DRET2-03-S2

Sediment I.D.: S2-16

Sediment Volume/Weight: 71.81 g

Test Volume: 4 L

Water Temp.: 22.6 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

No odor
No sheen
~100 mL settled out, equal parts sand/gravel and silt
No volume loss

Turbidity: 351 NTU
DO: 4.68 mg/L
pH: 7.29

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type): 8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)	1-L amber	
TAL metals	200 mL plastic/ pres. HNO3	
TOC	(40 mL) 100 mL plastic/ pres. H2SO4	
TSS	(1 L) 500 mL plastic	
Turbidity, pH, DO	100 mL plastic	<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)	1-L amber	(send unfiltered)
TAL metals	200 mL plastic	(send unfiltered, unpres.)
TOC (use filters provided by NEA)	(40 mL) 100 mL plastic/ pres. H2SO4	(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 9/29/04

Technician: JL

Test Number: DRET2-01-S3

Sediment I.D.: S3-22

Sediment Volume/Weight: 65.96 g

Test Volume: 4 L

Water Temp.: 21.1 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

No odor

No sheen

~50 mL settled out, 25% coarse sand, 25% fine sand, 50% silt

No volume loss

Turbidity: 822 NTU

DO: 4.71 mg/L

pH: 6.93

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type):

8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)

1-L amber

TAL metals

200 mL plastic/ pres. HNO₃

TOC

(40 mL) 100 mL plastic/ pres. H₂SO₄

TSS

(1 L) 500 mL plastic

Turbidity, pH, DO

100 mL plastic

<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)

1-L amber

(send unfiltered)

TAL metals

200 mL plastic

(send unfiltered, unpres.)

TOC (use filters provided by NEA)

(40 mL) 100 mL plastic/ pres. H₂SO₄

(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 9/29/04

Technician: JL

Test Number: DRET2-02-S3

Sediment I.D.: S3-22

Sediment Volume/Weight: 65.96 g

Test Volume: 4 L

Water Temp.: 21.1 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

No odor

No sheen

~50 mL settled out, 25% coarse sand, 25% fine sand, 50% silt

No volume loss

Turbidity: 815 NTU

DO: 5.07 mg/L

pH: 7.00

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type):

8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)

1-L amber

TAL metals

200 mL plastic/ pres. HNO₃

TOC

(40 mL) 100 mL plastic/ pres. H₂SO₄

TSS

(1 L) 500 mL plastic

Turbidity, pH, DO

100 mL plastic

<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)

1-L amber

(send unfiltered)

TAL metals

200 mL plastic

(send unfiltered, unpres.)

TOC (use filters provided by NEA)

(40 mL) 100 mL plastic/ pres. H₂SO₄

(Filter and preserve)

**Only TOC sample to be filtered at WST.

GE / Hudson River Treatability Study

Received 12/8/04

Sieve Analysis Log:

Sample I.D., Initial Dry Weight and Date	Sieve #	Aperture (μm)	Tare Wt. (g)	Weight (g)	Weight Retained (g)	% Weight Retained	% Weight Passed
S3-3-01 300.0 g wet/ 180.96 g dry	1/4"	---	4.1	4.24	0.14	0.08	99.92
	10	2000	4.1	5.35	1.25	0.69	99.23
	20	850	15.4	19.6	4.20	2.32	96.91
	40	425	15.3	42.92	27.62	15.26	81.65
	60	250	4.2	59.99	55.79	30.83	50.82
	100	180	4.1	31.26	27.16	15.01	35.81
	200	150	15.6	40.27	24.67	13.63	22.18
	400	75	704.7	716.5	11.80	6.52	15.66
	>400	--	--	--	28.33	15.66	---

Hudson River Treatability Study

DRET Data Sheet

Date: 9/29/04

Technician: JL

Test Number: DRET2-03-S3

Sediment I.D.: S3-22

Sediment Volume/Weight: 65.96 g

Test Volume: 4 L

Water Temp.: 21.1 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

No odor

No sheen

~50 mL settled out, 25% coarse sand, 25% fine sand, 50% silt

No volume loss

Turbidity: 847 NTU

DO: 4.67 mg/L

pH: 7.16

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type):

8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)

1-L amber

TAL metals

200 mL plastic/ pres. HNO₃

TOC

(40 mL) 100 mL plastic/ pres. H₂SO₄

TSS

(1 L) 500 mL plastic

Turbidity, pH, DO

100 mL plastic

<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)

1-L amber

(send unfiltered)

TAL metals

200 mL plastic

(send unfiltered, unpres.)

TOC (use filters provided by NEA) (40 mL) 100 mL plastic/ pres. H₂SO₄

(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 9/29/04

Technician: JL

Test Number: DRET2-01-S4B

Sediment I.D.: S4B-21

Sediment Volume/Weight: 115.47 g

Test Volume: 4 L

Water Temp.: 20.9 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

Earthy odor

No sheen

~125 mL settled out, 1/3 sand, 2/3 silt

No volume loss

Turbidity: 966 NTU

DO: 5.02 mg/L

pH: 7.03

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type):

8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)

1-L amber

TAL metals

200 mL plastic/ pres. HNO₃

TOC

(40 mL) 100 mL plastic/ pres. H₂SO₄

TSS

(1 L) 500 mL plastic

Turbidity, pH, DO

100 mL plastic

<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)

1-L amber

(send unfiltered)

TAL metals

200 mL plastic

(send unfiltered, unpres.)

TOC (use filters provided by NEA)

(40 mL) 100 mL plastic/ pres. H₂SO₄

(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 9/29/04

Technician: JL

Test Number: DRET2-02-S4B

Sediment I.D.: S4B-21

Sediment Volume/Weight: 115.47 g

Test Volume: 4 L

Water Temp.: 20.9 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

Earthy odor

No sheen

~125 mL settled out, 1/3 sand, 2/3 silt

No volume loss

Turbidity: 896 NTU

DO: 4.69 mg/L

pH: 7.14

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type):

8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)

1-L amber

TAL metals

200 mL plastic/ pres. HNO₃

TOC

(40 mL) 100 mL plastic/ pres. H₂SO₄

TSS

(1 L) 500 mL plastic

Turbidity, pH, DO

100 mL plastic

<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)

1-L amber

(send unfiltered)

TAL metals

200 mL plastic

(send unfiltered, unpres.)

TOC (use filters provided by NEA) (40 mL) 100 mL plastic/ pres. H₂SO₄

(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

DRET Data Sheet

Date: 9/29/04

Technician: JL

Test Number: DRET2-03-S4B

Sediment I.D.: S4B-21

Sediment Volume/Weight: 115.47 g

Test Volume: 4 L

Water Temp.: 20.9 C

Resulting Concentration (10g/L): 10 g solids/L

Shaking/Aeration Time (60 min): 60 min

Settling Time (60 min): 60 min

Visual Observations:

Earthy odor

No sheen

~125 mL settled out, 1/3 sand, 2/3 silt

No volume loss

Turbidity: 1087 NTU

DO: 4.85 mg/L

pH: 7.18

Sample Collection:

Sediment for PCB analysis (Mod. Green Bay) (only one sample per sediment type):

8 oz glass

Water from DRET:

PCBs (Mod. Green Bay)

1-L amber

TAL metals

200 mL plastic/ pres. HNO₃

TOC

(40 mL) 100 mL plastic/ pres. H₂SO₄

TSS

(1 L) 500 mL plastic

Turbidity, pH, DO

100 mL plastic

<---WST

Filtered to 0.45 micron:

PCBs (Mod. Green Bay)

1-L amber

(send unfiltered)

TAL metals

200 mL plastic

(send unfiltered, unpres.)

TOC (use filters provided by NEA)

(40 mL) 100 mL plastic/ pres. H₂SO₄

(Filter and preserve)

**Only TOC sample to be filtered at WST.

Hudson River Treatability Study

Sample I.D.	Turbidity (NTU)	Dissolved Oxygen (mg/L)	pH
DRET-01-S1	656	7.16	7.16
DRET-02-S1	621	8.59	7.24
DRET-03-S1	637	8.40	6.93
DRET-01-S2	726	4.51	7.13
DRET-02-S2	733	4.56	6.75
DRET-03-S2	820	4.43	7.17
DRET-01-S3	867	6.07	7.04
DRET-02-S3	763	5.39	7.18
DRET-03-S3	733	5.32	7.18
DRET-01-S4B	1148	8.73	7.23
DRET-02-S4B	1495	10.27	7.16
DRET-03-S4B	1226	7.96	7.21
DRET2-01-S1	337	4.41	7.22
DRET2-02-S1	416	4.28	7.23
DRET2-03-S1	347	4.68	7.25
DRET2-01-S2	356	4.41	7.35
DRET2-02-S2	484	4.72	7.24
DRET2-03-S2	351	4.68	7.29
DRET2-01-S3	822	4.71	6.93
DRET2-02-S3	815	5.07	7.00
DRET2-03-S3	847	4.67	7.16
DRET2-01-S4B	966	5.02	7.03
DRET2-02-S4B	896	4.69	7.14
DRET2-03-S4B	1087	4.85	7.18

Hudson River Treatability Study

Mixing Energy Study

Date	Slurry ID	Initial % Solids (w/w), when slurry prepped	Initial % Solids (w/w), at start of test	Temp. (deg. C)	Sample Volume (gal)	Desired Velocity Gradient, G (sec ⁻¹)	Required Power, Watts (from figure)	Measured Volts	Measured Amps	Measured Watts (Volts x Amps)	Measured/Calculated Velocity Gradient, G (sec ⁻¹)	% Solids (w/w) at Specified G value
8/30/2004	H1S1-17	2.18	2.09	11.0	4.5	200	1.0	6.1	0.2	1.2	271	2.21
						500	4.5	11.2	0.4	4.5	525	2.23
						800	10.0	19.8	0.5	9.9	779	2.14
8/30/2004	H2S1-03	0.42	0.48	13.7	4.5	200	1.0	9.9	0.1	1.0	282	0.45
						500	3.0	14.6	0.2	2.9	481	0.44
						800	8.0	19.9	0.4	8.0	798	0.47
8/30/2004	H2S3-02	1.24	1.27	14.4	4.5	200	1.0	8.7	0.1	0.9	251	1.34
						500	3.5	11.8	0.3	3.5	504	1.30
						800	9.0	21.0	0.4	8.4	780	1.33
8/30/2004	H1S4-01	12.04	12.69	15.6	4.5	200	2.0	10.8	0.2	2.2	227	12.52
						500	11.0	21.5	0.5	10.8	503	12.06
						800	27.0	26.7	0.8	21.4	708	12.29
8/30/2004	H1S4B-08	20.73	25.68	16.5	4.5	200	5.0	10.1	0.5	5.1	159	25.68
						500	28.0	19.3	1.4	27.0	367	25.67
						800	74.0	35.4	2.1	74.3	608	25.72
8/31/2004	H1S4-02	---	21.17	17.6	41.3	200	20.0*	19.6	1.0	19.6	134	20.02
						500	120.0*	40.4	2.9	117.2	327	19.64
						800	300.0*	54.0	3.7	199.8	427	19.48

Notes:

- 1.) Slurries were prepared as directed for the specified H1 or H2 slurry, then fines were decanted off the coarse settled solids.
- 2.) Test equipment consisted of the following: Baldor Motor, cat. No. CDP3330, Spec 33-2024 Z122, HP 1/2, 90 V 4.8 Amp, RPM 1750; Baldor Controller, Digital DC Drive, Model BC 440-6; Mixer - 4 blade, each 1 1/2" x 2 1/4", ~45 degree pitch.
- 3.) H1S4-01, H1S4-02, and H1S4B-08 feed for mixing energy studies were analyzed for grain size.

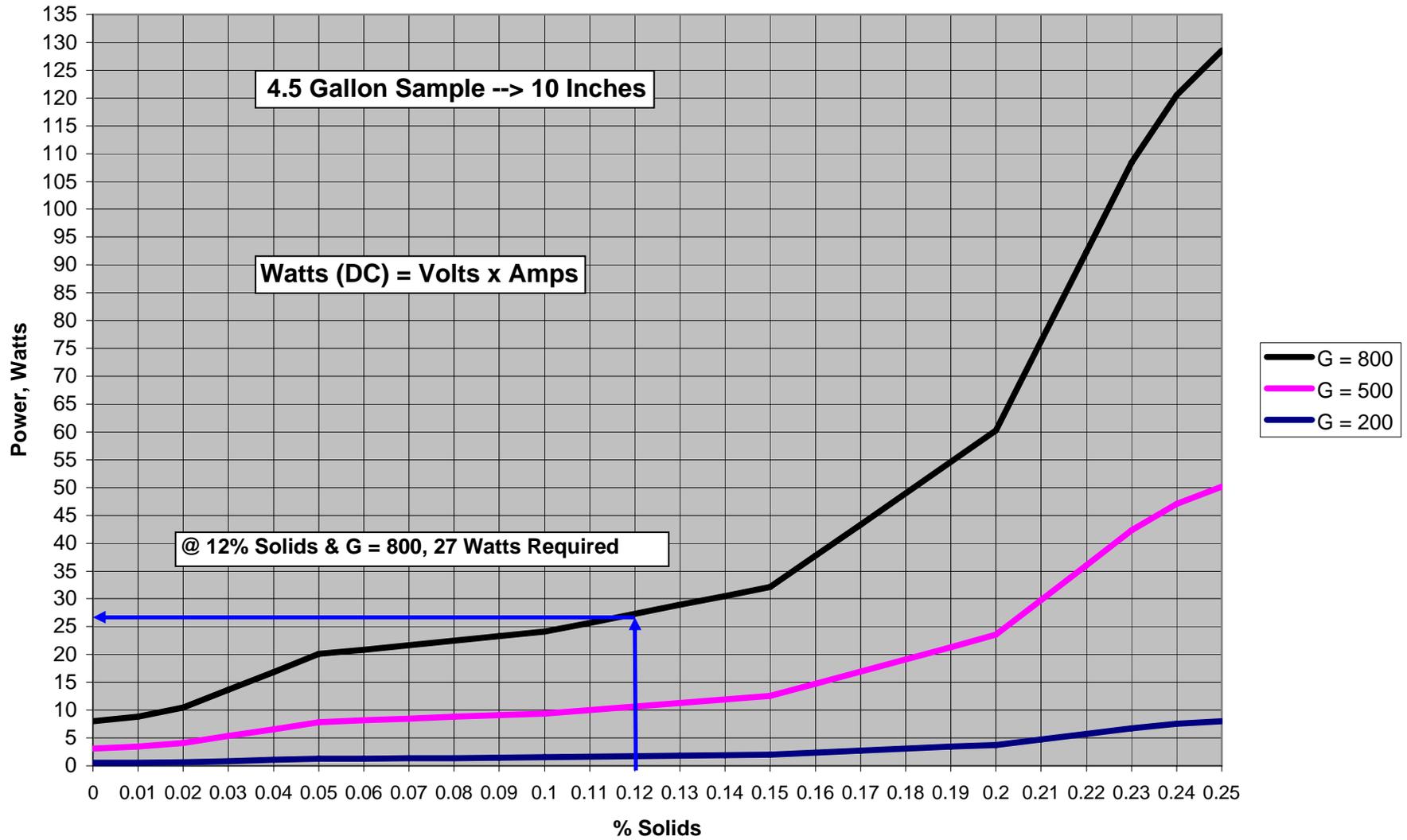
* Required Power taken from figure at estimated 15% solids feed. Feed solids were unknown at time of test.

General Electric Treatability Studies			
Mixing Energy Study--5 Gallon Bucket			
Diameter of Container =		0.96	Ft
Height of Container =		10.00	In
Height of Container =		0.83	Ft
Volume (V) of Container =		0.601	Cu Feet
		4.494	Gals
Assumed temperature =		68	deg F
P (in watts) = $G^2 \cdot u \cdot V$			
Solids @ 5%	G		
	200	500	800
Viscosity (u), Centipoise	2.5	2.5	2.5
Viscosity (u), lb-s/sq ft	0.000052225	0.000052225	0.000052225
Power, W	1.26	7.84	20.08
Power kW	0.001	0.008	0.020
Solids @ 25%	G		
	200	500	800
Viscosity, Centipoise	16	16	16
Viscosity (u), lb-s/sq ft	3.3424E-04	3.3424E-04	3.3424E-04
Power, W	8.03	50.20	128.52
Power kW	0.008	0.050	0.129

Mixer Motor = 0.5 HP DC @ 90 V
Full-load Current = 4.8 amps

% Solids	Power, W			Viscosity	
	200	500	800		
0	0.50	3.14	8.03	1	0.00002089
1%	0.55	3.45	8.84	1.1	0.000022979
2%	0.65	4.08	10.44	1.3	0.000027157
3%	0.85	5.33	13.65	1.7	0.000035513
4%	1.05	6.59	16.87	2.1	0.000043869
5%	1.26	7.84	20.08	2.5	0.000052225
6%	1.31	8.16	20.88	2.6	0.000054314
7%	1.36	8.47	21.69	2.7	0.000056403
8%	1.41	8.79	22.49	2.8	0.000058492
9%	1.46	9.10	23.29	2.9	0.000060581
10%	1.51	9.41	24.10	3.0	0.00006267
11%	1.61	10.04	25.70	3.2	0.000066848
12%	1.71	10.67	27.31	3.4	0.000071026
13%	1.81	11.30	28.92	3.6	0.000075204
14%	1.91	11.92	30.52	3.8	0.000079382
15%	2.01	12.55	32.13	4.0	0.00008356
16%	2.36	14.75	37.75	4.7	0.000098183
17%	2.71	16.94	43.37	5.4	0.000112806
18%	3.06	19.14	49.00	6.1	0.000127429
19%	3.41	21.34	54.62	6.8	0.000142052
20%	3.77	23.53	60.24	7.5	0.000156675
21%	4.77	29.81	76.31	9.5	0.000198455
22%	5.77	36.08	92.37	11.5	0.000240235
23%	6.78	42.36	108.44	13.5	0.000282015
24%	7.53	47.06	120.48	15.0	0.00031335
25%	8.03	50.20	128.52	16.0	0.00033424

Input Power vs % Solids--5-Gallon Bucket

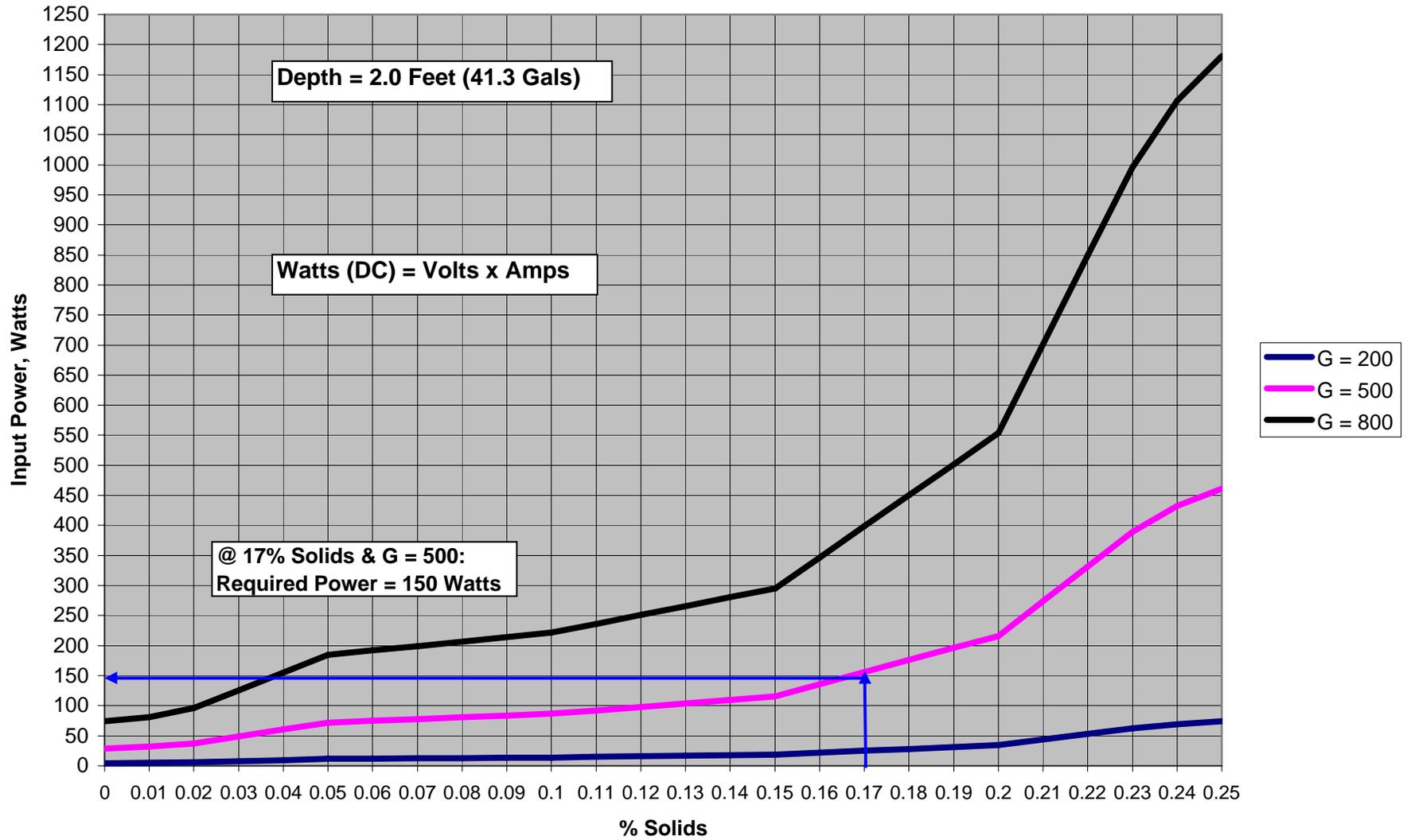


General Electric Treatability Studies			
Mixing Energy Study			
Diameter of Container =		1.88	Ft
Height of Container =		2.00	Ft
Volume (V) of Container =		5.52	Cu Feet
Volume (V) of Container =		41.3	Gals
Assumed temperature =		68	deg F
P (in watts) = $G^2 \cdot u \cdot V$			
Solids @ 5%	G		
	200	500	800
Viscosity (u), Centipoise	2.5	2.5	2.5
Viscosity (u), lb-s/sq ft	5.2225E-05	0.000052225	0.000052225
Power, W	11.53	72.06	184.48
Power kW	0.012	0.072	0.184
Solids @ 25%	G		
	200	500	800
Viscosity, Centipoise	16	16	16
Viscosity (u), lb-s/sq ft	3.3424E-04	3.3424E-04	3.3424E-04
Power, W	73.79	461.21	1,180.70
Power kW	0.074	0.461	1.181

Mixer Motor = 0.5 HP DC @ 90 V
Full-load Current = 4.8 amps

% Solids	Power, W			Viscosity	
	200	500	800	Centipoise	Lb-s/sq ft
0	4.6	28.8	73.8	1	0.00002089
1%	5.1	31.7	81.2	1.1	0.000022979
2%	6.0	37.5	95.9	1.3	0.000027157
3%	7.8	49.0	125.4	1.7	0.000035513
4%	9.7	60.5	155.0	2.1	0.000043869
5%	11.5	72.1	184.5	2.5	0.000052225
6%	12.0	74.9	191.9	2.6	0.000054314
7%	12.5	77.8	199.2	2.7	0.000056403
8%	12.9	80.7	206.6	2.8	0.000058492
9%	13.4	83.6	214.0	2.9	0.000060581
10%	13.8	86.5	221.4	3.0	0.00006267
11%	14.8	92.2	236.1	3.2	0.000066848
12%	15.7	98.0	250.9	3.4	0.000071026
13%	16.6	103.8	265.7	3.6	0.000075204
14%	17.5	109.5	280.4	3.8	0.000079382
15%	18.4	115.3	295.2	4.0	0.00008356
16%	21.7	135.5	346.8	4.7	0.000098183
17%	24.9	155.7	398.5	5.4	0.000112806
18%	28.1	175.8	450.1	6.1	0.000127429
19%	31.4	196.0	501.8	6.8	0.000142052
20%	34.6	216.2	553.5	7.5	0.000156675
21%	43.8	273.8	701.0	9.5	0.000198455
22%	53.0	331.5	848.6	11.5	0.000240235
23%	62.3	389.1	996.2	13.5	0.000282015
24%	69.2	432.4	1106.9	15.0	0.000313335
25%	73.8	461.2	1180.7	16.0	0.00033424

% Solids vs Required Power--55-Gallon Drum



Hudson River Treatability Study

Size Separation Data Sheet

Date: 7/12/2004

Tech.: J. Luce

Slurry ID: H1S1-01

Slurry is initially passed through a #200 sieve to separate fines from the coarse fraction. Of the material retained on the #200 sieve, approximately 1 kg is removed for use in the drainage study of coarse fraction. The remainder of the >#200 material is passed through the series of screens below and washed with site water to rinse away fines and efficiently separate the coarse size fractions. The individual size fractions are collected, draining as much water as possible, and submitted for analysis. The resulting fines (<#200) are also collected for analysis by coagulating fines with 500 ppm polymer 4275 and centrifuging for 2 minutes at 3400 rpm.

Sieve #	Aperture (µm)	General Description of Material Retained on Screen	Samples for Analysis
10	2000	Medium/large stones, sticks	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
20	850	Very small stones, no apparent organics	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
40	425	Large grain, dark grey/brown sand	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
60	250	Medium grain, medium grey sand	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: 16 oz jar
80	180	Medium grain, medium/dark grey sand	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: 16 oz jar
100	150	Fine grain, medium/dark grey sand	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: 16 oz jar
200	75	Very fine grain, medium/dark grey sand	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: 16 oz jar
<200	--	Fine silt/clay	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.

Fractions for atterburg limits: H1S1>#60, H1S1 #80-#100-#200 (three fractions combined)

Sample for TOC: H1S1 #10-#200

Hudson River Treatability Study

Size Separation Data Sheet

Date: 7/12/2004

Tech.: J. Luce

Slurry ID: H1S2-01

Slurry is initially passed through a #200 sieve to separate fines from the coarse fraction. Of the material retained on the #200 sieve, approximately 1 kg is removed for use in the drainage study of coarse fraction. The remainder of the >#200 material is passed through the series of screens below and washed with site water to rinse away fines and efficiently separate the coarse size fractions. The individual size fractions are collected, draining as much water as possible, and submitted for analysis. The resulting fines (<#200) are also collected for analysis by coagulating fines with 500 ppm polymer 4275 and centrifuging for 2 minutes at 3400 rpm.

Sieve #	Aperture (µm)	General Description of Material Retained on Screen	Samples for Analysis
10	2000	Small stones/gravel, small pieces of sticks/bark	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
20	850	Very small stones, some fine organic material	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
40	425	Large grain, dark grey sand, some fine organic material, flecks of white/yellow	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
60	250	Medium grain dark/grey sand, some very fine organic material, lighter colored flecks	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: 16 oz jar
80	180	Medium grain, dark grey sand	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: 16 oz jar
100	150	Fine grain, medium/dark grey/brown sand	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: 16 oz jar
200	75	Very fine grain, medium grey/brown sand	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: 16 oz jar
<200	--	Fine silt/clay	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.

Fractions for atterburg limits: H1S2 #60-#80, H1S2 #100-#200 (fractions combined)

Sample for TOC: H1S2 #10-#200

Hudson River Treatability Study

Size Separation Data Sheet

Date: **7/27/2004**

Tech.: **J. Luce**

Sediment ID: **S3-05**

Slurry is initially passed through a #200 sieve to separate fines from the coarse fraction. The remainder of the >#200 material is passed through the series of screens below and washed with site water to rinse away fines and efficiently separate the coarse size fractions. The individual size fractions are collected, draining as much water as possible, and submitted for analysis. The resulting fines (<#200) are also collected for analysis by coagulating fines with 500 ppm polymer 4275 and centrifuging for 2 minutes at 3400 rpm.

Sieve #	Aperture (µm)	General Description of Material Retained on Screen	Samples for Analysis
10	2000	very coarse, small stones, small/medium organics, dark brown	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
20	850	coarse grain, dark brown/grey, small organics	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
40	425	large grain, dark grey/brown sand, some small organics	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
60	250	medium grain, medium grey/brown sand, light flecks, some small organics	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: <i>16 oz jar</i>
80	180	medium grain, dark grey/brown sand, light flecks	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: <i>16 oz jar</i>
100	150	fine grain, dark grey/brown sand	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: <i>16 oz jar</i>
200	75	very fine grain, dark brown/grey sand	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: <i>16 oz jar</i>
<200	--	fine silt/clay	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.

Sample for TOC: S3 #10-#200

Hudson River Treatability Study

Size Separation Data Sheet

Date: **7/26/2004**

Tech.: **J. Luce**

Sediment ID: **S4B-03**

Slurry is initially passed through a #200 sieve to separate fines from the coarse fraction. The remainder of the >#200 material is passed through the series of screens below and washed with site water to rinse away fines and efficiently separate the coarse size fractions. The individual size fractions are collected, draining as much water as possible, and submitted for analysis. The resulting fines (<#200) are also collected for analysis by coagulating fines with 500 ppm polymer 4275 and centrifuging for 2 minutes at 3400 rpm.

Sieve #	Aperture (µm)	General Description of Material Retained on Screen	Samples for Analysis
10	2000	primarily organics	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
20	850	very small rocks, mostly organics	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
40	425	large grain, dark grey/brown sand, high small organics	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
60	250	medium grain sand/organics, dark brown/grey	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
80	180	fine grain sand/organics, dark brown/grey, light flecks	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
100	150	fine grain sand, dark brown/grey, some light flecks	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
200	75	very fine grain sand, dark grey/brown	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity, Atterburg Limits: <i>16 oz jar</i>
<200	--	fine silt/clay, dark grey/brown	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.

Only #200 sieve had enough material to test Atterberg Limits.

Sample for TOC: S4B #10-#200

Hudson River Treatability Study

Size Separation Data Sheet

Date: **8/19,20/2004**

Tech.: **SF, SC**

Sediment ID: **S4-01, S4-08 (dup)**

Slurry is initially passed through a #200 sieve to separate fines from the coarse fraction. The remainder of the >#200 material is passed through the series of screens below and washed with site water to rinse away fines and efficiently separate the coarse size fractions. The individual size fractions are collected, draining as much water as possible, and submitted for analysis. The resulting fines (<#200) are also collected for analysis by coagulating fines with 500 ppm polymer 4275 and centrifuging for 2 minutes at 3400 rpm.

Sieve #	Aperture (µm)	General Description of Material Retained on Screen	Samples for Analysis
10	2000	mostly organics, pebbles, very small sticks	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
20	850	lots of smaller organics, very small rocks	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
40	425	large grain, dark sand, some fine organic material	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.
60	250	medium grain, dark sand, few light flecks	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min. Atterburg Limits: 200 g min
80	180	fine grain, mostly dark sand, some lighter flecks throughout	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min. Atterburg Limits: 200 g min
100	150	fine grain sand, dark brown/grey/light flecks	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min. Atterburg Limits: 200 g min
200	75	very fine grain, dark brown/grey sand	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min. Atterburg Limits: 200 g min
<200	--	fine silt	PCB (GEHR), pH: 40 g min. TAL Metals: 10 g min. Spec. Gravity: 50 g min.

*Duplicate analysis on S4-08 sampled for PCBs only.

Hudson River Treatability Study

Size Separation Data Sheet

Date: 8/23/2004

Tech.: SC

Sediment ID: S4-HC-10-T=0

Slurry is initially passed through a #200 sieve to separate fines from the coarse fraction. The remainder of the >#200 material is passed through the series of screens below and washed with site water to rinse away fines and efficiently separate the coarse size fractions. The individual size fractions are collected, draining as much water as possible, and submitted for analysis. The resulting fines (<#200) are also collected for analysis by coagulating fines with 500 ppm polymer 4275 and centrifuging for 2 minutes at 3400 rpm.

Sieve #	Aperture (µm)	General Description of Material Retained on Screen	Samples for Analysis
10	2000	mostly small woody material, small rocks	PCB (GEHR)
20	850	mostly small woody material, small rocks	PCB (GEHR)
40	425	very small woody pieces and rocks	PCB (GEHR)
60	250	coarse grain sand, dark brown-black, some light flecks	PCB (GEHR)
80	180	finer grain sand, dark brown-black, light flecks	PCB (GEHR)
100	150	very fine grain sand, dark brown/grey/light flecks	PCB (GEHR)
200	75	very fine grain, dark brown/grey sand with light flecks	PCB (GEHR)
<200	--	fine silt	PCB (GEHR)

Hudson River Treatability Study

Size Separation Data Sheet

Date: 8/23/2004

Tech.: SC

Sediment ID: S4-HC-10-T=F

Slurry is initially passed through a #200 sieve to separate fines from the coarse fraction. The remainder of the >#200 material is passed through the series of screens below and washed with site water to rinse away fines and efficiently separate the coarse size fractions. The individual size fractions are collected, draining as much water as possible, and submitted for analysis. The resulting fines (<#200) are also collected for analysis by coagulating fines with 500 ppm polymer 4275 and centrifuging for 2 minutes at 3400 rpm.

Sieve #	Aperture (µm)	General Description of Material Retained on Screen	Samples for Analysis
10	2000	mostly small woody material, small rocks	PCB (GEHR)
20	850	mostly small woody material, small rocks	PCB (GEHR)
40	425	very small woody pieces and rocks	PCB (GEHR)
60	250	coarse grain sand, dark brown-black, light flecks	PCB (GEHR)
80	180	finer grain sand, dark brown-black, light flecks	PCB (GEHR)
100	150	very fine grain sand, dark brown, some light flecks	PCB (GEHR)
200	75	very fine grain, dark brown/grey sand with some light flecks	PCB (GEHR)
<200	--	fine silt	PCB (GEHR)

Hudson River Treatability Study

Size Separation Data Sheet

Date: 8/26/2004

Tech.: SC

Sediment ID: S4-HC-15-T=0

Slurry is initially passed through a #200 sieve to separate fines from the coarse fraction. The remainder of the >#200 material is passed through the series of screens below and washed with site water to rinse away fines and efficiently separate the coarse size fractions. The individual size fractions are collected, draining as much water as possible, and submitted for analysis. The resulting fines (<#200) are also collected for analysis by coagulating fines with 500 ppm polymer 4275 and centrifuging for 2 minutes at 3400 rpm.

Sieve #	Aperture (µm)	General Description of Material Retained on Screen	Samples for Analysis
10	2000	mostly small woody material, small rocks	PCB (GEHR)
20	850	mostly small woody material, small rocks	PCB (GEHR)
40	425	small woody pieces and very coarse sand	PCB (GEHR)
60	250	coarse grain sand, black-grey, light flecks	PCB (GEHR)
80	180	medium grain sand, dark brown-grey, light flecks	PCB (GEHR)
100	150	fine grain sand, grey/dark brown, some light flecks	PCB (GEHR)
200	75	very fine grain, grey/dark brown sand with some light flecks	PCB (GEHR)
<200	--	fine silt	PCB (GEHR)

Hudson River Treatability Study

Size Separation Data Sheet

Date: **8/26/2004**

Tech.: **SC**

Sediment ID: **S4-HC-15-T=F**

Slurry is initially passed through a #200 sieve to separate fines from the coarse fraction. The remainder of the >#200 material is passed through the series of screens below and washed with site water to rinse away fines and efficiently separate the coarse size fractions. The individual size fractions are collected, draining as much water as possible, and submitted for analysis. The resulting fines (<#200) are also collected for analysis by coagulating fines with 500 ppm polymer 4275 and centrifuging for 2 minutes at 3400 rpm.

Sieve #	Aperture (µm)	General Description of Material Retained on Screen	Samples for Analysis
10	2000	mostly small woody material, small rocks	PCB (GEHR)
20	850	mostly small woody material, small rocks	
40	425	mostly small woody material, small rocks	
60	250	coarse grain sand, black-grey, light flecks	
80	180	medium grain sand, dark brown-grey, light flecks	
100	150	fine grain sand, grey/dark brown, some light flecks	
200	75	very fine grain, grey/dark brown sand with some light flecks	
<200	--	fine silt	PCB (GEHR)

* Total weight of coarse fraction is less than 30 g, only >#200 and <#200 fractions were sent for analysis.

Hudson River Treatability Study

Size Separation Data Sheet

Date: 8/30/2004

Tech.: SC

Sediment ID: S4-HC-15-12F-UF

Slurry is initially passed through a #200 sieve to separate fines from the coarse fraction. The remainder of the >#200 material is passed through the series of screens below and washed with site water to rinse away fines and efficiently separate the coarse size fractions. The individual size fractions are collected, draining as much water as possible, and submitted for analysis. The resulting fines (<#200) are also collected for analysis by coagulating fines with 500 ppm polymer 4275 and centrifuging for 2 minutes at 3400 rpm.

Sieve #	Aperture (µm)	General Description of Material Retained on Screen	Samples for Analysis
10	2000	mostly small rocks, woody material	PCB (GEHR)
20	850	mostly small rocks, woody material	PCB (GEHR)
40	425	very coarse sand and some small woody pieces	PCB (GEHR)
60	250	coarse grain sand, black-grey, light flecks	PCB (GEHR)
80	180	medium grain sand, dark brown-grey, light flecks	PCB (GEHR)
100	150	fine grain sand, grey/dark brown, some light flecks	PCB (GEHR)
200	75	very fine grain, grey/dark brown sand with some light flecks	PCB (GEHR)
<200	--	fine silt	PCB (GEHR)

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: _____
Sample designation: _____
Analyst's name: _____

1. *Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.*

Bulk sample solids concentration: _____ % wt. solids

Bulk sample solids concentration: _____ % wt. solids (dup.)

Average sample solids concentration: _____ % wt. solids

2. *Stack the following set of sieves (largest openings top, smallest openings bottom):*

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. *Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.*

Tare wt. of wash water container: _____ g

4. *Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.*

5. *Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.*

6. *Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.*

wt. wet grab placed on coarsest sieve: _____ g

7. *Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.*

8. *For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.*

9. *Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.*

10. *For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump - pump feed tube is out of container. (To remove fines in pan from the system).*

11. *Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all when rinse water empties.*

12. *Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.*

13. *Determine the weight of water in the wash water container.*

Final wt. water in wash water container: _____ g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h. Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10			0.0
20			0.0
40			0.0
60			0.0
100			0.0
200			0.0
400			0.0

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ % wt. solids

Wash water sample (<#400) _____ % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers.

Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label.

Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight:

5 min, 750 mL recirculating site water

5 min, 750 recirculation site water

1 L final rinse

Run #2

Sample Weight:

5 min, 750 mL recirculating site water

5 min, 750 recirculation site water

1 L final rinse

GE / Hudson River Treatability Study

Received 12/8/04

Sieve Analysis Log:

All <#400 data is estimated based on the sum of actual weights obtained on larger sieve sizes subtracted from the assumed starting dry weight.

Dry grams used to calculate percentages are based on the wet grams of solids used and the % solids data, not on an actual measured weight of dry solids. This can introduce a source of error.

Sample I.D. and Initial Dry Weight	Sieve #	Aperture (µm)	Tare Wt. (g)	Weight (g)	Weight Retained (g)	% Weight Retained	% Weight Passed
S3-3-01 300.0 g wet/ 180.96 g dry	1/4"	6300	4.1	4.24	0.14	0.08	99.92
	10	2000	4.1	5.35	1.25	0.69	99.23
	20	850	15.4	19.6	4.20	2.32	96.91
	40	425	15.3	42.92	27.62	15.26	81.65
	60	250	4.2	59.99	55.79	30.83	50.82
	100	150	4.1	31.26	27.16	15.01	35.81
	200	75	15.6	40.27	24.67	13.63	22.18
	400	38	704.7	716.5	11.80	6.52	15.66
	< 400	<38	--	--	28.3	15.66	---
S4A-01 300.20 g wet/ 196.36 g dry	1/4"	6300	521.8	524.0	2.2	1.12	98.88
	10	2000	411.2	411.8	0.6	0.31	98.57
	20	850	354.3	355.8	1.5	0.76	97.81
	40	425	316.4	318.7	2.3	1.17	96.64
	60	250	309.5	313.3	3.8	1.94	94.70
	100	150	280.7	314.0	33.3	16.96	77.74
	200	75	312.9	410.2	97.3	49.55	28.19
	400	38	343.2	364.0	20.8	10.59	17.60
	< 400	< 38	--	--	34.6	17.60	---
S2-2-HC-25-1-T=0 278.5 g wet/ 44.53 g dry	1/4"	6300	524.5	524.5	0.0	0.00	100.00
	10	2000	411.1	411.3	0.2	0.45	99.55
	20	850	354.3	354.9	0.6	1.35	98.20
	40	425	316.2	318.2	2.0	4.49	93.71
	60	250	313.5	314.0	0.5	1.12	92.59
	100	150	284.3	303.8	19.5	43.79	48.80
	200	75	312.8	329.2	16.4	36.83	11.97
	400	38	343.0	347.2	4.2	9.43	2.54
	< 400	< 38	--	--	1.1	2.54	---
S2-2-HC-25-1-F 246.6 g wet/ 55.24 g dry	1/4"	6300	524.0	524.0	0.0	0.00	100.00
	10	2000	411.1	411.2	0.1	0.18	99.82
	20	850	354.2	354.6	0.4	0.72	99.09
	40	425	316.2	317.5	1.3	2.35	96.74
	60	250	308.9	312.0	3.1	5.61	91.13
	100	150	281.7	298.2	16.5	29.87	61.26
	200	75	312.4	327.3	14.9	26.97	34.29
	400	38	342.9	347.0	4.1	7.42	26.86
	< 400	< 38	--	--	14.8	26.86	---

S2-2-HC-25-1-UF 181.6 g wet/ 121.71 g dry	1/4"	6300	524.0	524.0	0.00	0.00	100.00
	10	2000	394.9	395.1	0.20	0.16	99.84
	20	850	347.9	348.7	0.80	0.66	99.18
	40	425	346.7	350.5	3.80	3.12	96.06
	60	250	302.3	312.4	10.10	8.30	87.76
	100	150	289.9	354.0	64.10	52.67	35.09
	200	75	340.7	374.8	34.10	28.02	7.07
	400	38	340.6	346.7	6.10	5.01	2.06
	< 400	< 38	--	--	2.5	2.06	--
S3-4-HC-25-1-F 282.6 g wet/ 75.4 g dry	1/4"	6300	524.0	524.0	0.0	0.00	100.00
	10	2000	395.0	395.02	0.02	0.03	99.97
	20	850	347.9	348.4	0.5	0.66	99.31
	40	425	346.8	348.3	1.5	1.99	97.32
	60	250	302.4	305.9	3.5	4.64	92.68
	100	150	289.9	306.4	16.5	21.88	70.80
	200	75	340.7	367.8	27.1	35.94	34.85
	400	38	340.6	352.3	11.7	15.52	19.34
	< 400	< 38	--	--	14.6	19.34	--
S3-4-HC-25-1-UF 348.6 g wet/ 245.17 g dry	1/4"	6300	527.0	527.0	0.0	0.00	100.00
	10	2000	411.2	411.3	0.1	0.04	99.96
	20	850	354.3	356.3	2.0	0.82	99.14
	40	425	316.3	323.1	6.8	2.77	96.37
	60	250	308.9	325.9	17.0	6.93	89.44
	100	150	280.4	354.5	74.1	30.22	59.21
	200	75	312.4	425.2	112.8	46.01	13.20
	400	38	343.0	366.3	23.3	9.50	3.70
	< 400	< 38	--	--	9.1	3.70	--
S3-4-HC-25-2-F 262.5 g wet/ 69.48 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.0	395.1	0.1	0.14	99.86
	20	850	348.1	348.3	0.2	0.29	99.57
	40	425	346.8	348.0	1.2	1.73	97.84
	60	250	302.4	305.2	2.8	4.03	93.81
	100	150	289.8	304.2	14.4	20.73	73.09
	200	75	340.6	363.5	22.9	32.96	40.13
	400	38	340.7	351.8	11.1	15.98	24.15
	< 400	< 38	--	--	16.8	24.15	--
S3-4-HC-25-2-UF 234.2 g wet/ 163.99 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.1	411.3	0.2	0.12	99.88
	20	850	354.2	355.6	1.4	0.85	99.02
	40	425	315.9	320.4	4.5	2.74	96.28
	60	250	308.9	320.0	11.1	6.77	89.51
	100	150	280.3	327.1	46.8	28.54	60.97
	200	75	312.4	384.8	72.4	44.15	16.82
	400	38	343.0	362.9	19.9	12.13	4.69
	< 400	< 38	--	--	7.7	4.69	--

S3-4-HC-25-4-UF 282.0 g wet/ 193.34 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.0	395.02	0.02	0.01	99.99
	20	850	348.2	348.9	0.7	0.36	99.63
	40	425	346.7	350.2	3.5	1.81	97.82
	60	250	302.4	311.8	9.4	4.86	92.96
	100	150	290.0	344.7	54.7	28.29	64.66
	200	75	340.7	435.8	95.1	49.19	15.48
	400	38	340.6	366.8	26.2	13.55	1.92
	< 400	< 38	--	--	3.7	1.92	--
S2-2-HC-15-1-F 262.3 g wet/ 42.07 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.0	411.07	0.07	0.17	99.83
	20	850	354.2	354.5	0.3	0.71	99.12
	40	425	315.8	317.0	1.2	2.85	96.27
	60	250	308.8	312.0	3.2	7.61	88.66
	100	150	280.2	297.1	16.9	40.17	48.49
	200	75	312.3	326.6	14.3	33.99	14.50
	400	38	342.9	346.6	3.7	8.79	5.70
	< 400	< 38	--	--	2.4	5.70	--
S2-2-HC-15-1-UF 230.3 g wet/ 147.37 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.2	411.4	0.2	0.14	99.86
	20	850	354.2	356.1	1.9	1.29	98.58
	40	425	316.4	322.5	6.1	4.14	94.44
	60	250	302.3	318.6	16.3	11.06	83.38
	100	150	280.5	350.8	70.3	47.70	35.67
	200	75	312.7	363.8	51.1	34.67	1.00
	400	38	343.0	353.0	10.0	6.79	-5.79
	< 400	< 38	--	--	-8.5	-5.79	--
S3-4-HC-15-1-T=0 247.1 g wet/ 35.58 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.1	395.2	0.1	0.28	99.72
	20	850	348.1	348.5	0.4	1.12	98.59
	40	425	346.6	347.4	0.8	2.25	96.35
	60	250	309.2	310.6	1.4	3.93	92.41
	100	150	289.7	297.0	7.3	20.52	71.89
	200	75	340.8	351.9	11.1	31.20	40.70
	400	38	340.7	346.0	5.3	14.90	25.80
	< 400	< 38	--	--	9.2	25.80	--
S3-4-HC-15-1-F 259.3 g wet/ 48.90 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.1	411.2	0.1	0.20	99.80
	20	850	354.2	354.9	0.7	1.43	98.36
	40	425	315.8	318.1	2.3	4.70	93.66
	60	250	302.1	306.2	4.1	8.38	85.28
	100	150	280.2	292.6	12.4	25.36	59.92
	200	75	312.3	329.0	16.7	34.15	25.77
	400	38	342.8	349.3	6.5	13.29	12.47
	< 400	< 38	--	--	6.1	12.47	--

S3-4-HC-15-1-UF 253.4 g wet/ 174.06 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	394.9	395.7	0.8	0.46	99.54
	20	850	348.0	351.3	3.3	1.90	97.64
	40	425	346.6	354.1	7.5	4.31	93.34
	60	250	308.9	322.1	13.2	7.58	85.75
	100	150	289.5	344.3	54.8	31.48	54.27
	200	75	340.7	407.2	66.5	38.21	16.06
	400	38	340.7	364.0	23.3	13.39	2.68
	< 400	< 38	--	--	4.7	2.68	--
S2-2-HC-25-2-F 276.4 g wet/ 74.19 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.0	395.04	0.04	0.05	99.95
	20	850	348.0	348.4	0.4	0.54	99.41
	40	425	346.6	348.4	1.8	2.43	96.98
	60	250	308.9	313.4	4.5	6.07	90.92
	100	150	289.4	319.9	30.5	41.11	49.80
	200	75	340.7	358.1	17.4	23.45	26.35
	400	38	340.7	344.5	3.8	5.12	21.23
	< 400	< 38	--	--	15.8	21.23	--
S2-2-HC-25-2-UF 229.2 g wet/ 168.30 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.1	411.3	0.2	0.12	99.88
	20	850	354.2	355.1	0.9	0.53	99.35
	40	425	315.9	320.9	5.0	2.97	96.38
	60	250	302.1	316.4	14.3	8.50	87.88
	100	150	280.3	362.2	81.9	48.66	39.22
	200	75	312.3	363.4	51.1	30.36	8.85
	400	38	342.9	354.0	11.1	6.60	2.26
	< 400	< 38	--	--	3.8	2.26	--
S2-2-HC-25-3-F 267.6 g wet/ 57.86 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.0	411.20	0.20	0.35	99.65
	20	850	354.1	354.7	0.6	1.04	98.62
	40	425	315.8	321.4	5.6	9.68	88.94
	60	250	302.0	306.3	4.3	7.43	81.51
	100	150	280.2	299.7	19.5	33.70	47.81
	200	75	312.3	327.1	14.8	25.58	22.23
	400	38	340.6	344.3	3.7	6.39	15.83
	< 400	< 38	--	--	9.2	15.83	--
S2-2-HC-25-3-UF 394.0 g wet/ 257.79 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.0	395.3	0.3	0.12	99.88
	20	850	348.0	349.3	1.3	0.50	99.38
	40	425	346.5	354.2	7.7	2.99	96.39
	60	250	308.9	339.4	30.5	11.83	84.56
	100	150	289.4	436.8	147.4	57.18	27.38
	200	75	340.6	397.8	57.2	22.19	5.19
	400	38	340.7	348.4	7.7	2.99	2.21
	< 400	< 38	--	--	5.7	2.21	--

S2-2-HC-15-2-F 261.1 g wet/ 48.51 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.2	411.22	0.02	0.04	99.96
	20	850	354.3	354.4	0.1	0.21	99.75
	40	425	316.1	317.2	1.1	2.27	97.49
	60	250	302.2	305.8	3.6	7.42	90.06
	100	150	280.3	296.5	16.2	33.40	56.67
	200	75	312.4	326.9	14.5	29.89	26.78
	400	38	340.7	344.5	3.8	7.83	18.94
	< 400	< 38	--	--	9.2	18.94	--
S2-2-HC-15-2-UF 360.4 g wet/ 266.30 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.0	395.7	0.7	0.26	99.74
	20	850	348.1	352.8	4.7	1.76	97.97
	40	425	346.5	363.1	16.6	6.23	91.74
	60	250	309.1	343.4	34.3	12.88	78.86
	100	150	289.9	417.8	127.9	48.03	30.83
	200	75	340.7	405.5	64.8	24.33	6.50
	400	38	340.6	353.9	13.3	4.99	1.50
	< 400	< 38	--	--	4.0	1.50	--
S3-4-HC-25-3-F 289.5 g wet/ 76.34 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.9	396.0	0.1	0.13	99.87
	20	850	348.0	349.2	1.2	1.57	98.30
	40	425	346.6	349.7	3.1	4.06	94.24
	60	250	309.0	314.9	5.9	7.73	86.51
	100	150	289.5	308.8	19.3	25.28	61.23
	200	75	340.6	362.5	21.9	28.69	32.54
	400	38	340.6	350.3	9.7	12.71	19.83
	< 400	< 38	--	--	15.1	19.83	--
S3-4-HC-25-3-UF 419.5 g wet/ 275.53 g dry	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	394.9	397.1	2.2	0.80	99.20
	20	850	348.0	361.5	13.5	4.90	94.30
	40	425	346.5	377.8	31.3	11.36	82.94
	60	250	309.0	358.3	49.3	17.89	65.05
	100	150	289.5	386.1	96.6	35.06	29.99
	200	75	340.7	401.2	60.5	21.96	8.03
	400	38	340.6	353.8	13.2	4.79	3.24
	< 400	< 38	--	--	8.9	3.24	--

GE / Hudson River Treatability Study

Received 12/8/04

Sieve Analysis Log:

All <#400 data is calculated based on the weight and percent solids of the wash water slurry (-400 material).

Dry weights obtained on all other sieves were directly measured. Percent weight retained and passed are calculated as percentages of the total recovered grams of solids. Percent recovery gives the total dry grams recovered as a percentage of the total dry grams assumed at the start of each test (based on the wet weight and percent solids of initial sample).

Sample I.D. and Initial Dry Weight	Sieve #	Aperture (µm)	Tare Wt. (g)	Weight (g)	Weight Retained (g)	% Weight Retained	% Weight Passed
S3-3-01 300.0 g wet/ 180.96 g dry (60.32% Solids)	1/4"	6300	4.1	4.24	0.14	0.08	99.92
	10	2000	4.1	5.35	1.25	0.69	99.23
	20	850	15.4	19.6	4.20	2.33	96.90
	40	425	15.3	42.92	27.62	15.32	81.58
	60	250	4.2	59.99	55.79	30.94	50.65
	100	150	4.1	31.26	27.16	15.06	35.59
	200	75	15.6	40.27	24.67	13.68	21.91
	400	38	704.7	716.5	11.80	6.54	15.37
< 400	<38	--	--	27.7	15.37	---	
S4A-01 300.20 g wet/ 196.36 g dry (65.41% Solids)	1/4"	6300	521.8	524.0	2.2	1.15	98.85
	10	2000	411.2	411.8	0.6	0.31	98.54
	20	850	354.3	355.8	1.5	0.78	97.75
	40	425	316.4	318.7	2.3	1.20	96.55
	60	250	309.5	313.3	3.8	1.99	94.57
	100	150	280.7	314.0	33.3	17.40	77.17
	200	75	312.9	410.2	97.3	50.83	26.34
	400	38	343.2	364.0	20.8	10.87	15.47
< 400	< 38	--	--	29.6	15.47	---	
S2-2-HC-25-1-T=0 278.5 g wet/ 44.53 g dry (15.99% Solids)	1/4"	6300	524.5	524.5	0.0	0.00	100.00
	10	2000	411.1	411.3	0.2	0.38	99.62
	20	850	354.3	354.9	0.6	1.15	98.46
	40	425	316.2	318.2	2.0	3.84	94.62
	60	250	313.5	314.0	0.5	0.96	93.66
	100	150	284.3	303.8	19.5	37.49	56.17
	200	75	312.8	329.2	16.4	31.53	24.64
	400	38	343.0	347.2	4.2	8.07	16.57
< 400	< 38	--	--	8.6	16.57	---	
S2-2-HC-25-1-F 246.6 g wet/ 55.24 g dry (22.40% Solids)	1/4"	6300	524.0	524.0	0.0	0.00	100.00
	10	2000	411.1	411.2	0.1	0.20	99.80
	20	850	354.2	354.6	0.4	0.79	99.01
	40	425	316.2	317.5	1.3	2.58	96.43
	60	250	308.9	312.0	3.1	6.14	90.29
	100	150	281.7	298.2	16.5	32.70	57.58
	200	75	312.4	327.3	14.9	29.53	28.05
	400	38	342.9	347.0	4.1	8.13	19.93
< 400	< 38	--	--	10.1	19.93	---	

<#400 Data	
Grams Wash Water	% Solids
3848.8	0.72

% Recovery	99.7
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<#400 Data	
Grams Wash Water	% Solids
2932.7	1.01

% Recovery	97.5
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<#400 Data	
Grams Wash Water	% Solids
3447.9	0.25

% Recovery	116.8
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<#400 Data	
Grams Wash Water	% Solids
3466.7	0.29

% Recovery	91.3
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S2-2-HC-25-1-UF 181.6 g wet/ 121.71 g dry (66.02% Solids)	1/4"	6300	524.0	524.0	0.00	0.00	100.00
	10	2000	394.9	395.1	0.20	0.16	99.84
	20	850	347.9	348.7	0.80	0.65	99.18
	40	425	346.7	350.5	3.80	3.10	96.08
	60	250	302.3	312.4	10.10	8.25	87.83
	100	150	289.9	354.0	64.10	52.35	35.48
	200	75	340.7	374.8	34.10	27.85	7.63
	400	38	340.6	346.7	6.10	4.98	2.65
	< 400	< 38	--	--	3.2	2.65	---
S3-4-HC-25-1-F 282.6 g wet/ 75.4 g dry (26.68% Solids)	1/4"	6300	524.0	524.0	0.0	0.00	100.00
	10	2000	395.0	395.02	0.02	0.03	99.97
	20	850	347.9	348.4	0.5	0.63	99.35
	40	425	346.8	348.3	1.5	1.88	97.47
	60	250	302.4	305.9	3.5	4.39	93.08
	100	150	289.9	306.4	16.5	20.69	72.39
	200	75	340.7	367.8	27.1	33.98	38.41
	400	38	340.6	352.3	11.7	14.67	23.74
	< 400	< 38	--	--	18.9	23.74	---
S3-4-HC-25-1-UF 348.6 g wet/ 245.17 g dry (70.33% Solids)	1/4"	6300	527.0	527.0	0.0	0.00	100.00
	10	2000	411.2	411.3	0.1	0.04	99.96
	20	850	354.3	356.3	2.0	0.81	99.15
	40	425	316.3	323.1	6.8	2.76	96.39
	60	250	308.9	325.9	17.0	6.89	89.50
	100	150	280.4	354.5	74.1	30.05	59.45
	200	75	312.4	425.2	112.8	45.74	13.71
	400	38	343.0	366.3	23.3	9.45	4.26
	< 400	< 38	--	--	10.5	4.26	---
S3-4-HC-25-2-F 262.5 g wet/ 69.48 g dry (26.47% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.0	395.1	0.1	0.14	99.86
	20	850	348.1	348.3	0.2	0.28	99.57
	40	425	346.8	348.0	1.2	1.70	97.87
	60	250	302.4	305.2	2.8	3.98	93.90
	100	150	289.8	304.2	14.4	20.44	73.45
	200	75	340.6	363.5	22.9	32.51	40.94
	400	38	340.7	351.8	11.1	15.76	25.18
	< 400	< 38	--	--	17.7	25.18	---
S3-4-HC-25-2-UF 234.2 g wet/ 163.99 g dry (70.02% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.1	411.3	0.2	0.12	99.88
	20	850	354.2	355.6	1.4	0.83	99.05
	40	425	315.9	320.4	4.5	2.67	96.38
	60	250	308.9	320.0	11.1	6.59	89.79
	100	150	280.3	327.1	46.8	27.79	62.00
	200	75	312.4	384.8	72.4	42.99	19.01
	400	38	343.0	362.9	19.9	11.82	7.20
	< 400	< 38	--	--	12.1	7.20	---

<#400 Data	
Grams Wash Water	% Solids
2499.1	0.13

% Recovery	100.6
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<#400 Data	
Grams Wash Water	% Solids
3712.1	0.51

% Recovery	105.8
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<#400 Data	
Grams Wash Water	% Solids
3754.7	0.28

% Recovery	100.6
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<#400 Data	
Grams Wash Water	% Solids
3346.8	0.53

% Recovery	101.4
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<#400 Data	
Grams Wash Water	% Solids
3276.4	0.37

% Recovery	102.7
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S3-4-HC-25-4-UF 282.0 g wet/ 193.34 g dry (68.56% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.0	395.02	0.02	0.01	99.99
	20	850	348.2	348.9	0.7	0.36	99.63
	40	425	346.7	350.2	3.5	1.79	97.84
	60	250	302.4	311.8	9.4	4.81	93.03
	100	150	290.0	344.7	54.7	28.00	65.02
	200	75	340.7	435.8	95.1	48.69	16.34
	400	38	340.6	366.8	26.2	13.41	2.92
	< 400	< 38	--	--	5.7	2.92	---
S2-2-HC-15-1-F 262.3 g wet/ 42.07 g dry (16.04% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.0	411.07	0.07	0.15	99.85
	20	850	354.2	354.5	0.3	0.65	99.19
	40	425	315.8	317.0	1.2	2.62	96.58
	60	250	308.8	312.0	3.2	6.97	89.60
	100	150	280.2	297.1	16.9	36.84	52.77
	200	75	312.3	326.6	14.3	31.17	21.60
	400	38	342.9	346.6	3.7	8.06	13.54
	< 400	< 38	--	--	6.2	13.54	---
S2-2-HC-15-1-UF 230.3 g wet/ 147.37 g dry (63.99% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.2	411.4	0.2	0.13	99.87
	20	850	354.2	356.1	1.9	1.20	98.67
	40	425	316.4	322.5	6.1	3.86	94.81
	60	250	302.3	318.6	16.3	10.31	84.50
	100	150	280.5	350.8	70.3	44.47	40.04
	200	75	312.7	363.8	51.1	32.32	7.72
	400	38	343.0	353.0	10.0	6.33	1.39
	< 400	< 38	--	--	2.2	1.39	---
S3-4-HC-15-1-T=0 247.1 g wet/ 35.58 g dry (14.40% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.1	395.2	0.1	0.29	99.71
	20	850	348.1	348.5	0.4	1.15	98.56
	40	425	346.6	347.4	0.8	2.30	96.27
	60	250	309.2	310.6	1.4	4.02	92.24
	100	150	289.7	297.0	7.3	20.97	71.27
	200	75	340.8	351.9	11.1	31.89	39.39
	400	38	340.7	346.0	5.3	15.22	24.16
	< 400	< 38	--	--	8.4	24.16	---
S3-4-HC-15-1-F 259.3 g wet/ 48.90 g dry (18.86% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.1	411.2	0.1	0.19	99.81
	20	850	354.2	354.9	0.7	1.35	98.45
	40	425	315.8	318.1	2.3	4.44	94.01
	60	250	302.1	306.2	4.1	7.92	86.09
	100	150	280.2	292.6	12.4	23.96	62.12
	200	75	312.3	329.0	16.7	32.27	29.85
	400	38	342.8	349.3	6.5	12.56	17.29
	< 400	< 38	--	--	8.9	17.29	---

<#400 Data	
Grams Wash Water	% Solids
3173.8	0.18

% Recovery	101.0
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<#400 Data	
Grams Wash Water	% Solids
3268.5	0.19

% Recovery	109.1
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<#400 Data	
Grams Wash Water	% Solids
3144.4	0.07

% Recovery	107.3
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<#400 Data	
Grams Wash Water	% Solids
3235.4	0.26

% Recovery	97.8
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<#400 Data	
Grams Wash Water	% Solids
3085.8	0.29

% Recovery	105.8
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S3-4-HC-15-1-UF 253.4 g wet/ 174.06 g dry (68.69% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	394.9	395.7	0.8	0.46	99.54
	20	850	348.0	351.3	3.3	1.89	97.66
	40	425	346.6	354.1	7.5	4.29	93.37
	60	250	308.9	322.1	13.2	7.55	85.82
	100	150	289.5	344.3	54.8	31.34	54.47
	200	75	340.7	407.2	66.5	38.03	16.44
	400	38	340.7	364.0	23.3	13.33	3.11
	< 400	< 38	--	--	5.4	3.11	---
S2-2-HC-25-2-F 276.4 g wet/ 74.19 g dry (26.84% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.0	395.04	0.04	0.06	99.94
	20	850	348.0	348.4	0.4	0.57	99.37
	40	425	346.6	348.4	1.8	2.58	96.80
	60	250	308.9	313.4	4.5	6.44	90.36
	100	150	289.4	319.9	30.5	43.64	46.72
	200	75	340.7	358.1	17.4	24.90	21.82
	400	38	340.7	344.5	3.8	5.44	16.39
	< 400	< 38	--	--	11.5	16.39	---
S2-2-HC-25-2-UF 229.2 g wet/ 168.30 g dry (73.43% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.1	411.3	0.2	0.12	99.88
	20	850	354.2	355.1	0.9	0.53	99.35
	40	425	315.9	320.9	5.0	2.97	96.38
	60	250	302.1	316.4	14.3	8.49	87.89
	100	150	280.3	362.2	81.9	48.60	39.29
	200	75	312.3	363.4	51.1	30.33	8.96
	400	38	342.9	354.0	11.1	6.59	2.38
	< 400	< 38	--	--	4.0	2.38	---
S2-2-HC-25-3-F 267.6 g wet/ 57.86 g dry (21.62% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.0	411.20	0.20	0.33	99.67
	20	850	354.1	354.7	0.6	0.99	98.68
	40	425	315.8	321.4	5.6	9.25	89.43
	60	250	302.0	306.3	4.3	7.10	82.33
	100	150	280.2	299.7	19.5	32.20	50.13
	200	75	312.3	327.1	14.8	24.44	25.69
	400	38	340.6	344.3	3.7	6.11	19.58
	< 400	< 38	--	--	11.9	19.58	---
S2-2-HC-25-3-UF 394.0 g wet/ 257.79 g dry (65.43% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.0	395.3	0.3	0.12	99.88
	20	850	348.0	349.3	1.3	0.50	99.38
	40	425	346.5	354.2	7.7	2.97	96.41
	60	250	308.9	339.4	30.5	11.76	84.66
	100	150	289.4	436.8	147.4	56.82	27.84
	200	75	340.6	397.8	57.2	22.05	5.79
	400	38	340.7	348.4	7.7	2.97	2.82
	< 400	< 38	--	--	7.3	2.82	---

<#400 Data	
Grams Wash Water	% Solids
3201.7	0.17

% Recovery	100.4
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<#400 Data	
Grams Wash Water	% Solids
3272.4	0.35

% Recovery	94.2
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<#400 Data	
Grams Wash Water	% Solids
3335.3	0.12

% Recovery	100.1
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<#400 Data	
Grams Wash Water	% Solids
3293.9	0.36

% Recovery	104.7
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<#400 Data	
Grams Wash Water	% Solids
3177.4	0.23

% Recovery	100.6
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S2-2-HC-15-2-F 261.1 g wet/ 48.51 g dry (18.58% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	411.2	411.22	0.02	0.04	99.96
	20	850	354.3	354.4	0.1	0.21	99.74
	40	425	316.1	317.2	1.1	2.36	97.38
	60	250	302.2	305.8	3.6	7.72	89.67
	100	150	280.3	296.5	16.2	34.73	54.93
	200	75	312.4	326.9	14.5	31.09	23.85
	400	38	340.7	344.5	3.8	8.15	15.70
	< 400	< 38	--	--	7.3	15.70	---
S2-2-HC-15-2-UF 360.4 g wet/ 266.30 g dry (73.89% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.0	395.7	0.7	0.26	99.74
	20	850	348.1	352.8	4.7	1.77	97.97
	40	425	346.5	363.1	16.6	6.24	91.72
	60	250	309.1	343.4	34.3	12.90	78.82
	100	150	289.9	417.8	127.9	48.11	30.71
	200	75	340.7	405.5	64.8	24.38	6.33
	400	38	340.6	353.9	13.3	5.00	1.33
	< 400	< 38	--	--	3.5	1.33	---
S3-4-HC-25-3-F 289.5 g wet/ 76.34 g dry (26.37% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	395.9	396.0	0.1	0.13	99.87
	20	850	348.0	349.2	1.2	1.54	98.33
	40	425	346.6	349.7	3.1	3.99	94.34
	60	250	309.0	314.9	5.9	7.60	86.74
	100	150	289.5	308.8	19.3	24.85	61.89
	200	75	340.6	362.5	21.9	28.19	33.70
	400	38	340.6	350.3	9.7	12.49	21.21
	< 400	< 38	--	--	16.5	21.21	---
S3-4-HC-25-3-UF 419.5 g wet/ 275.53 g dry (65.68% Solids)	1/4"	6300	---	---	0.0	0.00	100.00
	10	2000	394.9	397.1	2.2	0.80	99.20
	20	850	348.0	361.5	13.5	4.90	94.31
	40	425	346.5	377.8	31.3	11.35	82.96
	60	250	309.0	358.3	49.3	17.88	65.08
	100	150	289.5	386.1	96.6	35.03	30.05
	200	75	340.7	401.2	60.5	21.94	8.11
	400	38	340.6	353.8	13.2	4.79	3.32
	< 400	< 38	--	--	9.2	3.32	---

<#400 Data	
Grams Wash Water	% Solids
3328.3	0.22

% Recovery	96.1
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<#400 Data	
Grams Wash Water	% Solids
3529.9	0.10

% Recovery	99.8
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<#400 Data	
Grams Wash Water	% Solids
3745.0	0.44

% Recovery	101.8
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<#400 Data	
Grams Wash Water	% Solids
3524.2	0.26

% Recovery	100.1
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GE / Hudson River Treatability Study

Received 12/8/04

Size Separation Test Data Summary

Sample	% Solids of Sample	Weight Of Wash Water (g)	% Solids of Wash Water
S3-3-01	60.32	3848.8	0.72
S4A-01	65.41	2932.7	1.01
S2-2-HC-25-1-T=0	15.99	3447.9	0.25
S2-2-HC-25-1-F	22.40	3466.7	0.29
S2-2-HC-25-1-UF	66.02	2499.1	0.13
S3-4-HC-25-1-F	26.68	3712.1	0.51
S3-4-HC-25-1-UF	70.33	3754.7	0.28
S3-4-HC-25-2-F	26.47	3346.8	0.53
S3-4-HC-25-2-UF	70.02	3276.4	0.37
S3-4-HC-25-4-UF	68.56	3173.8	0.18
S2-2-HC-15-1-F	16.04	3268.5	0.19
S2-2-HC-15-1-UF	63.99	3144.4	0.07
S3-4-HC-15-1-T=0	14.40	3235.4	0.26
S3-4-HC-15-1-F	18.86	3085.8	0.29
S3-4-HC-15-1-UF	68.69	3201.7	0.17
S2-2-HC-25-2-F	26.84	3272.4	0.35
S2-2-HC-25-2-UF	73.43	3335.3	0.12
S2-2-HC-25-3-F	21.62	3293.9	0.36
S2-2-HC-25-3-UF	65.43	3177.4	0.23
S2-2-HC-15-2-F	18.58	3328.3	0.22
S2-2-HC-15-2-UF	73.89	3529.9	0.10
S3-4-HC-25-3-F	26.37	3745.0	0.44
S3-4-HC-25-3-UF	65.68	3524.2	0.26

**Hudson River Treatability Study
Wet Sieve Separation Worksheet**

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/13/2004
Sample designation: S3-3-01
Analyst's name: AB/AJT/SC/BB

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 60.12 % wt. solids
Bulk sample solids concentration: 60.29 % wt. solids (dup.)
Bulk sample solids concentration: 60.54 % wt. solids (trip.)

2. Stack the following set of sieves (largest openings top, smallest openings bottom):
Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in
Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)
If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 122.3 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 300.00 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump - pump feed tube is out of container. (To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3848.8 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.
Record the dry weights of solids and sieve.

Mesh size Tare Wt. (g) Final Wt. (g) Dry g retained

1/4 in	4.10	4.24	0.14
10	4.10	5.35	1.25
20	15.40	19.60	4.20
40	15.30	42.92	27.62
60	4.20	59.99	55.79
100	4.10	31.26	27.16
200	15.60	40.27	24.67
400	704.70	716.50	11.80

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) 0.67 % wt. solids (Method: siphon)
Wash water sample (<#400) 1.75 % wt. solids (Method: pipette)

C. Filter wash water sample - using tarred filter - according to instructions by A. Bracco. Perform Total Suspended Solids (TSS) analysis. Place dish in oven for > 12 h and record net weight of dry solids.

TSS = 7190 mg/L or 0.72 % wt. solids

Comments:

Solids were removed from sieves before drying in oven.

Due to one high solids number in step B above, % solids analysis was performed again (in duplicate; both methods) to verify:

Wash water sample (<#400) 0.70 % wt. solids (Method: siphon)
Wash water sample (<#400) 0.70 % wt. solids (Method: siphon)
Wash water sample (<#400) 0.74 % wt. solids (Method: pipette)
Wash water sample (<#400) 0.74 % wt. solids (Method: pipette)

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

#####

Sample weight used: 300.00 g
10 min, 1.5 L recirculating site water
10 min, 1.5 L recirculating site water
1 L final rinse

Run #2

#####

Sample weight used: 300.00 g
10 min, 750 mL recirculating site water
10 min, 750 mL recirculating site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/14/2004
Sample designation: S4A-01
Analyst's name: SC

1. *Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.*

Bulk sample solids concentration: 65.52 % wt. solids

Bulk sample solids concentration: 65.29 % wt. solids (dup.)

Average sample solids concentration: 65.41 % wt. solids

2. *Stack the following set of sieves (largest openings top, smallest openings bottom):*

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. *Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.*

Tare wt. of wash water container: 113.9 g

4. *Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.*

5. *Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.*

6. *Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.*

wt. wet grab placed on coarsest sieve: 300.2 g

7. *Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.*

8. *For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.*

9. *Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.*

10. *For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump - pump feed tube is out of container. (To remove fines in pan from the system).*

11. *Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all when rinse water empties.*

12. *Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.*

13. *Determine the weight of water in the wash water container.*

Final wt. water in wash water container: 2932.7 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h. Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in	521.8	524.0	2.2
10	411.2	411.8	0.6
20	354.3	355.8	1.5
40	316.4	318.7	2.3
60	309.5	313.3	3.8
100	280.7	314.0	33.3
200	312.9	410.2	97.3
400	343.2	364.0	20.8

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 1.01 % wt. solids
Wash water sample (<#400) _____ 1.00 % wt. Solids (dup.)

Comments:

Siphon method used to determine percent solids for slurry in wash water container.
Siphon method used in all future tests.

Wood chunks observed on 1/4" sieve.

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label.
Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

#####

Sample Weight: 161.6 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

#####

Sample Weight: 163.9 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/15/2004
Sample designation: S2-2-HC-25-1-T=0
Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 16.90 % wt. solids

Bulk sample solids concentration: 15.07 % wt. solids (dup.)

Average sample solids concentration: 15.99 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 112.1 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 278.5 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3447.9 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in	524.5	524.5	0.0
10	411.1	411.3	0.2
20	354.3	354.9	0.6
40	316.2	318.2	2.0
60	313.5	314.0	0.5
100	284.3	303.8	19.5
200	312.8	329.2	16.4
400	343.0	347.2	4.2

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.23 % wt. solids
Wash water sample (<#400) _____ 0.26 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

#####

Sample Weight: 689.5 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

#####

Sample Weight: 577.0 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/16/2004

Sample designation: S2-2-HC-25-1-F

Analyst's name: AJT

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 22.17 % wt. solids

Bulk sample solids concentration: 22.62 % wt. solids (dup.)

Average sample solids concentration: 22.40 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 111.8 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 246.6 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3466.7 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in	524.0	524.0	0.0
10	411.1	411.2	0.1
20	354.2	354.6	0.4
40	316.2	317.5	1.3
60	308.9	312.0	3.1
100	281.7	298.2	16.5
200	312.4	327.3	14.9
400	342.9	347.0	4.1

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.29 % wt. solids
Wash water sample (<#400) _____ 0.28 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 655.5 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 892.2 g
5 min, 500 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/17/2004
Sample designation: S2-2-HC-25-1-UF
Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 66.89 % wt. solids
Bulk sample solids concentration: 67.14 % wt. solids (dup.)
Average sample solids concentration: 66.02 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)
If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 112.6 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 181.6 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump - pump feed tube is out of container. (To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 2499.1 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.
Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in	524.0	524.0	0.0
10	394.9	395.1	0.2
20	347.9	348.7	0.8
40	346.7	350.5	3.8
60	302.3	312.4	10.1
100	289.9	354.0	64.1
200	340.7	374.8	34.1
400	340.6	346.7	6.1

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.13 % wt. solids
Wash water sample (<#400) _____ 0.12 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 285.0 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 343.6 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/20/2004
Sample designation: S3-4-HC-25-1-F
Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 27.23 % wt. solids

Bulk sample solids concentration: 26.13 % wt. solids (dup.)

Average sample solids concentration: 26.68 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 109.5 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 282.6 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump - pump feed tube is out of container. (To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3712.1 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.
Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in	524.0	524.0	0.0
10	395.0	395.02	0.02
20	347.9	348.4	0.5
40	346.8	348.3	1.5
60	302.4	305.9	3.5
100	289.9	306.4	16.5
200	340.7	367.8	27.1
400	340.6	352.3	11.7

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.51 % wt. solids

Wash water sample (<#400) _____ 0.51 % wt. Solids (dup.)

Comments:

Sieve channels sampled for analysis are listed in "A" below.

When two wet sieving runs did not produce enough sample on the #40 or #60 sieve, the two channels were combined.

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers.

Submit samples from the >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label.

Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 524.7 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 632.3 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

There was leaking on the #200 sieve during Run #2.

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/20/2004

Sample designation: S3-4-HC-25-1-UF

Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 69.84 % wt. solids

Bulk sample solids concentration: 70.81 % wt. solids (dup.)

Average sample solids concentration: 70.33 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 125.1 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 348.6 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3754.7 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in	527.0	527.0	0.0
10	411.2	411.3	0.1
20	354.3	356.3	2.0
40	316.3	323.1	6.8
60	308.9	325.9	17.0
100	280.4	354.5	74.1
200	312.4	425.2	112.8
400	343.0	366.3	23.3

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.26 % wt. solids
Wash water sample (<#400) _____ 0.29 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 258.7 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 240.2 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/21/2004

Sample designation: S3-4-HC-25-2-F

Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 25.74 % wt. solids

Bulk sample solids concentration: 27.20 % wt. solids (dup.)

Average sample solids concentration: 26.47 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 124.8 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 262.5 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3346.8 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in	---	---	0.0
10	395.0	395.1	0.1
20	348.1	348.3	0.2
40	346.8	348.0	1.2
60	302.4	305.2	2.8
100	289.8	304.2	14.4
200	340.6	363.5	22.9
400	340.7	351.8	11.1

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.54 % wt. solids

Wash water sample (<#400) _____ 0.52 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers.

Submit samples from the >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label.

Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 431.5 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 453.8 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/21/2004

Sample designation: S3-4-HC-25-2-UF

Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 70.53 % wt. solids

Bulk sample solids concentration: 69.51 % wt. solids (dup.)

Average sample solids concentration: 70.02 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 113.1 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 234.2 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3276.4 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in	---	---	0.0
10	411.1	411.3	0.2
20	354.2	355.6	1.4
40	315.9	320.4	4.5
60	308.9	320.0	11.1
100	280.3	327.1	46.8
200	312.4	384.8	72.4
400	343.0	362.9	19.9

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.37 % wt. solids
Wash water sample (<#400) _____ 0.36 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 331.5 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 345.1 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/22/2004
Sample designation: S3-4-HC-25-4-UF
Analyst's name: SC

1. *Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.*

Bulk sample solids concentration: 68.68 % wt. solids

Bulk sample solids concentration: 68.43 % wt. solids (dup.)

Average sample solids concentration: 68.56 % wt. solids

2. *Stack the following set of sieves (largest openings top, smallest openings bottom):*

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. *Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.*

Tare wt. of wash water container: 113.2 g

4. *Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.*

5. *Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.*

6. *Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.*

wt. wet grab placed on coarsest sieve: 282.0 g

7. *Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.*

8. *For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.*

9. *Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.*

10. *For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump - pump feed tube is out of container. (To remove fines in pan from the system).*

11. *Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all when rinse water empties.*

12. *Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.*

13. *Determine the weight of water in the wash water container.*

Final wt. water in wash water container: 3173.8 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h. Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in	---	---	0.0
10	395.0	395.02	0.02
20	348.2	348.9	0.7
40	346.7	350.2	3.5
60	302.4	311.8	9.4
100	290.0	344.7	54.7
200	340.7	435.8	95.1
400	340.6	366.8	26.2

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.19 % wt. solids

Wash water sample (<#400) _____ 0.17 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers.

Submit samples from the >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label.

Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 420.9 g

5 min, 750 mL recirculating site water

5 min, 750 mL recirculation site water

1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/22/2004

Sample designation: S2-2-HC-15-1-F

Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 15.97 % wt. solids

Bulk sample solids concentration: 16.1 % wt. solids (dup.)

Average sample solids concentration: 16.04 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 113.1 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 262.3 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3268.5 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	411.0	411.07	0.07
20	354.2	354.5	0.3
40	315.8	317.0	1.2
60	308.8	312.0	3.2
100	280.2	297.1	16.9
200	312.3	326.6	14.3
400	342.9	346.6	3.7

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.19 % wt. solids
Wash water sample (<#400) _____ 0.19 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 529.6 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 653.4 g
5 min, 500 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #3

Sample Weight: 371.3 g
5 min, 500 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/23/2004

Sample designation: S2-2-HC-15-1-UF

Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 64.77 % wt. solids

Bulk sample solids concentration: 63.18 % wt. solids (dup.)

Average sample solids concentration: 63.99 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 112.8 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 230.3 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3144.1 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	411.2	411.4	0.2
20	354.3	356.1	1.8
40	316.4	322.5	6.1
60	302.3	318.6	16.3
100	280.5	350.8	70.3
200	312.7	363.8	51.1
400	343.0	353.0	10.0

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.09 % wt. solids
Wash water sample (<#400) _____ 0.05 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 359.8 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 462.1 g
5 min, 500 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/23/2004

Sample designation: S3-4-HC-15-1-T=0

Analyst's name: SC

1. *Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.*

Bulk sample solids concentration: 14.41 % wt. solids

Bulk sample solids concentration: 14.39 % wt. solids (dup.)

Average sample solids concentration: 14.40 % wt. solids

2. *Stack the following set of sieves (largest openings top, smallest openings bottom):*

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. *Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.*

Tare wt. of wash water container: 113.2 g

4. *Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.*

5. *Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.*

6. *Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.*

wt. wet grab placed on coarsest sieve: 247.1 g

7. *Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.*

8. *For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.*

9. *Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.*

10. *For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump - pump feed tube is out of container. (To remove fines in pan from the system).*

11. *Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all when rinse water empties.*

12. *Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.*

13. *Determine the weight of water in the wash water container.*

Final wt. water in wash water container: 3235.4 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h. Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	395.1	395.2	0.1
20	348.1	348.5	0.4
40	346.6	347.4	0.8
60	309.2	310.6	1.4
100	289.7	297.0	7.3
200	340.8	351.9	11.1
400	340.7	346.0	5.3

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.26 % wt. solids
Wash water sample (<#400) _____ 0.26 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 588.7 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 589.4 g
5 min, 500 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/24/2004

Sample designation: S3-4-HC-15-1-F

Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 18.98 % wt. solids

Bulk sample solids concentration: 18.74 % wt. solids (dup.)

Average sample solids concentration: 18.86 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 114.2 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 259.3 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3085.8 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	411.1	411.2	0.1
20	354.2	354.9	0.7
40	315.8	318.1	2.3
60	302.1	306.2	4.1
100	280.2	292.6	12.4
200	312.3	329.0	16.7
400	342.8	349.3	6.5

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.27 % wt. solids

Wash water sample (<#400) _____ 0.30 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers.

Submit samples from the >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label.

Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 739.3 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 410.2 g
5 min, 500 mL recirculating site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/27/2004

Sample designation: S3-4-HC-15-1-UF

Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 68.79 % wt. solids

Bulk sample solids concentration: 68.58 % wt. solids (dup.)

Average sample solids concentration: 68.69 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 113.4 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 253.4 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3201.7 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	394.9	395.7	0.8
20	348.0	351.3	3.3
40	346.6	354.1	7.5
60	308.9	322.1	13.2
100	289.5	344.3	54.8
200	340.7	407.2	66.5
400	340.7	364.0	23.3

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.18 % wt. solids

Wash water sample (<#400) _____ 0.16 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers.

Submit samples from the >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label.

Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 398.6 g

5 min, 750 mL recirculating site water

5 min, 750 mL recirculation site water

1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/27/2004

Sample designation: S2-2-HC-25-2-F

Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 27.54 % wt. solids

Bulk sample solids concentration: 26.13 % wt. solids (dup.)

Average sample solids concentration: 26.84 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 113.1 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 276.4 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3272.4 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	395.0	395.04	0.04
20	348.0	348.4	0.4
40	346.6	348.4	1.8
60	308.9	313.4	4.5
100	289.4	319.9	30.5
200	340.7	358.1	17.4
400	340.7	344.5	3.8

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.34 % wt. solids
Wash water sample (<#400) _____ 0.35 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 793.2 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 804.9 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/27/2004

Sample designation: S2-2-HC-25-2-UF

Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 73.47 % wt. solids

Bulk sample solids concentration: 73.38 % wt. solids (dup.)

Average sample solids concentration: 73.43 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 113.0 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 229.2 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3335.3 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	411.1	411.3	0.2
20	354.2	355.1	0.9
40	315.9	320.9	5.0
60	302.1	316.4	14.3
100	280.3	362.2	81.9
200	312.3	363.4	51.1
400	342.9	354.0	11.1

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.13 % wt. solids
Wash water sample (<#400) _____ 0.11 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 464.7 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 404.3 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/28/2004
Sample designation: S2-2-HC-25-3-F
Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 21.76 % wt. solids

Bulk sample solids concentration: 21.47 % wt. solids (dup.)

Average sample solids concentration: 21.62 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 113.1 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 267.6 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump - pump feed tube is out of container. (To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3293.9 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.
Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	411.0	411.20	0.20
20	354.1	354.7	0.6
40	315.8	321.4	5.6
60	302.0	306.3	4.3
100	280.2	299.7	19.5
200	312.3	327.1	14.8
400	340.6	344.3	3.7

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.36 % wt. solids
Wash water sample (<#400) _____ 0.35 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 778.4 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 801.1 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/28/2004

Sample designation: S2-2-HC-25-3-UF

Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 65.55 % wt. solids

Bulk sample solids concentration: 65.30 % wt. solids (dup.)

Average sample solids concentration: 65.43 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 113.4 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 394.0 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3177.4 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	395.0	395.3	0.3
20	348.0	349.3	1.3
40	346.5	354.2	7.7
60	308.9	339.4	30.5
100	289.4	436.8	147.4
200	340.6	397.8	57.2
400	340.7	348.4	7.7

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.22 % wt. solids

Wash water sample (<#400) _____ 0.23 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers.

Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label.

Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 394.5 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 457.4 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/29/2004
Sample designation: S2-2-HC-15-2-F
Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 18.51 % wt. solids
Bulk sample solids concentration: 18.65 % wt. solids (dup.)
Average sample solids concentration: 18.58 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647) If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 113.3 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 261.1 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump - pump feed tube is out of container. (To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3328.3 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h. Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	411.2	411.22	0.02
20	354.3	354.4	0.1
40	316.1	317.2	1.1
60	302.2	305.8	3.6
100	280.3	296.5	16.2
200	312.4	326.9	14.5
400	340.7	344.5	3.8

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.22 % wt. solids
Wash water sample (<#400) _____ 0.21 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 614.0 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 660.2 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/29/2004

Sample designation: S2-2-HC-15-2-UF

Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 73.73 % wt. solids

Bulk sample solids concentration: 74.05 % wt. solids (dup.)

Average sample solids concentration: 73.89 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 112.7 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 360.4 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

Drain bottom pan into wash water container using pump - pump feed tube is out of container.

(To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10.

Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3529.9 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.

Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	395.0	395.70	0.70
20	348.1	352.8	4.7
40	346.5	363.1	16.6
60	309.1	343.4	34.3
100	289.9	417.8	127.9
200	340.7	405.5	64.8
400	340.6	353.9	13.3

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.11 % wt. solids
Wash water sample (<#400) _____ 0.09 % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers. Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label. Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 538.0 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Run #2

Sample Weight: 474.3 g
5 min, 750 mL recirculating site water
5 min, 750 mL recirculation site water
1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/30/2004
Sample designation: S3-4-HC-25-3-F
Analyst's name: SC

1. *Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.*

Bulk sample solids concentration: 25.83 % wt. solids

Bulk sample solids concentration: 26.90 % wt. solids (dup.)

Average sample solids concentration: 26.37 % wt. solids

2. *Stack the following set of sieves (largest openings top, smallest openings bottom):*

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)

If analysis is for particle size distribution, obtain tare weight on each sieve.

3. *Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.*

Tare wt. of wash water container: 113.5 g

4. *Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.*

5. *Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.*

6. *Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.*

wt. wet grab placed on coarsest sieve: 289.5 g

7. *Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.*

8. *For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.*

9. *Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.*

10. *For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump - pump feed tube is out of container. (To remove fines in pan from the system).*

11. *Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all when rinse water empties.*

12. *Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.*

13. *Determine the weight of water in the wash water container.*

Final wt. water in wash water container: 3745.0 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h. Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	395.9	396.0	0.1
20	348.0	349.2	1.2
40	346.6	349.7	3.1
60	309.0	314.9	5.9
100	289.5	308.8	19.3
200	340.6	362.5	21.9
400	340.6	350.3	9.7

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.45 % wt. solids

Wash water sample (<#400) _____ 0.43 % wt. Solids (dup.)

Comments:

Sieve channels sampled for analysis are listed in "A" below.

When two wet sieving runs did not produce enough sample on the #40 or #60 sieve, the two channels were combined.

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers.

Submit samples from the >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label.

Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 797.2 g

5 min, 750 mL recirculating site water

5 min, 750 mL recirculation site water

1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: 12/30/2004
Sample designation: S3-4-HC-25-3-UF
Analyst's name: SC

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: 65.42 % wt. solids
Bulk sample solids concentration: 65.94 % wt. solids (dup.)
Average sample solids concentration: 65.68 % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)
If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: 113.0 g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: 419.5 g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump - pump feed tube is out of container. (To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: 3524.2 g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.
Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10	394.9	397.10	2.20
20	348.0	361.5	13.5
40	346.5	377.8	31.3
60	309.0	358.3	49.3
100	289.5	386.1	96.6
200	340.7	401.2	60.5
400	340.6	353.8	13.2

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ 0.25 % wt. solids

Wash water sample (<#400) _____ 0.27 % wt. Solids (dup.)

Comments:

Sieve channels sampled for analysis are listed in "A" below.

When two wet sieving runs did not produce enough sample on the #40 or #60 sieve, the two channels were combined.

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers.

Submit samples from the >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label.

Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight: 665.8 g

5 min, 750 mL recirculating site water

5 min, 750 mL recirculation site water

1 L final rinse

Hudson River Treatability Study Wet Sieve Separation Worksheet

INSTRUCTIONS: Follow numbered instructions in italics. Use one sheet per sample. Record data indicated.

Date: _____
Sample designation: _____
Analyst's name: _____

1. Determine % wt. solids of bulk sample by taking a roughly 50-100 g grab - ensure sample is well mixed when grab is taken. Perform analysis in duplicate.

Bulk sample solids concentration: _____ % wt. solids
Bulk sample solids concentration: _____ % wt. solids (dup.)
Average sample solids concentration: _____ % wt. solids

2. Stack the following set of sieves (largest openings top, smallest openings bottom):

Nos. 400, 200, 100, 60, 40, 20, 10, 1/4 in

Assemble sieve stack, bottom drain pan and spraybar/lid on Gilson WV-2 according to instructions by A. Bracco (518 387-6647)
If analysis is for particle size distribution, obtain tare weight on each sieve.

3. Fill a 1 gal container (the "wash water" container) with roughly 1.5 L site water. Fill squirt bottle with roughly 1 L site water.

Tare wt. of wash water container: _____ g

4. Fill a second 1 gal container (the "rinse water" container) with roughly 1 L site water.

5. Turn on spraybar rotation and recirculate water from the wash water container through the sieves at a pump speed of 3 - pump feed tube is in wash water container - for about 2 min so that the sieves are wet. Stop water and rotation.

6. Weigh out a grab of the sample for sieving (corresponding to ~200 g dry solids) and place on coarsest sieve - ensure sample is well mixed when grab is taken.

wt. wet grab placed on coarsest sieve: _____ g

7. Turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min. Take feed tube out of wash water container and continue to pump briefly.

8. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco.

9. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all but pump after 10 min.

10. For each sieve, smooth out lumps with bent spatula and wash using squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump - pump feed tube is out of container. (To remove fines in pan from the system).

11. Reassemble and turn on spraybar rotation, wash water at 3 pump speed and turn on vibration at setting 10. Stop all when rinse water empties.

12. Wash sieves individually with squirt bottle according to instructions by A. Bracco. Drain bottom pan into wash water container using pump. Continue washing until draining water shows no evidence of fines remaining.

13. Determine the weight of water in the wash water container.

Final wt. water in wash water container: _____ g (no tare included)

If sieving is for particle size distribution analysis follow the instructions below...

A. Place sieves in oven at approx. 100 C for > 12 h.
Record the dry weights of solids and sieve.

Mesh size	Tare Wt. (g)	Final Wt. (g)	Dry g retained
1/4 in			0.0
10			0.0
20			0.0
40			0.0
60			0.0
100			0.0
200			0.0
400			0.0

B. Place propellor in wash water container and vigorously mix contents so that the suspension is completely dispersed. Take approx 50 mL sample while suspension is mixing; perform % solids analysis.

Wash water sample (<#400) _____ % wt. solids

Wash water sample (<#400) _____ % wt. Solids (dup.)

Comments:

II. Following the same instructions for wet sieving above (steps #1 through #13), repeat the procedure to generate wet solids for chemical analyses (PCB distribution).

A. Remove solids from each sieve according to instructions by A. Bracco and place into sample containers.

Submit samples from the >#40, >#60, >#100, >#200, >#400, and <#400 sieve channels for analysis of PCBs and TOC.

Label samples according to convention given and including sieve size in label.

Submit samples to PCB analysis lab.

Repeat this process if necessary to generate the necessary amount of sample for the analyses requested.

B. Submit wash water to PCB analysis lab.

Run #1

Sample Weight:

5 min, 750 mL recirculating site water

5 min, 750 mL recirculation site water

1 L final rinse

Run #2

Sample Weight:

5 min, 750 mL recirculating site water

5 min, 750 mL recirculation site water

1 L final rinse

Hydrocyclone Slurry Prep

Slurry ID	Date Prep.	Desired % Solids	Sediment Used	Sediment Wt. (kg)	Sediment % Solids	Water Vol. (L)	Wt. >1/4" (kg)	Date Used
S2-2-HC-25	12/13/2004	25	S2-2-01, 02, 03	91.82	63.55	141.92	1.26	12/15/2004
S2-2-HC-15	12/13/2004	15	S2-2-04, 05	50.00	63.66	162.20	0.64	12/16/2004
S3-4-HC-25	12/16/2004	25	S3-4-02, 03, 04, 05	117.27	59.37	161.23	2.98	12/15/04-12/16/04
S3-4-HC-15	12/16/2004	15	S3-4-06, 07	58.18	59.34	171.99	1.07	12/16/2004

Hydrocyclone Materials Generated

Test ID	Overflow Collected (gal)	Underflow Collected (gal)
S2-2-HC-25-3	23	1.5
S2-2-HC-15-2	22	3
S3-4-HC-25-2	30	--
S3-4-HC-25-4	30	4.5
S3-4-HC-15-1	30	3.5

Waste Generated

2 drums sample waste (~90gal)
1 drum PPE/other waste (55gal)

Sediment Buckets Consumed

S2-2-01, 02, 03, 04, 05
S3-4-02, 03, 04, 05, 06, 07

Note: additional material was utilized to generate >#200 material to be added back to the sump between test runs.

Hydrocyclone OF >#200

12/23/2004

Sample ID	OF % Solids	Average of % Solids	Sample Wt. (g)	Dry Wt. Solids (g)	Sieve Tare Wt. (g) [dry]	Sieve Tare Wt. (g) [wet]	Wet Sieve Wt. (g)	Wet Wt. Solids on Sieve (g)	>#200 % Solids	Dry Wt. Solids on Sieve (g)	% >#200 of Total Sample	Sample ID for PCBs
S2-2-HC-15-1 OF	3.37, 4.06	3.72	689.9	25.63	315.7	321.5	334.5	13.0	27.92	3.63	14.2%	S2-2-HC-15-1 OF >#200
S2-2-HC-15-2 OF	3.52, 3.38	3.45	699.8	24.14	277.7	282.4	292.1	9.7	17.74	1.72	7.1%	S2-2-HC-15-2 OF >#200
S2-2-HC-25-1 OF	5.66, 5.69	5.68	848.6	48.16	315.7	321.5	337.1	15.6	34.42	5.37	11.1%	S2-2-HC-25-1 OF >#200
S2-2-HC-25-2 OF	6.15, 6.07	6.11	841.3	51.40	277.7	282.4	298.1	15.7	30.87	4.85	9.4%	S2-2-HC-25-2 OF >#200
S2-2-HC-25-3 OF	12.20, 12.35	12.28	916.4	112.49	277.7	282.4	393.1	110.7	69.67	77.12	68.6%	S2-2-HC-25-3 OF >#200
S3-4-HC-15-1 OF	4.78, 4.97	4.88	700	34.13	315.7	321.5	345.4	23.9	16.19	3.87	11.3%	S3-4-HC-15-1 OF >#200
S3-4-HC-25-1 OF	11.41, 11.78	11.60	729.4	84.57	315.7	321.5	363.5	42.0	34.73	14.59	17.2%	S3-4-HC-25-1 OF >#200
S3-4-HC-25-2 OF	11.07, 11.61	11.34	743.9	84.36	315.7	321.5	356.7	35.2	25.46	8.96	10.6%	S3-4-HC-25-2 OF >#200
S3-4-HC-25-3 OF	20.72, 23.69	22.21	988.8	219.56	277.7	282.4	496.3	213.9	68.85	147.27	67.1%	S3-4-HC-25-3 OF >#200
S3-4-HC-25-4 OF	4.69, 4.62	4.66	737.7	34.34	277.7	282.4	296.7	14.3	21.21	3.03	8.8%	S3-4-HC-25-4 OF >#200

Notes:

- 1) All samples were mixed at 200 rpm for 1 min on a standard laboratory jar tester.
- 2) Sieve wet tare weights were obtained by first wetting the interior portion of the sieve that would be exposed to water and sample during the course of testing.
- 3) Sample weight for S3-4-HC-15-1 OF was not taken, so value was estimated.
- 4) Samples were generated following the procedure "Overflow >#200 Sieve Sample Procedure", written by D. Sauda, 12/04, except that the initial sample weight was not taken in the original 1 L jar. Jars were too full for proper mixing, so the entire sample was emptied into a larger tared container, allowing for sample weight measurement.

GEHR - Hydrocyclone Test Matrix

Date: 8/19/04, 8/20/04

Key:
 PCB = ppm PCB in total solids
 and % wt. solids - DS to confirm
 PSD = particle size distribution
 and % wt. solids
 TSS = mg solids/L slurry
 = Tests configuration not run

% Solids (w/w)	Cyclone	Vortex Finder	Cylinder	Trunc'd Cone	Time	Feed Pressure (psi)		O/F Flowrate (gal/min)	U/F Flowrate (gal/min)	Sump Temp. (C)	Sample	Sample Vol. (L)	Analyses	Comments
						Target	Measured							
10	N/A	N/A	N/A	N/A	13:00	N/A	N/A	N/A	N/A	27.1	S4- HC- 10- T=0	2+2	PCB, PSD	
10	D4B	1	Y	N/A	13:30	5	5 +/- 0.5	24.8	3.9 L/min	---	S4- HC- 10- 1 -OF S4- HC- 10- 1 -UF	1+1 1+2	PCB, TSS PCB, PSD	Measured Apex Diameter: 13 mm
10	D4B	1	Y	N/A	13:35	10	10 +/- 0.5	32.4	3.6 L/min	29.6	S4- HC- 10- 2 -OF S4- HC- 10- 2 -UF	1+1 1+2	PCB, TSS PCB, PSD	Apex Adjustable
10	D6B	3	Y	1.25	15:05	5	5 +/- 0.5	45.5	10	29.8	S4- HC- 10- 3 -OF S4- HC- 10- 3 -UF	1+1 1+2	PCB, TSS PCB, PSD	
10	D6B	3	Y	1.25	15:20	10	10 +/- 0.5	61.0	11	29.4	S4- HC- 10- 4 -OF S4- HC- 10- 4 -UF	1+1 1+2	PCB, TSS PCB, PSD	
10	D6B	3	Y	0.75	15:50	5	5 +/- 0.5	46.0	4.1	---	S4- HC- 10- 5 -OF S4- HC- 10- 5 -UF	1+1 1+2	PCB, TSS PCB, PSD	
10	D6B	3	Y	0.75	16:00	10	10 +/- 0.5	67.0	6.3	31.0	S4- HC- 10- 6 -OF S4- HC- 10- 6 -UF	1+1 1+2	PCB, TSS PCB, PSD	
10	D6B	2.25	Y	0.75	16:45	5	5 +/- 0.5	41.0	2.7 L/min	---	S4- HC- 10- 7 -OF S4- HC- 10- 7 -UF	1+1 1+2	PCB, TSS PCB, PSD	
10	D6B	2.25	Y	0.75	16:50	10	10 +/- 0.5	60.5	3.9 L/min	31.5	S4- HC- 10- 8 -OF S4- HC- 10- 8 -UF	1+1 1+2	PCB, TSS PCB, PSD	
10	D6B	2.25	Y	1.25		5								
10	D6B	2.25	Y	1.25		10								
10	D6B	2.25	N	1.25		5								
10	D6B	2.25	N	1.25		10								
10	D6B	2.25	N	0.75	17:40	5	5 +/- 0.5	41.0	2.4 L/min	---	S4- HC- 10- 9 -OF S4- HC- 10- 9 -UF	1+1 1+2	PCB, TSS PCB, PSD	
10	D6B	2.25	N	0.75	17:50	10	10 +/- 0.5	62.0	2.4 L/min	33.3	S4- HC- 10- 10 -OF S4- HC- 10- 10 -UF	1+1 1+2	PCB, TSS PCB, PSD	
10	D6B	3	N	0.75	18:20	5	5 +/- 0.5	41.0	3.7	---	S4- HC- 10- 11 -OF S4- HC- 10- 11 -UF	1+1 1+2	PCB, TSS PCB, PSD	
10	D6B	3	N	0.75	18:30	10	10 +/- 0.5	60.0	6.1	33.0	S4- HC- 10- 12 -OF S4- HC- 10- 12 -UF	1+1, 1+1 (Dup) 1+2, 1+2 (Dup)	PCB, TSS PCB, PSD	Duplicate samples taken for analysis.
10	D6B	3	N	1.25		5							PCB, TSS	
10	D6B	3	N	1.25		10							PCB, TSS	
10	N/A	N/A	N/A	N/A	18:35	N/A	N/A	N/A	N/A	---	S4- HC- 10- T=F	2+2	PCB, PSD	

GEHR - Hydrocyclone Testing

Additional Data:

10% Solids Run on 8/19/04 and 8/20/04

Slurry Preparation for 10% Solids Feed:

65 Kg S4 sediment was to be mixed with **272 L** of site water to form 10% solids slurry.

Sediment needed to be diluted down to pass through a sieve, therefore, the entire quantity of sediment and as much of the required site water as could fit in a 55-gal drum were homogenized in a drum. After mixing, slurry was passed to a second drum through a 1/4" sieve to remove oversized material. **1.28 Kg** of >1/4" material was removed in this step. This screened slurry was added to the sump of the hydrocyclone just prior to initiation of hydrocyclone testing.

At this point, the remaining site water was added to the material in the sump. After slurry was well mixed in the sump, a sample was taken to determine the % solids of the feed in the sump by sampling the bypass line in the hydrocyclone (provided below as S4-HC-10-T=0).

During testing, additional slurry was added to the sump to replace material removed during testing. The additional feed was prepared using **4 Kg** of S4 sediment and **17.1 L** of site water. This material was also screened to <1/4", generating ~75 g of oversized material.

Sample Description	% Solids* (w/w)	Approx. Volume
S4-HC-10-T=0	5.16 / 5.12	---
S4-HC-10-T=F	4.09 / 4.03	---
S4-HC-10-Solids	---	2/3 gal
10% Overflow	4.23 / 4.46	38 gal
10% Underflow	9.45 / 10.19	5 gal

* When two results are given, duplicate % solids analysis was performed.

-- Initial feed was screened to <1/4", sample submitted for PCB analysis as S4-HC-10->0.25"

-- Coarse solids remaining in sump after final collection of OF and UF were submitted for PCB analysis as S4-HC-10-Solids

-- Size separation for PCB analysis performed on T=0 and T=F feed.

GEHR - Hydrocyclone Test Matrix

Date: 8/25/04, 8/26/04

Key:
 PCB = ppm PCB in total solids
 and % wt. solids - DS to confirm
 PSD = particle size distribution
 and % wt. solids
 TSS = mg solids/L slurry
 = Tests configuration not run

% Solids (w/w)	Cyclone	Vortex Finder	Cylinder	Trunc'd Cone	Time	Feed Pressure (psi)		O/F Flowrate (gal/min)	U/F Flowrate (gal/min)	Sump Temp. (C)	Sample	Sample Vol. (L)	Analyses	Comments
						Target	Measured							
15	N/A	N/A	N/A	N/A	09:00, 8/26	N/A	N/A	N/A	N/A	---	S4- HC- 15- T=0	1+2	PCB, PSD	
15	D4B	1	Y	N/A	09:35, 8/26	5	5 +/- 0.5	19.96	2.12	30.5	S4- HC- 15- 1 -OF S4- HC- 15- 1 -UF	1+1 1+2	PCB, TSS PCB, PSD	Measured Apex Diameter: 14.4 mm
15	D4B	1	Y	N/A	09:45, 8/26	10	10 +/- 0.5	32.66	2.21	---	S4- HC- 15- 2 -OF S4- HC- 15- 2 -UF	1+1 1+2	PCB, TSS PCB, PSD	
15	D6B	3	N	0.75	10:30, 8/25	5	5 +/- 0.5	39.10	5.28	---	S4- HC- 10- 3 -OF S4- HC- 10- 3 -UF	1+1 1+2	PCB, TSS PCB, PSD	
15	D6B	3	N	0.75	10:40, 8/25	10	10 +/- 0.5	60.75	7.92	---	S4- HC- 10- 4 -OF S4- HC- 10- 4 -UF	1+1 1+2	PCB, TSS PCB, PSD	
15	D6B	3	Y	0.75	11:30, 8/25	5	5 +/- 0.5	36.15	8.35	29.1	S4- HC- 15- 5 -OF S4- HC- 15- 5 -UF	1+1 1+2	PCB, TSS PCB, PSD	
15	D6B	3	Y	0.75	11:40, 8/25	10	10 +/- 0.5	58.0	13.61	---	S4- HC- 15- 6 -OF S4- HC- 15- 6 -UF	1+1 1+2	PCB, TSS PCB, PSD	
15	D6B	2.25	Y	0.75	14:15, 8/25	5	5 +/- 0.5	35.87	3.79	34.0	S4- HC- 15- 7 -OF S4- HC- 15- 7 -UF	1+1 1+2	PCB, TSS PCB, PSD	
15	D6B	2.25	Y	0.75	14:25, 8/25	10	10 +/- 0.5	54.39	5.08	---	S4- HC- 15- 8 -OF S4- HC- 15- 8 -UF	1+1 1+2	PCB, TSS PCB, PSD	
15	D6B	2.25	Y	1.25	15:05, 8/25	5	5 +/- 0.5	36.88	6.87	37.3	S4- HC- 15- 9 -OF S4- HC- 15- 9 -UF	1+1 1+2	PCB, TSS PCB, PSD	
15	D6B	2.25	Y	1.25	15:15, 8/25	10	10 +/- 0.5	43.93	8.67	---	S4- HC- 15- 10 -OF S4- HC- 15- 10 -UF	1+1 1+2	PCB, TSS PCB, PSD	
15	D6B	2.25	N	0.75	15:35, 8/25	5	5 +/- 0.5	33.09	1.38	38.6	S4- HC- 15- 11 -OF S4- HC- 15- 11 -UF	1+1, 1+1 (Dup) 1+2, 1+2 (Dup)	PCB, TSS PCB, PSD	Duplicate samples taken for analysis.
15	D6B	2.25	N	0.75	15:45, 8/25	10	10 +/- 0.5	47.27	1.95	---	S4- HC- 15- 12 -OF S4- HC- 15- 12 -UF	1+1 1+2	PCB, TSS PCB, PSD	
15	D4B	1	Y	N/A	10:55, 8/26	2	2 +/- 0.5	50.27	2.49	---	S4- HC- 15- 13 -OF S4- HC- 15- 13 -UF	1+1 1+2	PCB, TSS PCB, PSD	14.4 mm apex
15	D6B	3	N	N/A	11:15, 8/26	15	15 +/- 0.5	74.68	17.87	38.8	S4- HC- 15- 14 -OF S4- HC- 15- 14 -UF	1+1 1+2	PCB, TSS PCB, PSD	Long Cone, ~16 mm apex
15	D6B	2.25	N	1.25		5								
15	D6B	2.25	N	1.25		10								
15	D6B	3	N	1.25		5								
15	D6B	3	N	1.25		10								
15	D6B	3	Y	1.25		5								
15	D6B	3	Y	1.25		10								
15	N/A	N/A	N/A	N/A	11:30, 8/26	N/A	N/A	N/A	N/A	---	S4- HC- 15- T=F	1+2	PCB, PSD	

GEHR - Hydrocyclone Testing

Additional Data:

15% Solids Run on 8/25/04 and 8/26/04

Slurry Preparation for 15% Solids Feed:

118.18 Kg S4 sediment was to be mixed with **279.4 L** of site water to form 15% solids slurry. Sediment needed to be diluted down to pass through a sieve, therefore, the entire quantity of sediment and as much of the required site water as could fit in a 55-gal drum were homogenized in a drum. After mixing, slurry was passed to a second drum through a 1/4" sieve to remove oversized material. **2.17 Kg** of >1/4" material was removed in this step. This screened slurry was added to the sump of the hydrocyclone just prior to initiation of hydrocyclone testing. At this point, the remaining site water was added to the material in the sump. After slurry was well mixed in the sump, a sample was taken to determine the % solids of the feed in the sump by sampling the bypass line in the hydrocyclone (provided below as S4-HC-15-T=0). During testing, additional slurry was added to the sump to replace material removed during testing. The additional feed was prepared using **7 Kg** of S4 sediment and **17.6 L** of site water. This material was also screened to <1/4", generating ~126 g of oversized material.

Sample Description	% Solids* (w/w)	Approx. Volume
S4-HC-15-T=0	15.95 / 15.16	---
S4-HC-15-T=F	4.79 / 4.76	---
S4-HC-15-Solids	77.39	< 1 L
15% Overflow	6.11	40 gal
15% Underflow	35.43	3 gal

* When two results are given, duplicate % solids analysis was performed.

- Initial feed was screened to <1/4", sample submitted for PCB analysis as S4-HC-15->0.25"
- Coarse solids remaining in sump after final collection of OF and UF were submitted for PCB analysis as S4-HC-15-Solids
- Size separation for PCB analysis performed on T=0 and T=F feed, and 15% Underflow after collection.
- T=F overflow and underflow also analyzed for PCB, pH, TAL metals, SG, Atterberg Limits, and TOC, submitted as S4-HC-15-12-Final, since the material was collected with the same hydrocyclone configuration as test # 12.
- Drainage study performed on T=F Underflow.

GEHR - Hydrocyclone Test Matrix

Key:
 PCB = ppm PCB in total solids and % wt. solids
 PSD = particle size distribution and % wt. solids
 TSS = mg solids/L slurry
 TOC = ppm TOC in total solids
 SS = size separation

Sediment Type	Target % Solids (w/w)	Cyclone	Vortex Finder Size	Cylinder	Apex Diameter	Date	Time	Feed Pressure (psi)	Overflow Vacuum (" Hg)	O/F Flowrate	U/F Flowrate	Sump Temp.	Sample	Sample Vol.	Analyses	Comments
										(gal/min)	(gal/min)	(°C)		(L)		
S2-2	25	D6B w/ cyclostack	2.25 "	no	1.25 "	12/15/04	1100	10	-2	120	20	21.5	S2-2-HC-25-1-T=0	1 + 1 + 2	PCB/TOC, PSD, SS	The T=0 sample was collected on 12/14/04 at 1630. Based on estimate using density, the overflow % solids were 5.2-6.3% with full vacuum and 3.7-4.4% w/o any vacuum.
													S2-2-HC-25-1-F	1 + 1 + 3	PCB/TOC, PSD, SS	
													S2-2-HC-25-1-OF	1 + 0.5	PCB, TSS	
													S2-2-HC-25-1-OF>200	1	PCB	
S2-2	25	D6B w/ cyclostack	2.25"	no	1.25 "	12/15/04	1300	10	-2	115	17.5	34.3	S2-2-HC-25-2-F	1 + 1 + 3	PCB/TOC, PSD, SS	The approximate weight of samples in one liter jar was 580 grams for the feed, 420 grams for the OF and 1240 grams for the UF.
													S2-2-HC-25-2-OF	1 + 0.5	PCB, TSS	
													S2-2-HC-25-2-OF>200	1	PCB	
													S2-2-HC-25-2-UF	1 + 3	PCB/TOC, SS	
S2-2	25	D6B w/o cyclostack	2.25"	no	3/4 "	12/15/04	1530	10	0	110	6.5	28.3	S2-2-HC-25-3-F	1 + 1 + 3	PCB/TOC, PSD, SS	
													S2-2-HC-25-3-OF	1 + 0.5	PCB, TSS	
													S2-2-HC-25-3-OF>200	1	PCB	
													S2-2-HC-25-3-UF	1 + 3	PCB/TOC, SS	
S2-2	15	D6B w/ cyclostack	2.25"	no	1.25 "	12/16/04	1330	10	-2	122	15	17.0	S2-2-HC-15-1-F	1 + 1 + 3	PCB/TOC, PSD, SS	Based on estimate using weight of jars, the overflow % solids were as follows: 0" Hg Vac. - 0.5% solids, 2" Hg Vac. 2% solids, and 4" Hg Vac. - 10% solids
													S2-2-HC-15-1-OF	1 + 0.5	PCB, TSS	
													S2-2-HC-15-1-OF>200	1	PCB	
													S2-2-HC-15-1-UF	1 + 3	PCB/TOC, SS	
S2-2	15	D6B w/ cyclostack	2.25"	no	1.25 "	12/16/04	1430	10	-2	119	16	21.9	S2-2-HC-15-2-F	1 + 1 + 3	PCB/TOC, PSD, SS	Measured flow w/o cyclostack to be 103 gpm for overflow and 21 gpm for underflow.
													S2-2-HC-15-2-OF	1 + 0.5	PCB, TSS	
													S2-2-HC-15-2-OF>200	1	PCB	
													S2-2-HC-15-2-UF	1 + 3	PCB/TOC, SS	
S3-4	25	D6B w/ cyclostack	2.25"	no	1.25 "	12/16/04	1000	10	-2	93	19.5	20.5	S3-4-HC-25-1-F	1 + 1 + 3	PCB/TOC, PSD, SS	
													S3-4-HC-25-1-OF	1 + 0.5	PCB, TSS	
													S3-4-HC-25-1-OF>200	1	PCB	
													S3-4-HC-25-1-UF	1 + 3	PCB/TOC, SS	
S3-4	25	D6B w/ cyclostack	2.25"	no	1.25 "	12/16/04	1100	10	-2	104	21	29.1	S3-4-HC-25-2-F	1 + 1 + 3	PCB/TOC, PSD, SS	
													S3-4-HC-25-2-OF	1 + 0.5	PCB, TSS	
													S3-4-HC-25-2-OF>200	1	PCB	
													S3-4-HC-25-2-UF	1 + 3	PCB/TOC, SS	
S3-4	25	D6B w/o cyclostack	2.25"	no	3/4 "	12/15/04	1715	10	0	99	4.5	13.3	S3-4-HC-25-3-T=0	1 + 1 + 3	PCB/TOC, PSD	
													S3-4-HC-25-3-F	1 + 1 + 3	PCB/TOC, PSD, SS	
													S3-4-HC-25-3-OF	1 + 0.5	PCB, TSS	
													S3-4-HC-25-3-OF>200	1	PCB	
													S3-4-HC-25-3-UF	1 + 3	PCB/TOC, SS	
S3-4	-	D6B w/ cyclostack	2.25 "	no	1.25 "	12/16/04	1230	10	-2	111	16.5	19.5	S3-4-HC-25-4-F	1 + 1	PCB/TOC	Added all of underflow collected from S3-4-HC-25-2 to 30 gallons of river water
													S3-4-HC-25-4-OF	1 + 0.5	PCB, TSS	
													S3-4-HC-25-4-OF>200	1	PCB	
													S3-4-HC-25-4-UF	1 + 3	PCB/TOC, SS	
S3-4	15	D6B w/ cyclostack	2.25"	no	1.25 "	12/16/04	1600	10	-2	125	13.5	14.5	S3-4-HC-15-1-T=0	1 + 1 + 3	PCB/TOC, PSD, SS	
													S3-4-HC-15-1-F	1 + 1 + 3	PCB/TOC, PSD, SS	
													S3-4-HC-15-1-OF	1 + 0.5	PCB, TSS	
													S3-4-HC-15-1-OF>200	1	PCB	
													S3-4-HC-15-1-UF	1 + 3	PCB/TOC, SS	

Notes:

- 1) On 12/14/04, prior to test S2-2-HC-25-1, samples were collected from the overflow and underflow with the overflow vacuum fully on (about 4 "Hg) and off (0 "Hg). With the vacuum fully off, the % solids in the overflow was 8.7%, while the underflow was 72.5%. With the vacuum fully on, the % solids in overflow was 19.0%, while the underflow was 72.0%. The % solids of the >#200 sieve fraction of the underflow with the vacuum fully on was 77.1%.
- 2) Samples were also collected of the >1/4" material in the S2-2 and S3-4 sediment and submitted for PCB/TOC analysis. The >1/4" fraction was about 1-1.25% of S2-2 sediment and about 2-2.5% of S3-4 sediment.
- 3) Between multiple tests using S2-2 sediment at 25% solids, 7.5 kg of >#200 sieve sediment and 2.5 liters of river water was added to replace material collected in samples.
- 4) Between multiple tests using S2-2 sediment at 15% solids, 6.0 kg of >#200 sieve sediment and 4.0 liters of river water was added to replace material collected in samples.
- 5) Between multiple tests using S3-4 sediment at 25% solids, 7.0 kg of >#200 sieve sediment and 3.5 liters of river water was added to replace material collected in samples.

Hudson River Treatability Study

Primary Settling Column Data Sheet

Slurry I.D.: H1S2 (Batch H1S2-02)

Date Started: 7/16/2004, 10:05 am

Date Ended: 7/17/2004, 10:05 am

Initials: AJT

Total Height of Column at start of test: 6' 7"

Initial % Solids (w/w) of column feed: 9.66%

* H1S2 slurry was prepared in a 55-gal drum. Slurry was mixed with a electric drum mixer, and fines were removed in bucket-sized volumes to feed to column. Subsamples were taken from each bucket to determine the initial % solids (w/w) used in the column test. The remaining coarse fraction that immediately dropped out of suspension after mixing remained in the drum, and was not used as feed in the column settling test. Samples were taken of this fraction to test for % solids (w/w) and PCBs. In addition, a #200 wash was performed to determine the percentage of fines remaining in the coarse fraction.

The following **TSS** samples were collected during the test period:

Sample I.D.	Sample Port	Test Duration (hr:min)	Sample Time	Interface Height	Surface Height
H1S2-PSC-T0-2	2'	0:00	7/16/04, 1005	No apparent interface	6' 7"
H1S2-PSC-T0-4	4'				
H1S2-PSC-T0-6	6'				
H1S2-PSC-T1-2	2'	1:00	7/16/04, 1105	6' 2"	6' 6.5"
H1S2-PSC-T1-4	4'				
H1S2-PSC-T1-6	6'				
H1S2-PSC-T2-2	2'	2:00	7/16/04, 1205	5' 7.25"	6' 5"
H1S2-PSC-T2-4	4'				
H1S2-PSC-T2-6	6'				
H1S2-PSC-T8-2	2'	8:00	7/16/04, 1805	3' 10.5"	6' 3.5"
H1S2-PSC-T8-4	4'				
H1S2-PSC-T8-6	6'				
H1S2-PSC-T24-2	2'	24:00	7/17/04, 1005	3' 0.75"	6' 2.75"
H1S2-PSC-T0045-AI 6.5	6.5'	0:45	7/16/04, 1050	6' 3.25"	6' 6.75"
H1S2-PSC-T0140-AI 6	6'	1:40	7/16/04, 1145	5' 9.5"	6' 5.5"
H1S2-PSC-T0140-AI Top	Top, >6'				
H1S2-PSC-T0240-AI 5.5	5.5'	2:40	7/16/04, 1245	5' 4.5"	6' 4.75"
H1S2-PSC-T0240-AI 6	6'				
H1S2-PSC-T0240-AI Top	Top, >6'				
H1S2-PSC-T0405-AI 5	5'	4:05	7/16/04, 1410	4' 10.25"	6' 4"
H1S2-PSC-T0405-AI 5.5	5.5'				
H1S2-PSC-T0405-AI 6	6'				
H1S2-PSC-T0405-AI Top	Top, >6'				

H1S2-PSC-T2400-AI 3.5	3.5'	24:00	7/17/04, 1005	3' 0.75"	6' 2.75"
H1S2-PSC-T2400-AI 4	4'				
H1S2-PSC-T2400-AI 4.5	4.5'				
H1S2-PSC-T2400-AI 5	5'				
H1S2-PSC-T2400-AI 5.5	5.5'				
H1S2-PSC-T2400-AI 6	6'				
H1S2-PSC-T2400-AI Top	Top, >6'				

Observations during test:

Interface forms within the first 15 min. after initiation of test.

Supernatant consistently turbid with high suspended solids, did not appear to get clearer as test progressed.

No significant floatable material observed on column surface; no noticeable odor at start of test.

At 24 hr sampling time, slight sulfur/bio odor detected.

Coarse Fraction

i.e. Slurry material remaining in drum after suspended fines were removed for column test feed.

Coarse fraction was retained and tested for % Solids (w/w) and #200 wash.

% Solids (w/w) = 79.30%

#200 (75 µm) wash:

Initial Dry Weight of Coarse Fraction:	201.9 g
Tare Weight of #200 Sieve:	316.1 g
Final Dry Weight (Tare + Sample):	506.6 g
Final Dry Weight of Coarse Fraction:	190.5 g
% Fines (<#200) in Coarse Fraction:	5.6%

Other Samples for Analysis:

H1S2-PSC-T24-AI Top	Supernatant from top of column @ 24	PCBs	2 x 1L amber
H1S2-PSC-T24-AI Top (T)		TOC (unfiltered)	2 x 40 mL VOA, H2SO4
H1S2-PSC-T24-AI Top (D)		TOC (filtered)	2 x 40 mL VOA, H2SO4
H1S2-PSC-T24-S	Settled Solids	PCBs	2 x 8oz. Jar
		TOC	2 x 4 oz jar
H1S2-PSC-Coarse	Coarse fraction, not included in feed	PCBs	2 x 4 oz jar

Samples retained at completion of test:

Supernatant	3' 0.75" to 6' 2.75"	
Middle Solids	1' 8" to 3' 0.75"	
Settled Solids	0' to 1' 8"	<-- % Solids (w/w) = 19.11%

Hudson River Treatability Study

Primary Settling Column Data Sheet

Slurry I.D.: H1S3 (Batch H1S3-02)

Date Started: 7/16/2004, 10:30 am

Date Ended: 7/17/2004, 10:30 am

Initials: AJT

Total Height of Column at start of test: 6' 7"

Initial % Solids (w/w) of column feed: 10.41%

* H1S3 slurry was prepared in a 55-gal drum. Slurry was mixed with a electric drum mixer, and fines were removed in bucket-sized volumes to feed to column. Subsamples were taken from each bucket to determine the initial % solids (w/w) used in the column test. The remaining coarse fraction that immediately dropped out of suspension after mixing remained in the drum, and was not used as feed in the column settling test. Samples were taken of this fraction to test for % solids (w/w) and PCBs. In addition, a #200 wash was performed to determine the percentage of fines remaining in the coarse fraction.

The following **TSS** samples were collected during the test period:

Sample I.D.	Sample Port	Test Duration (hr:min)	Sample Time	Interface Height	Surface Height
H1S3-PSC-T0-2	2'	0:00	7/16/04, 1030	No apparent interface	6' 7"
H1S3-PSC-T0-4	4'				
H1S3-PSC-T0-6	6'				
H1S3-PSC-T1-2	2'	1:00	7/16/04, 1130	No apparent interface	6' 6.25"
H1S3-PSC-T1-4	4'				
H1S3-PSC-T1-6	6'				
H1S3-PSC-T2-2	2'	2:00	7/16/04, 1230	No apparent interface	6' 5.75"
H1S3-PSC-T2-4	4'				
H1S3-PSC-T2-6	6'				
H1S3-PSC-T8-2	2'	8:00	7/16/04, 1830	3' 5.75"	6' 4.5"
H1S3-PSC-T24-2	2'	24:00	7/17/04, 1030	3'	6' 2.5"
H1S3-PSC-T0510-AI 4	4'	5:10	7/16/04, 1540	3' 9.75"	6' 5.25"
H1S3-PSC-T0510-AI 4.5	4.5'				
H1S3-PSC-T0510-AI 5	5'				
H1S3-PSC-T0510-AI 5.5	5.5'				
H1S3-PSC-T0510-AI 6	6'				
H1S3-PSC-T0510-AI Top	Top, >6'				
H1S3-PSC-T0800-AI 4	4'	8:00	7/16/04, 1830	3' 5.75"	6' 4.5"
H1S3-PSC-T0800-AI 4.5	4.5'				
H1S3-PSC-T0800-AI 5	5'				
H1S3-PSC-T0800-AI 5.5	5.5'				
H1S3-PSC-T0800-AI 6	6'				
H1S3-PSC-T0800-AI Top	Top, >6'				

H1S3-PSC-T2400-AI 3.5	3.5'	24:00	7/17/04, 10:30	3'	6' 2.5"
H1S3-PSC-T2400-AI 4	4'				
H1S3-PSC-T2400-AI 4.5	4.5'				
H1S3-PSC-T2400-AI 5	5'				
H1S3-PSC-T2400-AI 5.5	5.5'				
H1S3-PSC-T2400-AI 6	6'				
H1S3-PSC-T2400-AI Top	Top, >6'				

Observations during test:

Interface was not apparent for the first several hours of test. When interface was observed at 05:10, samples were taken at every port above the interface. Even when observed, the interface was not as distinct as in H1S2 settling column test.

Supernatant consistently turbid with high suspended solids, did not appear to get clearer as test progressed.

No significant floatable material observed on column surface; no noticeable odor at start of test.

At 24 hr sampling time, slight sulfur/bio odor detected.

Coarse Fraction

i.e. Slurry material remaining in drum after suspended fines were removed for column test feed.

Coarse fraction was retained and tested for % Solids (w/w) and #200 wash.

% Solids (w/w) = 80.07%

#200 (75 µm) wash:

Initial Dry Weight of Coarse Fraction:	207.1 g
Tare Weight of #200 Sieve:	313.2 g
Final Dry Weight (Tare + Sample):	490.6 g
Final Dry Weight of Coarse Fraction:	177.4 g
% Fines (<#200) in Coarse Fraction:	14.3%

Other Samples for Analysis:

H1S3-PSC-T24-AI Top	Supernatant from top of column @ 24	PCBs	2 x 1L amber
H1S3-PSC-T24-AI Top (T)		TOC (unfiltered)	2 x 40 mL VOA, H2SO4
H1S3-PSC-T24-AI Top (D)		TOC (filtered)	2 x 40 mL VOA, H2SO4
H1S3-PSC-T24-S	Settled Solids	PCBs	2 x 8oz. Jar
		TOC	2 x 4 oz jar
H1S3-PSC-Coarse	Coarse fraction, not included in feed	PCBs	2 x 4 oz jar

Samples retained at completion of test:

Supernatant	3' to 6' 2.5"	
Middle Solids	1' 8" to 3'	
Settled Solids	0' to 1' 8"	<-- % solids (w/w) = 23.07%

Hudson River Treatability Study

Primary Settling Column Data Sheet

Slurry I.D.: H2S2 (Batch H2S2-03)

Date Started: 8/3/04, 0845

Date Ended: 8/4/04, 0845

Initials: AJT

Total Height of Column at start of test: 6' 7 3/4"

Initial % Solids (w/w) of column feed: 1.16%

* H2S2 slurry was prepared in a 55-gal drum. Slurry was mixed with a electric drum mixer, and fines were removed in bucket-sized volumes to feed to column. Subsamples were taken from each bucket to determine the initial % solids (w/w) used in the column test. The remaining coarse fraction that immediately dropped out of suspension after mixing remained in the drum, and was not used as feed in the column settling test. Samples were taken of this fraction to test for % solids (w/w) and PCBs. In addition, a #200 wash was performed to determine the percentage of fines remaining in the coarse fraction.

The following **TSS** samples were collected during the test period:

Sample I.D.	Sample Port	Test Duration (hr:min)	Sample Time	Interface Height	Surface Height
H2S2-PSC-T0-2	2'	0:00	0845	No apparent interface	6' 7 3/4"
H2S2-PSC-T0-4	4'				
H2S2-PSC-T0-6	6'				
H2S2-PSC-T1-2	2'	1:00	0945	No apparent interface	6' 6 3/4"
H2S2-PSC-T1-4	4'				
H2S2-PSC-T1-6	6'				
H2S2-PSC-T2-2	2'	2:00	1045	No apparent interface	6' 5 1/2"
H2S2-PSC-T2-4	4'				
H2S2-PSC-T2-6	6'				
H2S2-PSC-T8-2	2'	8:00	1645	No apparent interface	6' 4 1/4"
H2S2-PSC-T8-4	4'				
H2S2-PSC-T8-6	6'				
H2S2-PSC-T24-2	2'	24:00	0845	No apparent interface	6' 3"
H2S2-PSC-T24-4	4'				
H2S2-PSC-T24-6	6'				

Observations during test:

Supernatant consistently turbid with high suspended solids, did not appear to get clearer as test progressed.

No significant floatable material observed on column surface; no noticeable odor.

Coarse Fraction

i.e. Slurry material remaining in drum after suspended fines were removed for column test feed.
Coarse fraction was retained and tested for % Solids (w/w) and #200 wash.

% Solids (w/w) = 82.39%

#200 (75 µm) wash:

Initial Dry Weight of Coarse Fraction: 60.5 g
Tare Weight of #200 Sieve: 313.0 g
Final Dry Weight (Tare + Sample): 372.0 g
Final Dry Weight of Coarse Fraction: 59.0 g
% Fines (<#200) in Coarse Fraction: 2.48%

Other Samples for Analysis:

H2S2-PSC-T24- Top	Supernatant from top of column @ 24	PCBs	2 x 1L amber
H2S2-PSC-T24-Top (T)		TOC (unfiltered)	2 x 40 mL VOA, H2SO4
H2S2-PSC-T24-Top (D)		TOC (filtered)	2 x 40 mL VOA, H2SO4
H2S2-PSC-T24-S	Settled Solids	PCBs	1 x 8oz. Jar
		TOC	1 x 4 oz jar
H2S2-PSC-Coarse	Coarse fraction, not included in feed	PCBs	1 x 4 oz jar

Samples retained at completion of test:

Supernatant 20" to 6' 3"
Settled Solids 0' to 20" <-- % solids (w/w) = 3.22 %

Hudson River Treatability Study

Primary Settling Column Data Sheet

Slurry I.D.: H2S3 (Batch H2S3-01)

Date Started: 8/3/04, 0850

Date Ended: 8/4/04, 0850

Initials: AJT

Total Height of Column at start of test: 6' 8 1/2"

Initial % Solids (w/w) of column feed: 1.80%

* H2S3 slurry was prepared in a 55-gal drum. Slurry was mixed with a electric drum mixer, and fines were removed in bucket-sized volumes to feed to column. Subsamples were taken from each bucket to determine the initial % solids (w/w) used in the column test. The remaining coarse fraction that immediately dropped out of suspension after mixing remained in the drum, and was not used as feed in the column settling test. Samples were taken of this fraction to test for % solids (w/w) and PCBs. In addition, a #200 wash was performed to determine the percentage of fines remaining in the coarse fraction.

The following **TSS** samples were collected during the test period:

Sample I.D.	Sample Port	Test Duration (hr:min)	Sample Time	Interface Height	Surface Height
H2S3-PSC-T0-2	2'	0:00	0850	No apparent interface	6' 8 1/2"
H2S3-PSC-T0-4	4'				
H2S3-PSC-T0-6	6'				
H2S3-PSC-T1-2	2'	1:00	0950	No apparent interface	6' 8"
H2S3-PSC-T1-4	4'				
H2S3-PSC-T1-6	6'				
H2S3-PSC-T2-2	2'	2:00	1050	No apparent interface	6' 7"
H2S3-PSC-T2-4	4'				
H2S3-PSC-T2-6	6'				
H2S3-PSC-T8-2	2'	8:00	1650	No apparent interface	6' 5 3/4"
H2S3-PSC-T8-4	4'				
H2S3-PSC-T8-6	6'				
H2S3-PSC-T24-2	2'	24:00	0850	No apparent interface	6' 4 1/2"
H2S3-PSC-T24-4	4'				
H2S3-PSC-T24-6	6'				

Observations during test:

Supernatant consistently turbid with high suspended solids, did not get noticeably clearer as test progressed.

No significant floatable material observed on column surface; no noticeable odor.

Coarse Fraction

i.e. Slurry material remaining in drum after suspended fines were removed for column test feed.
Coarse fraction was retained and tested for % Solids (w/w) and #200 wash.

% Solids (w/w) = 80.72%

#200 (75 µm) wash:

Initial Dry Weight of Coarse Fraction: 69.3 g
Tare Weight of #200 Sieve: 315.9 g
Final Dry Weight (Tare + Sample): 376.1 g
Final Dry Weight of Coarse Fraction: 60.2 g
% Fines (<#200) in Coarse Fraction: 13.13%

Other Samples for Analysis:

H2S3-PSC-T24-Top	Supernatant from top of column @ 24	PCBs	2 x 1L amber
H2S3-PSC-T24-Top (T)		TOC (unfiltered)	2 x 40 mL VOA, H2SO4
H2S3-PSC-T24-Top (D)		TOC (filtered)	2 x 40 mL VOA, H2SO4
H2S3-PSC-T24-S	Settled Solids	PCBs	1 x 8oz. Jar
		TOC	1 x 4 oz jar
H2S3-PSC-Coarse	Coarse fraction, not included in feed	PCBs	1 x 4 oz jar

Samples retained at completion of test:

Supernatant 20" to 6' 4 1/2"
Settled Solids 0' to 20" <-- % solids (w/w) = 3.94%

Hudson River Treatability Study

Primary Settling Column Data Sheet

Slurry I.D.: H1S1 (Batch H1S1-13)

Date Started: 8/5/04, 0850

Date Ended: 8/6/04, 0850

Initials: AJT

Total Height of Column at start of test: 6' 6 3/4"

Initial % Solids (w/w) of column feed: 3.24%

* slurry was prepared in a 55-gal drum. Slurry was mixed with a electric drum mixer, and fines were removed in bucket-sized volumes to feed to column. Subsamples were taken from each bucket to determine the initial % solids (w/w) used in the column test. The remaining coarse fraction that immediately dropped out of suspension after mixing remained in the drum, and was not used as feed in the column settling test. Samples were taken of this fraction to test for % solids (w/w) and PCBs. In addition, a #200 wash was performed to determine the percentage of fines remaining in the coarse fraction.

The following **TSS** samples were collected during the test period:

Sample I.D.	Sample Port	Test Duration (hr:min)	Sample Time	Interface Height	Surface Height
H1S1-PSC-T0-2	2'	0:00	0850	No apparent interface	6' 6 3/4"
H1S1-PSC-T0-4	4'				
H1S1-PSC-T0-6	6'				
H1S1-PSC-T1-2	2'	1:00	0950	10"	6' 5 3/4"
H1S1-PSC-T1-4	4'				
H1S1-PSC-T1-6	6'				
H1S1-PSC-T2-2	2'	2:00	1050	8"	6' 4 1/4"
H1S1-PSC-T2-4	4'				
H1S1-PSC-T2-6	6'				
H1S1-PSC-T8-2	2'	8:00	1650	6 1/2"	6' 3 1/4"
H1S1-PSC-T8-4	4'				
H1S1-PSC-T8-6	6'				
H1S1-PSC-T24-2	2'	24:00	0850	5 1/2"	6' 1 1/2"
H1S1-PSC-T24-4	4'				
H1S1-PSC-T24-6	6'				
H1S1-PSC-T1-AI1	1'	1:00	0950	10"	6' 5 3/4"
H1S1-PSC-T2-AI1	1'	2:00	1050	8"	6' 4 1/4"
H1S1-PSC-T8-AI1	1'	8:00	1650	6 1/2"	6' 3 1/4"
H1S1-PSC-T24-AI0.5	0.5'	24:00	0850	5 1/2"	6' 1 1/2"

Observations during test:

Interface observed @ 30 minutes at 1' 3"

Supernatant consistently turbid with high suspended solids, did not get noticeably clearer

as test progressed.

No significant floatable material observed on column surface; no noticeable odor.

Coarse Fraction

i.e. Slurry material remaining in drum after suspended fines were removed for column test feed.

Coarse fraction was retained and tested for % Solids (w/w) and #200 wash.

Large volume of coarse fraction remaining on drum bottom.

% Solids (w/w) = 83.71%

#200 (75 µm) wash:

Initial Dry Weight of Coarse Fraction: 101.0 g
 Tare Weight of #200 Sieve: 315.0 g
 Final Dry Weight (Tare + Sample): 412.6 g
 Final Dry Weight of Coarse Fraction: 97.6 g
 % Fines (<#200) in Coarse Fraction: **3.37%**

Other Samples for Analysis:

H1S1-PSC-T24-Top	Supernatant from top of column @ 24	PCBs	3 x 1L amber
H1S1-PSC-T24-AITop (T)		TOC (unfiltered)	2 x 40 mL VOA, H2SO4
H1S1-PSC-T24-AITop (D)		TOC (filtered)	2 x 40 mL VOA, H2SO4
H1S1-PSC-T24-S	Settled Solids	PCBs	2 x 8oz. Jar
		TOC	2 x 4 oz jar
H1S1-PSC-Coarse	Coarse fraction, not included in feed	PCBs	1 x 4 oz jar

Samples retained at completion of test:

Supernatant 5 1/2" to 6' 1 1/2"
 Settled Solids 0 - 5 1/2" <-- % solids (w/w) = 22.37%

Hudson River Treatability Study

Primary Settling Column Data Sheet

Slurry I.D.: H2S4B (Batch H2S4B-04)

Date Started: 8/5/04, 0855

Date Ended: 8/6/04, 0855

Initials: AJT

Total Height of Column at start of test: 6' 5 1/4"

Initial % Solids (w/w) of column feed: 4.33%

* slurry was prepared in a 55-gal drum. Slurry was mixed with a electric drum mixer, and fines were removed in bucket-sized volumes to feed to column. Subsamples were taken from each bucket to determine the initial % solids (w/w) used in the column test. The remaining coarse fraction (if one exists) was not used as feed in the column settling test. Samples were taken of this fraction to test for % solids (w/w) and PCBs. In addition, a #200 wash was performed to determine the percentage of fines remaining in the coarse fraction.

The following **TSS** samples were collected during the test period:

Sample I.D.	Sample Port	Test Duration (hr:min)	Sample Time	Interface Height	Surface Height
H2S4B-PSC-T0-2	2'	0:00	0855	No apparent interface	6' 5 1/4"
H2S4B-PSC-T0-4	4'				
H2S4B-PSC-T0-8	6'				
H2S4B-PSC-T1-2	2'	1:00	0955	4' 7"	6' 4 1/4"
H2S4B-PSC-T1-4	4'				
H2S4B-PSC-T1-8	6'				
H2S4B-PSC-T2-2	2'	2:00	1055	3' 4 1/2"	6' 3 1/4"
H2S4B-PSC-T2-4	4'				
H2S4B-PSC-T2-8	6'				
H2S4B-PSC-T8-2	2'	8:00	1655	1' 10 1/4"	6' 2"
H2S4B-PSC-T8-4	4'				
H2S4B-PSC-T8-8	6'				
H2S4B-PSC-T24-2	2'	24:00	0855	1' 5 1/4"	6' 3/4"
H2S4B-PSC-T24-4	4'				
H2S4B-PSC-T24-8	6'				
H2S4B-PSC-T1-AI5	5"	1:00	0955	4' 7"	6' 4 1/4"
H2S4B-PSC-T2-AI3.5	3.5"	2:00	1055	3' 4 1/2"	6' 3 1/4"
H2S4B-PSC-T8-AI2	2"	8:00	1655	1' 10 1/4"	6' 2"
H2S4B-PSC-T24-AI1.5	1.5"	24:00	0855	1' 5 1/4"	6' 3/4"

Observations during test:

Interface formed within minutes of start of test, @ 30 min, observed at 5' 4".

Supernatant consistently turbid with high suspended solids, did not get noticeably clearer

as test progressed.

No significant floatable material observed on column surface; no noticeable odor.

Coarse Fraction

i.e. Slurry material remaining in drum after suspended fines were removed for column test feed.

Coarse fraction was retained and tested for % Solids (w/w) and #200 wash.

Very small amount of coarse material left in drum after loading feed to settling column: < 8 oz jar.

% Solids (w/w) = 79.30%

#200 (75 µm) wash:

Initial Dry Weight of Coarse Fraction: 60.5 g
 Tare Weight of #200 Sieve: 318.3 g
 Final Dry Weight (Tare + Sample): 358.8 g
 Final Dry Weight of Coarse Fraction: 40.5 g
 % Fines (<#200) in Coarse Fraction: 33.06%

Other Samples for Analysis:

H2S4B-PSC-T24-AITop	Supernatant from top of column @ 24	PCBs	2 x 1L amber
H2S4B-PSC-T24-AITop (T)		TOC (unfiltered)	2 x 40 mL VOA, H2SO4
H2S4B-PSC-T24-AITop (D)		TOC (filtered)	2 x 40 mL VOA, H2SO4
H2S4B-PSC-T24-S	Settled Solids	PCBs	1 x 8oz. Jar
		TOC	1 x 4 oz jar
H2S4B-PSC-Coarse	Coarse fraction, not included in feed	PCBs	1 x 4 oz jar

Samples retained at completion of test:

Supernatant 1' 5 1/4" - 6' 3/4"
 Settled Solids 0 - 1' 5 1/4" <-- % solids (w/w) = 15.87%

Hudson River Treatability Study

Polymer Testing

Sample ID	% Feed Solids	Additive and Dosage	Comments
Date: 7/19/04, JL			
H1S1-05	3.72	100 ppm 1224	excellent separation, slightly cloudy, fine pin floc
H1S1-05	3.72	150 ppm 1224	clearer, fine pin floc
H1S1-05	3.72	200 ppm 1224	very clear, floaties, fine pin floc
H1S1-05	3.72	300 ppm 1224	slightly cloudy, no floaties
H1S1-05	3.72	50 ppm 1198	excellent separation, fine pin floc, very clear water
H1S1-05	3.72	100 ppm 1198	better, no floaties, slightly cloudy
H1S1-05	3.72	150 ppm 1198	cloudy
H1S1-05	3.72	200 ppm 1198	cloudy
H1S1-05	3.72	50 ppm 758	excellent separation, fine pin floc, very clear, some floaties
H1S1-05	3.72	100 ppm 758	excellent separation, fine pin floc, very clear, some floaties
H1S1-05	3.72	150 ppm 758	fewer floaties
H1S1-05	3.72	200 ppm 758	no floaties
H1S1-05	3.72	300 ppm 758	slightly cloudy
H1S1-05	3.72	50 ppm 626	fine pin floc, excellent separation, no floaties, clear
H1S1-05	3.72	100 ppm 626	very clear
H1S1-05	3.72	150 ppm 626	very clear
H1S1-05	3.72	200 ppm 626	no change
H1S1-05	3.72	250 ppm 626	no change
H1S1-05	3.72	300 ppm 626	slightly cloudy
H1S1-05	3.72	50 ppm 4050	fine pin floc, excellent separation, some floaties, clear
H1S1-05	3.72	100 ppm 4050	same
H1S1-05	3.72	150 ppm 4050	same
H1S1-05	3.72	200 ppm 4050	fewer floaties
H1S1-05	3.72	250 ppm 4050	same
H1S1-05	3.72	300 ppm 4050	very clear, no floaties
H1S1-05	3.72	400 ppm 4050	slightly cloudy

Date: 7/20/04, HS			
H1S1-06	3.43	40 to 80 ppm 1198	Test at 40
H1S1-06	3.43	40 to 70 ppm 1224	Wide treatment range, 30 to 150 test at 60
H1S1-06	3.43	50 to 70 ppm Dev E	Wide treatment range, 30 to 150 test at 60
H1S1-06	3.43	60 to 150 ppm 4082	Good treatment range test at 70
H1S1-06	3.43	30 to 70 ppm 4050	Good treatment range test at 50
H1S1-06	3.43	50 to 100 ppm 4015	Not as good as above - do not test
H1S1-06	3.43	30 to 90 ppm 4275	good treatment range
H1S1-06	3.43	30 to 150 ppm 624	Good treat range test at 80
H1S1-06	3.43	30 to 100 ppm 626	Good treat range test at 80
H1S1-06	3.43	30 to 150 ppm 758	Test at 80 very good - wide range
H1S1-06	3.43	30 to 150 ppm 757	Test at 80 very good - wide range

H1S1-06	3.43	80 p 757 + 50 p 4330	mix well, good water sep., not suggested to test at this time
H1S1-06	3.43	100p 626 + 100p 4823LS	mix well, looks good, not suggested to test at this time
H1S1-06	3.43	30 ppm 4848	Mix well, OK but not to test at this time
H1S1-06	3.43	30 ppm 4823LS	Mix well, OK but not to test at this time
H1S4B-01	24.97	700 to 1000 ppm Dev E	Test mix well, Very thick
H1S4B-01	24.97	700 to 900 ppm 1198	Test mix well, Very thick
H1S4B-01	24.97	700 to 900 ppm 1224	Mix well very thick not as good as above
H1S4B-01	24.97	700 to 1000 ppm 626	Test mix well, Very thick
H1S4B-01	24.97	700 to 1000 ppm 627	Test mix well, Very thick
H1S4B-01	24.97	600 to 900 ppm 757	Test mix well, Very thick
H1S4B-01	24.97	600 to 800 ppm 4050	Test mix well, Very thick
H1S4B-01	24.97	900 to 1100 ppm 4082	Test mix well, Very thick
H1S3 (SS)	23.07	400 ppm 757	Mix well, thick. But good for test
H1S3 (SS)	23.07	1000 ppm 4848, reshear	Good appearance when over mixed and sheared. Not suggested for test at this time.
H1S3 (SS)	23.07	1500 ppm 4823LS, reshear	Good appearance when over mixed and sheared. Not suggested for test at this time.
H1S3 (SS)	23.07	400 to 600 ppm 1198	Thick, mix well, good
H1S3 (SS)	23.07	400 to 600 ppm Dev E	Thick, mix well, good
H1S3 (SS)	23.07	400 to 600 ppm 1224	Thick, mix well, OK
H1S3 (SS)	23.07	400 to 600 ppm 757	Thick, mix well, good
H1S3 (SS)	23.07	400 to 600 ppm 627	Thick, mix well, good
H1S3 (SS)	23.07	400 to 600 ppm 626	Thick, mix well, good
H1S3 (SS)	23.07	400 to 600 ppm 757	Thick, mix well, good
H1S3 (SS)	23.07	400 to 600 ppm 4030	Thick, mix well, good
H1S3 (SS)	23.07	600 to 800 ppm 4082	Thick, mix well. Not as good as above

Date: 7/21/04, HS			
H1S3-03	12.09	50 to 200 ppm 4082	Slight separation
H1S3-03	12.09	250 to 400 ppm 4082	Separation
H1S3-03	12.09	450 to 600 ppm 4082	Does not appear as sticky as any thus far
H1S3-03	12.09	600 to 900 ppm 4082	Test at 300, 400, 500
H1S3-03	12.09	25 to 300 ppm 627	Separation starts
H1S3-03	12.09	300 to 600 ppm 627	Test at 200, 300, 400.
H1S3-03	12.09	50 to 150 ppm 757	unremarkable
H1S3-03	12.09	200 to 400 ppm 757	slight separation
H1S3-03	12.09	450 to 700 ppm 757	Test at 300, 400, 500
H1S3-03	12.09	25 to 150 ppm 758	Higher mol/wt seems more sticky than lower on solids.
H1S3-03	12.09	200 to 400 ppm 758	Test at 300, 400, 500
H1S3-03	12.09	450 to 800 ppm 758	OT at 700
H1S3-03	12.09	50 to 300 ppm 4050	300 OK
H1S3-03	12.09	350 to 600 ppm 4050	Test at 300, 400, 500
H1S3-03	12.09	25 to 300 ppm Dev E	300 separation starts
H1S3-03	12.09	400 ppm Dev E	Good, concern for cloth blinding
H1S3-03	12.09	500 ppm Dev E	Ok Acceptable range
H1S3-03	12.09	600 ppm Dev E	OT starts
H1S3-03	12.09	700 ppm Dev E	OT
H1S3-03	12.09	50 to 1000 ppm 1224	No activity Remake solution cancel this test
H1S3-03	12.09	25 to 100 ppm 1224	No Activity
H1S3-03	12.09	150 to 300 ppm 1224	300 activity start
H1S3-03	12.09	350 to 600 ppm 1224	Not as good as Dev E.
H1S3-03	12.09	50 to 300 ppm 1198	Not as good as Dev E. Normally would not test further.
H1S3-03	12.09	350 to 600 ppm 1198	fine.
H1S3-03	12.09	50 to 100 ppm 626	Very fine separation
H1S3-03	12.09	150 to 300 ppm 626	Separation start

H1S3-03	12.09	350 to 600 ppm 626	Test at 200, 300, 400
H1S3-03	12.09	50 to 200 ppm 624	Test of lower mol/wt to determine if less sticky solids can be achieved.
H1S3-03	12.09	250 to 400 ppm 624	Separation at 350
H1S3-03	12.09	450 to 600 ppm 624	Clear separation at all dose. Test at 300,400,500.
H1S3-03	12.09	retest 50 to 200 ppm 1198	unremarkable
H1S3-03	12.09	retest 250 to 400 ppm 1198	
H1S3-03	12.09	retest 450 to 700 ppm 1198	Not as good as Dev E
H1S3-03	12.09	retest 300 to 600 ppm Dev E	OK better than 1198
H1S3-03	12.09	50 to 300 ppm 4275	Good separation
H1S3-03	12.09	350 to 450 ppm 4275	Good separation
H1S3-03	12.09	500 to 650 ppm 4275	OK does not appear as sticky
H1S3-03	12.09	700 to 900 ppm 4275	Test at 300, 400, 500

Belt/CF			
Date: 7/31/04, HJS			
S3-05 Fine	---	4300	soft
S3-05 Fine	---	4823 / 200 - 3000 ppm	2400 best / good, stable, slightly cloudy
S3-05 Fine	---	4808 / 200 - 3860 ppm	3100 best / floc ok, stable, cloudy
S3-05 Fine	---	4440 / 200 - 2900 ppm	test at 2600 / good, slightly cloudy
S3-05 Fine	---	4440 / 200 - 4000 ppm	2700 best / good, stable, very slightly cloudy
S3-05 Fine	---	2651 / 200 - 3300 ppm	good, slightly yellow, cloudy
S3-05 Fine	---	2651 / 1000 - 2800 ppm	good, slightly cloudy
S3-05 Fine	---	2651 / 1000 - 3500 ppm	2900 best / good, slightly yellow, cloudy
S3-05 Fine	---	4848 / 200 - 2800 ppm	2000 best / acceptable, slightly cloudy
S3-05 Fine	---	4864 / 200 - 2800 ppm	1900 best / good, easily overtreats, slightly cloudy
S3-05 Fine	---	Dev. E / 900 ppm 2651 / 1100 ppm	good, best water to this point
S3-05 Fine	---	Dev. E / 700 ppm 2651 / 1200 ppm	good, water slightly yellow, cloudy
S3-05 Fine	---	1224 / 600 ppm 2651 / 900 ppm	good, good clarity, slightly yellow, overtreats easily
S3-05 Fine	---	627 / 900 ppm 824 / 1000 ppm	good clarity, slightly yellow
S3-05 Fine	---	758 / 600 ppm 834 / 950 ppm	good, slightly yellow, cloudy
S3-05 Fine	---	4030 / 500 ppm 4440 / 1100 ppm	good, very slightly yellow, cloudy

* 1 cup pours 16 ~ improves clarity, better than stir method

* 2 more combo testing required to determine best dose and resolve overtreatment ban

Date: 8/2/04, HJS			
H1S3-12*	14.61	4808 / 1000 ppm	not stable, clean
H1S3-12*	14.61	4808 / 1200 ppm	good, clear, stable
H1S3-12*	14.61	4808 / 1250 ppm	good, clear, stable
H1S3-12*	14.61	4808 / 1300 ppm	good treatment range, stable
H1S3-12*	14.61	4440 / 650 ppm	acceptable, clear
H1S3-12*	14.61	4440 / 700 ppm	very good, clear, stable
H1S3-12*	14.61	4440 / 750 ppm	good, clear, good treatment range
H1S3-12*	14.61	2651 / 800 ppm	clear, small floc
H1S3-12*	14.61	2651 / 850 ppm	clear, stable, very good
H1S3-12*	14.61	2651 / 900 ppm	good treatment range, stable
H1S3-12*	14.61	4300 / 1200 ppm	cloudy, not suggested
H1S3-12*	14.61	4300 / 1300 ppm	cloudy, soft
H1S3-12*	14.61	4300 / 1400 ppm	cloudy
H1S3-12*	14.61	4300 / 1500 ppm	cloudy, not suggested
H1S3-12*	14.61	4823LS / 200-22000 ppm	not acceptable, slime
H1S3-12*	14.61	4305 / 50-3000 ppm	not acceptable, slime
H1S3-12*	14.61	4330 / 50-2200 ppm	not acceptable, slime
H1S3-12*	14.61	1224 / 400 ppm 2651 / 50-2500	good separation with 1224, will not build floc and soft after 2651
H1S3-12*	14.61	Dev. E / 300 ppm 1251 / 350 ppm	clear, floc not stable
H1S3-12*	14.61	Dev. E / 300 ppm 1251 / 400 ppm	clear, floc not stable
H1S3-12*	14.61	Dev. E / 250 ppm 1251 / 250 ppm	acceptable floc, clear, not as good as single polymer
H1S3-12*	14.61	627 / 250 ppm CE807 / 250 ppm	clear, acceptable, not as good as single polymer
H1S3-12*	14.61	4275 / 150 ppm 4808 / 300 ppm	clear, not as good as single polymer
H1S3-12*	14.61	4015 / 200 ppm 4810 NST3 / 400 ppm	clear, not as good as single polymer
H1S3-12*	14.61	Dev. E / 200 ppm 4320 / 500 ppm	overtreats easily, floc will not build

*Heavy sediment after decant, still very sandy

- Best treatments:**
- 1) 4440 / 700 ppm
 - 2) 2651 / 800-850 ppm
 - 3) 4808 / 1250 ppm

Date: 8/5/04, SC and SF			
H2S2 (SS)	3.22	4275 / 50-900 ppm	50 ppm - floc, free water not very clear, floaties Floc gradually fell apart up to 900 ppm
H2S2 (SS)	3.22	Dev. E / 50-550 ppm	50-200 ppm - formed floc 300 ppm - best, fine floc, clear water 550 ppm - no improvement
H2S2 (SS)	3.22	4050 / 10-300 ppm	10 ppm - good floc 50 ppm - good floc, floaties but mostly clear 300 ppm - no improvement, less clear
H2S2 (SS)	3.22	757 / 50-200 ppm	50 ppm - fine floc, clear free water, some floaties, best 200 ppm - no improvement
H2S2 (SS)	3.22	1198 / 50-150 ppm	50 ppm - fine floc, clear water, best 150 ppm - not as much separation
H2S2 (SS)	3.22	624 / 50-200 ppm	50 ppm - fine floc, clear water, best 200 ppm - starts to fall apart
H2S2 (SS)	3.22	1224 / 50-200 ppm	50 ppm - fine floc, clear water, some floaties 200 ppm - no improvement
H2S2 (SS)	3.22	626 / 20-100 ppm	20 ppm - fine floc, clear water, floaties 50 ppm - less floaties 100 ppm - no change

Date: 8/9/04, SC			
H2S3 (SS)	3.94	626 / 50-100 ppm	Flocs well at 50 ppm and doesn't change at 100 ppm Fine floc, good separation, some floaties
H2S3 (SS)	3.94	4275 / 50-100 ppm	Flocs well at 50 ppm and doesn't change at 100 ppm Fine floc, good separation, floaties
H2S3 (SS)	3.94	Dev. E / 50-100 ppm	Flocs well at 50 ppm and doesn't change at 100 ppm Fine floc, good separation, some floaties
H2S3 (SS)	3.94	4050 / 50-100 ppm	Flocs well at 50 ppm and doesn't change at 100 ppm Fine floc, good separation, floaties
H2S3 (SS)	3.94	757 / 50-100 ppm	Flocs well at 50 ppm and doesn't change at 100 ppm Fine floc, good separation, floaties
H2S3 (SS)	3.94	1198 / 50-100 ppm	Flocs well at 50 ppm and doesn't change at 100 ppm Fine floc, good separation, floaties
H2S3 (SS)	3.94	624 / 50-100 ppm	Flocs well at 50 ppm and doesn't change at 100 ppm Fine floc, good separation, very little floaties
H2S3 (SS)	3.94	1224 / 50-100 ppm	Flocs well at 50 ppm and doesn't change at 100 ppm Fine floc, good separation, very little floaties

Date: 8/10/04, SC			
H2S4B-SS	15.87	626 / 800-1200 ppm	fine floc, floaties, cloudy water
H2S4B-SS	15.87	4275 / 700-900 ppm	fine floc, floaties, mix well
H2S4B-SS	15.87	Developmental "E" / 700-1000 ppm	fine floc, floaties, mix a lot
H2S4B-SS	15.87	4050 / 600-1000 ppm	fine floc, some floaties, mix a lot
H2S4B-SS	15.87	757 / 600-1000 ppm	fine floc, some floaties, mix well
H2S4B-SS	15.87	1198 / 600-900 ppm	fine floc, floaties, mix well
H2S4B-SS	15.87	624 / 700-1000 ppm	fine floc, floaties, mix well
H2S4B-SS	15.87	1224 / 600-900 ppm	fine floc, floaties, cloudy water, mix well

Date: 8/11/04, SC			
H2S4B-05	4.29	Developmental "E" / 20-80+ ppm	20 ppm - floc, cloudy water 40 ppm - good floc, clear water >80 ppm no improvement *30-80 ppm - fine floc, clear water, some floaties
H2S4B-05	4.29	757 / 20-80+ ppm	20 ppm - floc, clear, a lot of floaties 40 ppm - good floc, clear, floaties >80 ppm - no improvement *30- 80 ppm - fine floc, clear water, v. little floaties
H2S4B-05	4.29	4050 / 20-80 ppm	20 ppm - floc, cloudy, a lot of floaties 40 ppm - good floc, clear 60 ppm - better *30-80 ppm - fine floc, clear water, some floaties
H2S4B-05	4.29	4275 / 20-90 ppm	20 - floc, cloudy water 40 ppm - good floc, clear 60 ppm better *50-90 ppm - fine floc, clear water, floaties

Date: 8/31/04, SC			
S4-HC-10-OF	4.01	Developmental "E" / 60-160ppm	60 ppm - floc, clear water, floaties 80 ppm - good floc, clear water, floaties >120 ppm - no improvement, floaties 60-120 ppm - fine floc, clear water, floaties
S4-HC-10-OF	4.01	757 / 60-160 ppm	60 ppm - floc, clear water, floaties 80 ppm - good floc, clear water, floaties >120 ppm - no improvement, floaties 60-120 ppm - fine floc, clear water, floaties
S4-HC-10-OF	4.01	4050 / 60-160 ppm	60 ppm - floc, clear water, floaties 80 ppm - good floc, clear water, floaties >120 ppm - no improvement, floaties 60-120 ppm - fine floc, clear water, floaties
S4-HC-15-OF	6.31	Developmental "E" / 140-200ppm	140 ppm - floc, clear water, floaties 160 ppm - good floc, clear water, floaties >200 ppm - no improvement, floaties 140-200 ppm - fine floc, clear water floaties
S4-HC-15-OF	6.31	757 / 120-200 ppm	120 ppm - floc, clear water, floaties 160 ppm - good floc, clear water, floaties >200 ppm - no improvement, floaties 120-200 ppm - fine floc, clear water floaties
S4-HC-15-OF	6.31	4050 / 120-200 ppm	120 ppm - floc, clear water, floaties 160 ppm - good floc, clear water, floaties >200 ppm - no improvement, floaties 120-200 ppm - fine floc, clear water floaties

Hudson River Treatability Study

Free Drain and Polymer Screening Data Sheet ~ Belt Press/Centrifuge

Slurry ID	Initial % Solids	Polymer ID	Dosage (ppm)	Sample Volume	Drain Time	Total Filtrate Volume (mL)	Observations
H1S4B-03	24.84	2651	1950	100	30 seconds	43	Acceptable
			2000	100	30 seconds	45	Good, does not hold floc integrity
			2050	100	30 seconds	41	Does not hold floc integrity
		4864	200-3500	100	30 seconds	12	No water release, poor
		4848	200-4000	100	30 seconds	15	No water release, poor
		4823	200-4000	100	30 seconds	21	No water release, poor
		4808	2350	100	30 seconds	43	Acceptable
			2400	100	30 seconds	45	Good, stable, good water release
			2450	100	30 seconds	46	Stable, good water release
		807	3600	100	30 seconds	36	Poor, slow water release
			3700	100	30 seconds	38	Soft, not stable
			3800	100	30 seconds	39	Soft, not stable
		4300	1800	100	30 seconds	40	Stable floc
			1900	100	30 seconds	42	Not as stable
			2000	100	30 seconds	44	Not as stable
		4330	100-4000	100	30 seconds	39	Soft, poor
		4440	1900	100	30 seconds	42	Stable
			1950	100	30 seconds	44	Stable
			2050	100	30 seconds	44	Stable
		Dev. E 2651	1000 2000	100	30 seconds	32	Not as good
				100	30 seconds	22	Not as good
		4310	50-3000	100	30 seconds	—	Poor

H1S4B-04	24.90	4440	1950	100	30 seconds	2	Poor water release
			2000	100	30 seconds	15	Poor water release
			2050	100	30 seconds	12	Poor water release
			2700	100	30 seconds	34	Stable
			2800	100	30 seconds	39	Stable
			2900	100	30 seconds	36	Stable
		2651	1950	100	30 seconds	33	Good, questionable floc integrity
			2000	100	30 seconds	30	Good, questionable floc integrity
			2050	100	30 seconds	33	Good, questionable floc integrity
H1S3-14	14.36	4440	1300	100	30 seconds	53	Stable
			1350	100	30 seconds	55	Stable
			1400	100	30 seconds	52	Stable
		4808	1200	100	30 seconds	60	Good water release, stable
			1250	100	30 seconds	66	Good water release, stable
			1300	100	30 seconds	71	Good water release, stable

Based on visual observations, filtrate, floc stability, and dose range, product suggestion is:

- 1) 4808
- 2) 4440
- 3) 2651
- 4) 4300

Hudson River Treatability Study

Table of Contents for Bench-Scale Filter Press Tests

BFP #	Variable Investigated / Reason for Test
1 - 76	Presses performed to fulfill requirements of TS Work Plan (H1).
77 - 99	Additional presses to investigate press variables (H1).
100-143	Presses performed to fulfill requirements of TS Work Plan (H2).
144 - 147	Additional presses to investigate press variables (H2).
148 - 163	Presses performed on Hydrocyclone Overflow material (S4-HC-10-OF and S4-HC-15 OF)
164 - 167	Presses performed on S4A sediment to generate filtrate for RSSCT.

BFP-1 --> BFP-76, BFP-100 --> BFP-143
Detail

BFP #	Variable Investigated / Reason for Test	Slurry
1 - 8	V. low solids in feed, no cakes resulted.	H1S1
9 - 20	4 polymers, 3 doses each	H1S3 Settled Solids
21 - 36	5 polymers at 3 doses each, 1 poly at 1 dose	H1S4B
37 - 51	5 polymers at 3 doses each	H1S3
52 - 66	5 polymers at 3 doses each	H1S1
67 - 76	Confirmation testing; 10 polymers at 1 dose each	H1S2
100 - 109	3 polymers at 3 doses each, 1 polymer at 1 dose.	H2S2 Settled Solids
110 - 115	2 polymers at 3 doses each	H2S3 Settled Solids
116 - 121	2 polymers at 3 doses each	H2S4B Settled Solids
122 - 143	2 polymers at 6 doses each, 2 polymers at 3 doses each, 1 polymer at 4 doses	H2S4B

Hudson River Treatability Study

Table of Contents for Bench-Scale Filter Press Tests

BFP-77 --> BFP-99, BFP-144 --> BFP-147
Detail

BFP #	Variable Investigated / Reason for Test	Compare with BFP #	Slurry
77	Diff. Poly @ high dose, investigating cloth blinding	37-51	H1S3
78	Diff. Poly @ high dose, investigating cloth blinding	37-51	
79	Cake Release, various filter cloths	80, 81, 82	
79 Dup	Replicated filter press and % solids	79	
80	Cake Release, various filter cloths	79, 81, 82	
81	Cake Release, various filter cloths	79, 80, 82	
82	Cake Release, various filter cloths	79, 80, 81	
83	Mixing Sub-Study, investigating polymer shearing	79, 79 Dup	
84	Higher pressure of 125 PSI	79, 79 Dup	
85	Cake Release, various filter cloths	86, 87, 88	H1S2
86	Cake Release, various filter cloths	85, 87, 88	
87	Cake Release, various filter cloths	85, 86, 88	
88	Cake Release, various filter cloths	85, 86, 87	
89	Higher pressure of 125 PSI	69	
90	Higher pressure of 125 PSI	71, 87	
91	Higher pressure of 225 PSI	71, 87, 90	
92	Higher pressure of 225 PSI	89, 69	
93	More optimum polymer dose for Dev E	69	
94-96	Cloth blinding investigated; cloths not washed between three press runs. Poly 757	94-96	
97-99	Cloth blinding investigated; cloths not washed between three press runs. Poly Dev E	97-99	

Hudson River Treatability Study

Table of Contents for Bench-Scale Filter Press Tests

BFP #	Variable Investigated / Reason for Test	Compare with BFP #	Slurry
144	Cake Solids vs. time study	133, 145	H2S4B
145	Cake Solids vs. time study	133, 144	
146	Mixing Sub-Study, investigating polymer shearing	133	
147	Cake Solids vs. time study; Dup of BFP-133 (diff. Feed batch)	133, 144, 145	

Hudson River Treatability Study

Polymer Screening / Time-to-Filter Data / Bench Filter Press Summary

Slurry ID	Initial % Solids (w/w)	Polymer ID	Dosage (ppm)	Buchner Funnel		Bench-Scale Filter Press			
				Sample Volume	Time to Filter 50% (min)	Time (min)	Total Filtrate Volume (mL)	% Solids (w/w)	Test #
H1S3 Set. Solids	23.07	1198	400	200 mL	7:35	45	136	59.38	BFP-9
			500	200 mL	8:07	60	173	60.03	BFP-10
			600	200 mL	7:08	60	167	59.12	BFP-11
H1S3 Set. Solids	23.07	Developmental "E"	400	200 mL	18:24	60	160	60.73	BFP-12
			500	200 mL	11:46	60	155	59.72	BFP-13
			600	200 mL	9:59	60	153	59.16	BFP-14
H1S3 Set. Solids	23.07	626	400	200 mL	17:40	60	142	62.08	BFP-15
			500	200 mL	13:53	60	155	60.11	BFP-16
			600	200 mL	10:30	60	152	60.21	BFP-17
H1S3 Set. Solids	23.07	757	400	200 mL	11:45	60	147	61.24	BFP-18
			500	200 mL	8:20	60	153	60.87	BFP-19
			600	200 mL	8:29	60	154	59.79	BFP-20
H1S4B-01	24.97	Developmental "E"	700	200 mL	12:39	60	127	57.59	BFP-21
			800	200 mL	10:58	60	132	58.84	BFP-22
			900	200 mL	8:10	60	134	57.40	BFP-23

Hudson River Treatability Study

Polymer Screening / Time-to-Filter Data / Bench Filter Press Summary

Slurry ID	Initial % Solids (w/w)	Polymer ID	Dosage (ppm)	Buchner Funnel		Bench-Scale Filter Press			
				Sample Volume	Time to Filter 50% (min)	Time (min)	Total Filtrate Volume (mL)	% Solids (w/w)	Test #
H1S4B-02	25.29	1224	700	200 mL	11:08	60	131	57.57	BFP-24
			800	200 mL	6:51	60	139	56.94	BFP-25
			900	200 mL	6:32	60	143	57.94	BFP-26
		626	700	200 mL	15:28	60	132	58.23	BFP-27
			800	200 mL	12:10	60	134	57.95	BFP-28
			900	200 mL	10:23	60	127	56.91	BFP-29
		757	700	200 mL	10:25	60	142	58.27	BFP-30
			800	200 mL	8:18	60	131	56.74	BFP-31
			900	200 mL	7:10	60	122	57.05	BFP-32
		624	800	200 mL	10:48	60	121	58.26	BFP-33
		4050	600	200 mL	11:33	60	134	58.67	BFP-34
			700	200 mL	10:31	60	147	58.08	BFP-35
			800	200 mL	7:50	60	120	57.59	BFP-36

Hudson River Treatability Study

Polymer Screening / Time-to-Filter Data / Bench Filter Press Summary

Slurry ID	Initial % Solids (w/w)	Polymer ID	Dosage (ppm)	Buchner Funnel		Bench-Scale Filter Press			
				Sample Volume	Time to Filter 50% (min)	Time (min)	Total Filtrate Volume (mL)	% Solids (w/w)	Test #
H1S3-04	13.42	Developmental "E"	300	200 mL	13:18	60	233	54.06	BFP-37
			400	200 mL	7:38	60	223	64.56	BFP-38
			500	200 mL	4:05	60	275	61.25	BFP-39
		1224	300	200 mL	4:35	60	294	59.13	BFP-40
			400	200 mL	2:47	60	235	63.11	BFP-41
			500	200 mL	1:32	60	320	64.23	BFP-42
		624	300	200 mL	7:50	60	241	59.27	BFP-43
			400	200 mL	7:18	60	270	45.05	BFP-44
			500	200 mL	3:56	60	347	60.18	BFP-45
		757	300	200 mL	7:15	60	291	67.45	BFP-46
			400	200 mL	3:27	60	288	68.69	BFP-47
			500	200 mL	1:07	60	305	61.96	BFP-48
		4275	300	200 mL	9:50	60	246	69.64	BFP-49
			400	200 mL	6:07	60	313	68.00	BFP-50
			500	200 mL	2:32	60	318	68.73	BFP-51

Hudson River Treatability Study

Polymer Screening / Time-to-Filter Data / Bench Filter Press Summary

Slurry ID	Initial % Solids (w/w)	Polymer ID	Dosage (ppm)	Buchner Funnel		Bench-Scale Filter Press			
				Sample Volume	Time to Filter 50% (min)	Time (min)	Total Filtrate Volume (mL)	% Solids (w/w)	Test #
H1S1-08	4.09	1224	60	200 mL	2:16	60	602	67.89	BFP-52
			80	200 mL	1:23	60	825	64.80	BFP-53
			100	200 mL	1:27	60	726	65.97	BFP-54
		757	60	200 mL	2:19	60	391	67.92	BFP-55
			80	200 mL	1:55	60	624	65.06	BFP-56
			100	200 mL	1:29	60	674	64.50	BFP-57
		Developmental "E"	60	200 mL	2:03	60	536	64.92	BFP-58
			80	200 mL	1:30	60	455	62.90	BFP-59
			100	200 mL	0:55	60	561	62.31	BFP-60
H1S1-10	4.83	626	60	200 mL	1:27	60	431	66.98	BFP-61
			80	200 mL	1:15	60	466	66.83	BFP-62
			100	200 mL	1:02	60	529	64.09	BFP-63
		4050	60	200 mL	1:22	60	558	65.96	BFP-64
			80	200 mL	0:47	60	563	65.96	BFP-65
			100	200 mL	0:47	60	547	66.77	BFP-66

Hudson River Treatability Study

Polymer Screening / Time-to-Filter Data / Bench Filter Press Summary

Slurry ID	Initial % Solids (w/w)	Polymer ID	Dosage (ppm)	Buchner Funnel		Bench-Scale Filter Press			
				Sample Volume	Time to Filter 50% (min)	Time (min)	Total Filtrate Volume (mL)	% Solids (w/w)	Test #
H1S2-05	8.46	624	300	200 mL	5:35	60	313	37.92	BFP-67
		627	300	200 mL	6:02	60	322	47.57	BFP-68
		Develop-mental "E"	300	200 mL	4:47	60	364	46.74	BFP-69
		1224	300	200 mL	1:12	60	446	55.33	BFP-70
		757	300	200 mL	0:49	60	389	57.64	BFP-71
		4050	300	200 mL	0:49	60	359	58.45	BFP-72
		1198	300	200 mL	1:02	60	381	57.20	BFP-73
H1S2-06	8.38	627 EX	300	200 mL	1:36	60	231	60.40	BFP-74
		626	300	200 mL	5:04	60	304	52.88	BFP-75
		758	300	200 mL	4:29	60	217	50.91	BFP-76
H1S3-06	12.97	644	6000	~	~	60	302	64.29	BFP-77
		644+4884	4000 of each	~	~	50	138	62.98	BFP-78
		Develop-mental "E"	400	~	~	60	273	70.44	BFP-79
			400	~	~	60	188	72.82, 71.68	BFP-79 Dup
			400	~	~	60	253	72.75	BFP-80
			400	~	~	60	163	72.73	BFP-81

Hudson River Treatability Study

Polymer Screening / Time-to-Filter Data / Bench Filter Press Summary

Slurry ID	Initial % Solids (w/w)	Polymer ID	Dosage (ppm)	Buchner Funnel		Bench-Scale Filter Press			
				Sample Volume	Time to Filter 50% (min)	Time (min)	Total Filtrate Volume (mL)	% Solids (w/w)	Test #
H1S3-06	12.97	Developmental "E"	400	~	~	60	299	69.16	BFP-82
			400 (Mix Substudy)	200 mL	10:32	60	235	67.06	BFP-83
			400	~	~	60	338	71.46	BFP-84
H1S2-07	8.53	757	300	~	~	60	362	55.60	BFP-85
			300	~	~	60	361	57.26	BFP-86
			300	~	~	60	330	54.70	BFP-87
			300	~	~	60	317	59.24	BFP-88
		Developmental "E"	300	~	~	60	205	NA - incomplete cake	BFP-89
		757	300	~	~	60	316	58.94	BFP-90
H1S2-08	7.98	Developmental "E"	300	~	~	60	439	54.63	BFP-91
			300	~	~	60	314	48.29	BFP-92
			500	~	~	60	441	57.69	BFP-93
		757	300	~	~	60	334	49.19	BFP-94
			300	~	~	60	199	42.35	BFP-95
			300	~	~	60	257	43.00	BFP-96
		Developmental "E"	500	~	~	60	436	55.67	BFP-97
			500	~	~	60	429	52.25	BFP-98
			500	~	~	60	449	51.80	BFP-99

Hudson River Treatability Study

Polymer Screening / Time-to-Filter Data / Bench Filter Press Summary

Slurry ID	Initial % Solids (w/w)	Polymer ID	Dosage (ppm)	Buchner Funnel		Bench-Scale Filter Press					
				Sample Volume	Time to Filter 50% (min)	Time (min)	Total Filtrate Volume (mL)	% Solids (w/w)	Test #		
H2S2 Settled Solids	3.22	4050	20	~	~	60	498	49.16	BFP-100		
			50	~	~	60	544	55.95	BFP-101		
			80	~	~	60	537	55.75	BFP-102		
		757	20	~	~	60	517	46.90	BFP-103		
			50	~	~	60	545	55.35	BFP-104		
			80	~	~	60	691	54.13	BFP-105		
		626	20	~	~	60	403	44.61	BFP-106		
		Developmental "E"	20	~	~	60	476	54.25	BFP-107		
			50	~	~	60	504	54.36	BFP-108		
			80	~	~	60	456	59.11	BFP-109		
		H2S3 Settled Solids	3.94	Developmental "E"	70	~	~	60	473	53.38	BFP-111
					100	~	~	60	513	65.77	BFP-110
130	~				~	60	466	59.35	BFP-112		
757	20			~	~	60	403	56.52	BFP-113		
	50			~	~	60	529	56.30	BFP-114		
	80			~	~	60	540	54.42	BFP-115		

Hudson River Treatability Study

Polymer Screening / Time-to-Filter Data / Bench Filter Press Summary

Slurry ID	Initial % Solids (w/w)	Polymer ID	Dosage (ppm)	Buchner Funnel		Bench-Scale Filter Press						
				Sample Volume	Time to Filter 50% (min)	Time (min)	Total Filtrate Volume (mL)	% Solids (w/w)	Test #			
H2S4B Settled Solids	15.87	Developmental "E"	700	~	~	60	228	54.16	BFP-116			
			800	~	~	60	247	54.96	BFP-117			
			900	~	~	60	234	53.82	BFP-118			
		757	700	~	~	60	240	53.40	BFP-119			
			800	~	~	60	259	54.22	BFP-120			
			900	~	~	60	238	54.02	BFP-121			
H2S4B-05	4.29%	Developmental "E"	30	~	~	60	379	40.41	BFP-122			
			50	~	~	60	517	51.63	BFP-123			
			70	~	~	60	473	49.12	BFP-124			
			90	~	~	60	526	47.58	BFP-125			
			120	~	~	60	448	54.59	BFP-133			
			180	~	~	60	876	52.75	BFP-130			
		757	30	~	~	60	524	45.40	BFP-126			
			50	~	~	60	458	46.29	BFP-127			
			70	~	~	60	560	49.99	BFP-128			
			90	~	~	60	657	54.59	BFP-129			
			H2S4B-07	4.81%		120	~	~	60	571	54.01	BFP-135

Hudson River Treatability Study

Polymer Screening / Time-to-Filter Data / Bench Filter Press Summary

Slurry ID	Initial % Solids (w/w)	Polymer ID	Dosage (ppm)	Buchner Funnel		Bench-Scale Filter Press			
				Sample Volume	Time to Filter 50% (min)	Time (min)	Total Filtrate Volume (mL)	% Solids (w/w)	Test #
H2S4B-05	4.29%	7.57	180	~	~	60	548	54.43	BFP-131
		4050	70	~	~	60	843	52.72	BFP-134
			90	~	~	60	612	56.93	BFP-132
			110	~	~	60	743	43.51	BFP-136
H2S4B-07	4.81%	1224	90	~	~	60	585	50.34	BFP-137
			110	~	~	60	668	56.11	BFP-138
			130	~	~	60	858	42.57	BFP-142
		626	90	~	~	60	535	43.87	BFP-139
			110	~	~	60	539	41.95	BFP-140
			130	~	~	60	567	42.99	BFP-141
			180	~	~	60	764	45.02	BFP-143
		Develop-mental "E"	120	~	~	45	597	45.27	BFP-144
			120	~	~	90	496	55.95	BFP-145
			120 (Mix Substudy)	200 mL	0:33	60	657	45.59	BFP-146
			120	~	~	60	462	58.07	BFP-147

Hudson River Treatability Study

Polymer Screening / Time-to-Filter Data / Bench Filter Press Summary

Slurry ID	Initial % Solids (w/w)	Polymer ID	Dosage (ppm)	Buchner Funnel		Bench-Scale Filter Press			
				Sample Volume	Time to Filter 50% (min)	Time (min)	Total Filtrate Volume (mL)	% Solids (w/w)	Test #
S4-HC-10-OF	4.01%	Developmental "E"	100	~	~	60	289	n/a	BFP-148
			130	~	~	60	301	n/a	BFP-149
			220	~	~	60	402	36.61	BFP-150
			280	~	~	60	431	37.41	BFP-151
			380	~	~	60	541	48.69	BFP-152
			450	~	~	60	581	50.26	BFP-153
			480	~	~	60	592	54.39	BFP-154
			550	~	~	60	592	54.38	BFP-155
S4-HC-15-OF	6.31	Developmental "E"	400	~	~	60	289	35.00	BFP-156
			500	~	~	60	336	40.50	BFP-157
			600	~	~	60	406	46.36	BFP-158
			700	~	~	60	420	46.02	BFP-159
			800	~	~	60	467	47.65	BFP-160
			900	~	~	60	488	50.19	BFP-161
S4-HC-10-OF	4.01	757	480	~	~	60	801	52.92	BFP-162
S4-HC-15-OF	6.31	757	800	~	~	60	483	50.91	BFP-163

Hudson River Treatability Study

Polymer Screening / Time-to-Filter Data / Bench Filter Press Summary

Slurry ID	Initial % Solids (w/w)	Polymer ID	Dosage (ppm)	Buchner Funnel		Bench-Scale Filter Press			
				Sample Volume	Time to Filter 50% (min)	Time (min)	Total Filtrate Volume (mL)	% Solids (w/w)	Test #
H1S4A-01	9.03	Developmental "E"	600	~	~	60	428	57.19	BFP-165
			500	~	~	60	397	57.94	BFP-164
			400	~	~	60	403	58.95	BFP-166
			300	~	~	60	311	55.79	BFP-167

Hudson River Treatability Study

Mixing Sub-Study Data Sheet

Slurry ID	Sample Volume (mL)	Polymer ID	Dosage (ppm)	Mix Time/Speed (3 min @ 100 rpm)	Buchner Funnel		Filter Press			
					Sample Volume (mL)	Time to Filter 50% (min)	Time (min)	% Solids (w/w)	BFP Test #	Observations
H1S3-06	1000	Dev E	400	3 min @ 100 rpm	200	10:32	60	67.06	83	No noticeable change in feed appearance after mixing.
H2S4B-07	2000	Dev E	120	3 min @ 100 rpm	200	0:33	60	45.59	146	No noticeable change in feed appearance after mixing.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-

Slurry ID:

Polymer ID:

Feed Solids:

Dosage:

Sample Vol.:

Press Time: 60 min

Date/Time:

Max. Pressure: 100 psi

Tech:

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25		0	
4	50		0	
6	100		0	
60	100		0	

Filter Cake Quality:

Release from Cloth:

% Solids (w/w):

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-1

Slurry ID: H1S1-05

Polymer ID: 1198

Feed Solids: 3.72%

Dosage: 50 ppm

Sample Vol: 1 L

Press Time: 70 min

Date/Time: 7/19/04, 1145

Max. Pressure: 25 PSI

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
5	25	170	170	Initial discharge has sediment, then clear
10	25	75	245	
70	25	685	930	

Filter Cake Quality: N/A

Release from Cloth: N/A

% Solids (w/w): N/A - Cake incomplete

Additional Comments:

Blew through, insufficient sample volume

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-2

Slurry ID: H1S1-05

Polymer ID: 1198

Feed Solids: 3.72%

Dosage: 100 ppm

Sample Vol.: 1 L

Press Time: 50 min

Date/Time: 7/19/04, 1200

Max. Pressure: 25 PSI

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
5	25	180	180	Initial discharge has sediment, then clear
10	25	76	256	
50	25	693	949	

Filter Cake Quality: N/A

Release from Cloth: N/A

% Solids (w/w): N/A - cake incomplete

Additional Comments:

Blew through, insufficient sample volume

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-3

Slurry ID: H1S1-05

Polymer ID: 1198

Feed Solids: 3.72%

Dosage: 150 ppm

Sample Vol.: 1 L

Press Time: 55 min

Date/Time: 7/19/04, 1225

Max. Pressure: 25 PSI

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
5	25	165	165	Initial discharge has sediment, then clear
10	25	68	233	
55	25	716	949	

Filter Cake Quality: N/A

Release from Cloth: N/A

% Solids (w/w): N/A - cake incomplete

Additional Comments:

Blew through, insufficient sample volume

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-4

Slurry ID: H1S1-05

Polymer ID: 1198

Feed Solids: 3.72%

Dosage: 50 ppm

Sample Vol.: 2 L

Press Time: 180 min

Date/Time: 7/19/04, 1345

Max. Pressure: 25 PSI

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
5	25	180	180	Initial discharge has sediment, then clear
10	25	75	255	
180	25	879	1134	

Filter Cake Quality: Very poor, incomplete

Release from Cloth: fair

% Solids (w/w): N/A - cake incomplete

Additional Comments:

Cake had liquid center and top, insufficient solids.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-5

Slurry ID: H1S1-05

Polymer ID: 1198

Feed Solids: 3.72%

Dosage: 100 ppm

Sample Vol.: 2 L

Press Time: 50 min

Date/Time: 7/19/04, 1400

Max. Pressure: 100 PSI

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
5	25	210	210	Initial discharge has sediment, then clear
10	25	80	290	
50	100	132	422	

Filter Cake Quality: Very poor, incomplete

Release from Cloth: fair

% Solids (w/w): N/A - cake incomplete

Additional Comments:

Cake slightly soft throughout.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-6

Slurry ID: H1S1-06

Feed Solids: 3.43%

Sample Vol.: 2 L

Date/Time: 7/19/04, 1600

Tech: SF

Polymer ID: 1198

Dosage: 150 ppm

Press Time: 80 min

Max. Pressure: 100 PSI

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
5	25	190	190	Initial discharge has sediment, then clear
10	25	82	272	
50	100	410	682	

Filter Cake Quality: N/A

Release from Cloth: N/A

% Solids (w/w): N/A

Additional Comments:

Incomplete cake

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-7

Slurry ID: H1S1-06

Feed Solids: 3.43%

Sample Vol.: 2 L

Polymer ID: 1198

Dosage: 50 ppm

Press Time: 80 min

Date/Time: 7/20/04, 0840

Max. Pressure: 100 PSI

Tech: JL

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	115	115	Initial discharge has sediment, then clear
4	50	60	175	
6	100	55	230	
60	100	374	604	

Filter Cake Quality: N/A

Release from Cloth: N/A

% Solids (w/w): N/A

Additional Comments:

Incomplete cake, liquid center

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-8

Slurry ID: H1S1-06

Polymer ID: 757

Feed Solids: 3.43%

Dosage: 100 ppm

Sample Vol.: 800 mL, thickened

Press Time: 35 min

Date/Time: 7/20/04, 1100

Max. Pressure: 100 PSI

Tech: JL

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
3	25	---	---	Clear, colorless
35	100	---	660	

Filter Cake Quality: Fair

Release from Cloth: Fair

% Solids (w/w): **58.15**

Additional Comments:

2 L of feed @ 3.43% solids was treated with 100 ppm 757 and allowed to settle. 1 L of free water was decanted. 200 mL of thickened material removed for observation. 800 mL of thickened material used for feed to filter press.

Cake had soft center, still insufficient solids in feed.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-9

Slurry ID: H1S3 Settled Solids

Polymer ID: 1198

Feed Solids: 23.07%

Dosage: 400 ppm

Sample Vol.: 1 L

Press Time: 45 min

Date/Time: 7/20/01, 1000

Max. Pressure: 100 PSI

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	37	37	No solids in initial discharge; clear, sl. yellow. Press stopped when no longer dripping
4	25	19	56	
6	50	13	69	
8	100	14	83	
45	100	53	136	

Filter Cake Quality: Fair

Release from Cloth: Good

% Solids (w/w): **59.38**

Additional Comments:

Slightly soft top on cake, clogs neck.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-10

Slurry ID: H1S3 Settled Solids

Polymer ID: 1198

Feed Solids: 23.07%

Dosage: 500 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 7/20/01, 1100

Max. Pressure: 100 PSI

Tech: JL

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	40	40	No solids in initial discharge; clear, slightly yellow.
4	50	25	65	
6	100	25	90	
60	100	83	173	

Filter Cake Quality: Very good

Release from Cloth: Good

% Solids (w/w): **60.03**

Additional Comments:

Solid cake, clogs neck.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-11

Slurry ID: H1S3 Settled Solids

Polymer ID: 1198

Feed Solids: 23.07%

Dosage: 600 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 7/20/01, 1100

Max. Pressure: 100 PSI

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	40	40	No solids in initial discharge; clear, moderately yellow.
4	50	30	70	
6	100	30	100	
60	100	67	167	

Filter Cake Quality: Very good

Release from Cloth: Good

% Solids (w/w): **59.12**

Additional Comments:

Solid cake, clogs neck.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-12

Slurry ID: H1S3 Settled Solids

Polymer ID: Developmental "E"

Feed Solids: 23.07%

Dosage: 400 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 7/20/01, 1200

Max. Pressure: 100 PSI

Tech: JL

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	15	15	No solids in initial discharge; clear, slightly yellow.
4	50	20	35	
6	100	20	55	
60	100	105	160	

Filter Cake Quality: Excellent / v. good

Release from Cloth: Good

% Solids (w/w): **60.73**

Additional Comments:

Solid cake

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-13

Slurry ID: H1S3 Settled Solids

Polymer ID: Developmental "E"

Feed Solids: 23.07%

Dosage: 500 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 7/20/01, 1500

Max. Pressure: 100 PSI

Tech: JL

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	20	20	sl cloudy
4	50	18	38	clear, colorless
6	100	17	55	clear, colorless
60	100	100	155	clear, sl. yellow

Filter Cake Quality: Very good/excellent

Release from Cloth: Very good, no blinding

% Solids (w/w): **59.72**

Additional Comments:

Solid cake

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-14

Slurry ID: H1S3 Settled Solids

Polymer ID: Developmental "E"

Feed Solids: 23.07%

Dosage: 600 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 7/20/01, 1530

Max. Pressure: 100 PSI

Tech: JL

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	28	28	mod. Sediment, turbid
4	50	20	48	clear, colorless
6	100	20	68	clear, colorless
60	100	85	153	clear, sl. yellow

Filter Cake Quality: Good, slightly spongy, clogs neck

Release from Cloth: good, no blinding

% Solids (w/w): **59.16**

Additional Comments:

Solid cake

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-15

Slurry ID: H1S3 Settled Solids

Polymer ID: 626

Feed Solids: 23.07%

Dosage: 400 ppm

Sample Vol.: 500 mL

Press Time: 60 min

Date/Time: 7/20/04, 1545

Max. Pressure: 100 PSI

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	14	14	Clear, slightly yellow
4	50	18	32	
6	100	20	52	
60	100	90	142	

Filter Cake Quality: Very good, solid

Release from Cloth: Very good

% Solids (w/w): **62.08**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-16

Slurry ID: H1S3 Settled Solids

Polymer ID: 626

Feed Solids: 23.07%

Dosage: 500 ppm

Sample Vol.: 500 mL

Press Time: 60 min

Date/Time: 7/20/04, 1545

Max. Pressure: 100 PSI

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	12	12	Clear, slightly yellow
4	50	19	31	
6	100	21	52	
60	100	103	155	

Filter Cake Quality: Good, solid but slightly spongy

Release from Cloth: Good, no blinding

% Solids (w/w): **60.11**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-17

Slurry ID: H1S3 Settled Solids

Polymer ID: 626

Feed Solids: 23.07%

Dosage: 600 ppm

Sample Vol.: 500 mL

Press Time: 60 min

Date/Time: 7/21/04, 0900

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	27	27	Initial discharge turbid but no obvious sediment, then clear and slightly yellow
4	50	20	47	
6	100	18	65	
60	100	87	152	

Filter Cake Quality: good, slightly spongy

Release from Cloth: fair

% Solids (w/w): **60.21**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-18

Slurry ID: H1S3 Settled Solids

Polymer ID: 757

Feed Solids: 23.07%

Dosage: 400 ppm

Sample Vol.: 500 mL

Press Time: 60 min

Date/Time: 7/21/04, 0900

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	12	12	Cloudy, slightly yellow
4	50	18	30	
6	100	19	49	
	100	98	147	

Filter Cake Quality: very good, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **61.24**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-19

Slurry ID: H1S3 Settled Solids

Polymer ID: 757

Feed Solids: 23.07%

Dosage: 500 ppm

Sample Vol.: 500 mL

Press Time: 60 min

Date/Time: 7/21/04 0905

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	19	19	cloudy, slightly yellow
4	50	24	43	clear, slightly yellow
6	100	23	66	
60	100	87	153	

Filter Cake Quality: very good, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **60.87**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-20

Slurry ID: H1S3 Settled Solids

Polymer ID: 757

Feed Solids: 23.07%

Dosage: 600 ppm

Sample Vol.: 500 mL

Press Time: 60 min

Date/Time: 7/21/04, 0915

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	35	35	initial discharge murky but no obvious sediment
4	50	22	57	very slight yellow, clear
6	100	21	78	very slight yellow, clear
60	100	76	154	slightly cloudy and slightly yellow

Filter Cake Quality: very good, solid

Release from Cloth: good, no blinding

% Solids (w/w): **59.79**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-21

Slurry ID: H1S4B-01

Feed Solids: 24.97%

Sample Vol.: 1 L

Date/Time: 7/21/04, 1050

Tech: SF

Polymer ID: Developmental "E"

Dosage: 700 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	18	18	sediment in initial discharge, foamy
4	50	13	31	slightly cloudy, slightly yellow, foamy
6	100	11	42	slightly cloudy, slightly yellow, foamy
60	100	85	127	yellow, cloudy

Filter Cake Quality: good, solid

Release from Cloth: good, no blinding

% Solids (w/w): **57.59**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-22

Slurry ID: H1S4B-01

Feed Solids: 24.97%

Sample Vol.: 1 L

Date/Time: 7/21/04. 1050

Tech: MS

Polymer ID: Developmental "E"

Dosage: 800 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	14	14	dirty, brown/yellow, foamy
4	50	14	28	clear, slightly yellow
6	100	14	42	yellow
60	100	90	132	yellow

Filter Cake Quality: very good, solid

Release from Cloth: very good, very slight blinding

% Solids (w/w): **58.84**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-23

Slurry ID: H1S4B-01

Feed Solids: 24.97%

Sample Vol.: 1 L

Date/Time: 7/21/04, 1050

Tech: MS

Polymer ID: Developmental "E"

Dosage: 900 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	21	21	dirty, brown/yellow, foamy
4	50	19	40	clear, slightly yellow
6	100	19	59	clear, slightly yellow
60	100	75	134	slightly cloudy, yellow

Filter Cake Quality: very good, solid

Release from Cloth: very good, very slight blinding

% Solids (w/w): **57.40**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-24

Slurry ID: H1S4B-01

Feed Solids: 24.97%

Sample Vol.: 1 L

Polymer ID: 1224

Dosage: 700 ppm

Press Time: 60 min

Date/Time: 7/21/04, 1100

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	23	23	had sediment, brown, foamy
4	50	15	38	slightly yellow, foamy, slightly turbid
6	100	15	53	slightly yellow, foamy, slightly turbid
60	100	78	131	cloudy, dark yellow

Filter Cake Quality: very good, solid

Release from Cloth: good, no blinding

% Solids (w/w): **57.57**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-25

Slurry ID: H1S4B-01

Feed Solids: 24.97%

Sample Vol.: 1 L

Date/Time: 7/21/2004

Tech: JL

Polymer ID: 1224

Dosage: 800 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	40	40	initial sediment discharge
4	50	21	61	clear, slight yellow
6	100	20	81	clear, slight yellow
60	100	58	139	yellow, very cloudy

Filter Cake Quality: very good, solid

Release from Cloth: good, slight blinding

% Solids (w/w): **56.94**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-26

Slurry ID: H1S4B-01

Feed Solids: 24.97%

Sample Vol.: 1 L

Polymer ID: 1224

Dosage: 900 ppm

Press Time: 60 min

Date/Time: 7/21/2004

Max. Pressure: 100 psi

Tech: JL

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	27	27	initial sediment discharge
4	50	18	45	clear, slight yellow
6	100	18	63	clear, slight yellow
60	100	80	143	cloudy, orange/yellow

Filter Cake Quality: very good, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **57.94**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-27

Slurry ID: H1S4B-01

Feed Solids: 24.97%

Sample Vol.: 1 L

Date/Time: 7/21/2004

Tech: JL

Polymer ID: 626

Dosage: 700 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	22	22	has sediment. Brown
4	50	13	35	slightly yellow, slightly cloudy
6	100	13	48	slightly yellow, little clearer
60	100	84	132	slightly yellow, very slightly cloudy

Filter Cake Quality: very good, solid

Release from Cloth: very good, very slight blinding

% Solids (w/w): **58.23**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-28

Slurry ID: H1S4B-01

Feed Solids: 24.97%

Sample Vol.: 1 L

Date/Time: 7/21/2004

Tech: JL

Polymer ID: 626

Dosage: 800 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2,4	25	20, 11	31	has sediment, brown
6	50	9	40	slightly yellow, mostly clear
8	100	12	52	slightly yellow, mostly clear
60	100	82	134	slightly yellow, mostly clear

Filter Cake Quality: very good, solid

Release from Cloth: very good, slight blinding

% Solids (w/w): **57.95**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-29

Slurry ID: H1S4B-02

Feed Solids: 25.59%

Sample Vol.: 1 L

Polymer ID: 626

Dosage: 900 ppm

Press Time: 60 min

Date/Time: 7/21/04, 1430

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	30	30	brown, murky, has sediment
4	50	15	45	slightly yellow, slightly cloudy
6	100	12	57	slightly yellow, clearer
60	100	70	127	yellow, cloudy

Filter Cake Quality: very good, solid

Release from Cloth: good, no blinding

% Solids (w/w): **56.91**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-30

Slurry ID: H1S4B-02

Feed Solids: 25.59%

Sample Vol.: 1 L

Date/Time: 7/22/04, 1430

Tech: MS

Polymer ID: 757

Dosage: 700 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	31	31	initial sediment discharge, cloudy, brown/yellow
4	50	20	51	slightly yellow, clear
6	100	16	67	slightly yellow, clear
60	100	75	142	yellow, slightly cloudy

Filter Cake Quality: very good, solid

Release from Cloth: very good, very slight blinding

% Solids (w/w): **58.27**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-31

Slurry ID: H1S4B-02

Feed Solids: 25.59%

Sample Vol.: 1 L

Polymer ID: 757

Dosage: 800 ppm

Press Time: 60 min

Date/Time: 7/21/04, 1500

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	21	21	murky, has sediment
4	50	16	37	slightly yellow, slightly cloudy
6	100	15	52	slightly yellow, slightly cloudy
60	100	79	131	yellow, slightly cloudy

Filter Cake Quality: very good, solid

Release from Cloth: very good, very slight blinding

% Solids (w/w): **56.74**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-32

Slurry ID: H1S4B-02

Feed Solids: 25.59%

Sample Vol.: 1 L

Date/Time: 7/21/04, 1500

Tech: MS

Polymer ID: 757

Dosage: 900 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	19	19	initial sediment discharge, dirty, yellow/brown
4	50	11	30	slightly cloudy, yellow
6	100	13	43	slightly cloudy, slightly yellow
60	100	79	122	cloudy, yellow

Filter Cake Quality: very good, solid

Release from Cloth: very good, very slight blinding

% Solids (w/w): **57.05**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-33

Slurry ID: H1S4B-02

Feed Solids: 25.59%

Sample Vol.: 1 L

Polymer ID: 624

Dosage: 800 ppm

Press Time: 60 min

Date/Time: 7/21/04, 1545

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	21	21	brown, murky, sediment
4	50	12	33	slightly yellow, slightly cloudy
6	100	10	43	slightly yellow, clearer
60	100	78	121	slightly yellow, slightly cloudy

Filter Cake Quality: good, solid

Release from Cloth: OK, stained, no blinding

% Solids (w/w): **58.26**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-34

Slurry ID: H1S4B-02

Feed Solids: 25.59%

Sample Vol.: 1 L

Polymer ID: 4050

Dosage: 600 ppm

Press Time: 60 min

Date/Time: 7/21/04, 1545

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	23	23	initial sediment discharge, dirty, yellow/brown
4	50	14	37	very slightly cloudy, slightly yellow
6	100	14	51	very slightly cloudy, slightly yellow
60	100	83	134	very slightly cloudy, slightly yellow

Filter Cake Quality: very good, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **58.67**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-35

Slurry ID: H1S4B-02

Feed Solids: 25.59%

Sample Vol.: 1 L

Date/Time: 7/21/04, 1610

Tech: MS

Polymer ID: 4050

Dosage: 700 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	26	26	initial sediment discharge, dirty, yellow/brown
4	50	19	45	slightly cloudy, slightly yellow
6	100	18	63	slightly cloudy, slightly yellow
60	100	84	147	slightly cloudy, yellow

Filter Cake Quality: very good, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **58.08**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-36

Slurry ID: H1S4B-02

Feed Solids: 25.59%

Sample Vol.: 1 L

Polymer ID: 4050

Dosage: 800 ppm

Press Time: 60 min

Date/Time: 7/21/04, 1615

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	22	22	brown, murky, has sediment
4	50	9	31	slightly yellow, slightly cloudy
6	100	13	44	slightly yellow, clearer
60	100	76	120	yellow, slightly cloudy

Filter Cake Quality: very good, solid

Release from Cloth: very good, slight blinding

% Solids (w/w): **57.59**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-37

Slurry ID: H1S3-03

Feed Solids: 12.09%

Sample Vol.: 1 L

Date/Time: 7/22/2004

Tech: SF

Polymer ID: Developmental "E"

Dosage: 300 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	22	22	brown, murky, has sediment
4	50	19	41	slightly yellow, clear
6	100	22	63	slightly yellow, clear
60	100	170	233	slightly yellow, very slightly cloudy

Filter Cake Quality: fair/poor (wet top, soft center)

Release from Cloth: fair, OK - slight blinding

% Solids (w/w): **54.06**

Additional Comments: no clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-38

Slurry ID: H1S3-03

Feed Solids: 12.09%

Sample Vol.: 1 L

Date/Time: 7/22/04, 0850

Tech: MS

Polymer ID: Developmental "E"

Dosage: 400 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	13	13	initial sediment discharge, dirty, brown
4	50	21	34	slightly cloudy, very slightly yellow
6	100	30	64	slightly cloudy, very slightly yellow
60	100	159	223	clear, very slightly yellow

Filter Cake Quality: good, slightly soft

Release from Cloth: very good, very slight blinding

% Solids (w/w): **64.56**

Additional Comments: clogs neck and column

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-39

Slurry ID: H1S3-03

Feed Solids: 12.09%

Sample Vol.: 1 L

Date/Time: 7/22/04, 0900

Tech: MS

Polymer ID: Developmental "E"

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	24	24	initial sediment discharge, dirty, brown
4	50	34	58	very slightly cloudy, colorless
6	100	27	85	very slightly cloudy, colorless
60	100	190	275	clear, very slightly yellow

Filter Cake Quality: good, slightly soft

Release from Cloth: very good, very slight blinding

% Solids (w/w): **61.25**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-40

Slurry ID: H1S3-03

Feed Solids: 12.09%

Sample Vol.: 1 L

Date/Time: 7/22/04, 0900

Tech: SF

Polymer ID: 1224

Dosage: 300 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	38	38	brown, has sediment, murky
4	50	31	69	clear, colorless
6	100	28	97	clear, colorless
60	100	197	294	slightly yellow, slightly cloudy

Filter Cake Quality: good/OK, soft top

Release from Cloth: good, slight blinding in lower half

% Solids (w/w): **59.13**

Additional Comments: no clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-41

Slurry ID: H1S3-03

Feed Solids: 12.09%

Sample Vol.: 1 L

Polymer ID: 1224

Dosage: 400 ppm

Press Time: 60 min

Date/Time: 7/22/04, 1000

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	42	42	brown, murky, has sediment
4	50	44	86	mostly clear and colorless
6	100	40	126	mostly clear and colorless
60	100	109	235	slightly yellow, slightly cloudy

Filter Cake Quality: good, soft top

Release from Cloth: good, very slight blinding

% Solids (w/w): **63.11**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-42

Slurry ID: H1S3-03

Feed Solids: 12.09%

Sample Vol.: 1 L

Date/Time: 7/22/04, 1000

Tech: MS

Polymer ID: 1224

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	34	34	initial sediment discharge, dirty brown
4	50	37	71	very slightly cloudy, colorless
6	100	44	115	very slightly cloudy, colorless
60	100	205	320	very slightly cloudy, very slightly yellow

Filter Cake Quality: good, slightly soft

Release from Cloth: very good, no blinding

% Solids (w/w): **61.23**

Additional Comments: clogged neck and column

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-43

Slurry ID: H1S3-03

Feed Solids: 12.09%

Sample Vol.: 1 L

Polymer ID: 624

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/22/04,

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	19	19	initial sediment discharge, dirty, brown
4	50	26	45	slightly cloudy, slightly yellow
6	100	28	73	very slightly cloudy, very slightly yellow
60	100	168	241	clear, very slightly yellow

Filter Cake Quality: good, slightly soft

Release from Cloth: very good, slight blinding

% Solids (w/w): **59.27**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-44

Slurry ID: H1S3-04

Feed Solids: 13.42%

Sample Vol.: 1 L

Date/Time: 7/22/04, 1030

Tech: SF

Polymer ID: 624

Dosage: 400 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	43	43	brown, murky, has sediment
4	50	22	65	slightly cloudy, very slightly yellow
6	100	24	89	very slightly cloudy, very slightly yellow
60	100	181	270	slightly cloudy, slightly yellow

Filter Cake Quality: fair, wet top

Release from Cloth: OK, slight blinding on bottom half

% Solids (w/w): **45.05**

Additional Comments: no clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-45

Slurry ID: H1S3-04

Feed Solids: 13.42%

Sample Vol.: 1 L

Date/Time: 7/22/04, 1135

Tech: SF

Polymer ID: 624

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	77	77	brown, sediment, murky
4	50	35	112	mostly clear, colorless
6	100	28	140	mostly clear, colorless
60	100	207	347	clear, slightly yellow

Filter Cake Quality: excellent cake

Release from Cloth: excellent, no blinding

% Solids (w/w): **60.18**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-46

Slurry ID: H1S3-04

Polymer ID: 757

Feed Solids: 13.42%

Dosage: 300 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 7/22/2004

Max. Pressure: 100 psi

Tech:

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	43	43	initial sediment discharge, brown, dirty
4	50	44	87	clear, colorless
6	100	49	136	clear, colorless
60	100	155	291	slightly cloudy, slightly yellow

Filter Cake Quality: very good

Release from Cloth: very good, slight blinding

% Solids (w/w): **67.45**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-47

Slurry ID: H1S3-04

Feed Solids: 13.42%

Sample Vol.: 1 L

Polymer ID: 757

Dosage: 400 ppm

Press Time: 60 min

Date/Time: 7/22/04, 1145

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	104	104	initial sediment discharge, brown, dirty
4	50	48	152	slightly cloudy, very slightly yellow
6	100	21	173	clear, very slightly yellow
60	100	115	288	clear, slightly yellow

Filter Cake Quality: good

Release from Cloth: good, slight sticking, slight blinding

% Solids (w/w): **68.69**

Additional Comments: clogs neck and column

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-48

Slurry ID: H1S3-04

Feed Solids: 13.42%

Sample Vol.: 1 L

Date/Time: 7/22/04, 1200

Tech: SF

Polymer ID: 757

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	117	117	brown, murky, sediment
4	50	60	177	mostly clear, very slightly yellow
6	100	42	219	mostly clear, very slightly yellow
60	100	86	305	clear, slightly yellow

Filter Cake Quality: good, slightly soft

Release from Cloth: very good, slight blinding

% Solids (w/w): **61.96**

Additional Comments: clogs neck and column

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-49

Slurry ID: H1S3-04

Feed Solids: 13.42%

Sample Vol.: 1 L

Date/Time: 7/22/2004

Tech: MS

Polymer ID: 4275

Dosage: 300 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	31	31	initial sediment discharge
4	50	40	71	slightly cloudy, slightly yellow
6	100	46	117	slightly cloudy, slightly yellow
60	100	129	246	clear, slightly yellow

Filter Cake Quality: good, slightly soft, wet top

Release from Cloth: good, some sticking, slight blinding

% Solids (w/w): **69.64**

Additional Comments: clogs neck and column

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-50

Slurry ID: H1S3-05

Feed Solids: 16.34%

Sample Vol.: 1 L

Date/Time: 7/22/04, 1245

Tech: JL

Polymer ID: 4275

Dosage: 400 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	65	65	initial sediment discharge, dirty, brown
4	50	84	149	slightly cloudy, slightly yellow
6	100	42	191	clear, colorless
60	100	122	313	clear, colorless

Filter Cake Quality: very good, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **68.00**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-51

Slurry ID: H1S3-05

Feed Solids: 16.34%

Sample Vol.: 1 L

Polymer ID: 4275

Dosage: 500 ppm

Press Time: 60 min

Date/Time: 7/22/04, 1305

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	112	112	initial sediment discharge, dirty brown
4	50	62	174	clear, very slightly yellow
6	100	33	207	clear, very slightly yellow
60	100	111	318	clear, very slightly yellow

Filter Cake Quality: very good, just slightly spongy on top but dry

Release from Cloth: good, just slight blinding on bottom

% Solids (w/w): **68.73**

Additional Comments: very clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-52

Slurry ID: H1S1-07

Feed Solids: 3.94%

Sample Vol.: 2 L

Date/Time: 7/22/04, 1500

Tech: SF

Polymer ID: 1224

Dosage: 60 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	90	90	brown, murky, sediment
4	50	46	136	mostly clear, slightly yellow
6	100	56	192	mostly clear, slightly yellow
60	100	410	602	clear, very slightly yellow

Filter Cake Quality: good, slightly soft, wet top

Release from Cloth: very good, 30% blinded

% Solids (w/w): **67.89**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-53

Slurry ID: H1S1-07

Feed Solids: 3.94%

Sample Vol.: 2 L

Date/Time: 7/22/04, 1405

Tech: MS

Polymer ID: 1224

Dosage: 80 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	99	99	initial sediment discharge, dirty, brown
4	50	62	161	slightly cloudy, colorless
6	100	49	210	clear, colorless
60	100	615	825	clear, colorless

Filter Cake Quality: fair cake, soft top

Release from Cloth: good release, 50% blinded

% Solids (w/w): **64.80**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-54

Slurry ID: H1S1-07

Feed Solids: 3.94%

Sample Vol.: 2 L

Date/Time: 7/22/04, 1415

Tech: SC

Polymer ID: 1224

Dosage: 100 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	87	87	initial sediment in discharge, dirty, brown
4	50	51	138	clear, colorless
6	100	53	191	clear, colorless
60	100	535	726	clear, colorless

Filter Cake Quality: good, slightly soft at top

Release from Cloth: good, 30% blinded

% Solids (w/w): **65.97**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-55

Slurry ID: H1S1-08

Feed Solids: 4.09%

Sample Vol.: 2L

Date/Time: 7/22/04, 1455

Tech: MS

Polymer ID: 757

Dosage: 60 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	73	73	initial sediment in discharge, dirty, brown
4	50	49	122	slightly cloudy, slightly yellow
6	100	47	169	clear, slightly yellow
60	100	222	391	clear, very slightly yellow

Filter Cake Quality: good, soft top

Release from Cloth: good, moderate blinding

% Solids (w/w): **67.92**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-56

Slurry ID: H1S1-08

Feed Solids: 4.09%

Sample Vol.: 2L

Date/Time: 7/22/04, 1530

Tech: JL

Polymer ID: 757

Dosage: 80 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	110	110	initial sediment in discharge, dirty, brown
4	50	63	173	clear, colorless
6	100	51	224	clear, colorless
60	100	400	624	clear, colorless

Filter Cake Quality: fair, slightly wet top

Release from Cloth: good, 40% blinding

% Solids (w/w): **65.06**

Additional Comments: slightly clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-57

Slurry ID: H1S1-08

Feed Solids: 4.09%

Sample Vol.: 2L

Polymer ID: 757

Dosage: 100 ppm

Press Time: 60 min

Date/Time: 7/22/04, 1525

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	120	120	initial sediment in discharge, dirty, brown
4	50	67	187	slightly cloudy, slightly yellow
6	100	59	246	clear, slightly yellow
60	100	428	674	clear, slightly yellow

Filter Cake Quality: good

Release from Cloth: very good, 40% blinding

% Solids (w/w): **64.50**

Additional Comments: cake had soft top

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-58

Slurry ID: H1S1-08

Feed Solids: 4.09%

Sample Vol.: 2L

Date/Time: 7/22/04, 1530

Tech: SC

Polymer ID: Developmental E

Dosage: 60 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	78	78	initial sediment in discharge, dirty, brown
4	50	50	128	clear, colorless
6	100	45	173	clear, colorless
60	100	363	536	clear, colorless

Filter Cake Quality: fair

Release from Cloth: good, 30% blinding

% Solids (w/w): **64.92**

Additional Comments: Top of cake was very soft and wet

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-59

Slurry ID: H1S1-09

Feed Solids: 4.64%

Sample Vol.: 2L

Date/Time: 7/23/04, 0840

Tech: SF

Polymer ID: Developmental E

Dosage: 80 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	57	57	initial sediment in discharge, brown, murky, slightly foamy
4	50	42	99	clear, very slightly yellow, slightly foamy
6	100	39	138	clear, very slightly yellow, slightly foamy
60	100	317	455	slightly cloudy, slightly yellow, slightly foamy

Filter Cake Quality: fair / poor, wet top and center

Release from Cloth: good, blinding

% Solids (w/w): **62.90**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-60

Slurry ID: H1S1-09

Feed Solids: 4.64%

Sample Vol.: 2L

Date/Time: 7/23/04, 0840

Tech: SC

Polymer ID: Developmental E

Dosage: 100 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	78	78	initial sediment in discharge, dirty, brown
4	50	54	132	clear, slightly yellow
6	100	55	187	clear, slightly yellow
60	100	374	561	clear, slightly yellow

Filter Cake Quality: fair

Release from Cloth: good, some blinding

% Solids (w/w): **62.31**

Additional Comments: Top of cake was soft and wet

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-61

Slurry ID: H1S1-09

Feed Solids: 4.64%

Sample Vol.: 2L

Date/Time: 7/23/04, 0900

Tech: SF

Polymer ID: 626

Dosage: 60 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	58	58	initial sediment in discharge, brown, murky
4	50	38	96	slightly cloudy, slightly yellow
6	100	44	140	clear, slightly yellow
60	100	291	431	clear, very slightly yellow

Filter Cake Quality: good, soft, wet top

Release from Cloth: very good, very slight blinding

% Solids (w/w): **66.98**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-62

Slurry ID: H1S1-09

Feed Solids: 4.64%

Sample Vol.: 2L

Date/Time: 7/23/04, 0855

Tech: SC

Polymer ID: 626

Dosage: 80 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	67	67	initial sediment in discharge, dirty, brown
4	50	46	113	clear, colorless
6	100	47	160	clear, colorless
60	100	306	466	clear, colorless

Filter Cake Quality: good

Release from Cloth: good, some blinding

% Solids (w/w): **66.83**

Additional Comments: Top of cake was slightly soft

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-63

Slurry ID: H1S1-09

Feed Solids: 4.64%

Sample Vol.: 2L

Date/Time: 7/23/04, 1000

Tech: SF

Polymer ID: 626

Dosage: 100 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	98	98	initial sediment in discharge, brown, murky
4	50	44	142	slightly cloudy, slightly yellow
6	100	44	186	clear, slightly yellow
60	100	343	529	clear, slightly yellow

Filter Cake Quality: fair / good, soft, wet top

Release from Cloth: good, slight blinding

% Solids (w/w): **64.09**

Additional Comments: clogged column w/ coarse material

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-64

Slurry ID: H1S1-09

Feed Solids: 4.64%

Sample Vol.: 2L

Date/Time: 7/23/04, 1000

Tech: SC

Polymer ID: 4050

Dosage: 60 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	80	80	initial sediment in discharge, dirty, brown
4	50	59	139	clear, colorless
6	100	55	194	clear, colorless
60	100	364	558	clear, colorless

Filter Cake Quality: good

Release from Cloth: good, slight blinding

% Solids (w/w): **65.96**

Additional Comments: Top of cake was slightly soft

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-65

Slurry ID: H1S1-09

Feed Solids: 4.64%

Sample Vol.: 2L

Date/Time: 7/23/04, 1010

Tech: MS

Polymer ID: 4050

Dosage: 80 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	88	88	initial sediment in discharge, brown, dirty
4	50	67	155	slightly cloudy, slightly yellow
6	100	46	201	clear, very slightly yellow
60	100	362	563	clear, very slightly yellow

Filter Cake Quality: good, soft, wet top

Release from Cloth: good, very slight blinding

% Solids (w/w): **65.96**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-66

Slurry ID: H1S1-10

Polymer ID: 4050

Feed Solids: 4.83%

Dosage: 100 ppm

Sample Vol.: 2L

Press Time: 60 min

Date/Time: 7/23/04, 1020

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	101	101	initial sediment in discharge, dirty, brown
4	50	---	---	(Fire Drill in lab, missed reading)
6	100	---	---	(Fire Drill in lab, missed reading)
60	100	446	547	clear, colorless

Filter Cake Quality: good

Release from Cloth: good, very slight blinding

% Solids (w/w): **66.77**

Additional Comments: Top of cake was slightly soft

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-67

Slurry ID: H1S2-05

Feed Solids: 8.46%

Sample Vol.: 1L

Polymer ID: 624

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/23/04, 1120

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	50	50	initial sediment in discharge, dirty, brown
4	50	30	80	clear, colorless
6	100	22	102	clear, colorless
60	100	211	313	clear, colorless

Filter Cake Quality: poor

Release from Cloth: good, some blinding

% Solids (w/w): **37.92**

Additional Comments: cake had very soft center

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-68

Slurry ID: H1S2-05

Feed Solids: 8.46%

Sample Vol.: 1L

Polymer ID: 627

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/23/04, 1125

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	55	55	initial sediment in discharge, brown, dirty
4	50	31	86	slightly cloudy, slightly yellow
6	100	26	112	slightly cloudy, slightly yellow
60	100	210	322	slightly cloudy, slightly yellow

Filter Cake Quality: fair, wet top, soft center

Release from Cloth: good, slight blinding

% Solids (w/w): **47.57**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-69

Slurry ID: H1S2-05

Feed Solids: 8.46%

Sample Vol.: 1L

Polymer ID: Developmental E

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/23/04, 1140

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	49	49	initial sediment in discharge, dirty, brown
4	50	36	85	clear, slightly yellow
6	100	30	115	clear, slightly yellow
60	100	249	364	clear, slightly yellow

Filter Cake Quality: fair / poor

Release from Cloth: good, some blinding

% Solids (w/w): **46.74**

Additional Comments: cake had soft top and center

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-70

Slurry ID: H1S2-05

Feed Solids: 8.46%

Sample Vol.: 1L

Polymer ID: 1224

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/23/04, 1145

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	79	79	initial sediment in discharge, brown, dirty
4	50	47	126	very slightly cloudy, very slightly yellow
6	100	40	166	clear, very slightly yellow
60	100	280	446	clear, very slightly yellow

Filter Cake Quality: very good, solid

Release from Cloth: very good

% Solids (w/w): **55.33**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-71

Slurry ID: H1S2-05

Feed Solids: 8.46%

Sample Vol.: 1L

Polymer ID: 757

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/23/04, 1235

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	85	85	initial sediment in discharge, dirty, brown
4	50	45	130	clear, colorless
6	100	42	172	clear, colorless
60	100	217	389	clear, colorless

Filter Cake Quality: very good, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **57.64**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-72

Slurry ID: H1S2-05

Feed Solids: 8.46%

Sample Vol.: 1L

Polymer ID: 4050

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/23/04, 1245

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	97	97	initial sediment in discharge, brown, dirty
4	50	46	143	mostly clear, very slightly yellow
6	100	44	187	mostly clear, very slightly yellow
60	100	172	359	clear, slightly yellow

Filter Cake Quality: very good, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **58.45**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-73

Slurry ID: H1S2-05

Feed Solids: 8.46%

Sample Vol.: 1L

Polymer ID: 1198

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/23/04, 1255

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	79	79	initial sediment in discharge, brown, dirty
4	50	48	127	clear, slightly yellow
6	100	45	172	clear, slightly yellow
60	100	209	381	clear, slightly yellow

Filter Cake Quality: very good, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **57.20**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-74

Slurry ID: H1S2-05

Feed Solids: 8.46%

Sample Vol.: 1L

Polymer ID: 627/EX

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/23/04, 1350

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	76	76	initial sediment in discharge, brown, dirty
4	50	44	120	slightly cloudy, colorless
6	100	42	162	clear, colorless
60	100	69	231	clear, very slightly yellow

Filter Cake Quality: very good, dry, solid

Release from Cloth: very good, very slight blinding

% Solids (w/w): **60.40**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-75

Slurry ID: H1S2-05

Feed Solids: 8.46%

Sample Vol.: 1L

Date/Time: 7/23/04, 1420

Tech: SC

Polymer ID: 626

Dosage: 300 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	34	34	initial sediment in discharge, brown, dirty
4	50	35	69	clear, slightly yellow
6	100	36	105	clear, slightly yellow
60	100	199	304	clear, slightly yellow

Filter Cake Quality: good, soft top

Release from Cloth: very good, no blinding

% Solids (w/w): **52.88**

Additional Comments: clogs neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-76

Slurry ID: H1S2-05

Feed Solids: 8.46%

Sample Vol.: 1L

Polymer ID: 758

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/23/04, 1425

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	55	55	initial sediment in discharge, brown, dirty
4	50	33	88	cloudy, slightly yellow
6	100	21	109	clear, slightly yellow
60	100	108	217	clear, slightly yellow

Filter Cake Quality: fair, very soft top

Release from Cloth: good, slight blinding

% Solids (w/w): 50.91

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-77

Slurry ID: H1S3-06

Polymer ID: 644

Feed Solids: 12.97%

Dosage: 6000 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 7/24/04, 1015

Max. Pressure: 100 PSI

Tech: HJS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	15	28	28	clear, no sediment
4	25	94	122	slightly yellow sediment
8	50	99	221	clear
14	100	50	271	clear
60	100	31	302	clear

Filter Cake Quality: firm

Release from Cloth: very good, no blinding

% Solids (w/w): **64.29**

Additional Comments: clean cloths, no blinding, sandy feed

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-78

Slurry ID: H1S3-06

Feed Solids: 12.97%

Sample Vol.: 1 L

Polymer ID: 4000 p 644 + 4000 p 4884

Dosage:

Press Time: 50 min

Date/Time: 7/24/04, 1130

Max. Pressure: 100 PSI

Tech: HJS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	15	31	31	slightly yellow, no sediment
4	25	50	81	clear
8	50	33	114	clear
14	100	18	132	clear
50	100	6	138	no filtrate after 45 min

Filter Cake Quality: Fair, somewhat soft

Release from Cloth: very good, no blinding, clean

% Solids (w/w): **62.98**

Additional Comments: solids packed off in neck
each polymer mixed for two minutes

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-79

Slurry ID: H1S3-06

Feed Solids: 12.97

Sample Vol.: 1 L

Polymer ID: Developmental "E"

Dosage: 400 ppm

Press Time: 60 min

Date/Time: 7/26/04, 0915

Max. Pressure: 100 PSI

Tech: JL

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	112	112	initial discharge has sediment; dirty, brown, foamy
4	50	40	152	clear, v. sl. yellow, sl. foamy
6	100	26	178	clear, v. sl. yellow, sl. foamy
60	100	95	273	slightly yellow, mostly clear

Filter Cake Quality: good, soft top

Release from Cloth: very good, no blinding

% Solids (w/w): **70.44**

Additional Comments: very clogged neck and column
sandy feed

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-79 Dup

Slurry ID: H1S3-06

Feed Solids: 12.97

Sample Vol.: 1 L

Date/Time: 7/26/04, 1500

Tech: SC

Polymer ID: Developmental "E"

Dosage: 400 ppm

Press Time: 60 min

Max. Pressure: 100 PSI

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	83	83	initial discharge has sediment; dirty, brown
4	50	27	110	v. sl. yellow, cloudy
6	100	24	134	v. sl. yellow, v. sl. cloudy
60	100	54	188	slightly yellow, clear

Filter Cake Quality: v. good, v. sl. soft top, sandy

Release from Cloth: good release, no blinding, v.sl.sticking

% Solids (w/w): **72.82**

% Solids (w/w) Dup.: **71.68**

Additional Comments: clogged neck and column
sandy feed

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-80

Slurry ID: H1S3-06

Feed Solids: 12.97

Sample Vol.: 1 L

Date/Time: 7/26/04, 1000

Tech: SC

Polymer ID: Developmental "E"

Dosage: 400 ppm

Press Time: 60 min

Max. Pressure: 100 PSI

Filter Cloth: Crosible 85x

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	23	23	no sediment, sl. cloudy, lt. brown
4	50	44	67	clear, v. sl. light brown
6	100	71	138	clear, v. sl. light brown
60	100	115	253	clear, v. sl. light brown

Filter Cake Quality: v. good/excellent

Release from Cloth: v. good, no blind

% Solids (w/w): **72.75**

Additional Comments: clogged neck and column
sandy feed

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-81

Slurry ID: H1S3-06

Feed Solids: 12.97

Sample Vol.: 1 L

Date/Time: 7/26/04, 1015

Tech: SF

Polymer ID: Developmental "E"

Dosage: 400 ppm

Press Time: 60 min

Max. Pressure: 100 PSI

Filter Cloth: Crosible 855x/10

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	40	40	initial discharge has sediment; brown, foamy
4	50	52	92	still dirty, very cloudy
6	100	33	125	mostly colorless, sl. cloudy
60	100	38	163	mostly colorless, sl. cloudy

Filter Cake Quality: good, very sandy, not esp. solid in all spots

Release from Cloth: good release, no blinding

% Solids (w/w): **72.73**

Additional Comments: v. clogged neck and column
sandy feed

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-82

Slurry ID: H1S3-06

Feed Solids: 12.97

Sample Vol.: 1 L

Date/Time: 7/26/2004

Tech: SC

Polymer ID: Developmental "E"

Dosage: 400 ppm

Press Time: 60 min

Max. Pressure: 100 PSI

Filter Cloth: Crosible 85x/15

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	39	39	initial discharge has sediment
4	50	55	94	cloudy, lt. brown
6	100	64	158	sl. cloudy, sl. lt. brown
60	100	141	299	clear, sl. lt. brown

Filter Cake Quality: v. good,

Release from Cloth: good release, no blinding

% Solids (w/w): **69.16**

Additional Comments: clogged neck and column
sandy feed

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-83

Slurry ID: H1S3-06

Feed Solids: 12.97

Sample Vol.: 800 mL

Polymer ID: Developmental "E"

Dosage: 400 ppm

Press Time: 60 min

Date/Time: 7/26/04, 1410

Max. Pressure: 100 PSI

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	27	27	initial discharge has sediment; dirty, brown
4	50	73	100	initial discharge has sediment; dirty, brown
6	100	40	140	clear, sl.lt. brown
60	100	95	235	clear, sl.lt. brown

Filter Cake Quality: excellent

Release from Cloth: good, no blinding

% Solids (w/w): **67.06**

Additional Comments: clogged neck and column
sandy feed

*Filter Press performed as part of the Mixing Substudy.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-84

Slurry ID: H1S3-06

Feed Solids: 12.97

Sample Vol.: 1 L

Date/Time: 7/26/04, 1400

Tech: SC

Polymer ID: Developmental "E"

Dosage: 400 ppm

Press Time: 60 min

Max. Pressure: 125 PSI

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	43	43	initial discharge has sediment; dirty, brown
4	50	62	105	cloudy, sl. lt. brown
6	100	62	167	clear, sl. lt. brown
60	125	171	338	clear, sl. lt. brown

Filter Cake Quality: excellent

Release from Cloth: v. good, no blinding

% Solids (w/w): **71.46**

Additional Comments: clogged neck and column
sandy feed

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-85

Slurry ID: H1S2-07

Feed Solids: 8.53%

Sample Vol.: 1 L

Date/Time: 7/27/04, 0900

Tech: SC

Polymer ID: 757

Dosage: 300 ppm

Press Time: 60 min

Max. Pressure: 100 PSI

Filter Cloth: Crosible 85x

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	47	47	sl. Yellow, clear
4	50	42	89	v. sl. Yellow, clear
6	100	30	119	v. sl. Yellow, clear
60	100	243	362	v. sl. Yellow, clear

Filter Cake Quality: good, small soft spot on top

Release from Cloth: v. good, no blinding

% Solids (w/w): **55.60**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-86

Slurry ID: H1S2-07

Feed Solids: 8.53%

Sample Vol.: 1 L

Date/Time: 7/27/04, 0900

Tech: SF

Polymer ID: 757

Dosage: 300 ppm

Press Time: 60 min

Max. Pressure: 100 PSI

Filter Cloth: Crosible 855x/10

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	29	29	sediment in initial discharge, brown
4	50	42	71	sl. yellow, cloudy
6	100	40	111	sl. yellow, cloudy
60	100	250	361	v. sl. sediment, sl. yellow, sl. cloudy

Filter Cake Quality: v. good, sl. soft top

Release from Cloth: excellent release, no blinding

% Solids (w/w): **57.26**

Additional Comments: sl. clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-87

Slurry ID: H1S2-07

Feed Solids: 8.53%

Sample Vol.: 1 L

Date/Time: 7/27/04, 0910

Tech: SC

Polymer ID: 757

Dosage: 300 ppm

Press Time: 60 min

Max. Pressure: 100 PSI

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	38	38	sediment in initial discharge, brown
4	50	33	71	sl. cloudy, v.sl. Lt. Brown
6	100	32	103	sl. cloudy, v.sl. Lt. Brown
60	100	227	330	clear, sl. yellow

Filter Cake Quality: good, small soft spot on top

Release from Cloth: v. good, no blinding

% Solids (w/w): **54.70**

Additional Comments: soft clog in neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-88

Slurry ID: H1S2-07

Feed Solids: 8.53%

Sample Vol.: 1 L

Date/Time: 7/27/04, 0920

Tech: SF

Polymer ID: 757

Dosage: 300 ppm

Press Time: 60 min

Max. Pressure: 100 PSI

Filter Cloth: Crosible 85x/15

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	47	47	sediment in initial discharge, brown
4	50	37	84	sl. cloudy, sl. Yellow
6	100	35	119	less yellow, clearer
60	100	198	317	v. sl. Yellow, mostly clear

Filter Cake Quality: very good, v.sl. Soft top

Release from Cloth: good, no blinding

% Solids (w/w): **59.24**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-89

Slurry ID: H1S2-07

Feed Solids: 8.53%

Sample Vol.: 1 L

Polymer ID: Developmental E

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/27/04, 1015

Max. Pressure: 125 PSI

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	25	25	sediment in initial discharge, brown
4	50	23	48	cloudy, sl. Yellow
6	100	22	70	cloudy, sl. Yellow
60	125	135	205	v. sl. Yellow, clear

Filter Cake Quality: Poor, incomplete

Release from Cloth: fair, some blinding

% Solids (w/w): N/A - incomplete cake

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-90

Slurry ID: H1S2-07

Feed Solids: 8.53%

Sample Vol.: 1 L

Date/Time: 7/27/04, 1050

Tech: SF

Polymer ID: 757

Dosage: 300 ppm

Press Time: 60 min

Max. Pressure: 125 PSI

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	37	37	sediment , foamy, brown
4	50	35	72	cloudy, v. sl. Yellow, foamy top
6	100	32	104	cloudy, colorless, foamy top
60	125	212	316	v. sl. yellow, mostly clear

Filter Cake Quality: good, sl. soft top

Release from Cloth: good, v. sl. blinding

% Solids (w/w): **58.94**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-91

Slurry ID: H1S2-08

Feed Solids: 7.98%

Sample Vol.: 1 L

Date/Time: 7/27/04, 1120

Tech: SC

Polymer ID: 757

Dosage: 300 ppm

Press Time: 60 min

Max. Pressure: 225 PSI

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	60	60	sediment, dirty, brown
4	50	40	100	sl. cloudy, sl. yellow
6	100	33	133	clear, sl. yellow
60	225	306	439	clear, sl. yellow

Filter Cake Quality: good, soft at top otherwise v. solid

Release from Cloth: v. good, no blinding

% Solids (w/w): **54.63**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-92

Slurry ID: H1S2-08

Feed Solids: 7.98%

Sample Vol.: 1 L

Date/Time: 7/27/04, 1120

Tech: SF

Polymer ID: Developmental E

Dosage: 300 ppm

Press Time: 60 min

Max. Pressure: 225 PSI

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	26	26	sediment, dirty, brown, foamy
4	50	28	54	sl. cloudy, sl. Yellow, foamy top
6	100	27	81	sl. cloudy, sl. Yellow, foamy
60	225	233	314	clear, sl. yellow

Filter Cake Quality: fair, soft top

Release from Cloth: good, some blinding

% Solids (w/w): **48.29**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-93

Slurry ID: H1S2-08

Feed Solids: 7.98%

Sample Vol.: 1 L

Date/Time: 7/27/04, 1430

Tech: SF

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 PSI

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	70	70	sediment, dirty, brown
4	50	46	116	sl. yellow, sl. cloudy
6	100	45	161	clear, colorless
60	225	280	441	clear, colorless

Filter Cake Quality: v. good, solid

Release from Cloth: v. good, some blinding

% Solids (w/w): **57.69**

Additional Comments: soft clog in neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-94

Slurry ID: H1S2-08

Feed Solids: 7.98%

Sample Vol.: 1 L

Polymer ID: 757

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/27/04, 1415

Max. Pressure: 100 PSI

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	56	56	sediment, dirty, brown
4	50	30	86	clear, sl. yellow
6	100	28	114	clear, sl. yellow
60	225	220	334	clear, sl. yellow

Filter Cake Quality: good, sl. soft top

Release from Cloth: good, no blinding

% Solids (w/w): **49.19**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-95

Slurry ID: H1S2-08

Feed Solids: 7.98%

Sample Vol.: 1 L

Polymer ID: 757

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/27/04, 1515

Max. Pressure: 100 PSI

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	25	25	clear, sl. yellow
4	50	20	45	clear, sl. yellow
6	100	14	59	clear, sl. yellow
60	225	140	199	clear, sl. yellow

Filter Cake Quality: poor, liquid center from middle to top

Release from Cloth: good, some blinding (~40%)

% Solids (w/w): **42.35**

Additional Comments: **Used unwashed cloths from BFP-94**

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-96

Slurry ID: H1S2-08

Feed Solids: 7.98%

Sample Vol.: 1 L

Polymer ID: 757

Dosage: 300 ppm

Press Time: 60 min

Date/Time: 7/27/04, 1615

Max. Pressure: 100 PSI

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	18	18	clear, sl. yellow
4	50	13	31	clear, sl. yellow
6	100	25	56	clear, sl. yellow
60	225	201	257	clear, sl. yellow

Filter Cake Quality: fair/poor, very soft top/middle

Release from Cloth: good, some blinding (~40%)

% Solids (w/w): **43.00**

Additional Comments: **Used unwashed cloths from BFP-95**

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-97

Slurry ID: H1S2-08

Feed Solids: 7.98%

Sample Vol.: 1 L

Date/Time: 7/28/04, 1235

Tech: SC

Polymer ID: Dev. E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	76	76	sediment in discharge, dirty, brown
4	50	43	119	clear, slightly yellow
6	100	33	152	clear, slightly yellow
60	100	284	436	clear, slightly yellow

Filter Cake Quality: very good, solid

Release from Cloth: very good, some blinding

% Solids (w/w): **55.67**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-98

Slurry ID: H1S2-08

Feed Solids: 7.98%

Sample Vol.: 1 L

Date/Time: 7/28/04, 1345

Tech: SC

Polymer ID: Dev. E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	72	72	clear, slightly yellow
4	50	38	110	clear, slightly yellow
6	100	34	144	clear, slightly yellow
60	100	285	429	clear, slightly yellow

Filter Cake Quality: good, small soft spot on top

Release from Cloth: good, some blinding (same as BFP-97)

% Solids (w/w): **52.25**

Additional Comments: **used unwashed cloths from BFP-97**

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-99

Slurry ID: H1S2-08

Feed Solids: 7.98%

Sample Vol.: 1 L

Date/Time: 7/28/04, 1500

Tech: SC

Polymer ID: Dev. E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	74	74	clear, slightly yellow
4	50	42	116	clear, slightly yellow
6	100	39	155	clear, slightly yellow
60	100	294	449	clear, slightly yellow

Filter Cake Quality: good, soft spot on top (slightly larger than BFP-98)

Release from Cloth: good, some blinding (same as BFP-97,98)

% Solids (w/w): **51.80**

Additional Comments: **used unwashed cloths from BFP-97,98**

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-100

Slurry ID: H2S2 Settled Solids

Polymer ID: 4050

Feed Solids: 3.22%

Dosage: 20 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/5/2004 15:50

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	92	92	sediment in initial discharge, brown, dirty
4	50	49	141	clear, very slightly yellow
6	100	42	183	clear, very slightly yellow
60	100	315	498	clear, colorless

Filter Cake Quality: fair/good, cake had soft top

Release from Cloth: good, no blinding

% Solids (w/w): **49.16%**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-101

Slurry ID: H2S2 Settled Solids

Polymer ID: 4050

Feed Solids: 3.22%

Dosage: 50 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/5/2004 15:50

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	83	83	sediment in discharge, dirty, brown
4	50	64	147	clear, colorless
6	100	48	195	clear, colorless
60	100	349	544	clear, colorless

Filter Cake Quality: good, very mild, small, softness on top

Release from Cloth: good, no blinding

% Solids (w/w): **55.95%**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-102

Slurry ID: H2S2 Settled Solids

Polymer ID: 4050

Feed Solids: 3.22%

Dosage: 80 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/5/2004 15:50

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	109	109	sediment in discharge, dirty, brown
4	50	69	178	clear, colorless
6	100	57	235	clear, colorless
60	100	302	537	clear, colorless

Filter Cake Quality: very good

Release from Cloth: good, no blinding, slight sticking

% Solids (w/w): **55.75%**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-103

Slurry ID: H2S2 Settled Solids

Polymer ID: 757

Feed Solids: 3.22%

Dosage: 20 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/6/04, 0915

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	90	90	sediment in initial discharge, dirty, brown
4	50	47	137	clear, colorless
6	100	45	182	clear, colorless
60	100	335	517	clear, colorless

Filter Cake Quality: fair, wet top and center, soft throughout

Release from Cloth: good, no blinding

% Solids (w/w): **46.90%**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-104

Slurry ID: H2S2 Settled Solids

Polymer ID: 757

Feed Solids: 3.22%

Dosage: 50 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/6/04, 0945

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	96	96	sediment in initial discharge, dirty, brown
4	50	54	150	slightly cloudy, very slightly yellow
6	100	47	197	colorless, clear
60	100	348	545	colorless, clear

Filter Cake Quality: very good, slightly soft top

Release from Cloth: good, no blinding

% Solids (w/w): **55.35%**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-105

Slurry ID: H2S2 Settled Solids

Polymer ID: 757

Feed Solids: 3.22%

Dosage: 80 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/6/04, 0950

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	121	121	sediment in initial discharge, dirty, brown
4	50	72	193	clear, colorless
6	100	57	250	clear, colorless
60	100	441	691	clear, colorless

Filter Cake Quality: very good, slightly soft top

Release from Cloth: good, very slight sticking, no blinding

% Solids (w/w): **54.13%**

Additional Comments: mostly water left in neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-106

Slurry ID: H2S2 Settled Solids

Polymer ID: 626

Feed Solids: 3.22%

Dosage: 20 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/6/04, 1000

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	44	44	sediment in initial discharge, dirty, brown
4	50	36	80	cloudy, slightly yellow
6	100	49	129	slightly cloudy, very slightly yellow
60	100	274	403	clear, colorless

Filter Cake Quality: fair, wet top and center, soft throughout

Release from Cloth: good, very slight blinding

% Solids (w/w): **44.61%**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-107

Slurry ID: H2S2 Settled Solids

Polymer ID: Developmental "E"

Feed Solids: 3.22%

Dosage: 20 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/6/04, 1335

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	88	88	sediment in initial discharge, dirty, brown
4	50	48	136	clear, colorless
6	100	46	182	clear, colorless
60	100	294	476	clear, colorless

Filter Cake Quality: good/fair, soft top, a little wet

Release from Cloth: good, no blinding

% Solids (w/w): **54.25%**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-108

Slurry ID: H2S2 Settled Solids

Polymer ID: Developmental "E"

Feed Solids: 3.22%

Dosage: 50 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/6/04, 1350

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	60	60	no sediment in initial discharge, cloudy, slightly
4	50	63	123	clear, colorless
6	100	56	179	clear, colorless
60	100	325	504	clear, colorless

Filter Cake Quality: good

Release from Cloth: good, no blinding

% Solids (w/w): **54.36%**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-109

Slurry ID: H2S2 Settled Solids

Polymer ID: Developmental "E"

Feed Solids: 3.22%

Dosage: 80 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/6/04, 1405

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	49	49	very little sediment in initial discharge, cloudy, slightly yellow
4	50	81	130	clear, very slightly yellow
6	100	61	191	clear, colorless
60	100	265	456	clear, colorless

Filter Cake Quality: very good, very slightly soft top

Release from Cloth: slight sticking, no blinding

% Solids (w/w): **59.11%**

Additional Comments:

slightly clogged neck

*last of the feed in the bucket and consequently may have higher solids

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-110

Slurry ID: H2S3 Settled Solids

Polymer ID: Developmental "E"

Feed Solids: 3.94%

Dosage: 100 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/9/04, 1100

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	104	104	clear, colorless
4	50	58	162	clear, colorless
6	100	49	211	clear, colorless
60	100	302	513	clear, colorless

Filter Cake Quality: very good, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **65.77%**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-111

Slurry ID: H2S3 Settled Solids

Polymer ID: Developmental "E"

Feed Solids: 3.94%

Dosage: 70 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/9/04, 1320

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	61	61	sediment in initial discharge, dirty, brown
4	50	49	110	clear, colorless
6	100	43	153	clear, colorless
60	100	320	473	clear, colorless

Filter Cake Quality: good, soft spot on top

Release from Cloth: good, no blinding

% Solids (w/w): **53.38%**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-112

Slurry ID: H2S3 Settled Solids

Polymer ID: Developmental "E"

Feed Solids: 3.94%

Dosage: 130 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/9/04, 1330

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	88	88	sediment in initial discharge, dirty, brown
4	50	56	144	clear, colorless
6	100	48	192	clear, colorless
60	100	274	466	clear, colorless

Filter Cake Quality: very good, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **59.35%**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-113

Slurry ID: H2S3 Settled Solids

Polymer ID: 757

Feed Solids: 3.94%

Dosage: 20 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/9/04, 1420

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	31	31	clear, colorless
4	50	32	63	clear, colorless
6	100	40	103	clear, colorless
60	100	300	403	clear, colorless

Filter Cake Quality: fair, soft top

Release from Cloth: good, no blinding

% Solids (w/w): **56.52%**

Additional Comments: no clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-114

Slurry ID: H2S3 Settled Solids

Polymer ID: 757

Feed Solids: 3.94%

Dosage: 50 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/9/04, 1430

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	72	72	clear, colorless
4	50	58	130	clear, colorless
6	100	47	177	clear, colorless
60	100	352	529	clear, colorless

Filter Cake Quality: good, soft spot on top

Release from Cloth: good, no blinding

% Solids (w/w): **56.30%**

Additional Comments: no clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-115

Slurry ID: H2S3 Settled Solids

Polymer ID: 757

Feed Solids: 3.94%

Dosage: 80 ppm

Sample Vol.: 2 L

Press Time: 60 min

Date/Time: 8/9/04, 1500

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	75	75	slightly cloudy, slightly yellow
4	50	57	132	clear, colorless
6	100	48	180	clear, colorless
60	100	360	540	clear, colorless

Filter Cake Quality: good / fair, soft, wet top

Release from Cloth: good, no blinding

% Solids (w/w): **54.42%**

Additional Comments: slightly clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-116

Slurry ID: H2S4B Settled Solids

Polymer ID: Developmental "E"

Feed Solids: 15.87%

Dosage: 700 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 8/10/04, 1335

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	65	65	colorless, slightly cloudy
4	50	35	100	slightly yellow, slightly cloudy
6	100	31	131	slightly yellow, slightly cloudy
60	100	97	228	slightly yellow, slightly cloudy

Filter Cake Quality: excellent

Release from Cloth: slight sticking, no blinding

% Solids (w/w): **54.16%**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-117

Slurry ID: H2S4B Settled Solids

Polymer ID: Developmental "E"

Feed Solids: 15.87%

Dosage: 800 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 8/10/04, 1335

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	69	69	sediment in initial discharge, dirty, brown
4	50	43	112	clear, slightly yellow
6	100	35	147	clear, slightly yellow
60	100	100	247	clear, yellow

Filter Cake Quality: excellent, solid throughout

Release from Cloth: very good, no blinding

% Solids (w/w): **54.96%**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-118

Slurry ID: H2S4B Settled Solids

Polymer ID: Developmental "E"

Feed Solids: 15.87%

Dosage: 900 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 8/10/04, 1355

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	58	58	slight sediment in initial discharge, murky
4	50	32	90	slightly yellow, slightly cloudy
6	100	29	119	slightly yellow, slightly cloudy
60	100	115	234	yellow, slightly cloudy

Filter Cake Quality: excellent

Release from Cloth: good, very slight sticking, no blinding

% Solids (w/w): **53.82%**

Additional Comments: very clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-119

Slurry ID: H2S4B Settled Solids

Polymer ID: 757

Feed Solids: 15.87%

Dosage: 700 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 8/10/04, 1400

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	64	64	sediment in initial discharge, dirty, brown
4	50	37	101	clear, slight yellow
6	100	37	138	clear, slight yellow
60	100	102	240	clear, slight yellow

Filter Cake Quality: very good, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **53.40%**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-120

Slurry ID: H2S4B Settled Solids

Polymer ID: 757

Feed Solids: 15.87%

Dosage: 800 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 8/10/04, 1450

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	78	78	cloudy, slightly yellow
4	50	45	123	clear, colorless
6	100	43	166	clear, colorless
60	100	93	259	clear, slightly yellow

Filter Cake Quality: excellent, dry, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **54.22%**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-121

Slurry ID: H2S4B Settled Solids

Polymer ID: 757

Feed Solids: 15.87%

Dosage: 900 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 8/10/04, 1500

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	96	96	slight sediment in initial discharge, sl. cloudy, sl. yellow
4	50	36	132	v. sl. cloudy, slightly yellow
6	100	35	167	v. sl. cloudy, slightly yellow
60	100	71	238	cloudy, slightly yellow

Filter Cake Quality: excellent

Release from Cloth: good release, no blinding

% Solids (w/w): **54.02%**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-122

Slurry ID: H2S4B-05

Feed Solids: 4.29%

Sample Vol.: 1 L

Polymer ID: Developmental "E"

Dosage: 30 ppm

Press Time: 60 min

Date/Time: 8/11/04, 0915

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	21	21	sediment in discharge, dirty, brown
4	50	43	64	cloudy, brown
6	100	45	109	clear, colorless
60	100	270	379	clear, colorless

Filter Cake Quality: poor, soft, wet top and center

Release from Cloth: very good release, no blinding

% Solids (w/w): **40.41%**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-123

Slurry ID: H2S4B-05

Feed Solids: 4.29%

Sample Vol.: 1 L

Polymer ID: Developmental "E"

Dosage: 50 ppm

Press Time: 60 min

Date/Time: 8/11/2004

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	43	43	initial sediment discharge, dirty, brown
4	50	48	91	clear, slight yellow
6	100	49	140	clear, slight yellow
60	100	377	517	clear, slight yellow

Filter Cake Quality: fair, soft, wet top

Release from Cloth: very good, slight blinding

% Solids (w/w): **51.63%**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-124

Slurry ID: H2S4B-05

Feed Solids: 4.29%

Sample Vol.: 1 L

Polymer ID: Developmental "E"

Dosage: 70 ppm

Press Time: 60 min

Date/Time: 8/11/04, 1030

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	75	75	sediment in discharge, murky
4	50	44	119	very slight yellow, clear
6	100	43	162	very slight yellow, clear
60	100	311	473	very slight yellow, clear

Filter Cake Quality: fair, wet top, soft center

Release from Cloth: very good release, no blinding

% Solids (w/w): **49.12%**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-125

Slurry ID: H2S4B-05

Feed Solids: 4.29%

Sample Vol.: 1 L

Date/Time: 8/11/04, 1040

Tech: SC

Polymer ID: Developmental "E"

Dosage: 90 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	80	80	sediment in discharge, dirty, brown
4	50	55	135	clear, very slightly yellow
6	100	40	175	clear, very slightly yellow
60	100	351	526	clear, very slightly yellow

Filter Cake Quality: good, soft spot on top

Release from Cloth: very good release, no blinding

% Solids (w/w): **47.58%**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-126

Slurry ID: H2S4B-05

Polymer ID: 757

Feed Solids: 4.29%

Dosage: 30 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 8/11/2004

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	49	49	sediment in initial discharge, dirty, brown
4	50	46	95	clear, slightly yellow
6	100	45	140	clear, slightly yellow
60	100	384	524	clear, slightly yellow

Filter Cake Quality: poor, soft, wet top and center

Release from Cloth: good release, no blinding

% Solids (w/w): **45.40%**

Additional Comments: no clog

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-127

Slurry ID: H2S4B-05

Polymer ID: 757

Feed Solids: 4.29%

Dosage: 50 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 8/11/04, 1050

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	76	76	sediment in discharge, murky, yellow/brown
4	50	44	120	clear, slightly yellow
6	100	41	161	clear, very slightly yellow
60	100	297	458	clear, very slightly yellow

Filter Cake Quality: fair, soft, wet top and center

Release from Cloth: very good release, very slight blinding

% Solids (w/w): **46.29%**

Additional Comments: no clog

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-128

Slurry ID: H2S4B-05

Polymer ID: 757

Feed Solids: 4.29%

Dosage: 70 ppm

Sample Vol.: 1 L

Press Time: 60 min

Date/Time: 8/11/04, 1150

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	99	99	sediment in discharge, murky, brown
4	50	53	152	clear, very slightly yellow
6	100	47	199	clear, very slightly yellow
60	100	361	560	clear, very slightly yellow

Filter Cake Quality: good/fair, soft, wet top

Release from Cloth: very good release, very slight blinding

% Solids (w/w): **49.99%**

Additional Comments: no clog

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-129

Slurry ID: H2S4B-05

Feed Solids: 4.29%

Sample Vol.: 1 L

Polymer ID: 757

Dosage: 90 ppm

Press Time: 60 min

Date/Time: 8/11/04, 1200

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	91	91	sediment in discharge, dirty, brown
4	50	78	169	clear, slightly yellow
6	100	57	226	clear, slightly yellow
60	100	431	657	clear, slightly yellow

Filter Cake Quality: very good, soft top

Release from Cloth: good release, no blinding

% Solids (w/w): **54.59%**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-130

Slurry ID: H2S4B-05

Feed Solids: 4.29%

Sample Vol.: 1 L

Date/Time: 8/11/04, 1200

Tech: SC

Polymer ID: Developmental "E"

Dosage: 180 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	127	127	sediment in discharge, dirty, brown
4	50	73	200	clear, slightly yellow
6	100	54	254	clear, slightly yellow
60	100	622	876	clear, slightly yellow

Filter Cake Quality: very good, dry cake, soft spot on top

Release from Cloth: good release, no blinding

% Solids (w/w): **52.75%**

Additional Comments: blew through 30 seconds before the end of the run.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-131

Slurry ID: H2S4B-05

Feed Solids: 4.29

Sample Vol.: 1 L

Polymer ID: 757

Dosage: 180 ppm

Press Time: 60 min

Date/Time: 8/11/04, 1300

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	104	104	sediment in initial discharge, dirty, brown
4	50	76	180	clear, slightly yellow
6	100	58	238	clear, slightly yellow
60	100	310	548	clear, slightly yellow

Filter Cake Quality: excellent, solid

Release from Cloth: very good, no blinding

% Solids (w/w): **54.43**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP- 132

Slurry ID: H2S4B-05

Feed Solids: 4.29%

Sample Vol.: 1 L

Date/Time: 8/11/04, 1305

Tech: MS

Polymer ID: 4050

Dosage: 90 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	124	124	sediment in initial discharge, dirty, brown
4	50	84	208	clear, slightly yellow
6	100	58	266	clear, slightly yellow
60	100	346	612	clear, slightly yellow

Filter Cake Quality: very good, solid

Release from Cloth: good release, no blinding

% Solids (w/w): **56.93**

Additional Comments: slightly clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-133

Slurry ID: H2S4B-05

Feed Solids: 4.29

Sample Vol.: 1.5 L

Polymer ID: Developmental "E"

Dosage: 120 ppm

Press Time: 60 min

Date/Time: 8/11/04, 1330

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	68	68	sediment in initial discharge, dirty, brown
4	50	60	128	clear, slightly yellow
6	100	45	173	clear, slightly yellow
60	100	275	448	clear, colorless

Filter Cake Quality: excellent, solid, dry

Release from Cloth: very good, no blinding

% Solids (w/w): **54.59**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-134

Slurry ID: H2S4B-05

Feed Solids: 4.29%

Sample Vol.: 1 L

Polymer ID: 4050

Dosage: 70 ppm

Press Time: 60 min

Date/Time: 8/11/04, 1330

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	121	121	sediment in initial discharge, dirty, brown
4	50	64	185	clear, very slightly yellow
6	100	53	238	clear, colorless
60	100	605	843	clear, slightly yellow

Filter Cake Quality: fair/good, soft top and center

Release from Cloth: very good, very slight sticking

% Solids (w/w): **52.72%**

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-135

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1.5 L

Polymer ID: 757

Dosage: 120 ppm

Press Time: 60 min

Date/Time: 8/11/04, 1430

Max. Pressure: 100 psi

Tech: MS

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	100	100	sediment in initial discharge, dirty, brown
4	50	58	158	clear, moderately yellow
6	100	46	204	clear, moderately yellow
60	100	367	571	clear, moderately yellow

Filter Cake Quality: good, soft top

Release from Cloth: very good, no blinding

% Solids (w/w): **54.01**

Additional Comments: no clogs

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-136

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1 L

Date/Time: 8/11/04, 1455

Tech: SF

Polymer ID: 4050

Dosage: 110 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	120	120	sediment in initial discharge, then cloudy / slightly yellow
4	50	54	174	clear, colorless
6	100	48	222	clear, colorless
60	100	521	743	clear, colorless

Filter Cake Quality: fair/poor, wet top, soft center

Release from Cloth: poor, stuck, no blinding

% Solids (w/w): **43.51**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-137

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1 L

Date/Time: 8/11/2004

Tech: MS

Polymer ID: 1224

Dosage: 90

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	80	80	initial sediment discharge, dirty, brown
4	50	64	144	clear, slightly yellow
6	100	51	195	clear, slightly yellow
60	100	390	585	clear, slightly yellow

Filter Cake Quality: fair - soft, wet top and center

Release from Cloth: very good, very slight blinding

% Solids (w/w): **50.34**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-138

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1 L

Date/Time: 8/11/2004

Tech: MS

Polymer ID: 1224

Dosage: 110 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	117	117	initial sediment discharge, dirty, brown
4	50	70	187	clear, slightly yellow
6	100	52	239	clear, slightly yellow
60	100	429	668	clear, slightly yellow

Filter Cake Quality: good, slightly soft top

Release from Cloth: very good, very slight blinding

% Solids (w/w): **56.11**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-139

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1 L

Date/Time: 8/11/04, 1345

Tech: SF

Polymer ID: 626

Dosage: 90 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	97	97	sediment in initial discharge, dirty, brown
4	50	49	146	slightly cloudy, slightly yellow
6	100	36	182	clear, slightly yellow
60	100	353	535	clear, slightly yellow

Filter Cake Quality: poor / fair, soft, wet top and center

Release from Cloth: very good, no blinding

% Solids (w/w): **43.87**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-140

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1 L

Date/Time: 8/12/04, 0910

Tech: SF

Polymer ID: 626

Dosage: 110 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	105	105	sediment in initial discharge, cloudy, dirty
4	50	45	150	clear, very slightly yellow
6	100	39	189	clear, very slightly yellow
60	100	350	539	clear, very slightly yellow

Filter Cake Quality: poor, wet top and center

Release from Cloth: good release, very slightly blinded

% Solids (w/w): **41.95**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-141

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1 L

Polymer ID: 626

Dosage: 130 ppm

Press Time: 60 min

Date/Time: 8/12/04, 0910

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	85	85	sediment in initial discharge, dirty, brown
4	50	53	138	clear, slightly yellow
6	100	44	182	clear, slightly yellow
60	100	385	567	clear, slightly yellow

Filter Cake Quality: fair, soft top and center

Release from Cloth: very good, no blind

% Solids (w/w): **42.99**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-142

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1 L

Date/Time: 8/11/04, 0930

Tech: SF

Polymer ID: 1224

Dosage: 130 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	128	128	sediment in initial discharge, cloudy, dirty
4	50	66	194	clear, very slightly yellow
6	100	49	243	clear, very slightly yellow
60	100	615	858	clear, very slightly yellow

Filter Cake Quality: fair, wet top, soft throughout

Release from Cloth: fair, sticking

% Solids (w/w): **42.57**

Additional Comments: no clogging, about to blow through.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-143

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1 L

Polymer ID: 626

Dosage: 180 ppm

Press Time: 60 min

Date/Time: 8/12/04, 1030

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	113	113	sediment in initial discharge, dirty, brown
4	50	67	180	clear, slightly yellow
6	100	52	232	clear, slightly yellow
60	100	532	764	clear, slightly yellow

Filter Cake Quality: good / fair, soft top and center

Release from Cloth: very good, no blind

% Solids (w/w): **45.02**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-144

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1.5 L

Polymer ID: Developmental "E"

Dosage: 120 ppm

Press Time: 45 min

Date/Time: 8/12/04, 1200

Max. Pressure: 100 psi

Tech: SF

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	121	121	sediment in initial discharge, dirty, light brown
4	50	54	175	clear, colorless
6	100	38	213	clear, colorless
45	100	384	597	clear, colorless

Filter Cake Quality: fair, soft top and center

Release from Cloth: very good, no blinding

% Solids (w/w): **45.27**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-145

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1.5 L

Polymer ID: Developmental "E"

Dosage: 120 ppm

Press Time: 90 min

Date/Time: 8/12/04, 1200

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	87	87	sediment in initial discharge, dirty, brown
4	50	65	152	clear, slightly yellow
6	100	50	202	clear, slightly yellow
90	100	294	496	clear, slightly yellow

Filter Cake Quality: excellent

Release from Cloth: good, very slight sticking, no blind

% Solids (w/w): **55.95**

Additional Comments: clogged neck.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-146

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1 L

Date/Time: 8/12/04, 1420

Tech: SC

Polymer ID: Developmental "E"

Dosage: 120 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	111	111	sediment in initial discharge, dirty, brown
4	50	61	172	clear, slightly yellow
6	100	50	222	clear, slightly yellow
60	100	435	657	clear, slightly yellow

Filter Cake Quality: fair, soft top and center

Release from Cloth: very good, no blinding

% Solids (w/w): **45.59**

Additional Comments: no clogging

*Filter Press performed as part of the Mixing Substudy.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-147

Slurry ID: H2S4B-07

Feed Solids: 4.81%

Sample Vol.: 1.5 L

Polymer ID: Developmental "E"

Dosage: 120 ppm

Press Time: 60 min

Date/Time: 8/16/04, 1030

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	112	112	little sediment in initial discharge, cloudy, brown
4	50	70	182	clear, slightly yellow
6	100	58	240	clear, slightly yellow
60	100	222	462	clear, slightly yellow

Filter Cake Quality: very good, crumbly

Release from Cloth: very good, no blind

% Solids (w/w): **58.07**

Additional Comments: clogged neck.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-148

Slurry ID: S4-HC-10-OF

Feed Solids: 4.01%

Sample Vol.: 1.5 L

Polymer ID: Developmental E

Dosage: 100 ppm

Press Time: 60 min

Date/Time: 9/1/04 0930

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	27	27	sediment in initial discharge, dirty, brown
4	50	27	54	slightly cloudy, slightly yellow
6	100	26	80	clear, slightly yellow
60	100	209	289	clear, slightly yellow

Filter Cake Quality: very poor, incomplete

Release from Cloth: good, no blinding

% Solids (w/w): n/a

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-149

Slurry ID: S4-HC-10-OF

Feed Solids: 4.01%

Sample Vol.: 1.5 L

Polymer ID: Developmental E

Dosage: 130 ppm

Press Time: 60 min

Date/Time: 9/1/04 1000

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	29	29	sediment in initial discharge, dirty, brown
4	50	32	61	slightly cloudy, slightly yellow
6	100	28	89	slightly cloudy, slightly yellow
60	100	212	301	clear, slightly yellow

Filter Cake Quality: very poor, incomplete

Release from Cloth: good, no blinding

% Solids (w/w): n/a

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-150

Slurry ID: S4-HC-10-OF

Feed Solids: 4.01%

Sample Vol.: 1.5 L

Polymer ID: Developmental E

Dosage: 220 ppm

Press Time: 60 min

Date/Time: 9/1/04 1100

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	61	61	sediment in initial discharge, dirty, brown
4	50	39	100	slightly cloudy, slightly yellow
6	100	32	132	clear, slightly yellow
60	100	270	402	clear, slightly yellow

Filter Cake Quality: fair / poor - very soft through top and center

Release from Cloth: v. good, no blinding

% Solids (w/w): **36.61**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-151

Slurry ID: S4-HC-10-OF

Feed Solids: 4.01%

Sample Vol.: 1.5 L

Polymer ID: Developmental E

Dosage: 280 ppm

Press Time: 60 min

Date/Time: 9/1/04 1400

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	50	50	sediment in initial discharge, dirty, brown
4	50	48	98	clear, slightly yellow
6	100	39	137	clear, slightly yellow
60	100	294	431	clear, slightly yellow

Filter Cake Quality: fair - soft top and center

Release from Cloth: v. good, no blinding

% Solids (w/w): **37.41**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-152

Slurry ID: S4-HC-10-OF

Feed Solids: 4.01%

Sample Vol.: 1.5 L

Polymer ID: Developmental E

Dosage: 380 ppm

Press Time: 60 min

Date/Time: 9/1/04 1500

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	92	92	cloudy, slightly yellow
4	50	52	144	clear, slightly yellow
6	100	44	188	clear, slightly yellow
60	100	353	541	clear, slightly yellow

Filter Cake Quality: v. good, slightly soft top

Release from Cloth: v. good, no blind

% Solids (w/w): **48.69**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-153

Slurry ID: S4-HC-10-OF

Feed Solids: 4.01%

Sample Vol.: 1.5 L

Polymer ID: Developmental E

Dosage: 450 ppm

Press Time: 60 min

Date/Time: 9/2/04 0900

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	101	101	clear, slightly yellow
4	50	58	159	clear, slightly yellow
6	100	49	208	clear, slightly yellow
60	100	373	581	clear, slightly yellow

Filter Cake Quality: v. good, soft spot on top

Release from Cloth: v. good, no blinding

% Solids (w/w): **50.26**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-154

Slurry ID: S4-HC-10-OF

Feed Solids: 4.01%

Sample Vol.: 1.5 L

Polymer ID: Developmental E

Dosage: 480 ppm

Press Time: 60 min

Date/Time: 9/2/04 1000

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	110	110	clear, slightly yellow
4	50	70	180	clear, slightly yellow
6	100	55	235	clear, slightly yellow
60	100	357	592	clear, slightly yellow

Filter Cake Quality: excellent, solid throughout

Release from Cloth: v. good, no blinding

% Solids (w/w): **54.39**

Additional Comments: soft clog in neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-155

Slurry ID: S4-HC-10-OF

Feed Solids: 4.01%

Sample Vol.: 1.5 L

Polymer ID: Developmental E

Dosage: 550 ppm

Press Time: 60 min

Date/Time: 9/2/04 1315

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	121	121	clear, slightly yellow
4	50	65	186	clear, slightly yellow
6	100	53	239	clear, slightly yellow
60	100	353	592	clear, slightly yellow

Filter Cake Quality: excellent, solid throughout

Release from Cloth: v. good, no blinding

% Solids (w/w): **54.38**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-156

Slurry ID: S4-HC-15-OF

Feed Solids: 6.31%

Sample Vol.: 1 L

Date/Time: 9/2/04 1345

Tech: SC

Polymer ID: Developmental E

Dosage: 400 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	30	30	slightly cloudy, slightly yellow
4	50	29	59	clear, slightly yellow
6	100	25	84	clear, colorless
60	100	205	289	clear, colorless

Filter Cake Quality: fair / poor, soft top and middle

Release from Cloth: v. good, no blinding

% Solids (w/w): **35**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-157

Slurry ID: S4-HC-15-OF

Feed Solids: 6.31%

Sample Vol.: 1 L

Date/Time: 9/2/04 1500

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	53	53	sediment in initial discharge, dirty brown
4	50	30	83	clear, slightly yellow
6	100	25	108	clear, slightly yellow
60	100	228	336	clear, slightly yellow

Filter Cake Quality: good / fair, soft top

Release from Cloth: v. good, no blinding

% Solids (w/w): **40.5**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-158

Slurry ID: S4-HC-15-OF

Feed Solids: 6.31%

Sample Vol.: 1 L

Date/Time: 9/2/04 1530

Tech: SC

Polymer ID: Developmental E

Dosage: 600 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	58	58	sediment in initial discharge, dirty brown
4	50	39	97	clear, colorless
6	100	31	128	clear, colorless
60	100	278	406	clear, colorless

Filter Cake Quality: good, soft spot on top

Release from Cloth: v. good, no blinding

% Solids (w/w): **46.36**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-159

Slurry ID: S4-HC-15-OF

Feed Solids: 6.31%

Sample Vol.: 1 L

Polymer ID: Developmental E

Dosage: 700 ppm

Press Time: 60 min

Date/Time: 9/3/04 900

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	60	60	slightly cloudy, slightly yellow
4	50	43	103	clear, colorless
6	100	30	133	clear, colorless
60	100	287	420	clear, colorless

Filter Cake Quality: v. good, soft spot on top

Release from Cloth: v. good, no blinding

% Solids (w/w): **46.02**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-160

Slurry ID: S4-HC-15-OF

Feed Solids: 6.31%

Sample Vol.: 1 L

Polymer ID: Developmental E

Dosage: 800 ppm

Press Time: 60 min

Date/Time: 9/3/04 930

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	68	68	little sediment in initial discharge, cloudy, slightly
4	50	44	112	clear, colorless
6	100	37	149	clear, colorless
60	100	318	467	clear, colorless

Filter Cake Quality: excellent, solid throughout

Release from Cloth: v. good, no blinding

% Solids (w/w): **47.65**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-161

Slurry ID: S4-HC-15-OF

Feed Solids: 6.31%

Sample Vol.: 1 L

Polymer ID: Developmental E

Dosage: 900 ppm

Press Time: 60 min

Date/Time: 9/3/04 1030

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	84	84	clear, slightly yellow
4	50	47	131	clear, slightly yellow
6	100	40	171	clear, slightly yellow
60	100	317	488	clear, slightly yellow

Filter Cake Quality: excellent, solid throughout

Release from Cloth: v. good, no blinding

% Solids (w/w): **50.19**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-162

Slurry ID: S4-HC-10-OF

Feed Solids: 4.01%

Sample Vol.: 1.5 L

Polymer ID: 757

Dosage: 480 ppm

Press Time: 60 min

Date/Time: 9/2/04 1345

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	140	140	clear, slightly yellow
4	50	70	210	clear, slightly yellow
6	100	57	267	clear, slightly yellow
60	100	534	801	clear, slightly yellow

Filter Cake Quality: excellent, dry, crumbly

Release from Cloth: v. good, no blind

% Solids (w/w): **52.92**

Additional Comments: no clogging

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-163

Slurry ID: S4-HC-15-OF

Feed Solids: 6.31%

Sample Vol.: 1 L

Polymer ID: 757

Dosage: 800 ppm

Press Time: 60 min

Date/Time: 9/3/04 1415

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	76	76	clear, colorless
4	50	52	128	clear, colorless
6	100	43	171	clear, colorless
60	100	312	483	clear, colorless

Filter Cake Quality: excellent, dry, crumbly

Release from Cloth: v. good, no blinding

% Solids (w/w): **50.91**

Additional Comments: soft clog in neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-164

Slurry ID: H1S4A-01

Feed Solids: 9.03%

Sample Vol.: 1 L

Date/Time: 9/17/04 1020

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	99	99	clear, colorless
4	50	60	159	clear, colorless
6	100	49	208	clear, colorless
60	100	189	397	clear, colorless

Filter Cake Quality: excellent, solid, dry

Release from Cloth: v. good, no blinding

% Solids (w/w): **57.94**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-165

Slurry ID: H1S4A-01

Feed Solids: 9.03%

Sample Vol.: 1 L

Date/Time: 9/17/04 1040

Tech: SC

Polymer ID: Developmental E

Dosage: 600 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	102	102	clear, colorless
4	50	60	162	clear, colorless
6	100	49	211	clear, colorless
60	100	217	428	clear, colorless

Filter Cake Quality: excellent, solid, dry

Release from Cloth: v. good, no blinding

% Solids (w/w): **57.19**

Additional Comments: clogged neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-166

Slurry ID: H1S4A-01

Feed Solids: 9.03%

Sample Vol.: 1 L

Date/Time: 9/17/04 1330

Tech: SC

Polymer ID: Developmental E

Dosage: 400 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	91	91	clear, colorless
4	50	54	145	clear, colorless
6	100	43	188	clear, colorless
60	100	215	403	clear, colorless

Filter Cake Quality: excellent, hard cake

Release from Cloth: v. good, no sticking or blinding

% Solids (w/w): **58.95**

Additional Comments: soft clog in neck

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-167

Slurry ID: H1S4A-01

Feed Solids: 9.03%

Sample Vol.: 1 L

Date/Time: 9/17/04 1350

Tech: SC

Polymer ID: Developmental E

Dosage: 300 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	76	76	clear, colorless
4	50	47	123	clear, colorless
6	100	40	163	clear, colorless
60	100	148	311	clear, colorless

Filter Cake Quality: v. good, slightly soft top

Release from Cloth: v. good, no sticking or blinding

% Solids (w/w): **55.79**

Additional Comments: soft clog in neck

Hudson River Treatability Study

Bench Filter Press Data Summary

Test ID	Slurry ID	Feed % Solids	Polymer	Dose (ppm)	Time / Pressure	Cake % Solids	Cake Quality
BFP-168	S2-2-07 < #100	3.84	Dev "E"	500	60 min / 100 psi	46.13	Fair
BFP-169	S2-2-07 < #200	3.84	Dev "E"	500	60 min / 100 psi	48.85	Good
BFP-170	S2-2-07 < #400	3.84	Dev "E"	500	60 min / 100 psi	45.38	Good
BFP-171	S2-2-07 < #100	5.00	Dev "E"	500	60 min / 100 psi	57.13	Very good
BFP-172	S2-2-07 < #100	10.00	Dev "E"	500	60 min / 100 psi	65.82	Excellent
BFP-173	S2-2-07 < #100	14.90	Dev "E"	500	60 min / 100 psi	66.73	Excellent
BFP-174	S2-2-07 < #100	3.84	Dev "E"	500	60 min / 100 psi	--	Very Poor
BFP-175	S2-2-07 < #100	3.84	Dev "E"	500	120 min / 100 psi	55.06	Good
BFP-176	S2-2-07 < #200	3.84	Dev "E"	500	120 min / 100 psi	52.33	Very good
BFP-177	S2-2-07 < #400	3.84	Dev "E"	500	120 min / 100 psi	50.05	Very good
BFP-178	S2-2-07 < #100	3.84	Dev "E"	500	120 min / 100 psi	63.03	Excellent
BFP-179	S2-2-07 < #100	5.00	Dev "E"	500	120 min / 100 psi	63.38	Excellent
BFP-180	S2-2-07 < #100	10.00	Dev "E"	500	120 min / 100 psi	64.56	Excellent
BFP-181	S2-2-08 < #100	14.35	Dev "E"	500	120 min / 100 psi		Excellent
BFP-182	S2-2-08 < #100	3.84	Dev "E"	500	60 min / 100 psi		Good
BFP-183	S2-2-07 < #200	3.84	Dev "E"	500	180 min / 100 psi		
BFP-184	S2-2-07 < #400	3.84	Dev "E"	500	180 min / 100 psi		

Hudson River Treatability Study

Bench Filter Press Data Summary

Test ID	Slurry ID	Feed % Solids	Polymer	Dose (ppm)	Time / Pressure	Cake % Solids	Cake Quality
BFP-182	S2-2-08 < #100	3.84	Dev "E"	500	60 min / 100 psi		Good
BFP-178	S2-2-07 < #100	3.84	Dev "E"	500	120 min / 100 psi	63.03	Excellent
BFP-169	S2-2-07 < #200	3.84	Dev "E"	500	60 min / 100 psi	48.85	Good
BFP-176	S2-2-07 < #200	3.84	Dev "E"	500	120 min / 100 psi	52.33	Very good
BFP-183	S2-2-07 < #200	3.84	Dev "E"	500	180 min / 100 psi		
BFP-170	S2-2-07 < #400	3.84	Dev "E"	500	60 min / 100 psi	45.38	Good
BFP-177	S2-2-07 < #400	3.84	Dev "E"	500	120 min / 100 psi	50.05	Very good
BFP-184	S2-2-07 < #400	3.84	Dev "E"	500	180 min / 100 psi		

Fast mix used to keep coarse suspended
Fast mix used to keep coarse suspended

Test ID	Slurry ID	Feed % Solids	Polymer	Dose (ppm)	Time / Pressure	Cake % Solids	Cake Quality
BFP-171	S2-2-07 < #100	5.00	Dev "E"	500	60 min / 100 psi	57.13	Very good
BFP-179	S2-2-07 < #100	5.00	Dev "E"	500	120 min / 100 psi	63.38	Excellent
BFP-172	S2-2-07 < #100	10.00	Dev "E"	500	60 min / 100 psi	65.82	Excellent
BFP-180	S2-2-07 < #100	10.00	Dev "E"	500	120 min / 100 psi	64.56	Excellent
BFP-173	S2-2-07 < #100	14.90	Dev "E"	500	60 min / 100 psi	66.73	Excellent
BFP-181	S2-2-08 < #100	14.35	Dev "E"	500	120 min / 100 psi		Excellent

Blew through at 105 min.

Test ID	Slurry ID	Feed % Solids	Polymer	Dose (ppm)	Time / Pressure	Cake % Solids	Cake Quality
BFP-168	S2-2-07 < #100	3.84	Dev "E"	500	60 min / 100 psi	46.13	Fair
BFP-174	S2-2-07 < #100	3.84	Dev "E"	500	60 min / 100 psi	--	Very Poor
BFP-175	S2-2-07 < #100	3.84	Dev "E"	500	120 min / 100 psi	55.06	Good

Coarse solids drop out in feed chamber, sample not filter pressing properly. BFP-175 blew through at 78 min. Attempt fast mix in chamber for future presses w/ this feed.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-168

Slurry ID: S2-2-07 <#100

Feed Solids: 3.84%

Sample Vol.: 1.5 L

Date/Time: 6/1/05 1220

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	210	210	Sediment in initial discharge. Clear, colorless
4	50	98	308	Clear, colorless
6	100	76	384	Clear, colorless
60	100	945	1329	Clear, colorless

Filter Cake Quality: Fair

Release from Cloth: Good, some sticking, little bit of blinding

% Solids (w/w): **46.13**

Additional Comments: Cake had a wet top and middle.
Feed did not press properly -- coarse solids drop out in feed chamber.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-169

Slurry ID: S2-2-07 <#200

Feed Solids: 3.84%

Sample Vol.: 1.5 L

Date/Time: 6/1/05 1240

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	118	118	Sediment in initial discharge. Clear, colorless
4	50	58	176	Clear, colorless
6	100	46	222	Clear, colorless
60	100	390	612	Clear, colorless

Filter Cake Quality: Good

Release from Cloth: Good, no blinding

% Solids (w/w): **48.85**

Additional Comments: Firm cake with a soft spot on top. Partially clogged neck.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-170

Slurry ID: S2-2-07 <#400

Feed Solids: 3.84%

Sample Vol.: 1.5 L

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 60 min

Date/Time: 6/1/05 1300

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	80	80	Sediment in initial discharge. Clear, colorless
4	50	42	122	Clear, colorless
6	100	35	157	Clear, colorless
60	100	260	417	Clear, colorless

Filter Cake Quality: Good

Release from Cloth: Good, no blinding

% Solids (w/w): **45.38**

Additional Comments: Firm cake with a soft spot on top.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-171

Slurry ID: S2-2-07 <#100

Feed Solids: 5.00%

Sample Vol.: 1.5 L

Date/Time: 6/1/2005 1510

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	200	200	Clear, colorless
4	50	110	310	Clear, colorless
6	100	63	373	Clear, colorless
60	100	793	1166	Clear, colorless

Filter Cake Quality: Very good

Release from Cloth: Good, some sticking, no blinding

% Solids (w/w): **57.13**

Additional Comments: Soft spot on top. Soft clog in neck.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-172

Slurry ID: S2-2-07 <#100

Feed Solids: 10.00%

Sample Vol.: 1.5 L

Date/Time: 6/1/2005 1515

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	105	105	Sediment in initial discharge. Clear, colorless
4	50	57	162	Clear, colorless
6	100	50	212	Clear, colorless
60	100	155	367	Clear, colorless

Filter Cake Quality: Excellent

Release from Cloth: Very good, no blinding

% Solids (w/w): **65.82**

Additional Comments: Very hard cake. Clogged neck.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-173

Slurry ID: S2-2-07 <#100

Feed Solids: 15.00%

Sample Vol.: 1.5 L

Date/Time: 6/1/2005 1525

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	53	53	Sediment in initial discharge. Clear, colorless
4	50	51	104	Clear, colorless
6	100	37	141	Clear, colorless
60	100	184	325	Clear, colorless

Filter Cake Quality: Excellent

Release from Cloth: Very good, no blinding

% Solids (w/w): **66.73**

Additional Comments: Very hard cake. Hard clog in neck.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-174

Slurry ID: S2-2-07 <#100

Feed Solids: 3.84%

Sample Vol.: 1.5 L

Date/Time: 6/2/2005 0915

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	174	174	Sediment in initial discharge. Clear, colorless
4	50	86	260	Clear, colorless
6	100	85	345	Clear, colorless
60	100	766	1111	Clear, colorless

Filter Cake Quality: Very Poor

Release from Cloth: Good, no blinding

% Solids (w/w):

Additional Comments: Cake had a soft, wet middle and top.
Feed did not press properly -- coarse solids drop out in feed chamber.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-175

Slurry ID: S2-2-07 <#100

Feed Solids: 3.84%

Sample Vol.: 1.5 L

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 120 min

Date/Time: 6/2/2005 0930

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	210	210	Clear, colorless
4	50	90	300	Clear, colorless
6	100	74	374	Clear, colorless
120	100	1040	1414	Clear, colorless

Filter Cake Quality: Good

Release from Cloth: Good, some sticking, a little blinding

% Solids (w/w): **55.06**

Additional Comments: Blew through at 1:18. Cake had a soft top.
Feed did not press properly -- coarse solids drop out in feed chamber.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-176

Slurry ID: S2-2-07 <#200

Feed Solids: 3.84%

Sample Vol.: 1.5 L

Date/Time: 6/2/2005 0940

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 120 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	110	110	Clear, colorless
4	50	43	153	Clear, colorless
6	100	40	193	Clear, colorless
120	100	1014	1207	Clear, colorless

Filter Cake Quality: Very good

Release from Cloth: Very good, no blinding

% Solids (w/w): **52.33**

Additional Comments: Solid cake with a soft spot on top.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-177

Slurry ID: S2-2-07 <#400

Feed Solids: 3.84%

Sample Vol.: 1.5 L

Date/Time: 6/1/2005 1000

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 120 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	50	50	Sediment in initial discharge. Clear, colorless
4	50	40	90	Clear, colorless
6	100	41	131	Clear, colorless
120	100	452	583	Clear, colorless

Filter Cake Quality: Very good

Release from Cloth: Very good, no blinding

% Solids (w/w): **50.05**

Additional Comments: Solid throughout.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-178

Slurry ID: S2-2-07 <#100

Feed Solids: 3.84%

Sample Vol.: 2 L

Date/Time: 6/1/2005 1210

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 120 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	189	189	Sediment in initial discharge. Clear, colorless
4	50	70	259	Clear, colorless
6	100	46	305	Clear, colorless
120	100	510	815	Clear, colorless

Filter Cake Quality: Excellent

Release from Cloth: Excellent, no blinding

% Solids (w/w): **63.03**

Additional Comments: Hard, dry cake. Soft clog in neck.
Feed was mixed at high speed to suspend coarse solids.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-179

Slurry ID: S2-2-07 <#100

Feed Solids: 5.00%

Sample Vol.: 1.5 L

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 120 min

Date/Time: 6/2/2005 1415

Max. Pressure: 100 psi

Tech: SC

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	156	156	Sediment in initial discharge. Clear, colorless
4	50	67	223	Clear, colorless
6	100	42	265	Clear, colorless
120	100	1091	1356	Clear, colorless

Filter Cake Quality: Excellent

Release from Cloth: Excellent, no blinding

% Solids (w/w): **63.38**

Additional Comments: Blew through at 1:45. Cake was hard and dry. Soft clog in nec

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-180

Slurry ID: S2-2-07 <#100

Feed Solids: 10.00%

Sample Vol.: 1.5 L

Date/Time: 6/2/2005 1425

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 120 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	88	88	Sediment in initial discharge. Clear, colorless
4	50	55	143	Clear, colorless
6	100	40	183	Clear, colorless
120	100	216	399	Clear, colorless

Filter Cake Quality: Excellent

Release from Cloth: Excellent, no blinding

% Solids (w/w): **64.56**

Additional Comments: Hard, dry cake. Very clogged neck of mold and tank.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-181

Slurry ID: S2-2-08 <#100

Feed Solids: 14.35%

Sample Vol.: 1.5 L

Date/Time: 6/3/2005 0850

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 120 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	59	59	Sediment in initial discharge. Clear, colorless
4	50	50	109	Clear, colorless
6	100	50	159	Clear, colorless
60	100	140	299	Clear, colorless

Filter Cake Quality: Excellent

Release from Cloth: Very good, no blinding

% Solids (w/w):

Additional Comments: Cake was hard throughout. Very clogged neck.
Filtrate flow ceased at 1:10.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-182

Slurry ID: S2-2-08 <#100

Feed Solids: 3.84%

Sample Vol.: 1.5 L

Date/Time: 6/3/2005 1010

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 60 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	302	302	Sediment in initial discharge. Clear, colorless
4	50	162	464	Clear, colorless
6	100	129	593	Clear, colorless
60	100	772	1365	Clear, colorless

Filter Cake Quality: Good

Release from Cloth: Good, some sticking, no blinding

% Solids (w/w):

Additional Comments: Solid cake with a soft top into middle. Soft clog in neck.
Feed was mixed at high speed to suspend coarse solids.

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-183

Slurry ID: S2-2-07 <#200

Feed Solids: 3.84%

Sample Vol.: 2 L

Date/Time: 6/3/2005 1010

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 180 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	110	110	Sediment in initial discharge. Clear, colorless
4	50	48	158	Clear, colorless
6	100	45	203	Clear, colorless
180	100		203	Clear, colorless

Filter Cake Quality:

Release from Cloth:

% Solids (w/w):

Additional Comments:

Hudson River Treatability Study

Bench Filter Press Data Sheet

Test Number: BFP-184

Slurry ID: S2-2-07 <#400

Feed Solids: 3.84%

Sample Vol.: 2 L

Date/Time: 6/3/2005 1020

Tech: SC

Polymer ID: Developmental E

Dosage: 500 ppm

Press Time: 180 min

Max. Pressure: 100 psi

Filter Cloth: Crosible 85x/5

Time (min)	Pressure (psi)	Filtrate Vol. measured (mL)	Total Filtrate Volume (mL)	Filtrate Observations
2	25	81	81	Sediment in initial discharge. Clear, colorless
4	50	39	120	Clear, colorless
6	100	29	149	Clear, colorless
180	100		149	Clear, colorless

Filter Cake Quality:

Release from Cloth:

% Solids (w/w):

Additional Comments:

Hudson River Treatability Study

Cake Release Screening Data Sheet

BFP Test #	Slurry ID	Polymer ID	Dosage (ppm)	Filter Cloth	Filter Cloth Porosity	Filter Press			
						Time (min)	Total Filtrate Volume (mL)	% Solids (w/w)	Observations
BFP-80	H1S3-06	Dev E	400	85X	0.5-1 CFM	60	253	72.75	v. good/exc. cake, v. good release, no blinding; no sediment in filtrate, but sl. Cloudy at first, then clear. Sl. lt. brown in color.
BFP-79	H1S3-06	Dev E	400	85X/5	4-6 CFM	60	273	70.44	good cake w/ sl. soft top, good release, no blinding, initial filtrate discharge was dirty with sediment, then clear and sl. yellow.
BFP-81	H1S3-06	Dev E	400	855X/10	8-12 CFM	60	163	72.73	good cake, good release, no blinding; initial filtrate was dirty with sediment, very cloudy, then clear.
BFP-82	H1S3-06	Dev E	400	85X/15	15 CFM	60	299	69.16	v. good cake, good release, no blinding; initial filtrate dirty with sediment, remained somewhat cloudy with a lt. brown tinge.
BFP-85	H1S2-07	757	300	85X	0.5-1 CFM	60	362	55.60	good cake, sl. soft top, v. good release, no blinding; Filtrate sl. yellow and clear.
BFP-87	H1S2-07	757	300	85X/5	4-6 CFM	60	330	54.70	good cake, sl. soft top, v. good release, no blinding; Initial filtrate had sediment, then sl. cloudy and lt. brown, then sl. yellow and clear.
BFP-86	H1S2-07	757	300	855X/10	8-12 CFM	60	361	57.26	v. good cake, sl. soft top, excellent release, no blinding; Initial filtrate was dirty and brown with sediment, then sl. yellow and cloudy with sl. sediment.
BFP-88	H1S2-07	757	300	85X/15	15 CFM	60	317	59.24	v. good cake, v. sl. soft top, good release, no blinding; Initial filtrate had sediment, then sl. cloudy and yellow, then got clearer and less yellow.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-**

Date:

Tech:

Slurry ID:

Feed Solids (w/w):

Polymer ID:

Dosage:

Time (min)	Pressure (psi)
0 -	25
-	50
-	75
-	100
-	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5		
5-30		
30-60		
60-90		
90-120		

0

Total Filtrate

Total Air Blowdown Time @ 40 psi:

Total Water Volume from Air Blowdown:

Weight of Filter Cake:

Cake Quality:

Filter Cloths/Release:

Total Press Time:

Filter Cake % Solids (w/w):

Paint Filter (P/F):

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

Samples for Analysis:

Filter Cake:

Filtrate:

*PFP- fulfills

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-1**
 Date: 7/27/2004
 Tech: JL

Slurry ID: **H1S3-07**
 Feed Solids (w/w): **14.62%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 17:30	25
17:30 - 24:00	50
24:00 - 27:15	75
27:15 - 35:00	100
35:00 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	3.7	Initial sediment discharge
5-30	21.5	Sl. sediment discharge w/pressure increase, sl. yellow and clear.
30-60	5.3	clear, sl. yellow
30.5		Total Filtrate Volume

Total Air Blowdown Time @ 40 psi: 15 min
 Total Water Volume from Air Blowdown: 700 mL
 Weight of Filter Cake: 8.49 kg
 Cake Quality: Excellent, hard, solid cake.
 Filter Cloths/Release: Cloths clean, excellent release.

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **65.75%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 Feed tube and inner core of press severely packed off due to unnecessarily long press time.

Samples for Analysis:

Filter Cake: % solids (w/w), Paint filter
 Filtrate: Sampled for PCBs, TSS --> PFP-1 (5-30 min), PFP-1 (30 min), PFP-1 (30-60 min)

*PFP-1 fulfills Plate and Frame Filter Press Test for H1-S3 and Cake Solids vs. Time study for H1-S3 (1 hour press time).

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-2**
 Date: 7/28/2004
 Tech: JL

 Slurry ID: **H1S3-07**

 Feed Solids (w/w): **14.62%**

 Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 15:00	25
15:00 - 23:20	50
23:20 - 27:30	75
27:30 - 30:00	100
N/A	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	1.6	Initial sediment discharge
5-30	22.6	Sl. yellow and clear.
24.2		Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 7.57 kg
 Cake Quality: Very good, less solid towards center
 Filter Cloths/Release: Clean cloths, excellent release

Total Press Time: **30 min**

 Filter Cake % Solids (w/w): **61.23%**

 Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 Still filtering when press was terminated at 30 min.

Samples for Analysis:

Filter Cake: % solids (w/w), Paint filter

*Press ran as part of Cake Solids vs. Time study for H1-S3 slurry, 30 minute press time.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-3**
 Date: 7/28/2004
 Tech: MS

Slurry ID: **H1S3-07**
 Feed Solids (w/w): **14.62%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 10:45	25
10:45 - 21:30	50
21:30 - 31:30	75
31:30 - 45:00	100
N/A	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-2	1.75	initial sediment discharge
2-30	24.4	clear, sl. yellow filtrate
30-45	4	clear, sl. yellow filtrate
30.15		Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 7.76 kg
 Cake Quality: Excellent, hard, solids cake.
 Filter Cloths/Release: Cloths clean, no blinding.

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **64.23%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

Samples for Analysis:

Filter Cake: % solids, paint filter

*PFP-3 fulfills Cake solids vs. time study for H1S3 slurry, 45 minute press time.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-4**
 Date: 7/28/2004
 Tech: JL

Slurry ID: **H1S2-09**
 Feed Solids (w/w): **10.11%**

Polymer ID: **Developmental "E"**
 Dosage: **500 ppm**

Time (min)	Pressure (psi)
0 - 6:30	25
6:30 - 20:30	50
20:30 - 27:30	75
27:30 - 44:30	100
44:30 - 90:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.85	Initial sediment discharge
5-30	30.35	clear, colorless
30-60	11.5	clear, colorless
60-90	5.5	clear, colorless

50.2

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 400 mL
 Weight of Filter Cake: 7.11 kg
 Cake Quality: Excellent cake
 Filter Cloths/Release: Excellent release, no sticking/blinding

Total Press Time: **90 min**

Filter Cake % Solids (w/w): **58.59%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 Inner core of press soft (not packed off)

Samples for Analysis:

Filter Cake: % solids (w/w), Paint filter

Filtrate: Sampled for PCBs, TSS --> PFP-4 (5-30 min), PFP-4 (30 min), PFP-4 (30-60 min)
 PFP-4 (60 min), PFP-4 (60-90 min)

*PFP-4 fulfills Plate and Frame Filter Press Test for H1-S2

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-5**
 Date: 7/29/2004, 0935
 Tech: MS

Slurry ID: **H1S3-07**
 Feed Solids (w/w): **14.62%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 15:00	25
15:00 - 23:30	50
23:30 - 30:05	75
30:05 - 45:00	100
N/A	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	1.2	Initial sediment discharge
5-30	16.1	clear, v. sl. yellow
30-45	3.5	clear, v. sl. yellow

20.8

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 400 mL
 Weight of Filter Cake: ---
 Cake Quality: solid
 Filter Cloths/Release: excellent release, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **62.18%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Filter press run with 3 cake chambers only.

*PFP-5 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-6**
 Date: 7/29/04, 0945
 Tech: JL

Slurry ID: **H1S2-09**
 Feed Solids (w/w): **10.11%**

Polymer ID: **Developmental "E"**
 Dosage: **500 ppm**

Time (min)	Pressure (psi)
0 - 5:00	25
5:00 - 11:30	50
11:30 - 21:00	75
21:00 - 26:30	100
N/A	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	4.1	Initial sediment discharge
5-30	14.9	clear, sl. yellow

19.0

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 600 mL
 Weight of Filter Cake: N/A
 Cake Quality: N/A
 Filter Cloths/Release: N/A

Total Press Time: **terminated at 26:30 (insufficient feed)**

Filter Cake % Solids (w/w): **N/A**

Paint Filter (P/F): **N/A**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Filter press run with 3 cake chambers only.

*PFP-6 fulfills high volume filter press for H1S2 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-7**
 Date: 7/29/04, 1520
 Tech: MS

Slurry ID: **H1S3-08**
 Feed Solids (w/w): **12.33%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 9:40	25
9:40 - 18:00	50
18:00 - 27:50	75
27:50 - 45:00	100
N/A	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.45	Initial sediment discharge
5-30	28.95	clear, very slightly yellow
30-45	5.35	clear, very slightly yellow

36.75 Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: ---
 Cake Quality: solid
 Filter Cloths/Release: excellent release, no blinding

Total Press Time: **45 min**
 Filter Cake % Solids (w/w): **62.76%**
 Paint Filter (P/F): **Pass**

Notes/Observations:
 Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-7 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-8**
 Date: 7/29/04, 1520
 Tech: JL

Slurry ID: **H1S2-10**
 Feed Solids (w/w): **8.31%**

Polymer ID: **Developmental "E"**
 Dosage: **500 ppm**

Time (min)	Pressure (psi)
0 - 13:00	25
13:00 - 22:00	50
22:00 - 27:20	75
27:20 - 32:00	100
32:00 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	9.5	Initial sediment discharge
5-30	26.5	clear, colorless
30-60	14	clear, colorless

50 Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 600 mL
 Weight of Filter Cake: ---
 Cake Quality: very good, slightly soft center
 Filter Cloths/Release: excellent release, no blinding or sticking

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **58.11%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-8 fulfills high volume filter press for H1S2 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-9**
 Date: 7/30/04, 0830
 Tech: MS

Slurry ID: **H1S3-08**
 Feed Solids (w/w): **12.33%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 13:10	25
13:10 - 28:05	50
28:05 - 34:25	75
34:25 - 45:00	100
N/A	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	1.4	Initial sediment discharge
5-30	39.65	clear, colorless
30-45	6.75	clear, colorless

47.8

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 900 mL
 Weight of Filter Cake: 7.66 kg
 Cake Quality: excellent, firm throughout
 Filter Cloths/Release: excellent release, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **59.91%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-9 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-10**
 Date: 7/30/04, 0830
 Tech: JL

Slurry ID: **H1S2-10**
 Feed Solids (w/w): **8.31%**

Polymer ID: **Developmental "E"**
 Dosage: **500 ppm**

Time (min)	Pressure (psi)
0 - 15:30	25
15:30 - 20:50	50
20:50 - 30:00	75
30:00 - 40:15	100
40:15 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.9	Initial sediment discharge
5-30	34.8	clear, colorless
30-45	8	clear, colorless
45.7		Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 1000 mL
 Weight of Filter Cake: N/A incomplete cake
 Cake Quality: N/A incomplete cake
 Filter Cloths/Release: Excellent release, no blinding

Total Press Time: **Terminated at 45 min (insufficient feed)**

Filter Cake % Solids (w/w): **N/A**

Paint Filter (P/F): **N/A**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-10 fulfills high volume filter press for H1S2 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-11**
 Date: 7/30/2004
 Tech: MS

Slurry ID: **H1S3-09**
 Feed Solids (w/w): **9.88%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 8:10	25
8:10 - 14:50	50
14:50 - 22:40	75
22:40 - 37:10	100
37:10 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	9.5	1.5 L initial sediment discharge, then clear and colorless
5-30	15.0	clear, colorless filtrate
30-45	2.0	clear, colorless filtrate
26.5		Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 8.18 kg
 Cake Quality: excellent
 Filter Cloths/Release: excellent release, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **67.16%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-11 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-12**
 Date: 7/30/2004
 Tech: JL

Slurry ID: **H1S2-11**
 Feed Solids (w/w): **8.94%**

Polymer ID: **Developmental "E"**
 Dosage: **500 ppm**

Time (min)	Pressure (psi)
0 - 11:05	25
11:05 - 20:30	50
20:30 - 25:00	75
25:00 - 33:00	100
33:00 - 90:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	1.3	Initial sediment discharge
5-30	30.9	Clear, very slightly yellow
30-60	12.0	Clear, very slightly yellow
60-90	3.7	Clear, very slightly yellow

47.9

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 300 mL
 Weight of Filter Cake: 7.87 kg
 Cake Quality: excellent cake, firm
 Filter Cloths/Release: excellent release, no blinding

Total Press Time: **90 min**

Filter Cake % Solids (w/w): **61.22%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-12 fulfills high volume filter press for H1S2 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-13**
 Date: 7/30/04, 1330
 Tech: JL

Slurry ID: **H1S2-11**
 Feed Solids (w/w): **8.94%**

Polymer ID: **Developmental "E"**
 Dosage: **500 ppm**

Time (min)	Pressure (psi)
0 - 13:30	25
13:30 - 20:30	50
20:30 - 27:20	75
27:20 - 32:00	100
32:00 - 75:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	1.6	Initial sediment discharge
5-30	31.8	clear, colorless
30-60	12.0	clear, colorless
60-75	2.5	clear, colorless

47.9

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 8.18 kg
 Cake Quality: excellent
 Filter Cloths/Release: excellent release, no blinding

Total Press Time: **75 min**

Filter Cake % Solids (w/w): **63.95%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-13 fulfills high volume filter press for H1S2 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-14**
 Date: 7/30/2004
 Tech: MS

Slurry ID: **H1S3-09**
 Feed Solids (w/w): **9.88%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 6:35	25
6:35 - 12:10	50
12:10 - 21:20	75
21:20 - 27:50	100
27:50 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	8.5	2 L initial sediment discharge, then clear and colorless
5-30	15.3	clear, colorless
30-45	3.6	clear, colorless

27.4

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 8.23 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good release, some sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **63.73%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-14 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-15**
 Date: 7/30/04, 1500
 Tech: MS

Slurry ID: **H1S3-09**
 Feed Solids (w/w): **9.88%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 5:30	25
5:30 - 12:20	50
12:20 - 20:00	75
20:00 - 24:35	100
24:35 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	6.5	1.25 L initial sediment discharge, then clear, v.sl. Yellow
5-30	16.0	clear, very slightly yellow
30-45	3.75	clear, very slightly yellow

26.25

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 7.76 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good release, slight sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **67.37%**

Paint Filter (P/F):

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-15 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-16**
 Date: 7/30/04, 1500
 Tech: JL

Slurry ID: **H1S2-12**
 Feed Solids (w/w): **12.07%**

Polymer ID: **Developmental "E"**
 Dosage: **500 ppm**

Time (min)	Pressure (psi)
0 - 9:40	25
9:40 - 16:55	50
16:55 - 23:30	75
23:30 - 37:00	100
37:00 - 75:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	1.6	Initial sediment discharge
5-30	28.0	clear, colorless
30-60	11.8	clear, colorless
60-75	2.8	clear, colorless

44.2

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 700 mL
 Weight of Filter Cake: 7.66 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good release, slight sticking, no blinding

Total Press Time: **75 min**

Filter Cake % Solids (w/w): **62.06%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-16 fulfills high volume filter press for H1S2 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-17**
 Date: **8/2/2004**
 Tech: **MS**

Slurry ID: **H1S3-11**
 Feed Solids (w/w): **14.25%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 7:30	25
7:30 - 19:05	50
19:05 - 24:00	75
24:00 - 29:05	100
29:05 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	8.8	1.95 L initial sediment discharge, then cloudy, brownish
5-30	20.5	Sediment discharge at 50 PSI ramp up, then clear and slightly yellow.
30-45	4.2	clear, slight yellow

33.5

Total Filtrate

Turbidity: 65.9 NTU

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 450 mL
 Weight of Filter Cake: 7.98 kg
 Cake Quality: very good, slightly soft on top
 Filter Cloths/Release: slight sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **65.29%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

Samples for Analysis:

Filter Cake: --->see TSWP for high vol. P+F
 Filtrate:

*PFP-17 fulfills high volume filter press for H1S3 slurry, and samples for analysis.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-18**
 Date: **8/2/2004**
 Tech: **MS**

Slurry ID: **H1S3-11**
 Feed Solids (w/w): **14.25%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 11:00	25
11:00 - 17:55	50
17:55 - 23:05	75
23:05 - 27:20	100
27:20 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	8.3	1.05 L initial sediment discharge, then clear and sl. yellow.
5-30	17.6	clear, slightly yellow
30-45	5.15	clear, slightly yellow

31.05

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 7.68 kg
 Cake Quality: excellent
 Filter Cloths/Release: slight sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **63.61%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-18 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-19**
 Date: **8/2/2004**
 Tech: **MS**

Slurry ID: **H1S3-13**
 Feed Solids (w/w): **14.50%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 11:23	25
11:23 - 18:55	50
18:55 - 22:20	75
22:20 - 25:25	100
25:25 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	9.0	2.2 L initial sediment discharge, then clear and sl. yellow
5-30	17.9	clear, slightly yellow
30-45	2.3	clear, slightly yellow

29.2

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 8.11 kg
 Cake Quality: excellent
 Filter Cloths/Release: some sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **67.80%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-19 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-20**
 Date: **8/2/2004**
 Tech: **MS**

Slurry ID: **H1S3-13**
 Feed Solids (w/w): **14.50%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 8:30	25
8:30 - 16:50	50
16:50 - 21:05	75
21:05 - 25:10	100
25:10 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	7.1	2.7 L initial sediment discharge, then clear and slightly yellow
5-30	18.9	clear, slightly yellow
30-45	3.7	clear, slightly yellow

29.7

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 550 mL
 Weight of Filter Cake: 7.61 kg
 Cake Quality: excellent
 Filter Cloths/Release: some sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **65.09%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-20 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-21**
 Date: **8/3/2004**
 Tech: **MS**

Slurry ID: **H1S3-13**
 Feed Solids (w/w): **14.50%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 13:05	25
13:05 - 20:20	50
20:20 - 24:25	75
24:25 - 28:00	100
28:00 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	9.5	1.5 L initial sediment discharge, then clear and slightly yellow
5-30	19.35	clear, slight yellow
30-60	4.8	clear, slight yellow

33.65

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 7.85 kg
 Cake Quality: excellent
 Filter Cloths/Release: some sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **63.07%**

Paint Filter (P/F): **pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 initial sediment discharge

*PFP-21 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-22**
 Date: **8/3/2004**
 Tech: **JL**

Slurry ID: **H1S1-10**
 Feed Solids (w/w): **3.15%**

Polymer ID: **Developmental "E"**
 Dosage: **60 ppm**

Time (min)	Pressure (psi)
0 - 15:00	25
15:00 - 25:35	50
25:35 - 36:55	75
36:55 - 64:00	100
64:00 - 120:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	13.7	3.2 L initial sediment discharge, then cloudy and brown
5-30	40.0	cloudy, brown, then clear, slightly brown
30-60	32.6	clear, slightly yellow
60-90	26.3	clear, slightly yellow
90-120	16.5	clear, slightly yellow

129.1

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 1300 mL
 Weight of Filter Cake: N/A
 Cake Quality: incomplete
 Filter Cloths/Release: excellent release, no blinding

Total Press Time: **120 min**

Filter Cake % Solids (w/w): **N/A - incomplete cake**

Paint Filter (P/F): **N/A - incomplete cake**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-22 fulfills high volume filter press for H1S1 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-23**
 Date: **8/3/2004**
 Tech: **JL**

Slurry ID: **H1S1-11**
 Feed Solids (w/w): **3.08%**

Polymer ID: **Developmental "E"**
 Dosage: **60 ppm**

Time (min)	Pressure (psi)
0 - 15:00	25
15:00 - 27:30	50
27:30 - 40:10	75
40:10 - 120:00	100
-	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	11.6	slightly cloudy, slightly brown
5-30	36.8	slightly cloudy, slightly brown
30-60	33.0	clear, slightly yellow
60-90	21.0	clear, slightly yellow
90-120	14.5	clear, slightly yellow

116.9

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 1100 mL
 Weight of Filter Cake: N/A
 Cake Quality: poor
 Filter Cloths/Release: N/A

Total Press Time: **120 min**

Filter Cake % Solids (w/w): **N/A - incomplete cake**

Paint Filter (P/F): **N/A - incomplete cake**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 Feed squirts out from between plates above 100 psi.

*PFP-23 fulfills high volume filter press for H1S1 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-24**
 Date: 8/4/2004
 Tech: MS

Slurry ID: **H2S4B-03**
 Feed Solids (w/w): **5.20%**

Polymer ID: **Developmental "E"**
 Dosage: **75 ppm**

Time (min)	Pressure (psi)
0 - 19:38	25
19:38 - 32:00	50
32:00 - 39:15	75
39:15 - 46:45	100
46:45 - 75:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	18.15	3.85 L initial sediment discharge, cloudy and brown
5-30	27.5	clear, slightly yellow
30-60	19.15	clear, slightly yellow
60-75	7.25	clear, slightly yellow

72.05

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 1000 mL
 Weight of Filter Cake: N/A
 Cake Quality: incomplete
 Filter Cloths/Release: N/A

Total Press Time: **75 min**

Filter Cake % Solids (w/w): **N/A - incomplete cake**

Paint Filter (P/F): **N/A - incomplete cake**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 Incomplete cake

*PFP-24 fulfills high volume filter press for H2S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-25**
 Date: 8/4/2004
 Tech: JL

Slurry ID: **H1S1-12**
 Feed Solids (w/w): **2.56%**

Polymer ID: **Developmental "E"**
 Dosage: **60 ppm**

Time (min)	Pressure (psi)
0 - 12:00	25
12:00 - 22:15	50
22:15 - 29:30	75
29:30 - 61:00	100
61:00 - 150:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	6.5	cloudy, brown
5-30	27.8	clear, very slightly brown/no color
30-60	20	clear, colorless
60-90	12.5	clear, colorless
90-120	9.55	clear, colorless
120-150	8.0	clear, colorless

84.35

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 700 mL
 Weight of Filter Cake: N/A
 Cake Quality: incomplete
 Filter Cloths/Release: N/A

Total Press Time: **150 min**

Filter Cake % Solids (w/w): **N/A - incomplete cake**

Paint Filter (P/F): **N/A - incomplete cake**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Only 3 chambers run to obtain better cake.

*PFP-25 fulfills high volume filter press for H1S1 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-26**
 Date: 8/4/2004
 Tech: MS

Slurry ID: **H2S4B-03**
 Feed Solids (w/w): **3.62%**

Polymer ID: **Developmental "E"**
 Dosage: **75 ppm**

Time (min)	Pressure (psi)
0 - 9:40	25
9:40 - 22:20	50
22:20 - 32:00	75
32:00 - 44:50	100
44:50 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	7.95	1.1 L initial sediment discharge, then clear and slightly yellow
5-30	14.15	clear, slightly yellow
30-60	9.75	clear, slightly yellow

31.85

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 700 mL
 Weight of Filter Cake: N/A
 Cake Quality: incomplete
 Filter Cloths/Release: N/A

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **N/A - incomplete cake**

Paint Filter (P/F): **N/A - incomplete cake**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 3 chambers run to obtain cake

*PFP-26 fulfills high volume filter press for H2S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-27**
 Date: 8/5/2004
 Tech: MS

Slurry ID: **H2S4B-03**
 Feed Solids (w/w): **3.62%**

Polymer ID: **Developmental "E"**
 Dosage: **75 ppm**

Time (min)	Pressure (psi)
0 - 33:00	25
33:00 - 81:00	50
81:00 - 121:00	75
121:00 - 160:05	100
160:05 - 180:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	3.4	1.1 L initial sediment discharge, then clear and slightly yellow
5-30	5	clear, slightly yellow
30-60	4.6	clear, slightly yellow
60-90	3.15	clear, slightly yellow
90-120	2.2	clear, slightly yellow
120-150	1.5	clear, slightly yellow
150-180	1.1	clear, slightly yellow
20.95		Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 100 mL
 Weight of Filter Cake: 1.18 kg
 Cake Quality: fair, soft, incomplete top
 Filter Cloths/Release: good, no blinding

Total Press Time: **180 min**

Filter Cake % Solids (w/w): **39.10%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 1 chamber

*PFP-27 fulfills high volume filter press for H2S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-28**
 Date: 8/5/2004
 Tech: JL

Slurry ID: **H1S1-12**
 Feed Solids (w/w): **2.56%**

Polymer ID: **Developmental "E"**
 Dosage: **60 ppm**

Time (min)	Pressure (psi)
0 - 46:45	25
46:45 - 97:45	50
97:45 - 187:15	75
187:15 - 246:30	100
246:30 - 300:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	4.2	2.0 L initial sediment discharge, then clear and colorless
5-30	9.6	clear, colorless
30-60	7.65	clear, colorless
60-90	5.75	clear, colorless
90-120	5.0	clear, colorless
120-150	3.7	clear, colorless
150-180	3.2	clear, colorless
180-210	3.3	clear, colorless
210-240	3.0	clear, colorless
240-270	2.15	clear, colorless
270-300	2.0	clear, colorless

49.55

Total Filtrate

Turbidity: 1.15 NTU

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 100 mL
 Weight of Filter Cake: 1.96 kg
 Cake Quality: fair, soft, incomplete top
 Filter Cloths/Release: good, no blinding, slight sticking

Total Press Time: **300 min**
 Filter Cake % Solids (w/w): **68.60%**
 Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 I chamber

Samples for Analysis:

Filter Cake:
 Filtrate: --->see TSWP for high vol. P+F

*PFP-28 fulfills high volume filter press for H1S1 slurry, and samples for analysis.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-29**
 Date: 8/6/2004
 Tech: MS

Slurry ID: **H1S4B-05**
 Feed Solids (w/w): **24.88%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0 - 7:10	25
7:10 - 13:55	50
13:55 - 18:40	75
18:40 - 30:00	100
-	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	3.1	0.8 L initial sediment discharge, then slightly cloudy and slightly yellow
5-30	6.7	slightly cloudy, slightly yellow

9.8 Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 6.97 kg
 Cake Quality: fair/good
 Filter Cloths/Release: sticking, no blinding

Total Press Time: **30 min**

Filter Cake % Solids (w/w): **53.30%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. pump failure, press stopped early

*PFP-29 fulfills high volume filter press for H2S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-30**
 Date: 8/6/2004
 Tech: JL

Slurry ID: **H1S1-14**
 Feed Solids (w/w): **3.46%**

Polymer ID: **Developmental "E"**
 Dosage: **60 ppm**

Time (min)	Pressure (psi)
0 - 20:00	25
20:00 - 33:30	50
33:30 - 92:15	75
92:15 - 126:00	100
-	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	14.0	10 L initial sediment discharge, then slightly cloudy and slightly brown
5-30	38.5	slightly cloudy, slightly brown
30-60	34.7	clear, colorless
60-90	22.9	clear, colorless
90-120	12.8	clear, colorless
120-126	4.0	clear, colorless

126.9

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 1250 mL
 Weight of Filter Cake: 6.49 kg
 Cake Quality: incomplete, soft/wet tops
 Filter Cloths/Release: good, slight sticking, no blinding

Total Press Time: **126 min**

Filter Cake % Solids (w/w): **60.70%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. terminated at 126 min, insufficient feed

*PFP-30 fulfills high volume filter press for H1S1 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-31**
 Date: 8/6/2004
 Tech: MS

Slurry ID: **H1S4B-05**
 Feed Solids (w/w): **24.88%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0 - 4:10	25
4:10 - 8:05	50
8:05 - 11:40	75
11:40 - 15:30	100
15:30 - 30:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.4	0.4 L initial sediment discharge, then slightly cloudy and slightly yellow
5-30	5.15	slightly cloudy, yellow

7.55

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 400 mL
 Weight of Filter Cake: 6.90 kg
 Cake Quality: fair/good
 Filter Cloths/Release: sticking, no blinding

Total Press Time: **30 min**

Filter Cake % Solids (w/w): **52.72%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-31 fulfills high volume filter press for H1S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-32**
 Date: 8/6/2004
 Tech: MS

Slurry ID: **H1S4B-06**
 Feed Solids (w/w): **24.10%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0 - 13:40	25
13:40 - 26:15	50
26:15 - 37:00	75
37:00 - 45:00	100
45:00 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.55	0.55 L initial sediment discharge, then cloudy and slightly yellow
5-30	5.25	slightly cloudy, yellow
30-60	2.6	slightly cloudy, yellow

10.4

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 300 mL
 Weight of Filter Cake: 7.63 kg
 Cake Quality: very good, excellent
 Filter Cloths/Release: sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **58.56%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-32 fulfills high volume filter press for H1S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-33**
 Date: 8/6/2004
 Tech: JL

Slurry ID: **H1S1-15**
 Feed Solids (w/w): **5.23%**

Polymer ID: **Developmental "E"**
 Dosage: **60 ppm**

Time (min)	Pressure (psi)
0 - 32:15	25
32:15 - 62:30	50
62:30 - 93:10	75
93:10 - 105:00	100
-	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	9.5	initial sediment discharge, slightly cloudy, slightly brown
5-30	31.2	clear, slightly brown
30-60	30.6	clear, colorless
60-90	23.2	clear, colorless
90-105	8.6	clear, colorless

103.1

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 1250 mL
 Weight of Filter Cake: 7.21 kg
 Cake Quality: incomplete, soft/wet top
 Filter Cloths/Release: good, slight sticking, no blinding

Total Press Time: **105 min**

Filter Cake % Solids (w/w): **65.38%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. terminated, insufficient feed

*PFP-33 fulfills high volume filter press for H1S1 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-34**
 Date: 8/9/2004
 Tech: MS

Slurry ID: **H1S4B-06**
 Feed Solids (w/w): **24.10%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0 - 11:25	25
11:25 - 22:50	50
22:50 - 33:50	75
33:50 - 38:15	100
38:15 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	3.4	1.5 L initial sediment discharge, then cloudy and slightly yellow
5-30	6.8	cloudy, yellow
30-45	1.65	cloudy, yellow

11.85

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 350 mL
 Weight of Filter Cake: 7.51 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, some sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **58.33%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-34 fulfills high volume filter press for H1S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-35**
 Date: 8/9/2004
 Tech: MS

Slurry ID: **H1S4B-06**
 Feed Solids (w/w): **24.10%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0 - 10:35	25
10:35 - 22:10	50
22:10 - 33:25	75
33:25 - 45:25	100
45:25 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.75	0.85 L initial sediment discharge, then cloudy and slightly yellow
5-30	5.9	cloudy, yellow
30-60	2.5	cloudy, yellow

11.15

Total Filtrate

Turbidity: 282 NTU

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 250 mL
 Weight of Filter Cake: 7.74 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, some sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **59.74%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

Samples for Analysis:

Filter Cake: --->see TSWP for high vol. P+F
 Filtrate:

*PFP-35 fulfills high volume filter press for H1S4B slurry and samples for analysis.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-36**
 Date: 8/9/2004
 Tech: MS

Slurry ID: **H1S4B-06**
 Feed Solids (w/w): **24.10%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0 - 11:10	25
11:10 - 23:55	50
23:55 - 40:20	75
40:20 - 49:05	100
49:05 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.65	0.9 L initial sediment discharge, then cloudy and slightly yellow
5-30	5.7	cloudy, yellow
30-60	2.5	cloudy, yellow/orange

10.85

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 300 mL
 Weight of Filter Cake: 7.69 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, some sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **59.62%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-36 fulfills high volume filter press for H1S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-37**
 Date: 8/9/2004
 Tech: JL

Slurry ID: **H1S1-16**
 Feed Solids (w/w): **2.86%**

Polymer ID: **Developmental "E"**
 Dosage: **60 ppm**

Time (min)	Pressure (psi)
0 - 32:15	25
32:15 - 66:00	50
66:00 - 93:00	75
93:00 - 120:00	100
-	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	12.55	2.95 L initial sediment discharge, then cloudy and slightly brown
5-30	28.7	slightly cloudy, slightly brown
30-60	34.7	clear, colorless
60-90	28.3	clear, colorless
90-120	19.6	clear, colorless
123.85		Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 1200 mL
 Weight of Filter Cake: N/A
 Cake Quality: incomplete
 Filter Cloths/Release: good release, slight sticking, no blinding

Total Press Time: **120 min**

Filter Cake % Solids (w/w): **N/A - incomplete cake**

Paint Filter (P/F): **N/A - incomplete cake**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-37 fulfills high volume filter press for H1S1 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-38**
 Date: 8/9/2004
 Tech: MS

Slurry ID: **H1S4B-06**
 Feed Solids (w/w): **24.10%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0 - 10:40	25
10:40 - 26:05	50
26:05 - 38:20	75
38:20 - 48:25	100
48:25 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.5	1.25 L initial sediment discharge, then cloudy and slightly yellow
5-30	5.5	slightly cloudy, yellow
30-60	2.7	cloudy, yellow/orange

10.7

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 250 mL
 Weight of Filter Cake: 7.66 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, some sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **59.35%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-38 fulfills high volume filter press for H1S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PPF-39**
 Date: 8/10/2004
 Tech: MS

Slurry ID: **H2S4B-06**
 Feed Solids (w/w): **4.35%**

Polymer ID: **Developmental "E"**
 Dosage: **75 ppm**

Time (min)	Pressure (psi)
0 - 6:40	25
6:40 - 110:00	50
110:00 - 160:00	75
160:00 - 198:00	100
198:00 - 240:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.1	0.5 L initial sediment discharge, then clear and slightly yellow
5-30	3.9	clear, slightly yellow
30-60	2.9	clear, slightly yellow
60-90	2.3	clear, slightly yellow
90-120	2.25	clear, slightly yellow
120-150	1.75	clear, slightly yellow
150-180	1.35	clear, slightly yellow
180-210	1.05	clear, slightly yellow
210-240	0.55	clear, slightly yellow

18.15

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 200 mL
 Weight of Filter Cake: 1.37 kg
 Cake Quality: Fair
 Filter Cloths/Release: Good

Total Press Time: **240 min**

Filter Cake % Solids (w/w): **42.42%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. 1 chamber run to obtain better quality filter cake.

*PPF-39 fulfills high volume filter press for H2S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-40**
 Date: 8/12/2004
 Tech: JL

Slurry ID: **H2S4B-06**
 Feed Solids (w/w): **4.35%**

Polymer ID: **Developmental "E"**
 Dosage: **75 ppm**

Time (min)	Pressure (psi)
0 - 26:00	25
26:00 - 44:20	50
44:20 - 57:45	75
57:45 - 83:40	100
83:40 - 180:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	8.65	no initial discharge, clear, slightly yellow
5-30	20	clear, slightly yellow
30-60	18.45	clear, slightly yellow
60-90	13.25	clear, slightly yellow
90-120	10.8	clear, slightly yellow
120-150	6.7	clear, slightly yellow
150-180	4.4	clear, slightly yellow

82.25

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 6.97kg
 Cake Quality: good, soft, slightly wet top
 Filter Cloths/Release: good, no sticking or blinding

Total Press Time: **180 min**

Filter Cake % Solids (w/w): **51.45%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-40 fulfills high volume filter press for H2S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-41**
 Date: 8/12/2004
 Tech: MS

Slurry ID: **H2S4B-08**
 Feed Solids (w/w): **4.92%**

Polymer ID: **Developmental "E"**
 Dosage: **120 ppm**

Time (min)	Pressure (psi)
0 - 8:00	25
8:00 - 35:00	50
35:00 - 51:30	75
51:30 - 64:25	100
64:25 - 150:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	1.2	initial sediment discharge, cloudy, colorless
5-30	6.65	colorless, very slightly cloudy
30-60	4.6	clear, slightly yellow
60-90	3.0	clear, slightly yellow
90-120	2.25	clear, slightly yellow
120-150	1.8	clear, slightly yellow
19.5		Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 100 mL
 Weight of Filter Cake: 1.49 kg
 Cake Quality: good, soft top
 Filter Cloths/Release: good, no sticking, no blinding

Total Press Time: **150 min**

Filter Cake % Solids (w/w): **45.02%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 Additional sediment discharge when pressed to 50 PSI.
 1 chamber

Samples for Analysis:

Filter Cake: --->see TSWP for high vol. P+F
 Filtrate:

*PFP-41 fulfills high volume filter press for H2S4B slurry, and samples for analysis.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-42**
 Date: 8/13/2004
 Tech: MS

Slurry ID: **H2S4B-08**
 Feed Solids (w/w): **4.92%**

Polymer ID: **Developmental "E"**
 Dosage: **120 ppm**

Time (min)	Pressure (psi)
0 - 9:45	25
9:45 - 22:15	50
22:15 - 33:55	75
33:55 - 45:35	100
45:35 - 180:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	8.15	1.25 L initial sediment discharge, then clear and slightly yellow
5-30	10.85	clear, slightly yellow
30-60	6.85	clear, slightly yellow
60-90	3.7	clear, slightly yellow
90-120	2.5	clear, slightly yellow
120-150	1.9	clear, slightly yellow
150-180	1.55	clear, slightly yellow
32.05		Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 200 mL
 Weight of Filter Cake: 2.72 kg
 Cake Quality: good/fair, soft top
 Filter Cloths/Release: good

Total Press Time: **180 min**

Filter Cake % Solids (w/w): **48.28%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 2 chambers

*PFP-42 fulfills high volume filter press for H2S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-43**
 Date: 8/13/2004
 Tech: MS

Slurry ID: **H2S4B-08**
 Feed Solids (w/w): **4.92%**

Polymer ID: **Developmental "E"**
 Dosage: **120 ppm**

Time (min)	Pressure (psi)
0 - 7:10	25
7:10 - 10:15	50
10:15 - 33:00	75
33:00 - 61:20	100
61:20 - 130:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	11.35	1.6 L initial sediment discharge, then clear and slightly yellow
5-30	23.8	clear, slightly yellow
30-60	14.75	clear, slightly yellow
60-90	11.1	clear, slightly yellow
90-120	6.5	clear, slightly yellow
120-130	1.0	clear, slightly yellow

67.5

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: N/A
 Cake Quality: poor, N/A, incomplete
 Filter Cloths/Release: good

Total Press Time: **130 min**

Filter Cake % Solids (w/w): **N/A**

Paint Filter (P/F): **N/A**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 Press stopped at 2 hours, 10 minutes due to inadequate feed

*PFP-43 fulfills high volume filter press for H2S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-44**
 Date: 8/16/2004
 Tech: JL

Slurry ID: **H1S3-15**
 Feed Solids (w/w): **13.48%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 10:30	25
10:30 - 19:00	50
19:00 - 30:30	75
30:30 - 36:40	100
36:40 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	7.9	initial sediment discharge, cloudy, brown
5-30	20.3	additional sediment discharge at 50 psi, clear, slightly yellow
30-60	14.8	clear, slightly yellow

43.0

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 7.84 kg
 Cake Quality: excellent, dry
 Filter Cloths/Release: excellent release, no sticking or blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **62.00%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 Run for 60 min to optimize filtrate

*PFP-44 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-45**
 Date: 8/16/2004
 Tech: MS

Slurry ID: **H1S2-13**
 Feed Solids (w/w): **11.87%**

Polymer ID: **Developmental "E"**
 Dosage: **500 ppm**

Time (min)	Pressure (psi)
0 - 8:25	25
8:25 - 20:30	50
20:30 - 35:25	75
35:25 - 49:15	100
49:15 - 75:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	9.9	2.4 L initial sediment discharge, then clear and slightly yellow
5-30	17.6	very slightly yellow, clear
30-60	10.2	very slightly yellow, clear
60-75	2.45	very slightly yellow, clear

40.15

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 7.20 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, slight sticking, no blinding

Total Press Time: **75 min**

Filter Cake % Solids (w/w): **57.02%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

Samples for Analysis:

Filter Cake: --->see TSWP for high vol. P+F
 Filtrate:

*PFP-45 fulfills high volume filter press for H1S2 slurry, and samples for analysis.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-46**
 Date: 8/16/2004
 Tech: JL

Slurry ID: **H1S3-15**
 Feed Solids (w/w): **13.48%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 10:30	25
10:30 - 22:50	50
22:50 - 28:50	75
28:50 - 40:50	100
40:50 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	7.7	no initial sediment discharge, clear, slightly yellow
5-30	17.1	clear, slightly yellow
30-60	10.6	clear, slightly yellow

35.4

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 7.53 kg
 Cake Quality: excellent, dry
 Filter Cloths/Release: excellent release, no sticking or blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **58.90%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-46 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-47**
 Date: 8/16/2004
 Tech: MS

Slurry ID: **H1S2-13**
 Feed Solids (w/w): **11.87%**

Polymer ID: **Developmental "E"**
 Dosage: **500 ppm**

Time (min)	Pressure (psi)
0 - 15:40	25
15:40 - 25:30	50
25:30 - 45:05	75
45:05 - 57:05	100
57:05 - 75:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	9.3	1.7 L initial sediment discharge, then clear and very slightly yellow
5-30	16.8	clear, very slightly yellow
30-60	7.75	clear, very slightly yellow
60-75	1.85	clear, very slightly yellow

35.7

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 7.40 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, slight sticking, no blinding

Total Press Time: **75 min**

Filter Cake % Solids (w/w): **59.24%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-47 fulfills high volume filter press for H1S2 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-48**
 Date: 8/16/2004
 Tech: JL

Slurry ID: **H1S3-16**
 Feed Solids (w/w): **15.89%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 10:30	25
10:30 - 22:10	50
22:10 - 33:15	75
33:15 - 42:45	100
42:45 - 55:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	9.5	slight initial discharge, clear, slightly yellow
5-30	14.6	clear, slightly yellow
30-55	2.6	clear, slightly yellow

26.7

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 550 mL
 Weight of Filter Cake:
 Cake Quality: excellent, dry, solid
 Filter Cloths/Release: fair, lots of sticking, no blinding

Total Press Time: **55 min - terminated / equip. prob.**

Filter Cake % Solids (w/w): **68.14%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 Feed hole packed off.

*PFP-48 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-49**
 Date: 8/17/2004
 Tech: MS

Slurry ID: **H1S3-16**
 Feed Solids (w/w): **15.89%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 11:45	25
11:45 - 18:15	50
18:15 - 27:50	75
27:50 - 32:50	100
32:50 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	12.7	1.6 L initial sediment discharge, then clear and slightly yellow
5-30	16.1	clear, slightly yellow
30-45	2.0	clear, slightly yellow

30.8

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 8.32 kg
 Cake Quality: excellent, solid
 Filter Cloths/Release: good - moderate sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **66.55%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-49 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-50**
 Date: 8/17/2004
 Tech: MS

Slurry ID: **H1S3-16**
 Feed Solids (w/w): **15.89%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 10:25	25
10:25 - 20:20	50
20:20 - 26:40	75
26:40 - 33:35	100
33:35 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	9.7	1.2 L initial sediment discharge, then clear and slightly yellow
5-30	17.5	clear, slightly yellow
30-45	2.6	clear, slightly yellow

29.8

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 8.44 kg
 Cake Quality: excellent
 Filter Cloths/Release: good - moderate sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **68.35%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-50 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-51**
 Date: 8/24/2004
 Tech: MS

Slurry ID: **H1S2-14**
 Feed Solids (w/w): **7.23%**

Polymer ID: **Developmental "E"**
 Dosage: **500 ppm**

Time (min)	Pressure (psi)
0 - 22:50	25
22:50 - 33:30	50
33:30 - 39:40	75
39:40 - 57:00	100
57:00 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	14.7	initial sediment discharge, then clear and very slightly yellow
5-30	19.8	clear, very slightly yellow
30-45	15.9	clear, very slightly yellow

50.4

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 500 mL
 Weight of Filter Cake: 7.06 kg
 Cake Quality: very good / excellent
 Filter Cloths/Release: very good

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **55.08%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-51 fulfills high volume filter press for H1S2 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-52**
 Date: 8/27/2004
 Tech: MS

Slurry ID: **H1S4B-07**
 Feed Solids (w/w): **23.83%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0 - 6:55	25
6:55 - 12:05	50
12:05 - 19:20	75
19:20 - 27:45	100
27:45 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	3.75	initial sediment discharge, then slightly cloudy and slightly yellow
5-30	7.9	clear and yellow
30-45	1.2	clear and yellow

12.85

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.25 L
 Weight of Filter Cake: 7.70 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, very slight sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **59.32%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-52 fulfills high volume filter press for H1S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-53**
 Date: 8/27/2004
 Tech: MS

Slurry ID: **H1S4B-07**
 Feed Solids (w/w): **23.83%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0 - 7:55	25
7:55 - 13:10	50
13:10 - 22:10	75
22:10 - 33:30	100
33:30 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.9	initial sediment discharge, then slightly cloudy and slightly yellow
5-30	6.75	slightly cloudy and yellow
30-45	2.75	clear and yellow

12.4

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.3 L
 Weight of Filter Cake: 7.58 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, very slight sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **59.08%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-53 fulfills high volume filter press for H1S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-54**
 Date: **8/27/2004**
 Tech: **MS**

Slurry ID: **H1S4B-07**
 Feed Solids (w/w): **23.83%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0 - 11:15	25
11:15 - 18:05	50
18:05 - 26:15	75
26:15 - 34:25	100
34:25 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.5	initial sediment discharge, then very slightly cloudy and slightly yellow
5-30	6.05	very slightly cloudy and yellow
30-45	1.9	very slightly cloudy and yellow

10.45

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.4 L
 Weight of Filter Cake: 7.39 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, some sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **58.02%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-54 fulfills high volume filter press for H1S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-55**
 Date: **8/27/2004**
 Tech: **MS**

Slurry ID: **H1S4B-07**
 Feed Solids (w/w): **23.83%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0 - 7:30	25
7:30 - 17:50	50
17:50 - 25:00	75
25:00 - 33:25	100
33:25 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.25	initial sediment discharge, then slightly cloudy and slightly yellow
5-30	6.3	slightly cloudy, slightly yellow
30-60	1.7	slightly cloudy, slightly yellow

10.25 Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.3 L
 Weight of Filter Cake: 7.16 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, slight sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **57.35%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-55 fulfills high volume filter press for H1S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-56**
 Date: 8/31/2004
 Tech: MS

Slurry ID: **H1S3-17**
 Feed Solids (w/w): **18.04%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 9:40	25
9:40 - 16:30	50
16:30 - 23:20	75
23:20 - 31:35	100
31:35 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	12.5	initial sediment discharge, then clear and very slightly yellow
5-30	13.8	clear, very slightly yellow
30-60	2.75	clear, very slightly yellow

29.05

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.4 L
 Weight of Filter Cake: 8.22 kg
 Cake Quality: excellent, crumbly
 Filter Cloths/Release: excellent, no sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **69.14%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-56 fulfills high volume filter press for H1S3 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-57**
 Date: 8/31/2004
 Tech: JL

Slurry ID: **H1S4-03**
 Feed Solids (w/w): **16.57%**

Polymer ID: **Developmental "E"**
 Dosage: **500 ppm**

Time (min)	Pressure (psi)
0 - 10:00	25
10:00 - 17:24	50
17:24 - 23:30	75
23:30 - 31:30	100
31:30 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	8.7	slight initial sediment discharge, then clear and colorless
5-30	15.9	clear, colorless
30-60	4.5	clear, colorless

29.1

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.2 L
 Weight of Filter Cake: 8.21 kg
 Cake Quality: excellent, dry, sandy
 Filter Cloths/Release: very good, no sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **63.60%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-57 fulfills high volume filter press for H1S4 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-58**
 Date: 9/2/2004
 Tech: MS

Slurry ID: **H2S4B-08**
 Feed Solids (w/w): **4.22%**

Polymer ID: **Developmental "E"**
 Dosage: **120 ppm**

Time (min)	Pressure (psi)
0 - 16:00	25
16:00 - 45:25	50
45:25 - 76:00	75
76:00 - 83:30	100
83:30 - 120:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	19.4	initial sediment discharge, then clear and slightly yellow
5-30	30.25	clear, slightly yellow
30-60	20.1	clear, slightly yellow
60-90	14.3	clear, slightly yellow
90-120	10.5	clear, slightly yellow

94.55

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.3 L
 Weight of Filter Cake: 6.87 kg
 Cake Quality: good, soft top and center
 Filter Cloths/Release: very good, no sticking, no blinding

Total Press Time: **120 min**

Filter Cake % Solids (w/w): **53.18%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-58 fulfills high volume filter press for H2S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-59**
 Date: 9/2/2004
 Tech: JL

Slurry ID: **H1S4-03**
 Feed Solids (w/w): **11.81%**

Polymer ID: **Developmental "E"**
 Dosage: **500 ppm**

Time (min)	Pressure (psi)
0 - 10:00	25
10:00 - 21:15	50
21:15 - 30:30	75
30:30 - 44:00	100
44:00 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	11.5	No initial sediment discharge; clear, colorless
5-30	19.3	clear, colorless
30-60	4.9	clear, colorless

35.7

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.2 L
 Weight of Filter Cake: 7.87 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, no sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **62.88%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-59 fulfills high volume filter press for H1S4 slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-60**
 Date: 9/2/2004
 Tech: JL

Slurry ID: **H1S4B-09**
 Feed Solids (w/w): **23.94%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0 - 6:45	25
6:45 - 13:30	50
13:30 - 28:00	75
28:00 - 33:30	100
33:30 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	3	Slight initial sediment discharge; slightly cloudy, slightly yellow
5-30	6.8	clear, moderately yellow
30-45	2	clear, moderately yellow

11.8

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.1 L
 Weight of Filter Cake: 7.71 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, no sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **60.56%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-60 fulfills high volume filter press for H1S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-61**
 Date: 9/2/2004
 Tech: JL

Slurry ID: **H2S4B-08**
 Feed Solids (w/w): **4.22%**

Polymer ID: **Developmental "E"**
 Dosage: **120 ppm**

Time (min)	Pressure (psi)
0 - 10:15	25
10:15 - 19:00	50
	75
	100
	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	12.1	no initial sediment discharge, slightly cloudy, slightly yellow
5-19	15.2	clear, slightly yellow

27.3

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 2.0 L
 Weight of Filter Cake: n/a
 Cake Quality: n/a
 Filter Cloths/Release: n/a

Total Press Time: **19 min**

Filter Cake % Solids (w/w): **incomplete**

Paint Filter (P/F): **n/a**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-61 fulfills high volume filter press for H2S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-62**
 Date: 9/2/2004
 Tech: JL

Slurry ID: **H1S4B-09**
 Feed Solids (w/w): **23.94%**

Polymer ID: **Developmental "E"**
 Dosage: **800 ppm**

Time (min)	Pressure (psi)
0-09:00	25
9:00 - 17:20	50
17:20 - 24:40	75
24:40 - 37:20	100
37:20 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	2.2	Slight initial sediment discharge, slightly cloudy, slightly yellow
5-30	6.3	clear, moderately yellow
30-45	1.9	clear, moderately yellow

10.4

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.2 L
 Weight of Filter Cake: 7.87 kg
 Cake Quality: excellent
 Filter Cloths/Release: very good, no sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **57.69%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-62 fulfills high volume filter press for H1S4B slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-63**
 Date: 9/20/2004
 Tech: MS

Slurry ID: **H1S4A-02**
 Feed Solids (w/w): **14.12%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0-14:15	25
14:15 - 22:50	50
22:50 - 28:00	75
28:00 - 42:35	100
42:35 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	9.5	initial sediment discharge; clear, very slightly yellow
5-30	27.6	clear, slightly yellow
30-60	6	clear, slightly yellow

43.1

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.5 L
 Weight of Filter Cake: 8.47 kg
 Cake Quality: excellent, dry cake
 Filter Cloths/Release: fair, some sticking, slight blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **69.33%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Slight sediment discharge at pressure increases to 75 and 100 psi.

*PFP-63 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-64**
 Date: 9/20/2004
 Tech: MS

Slurry ID: **H1S4A-03**
 Feed Solids (w/w): **12.15%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0-14:35	25
14:35 - 24:55	50
24:55 - 30:25	75
30:25 - 35:10	100
35:10 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	12	Initial sediment discharge; clear, very slightly yellow
5-30	25.8	clear, slightly yellow
30-45	6.6	clear, slightly yellow

44.4

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.55 L
 Weight of Filter Cake: 7.81 kg
 Cake Quality: very good, slightly soft top
 Filter Cloths/Release: very good, no sticking, no blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **64.32%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Slight sediment discharge at pressure increases to 100 and 125 psi.

*PFP-64 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-65**
 Date: 9/20/2004
 Tech: MS

Slurry ID: **H1S4A-03**
 Feed Solids (w/w): **12.15%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 15:50	25
15:50 - 29:30	50
29:30 - 38:05	75
38:05 - 46:00	100
46:00 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	12.1	Initial sediment discharge; clear, very slightly yellow
5-30	20	clear, very slightly yellow
30-60	12	clear, very slightly yellow

44.1

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.5 L
 Weight of Filter Cake: 7.71 kg
 Cake Quality: excellent, dry cake
 Filter Cloths/Release: very good, slight sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **66.52%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-65 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-66**
 Date: 9/20/2004
 Tech: MS

Slurry ID: **H1S4A-02**
 Feed Solids (w/w): **14.12%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 11:50	25
11:50 - 22:55	50
22:55 - 30:55	75
30:55 -	100
	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	10.85	Initial sediment discharge, clear, very slightly yellow
5-30	21.3	clear, very slightly yellow
30-60		

32.15

Total Filtrate

Total Air Blowdown Time @ 40 psi: N/A
 Total Water Volume from Air Blowdown: N/A
 Weight of Filter Cake: N/A
 Cake Quality: N/A
 Filter Cloths/Release: N/A

Total Press Time:

Filter Cake % Solids (w/w): **N/A**

Paint Filter (P/F): **N/A**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

Press stopped due to insufficient feed.

*PFP-66 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-67**
 Date: 9/21/2004
 Tech: MS

Slurry ID: **H1S4A-05**
 Feed Solids (w/w): **16.30%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 11:10	25
11:10 - 16:40	50
16:40 - 23:05	75
23:05 - 33:50	100
33:50 - 45:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	14.5	initial sediment discharge, clear, slightly yellow
5-30	9.2	clear, slightly yellow
30-45	4.8	slightly cloudy, slightly yellow

28.5

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.7 L
 Weight of Filter Cake: 8.23 kg
 Cake Quality: very good, crumbly, dry, v. sandy
 Filter Cloths/Release: fair, sticking, moderate blinding

Total Press Time: **45 min**

Filter Cake % Solids (w/w): **77.15%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.
 Sediment in discharge at increase of pressure to 50 and 125 psi.
 45 minute press time due to low filtrate volume.

*PFP-67 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-68**
 Date: 9/21/2004
 Tech: MS

Slurry ID: **H1S4A-04**
 Feed Solids (w/w): **15.48%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 11:50	25
11:50 - 26:50	50
26:50 - 33:15	75
33:15 - 45:40	100
45:40 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	13.7	initial sediment discharge, clear, slightly yellow
5-30	13.9	clear, slightly yellow
30-60	4.7	clear, slightly yellow

32.3

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.75 L
 Weight of Filter Cake: 8.35 kg
 Cake Quality: excellent, dry, sandy, crumbly
 Filter Cloths/Release: fair, moderate sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **69.71%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Sediment in discharge at increase of pressure to 50 psi.

*PFP-68 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-69**
 Date: 9/21/2004
 Tech: JL

Slurry ID: **H1S4A-05**
 Feed Solids (w/w): **16.30%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 11:00	25
11:00 - 19:30	50
19:30 - 25:00	75
25:00 - 40:30	100
40:30 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	13.1	initial sediment discharge, clear, slightly yellow
5-30	12.9	clear, slightly yellow
30-45	2.5	clear, slightly yellow

28.5

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.75 L
 Weight of Filter Cake: 8.18 kg
 Cake Quality: excellent, dry, crumbly, sandy
 Filter Cloths/Release: poor, moderate sticking

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **76.84%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Sediment in discharge at increase of pressure to 50 and 75 psi.

*PFP-69 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-70**
 Date: 9/21/2004
 Tech: JL

Slurry ID: **H1S4A-04**
 Feed Solids (w/w): **15.48%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 10:30	25
10:30 - 23:45	50
23:45 - 31:00	75
31:00 - 37:30	100
37:30 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	14	initial sediment discharge, clear, slightly yellow
5-30	14.3	clear, slightly yellow
30-60	4.5	clear, slightly yellow

32.8

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.5 L
 Weight of Filter Cake: 8.77 kg
 Cake Quality: excellent, dry, crumbly, sandy
 Filter Cloths/Release: poor, moderate sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **70.90%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Sediment in discharge at increase of pressure to 100 psi.

*PFP-70 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-71**
 Date: 9/21/2004
 Tech: MS

Slurry ID: **H1S4A-05**
 Feed Solids (w/w): **16.30%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 13:35	25
13:35 - 24:10	50
24:10 - 31:55	75
31:55 - 43:35	100
43:35 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	13.75	initial sediment discharge, clear, slightly yellow
5-30	10.6	clear, slightly yellow
30-60	2.4	clear, slightly yellow

26.75

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.75 L
 Weight of Filter Cake: 9.27 kg
 Cake Quality: excellent, dry, crumbly, sandy
 Filter Cloths/Release: poor, excessive sticking, slight blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **78.69%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Sediment in discharge at increase of pressure to 100 psi.

*PFP-71 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-72**
 Date: 9/21/2004
 Tech: MS

Slurry ID: **H1S4A-04**
 Feed Solids (w/w): **15.48%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 14:50	25
14:50 - 22:L40	50
22:40 - 31:45	75
31:45 - 43:35	100
43:35 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	11.9	initial sediment discharge, clear, slightly yellow
5-30	13.6	clear, slightly yellow
30-60	3.2	clear, slightly yellow

28.7

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.6 L
 Weight of Filter Cake: 9.08 kg
 Cake Quality: excellent, dry, crumbly, sandy
 Filter Cloths/Release: poor, excessive sticking, slight blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **76.15%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Sediment in discharge at increase of pressure to 75 psi.

*PFP-72 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-73**
 Date: 9/22/2004
 Tech: MS

Slurry ID: **H1S4A-05**
 Feed Solids (w/w): **16.30%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 9:50	25
9:50 - 27:10	50
27:10 - 34:30	75
34:30 - 43:20	100
43:20 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	14.3	initial sediment discharge, clear, slightly yellow
5-30	10.65	slightly cloudy, slightly yellow
30-60	0.95	slightly cloudy, slightly yellow

25.9

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.85 L
 Weight of Filter Cake: 8.1 kg
 Cake Quality: excellent, dry, crumbly, sandy
 Filter Cloths/Release: poor, excessive sticking over entire cloth

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **73.47%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Sediment in discharge at increase of pressure to 50 and 75 psi.

*PFP-73 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-74**
 Date: 9/22/2004
 Tech: JL

Slurry ID: **H1S4A-04**
 Feed Solids (w/w): **15.48%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 8:45	25
8:45 - 23:15	50
23:15 - 32:00	75
32:00 - 41:00	100
41:00 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	8.5	initial sediment discharge, clear, slightly yellow
5-30	15.65	clear, slightly yellow
30-60	4.2	clear, slightly yellow

28.35

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 1.0 L
 Weight of Filter Cake: 8.07 kg
 Cake Quality: excellent, dry, crumbly, sandy
 Filter Cloths/Release: very poor, excessive sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **76.96%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Sediment in discharge at increase of pressure to 50 and 125 psi.

*PFP-74 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-75**
 Date: 9/22/2004
 Tech: MS

Slurry ID: **H1S4A-05**
 Feed Solids (w/w): **16.30%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 8:35	25
8:35 - 21:50	50
21:50 - 35:00	75
35:00 - 46:05	100
46:05 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	14.7	initial sediment discharge, clear, slightly yellow
5-30	8	cloudy, slightly yellow
30-60	1.7	cloudy, slightly yellow

24.4

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.8 L
 Weight of Filter Cake: 8.12 kg
 Cake Quality: excellent, dry, crumbly, sandy
 Filter Cloths/Release: very poor, excessive sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **74.57%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Sediment in discharge at increase of pressure to 50 psi.

*PFP-75 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-76**
 Date: 9/22/2004
 Tech: JL

Slurry ID: **H1S4A-04**
 Feed Solids (w/w): **15.48%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 10:00	25
10:00 - 21:30	50
21:30 - 30:00	75
	100
	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	13.65	initial sediment discharge, clear, slightly yellow
5-30	10.4	clear, slightly yellow
30-60		

24.05

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 1.0 L
 Weight of Filter Cake: 7.23 kg
 Cake Quality: excellent, dry, crumbly, sandy
 Filter Cloths/Release: very poor, excessive sticking, no blinding

Total Press Time: **30 min**

Filter Cake % Solids (w/w): **77.56%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Terminated at 30 minutes due to insufficient feed.

*PFP-76 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-77**
 Date: 9/22/2004
 Tech: MS

Slurry ID: **H1S4A-06**
 Feed Solids (w/w): **18.31%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 9:10	25
9:10 - 21:15	50
21:15 - 31:10	75
31:10 - 43:10	100
43:10 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	15.9	initial sediment discharge, clear, slightly yellow
5-30	10.9	clear, slightly yellow
30-60	3.6	clear, slightly yellow

30.4

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.6 L
 Weight of Filter Cake: 8.14 kg
 Cake Quality: excellent, dry, crumbly, sandy
 Filter Cloths/Release: very poor, excessive sticking, no blinding

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **77.34%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Sediment in discharge at increase of pressure to 50 and 125 psi.

*PFP-77 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-78**
 Date: 9/23/2004
 Tech: MS

Slurry ID: **H1S4A-06**
 Feed Solids (w/w): **18.31%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 12:45	25
12:45 - 21:00	50
21:00 - 32:40	75
32:40 - 44:35	100
44:35 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	13.2	No initial sediment discharge; clear, slightly yellow
5-30	17.5	clear, slightly yellow
30-60	4.1	clear, slightly yellow

34.8

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.6 L
 Weight of Filter Cake:
 Cake Quality: excellent, dry, crumbly, sandy
 Filter Cloths/Release: poor, sticking over entire cloth

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **74.47%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage. Sediment in discharge at increase of pressure to 50 and 75 psi.

*PFP-78 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-79**
 Date: 9/23/2004
 Tech: MS

Slurry ID: **H1S4A-06**
 Feed Solids (w/w): **18.31%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 13:55	25
13:55 - 23:55	50
23:55 - 32:05	75
32:05 - 46:00	100
46:00 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	12.1	No initial sediment discharge; clear, slightly yellow
5-30	12.1	clear, slightly yellow
30-60	3.7	clear, slightly yellow

27.9

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.75 L
 Weight of Filter Cake: 8.45 kg
 Cake Quality: excellent, dry, crumbly, sandy
 Filter Cloths/Release: poor, sticking over entire cloth

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **75.37%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-79 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

P+F Filter Press Data Sheet

Test #: **PFP-80**
 Date: 9/23/2004
 Tech: MS

Slurry ID: **H1S4A-06**
 Feed Solids (w/w): **18.31%**

Polymer ID: **Developmental "E"**
 Dosage: **600 ppm**

Time (min)	Pressure (psi)
0 - 15:30	25
15:30 - 24:40	50
24:40 - 31:30	75
31:30 - 46:30	100
46:30 - 60:00	125

Time (min)	Filtrate Volume (L)	Filtrate Description
0-5	12	very slight sediment in initial discharge, clear, slightly yellow
5-30	15.6	clear, slightly yellow
30-60	4.3	clear, slightly yellow

31.9

Total Filtrate

Total Air Blowdown Time @ 40 psi: 10 min
 Total Water Volume from Air Blowdown: 0.6 L
 Weight of Filter Cake: 7.91 kg
 Cake Quality: excellent, dry, crumbly, sandy
 Filter Cloths/Release: poor, sticking over entire cloth

Total Press Time: **60 min**

Filter Cake % Solids (w/w): **69.88%**

Paint Filter (P/F): **Pass**

Notes/Observations:

Feed slurry was screened to <#8 sieve (0.093", 2.36 mm) prior to dewatering to prevent pump damage.

*PFP-80 fulfills high volume filter press for H1S4A slurry.

Hudson River Treatability Study

Jar Test Data Sheet

Date: 8/17/2004 to 8/19/2004

Tech: HJS

Filtrate ID	Jar #	Sample Volume (mL)	Polymer ID	Dosage (ppm)	Flash Mix (1 min. @ 120 rpm)	Slow Mix @ 10 rpm (floc observations)					Settled NTU	TSS (ppm)
						0 min	5 min	10 min	15 min	20 min	15 min	
H1S1	A	1000	-	-	1 min	fine 2.46 ntu	fine 2.50 ntu	growing 2.46 ntu	same 2.39 ntu	no change 2.39 ntu	2.00 ntu	-
H1S1	B	1000	-	-	1 min	-	-	-	-	-	2.18 ntu	-
H1S1	C	1000	-	-	no slow mix	2.40 ntu	2.42 ntu	2.40 ntu	2.35 ntu	2.35 ntu	2.18 ntu	-
H1S1	D	1000	853	6	30 sec	3 min mix, settle 20min	2.49 ntu	2.38 ntu	2.33 ntu	2.30 ntu	30 min 2.27 ntu	50 min 2.02 ntu
H1S1	E	1000	-	-	30 sec	3 min mix, settle 20min	2.48 ntu	Fine	Fine	2.05 ntu	30 min 1.87 ntu	50 min 1.60 ntu
H1S1	F	1000	624	10	30 sec	3 min mix, settle 20min	1.89 ntu	1.67 ntu	1.51 ntu	1.32 ntu	30 min 1.24 ntu	50 min 1.21 ntu
H1S1	F1	100	1224	5	1 min	small floc forms, floaters	1.29 ntu	Fine	Fine	Fine	1.18 ntu	-
H1S1	F1A	100	1224 / 4330	5/1224, 2/4330	1 min	large floc, floaters	1.01 ntu	-	-	-	0.98 ntu	-
H1S1	F2	100	4015	?	1 min	floaters	1.24 ntu	-	-	-	0.97 ntu	-

Slurry ID	Jar #	Sample Volume (mL)	Polymer ID	Dosage (ppm)	Flash Mix (1 min. @ 120 rpm)	Slow Mix @ 10 rpm (floc observations)					Settled NTU	TSS (ppm)
						0 min	5 min	10 min	15 min	20 min	15 min	
H1S1	F3	100	1198	?	1 min	floaters	1.08 ntu	-	-	-	0.97 ntu	-
H1S1	F4	100	4082	?	1 min	floaters	1.28 ntu	-	-	-	1.00 ntu	-
H1S1	F5	100	Dev E	?	1 min	floaters	2.03 ntu	-	-	-	1.09 ntu	-
H1S1	F6	100	4300	5	1 min	large floc	poor settling 3.22 ntu	-	-	-	-	-
H1S1	F7	100	626	5	1 min	larger floc, slow settling	2.62 ntu	-	-	-	-	-
H1S1	F8	100	4320	2	50 Swirls	floaters, water not clear	2.61 ntu	-	-	-	-	-
H1S1	F9	100	-	-	50 Swirls	finer	2.11 ntu	-	-	-	-	-
H1S1	F10	100	4030	5	50 swirls	fine	1.60 ntu	-	-	-	1.12 ntu	-
H1S1	F11	100	4330 / 4030	2/4330, 10/4030	50 swirls + 50 Swirls	larger floc	1.21 ntu	-	-	-	0.97 ntu	-
H1S1	F12	100	4330 / 4030	2/4330, 10/4030	1 min	-	1.21 ntu	-	-	-	-	-
H1S1	F13	100	4823 / 4330	5/4823, 2/4330	very large floc	floaters	2.38 ntu	-	-	-	-	-

Slurry ID	Jar #	Sample Volume (mL)	Polymer ID	Dosage (ppm)	Flash Mix (1 min. @ 120 rpm)	Slow Mix @ 10 rpm (floc observations)					Settled NTU 15 min	TSS (ppm)
						0 min	5 min	10 min	15 min	20 min		
H1S1	F14	100	758	5	1 min	-	1.20 ntu	-	-	-	-	-
H1S1	F15	100	758 / 843	5/758, 2/843	large floc, floaters	-	1.15 ntu	-	-	-	-	-
H1S1	F16	100	627	5	slight growth	-	1.08 ntu	-	-	-	-	-
H1S1	F16 A	100	627 / 4330	10/627, 2/4330	large floc, floaters	-	large floaters, 5.53 ntu	-	-	-	-	-
H1S1	F17	100	4330	4	50 Swirls	-	larger floc increase 3.60 ntu	-	-	-	-	-
H1S1	F18	100	624 redo	10	50 Swirls	-	1.1 ntu	-	-	-	-	-
H1S1	J1	500	-	-	1 min	-	2.15 ntu	1.49 ntu	1.44 ntu	1.46 ntu	1.48 ntu	-
H1S1	J2	500	1224	10	1 min	-	1.24 ntu	1.08 ntu	1.08 ntu	1.1 ntu	1 ntu	-
H1S1	J3	500	4015	10	1 min	-	1.24 ntu	1.09 ntu	1.07 ntu	0.97 ntu	0.95 ntu	-
H1S1	J4	500	1198	10	1 min	-	1.54 ntu	1.1 ntu	1.1 ntu	0.99 ntu	0.97 ntu	-
H1S1	J5	500	4082	10	floc size increase slightly	-	1.21 ntu	very slight growth 1.07 ntu	1 ntu	0.99 ntu	0.97ntu	-

Slurry ID	Jar #	Sample Volume (mL)	Polymer ID	Dosage (ppm)	Flash Mix (1 min. @ 120 rpm)	Slow Mix @ 10 rpm (floc observations)					Settled NTU 15 min	TSS (ppm)
						0 min	5 min	10 min	15 min	20 min		
H1S1	J6	500	Dev. E	10	floc size increase slightly	-	1.22 ntu	1.18 ntu	1.11 ntu	1 ntu	0.96 ntu	-
H1S1	J7	1000	-	-	1 min	-	-	-	-	-	1 hour, 1.05 ntu	-
H1S1	J8	1000	-	-	1 min	-	-	-	-	-	2 hour, 0.82 ntu	-
H1S1	J9	1000	-	-	1 min	suspended visible fines	suspended visible fines	suspended visible fines	suspended visible fines	suspended visible fines	3 hour, 0.80 ntu	-
H1S1	J10	1000	1000	4330	2 min	-	-	-	-	1.38 ntu	1.1 ntu	-
H1S1	J11	1000	1224 / 4330	10/1224 2/4330	1 min	floc size increase	-	1.26 ntu	-	1.11 ntu	0.96 ntu	-
H1S1	J12	1000	4015 / 4330	10/4015 2/4330	1 min	floc size increase	-	1.29 ntu	-	1.18 ntu	0.97 ntu	-
H1S1	J13	500	1198 / 4330	10/1198 2/4330	1 min	increase floc size with annionic.	-	3.8 ntu	-	1.4 ntu	1.33 ntu	-
H1S1	J14	500	4082 / 4330	10/4082 2/4330	1 min	increase floc size with annionic.	-	1.32 ntu	-	1.1 ntu	1.01 ntu	-
H1S1	J15	500	Dev E / 843	10/Dev E 2/843	1 min	-	-	1.19 ntu	-	1.2 ntu	1 ntu	-
H1S1	J16	500	626	5	1 min	-	-	1.41 ntu	-	1.39 ntu	1.02 ntu	-

Slurry ID	Jar #	Sample Volume (mL)	Polymer ID	Dosage (ppm)	Flash Mix (1 min. @ 120 rpm)	Slow Mix @ 10 rpm (floc observations)					Settled NTU	TSS (ppm)
						0 min	5 min	10 min	15 min	20 min	15 min	
H1S1	J17	500	4015	5	1 min	floc size slight increase	2.32 ntu	floc size slight increase	-	1.27 ntu	0.97 ntu	-
H1S1	J18	500	4015	10	1 min	floc size slight increase	3.05 ntu	floc size slight increase	-	1.3 ntu	0.96 ntu	-
H1S1	J19	500	4015	15	1 min	slight increase	3.55 ntu	floc size slight increase	-	1.02 ntu	0.97 ntu	-
H1S1	J20	500	4015	20	1 min	floc size slight increase	3.40 ntu	-	-	1.1 ntu	1.02 ntu	-
H1S1	J21	500	-	-	1 min	mixing alone helps solids form	3.58 ntu	-	-	2.98 ntu	1.97 ntu	-
H1S1	J22	500	-	-	1 min	mixing as listed	3.88 ntu	-	-	2.62 ntu	2.2 ntu	10
H1S1	J23	500	4015	10	1 min	3.58	-	-	clear in between floaters	1.92 ntu	1.51 ntu	5
H1S1	J24	500	518 / 4848	20/518 4/4848	1 min	3.98	-	-	clear in between floaters	2.05 ntu	2.61 ntu	6
H1S1	J25	500	305 / 4848	20/305 4/4848	1 min	3.89	-	-	clear in between floaters	2.77 ntu	2.1 ntu	6
H1S1	J26	500	4848	20	1 min	3.94	floc increase size	-	clear in between floaters	1.99 ntu	1.65 ntu	1
H1S1	J27	500	305 / 853	20/305 5/853	1 min	4.11	-	-	-	1.88 ntu	1.6 ntu	1

Slurry ID	Jar #	Sample Volume (mL)	Polymer ID	Dosage (ppm)	Flash Mix (1 min. @ 120 rpm)	Slow Mix @ 10 rpm (floc observations)					Settled NTU 15 min	TSS (ppm)
						0 min	5 min	10 min	15 min	20 min		
H1S1	J28	500	627	5	1 min	5.04			clearing	1.94 ntu	1.02 ntu	no test clear visual
H1S2	J29	500	Dev E	10	1 min	fines start 26.4 ntu	fine some floaters	fine	some growth	same	5.49 ntu	clear some floaters
H1S2	J30	500	Dev E	15	1 min	fine	fine some floaters	growth	growth	same	6.4 ntu	1
H1S2	J31	500	Dev E	20	1 min	fine	fine some floaters	fine	fine	fine	6.2 ntu	-
H1S2	J32	500	4015	10	1 min	fine	some floaters	settling starts	same	settling	5.13 ntu	-
H1S2	J33	500	4015	15	1 min	fines	good some floaters	settling starts	same	same	5.24 ntu	-
H1S2	J34	500	4015	20	1 min	fines	-	settling starts	same	floc settling	5.33 ntu	1
H1S2	J35	500	-	-	fluff	fine fluff	fluff	fluff	fluff	some settling	small fluff floc, 7.25 ntu	3
H1S2	J36	500	Dev E / 853	10/Dev E 2/853	floc grows quickly	same	good	good	same	same	5.72 ntu	1
H1S3	J37	500	Dev E	10	floc	floc starts	good	good	same	same	12.1 ntu	-
H1S3	J38	500	Dev E	15	floc	floc starts	good	-	-	-	11.1 ntu	1

Slurry ID	Jar #	Sample Volume (mL)	Polymer ID	Dosage (ppm)	Flash Mix (1 min. @ 120 rpm)	Slow Mix @ 10 rpm (floc observations)					Settled NTU	TSS (ppm)
						0 min	5 min	10 min	15 min	20 min	15 min	
H1S3	J39	500	Dev E	20	floc	smaller	same	same	same	same	11.2 ntu	-
H1S3	J40	500	-	-	10 rpm				fines	no growth	20.4 ntu	17
H1S3	J41	500	-	-	1 min	fine	fine	fine	fine	fine	13.8 ntu	2
H1S3	J42	500	-	-	1 min	no mixing	no mixing	no mixing	no mixing	no mixing	27.8 ntu	20
H1S3	J43	500	4015	10	fine	fine	fine	fine	fine	fine	11.4 ntu	-
H1S3	J44	500	4015	15	fine	fine	fine	fine	fine	fine	9.33 ntu	-
H1S3	J45	500	4015	20	fine	fine	fine	fine	fine	fine	9.49 ntu	-
H1S4B	J46	500	-	pH 7.28	54.7 ntu start	fine	same	same	same	same	floaters 40.1 ntu	-
H1S4B	J47	500	Dev E	20	fine	fine	fluff	fluff	fluff	fluff	floaters 32.8 ntu	8
H1S4B	J48	500	Dev E	25	fine	fluff	fluff	fluff	fluff	fluff	floaters 34.6 ntu	1
H1S4B	J49	500	Dev E	30	fine	fluff	fluff	fluff	fluff	fluff	33.5 ntu	-

Slurry ID	Jar #	Sample Volume (mL)	Polymer ID	Dosage (ppm)	Flash Mix (1 min. @ 120 rpm)	Slow Mix @ 10 rpm (floc observations)					Settled NTU	TSS (ppm)
						0 min	5 min	10 min	15 min	20 min	15 min	
H1S4B	J50	500	4015 / 853	20/4015 3/853	fluff	fluff	fluff	fluff	fluff	fluff floc	31.6 ntu	7
H1S4B	J51	500	4015	25	fluff	fluff	fluff	fluff	fluff	fluff floc	36.4 ntu	-
H1S4B	J52	500	4015 / 843	30/4015 5/843	grows rapidly	better	-	-	-	fluff	34.5 ntu	-
H1S4B	J53	500	Dev E / 843	20/Dev E 2/843	grows rapidly	better	-	-	-	fluff floc	22.1 ntu	1
H2S4B	J54	500	-	-	fine floc	fine floc	-	-	-	fine floc	10.01 ntu	-
H2S4B	J55	500	Dev E	5	fine floc	some growth	-	-	-	same	8.1 ntu	-
H2S4B	J56	500	Dev E	10	floc forms	growth	better	same	same	same	7.67 ntu	4
H2S4B	J57	500	Dev E	15	floc forms	growth	better	same	same	same	7.77 ntu	1
H2S4B	J58	500	4015	5	floc forms	fluff	fluff	fluff	fluff	8.5 ntu	7.14 ntu	-
H2S4B	J59	500	4015	10	floc forms	fluff	fluff	fluff	fluff	8.12 ntu	8.31 ntu	-
H2S4B	J60	500	4015	20	floc forms	fluff	fluff	fluff	fluff	8.77 ntu	6.84 ntu	-

Slurry ID	Jar #	Sample Volume (mL)	Polymer ID	Dosage (ppm)	Flash Mix (1 min. @ 120 rpm)	Slow Mix @ 10 rpm (floc observations)					Settled NTU	TSS (ppm)
						0 min	5 min	10 min	15 min	20 min	15 min	
H2S4B	J61	500	4015	4015 + 853	rapid floc forms	better	-	better	same	7.58 ntu	5.86 ntu	-
H1S1	F19	100	4848	10	1 min	3.09 ntu	-	-	-	2.91 ntu	1.1 ntu	-
H1S1	F20	100	2651	10	1 min	3.07 ntu	-	-	-	2.97 ntu	1.14 ntu	2
H1S4B Drum	-	-	-	-	-	-	-	-	-	-	13.6 ntu	1
H2S4B	-	-	-	-	-	-	-	-	-	-	28.1 ntu	3
H1S3	-	-	-	-	-	-	-	-	-	-	28.1 ntu	20
H1S2	-	-	-	-	-	-	-	-	-	-	26.4 ntu	15
H1S4B Comp.	-	-	-	-	-	-	-	-	-	-	54.7 ntu	49

Visual Observations:

All tests showed clear yellow liquid between floc.

Floc observed to float as low as 2 rpm, fine particles.

10 rpm slow mix keeps floc suspended. Suspended solids with all tests.

Polymers increase clarity, however, floaters are more prominent.

H1S1, H1S2, H1S3, H2S4B - Mixing alone enhances floc formation, suggest no polymer required.

H1S4B - testing suggests polymer would not be required, depending on downstream treatment methods.

Highest turbidity, H1S4B at 54.7 NTU.

Color interferences with ntu readings.

H1S4B - composited from two drums.

Test A to E to evaluate mixing relative to light solids.

Flask tests noted with F and number. 250 ml flasks.

Jar tests noted with J and number.

Hudson River Treatability Study

Drum Settling

Filtrate collected from the plate-and-frame filter press tests was collected in drums for use in the water treatment tests. Prior to water column tests, filtrate was settled in the drums. One drum from each filtrate type was mixed with a drum mixer and allowed to settle for two hours. After the settling period, samples were collected for analysis at the top, middle, and bottom of the drums. Then the filtrate was transferred from one drum to another, leaving the last few inches of settled solids in the original drum. This settled and decanted filtrate was then used in subsequent water treatment tests. All drums of filtrate were settled and decanted, but samples for analysis were taken from only one drum of each filtrate type. The results of tests performed at Waste Stream, along with a list of samples taken for other analyses, are provided below.

Filtrate Type	pH	Turbidity (NTU)	Samples Collected for Other Analyses
H1S1 - Settled Filtrate - Top	6.27	1.01	PCB (8082), PCDD/PCDF, TAL Metals, TSS
H1S1 - Settled Filtrate - Middle	---	1.25	TSS
H1S1 - Settled Filtrate - Bottom	---	1.46	TSS
H1S2 - Settled Filtrate - Top	6.45	0.748	PCB (8082), PCDD/PCDF, TAL Metals, TSS
H1S2 - Settled Filtrate - Middle	---	1.15	TSS
H1S2 - Settled Filtrate - Bottom	---	1.36	TSS
H1S3 - Settled Filtrate - Top	6.08	3.15	PCB (8082), PCDD/PCDF, TAL Metals, TSS
H1S3 - Settled Filtrate - Middle	---	4.66	TSS
H1S3 - Settled Filtrate - Bottom	---	4.79	TSS
H1S4B - Settled Filtrate - Top	7.15	92.0	PCB (8082), PCDD/PCDF, TAL Metals, TSS
H1S4B - Settled Filtrate -Bottom	---	93.4	TSS
H2S4B - Settled Filtrate - Top	6.68	2.48	PCB (8082), PCDD/PCDF, TAL Metals, TSS
H2S4B - Settled Filtrate - Middle	---	2.64	TSS
H2S4B - Settled Filtrate - Bottom	---	3.34	TSS

Hudson River Treatability Study

MMF/GAC Columns

Backwash Log

Date	Column ID	New Media (Y/N)	Media Height (ft)	Backwash Rate (gpm)	Expansion Height (in)	Backwash Time (min)
9/3/2004	MMF	Y	4	2.6	18	20
	GAC1	Y	5	0.6	16	60
	GAC2	Y	5	0.6	16	60
9/7/2004	MMF	N	4	2.6	18	20
9/8/2004	MMF	N	4	2.6	18	20
	GAC1	Y	5	0.6	16	60
	GAC2	Y	5	0.6	16	60
9/9/2004	MMF	N	4	2.6	18	20
9/10/2004	MMF	N	4	2.6	18	20
	GAC1	Y	5	0.6	16	60
	GAC2	Y	5	0.6	16	60
9/13/2004	MMF	N	4	2.6	18	20
	GAC1	Y	5	0.6	16	60
	GAC2	Y	5	0.6	16	60
9/14/2004	MMF	N	4	2.6	18	20
	GAC1	Y	5	0.6	16	60
	GAC2	Y	5	0.6	16	60
9/15/2004	MMF	N	4	2.6	18	20

Hudson River Treatability Study

Filtration Log

Date	Sample ID	Loading Rate (gpm per sq ft)	Flow Rate* (gpm)	Volume Passed Before Sampling (gal)	Color/ Clarity MMF Out	Color/ Clarity Bet GAC	Color/ Clarity GAC 2 Out	Notes
9/7/2004	H1S1	2	0.17	22.2	Clear, colorless	Clear, colorless	Clear, colorless	
	H1S1	6	0.52	15.7	Clear, colorless	Clear, colorless	Clear, colorless	
	H1S1	10	0.87	15.7	Clear, colorless	Clear, colorless	Clear, colorless	
9/8/2004	H1S2	6	0.52	2.0	Clear, colorless	--	--	MMF Only
9/9/2004	H1S3	2	0.17	22.2	Clear, v. sl. Yellow	Clear, colorless	Clear, colorless	
	H1S3	6	0.52	15.7	Clear, v. sl. Yellow	Clear, colorless	Clear, colorless	
	H1S3	10	0.87	15.7	Clear, v. sl. Yellow	Clear, colorless	Clear, colorless	
9/10/2004	H2S4B	6	0.52	2.0	Clear, sl. Yellow	--	--	MMF Only
9/13/2004	H2S4B	2	0.17	22.2	Clear, sl. Yellow	Clear, colorless	Clear, colorless	
	H2S4B	6	0.52	15.7	Clear, sl. Yellow	Clear, colorless	Clear, colorless	
9/14/2004	H1S2	2	0.17	22.2	Clear, colorless	Clear, colorless	Clear, colorless	
	H1S2	6	0.52	15.7	Clear, colorless	Clear, colorless	Clear, colorless	
	H1S2	10	0.87	15.7	Clear, colorless	Clear, colorless	Clear, colorless	
9/15/2004	H1S4B	6	0.52	22.2	Sl. Cloudy, yellow	Clear, Mod. Yellow	Clear, sl. Yellow	

* Flow rates were measured using a flow meter, and verified by checking effluent volume vs. time approximately every 15 minutes during testing. Flow rates were accurate to within 0.01 gpm.

Hudson River Treatability Study

Water Treatment Data Sheet

Date	Sample I.D.	pH	Turbidity (NTU)	D.O. (mg/L)
9/7/2004	H1S1-MMF IN	6.49	2.37	4.44
9/7/2004	H1S1-MMF OUT 2	6.51	0.33	3.97
9/7/2004	H1S1-BET GAC 2	7.25	0.20	2.01
9/7/2004	H1S1-GAC 2 OUT 2	7.46	0.19	2.34
9/7/2004	H1S1-MMF OUT 6	6.83	0.38	4.72
9/7/2004	H1S1-BET GAC 6	7.66	0.28	2.15
9/7/2004	H1S1-GAC 2 OUT 6	7.71	0.34	1.61
9/7/2004	H1S1-MMF OUT 10	6.92	0.33	5.66
9/7/2004	H1S1-BET GAC 10	8.76	0.23	2.63
9/7/2004	H1S1-GAC 2 OUT 10	8.10	0.19	2.55
9/9/2004	H1S3-MMF IN	6.49	7.24	4.06
9/9/2004	H1S3-MMF OUT 2	6.86	2.58	4.60
9/9/2004	H1S3-BET GAC 2	8.88	1.69	1.26
9/9/2004	H1S3-GAC 2 OUT 2	8.67	0.57	1.43
9/9/2004	H1S3-MMF OUT 6	6.84	2.55	4.77
9/9/2004	H1S3-BET GAC 6	8.96	2.06	0.75
9/9/2004	H1S3-GAC 2 OUT 6	8.87	1.39	1.05
9/9/2004	H1S3-MMF OUT 10	6.89	2.41	4.22
9/9/2004	H1S3-BET GAC 10	9.03	2.08	1.53
9/9/2004	H1S3-GAC 2 OUT 10	8.96	1.57	1.95
9/13/2004	H2S4B-MMF IN	6.80	4.92	4.25
9/13/2004	H2S4B-MMF OUT 2	7.12	1.96	4.25
9/13/2004	H2S4B-BET GAC 2	8.08	1.20	1.60
9/13/2004	H2S4B-GAC 2 OUT 2	7.96	0.49	2.02
9/13/2004	H2S4B-MMF OUT 6	7.15	1.85	3.94
9/13/2004	H2S4B-BET GAC 6	9.10	1.47	1.26
9/13/2004	H2S4B-GAC 2 OUT 6	8.35	0.90	1.60

Date	Sample I.D.	pH	Turbidity (NTU)	D.O. (mg/L)
9/14/2004	H1S2-MMF IN	6.85	5.90	4.50
9/14/2004	H1S2-MMF OUT 2	7.05	1.85	4.26
9/14/2004	H1S2-BET GAC 2	8.50	1.33	1.63
9/14/2004	H1S2-GAC 2 OUT 2	8.24	0.81	1.78
9/14/2004	H1S2-MMF OUT 6	7.00	1.99	4.11
9/14/2004	H1S2-BET GAC 6	9.04	1.63	1.38
9/14/2004	H1S2-GAC 2 OUT 6	8.45	1.26	1.22
9/14/2004	H1S2-MMF OUT 10	7.33	2.15	4.68
9/14/2004	H1S2-BET GAC 10	9.24	1.76	1.54
9/14/2004	H1S2-GAC 2 OUT 10	8.72	1.42	1.16
9/15/2004	H1S4B-MMF IN	7.59	88.00	4.03
9/15/2004	H1S4B-MMF OUT 6	7.63	95.40	4.07
9/15/2004	H1S4B-BET GAC 6	8.64	71.30	1.85
9/15/2004	H1S4B-GAC 2 OUT 6	8.61	40.80	1.88

RSSCT Water Preparation

Jar Testing

12/28/04 & 12/29/04, 1/10/05

Test Number	Water Vol. (L)	Sediment Wt. (g)	Sediment bucket used	Mix time (min) @ 150 rpm	Polymer used	Polymer Dose (ppm)	Turbidity (NTU) at Time below (min)						
							0	10	20	30	40	50	60
1	1.5	7.06	S4B-2-01	60	Dev. E	5	547	89.2	87.9	88.9	88.1	89.2	87.1
2	1.5	7.06	S4B-2-01	60	Dev. E	10	16.2	10.8	9.92	9.75	9.74	9.75	9.62
3	1.5	7.06	S4B-2-01	60	Dev. E	15	51.2	12.0	12.0	12.1	11.8	11.9	11.9
4	1.5	7.06	S4B-2-01	60	Dev. E	10	--	8.57	8.35	7.95	7.79	7.79	7.75
5	1.5	7.06	S4B-2-01	60	4000 / 4330	10 / 3	--	5.47	4.95	4.34	4.14	3.99	3.95
6	1.5	7.06	S4B-2-01	60	4015 / 4330	10 / 3	--	8.75	7.95	8.17	7.57	7.70	7.55
7	1.5	7.06	S4B-2-01	60	4015 / NE823	10 / 5	--	13.0	13.0	12.8	12.9	12.7	12.9
8	1.5	7.06	S4B-2-01	60	4000 / 4330	10 / 3	--	6.14	5.41	5.09	4.70	--	--
9	1.5	7.06	S4B-2-01	60	4000 / 4330	10 / 3	--	3.13	3.10	3.08	2.98	--	--
10	1.5	7.06	S4B-2-01	60	4000 / 4330	10 / 3	--	5.59	4.35	4.43	4.31	--	--
11	16.0	75.36	S4B-2-01	60	4000 / 4330	10 / 3	--	6.96	5.20	4.52	4.06	--	--

Notes and Observations:

- 1-3 Definite floc in 15 ppm, slight to moderate floc in 5 and 10 ppm respectively. Immediate settling in 10 and 15 ppm, cloudy and brown in 5 ppm.

- 4-7 All tests flocced well and settled rapidly (<1min).
T=0 turbidities were not taken due to the large amount of rapidly settling flocced particles.
A thin film of organic material was observed on tests 5 and 6.
Test 4 was sampled for PCB and TOC analysis at T=60. (RSSCT Prep 01)
Test 5 was sampled for PCB and TOC analysis at T=60. (RSSCT Prep 02)
- 1/10/05
- 8-11 Test 8 was sampled for PCB and TOC analysis at T=40. (RSSCT Prep 03)
Test 9 was sampled for PCB and TOC analysis at T=40. (RSSCT Prep 04)
Test 10 was sampled for PCB and TOC analysis at T=40. (RSSCT Prep 05)
Test 11 was decanted and sampled for PCB, TSS, and TOC analysis at T=40. (RSSCT Prep 06)
Test 11 (decant) was diluted 1:5 with site water (filtered to 5 micron) and subsequently sampled for
PCB, TSS, and TOC (RSSCT Prep 07)
Test 11 Decant - 7.83 NTU, ~14.5L
Test 11 Decant diluted 1:5 - 2.14 NTU (1L decant : 5L filtered site water)

RSSCT Water Preparation

Concentrate Prep.

Date	Batch Number	Water Vol. (L)	Sediment Wt. (g)	Sediment bucket used	Mix time (min) @ 150 rpm	Polymer used	Polymer Dose (ppm)	Settling Time (min)	Decanted Vol. (L)	Turbidity (NTU)	PCB conc. (ppb)	Turbidity (NTU)
1/17/2005	01	16.0	75.36	S4B--2-01	60	4000 / 4330	10 / 3	40	12	7.08	73.2	4.75
1/17/2005	02	16.0	75.36	S4B--2-01	60	4000 / 4330	10 / 3	40	12	6.75		
1/17/2005	03	16.0	75.36	S4B--2-01	60	4000 / 4330	10 / 3	40	12	5.49		
1/17/2005	04	16.0	75.36	S4B--2-01	60	4000 / 4330	10 / 3	40	12	6.28		
1/17/2005	05	16.0	75.36	S4B--2-01	60	4000 / 4330	10 / 3	40	12	4.34		

RSSCT Water Preparation

Feed Prep.

Date	Batch ID	Concentrate Material Used	PCB conc. of concentrate	Vol of concentrate used	Vol of filtered site water used	Date and Time added to feed drum
1/24/2005	01	01-05 comp	73.2	17L	83L	1/24/05 1600
1/25/2005	02	01-05 comp	73.2	17L	83L	1/25/05 1400

Hudson River

RSSCT Summary

Sample ID	Turbidity (NTU)						Flow Rate (mL/min)							
	P1	Y1	G1	P2	Y2	G2	P1	Y1	G1	P2	Y2	G2	AVG	
0	0.055	0.079	0.159	0.268	0.082	0.117	7.20	6.97	6.97	7.22	7.28	6.58	7.03	
1	0.174	0.121	0.098	0.206	0.193	0.165	6.71	6.53	6.57	6.75	6.79	6.19	6.59	
2	0.095	0.184	0.124	0.109	0.191	0.108	6.56	6.36	6.43	6.41	6.57	6.08	6.40	
3	0.208	0.199	0.140	0.139	0.228	0.141	0.82	5.13	5.94	4.14	2.75	4.57	3.89	
4	0.148	NA	0.137	NA	NA	NA	6.28	2.73	6.43	3.24	4.47	2.42	4.26	
5	0.139	NA	0.128	NA	NA	NA	6.07	1.50	6.26	1.68	1.91	0.94	3.06	
6	low flows, no samples													
7	0.104	0.177	0.105	0.102	0.183	0.131	6.84	6.95	6.92	6.67	6.77	6.62	6.80	
8	0.156	0.129	0.160	0.140	0.131	0.114	6.83	6.86	6.93	6.60	6.70	6.56	6.75	
9	0.132	0.130	0.181	0.215	0.123	0.130	6.77	6.69	6.84	6.47	6.57	6.45	6.63	
10	0.137	0.147	0.180	0.149	0.124	0.181	6.85	6.76	6.77	6.27	6.62	6.42	6.62	
11	0.116	0.111	0.147	0.120	0.136	0.147	6.72	6.73	6.80	6.54	6.60	6.52	6.65	
12	0.100	0.104	0.145	0.088	0.091	0.150	6.82	6.74	6.85	6.63	6.66	6.60	6.71	
13	0.115	0.150	0.104	0.099	0.165	0.105	6.74	6.73	6.76	6.68	6.14	6.70	6.63	
14	0.145	0.091	0.085	0.144	0.092	0.154	6.80	6.72	6.87	6.59	6.60	6.57	6.69	

15	0.182	0.118	0.164	0.101	0.156	0.098	6.75	6.69	6.76	6.62	6.68	6.61	6.69
16	0.122	0.250	0.145	0.112	0.106	0.140	6.73	6.68	6.83	6.59	6.48	6.42	6.62
17	0.131	0.218	0.097	0.121	0.099	0.088	6.61	6.49	6.21	6.29	6.41	6.40	6.40
18	0.122	0.155	0.086	0.102	0.134	0.117	6.65	6.58	6.75	6.25	6.53	6.47	6.54
19	0.127	0.243	0.097	0.094	0.101	0.109	6.60	6.56	6.70	6.45	6.48	6.41	6.53
20	0.127	0.127	0.119	0.076	0.115	0.142	6.44	6.44	6.44	6.19	6.18	6.23	6.32
21	0.089	0.122	0.088	0.130	0.120	0.112	6.48	6.47	6.52	6.28	5.63	6.27	6.28
22	0.141	0.115	0.131	0.083	0.138	0.080	6.67	6.55	6.73	6.41	6.48	6.39	6.54
23	0.179	0.114	0.120	0.112	0.146	0.080	6.63	6.49	6.70	6.28	6.42	6.37	6.48
24	0.222	0.152	0.094	0.137	0.127	0.078	6.79	6.56	6.89	6.31	6.34	6.50	6.57

Group Zip Tie Color (Single Column)	Column Zip Tie Color	Sample ID	Sample Date	Temp. of Feed water (C)	Bottle Mass Empty (g)	Bottle Mass w/ H2O (g)	PCB Sample Start time (incl. AM/PM)	PCB Sample Finish Time (incl. AM/PM)	Noteworthy Observations	TOC sample end time (40 mL)	TSS sample end time (1 L)	Turbidity (NTU)
Orange	Pink	0	4/26/2005	14	500.1	1556.6	10:27:00	12:53:45				0.055
Orange	Pink	1	4/27/2005	13	500.5	1537.2	8:44:00	11:18:30				0.174
Orange	Pink	2	4/28/2005	15	501.6	1539.0	9:27:45	12:06:00				0.095
Orange	Pink	3	4/29/2005	13	500.3	805.3	9:54:30	16:06:30				0.208
Orange	Pink	4	4/30/2005	15	500.4	1539.5	10:57:30	13:43:00				0.148
Orange	Pink	5	5/1/2005	13	501.8	1512.7	10:18:00	13:04:30				0.139
Orange	Pink	6							low flows, no samples			
Orange	Pink	7	5/3/2005	15	499.7	1539.8	8:35:00	11:07:00			16:00:00	0.104
Orange	Pink	8	5/4/2005	14	501.5	1540.4	9:23:15	11:55:15				0.156
Orange	Pink	9	5/5/2005	13	499.47	1550.8	8:46:30	11:21:45				0.132
Orange	Pink	10	5/6/2005	15	499.2	1533.4	10:31:00	13:02:00				0.137
Orange	Pink	11	5/7/2005	15	499.9	1524.0	9:17:15	11:49:45				0.116
Orange	Pink	12	5/8/2005	16	499.3	1511.6	9:36:00	12:04:30				0.100
Orange	Pink	13	5/9/2005	18	499.1	1556.1	8:55:45	11:32:30		11:45:30	14:36:00	0.115
Orange	Pink	14	5/10/2005	18	499.2	1532.7	9:26:00	11:58:00				0.145
Orange	Pink	15	5/11/2005	19	499.5	1556.8	8:47:00	11:23:45				0.182

Orange	Pink	16	5/12/2005	20	499.4	1530.8	8:35:00	11:08:15		11:21:00	14:15:00	0.122
Orange	Pink	17	5/13/2005	16	500.5	1555.5	9:08:45	11:48:15				0.131
Orange	Pink	18	5/14/2005	16	500.8	1537.9	9:12:30	11:48:30				0.122
Orange	Pink	19	5/15/2005	15	500.8	1544.7	9:07:15	11:45:30				0.127
Orange	Pink	20	5/16/2005	15	500.0	1555.8	9:11:30	11:55:30		12:10:00	15:02:30	0.127
Orange	Pink	21	5/17/2005	11	500.3	1550.0	9:11:30	11:53:30				0.089
Orange	Pink	22	5/18/2005	12	500.3	1542.8	8:54:00	11:30:15		11:39:00	14:29:30	0.141
Orange	Pink	23	5/19/2005	15	499.5	1538.7	9:00:45	11:37:30				0.179
Orange	Pink	24	5/20/2005	16	499.5	1539.5	8:58:00	11:31:15		11:54:00	14:40:00	0.222

Group Zip Tie Color (Single Column)	Column Zip Tie Color	Sample ID	Sample Date	Temp. of Feed water (C)	Bottle Mass Empty (g)	Bottle Mass w/ H2O (g)	PCB Sample Start time (incl. AM/PM)	PCB Sample Finish Time (incl. AM/PM)	Noteworthy Observations	TOC sample end time (40 mL)	TSS sample end time (1 L)	Turbidity (NTU)
Orange	Yellow	0	4/26/2005	14	500.4	1536.6	10:29:00	12:57:45				0.079
Orange	Yellow	1	4/27/2005	13	500.4	1533.3	8:44:45	11:23:00				0.121
Orange	Yellow	2	4/28/2005	15	502.3	1542.8	9:28:30	12:12:00				0.184
Orange	Yellow	3	4/29/2005	13	500.1	1521.1	9:55:00	13:14:00				0.199
Orange	Yellow	4	4/30/2005	15	500.6	1045.1	10:57:15	14:16:30				NA
Orange	Yellow	5	5/1/2005	13	501	749.9	10:19:00	13:05:15				NA
Orange	Yellow	6							low flows, no samples			
Orange	Yellow	7	5/3/2005	15	499.3	1546.9	8:36:45	11:07:30			16:00:00	0.177
Orange	Yellow	8	5/4/2005	14	500.7	1542.4	9:24:00	11:55:45				0.129
Orange	Yellow	9	5/5/2005	13	499	1536.4	8:47:00	11:22:00				0.130
Orange	Yellow	10	5/6/2005	15	500.1	1521.2	10:31:00	13:02:00				0.147
Orange	Yellow	11	5/7/2005	15	499.5	1523.9	9:17:45	11:50:00				0.111
Orange	Yellow	12	5/8/2005	16	501.9	1502.8	9:36:30	12:05:00				0.104
Orange	Yellow	13	5/9/2005	18	499.6	1554.7	8:55:45	11:32:30		11:45:30	14:36:00	0.150
Orange	Yellow	14	5/10/2005	18	499.5	1521.0	9:26:00	11:58:00				0.091
Orange	Yellow	15	5/11/2005	19	499.5	1548.6	8:47:00	11:23:45				0.118
Orange	Yellow	16	5/12/2005	20	499.7	1522.8	8:35:00	11:08:15		11:21:00	14:15:00	0.250

Orange	Yellow	17	5/13/2005	16	500.5	1536.1	9:08:45	11:48:15				0.218
Orange	Yellow	18	5/14/2005	16	500.0	1545.3	9:13:45	11:52:30				0.155
Orange	Yellow	19	5/15/2005	15	499.9	1539.3	9:07:45	11:46:15				0.243
Orange	Yellow	20	5/16/2005	15	500.3	1555.9	9:11:30	11:55:30		12:10:00	15:02:30	0.127
Orange	Yellow	21	5/17/2005	11	500.5	1548.0	9:11:30	11:53:30				0.122
Orange	Yellow	22	5/18/2005	12	500.7	1525.4	8:54:00	11:30:30		11:39:00	14:29:30	0.115
Orange	Yellow	23	5/19/2005	15	499.5	1527.3	9:00:45	11:39:00				0.114
Orange	Yellow	24	5/20/2005	16	499.7	1545.6	8:58:00	11:37:30		11:54:00	14:40:00	0.152

Group Zip Tie Color (Single Column)	Column Zip Tie Color	Sample ID	Sample Date	Temp. of Feed water (C)	Bottle Mass Empty (g)	Bottle Mass w/ H2O (g)	PCB Sample Start time (incl. AM/PM)	PCB Sample Finish Time (incl. AM/PM)	Noteworthy Observations	TOC sample end time (40 mL)	TSS sample end time (1 L)	Turbidity (NTU)
Orange	Green	0	4/26/2005	14	500.0	1538.1	10:30:30	12:59:30				0.159
Orange	Green	1	4/27/2005	13	500.6	1530.9	8:45:15	11:22:00				0.098
Orange	Green	2	4/28/2005	15	501.7	1543.6	9:29:00	12:11:00				0.124
Orange	Green	3	4/29/2005	13	500.8	1558.8	9:55:30	12:53:30				0.140
Orange	Green	4	4/30/2005	15	500.3	1557.4	10:57:00	13:41:30				0.137
Orange	Green	5	5/1/2005	13	502.0	1527.1	10:20:00	13:03:45				0.128
Orange	Green	6							low flows, no samples			
Orange	Green	7	5/3/2005	15	500.5	1543.7	8:37:15	11:08:00			16:00:00	0.105
Orange	Green	8	5/4/2005	14	499.4	1549.0	9:24:45	11:56:15				0.160
Orange	Green	9	5/5/2005	13	499.3	1554.8	8:47:30	11:21:45				0.181
Orange	Green	10	5/6/2005	15	501.9	1523.6	10:32:00	13:03:00				0.180
Orange	Green	11	5/7/2005	15	499.8	1535.4	9:18:15	11:50:30				0.147
Orange	Green	12	5/8/2005	16	499.8	1518.1	9:36:45	12:05:30				0.145
Orange	Green	13	5/9/2005	18	499.6	1558.1	8:56:00	11:32:30		11:45:30	14:36:00	0.104
Orange	Green	14	5/10/2005	18	499.5	1541.3	9:26:15	11:58:00				0.085

Orange	Green	15	5/11/2005	19	499.2	1556.8	8:47:15	11:23:45				0.164
Orange	Green	16	5/12/2005	20	499.8	1555.1	8:35:15	11:09:45		11:21:00	14:15:00	0.145
Orange	Green	17	5/13/2005	16	500.4	1517.9	9:09:00	11:52:45				0.097
Orange	Green	18	5/14/2005	16	500.2	1550.4	9:14:30	11:50:00				0.086
Orange	Green	19	5/15/2005	15	500.4	1550.1	9:08:15	11:45:00				0.097
Orange	Green	20	5/16/2005	15	500.6	1556.8	9:11:30	11:55:30		12:10:00	15:02:30	0.119
Orange	Green	21	5/17/2005	11	500.6	1555.3	9:11:45	11:53:30				0.088
Orange	Green	22	5/18/2005	12	500.4	1552.5	8:54:00	11:30:15		11:39:00	14:29:30	0.131
Orange	Green	23	5/19/2005	15	500.1	1549.2	9:01:00	11:37:30				0.120
Orange	Green	24	5/20/2005	16	499.9	1555.5	8:58:00	11:31:15		11:54:00	14:40:00	0.094

Group Zip Tie Color (Double column)	Column Zip Tie Color	Sample ID	Sample Date	Temp. of Feed water (C)	Bottle Mass Empty (g)	Bottle Mass w/ H2O (g)	PCB Sample Start time (incl. AM/PM)	PCB Sample Finish Time (incl. AM/PM)	Noteworthy Observations	TOC sample end time (40 mL)	TSS sample end time (1 L)	Turbidity (NTU)
Blue	Pink	0	4/26/2005	14	500.6	1541.6	10:32:00	12:56:15				0.268
Blue	Pink	1	4/27/2005	13	501.8	1540.7	8:45:45	11:19:45				0.206
Blue	Pink	2	4/28/2005	15	502.8	1546.7	9:30:15	12:13:00				0.109
Blue	Pink	3	4/29/2005	13	502.8	1545.9	9:56:00	14:07:45				0.139
Blue	Pink	4	4/30/2005	15	502.6	1156.1	10:55:30	14:17:15				NA
Blue	Pink	5	5/1/2005	13	501.9	778.7	10:21:00	13:06:00				NA
Blue	Pink	6							low flows, no samples			
Blue	Pink	7	5/3/2005	15	501.1	1502.8	8:38:15	11:08:30			16:00:00	0.102
Blue	Pink	8	5/4/2005	14	500.2	1534.1	9:25:30	12:02:15				0.140
Blue	Pink	9	5/5/2005	13	500.4	1530.6	8:48:00	11:27:15				0.215
Blue	Pink	10	5/6/2005	15	499.2	1537.7	10:32:00	13:17:30				0.149
Blue	Pink	11	5/7/2005	15	499.7	1494.2	9:18:45	11:50:45				0.120
Blue	Pink	12	5/8/2005	16	499.4	1505.2	9:38:15	12:10:00				0.088
Blue	Pink	13	5/9/2005	18	499.9	1548.2	8:56:00	11:33:00		11:54:30	14:40:00	0.099
Blue	Pink	14	5/10/2005	18	500.0	1512.5	9:26:15	12:00:00				0.144
Blue	Pink	15	5/11/2005	19	499.8	1538.5	8:47:15	11:24:15				0.101
Blue	Pink	16	5/12/2005	20	499.6	1517.7	8:35:15	11:09:45		11:29:00	14:16:00	0.112
Blue	Pink	17	5/13/2005	16	500.3	1530.0	9:09:00	11:52:45				0.121

Blue	Pink	18	5/14/2005	16	499.3	1539.3	9:09:15	11:55:45				0.102
Blue	Pink	19	5/15/2005	15	500.2	1535.2	9:08:45	11:49:15				0.094
Blue	Pink	20	5/16/2005	15	500.0	1546.6	9:12:00	12:01:00		12:09:00	15:18:00	0.076
Blue	Pink	21	5/17/2005	11	500.0	1552.4	9:12:00	11:59:30				0.130
Blue	Pink	22	5/18/2005	12	501.0	1528.5	8:55:00	11:35:15		11:52:00	14:31:30	0.083
Blue	Pink	23	5/19/2005	15	500.0	1525.3	9:01:00	11:44:15				0.112
Blue	Pink	24	5/20/2005	16	499.5	1548.4	8:58:15	11:44:30		12:03:00	14:49:00	0.137

Group Zip Tie Color (Double column)	Column Zip Tie Color	Sample ID	Sample Date	Temp. of Feed water (C)	Bottle Mass Empty (g)	Bottle Mass w/ H2O (g)	PCB Sample Start time (incl. AM/PM)	PCB Sample Finish Time (incl. AM/PM)	Noteworthy Observations	TOC sample end time (40 mL)	TSS sample end time (1 L)	Turbidity (NTU)
Blue	Yellow	0	4/26/2005	14	500.2	1544.9	10:33:30	12:57:00				0.082
Blue	Yellow	1	4/27/2005	13	502.7	1549.9	8:46:15	11:20:30				0.193
Blue	Yellow	2	4/28/2005	15	502.5	1529.2	9:30:45	12:07:00				0.191
Blue	Yellow	3	4/29/2005	13	500.2	1517.1	9:56:30	16:05:45				0.228
Blue	Yellow	4	4/30/2005	15	502.0	1409.1	10:55:00	14:17:45				NA
Blue	Yellow	5	5/1/2005	13	501.5	816.8	10:21:45	13:06:30				NA
Blue	Yellow	6							low flows, no samples			
Blue	Yellow	7	5/3/2005	15	500.8	1518.1	8:38:30	11:08:45			16:00:00	0.183
Blue	Yellow	8	5/4/2005	14	500.8	1529.1	9:26:00	11:59:30				0.131
Blue	Yellow	9	5/5/2005	13	499.1	1545.8	8:48:30	11:27:45				0.123
Blue	Yellow	10	5/6/2005	15	502.3	1508.9	10:32:00	13:04:00				0.124
Blue	Yellow	11	5/7/2005	15	499.2	1502.2	9:19:00	11:51:00				0.136
Blue	Yellow	12	5/8/2005	16	499.8	1511.8	9:38:30	12:10:30				0.091
Blue	Yellow	13	5/9/2005	18	499.2	1543.8	8:56:15	11:46:15		11:54:30	14:40:00	0.165
Blue	Yellow	14	5/10/2005	18	499.1	1512.7	9:26:30	12:00:00				0.092

Blue	Yellow	15	5/11/2005	19	499.2	1546.8	8:47:30	11:24:15				0.156
Blue	Yellow	16	5/12/2005	20	500.0	1507.6	8:35:30	11:11:00		11:29:00	14:16:00	0.106
Blue	Yellow	17	5/13/2005	16	500.2	1525.4	9:09:15	11:49:15				0.099
Blue	Yellow	18	5/14/2005	16	500.7	1539.7	9:15:45	11:54:45				0.134
Blue	Yellow	19	5/15/2005	15	500.2	1541.5	9:09:15	11:50:00				0.101
Blue	Yellow	20	5/16/2005	15	499.8	1544.4	9:12:00	12:01:00		12:19:00	15:18:00	0.115
Blue	Yellow	21	5/17/2005	11	500.1	1527.0	9:12:00	12:14:30				0.120
Blue	Yellow	22	5/18/2005	12	500.6	1538.8	8:55:00	11:35:15		11:52:00	14:31:30	0.138
Blue	Yellow	23	5/19/2005	15	499.9	1545.9	9:01:15	11:44:15				0.146
Blue	Yellow	24	5/20/2005	16	500.1	1553.3	8:58:15	11:44:30		12:03:00	14:49:00	0.078

Group Zip Tie Color (Double column)	Column Zip Tie Color	Sample ID	Sample Date	Temp. of Feed water (C)	Bottle Mass Empty (g)	Bottle Mass w/ H2O (g)	PCB Sample Start time (incl. AM/PM)	PCB Sample Finish Time (incl. AM/PM)	Noteworthy Observations	TOC sample end time (40 mL)	TSS sample end time (1 L)	Turbidity (NTU)
Blue	Green	0	4/26/2005	14	500.4	1541.7	10:34:45	13:13:00				0.117
Blue	Green	1	4/27/2005	13	502.6	1514.0	8:47:00	11:30:30				0.165
Blue	Green	2	4/28/2005	15	502.4	1522.9	9:31:15	12:19:00				0.108
Blue	Green	3	4/29/2005	13	500.2	1556.8	9:57:00	13:48:15				0.141
Blue	Green	4	4/30/2005	15	501.9	994.3	10:54:30	14:18:15				NA
Blue	Green	5	5/1/2005	13	502.4	656.5	10:22:30	13:07:00				NA
Blue	Green	6							low flows, no samples			
Blue	Green	7	5/3/2005	15	500.2	1495.5	8:38:45	11:09:00			16:00:00	0.131
Blue	Green	8	5/4/2005	14	501.4	1526.4	9:26:30	12:02:45				0.114
Blue	Green	9	5/5/2005	13	499.7	1527.9	8:49:00	11:28:30				0.130
Blue	Green	10	5/6/2005	15	499.1	1558.2	10:32:00	13:17:00				0.181
Blue	Green	11	5/7/2005	15	499.2	1486.3	9:19:45	11:51:15				0.147
Blue	Green	12	5/8/2005	16	500.0	1503.1	9:39:00	12:11:00				0.150
Blue	Green	13	5/9/2005	18	499.4	1549.5	8:56:15	11:33:00		11:54:30	14:40:00	0.105
Blue	Green	14	5/10/2005	18	499.8	1508.0	9:26:30	12:00:00				0.154
Blue	Green	15	5/11/2005	19	500.0	1536.0	8:47:30	11:24:15				0.098
Blue	Green	16	5/12/2005	20	499.5	1510.2	8:35:30	11:13:00		11:29:00	14:16:00	0.140

Blue	Green	17	5/13/2005	16	500.1	1524.7	9:09:15	11:49:15				0.088
Blue	Green	18	5/14/2005	16	500.1	1537.3	9:16:15	11:56:30				0.117
Blue	Green	19	5/15/2005	15	500.2	1533.8	9:09:30	11:50:45				0.109
Blue	Green	20	5/16/2005	15	500.3	1554.0	9:12:00	12:01:00		12:19:00	15:18:00	0.142
Blue	Green	21	5/17/2005	11	500.2	1548.6	9:12:15	11:59:30				0.112
Blue	Green	22	5/18/2005	12	500.6	1525.2	8:55:00	11:35:15		11:52:00	14:31:30	0.080
Blue	Green	23	5/19/2005	15	499.9	1538.0	9:01:15	11:44:15				0.080
Blue	Green	24	5/20/2005	16	499.3	1553.1	8:58:15	11:40:15		12:03:00	14:49:00	0.078

Hudson River

RSSCT Feed Water Batch Prep Log

Note: All batches mixed for 60 min, dosed with 10 ppm Dev "E", and settled for 40 min prior to decanting.

Date	Sediment Used	Sediment Wt (lbs)	Site Water Volume (gal)	Decanted Vol (gal)	Filter to 1.0 μm					Date and Time Added to Feed Drum
					Influent Turbidity (NTU)	Initial Effluent Turbidity (NTU)	Intermediate Effluent Turbidity (NTU)	Final Effluent Turbidity (NTU)	Final Comp Turbidity (NTU)	
4/25/2005	S4B-2-01	1.96	50	45	20.8	0.17	0.08	0.04	0.08	4/26/05 0830-0930 (Test Day 0)
4/27/2005	S4B-2-01	1.96	50	45	18.5	0.08	--	0.04	0.05	4/28/05 0815-0915 (Test Day 2)
4/29/2005	S4B-2-01	1.96	50	45	13.7	0.05	0.08	0.03	0.04	5/1/05 1254-1323, 5/3/05 1600-1640 (Test Days 5 and 7)
5/3/2005	S4B-2-01	1.96	50	45	12.6	0.06	0.04	0.04	0.05	5/4/05 1614-1637, 5/6/05 0937-1015 (Test Days 8 and 10)
5/6/2005	S4B-2-01	1.96	50	45	21.6	0.06	0.02	0.05	0.05	5/7/05 1317-1240, 5/9/05 0846-0855 (Test Days 11 and 13)
5/10/2005	S4B-2-01	1.96	50	45	16.9	1.41, Filter changed, 0.09	0.04	0.03	0.11	5/10/05 1630-1655, 5/11/05 1140-1200 (Test Days 14 and 15)
5/12/2005	S4B-2-01	1.96	50	45	11.2	0.17	0.04	0.04	0.05	5/13/05 1154-1228 5/15/05 0838-0906 (Test Days 17 and 19)
5/13/2005	S4B-2-01	1.96	50	45	10.2	0.05	0.04	0.03	0.04	5/16/05 1523-1610 (Test Day 20)
5/18/2005	S4B-2-01	1.96	50	45	16.8	0.07	0.04	0.03	0.04	5/19/05 1150-1231 5/20/05 0830-0845 (Test Days 23 and 24)

Hudson River

RSSCT Notes and Observations

Date	Time	Observation																												
4/26/2005	0830-0930	Feed Batch 04/25/05 added to feed drum																												
	10:21:00	RSSCT started																												
	16:58:00	Pump setting adjusted from 588 to 570, based on observed flow rates																												
4/27/2005	8:25:00	Flow check																												
		P1 - 6.8 mL/min																												
		G2 - 6.1 mL/min																												
4/28/2005	0815-0915	Feed Batch 04/27/05 added to feed drum																												
	8:35:00	Pump setting adjusted from 570 to 560, based on email from Brian Moore																												
4/29/2005	815	Column G1 observed to have stopped flowing.																												
		Column P1 observed to be flowing at approximately 1/2 of expected flow.																												
	9:30:00	Pump stopped																												
		Feed tubes for columns P1 and G1 moved to different locations on the pump head																												
	9:37:00	Pump restarted																												
		Flow on both columns appeared to be OK																												
		Buckets of waste water from each column were weighed to determine effluent volume since last sampling.																												
		<table border="1"><thead><tr><th></th><th>Weight (kg)</th><th>Time (min)</th><th>Flow rate (mL/min)</th></tr></thead><tbody><tr><td>P1</td><td>5.68</td><td>1308.50</td><td>4.34</td></tr><tr><td>Y1</td><td>7.40</td><td>1303.00</td><td>5.68</td></tr><tr><td>G1</td><td>3.45</td><td>1304.50</td><td>2.64</td></tr><tr><td>P2</td><td>6.62</td><td>1303.00</td><td>5.08</td></tr><tr><td>Y2</td><td>5.77</td><td>1309.50</td><td>4.41</td></tr><tr><td>G2</td><td>7.16</td><td>1298.00</td><td>5.52</td></tr></tbody></table>		Weight (kg)	Time (min)	Flow rate (mL/min)	P1	5.68	1308.50	4.34	Y1	7.40	1303.00	5.68	G1	3.45	1304.50	2.64	P2	6.62	1303.00	5.08	Y2	5.77	1309.50	4.41	G2	7.16	1298.00	5.52
	Weight (kg)	Time (min)	Flow rate (mL/min)																											
P1	5.68	1308.50	4.34																											
Y1	7.40	1303.00	5.68																											
G1	3.45	1304.50	2.64																											
P2	6.62	1303.00	5.08																											
Y2	5.77	1309.50	4.41																											
G2	7.16	1298.00	5.52																											
	16:08:00	Pump stopped																												
		Changes to pump configuration made as per Will Stephan																												
	16:12:00	Pump restarted																												
5/1/2005	1254-1323	Water from feed batch 042905 added to feed drum, ~20 gal																												
		Buckets of waste water from each column were weighed to determine effluent volume. These weights reflect total effluent from end of sampling 4/29/05 through the start of sampling 5/1/05, not including effluent volume collected for																												

PCB analysis on 4/30/05.

	Weight (kg)	Time (min)	Flow rate (mL/min)
P1	14.58	2366.00	6.16
Y1	7.71	2505.75	3.08
G1	16.22	2562.00	6.33
P2	8.61	2451.50	3.51
Y2	9.58	2333.25	4.11
G2	6.70	2470.50	2.71

5/2/2005 15:43:00 Pump stopped
New pump tubing installed, lint clogs in influent tubing removed.

15:53:00 Pump restarted
Flow appears to be equal among all columns
Effluent weights 5/1/05, ~1300 to 5/02/05, 1644

	Weight (kg)	Time (min)	Flow rate (mL/min)
P1	9.90	1659.50	5.97
Y1	2.95	1658.75	1.78
G1	10.16	1700.25	5.98
P2	1.92	1658.00	1.16
Y2	2.19	1657.50	1.32
G2	0.98	1657.00	0.59

5/3/2005 8:35:00 Effluent weights 5/02/05, 1644 to 5/03/05, 0835

	Weight (kg)	Time (min)	Flow rate (mL/min)
P1	6.54	951.00	6.88
Y1	6.63	952.75	6.96
G1	6.57	953.25	6.89
P2	6.43	954.25	6.74
Y2	6.53	954.50	6.84
G2	6.37	954.75	6.67

1600-1640 Remaining feed from batch 042905 added to feed drum, ~25 gal

5/4/2005 9:40:00 Slight discoloration in top ~3 cm of glass wool columns
Lint/fibers observed in pump influent lines.

1614-1637 Water from feed batch 050305 added to feed drum, ~20 gal

16:37:30 Pump adjusted from 560 to 550, as per Brian Moore

5/6/2005 0937-1015 Remaining feed from batch 050305 added to feed drum, ~25 gal

15:37:00 Pump stopped
 Lint accumulation removed
 15:47:00 Pump restarted
 5/7/2005 1217-1240 Water from feed batch 050605 added to feed drum, ~20 gal
 5/9/2005 0846-0855 Remaining feed from batch 050605 added to feed drum, ~25 gal
 5/10/2005 9:09:00 Pump stopped
 Lint accumulation removed
 9:16:00 Pump restarted
 10:17:30 Pump adjusted from 550 to 545, as per Brian Moore
 1500 Replaced ice blankets with ice bath
 1640-1700 Water from feed batch 051005 added to feed drum, ~20 gal
 5/11/2005 1140-1200 Remaining feed from batch 051005 added to feed drum,. ~25 gal
 5/12/2005 830 Significant discoloration of all glass wool columns
 5/13/2005 8:59:00 Pump adjusted from 545 to 540, as per Brian Moore
 1154-1228 Water from feed batch 051205 added to feed drum, ~30 gal
 14:15:00 Pump stopped
 Lint accumulation removed
 14:21:00 Pump restarted
 5/15/2005 0838-0906 Remaining feed from batch 051205 added to feed drum,. ~15 gal
 5/16/2005 1523-1610 Feed batch 051305 added ~45 gal
 5/17/2005 13:45:00 Pump stopped
 Lint accumulation removed
 13:53:00 Pump restarted
 5/19/2005 1150-1231 Water from feed batch 051805 added to feed drum, ~35 gal
 5/20/2005 0830-0845 Remaining feed from batch 051805 added to feed drum,. ~10 gal
 14:54:00 Pump stopped
 Lint accumulation removed
 14:59:00 Pump restarted
 16:40:30 Pump adjusted from 540 to 535, as per Will Stephan

Hudson River Treatability Study

Coarse Fraction Drainage Data Sheet

Slurry ID	Sample Weight	Date/Time/ Initials	% Solids Concentration (w/w)				Collected Water Volume (mL)		
			Initial	24 hr	48 hr	72 hr	24 hr	48 hr	72 hr
H1S1-01 Coarse	1.0 kg	7/13/04 0930 JL	78.70	85.82	86.22	86.79	0	0	0
H1S2-01 Coarse	1.0 kg	7/13/04 0935 JL	70.60	73.62	72.91	73.63	6.3	0	0
S4-HC-15- UF	1.0 kg	8/30/04 1400 SC	41.83	77.36	77.06	73.50	345	9	4

Hudson River Treatability Study

Stabilization/Solidification Data Sheet

Test #	Slurry ID	Sample Weight	Additive	Dose (%/g)	Start Date	End Date	Visual Observations After 3 Day Cure	Paint Filter (P/F)	% Solids (w/w)	Perform Storage/Transport? (Y/N)	Initials
SS01	M1S1-02	1 kg	CaO	5% / 50g	07/09/04	07/12/04	very moist and clumpy	P	76.34	N	SC
SS02	M1S1-02	1 kg	CaO	10% / 100g	07/09/04	07/12/04	very good, mostly dry, clumpy	P	80.55	Y	SC
SS03	M1S1-02	1 kg	CaO	15% / 150g	07/09/04	07/12/04	extremely dry and crumbly	P	85.09	N	SC
SS04	M1S1-02	1 kg	Portland Cement	5% / 50g	07/09/04	07/12/04	initially hard, when broken sl. moist	P	77.03	N	SC
SS05	M1S1-02	1 kg	Portland Cement	10% / 100g	07/09/04	07/12/04	extremely hard, crumbly	P	80.99	N	SC
SS06	M1S1-02	1 kg	Portland Cement	20% / 200g	07/09/04	07/12/04	extremely hard, could not break-up	P	82.49	N	SC
SS07	M1S1-02	1 kg	Calciment	15% / 150g	07/09/04	07/12/04	sl moist, will not reform clumps	P	80.88	N	SC
SS08	M1S1-02	1 kg	Calciment	25% / 250g	07/09/04	07/12/04	mostly dry, will not reform clumps	P	81.96	N	SC
SS09	M1S1-02	1 kg	Calciment	30% / 300g	07/09/04	07/12/04	mostly dry and fairly crumbly	P	81.27	Y	SC
SS10	M1S1-02	1 kg	Fly Ash	15% / 150g	07/09/04	07/12/04	sl. moist, some clumps	P	78.55	N	SC
SS11	M1S1-02	1 kg	Fly Ash	20% / 200g	07/09/04	07/12/04	mostly dry, sl. crumbly, some clumps	P	78.06	N	SC
SS12	M1S1-02	1 kg	Fly Ash	25% / 250g	07/09/04	07/12/04	dry, big crumbles	P	80.21	N	SC
SS13	M1S2-01	1 kg	CaO	10% / 100g	07/09/04	07/12/04	sl. moist, some clumps	P	65.21	N	SC
SS14	M1S2-01	1 kg	CaO	15% / 150g	07/09/04	07/12/04	mostly dry, will not reform clumps	P	68.15	Y	SC
SS15	M1S2-01	1 kg	CaO	20% / 200g	07/09/04	07/12/04	dry and crumbly	P	71.95	N	SC
SS16	M1S2-01	1 kg	Portland Cement	5% / 50g	07/09/04	07/12/04	very moist, smooth, claylike	P	57.13	N	SC
SS17	M1S2-01	1 kg	Portland Cement	10% / 100g	07/09/04	07/12/04	very good, sl. moist, clumpy	P	60.23	Y	SC
SS18	M1S2-01	1 kg	Portland Cement	20% / 200g	07/09/04	07/12/04	extremely hard, hard to break-up	P	65.56	N	SC
SS19	M1S2-01	1 kg	Calciment	20% / 200g	07/09/04	07/12/04	wet, smooth, claylike	P	63.46	N	SC
SS20	M1S2-01	1 kg	Calciment	25% / 250g	07/09/04	07/12/04	moist, smooth	P	65.36	N	SC
SS21	M1S2-01	1 kg	Calciment	30% / 300g	07/09/04	07/12/04	moist, sl. clumpy	P	66.71	N	SC
SS22	M1S2-01	1 kg	Fly Ash	20% / 200g	07/09/04	07/12/04	moist and clumpy	P	61.58	N	SC
SS23	M1S2-01	1 kg	Fly Ash	25% / 250g	07/09/04	07/12/04	sl. moist and sl. clumpy	P	63.45	N	SC
SS24	M1S2-01	1 kg	Fly Ash	30% / 300g	07/09/04	07/12/04	sl. moist and sl. clumpy	P	65.99	N	SC
SS25	M1S3-01	1 kg	CaO	10% / 100g	07/09/04	07/12/04	forms clumps and sl. moist	P	64.75	N	SC
SS26	M1S3-01	1 kg	CaO	15% / 150g	07/09/04	07/12/04	crumbly, some moisture	P	68.69	Y	SC
SS27	M1S3-01	1 kg	CaO	20% / 200g	07/09/04	07/12/04	crumbles when mixed, v. little moisture	P	71.55	N	SC
SS28	M1S3-01	1 kg	Portland Cement	5% / 50g	07/09/04	07/12/04	smooth, wet	P	58.14	N	SC
SS29	M1S3-01	1 kg	Portland Cement	10% / 100g	07/09/04	07/12/04	crumbly, moist	P	60.07	Y	SC
SS30	M1S3-01	1 kg	Portland Cement	20% / 200g	07/09/04	07/12/04	crumbly, hard, v. sl. moisture	P	65.22	N	SC
SS31	M1S3-01	1 kg	Calciment	20% / 200g	07/09/04	07/12/04	forms soft clumps, v. moist	P	64.58	N	SC
SS32	M1S3-01	1 kg	Calciment	25% / 250g	07/09/04	07/12/04	forms soft clumps, moist	P	66.08	N	SC
SS33	M1S3-01	1 kg	Calciment	30% / 300g	07/09/04	07/12/04	clumpy, moist	P	67.47	N	SC
SS34	M1S3-01	1 kg	Fly Ash	20% / 200g	07/09/04	07/12/04	forms small clumps, v. moist	P	64.05	N	SC

SS35	M1S3-01	1 kg	Fly Ash	25% /250g	07/09/04	07/12/04	crumbly, sl. moist	P	65.95	N	SC
SS36	M1S3-01	1 kg	Fly Ash	30% / 300g	07/09/04	07/12/04	v. crumbly, little moisture	P	66.95	N	SC
SS37	M1S4B-01	1 kg	CaO	10% / 100g	07/09/04	07/12/04	smooth, wet, consistency of frosting	P	39.54	N	SC
SS38	M1S4B-01	1 kg	CaO	15% / 150g	07/09/04	07/12/04	smooth, v. moist, claylike	P	45.54	N	SC
SS39	M1S4B-01	1 kg	CaO	20% / 200g	07/09/04	07/12/04	forms clumps, quite moist	P	49.61	N	SC
SS40	M1S4B-01	1 kg	Portland Cement	5% / 50g	07/09/04	07/12/04	smooth, v. wet, had some free water before mixing	P	33.03	N	SC
SS41	M1S4B-01	1 kg	Portland Cement	10% / 100g	07/09/04	07/12/04	smooth, wet	P	37.56	N	SC
SS42	M1S4B-01	1 kg	Portland Cement	20% / 200g	07/09/04	07/12/04	crumbly, moist	P	44.48	N	SC
SS43	M1S4B-01	1 kg	Calciment	20% / 200g	07/09/04	07/12/04	smooth, wet	F	43.09	N	SC
SS44	M1S4B-01	1 kg	Calciment	25% / 250g	07/09/04	07/12/04	smooth, wet, frosting-like	F	44.34	N	SC
SS45	M1S4B-01	1 kg	Calciment	50% / 500g	07/09/04	07/12/04	forms soft clumps, v. moist	P	54.87	N	SC
SS46	M1S4B-01	1 kg	Fly Ash	20% / 200g	07/09/04	07/12/04	forms soft clumps, v. moist	P	42.77	N	SC
SS47	M1S4B-01	1 kg	Fly Ash	30% / 300g	07/09/04	07/12/04	soft, crumbly, moist	P	46.81	N	SC
SS48	M1S4B-01	1 kg	Fly Ash	50% / 500g	07/09/04	07/12/04	crumbly, sl. moist	P	55.25	Y	SC
SS49	M1S4B-02	1 kg	CaO	20% / 200g	07/12/04	07/15/04	forms clumps, v. moist	P	48.27	N	SC
SS50	M1S4B-02	1 kg	CaO	25% / 250g	07/12/04	07/15/04	forms clumps, moist	P	52.26	Y	SC
SS51	M1S1-04	1 kg	CaO	10% / 100g	08/17/04	08/20/04	very good, mostly dry, clumpy	P	80.55	Y	SC
SS52	M1S1-04	1 kg	Portland Cement	7.5% / 75g	08/17/04	08/20/04	very good, mostly dry, clumpy	P	73.70	Y	SC
SS53	M1S2-03	1 kg	CaO	15% / 150g	08/17/04	08/20/04	mostly dry, will not reform clumps	P	68.15	Y	SC
SS54	M1S2-03	1 kg	Portland Cement	10% / 100g	08/17/04	08/20/04	very good, sl. moist, clumpy	P	60.23	Y	SC
SS55	M1S3-03	1 kg	CaO	15% / 150g	08/17/04	08/20/04	crumbly, some moisture	P	68.69	Y	SC
SS56	M1S3-03	1 kg	Portland Cement	10% / 100g	08/17/04	08/20/04	crumbly, moist	P	60.07	Y	SC
SS57	M1S4B-03	1 kg	CaO	25% / 250g	08/17/04	08/20/04	forms clumps, moist	P	52.26	Y	SC
SS58	M1S4B-03	1 kg	Portland Cement	25% / 250g	08/17/04	08/20/04	forms clumps, moist	P	46.22	Y	SC
SS51-R	M1S1-05	1 kg	CaO	10% / 100g	09/10/04	09/13/04	very good, mostly dry, clumpy	P	82.47	Y	SC
SS52-R	M1S1-05	1 kg	Portland Cement	7.5% / 75g	09/10/04	09/13/04	very good, slightly moist, clumpy	P	78.42	Y	SC
SS53-R	M1S2-04	1 kg	CaO	15% / 150g	09/10/04	09/13/04	very good, mostly dry, clumpy	P	66.73	Y	SC
SS54-R	M1S2-04	1 kg	Portland Cement	10% / 100g	09/10/04	09/13/04	very good, moist, clumpy	P	59.35	Y	SC
SS55-R	M1S3-04	1 kg	CaO	15% / 150g	09/10/04	09/13/04	very good, mostly dry, clumpy	P	68.10	Y	SC
SS56-R	M1S3-04	1 kg	Portland Cement	10% / 100g	09/10/04	09/13/04	crumbly, moist	P	60.84	Y	SC
SS57-R	M1S4B-04	1 kg	CaO	25% / 250g	09/10/04	09/13/04	forms clumps, moist	P	55.80	Y	SC
SS58-R	M1S4B-04	1 kg	Portland Cement	25% / 250g	09/10/04	09/13/04	forms clumps, moist	P	48.55	Y	SC

Notes: All CaO treatments were exothermic, higher heat and fumes with higher doses.

Lab recommendations based on above mixes:

M1S1: 10-15% CaO <10% PC 30% Calciment 20% Fly Ash	M1S2: 15-20% CaO 15% PC >30% Calciment 30% Fly Ash	M1S3: 15-20% CaO 15% PC >30% Calciment 30% Fly Ash	M1S4: 25% CaO or more 25% PC or more >50% Calciment 50% Fly Ash
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CaO: Graymont, Inc.

PC: LaFarge Cement, Type I/II

Calciment: Dry bulk Ash, Mintek Resources, Inc.

Fly Ash: ISG Resources, Inc.

SS51 --> SS58 were remixed for use in a duplicate storage/transport test (at higher rpm).

Of those mixes, SS52 and SS58 were new mixes to optimize reagent dose, so analyses were performed.

All other mixes were previously analyzed.

R = Redo. Previous S/T test on these mixes failed due to equipment malfunction.

Hudson River Treatability Study

Stabilization/Solidification Data Sheet

Mixes chosen for Chemical Analysis

Test #: SS02

Date: 7/13/04

Initials: SC

Slurry I.D.: M1S1-03

Sample Weight: 3 kg

Additive Dosage & Weight: 10% CaO / 300g

Cure Period (3 Days), end: 7/16/04

Observations:

Paint Filter (P/F): P

% Solids (w/w): 83.38%

Visual:

When treated, very exothermic with fumes
After cure, very good, mostly dry, crumbly

Sample Analysis:

PCB (GEHR Mod.)	8 oz glass
TAL Metals	4 oz glass
TCLP Metals, VOCs, SVOCs, Pest, Herb	4 oz glass ZHS + 8 oz glass
pH	4 oz glass
PCDD/PCDF	8 oz glass
TOC	4 oz glass
UCS	One 2x4" mold
Consolidation	One 3x6" mold
Specific Gravity	16 oz glass or larger, large ziploc bag
Atterberg Limits	
Grain Size Distribution	
Grain Size of Finer Fraction	

Hudson River Treatability Study

Stabilization/Solidification Data Sheet

Mixes chosen for Chemical Analysis

Test #: SS09

Date: 7/13/04

Initials: SC

Slurry I.D.: M1S1-03

Sample Weight: 3 kg

Additive Dosage & Weight: 30% CaO / 900g

Cure Period (3 Days), end: 7/16/04

Observations:

Paint Filter (P/F): P

% Solids (w/w): 84.45%

Visual:

No reaction when treated.
After cure, mostly dry and fairly crumbly

Sample Analysis:

PCB (GEHR Mod.)	8 oz glass
TAL Metals	4 oz glass
TCLP Metals, VOCs, SVOCs, Pest, Herb	4 oz glass ZHS + 8 oz glass
pH	4 oz glass
PCDD/PCDF	8 oz glass
TOC	4 oz glass
UCS	One 2x4" mold
Consolidation	One 3x6" mold
Specific Gravity	16 oz glass or larger, large ziploc bag
Atterberg Limits	
Grain Size Distribution	
Grain Size of Finer Fraction	

Hudson River Treatability Study

Stabilization/Solidification Data Sheet

Mixes chosen for Chemical Analysis

Test #: SS14

Date: 7/13/04

Initials: SC

Slurry I.D.: M1S2-02

Sample Weight: 3 kg

Additive Dosage & Weight: 15% CaO / 450g

Cure Period (3 Days), end: 7/16/04

Observations:

Paint Filter (P/F): P

% Solids (w/w): 64.50%

Visual:

When treated, very exothermic with fumes
After cure, mostly dry, will not reform clumps.

Sample Analysis:

PCB (GEHR Mod.)	8 oz glass
TAL Metals	4 oz glass
TCLP Metals, VOCs, SVOCs, Pest, Herb	4 oz glass ZHS + 8 oz glass
pH	4 oz glass
PCDD/PCDF	8 oz glass
TOC	4 oz glass
UCS	One 2x4" mold
Consolidation	One 3x6" mold
Specific Gravity	16 oz glass or larger, large ziploc bag
Atterberg Limits	
Grain Size Distribution	
Grain Size of Finer Fraction	

Hudson River Treatability Study

Stabilization/Solidification Data Sheet

Mixes chosen for Chemical Analysis

Test #: SS14 Dup.

Date: 7/13/04

Initials: SC

Slurry I.D.: M1S2-02

Sample Weight: 3 kg

Additive Dosage & Weight: 15% CaO / 450g

Cure Period (3 Days), end: 7/16/04

Observations:

Paint Filter (P/F): P

% Solids (w/w): 64.72%

Visual:

When treated, very exothermic with fumes
After cure, mostly dry, will not reform clumps.

Sample Analysis:

PCB (GEHR Mod.)	8 oz glass
TAL Metals	4 oz glass
TCLP Metals, VOCs, SVOCs, Pest, Herb	4 oz glass ZHS + 8 oz glass
pH	4 oz glass
PCDD/PCDF	8 oz glass
TOC	4 oz glass
UCS	One 2x4" mold
Consolidation	One 3x6" mold
Specific Gravity	16 oz glass or larger, large ziploc bag
Atterberg Limits	
Grain Size Distribution	
Grain Size of Finer Fraction	

Hudson River Treatability Study

Stabilization/Solidification Data Sheet

Mixes chosen for Chemical Analysis

Test #: SS17

Date: 7/13/04

Initials: SC

Slurry I.D.: M1S2-02

Sample Weight: 3 kg

Additive Dosage & Weight: 10% PC / 300g

Cure Period (3 Days), end: 7/16/04

Observations:

Paint Filter (P/F): P

% Solids (w/w): 56.69%

Visual:

No reaction when treated.

After cure, good, slightly moist and clumpy.

Sample Analysis:

PCB (GEHR Mod.)	8 oz glass
TAL Metals	4 oz glass
TCLP Metals, VOCs, SVOCs, Pest, Herb	4 oz glass ZHS + 8 oz glass
pH	4 oz glass
PCDD/PCDF	8 oz glass
TOC	4 oz glass
UCS	One 2x4" mold
Consolidation	One 3x6" mold
Specific Gravity	16 oz glass or larger, large ziploc bag
Atterberg Limits	
Grain Size Distribution	
Grain Size of Finer Fraction	

Hudson River Treatability Study

Stabilization/Solidification Data Sheet

Mixes chosen for Chemical Analysis

Test #: SS26

Date: 7/13/04

Initials: SC

Slurry I.D.: M1S3-02

Sample Weight: 3 kg

Additive Dosage & Weight: 15% CaO / 450g

Cure Period (3 Days), end: 7/16/04

Observations:

Paint Filter (P/F): P

% Solids (w/w): 68.44%

Visual:

When treated, very exothermic with fumes.
After cure, good, crumbly, some moisture.

Sample Analysis:

PCB (GEHR Mod.)	8 oz glass
TAL Metals	4 oz glass
TCLP Metals, VOCs, SVOCs, Pest, Herb	4 oz glass ZHS + 8 oz glass
pH	4 oz glass
PCDD/PCDF	8 oz glass
TOC	4 oz glass
UCS	One 2x4" mold
Consolidation	One 3x6" mold
Specific Gravity	16 oz glass or larger, large ziploc bag
Atterberg Limits	
Grain Size Distribution	
Grain Size of Finer Fraction	

Hudson River Treatability Study

Stabilization/Solidification Data Sheet

Mixes chosen for Chemical Analysis

Test #: SS29

Date: 7/13/04

Initials: SC

Slurry I.D.: M1S3-02

Sample Weight: 3 kg

Additive Dosage & Weight: 10% PC / 300g

Cure Period (3 Days), end: 7/16/04

Observations:

Paint Filter (P/F): P

% Solids (w/w): 61.44%

Visual:

No reaction when treated.
After cure, crumbly, moist.

Sample Analysis:

PCB (GEHR Mod.)	8 oz glass
TAL Metals	4 oz glass
TCLP Metals, VOCs, SVOCs, Pest, Herb	4 oz glass ZHS + 8 oz glass
pH	4 oz glass
PCDD/PCDF	8 oz glass
TOC	4 oz glass
UCS	One 2x4" mold
Consolidation	One 3x6" mold
Specific Gravity	16 oz glass or larger, large ziploc bag
Atterberg Limits	
Grain Size Distribution	
Grain Size of Finer Fraction	

Hudson River Treatability Study

Stabilization/Solidification Data Sheet

Mixes chosen for Chemical Analysis

Test #: SS48

Date: 7/13/04

Initials: SC

Slurry I.D.: M1S4B-02

Sample Weight: 3 kg

Additive Dosage & Weight: 50% Fly Ash / 1500 g

Cure Period (3 Days), end: 7/16/04

Observations:

Paint Filter (P/F): P

% Solids (w/w): 54.98%

Visual:

No reaction when treated.
After cure, crumbly, slightly moist.

Sample Analysis:

PCB (GEHR Mod.)	8 oz glass
TAL Metals	4 oz glass
TCLP Metals, VOCs, SVOCs, Pest, Herb	4 oz glass ZHS + 8 oz glass
pH	4 oz glass
PCDD/PCDF	8 oz glass
TOC	4 oz glass
UCS	One 2x4" mold
Consolidation	One 3x6" mold
Specific Gravity	16 oz glass or larger, large ziploc bag
Atterberg Limits	
Grain Size Distribution	
Grain Size of Finer Fraction	

Hudson River Treatability Study

Stabilization/Solidification Data Sheet

Mixes chosen for Chemical Analysis

Test #: SS50

Date: 7/13/04

Initials: SC

Slurry I.D.: M1S4B-02

Sample Weight: 3 kg

Additive Dosage & Weight: 25% CaO / 750 g

Cure Period (3 Days), end: 7/16/04

Observations:

Paint Filter (P/F): P

% Solids (w/w): 54.36%

Visual:

When treated, extremely exothermic with fumes.
After cure, crumbly, moist.

Sample Analysis:

PCB (GEHR Mod.)	8 oz glass
TAL Metals	4 oz glass
TCLP Metals, VOCs, SVOCs, Pest, Herb	4 oz glass ZHS + 8 oz glass
pH	4 oz glass
PCDD/PCDF	8 oz glass
TOC	4 oz glass
UCS	One 2x4" mold
Consolidation	One 3x6" mold
Specific Gravity	16 oz glass or larger, large ziploc bag
Atterberg Limits	
Grain Size Distribution	
Grain Size of Finer Fraction	

Hudson River Treatability Study

Stabilization/Solidification Data Sheet

Mixes chosen for Chemical Analysis

Test #: SS52

Date: 8/17/04

Initials: SC

Slurry I.D.: M1S1-04

Sample Weight: 3 kg

Additive Dosage & Weight: 7.5% PC / 225 g

Cure Period (3 Days), end: 8/20/04

Observations:

Paint Filter (P/F): Pass

% Solids (w/w): 73.70%

Visual:

No reaction when treated.

After cure, crumbly, slightly moist.

Sample Analysis:

PCB (GEHR Mod.)	8 oz glass
TAL Metals	4 oz glass
TCLP Metals, VOCs, SVOCs, Pest, Herb	4 oz glass ZHS + 8 oz glass
pH	4 oz glass
PCDD/PCDF	8 oz glass
TOC	4 oz glass
UCS	One 2x4" mold
Consolidation	One 3x6" mold
Specific Gravity	16 oz glass or larger, large ziploc bag
Atterberg Limits	
Grain Size Distribution	
Grain Size of Finer Fraction	

Hudson River Treatability Study

Stabilization/Solidification Data Sheet

Mixes chosen for Chemical Analysis

Test #: SS58

Date: 8/17/04

Initials: SC

Slurry I.D.: M1S4B-03

Sample Weight: 3 kg

Additive Dosage & Weight: 25% PC / 750 g

Cure Period (3 Days), end: 8/20/04

Observations:

Paint Filter (P/F): Pass

% Solids (w/w): 46.22%

Visual:

No reaction when treated.
After cure, crumbly, moist.

Sample Analysis:

PCB (GEHR Mod.)	8 oz glass
TAL Metals	4 oz glass
TCLP Metals, VOCs, SVOCs, Pest, Herb	4 oz glass ZHS + 8 oz glass
pH	4 oz glass
PCDD/PCDF	8 oz glass
TOC	4 oz glass
UCS	One 2x4" mold
Consolidation	One 3x6" mold
Specific Gravity	16 oz glass or larger, large ziploc bag
Atterberg Limits	
Grain Size Distribution	
Grain Size of Finer Fraction	

Hudson River Treatability Study

Storage/Transport Study

Sample I.D.	Sample Weight (g)	Initial Sample depth (in)	Start Time/Date	Stop Time/Date	Shake Speed	Final Sample Depth (in)	Observations (See SOP-20)
SS02 M1S1	995.80	8.0	7/15/2004 11:45	7/20/2004 11:45	60 rpm	7.75	Some water droplets on sides of tube, where there are pockets of air in sediment -- condensation from humid conditions in tube. No water collection on bottom or top. Sample appears the same as at start of test.
SS09 M1S1	1032.90	8.0	7/15/2004 11:45	7/20/2004 11:45	60 rpm	7.5	Small water droplets (very few) on tube where there are pockets in sediment (condensation). No water collection on bottom or top. Sample appears the same as at start of test.
SS14 M1S2	1030.10	10.0	7/15/2004 11:45	7/20/2004 11:45	60 rpm	9.5	A lot of water droplets collected on sides of tube (condensation). No free water collection on bottom or top. Sample appears the same as at start of test.
SS17 M1S2	1013.60	9.0	7/15/2004 11:45	7/20/2004 11:45	60 rpm	8.75	Some water droplets (condensation). No free water on bottom or top. Sample appears the same as at start of test.
SS26 M1S3	1014.00	9.8	7/15/2004 11:45	7/20/2004 11:45	60 rpm	9.25	Very little droplets (condensation). No free water on bottom or top. Sample appears the same as at start of test.
SS29 M1S3	1007.80	9.5	7/15/2004 11:45	7/20/2004 11:45	60 rpm	9.0	Some water droplets (condensation). No free water on bottom or top. Sample appears the same as at start of test.
SS48 M1S4B	1014.70	10.0	7/15/2004 11:45	7/20/2004 11:45	60 rpm	9.5	Very little droplets (condensation). No free water on bottom or top. Sample appears the same as at start of test.

Sample I.D.	Sample Weight (g)	Initial Sample depth (in)	Start Time/Date	Stop Time/Date	Shake Speed	Final Sample Depth (in)	Observations (See SOP-20)
SS50 M1S4B	1082.90	8.5	7/15/2004 11:45	7/20/2004 11:45	60 rpm	8.25	Some water droplets (condensation). No free water on bottom or top. Sample appears the same as at start of test.
SS51 M1S1	1015.80	8.5	8/20/2004 10:30	---	200 rpm	---	Test Failure. Shake speed was too excessive for test apparatus.
SS52 M1S1	659.70	6.0	8/20/2004 10:30	---	200 rpm	---	Test Failure. Shake speed was too excessive for test apparatus.
SS53 M1S2	1016.80	10.0	8/20/2004 10:30	---	200 rpm	---	Test Failure. Shake speed was too excessive for test apparatus.
SS54 M1S2	1007.10	8.75	8/20/2004 10:30	---	200 rpm	---	Test Failure. Shake speed was too excessive for test apparatus.
SS55 M1S3	1012.90	9.5	8/20/2004 10:30	---	200 rpm	---	Test Failure. Shake speed was too excessive for test apparatus.
SS56 M1S3	1001.70	8.75	8/20/2004 10:30	---	200 rpm	---	Test Failure. Shake speed was too excessive for test apparatus.
SS57 M1S4B	1004.70	12.5	8/20/2004 10:30	---	200 rpm	---	Test Failure. Shake speed was too excessive for test apparatus.

Sample I.D.	Sample Weight (g)	Initial Sample depth (in)	Start Time/Date	Stop Time/Date	Shake Speed	Final Sample Depth (in)	Observations (See SOP-20)
SS58 M1S4B	1006.00	10.5	8/20/2004 10:30	---	200 rpm	---	Test Failure. Shake speed was too excessive for test apparatus.
PFP-17 Filter Cake H1S3-11	998.50	10.75	9/2/2004 11:00	9/7/2004 11:00	200 rpm	8	Sample was firmly packed down into the tube, with round balls of varying sizes formed on top. Ball sizes: 1 at 1 3/4", 23 at 7/16", ~100 at 1/4-3/8", ~200 at 1/8-3/16". No free water.
PFP-33 Filter Cake H1S1-15	999.60	11.25	9/2/2004 11:00	9/7/2004 11:00	200 rpm	6	Sample was firmly packed down into the tube, with a small round ball formed on top. Ball size: 1 at 7/8". No free water.
PFP-35 Filter Cake H1S4B-06	999.40	11.0	9/2/2004 11:00	9/7/2004 11:00	200 rpm	9	Sample was firmly packed down into the tube, with round balls of varying sizes formed on top. Ball sizes: 1 at 7/8", 1 at 3/4", 5 at 5/8", 3 at 3/8", 12 at 1/4", 22 at 1/8". No free water.
PFP-40 Filter Cake H2S4B-06	998.00	12.25	9/2/2004 11:00	9/7/2004 11:00	200 rpm	8.5	Sample was firmly packed down into the tube, with a large round ball formed on top. Ball size: 1 at 2". No free water.
PFP-47 Filter Cake H1S2-13	1000.90	12.25	9/2/2004 11:00	9/7/2004 11:00	200 rpm	6.5	Sample was firmly packed down into the tube, with a large round ball formed on top. Ball size: 1 at 1 3/4". No free water.
SS51-R M1S1	1002.60	8.75	9/15/2004 9:20	9/20/2004 9:20	200 rpm	5	Packed down, no free water.
SS52-R M1S1	1003.30	8.8	9/15/2004 9:20	9/20/2004 9:20	200 rpm	5.25	Packed down, smooth, glossy surface, no free water. Sludgy layer - 1/2 ", 130.1 g

Sample I.D.	Sample Weight (g)	Initial Sample depth (in)	Start Time/Date	Stop Time/Date	Shake Speed	Final Sample Depth (in)	Observations (See SOP-20)
SS53-R M1S2	1001.90	11.0	9/15/2004 9:20	9/20/2004 9:20	200 rpm	4 to 7	Vortexed shape, no free water
SS54-R M1S2	1002.70	9.25	9/15/2004 9:20	9/20/2004 9:20	200 rpm	6.5	Packed down, glossy, loose surface, no free water. Sludgy layer - 2 3/4"
SS55-R M1S3	1005.40	10.75	9/15/2004 9:20	9/20/2004 9:20	200 rpm	5.5	Packed down, solids clinging 1/2" up the sides, no free water
SS56-R M1S3	1004.20	9.25	9/15/2004 9:20	9/20/2004 9:20	200 rpm	6	Packed down, glossy, loose surface, no free water. After standing for 24 hours a layer of free water separated out. Water - 11 ml, Sludgy layer - 2 3/4"
SS57-R M1S4B	1002.80	12.5	9/15/2004 9:20	9/20/2004 9:20	200 rpm	6.75	Packed down, 1" ball formed, no free water. After standing for 24 hours some free water separated out. Water - 1 ml
SS58-R M1S4B	1002.70	11.25	9/15/2004 9:20	9/20/2004 9:20	200 rpm	6.5	Packed down, solids clinging 2.75" up the sides, glossy surface, no free water. After standing for 24 hours some free water separated out. Water - 2 ml, Sludgy layer - 1/8", 17.27 g

All PFP samples and "-R" mixes were sent for consolidation testing after the completion of the storage/transport tests.

Hudson River Treatability Study

Centrifuge Data

Slurry ID	Test #	% Feed Solids (w/w)	Polymer ID / Dosage	Sample Volume (ml)	Spin rpm / time	Centrate Volume (ml)	Cake Weight (g)	% Cake Solids (w/w)	Comments
H1S4B-03	CF-01	24.84	4808 / 2350 ppm	~100 mL	3500 / 5 min	113	63.38	47.78	Clear, very slightly yellow centrate
H1S4B-03	CF-02	24.84	4808 / 2400 ppm	~100 mL	3500 / 5 min	100	57.31	47.95	Clear, very slightly yellow centrate
H1S4B-03	CF-03	24.84	4808 / 2450 ppm	~100 mL	3500 / 5 min	105	62.17	47.42	Clear, very slightly yellow centrate
H1S4B-03	CF-04	24.84	4440 / 1950 ppm	~100 mL	3500 / 5 min	83	62.72	46.13	Clear, slightly yellow centrate
H1S4B-03	CF-05	24.84	4440 / 2000 ppm	~100 mL	3500 / 5 min	89	63.52	46.54	Clear, slightly yellow, some small particles
H1S4B-03	CF-06	24.84	4440 / 2050 ppm	~100 mL	3500 / 5 min	88	62.20	46.75	Clear, slightly yellow, some small particles
H1S4B-03	CF-07	24.84	2651 / 1950 ppm	~100 mL	3500 / 5 min	99	63.68	49.31	Slightly cloudy, slightly yellow, small particles
H1S4B-03	CF-08	24.84	2651 / 2000 ppm	~100 mL	3500 / 5 min	98	61.59	51.97	Clear, slightly yellow, small particles
H1S4B-03	CF-09	24.84	2651 / 2050 ppm	~100 mL	3500 / 5 min	107	71.37	53.24	Clear, slightly yellow, small particles
H1S4B-03	CF-10	24.84	4808 / 2400 ppm	~100 mL	3500 / 3 min	102	64.80	46.97	Clear, very slight yellow
H1S4B-03	CF-11	24.84	4440 / 2000 ppm	~100 mL	3500 / 3 min	91	62.40	45.83	Clear, very slight yellow, some particles
H1S4B-03	CF-12	24.84	2651 / 2000 ppm	~100 mL	3500 / 3 min	96	62.75	47.70	Clear, slight yellow, some particles
H1S3-08	CF-13	12.33	N/A	50 mL	3500 / 3 min	41	12.51	41.33	Very dirty centrate, cake was well defined
H1S4B-03	CF-14	24.84	N/A	50 mL	3500 / 3 min	22	33.11	36.48	Extremely dirty centrate, cake top was very soft

H2S4B-01	CF-15	3.37	N/A	50 mL	3500 / 3 min	47	3.66	34.43	Dirty centrate, cake was well defined
H1S3-08	CF-16	12.33	N/A	50 mL	3500 / 5 min	39	15.80	48.61	Very dirty centrate, cake was well defined and had layering
H1S4B-03	CF-17	24.84	N/A	50 mL	3500 / 5 min	25	33.71	38.65	Extremely dirty centrate, cake top was very soft
H2S4B-01	CF-18	3.37	N/A	50 mL	3500 / 5 min	47	5.12	37.89	Dirty centrate, cake was well defined
H1S3-12	CF-19	14.61	4440 / 650 ppm	100 mL	3500 / 5 min	77	28.22	53.05	Very clear, very slightly yellow, required a lot of mixing
H1S3-12	CF-20	14.61	4440 / 700 ppm	100 mL	3500 / 5 min	85	29.11	50.29	Very clear, very slightly yellow, required a lot of mixing
H1S3-12	CF-21	14.61	4440 / 750 ppm	100 mL	3500 / 5 min	77	28.67	52.35	Very clear, very slightly yellow, required a lot of mixing
H1S3-12	CF-22	14.61	2651 / 750 ppm	100 mL	3500 / 5 min	81	30.76	59.30	Clear, slightly yellow, some small particles
H1S3-12	CF-23	14.61	2651 / 800 ppm	100 mL	3500 / 5 min	87	34.56	61.20	Clear, slightly yellow
H1S3-12	CF-24	14.61	2651 / 850 ppm	100 mL	3500 / 5 min	82	35.45	59.04	Clear, slightly yellow
H1S3-12	CF-25	14.61	4808 / 1200 ppm	100 mL	3500 / 5 min	87	32.14	53.20	Clear, slightly yellow, some small particles
H1S3-12	CF-26	14.61	4808 / 1250 ppm	100 mL	3500 / 5 min	92	32.75	55.94	Clear, slightly yellow
H1S3-12	CF-27	14.61	4808 / 1300 ppm	100 mL	3500 / 5 min	92	37.12	59.05	Clear, slightly yellow

Analytic testing performed on centrate and cake from CF-16, 17, 18, 02, and 23.

Tech: SC, HS

Hudson River Treatability Study

Belt Press Data

Each involves 4 cycles of 15 seconds at 25 PSI

Test Number	Slurry ID	Feed Solids (%)	Additive/ Dosage	Cake Solids (%)	Sample Volume (mL)	Filtrate Volume (mL)	Comments
BP-1	H1S4B-03	24.84	4808 / 2350 ppm	50.27	200	192	Filtrate - cloudy, slightly yellow Release - acceptable, good
BP-2	H1S4B-03	24.84	4808 / 2400 ppm	48.59	200	195	Filtrate - cloudy, slightly yellow Release - acceptable
BP-3	H1S4B-03	24.84	4808 / 2450 ppm	49.42	200	147	Filtrate - cloudy, slightly yellow Release - acceptable
BP-4	H1S3-12	14.61	2651 / 800 ppm	53.47	100	62	Slightly yellow, cloudy. Release - acceptable.
BP-5	H1S3-12	14.61	2651 / 850 ppm	56.78	100	65	Slightly yellow, cloudy. Release - acceptable.
BP-6	H1S3-12	14.61	2651 / 900 ppm	59.53	100	64	Slightly yellow, cloudy. Release - acceptable.
BP-7	H1S4B-04	24.90	4440 / 1950 ppm	43.72	100	53	V. dirty, brown
BP-8	H1S4B-04	24.90	4440 / 2000 ppm	45.91	100	89	cloudy, brown
BP-9	H1S4B-04	24.90	4440 / 2050 ppm	45.66	100	76	cloudy, brown
BP-10	H1S4B-04	24.90	2651 / 1950 ppm	51.19	100	90	Slightly cloudy, light brown. Release - acceptable
BP-11	H1S4B-04	24.90	2651 / 2000 ppm	49.61	100	87	Slightly cloudy, very light brown. Release - acceptable

BP-12	H1S4B-04	24.90	2651 / 2050 ppm	50.02	100	89	Slightly cloudy, very light brown. Release - acceptable
BP-13	H1S3-14	14.36	4440 / 1300 ppm	53.21	100	71	Slightly cloudy, colorless. Release - acceptable
BP-14	H1S3-14	14.36	4440 / 1350 ppm	53.61	100	81	Slightly cloudy, colorless. Release - acceptable
BP-15	H1S3-14	14.36	4440 / 1400 ppm	54.28	100	86	Slightly cloudy, colorless. Release - acceptable
BP-16	H1S3-14	14.36	4808 / 1200 ppm	60.61	100	87	Clear, colorless. Release - acceptable.
BP-17	H1S3-14	14.36	4808 / 1250 ppm	60.72	100	97	Clear, colorless. Release - acceptable.
BP-18	H1S3-14	14.36	4808 / 1300 ppm	61.17	100	93	Clear, colorless. Release - acceptable.
Each involves 8 cycles of 15 seconds at 25 PSI							
BP-19	H1S4B-04	24.90	2651 / 1950 ppm	49.20	100	92	Slightly cloudy, light brown. Release - acceptable
BP-20	H1S3-14	14.36	4808 / 1250 ppm	59.68	100	92	Clear, colorless. Release - acceptable.
Each involves 4 cycles of 15 seconds at 25 PSI							
BP-21	H1S4B-04	24.90	4440 / 2700 ppm	48.46	100	94	Acceptable cake, good release / cloudy filtrate, slightly yellow/brown
BP-22	H1S4B-04	24.90	4440 / 2800 ppm	47.77	100	101	Acceptable cake, good release / clearer filtrate, slightly yellow
BP-23	H1S4B-04	24.90	4440 / 2900 ppm	48.10	100	97	Acceptable cake, good release / clearer filtrate, slightly yellow