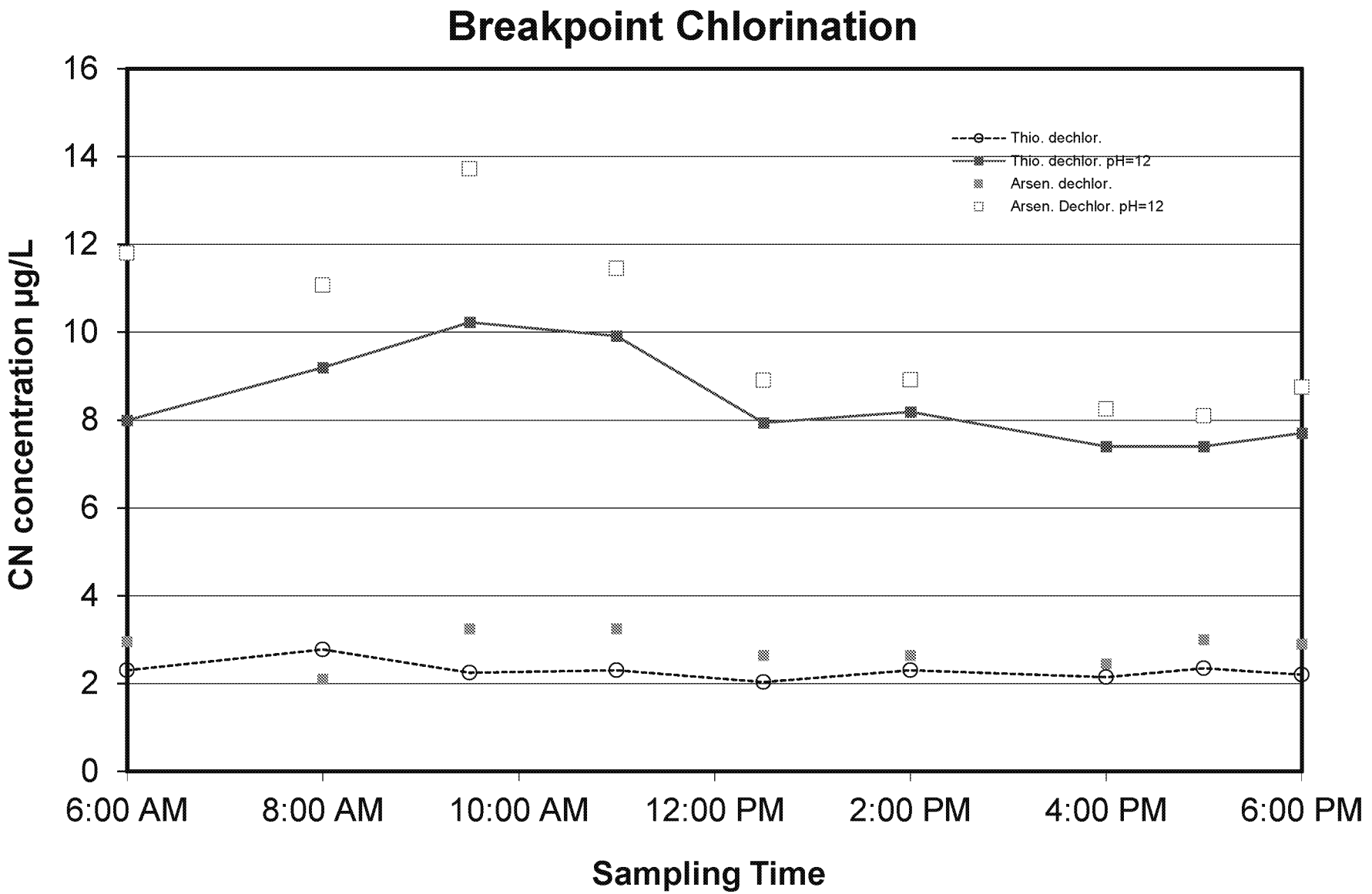

Breakpoint Chlorination
CN concentration µg/L
16
14
12
10
8
6
4
2
0
6:00 AM
8:00 AM
10:00 AM
12:00 PM
2:00 PM
4:00 PM
6:00 PM
Sampling Time
Thio. dechlor.
Thio. dechlor. pH=12
Arsen. dechlor.
Arsen. Dechlor. pH=12

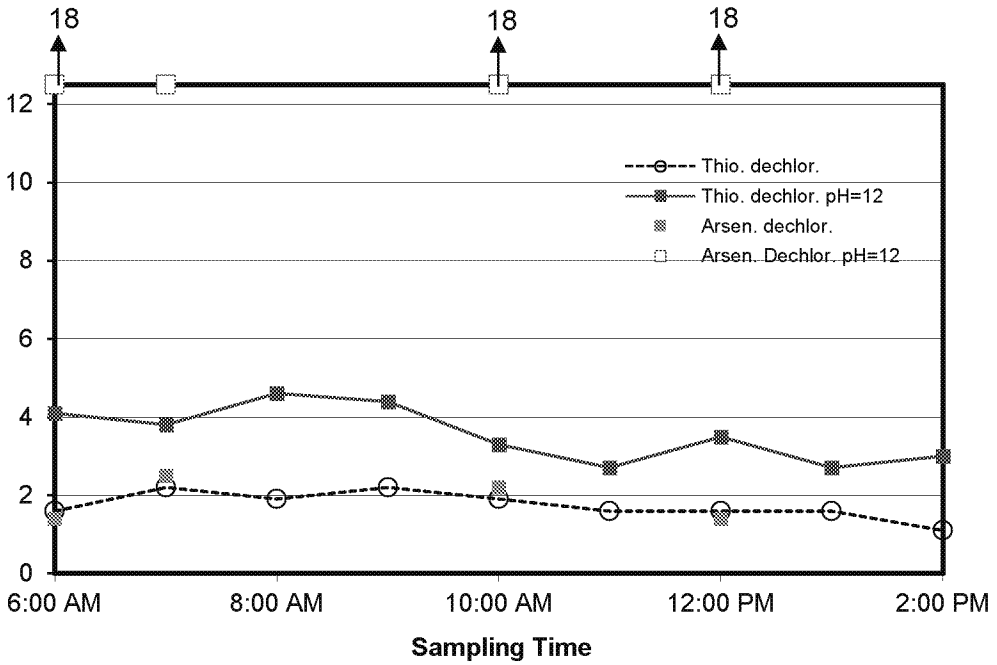
CYANIDE PROJECT
SAN JOSE CREEK WEST FINAL EFFLUENT
DATE FOR DAY 0: 04/04/05

	Description	Login #	Time	CN		Initial pH
1	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25578	6:00 AM	1.4		7.93
2	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25582	7:00 AM	2.5		7.78
3	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25590	10:00 AM	2.2		7.69
4	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25596	12:00 PM	1.4		4 Ap
5	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25579	6:00 AM	18	12.5	
6	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25583	7:00 AM	12.8	12.5	
7	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25591	10:00 AM	18	12.5	
8	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25597	12:00 PM	17.5	12.5	
9	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25577	6:00 AM	4.1		
10	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25581	7:00 AM	3.8		
11	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25585	8:00 AM	4.6		
12	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25587	9:00 AM	4.4		
13	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25589	10:00 AM	3.3		
14	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25593	11:00 AM	2.7		
15	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25595	12:00 PM	3.5		
16	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25599	1:00 PM	2.7		
17	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25601	2:00 PM	3		
18	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25576	6:00 AM	1.6		
19	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25580	7:00 AM	2.2		
20	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25584	8:00 AM	1.9		
21	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25586	9:00 AM	2.2		
22	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25588	10:00 AM	1.9		
23	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25592	11:00 AM	1.6		
24	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25594	12:00 PM	1.6		
25	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25598	1:00 PM	1.6		
26	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25600	2:00 PM	1.1		7.50

CN concentration

Initial Vol. mL	Vol. Of 50% NaOH in mL	pH Day 0
500		7.93
500		7.78
1000		7.69

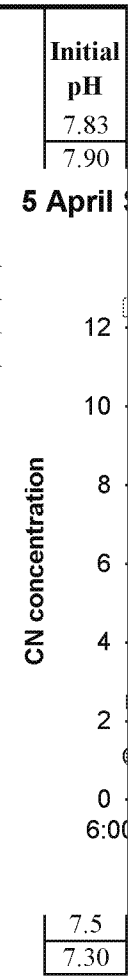
ril SJC West Temporal Study #1



1000		7.50

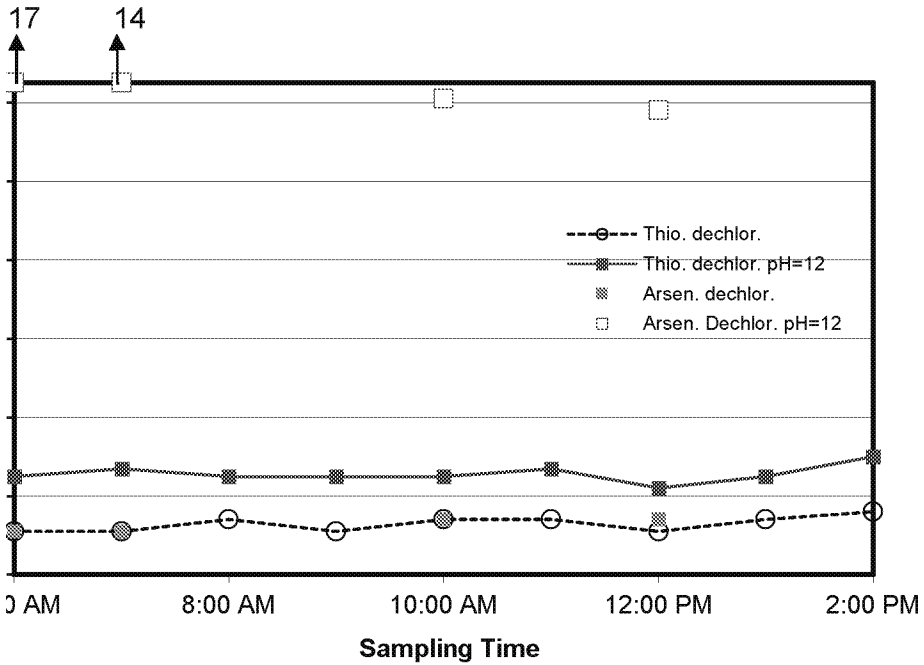
CYANIDE PROJECT
SAN JOSE CREEK WEST FINAL EFFLUENT
DATE FOR DAY 0: 04/05/05

	Description	Login #	Time	CN		Initial pH
3	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25727	6:00 AM	1.1		7.83
7	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25731	7:00 AM	1.1		7.90
15	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25739	10:00 AM	1.4		
21	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25745	12:00 PM	1.4		
4	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25728	6:00 AM	16.8	1	
8	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25732	7:00 AM	14	1	
16	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25740	10:00 AM	12.1	1	
22	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25746	12:00 PM	11.8	1	
2	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25726	6:00 AM	2.5		
6	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25730	7:00 AM	2.7		
10	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25734	8:00 AM	2.5		
12	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25736	9:00 AM	2.5		
14	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25738	10:00 AM	2.5		
18	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25742	11:00 AM	2.7		
20	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25744	12:00 PM	2.2		
24	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25748	1:00 PM	2.5		
26	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25750	2:00 PM	3		
1	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25725	6:00 AM	1.1		
5	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25729	7:00 AM	1.1		
9	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25733	8:00 AM	1.4		
11	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25735	9:00 AM	1.1		
13	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25737	10:00 AM	1.4		
17	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25741	11:00 AM	1.4		
19	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25743	12:00 PM	1.1		
23	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25747	1:00 PM	1.4		7.5
25	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25749	2:00 PM	1.6		7.30



Initial Vol. mL	Vol. Of 50% NaOH in mL	pH Day 0
500		7.83
500		7.90

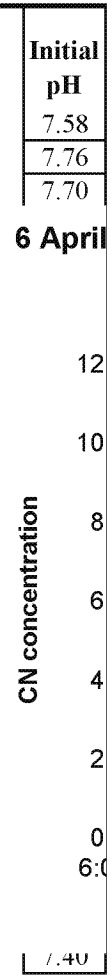
SJC West Temporal Study #2



1000		7.50
1000		7.30

CYANIDE PROJECT
SAN JOSE CREEK WEST FINAL EFFLUENT
DATE FOR DAY 0: 04/06/05

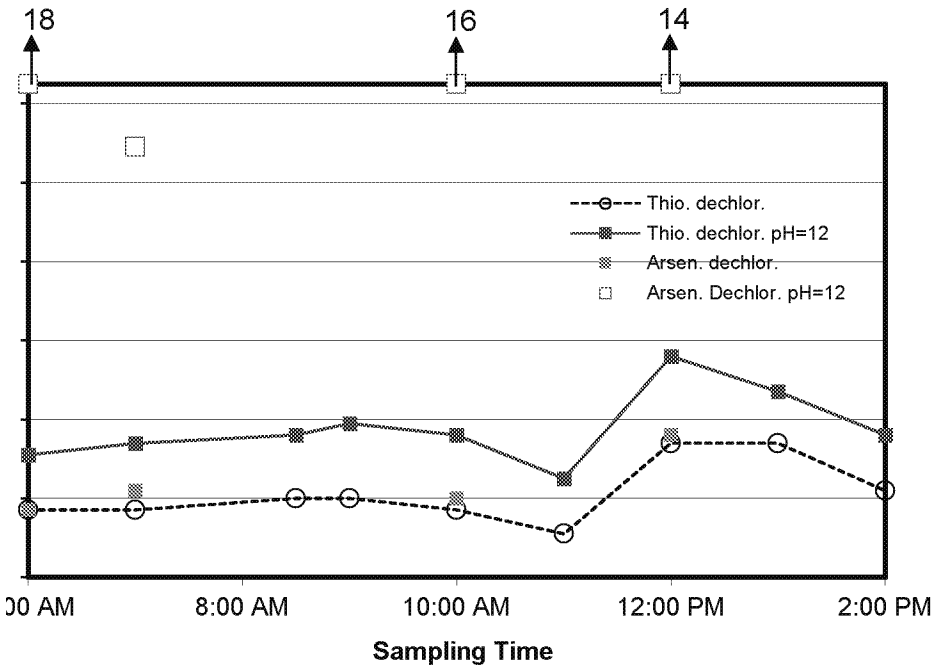
	Description	Login #	Time	CN		Initial pH
3	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25754	6:00 AM	1.7		7.58
7	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25758	7:00 AM	2.2		7.76
15	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25766	10:00 AM	2		7.70
21	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25772	12:00 PM	3.6		
4	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25755	6:00 AM	18.4	12	
8	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25759	7:00 AM	10.9	10	
16	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25767	10:00 AM	15.6	12	
22	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25773	12:00 PM	14	12	
2	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25753	6:00 AM	3.1		
6	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25757	7:00 AM	3.4		
10	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25761*	8:30 AM	3.6		
12	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25763	9:00 AM	3.9		
14	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25765	10:00 AM	3.6		
18	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25769	11:00 AM	2.5		
20	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25771	12:00 PM	5.6		
24	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25775	1:00 PM	4.7		
26	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25777	2:00 PM	3.6		
1	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25752	6:00 AM	1.7		
5	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25756	7:00 AM	1.7		
9	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25760*	8:30 AM	2		
11	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25762	9:00 AM	2		
13	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25764	10:00 AM	1.7		
17	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25768	11:00 AM	1.1		
19	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25770	12:00 PM	3.4		
23	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25774	1:00 PM	3.4		
25	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25776	2:00 PM	2.2		7.40



*** Plant obstruction. Sampled at 8:30 AM.**

Initial Vol. mL	Vol. Of 50% NaOH in mL	pH Day 0
500		7.58
500		7.76
1000		7.70

SJC West Temporal Study #3



1000		7.40

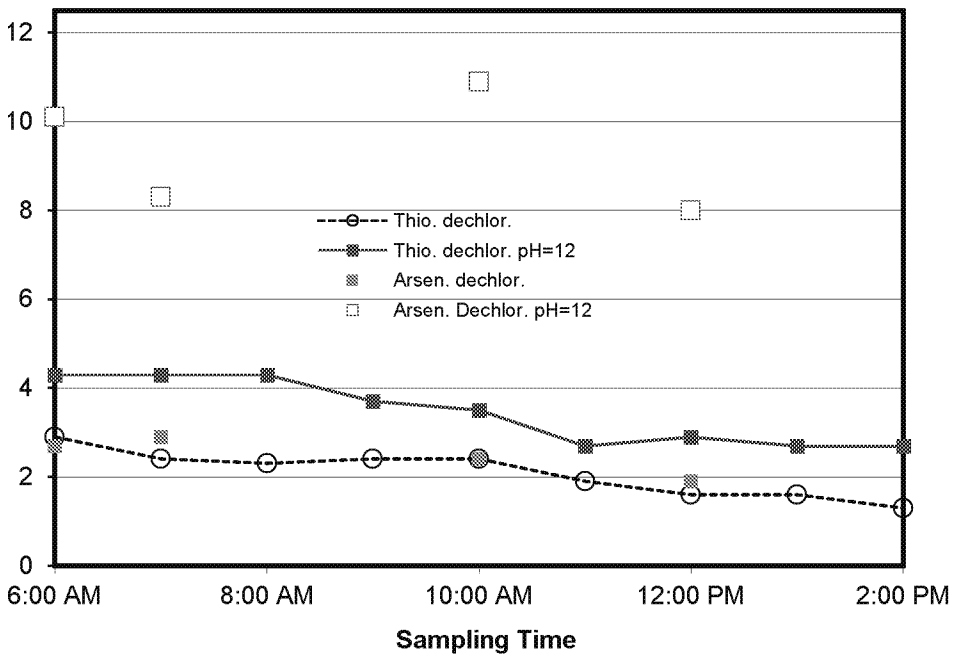
CYANIDE PROJECT
SAN JOSE CREEK WEST FINAL EFFLUENT
DATE FOR DAY 0: 04/07/05

	Description	Login #	Time	CN		Initial pH
3	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25918	6:00 AM	2.7		7.91
7	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25922	7:00 AM	2.9		7.82
15	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25930	10:00 AM	2.4		7.75
21	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25936	12:00 PM	1.9		7 Ap
4	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25919	6:00 AM	10.1	6.5	
8	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25923	7:00 AM	8.3	6.5	
16	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25931	10:00 AM	10.9	6.5	
22	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25937	12:00 PM	8	6.5	
2	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25917	6:00 AM	4.3		
6	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25921	7:00 AM	4.3		
10	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25925	8:00 AM	4.3		
12	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25927	9:00 AM	3.7		
14	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25929	10:00 AM	3.5		
18	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25933	11:00 AM	2.7		
20	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25935	12:00 PM	2.9		
24	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25939	1:00 PM	2.7		
26	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25941	2:00 PM	2.7		
1	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25916	6:00 AM	2.9		
5	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25920	7:00 AM	2.4		
9	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25924	8:00 AM	2.3		
11	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25926	9:00 AM	2.4		
13	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25928	10:00 AM	2.4		
17	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25932	11:00 AM	1.9		
19	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25934	12:00 PM	1.6		
23	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25938	1:00 PM	1.6		
25	CN Res. SJC East FE w/ NaThio & No Pres.	SJ25940	2:00 PM	1.3		7.52

CN concentration

Initial Vol. mL	Vol. Of 50% NaOH in mL	pH Day 0
500		
500		
1000		

ril SJC West Temporal Study #4

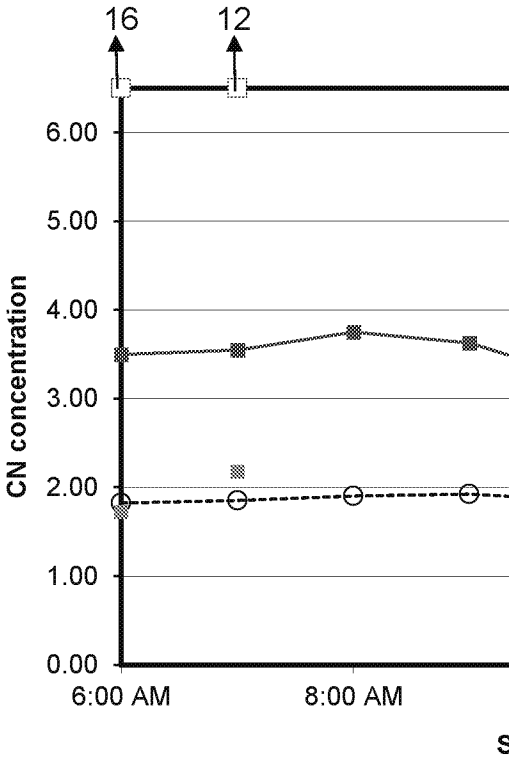


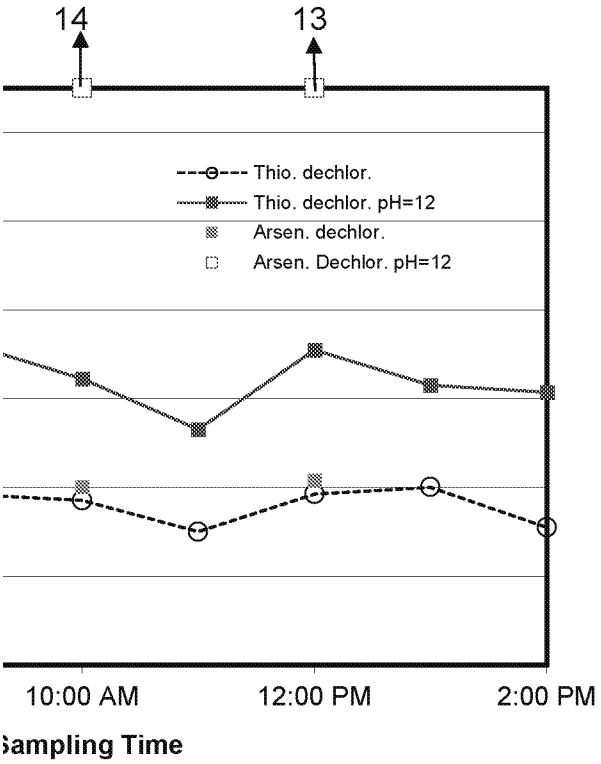
1000		

Description	Login #	Time	4-Apr	5-Apr	6-Apr
CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25578	6:00 AM	1.4	1.1	1.7
CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25582	7:00 AM	2.5	1.1	2.2
CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25590	10:00 AM	2.2	1.4	2
CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ25596	12:00 PM	1.4	1.4	3.6
CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25579	6:00 AM	18	16.8	18.4
CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25583	7:00 AM	12.8	14	10.9
CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25591	10:00 AM	18	12.1	15.6
CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ25597	12:00 PM	17.5	11.8	14
CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25577	6:00 AM	4.1	2.5	3.1
CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25581	7:00 AM	3.8	2.7	3.4
CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25585	8:00 AM	4.6	2.5	3.6
CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25587	9:00 AM	4.4	2.5	3.9
CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25589	10:00 AM	3.3	2.5	3.6
CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25593	11:00 AM	2.7	2.7	2.5
CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25595	12:00 PM	3.5	2.2	5.6
CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25599	1:00 PM	2.7	2.5	4.7
CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ25601	2:00 PM	3	3	3.6
CN Res. SJC East FE w/ NaThio & No Pres.	SJ25576	6:00 AM	1.6	1.1	1.7
CN Res. SJC East FE w/ NaThio & No Pres.	SJ25580	7:00 AM	2.2	1.1	1.7
CN Res. SJC East FE w/ NaThio & No Pres.	SJ25584	8:00 AM	1.9	1.4	2
CN Res. SJC East FE w/ NaThio & No Pres.	SJ25586	9:00 AM	2.2	1.1	2
CN Res. SJC East FE w/ NaThio & No Pres.	SJ25588	10:00 AM	1.9	1.4	1.7
CN Res. SJC East FE w/ NaThio & No Pres.	SJ25592	11:00 AM	1.6	1.4	1.1
CN Res. SJC East FE w/ NaThio & No Pres.	SJ25594	12:00 PM	1.6	1.1	3.4
CN Res. SJC East FE w/ NaThio & No Pres.	SJ25598	1:00 PM	1.6	1.4	3.4
CN Res. SJC East FE w/ NaThio & No Pres.	SJ25600	2:00 PM	1.1	1.6	2.2

7-Apr AVG

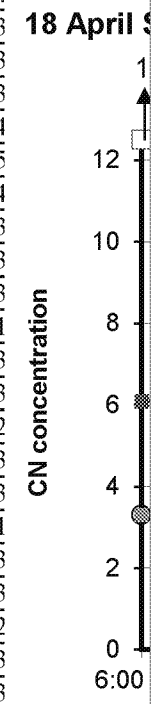
2.7	1.73						
2.9	2.18						
2.4	2.00			7.249288794			
1.9	2.08		Diff Thio	8.671232877	Diff Arsen no pH		
10.1	15.83	6.5	767%	6.216216216	352%		
8.3	11.50	6.5	522%	7.447368421	224%		
10.9	14.15	6.5	645%	6.662337662	277%		
8	12.83	6.5	566%	**625%**	254%	**277%**	
4.3	3.50		92%	1.68			
4.3	3.55		92%	1.70			
4.3	3.75		97%	1.85			
3.7	3.63		88%	1.70			
3.5	3.23		74%	1.38			
2.7	2.65		77%	1.15			
2.9	3.55		84%	1.63			
2.7	3.15		58%	1.15			
2.7	3.08		98%	1.53			
2.9	1.83		**85%**	**1.53**			
2.4	1.85						
2.3	1.90						
2.4	1.93						
2.4	1.85						
1.9	1.50						
1.6	1.93						
1.6	2.00						
1.3	1.55						



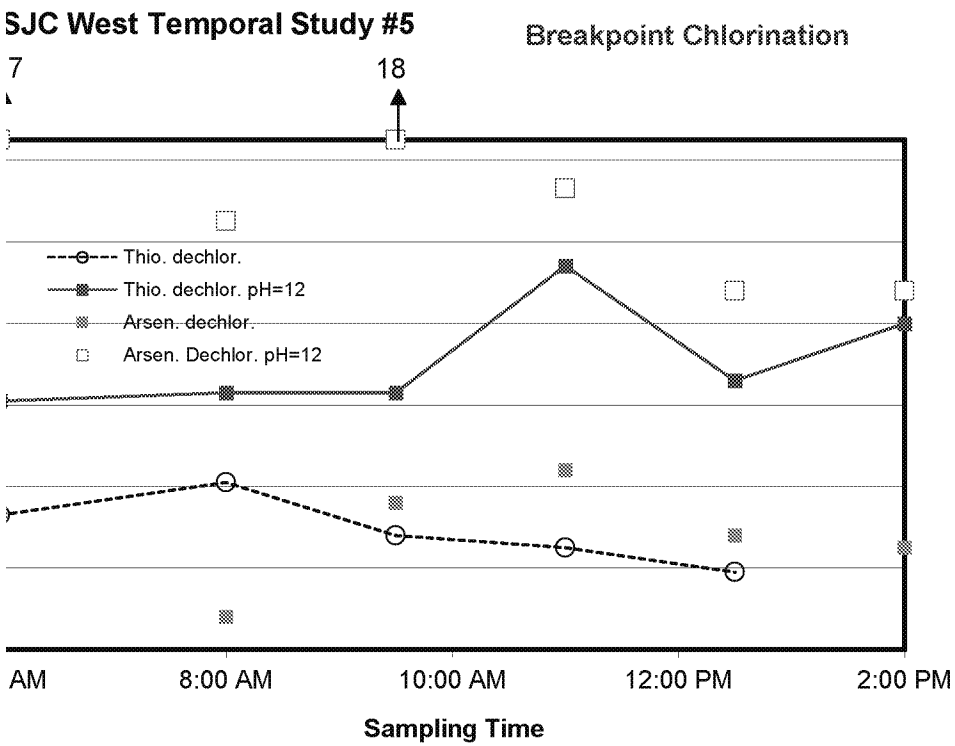

14
13
Thio. dechlor.
Thio. dechlor. pH=12
Arsen. dechlor.
Arsen. Dechlor. pH=12
10:00 AM
12:00 PM
2:00 PM
Sampling Time

CYANIDE PROJECT
San Jose Creek West Final Effluent
WEEK-2, DATE: 12:00 AM

	Description	Login #	Time	CN		Initial pH	Initial Vol. mL
3	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 No Pres	SJ26497	6:00 AM	3.3		7.44	500
9	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 No Pres	SJ26503	8:00 AM	0.8		7.59	500
13	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 No Pres	SJ26507	9:30 AM	3.6		7.4	500
19	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 No Pres	SJ26513	11:00 AM	4.4		7.3	
23	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 No Pres	SJ26517	12:30 PM	2.8		7.3	
27	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 No Pres	SJ26521	2:00 PM	2.5		7.3	
4	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 pH12	SJ26498	6:00 AM	17.1	12.5	7.4	
10	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 pH12	SJ26504	8:00 AM	10.5	10.5	7.5	
14	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 pH12	SJ26508	9:30 AM	17.6	12.5	7.4	
20	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 pH12	SJ26514	11:00 AM	11.3	11.3	7.3	
24	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 pH12	SJ26518	12:30 PM	8.8	8.8	7.3	
28	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 pH12	SJ26522	2:00 PM	8.8	8.8	7.3	
1	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio No Pres	SJ26495	6:00 AM	3.3		7.1	
7	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio No Pres	SJ26501	8:00 AM	4.1		7.3	
11	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio No Pres	SJ26505	9:30 AM	2.8		7.3	
17	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio No Pres	SJ26511	11:00 AM	2.5		7.2	
21	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio No Pres	SJ26515	12:30 PM	1.9		7.3	
25	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio No Pres	SJ26519	2:00 PM	1.9		7.3	
2	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio pH12	SJ26496	6:00 AM	6.1		7.1	
8	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio pH12	SJ26502	8:00 AM	6.3		7.3	
12	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio pH12	SJ26506	9:30 AM	6.3		7.3	
18	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio pH12	SJ26512	11:00 AM	9.4		7.2	
22	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio pH12	SJ26516	12:30 PM	6.6		7.3	
26	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio pH12	SJ26520	2:00 PM	8		7.3	
6	Full-Scale Breakpoint Study – Secondary Effluent Dechlor/NaThio pH12	SJ26500	6:30 AM	2.5		7.4	
16	Full-Scale Breakpoint Study – Secondary Effluent Dechlor/NaThio pH12	SJ26510	9:30 AM	1.7		7.59	500
5	Full-Scale Breakpoint Study – Secondary Effluent Dechlor/NaThioNoPres	SJ26499	6:30 AM	2.5		7.44	500



Vol. Of 50% NaOH in mL	pH Day 0
	7.44
	7.59
	[illegible]



0.6	12.03
	7.44

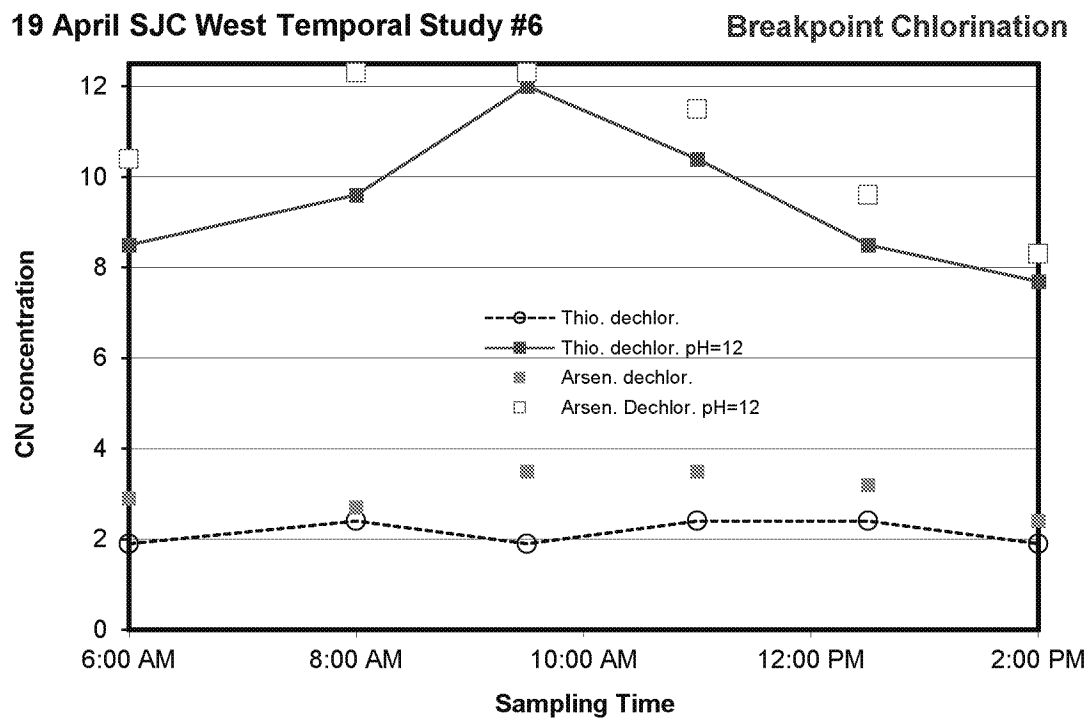
15	Full-Scale Breakpoint Study – Secondary Effluent Dechlor/NaThioNoPres	SJ26509	9:30 AM	1.1		7.59	500

	7.59

CYANIDE PROJECT
SAN JOSE CREEK WEST FINAL EFFLUENT
DATE FOR DAY 0: 04/19/05

	Description	Login #	Time	CN
3	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ26691	6:00 AM	2.9
7	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ26695	8:00 AM	2.7
5	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 No Pres	SJ26681	9:30 AM	3.5
11	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ26699	11:00 AM	3.5
11	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 No Pres	SJ26687	12:30 PM	3.2
15	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ26703	2:00 PM	2.4
4	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ26692	6:00 AM	10.4
8	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ26696	8:00 AM	12.3
6	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 pH12	SJ26682	9:30 AM	12.3
12	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ26700	11:00 AM	11.5
12	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 pH12	SJ26688	12:30 PM	9.6
16	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ26704	2:00 PM	8.3
2	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ26690	6:00 AM	8.5
6	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ26694	8:00 AM	9.6
4	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio pH12	SJ26680	9:30 AM	12
10	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ26698	11:00 AM	10.4
10	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio pH12	SJ26686	12:30 PM	8.5
14	CN Res. SJC East FE Grab w/ 50% NaOH to pH 12	SJ26702	2:00 PM	7.7
1	CN Res. SJC East FE w/ NaThio & No Pres.	SJ26689	6:00 AM	1.9
5	CN Res. SJC East FE w/ NaThio & No Pres.	SJ26693	8:00 AM	2.4
3	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio No Pres	SJ26679	9:30 AM	1.9
9	CN Res. SJC East FE w/ NaThio & No Pres.	SJ26697	11:00 AM	2.4
9	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio No Pres	SJ26685	12:30 PM	2.4
13	CN Res. SJC East FE w/ NaThio & No Pres.	SJ26701	2:00 PM	1.9
				0

Initial pH	Initial Vol. mL	Vol. Of 50% NaOH in mL	pH Day 0
7.32	500		7.22

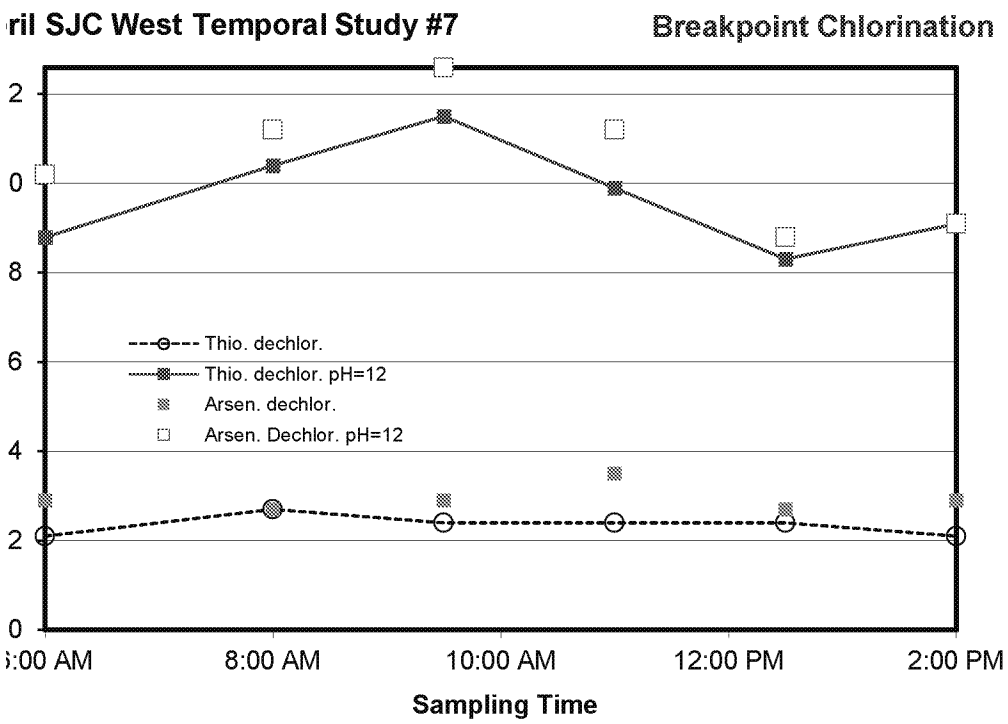


CYANIDE PROJECT
SAN JOSE CREEK WEST FINAL EFFLUENT
DATE FOR DAY 0: 04/20/05

	Description	Login #	Time	CN	Initial pH
2	CN Res. SJC E FE Grab w/ 50% NaOH to pH 12	SJ26718	6:00 AM	8.8	7.45
6	CN Res. SJC E FE Grab w/ 50% NaOH to pH 12	SJ26722	8:00 AM	10.4	20 Ap
4	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio pH12	SJ26708	9:30 AM	11.5	
10	CN Res. SJC E FE Grab w/ 50% NaOH to pH 12	SJ26726	11:00 AM	9.9	1
10	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio pH12	SJ26714	12:30 PM	8.3	
14	CN Res. SJC E FE Grab w/ 50% NaOH to pH 12	SJ26730	2:00 PM	9.1	
3	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ26719	6:00 AM	2.9	1
7	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ26723	8:00 AM	2.7	
5	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 No Pres	SJ26709	9:30 AM	2.9	
11	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ26727	11:00 AM	3.5	
11	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 No Pres	SJ26715	12:30 PM	2.7	
15	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ26731	2:00 PM	2.9	
4	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ26720	6:00 AM	10.2	
8	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ26724	8:00 AM	11.2	
6	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 pH12	SJ26710	9:30 AM	12.6	
12	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ26728	11:00 AM	11.2	
12	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaAsO2 pH12	SJ26716	12:30 PM	8.8	
16	CN Res. SJC E FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ26732	2:00 PM	9.1	
1	CN Res. SJC E FE w/ NaThio & No Pres.	SJ26717	6:00 AM	2.1	
5	CN Res. SJC E FE w/ NaThio & No Pres.	SJ26721	8:00 AM	2.7	
3	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio No Pres	SJ26707	9:30 AM	2.4	6
9	CN Res. SJC E FE w/ NaThio & No Pres.	SJ26725	11:00 AM	2.4	
9	Full-Scale Breakpoint Study – Final Effluent Dechlor/NaThio No Pres	SJ26713	12:30 PM	2.4	
13	CN Res. SJC E FE w/ NaThio & No Pres.	SJ26729	2:00 PM	2.1	7.35

CN concentration

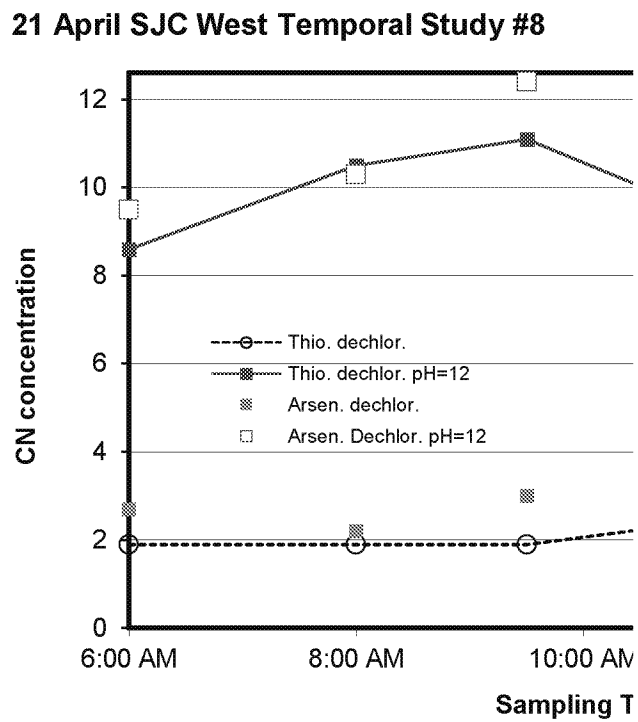
Initial Vol. mL	Vol. Of 50% NaOH in mL	pH Day 0
500	0.7	12.05

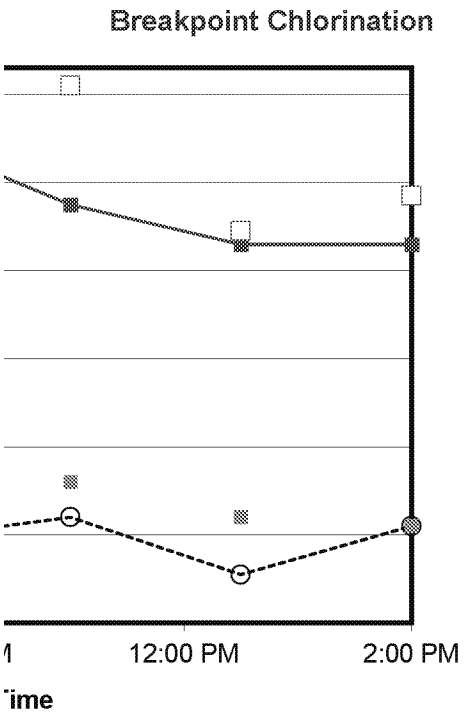


500		

CYANIDE PROJECT
San Jose Creek West Final Effluent
WEEK-2, DATE: 12:00 AM

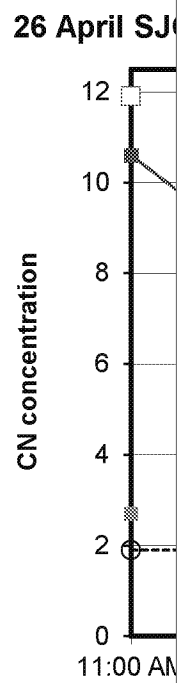
	Description	Login #	Time	CN		Initial pH	Initial Vol. mL	Vol. Of 50% NaOH in mL	pH Day 0
3	SJCE FE Dechlor/NaAsO2 No Pres	SJ26868	6:00 AM	2.7					
9	SJCE FE Dechlor/NaAsO2 No Pres	SJ26874	8:00 AM	2.2					
13	SJCE FE Dechlor/NaAsO2 No Pres	SJ26878	9:30 AM	3					
19	SJCE FE Dechlor/NaAsO2 No Pres	SJ26884	11:00 AM	3.2					
23	SJCE FE Dechlor/NaAsO2 No Pres	SJ26888	12:30 PM	2.4					
27	SJCE FE Dechlor/NaAsO2 No Pres	SJ26892	2:00 PM	2.2					
4	SJCE FE Dechlor/NaAsO2 pH12	SJ26869	6:00 AM	9.5					
10	SJCE FE Dechlor/NaAsO2 pH12	SJ26875	8:00 AM	10.3					
14	SJCE FE Dechlor/NaAsO2 pH12	SJ26879	9:30 AM	12.4					
20	SJCE FE Dechlor/NaAsO2 pH12	SJ26885	11:00 AM	12.2					
24	SJCE FE Dechlor/NaAsO2 pH12	SJ26889	12:30 PM	8.9					
28	SJCE FE Dechlor/NaAsO2 pH12	SJ26893	2:00 PM	9.7					
1	SJCE FE Dechlor/NaThio No Pres	SJ26866	6:00 AM	1.9					
7	SJCE FE Dechlor/NaThio No Pres	SJ26872	8:00 AM	1.9					
11	SJCE FE Dechlor/NaThio No Pres	SJ26876	9:30 AM	1.9					
17	SJCE FE Dechlor/NaThio No Pres	SJ26882	11:00 AM	2.4					
21	SJCE FE Dechlor/NaThio No Pres	SJ26886	12:30 PM	1.1					
25	SJCE FE Dechlor/NaThio No Pres	SJ26890	2:00 PM	2.2					
2	SJCE FE Dechlor/NaThio pH12	SJ26867	6:00 AM	8.6					
8	SJCE FE Dechlor/NaThio pH12	SJ26873	8:00 AM	10.5					
12	SJCE FE Dechlor/NaThio pH12	SJ26877	9:30 AM	11.1					
18	SJCE FE Dechlor/NaThio pH12	SJ26883	11:00 AM	9.5					
22	SJCE FE Dechlor/NaThio pH12	SJ26887	12:30 PM	8.6					
26	SJCE FE Dechlor/NaThio pH12	SJ26891	2:00 PM	8.6		7.24	500	0.8	12.06




Breakpoint Chlorination
12:00 PM
2:00 PM
ime

CYANIDE PROJECT
SAN JOSE CREEK WEST FINAL EFFLUENT
DATE FOR DAY 0: 04/26/05

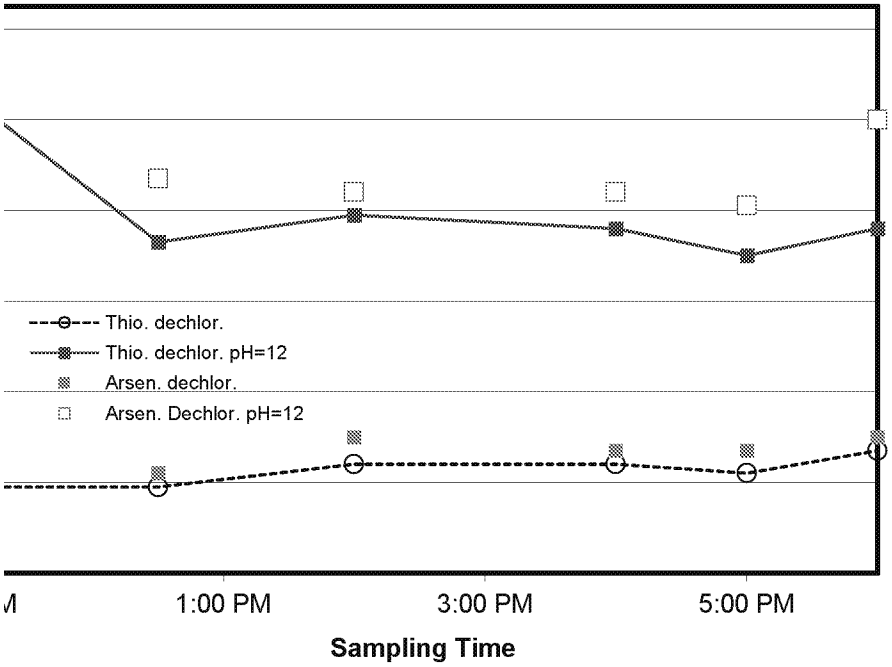
	Description	Login #	Time	CN	Initial pH
2	SJCE FE Grab w/ 50% NaOH to pH 12	SJ27136	11:00 AM	10.6	7.26
4	SJCE FE Dechlor/NaThio pH12	SJ27126	12:30 PM	7.3	
6	SJCE FE Grab w/ 50% NaOH to pH 12	SJ27140	2:00 PM	7.9	
10	SJCE FE Grab w/ 50% NaOH to pH 12	SJ27144	4:00 PM	7.6	
14	SJCE FE Grab w/ 50% NaOH to pH 12	SJ27148	5:00 PM	7	
10	SJCE FE Dechlor/NaThio pH12	SJ27132	6:00 PM	7.6	
3	SJCE FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ27137	11:00 AM	2.7	
5	SJCE FE Dechlor/NaAsO2 No Pres	SJ27127	12:30 PM	2.2	
7	SJCE FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ27141	2:00 PM	3	
11	SJCE FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ27145	4:00 PM	2.7	
15	SJCE FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ27149	5:00 PM	2.7	
11	SJCE FE Dechlor/NaAsO2 No Pres	SJ27133	6:00 PM	3	
4	SJCE FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ27138	11:00 AM	11.9	
6	SJCE FE Dechlor/NaAsO2 pH12	SJ27128	12:30 PM	8.7	
8	SJCE FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ27142	2:00 PM	8.4	
12	SJCE FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ27146	4:00 PM	8.4	
16	SJCE FE Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ27150	5:00 PM	8.1	
12	SJCE FE Dechlor/NaAsO2 pH12	SJ27134	6:00 PM	10	
1	SJCE FE w/ NaThio & No Pres.	SJ27135	11:00 AM	1.9	
3	SJCE FE Dechlor/NaThio No Pres	SJ27125	12:30 PM	1.9	
5	SJCE FE w/ NaThio & No Pres.	SJ27139	2:00 PM	2.4	
9	SJCE FE w/ NaThio & No Pres.	SJ27143	4:00 PM	2.4	
13	SJCE FE w/ NaThio & No Pres.	SJ27147	5:00 PM	2.2	
9	SJCE FE Dechlor/NaThio No Pres	SJ27131	6:00 PM	2.7	



Initial Vol. mL	Vol. Of 50% NaOH in mL	pH Day 0
500	0.8	12.01

C West Temporal Study #9

Breakpoint Chlorination



CYANIDE PROJECT
SAN JOSE CREEK WEST FINAL EFFLUENT pH RECORD FOR TEMPORAL STUDY-10
DATE FOR DAY 0: 04/27/05

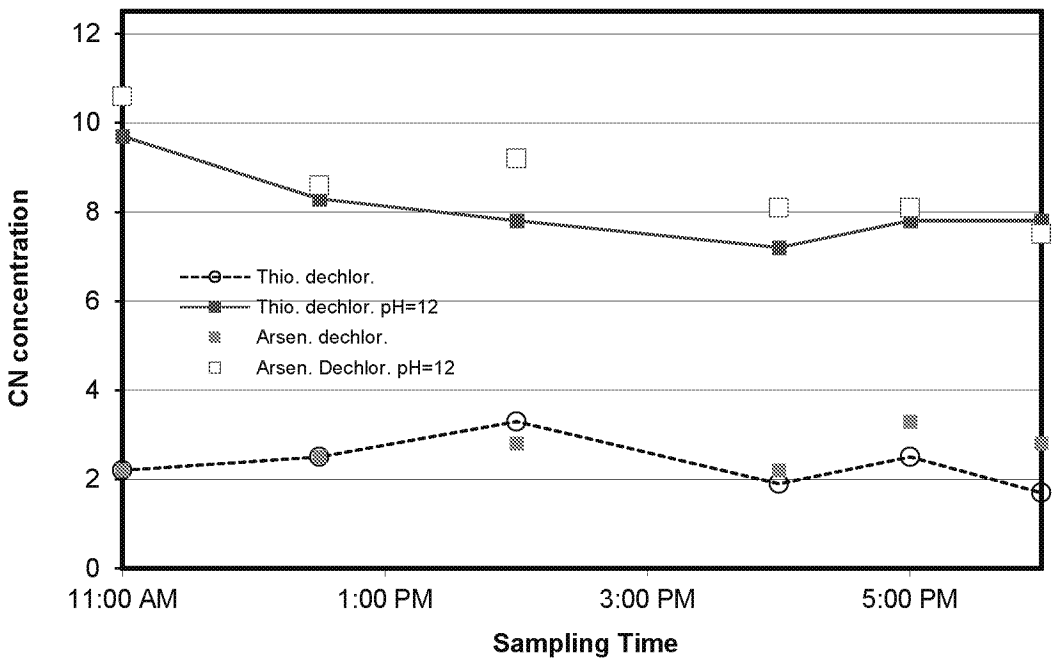
	Description	Login #
2	SJC E FE w/ 50% NaOH to pH 12	SJ27235
4	SJC E FE w/ 50% NaOH to pH 12	SJ27225
6	SJC E FE w/ 50% NaOH to pH 12	SJ27239
10	SJC E FE w/ 50% NaOH to pH 12	SJ27243
14	SJC E FE w/ 50% NaOH to pH 12	SJ27247
10	SJC E FE w/ 50% NaOH to pH 12	SJ27231
3	SJC E FE w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ27236
5	SJC E FE w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ27226
7	SJC E FE w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ27240
11	SJC E FE w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ27244
15	SJC E FE w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ27248
11	SJC E FE w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	SJ27232
4	SJC E FE w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ27237
6	SJC E FE w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ27227
8	SJC E FE w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ27241
12	SJC E FE w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ27245
16	SJC E FE w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ27249
12	SJC E FE w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	SJ27233
1	SJC E FE w/ NaThio & No Pres.	SJ27234
3	SJC E FE w/ NaThio & No Pres.	SJ27224
5	SJC E FE w/ NaThio & No Pres.	SJ27238
9	SJC E FE w/ NaThio & No Pres.	SJ27242
13	SJC E FE w/ NaThio & No Pres.	SJ27246
9	SJC E FE w/ NaThio & No Pres.	SJ27230

Time	CN
11:00 AM	9.7
12:30 PM	8.3
2:00 PM	7.8
4:00 PM	7.2
5:00 PM	7.8
6:00 PM	7.8
11:00 AM	2.2
12:30 PM	2.5
2:00 PM	2.8
4:00 PM	2.2
5:00 PM	3.3
6:00 PM	2.8
11:00 AM	10.6
12:30 PM	8.6
2:00 PM	9.2
4:00 PM	8.1
5:00 PM	8.1
6:00 PM	7.5
11:00 AM	2.2
12:30 PM	2.5
2:00 PM	3.3
4:00 PM	1.9
5:00 PM	2.5
6:00 PM	1.7

Initial pH	Initial Vol. mL	Vol. Of 50% NaOH in mL	pH Day 0
7.43	500	0.8	12.06

27 April SJC West Temporal Study #10

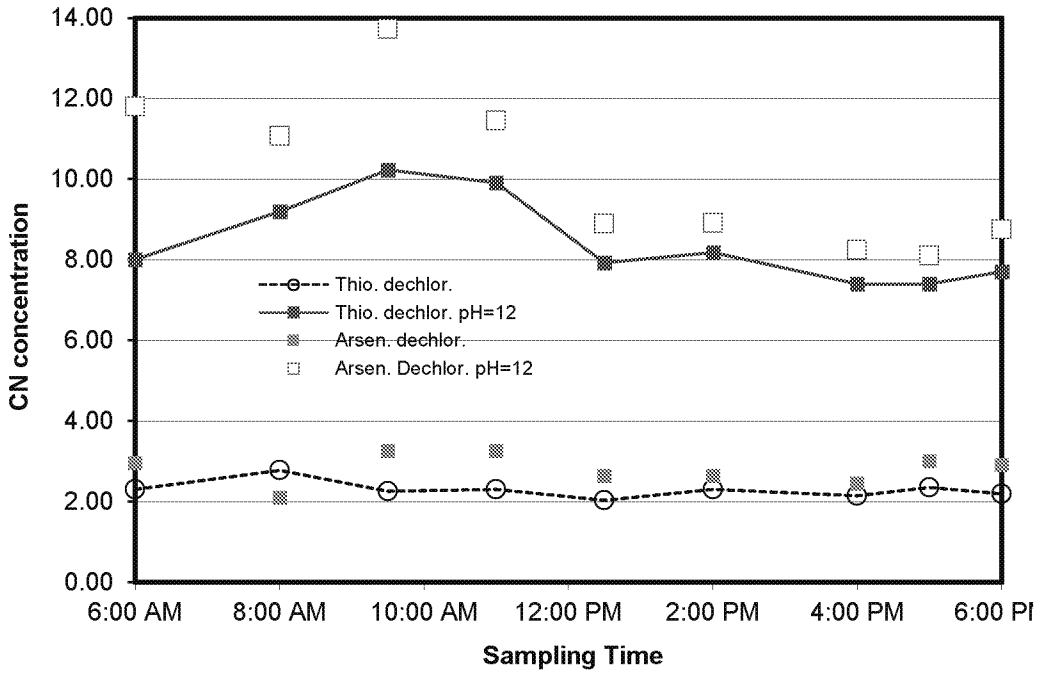
Breakpoint Chlorination



SJC East FE during Breakpoint Chlorination

Description	Time	18-Apr	19-Apr	20-Apr	21-Apr	26-Apr	27-Apr
Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	6:00 AM	3.3	2.9	2.9	2.7		
Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	8:00 AM	0.8	2.7	2.7	2.2		
Dechlor/NaAsO2 No Pres	9:30 AM	3.6	3.5	2.9	3		
Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	11:00 AM	4.4	3.5	3.5	3.2	2.7	2.2
Dechlor/NaAsO2 No Pres	12:30 PM	2.8	3.2	2.7	2.4	2.2	2.5
Grab w/NaAsO2 3.0mL of 0.1N to 0.5LNo Pres.	2:00 PM	2.5	2.4	2.9	2.2	3	2.8
	4:00 PM					2.7	2.2
	5:00 PM					2.7	3.3
	6:00 PM					3	2.8
Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	6:00 AM	17.1	10.4	10.2	9.5		
Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	8:00 AM	10.5	12.3	11.2	10.3		
Dechlor/NaAsO2 pH12	9:30 AM	17.6	12.3	12.6	12.4		
Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	11:00 AM	11.3	11.5	11.2	12.2	11.9	10.6
Dechlor/NaAsO2 pH12	12:30 PM	8.8	9.6	8.8	8.9	8.7	8.6
Grab w/NaAsO2 3.0mL of 0.1N to 0.5LpH12 w/ 50NaOH	2:00 PM	8.8	8.3	9.1	9.7	8.4	9.2
	4:00 PM					8.4	8.1
	5:00 PM					8.1	8.1
	6:00 PM					10	7.5
Grab w/ 50% NaOH to pH 12	6:00 AM	6.1	8.5	8.8	8.6		
Grab w/ 50% NaOH to pH 12	8:00 AM	6.3	9.6	10.4	10.5		
Dechlor/NaThio pH12	9:30 AM	6.3	12	11.5	11.1		
Grab w/ 50% NaOH to pH 12	11:00 AM	9.4	10.4	9.9	9.5	10.6	9.7
Dechlor/NaThio pH12	12:30 PM	6.6	8.5	8.3	8.6	7.3	8.3
Grab w/ 50% NaOH to pH 12	2:00 PM	8	7.7	9.1	8.6	7.9	7.8
	4:00 PM					7.6	7.2
	5:00 PM					7	7.8
	6:00 PM					7.6	7.8
w/ NaThio & No Pres.	6:00 AM	3.3	1.9	2.1	1.9		
w/ NaThio & No Pres.	8:00 AM	4.1	2.4	2.7	1.9		
Dechlor/NaThio No Pres	9:30 AM	2.8	1.9	2.4	1.9		
w/ NaThio & No Pres.	11:00 AM	2.5	2.4	2.4	2.4	1.9	2.2
Dechlor/NaThio No Pres	12:30 PM	1.9	2.4	2.4	1.1	1.9	2.5
w/ NaThio & No Pres.	2:00 PM	1.9	1.9	2.1	2.2	2.4	3.3
	4:00 PM					2.4	1.9
	5:00 PM					2.2	2.5
	6:00 PM					2.7	1.7

AVG	Diff		
2.95			
2.10			
3.25			
3.25			
2.63			
2.63			
2.45			
3.00			
2.90			
11.80		32%	
11.08		17%	
13.73		26%	
11.45		13%	
8.90		11%	
8.92		8%	
8.25		10%	
8.10		9%	
8.75		12%	15%
8.00	248%		
9.20	232%		
10.23	354%		
9.92	331%		
7.93	290%		
8.18	256%		
7.40	244%		
7.40	215%		
7.70	250%		
2.30	269%		
2.78			
2.25			
2.30			
2.03			
2.30			
2.15			
2.35			
2.20			



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