Table R2-1

REASONABLE POTENTIAL ANALYSIS
HYPERION TREATMENT PLANT (OUTFALL 002)
(CA0109991, CI-1492)

Constituent	Unit	Jan-99	Feb-99	Mar-99	Apr-99	May-99	Jun-99	Jul-99	Aug-99	Sep-99	Oct-99	Nov-99	Dec-99
Water Quality Objectives													
Marine Aquatic Life Protection													
ARSENIC	µg/L	**2.5**	**1**	**1**	**2.75**	**1.82**	**1.71**	**2.27**	**1.67**	**2.54**	**2.3**	**1.53**	**1.88**
CADMIUM	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
CHROMIUM VI	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
COPPER	µg/L	**33**	**21.2**	**14.7**	**21.4**	**14.3**	**11.1**	**23.7**	**12.8**	**14.7**	**5**	**11.5**	**5**
LEAD	µg/L	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**
MERCURY	µg/L	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**
NICKEL	µg/L	**2.5**	**10.4**	**16.7**	**6.5**	**18.3**	**9.6**	**12.2**	**14.3**	**9.08**	**6.55**	**10.2**	**14.3**
SELENIUM	µg/L	**0.5**	**0.5**	**0.5**	**0.5**	**1.76**	**0.5**	**0.5**	**0.5**	**0.5**	**1**	**1.29**	**0.5**
SILVER	µg/L	**0.2**	**2.85**	**2.2**	**2.42**	**2.24**	**1.14**	**1.16**	**1.04**	**1.72**	**0.87**	**1.27**	**2.23**
ZINC	µg/L	**35**	**58.1**	**23.2**	**42.6**	**37.4**	**22.3**	**24**	**28**	**66.4**	**32**	**32.9**	**37.5**
CYANIDE	µg/L	**7**	**9**	**6**	**1**	**7**	**1**	**7**	**3**	**5**	**8**	**2**	**12**
TOTAL CHLORINE RESIDUAL*	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
AMMONIA as N	mg/L	27.1	29.8	28.2	28.5	24.9	29.2	26.8	25.4	27.7	25	27.5	27.9
CHRONIC TOXICITY*	TUc	**7.5**	**7.5**	**84**	**7.5**	**7.5**	**7.5**	**10**	**48**	**10**	**48**	**48**	**10**
Human Health Protection (noncarcinogens)													
CHROMIUM (III) [using Cr total data]	µg/L	**2**	**2**	**2**	**2**	**18.4**	**2**	**2**	**6**	**2**	**2**	**2**	**2**

Underlined numbers used in calculations are one-half of MDLs for data showing less than MDL results.
Chlorine residual analysis was conducted daily. Daily maximum was reported.
* These constituents showed RPs.

Table R2-1

REASONABLE POTENTIAL ANALYSIS
HYPERION TREATMENT PLANT (OUTFALL 002)
(CA0109991, CI-1492)

Constituent	Unit	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00	Oct-00	Nov-00	Dec-00
Water Quality Objectives													
Marine Aquatic Life Protection													
ARSENIC	µg/L	0.5	1.62	2.36	1.4	1.9	4	2.22	2.06	2.65	4.1	2.39	4.72
CADMIUM	µg/L	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
CHROMIUM VI	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
COPPER	µg/L	12	13.1	11.6	18.3	13.2	5	5	5	17.8	17.8	5	28.4
LEAD	µg/L	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
MERCURY	µg/L	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.3	0.15	0.15	0.15	0.15
NICKEL	µg/L	2.5	11.2	13.7	13.9	10	10	10	10	25.1	10	10	10
SELENIUM	µg/L	1.5	1.38	1.12	0.5	0.5	0.5	0.5	2.11	1.1	1.14	1.18	0.5
SILVER	µg/L	1.45	2.02	1.62	2.13	0.31	0.31	0.31	0.31	0.31	0.3	0.31	2.6
ZINC	µg/L	21.6	26.2	33.1	29.8	26.7	23	13	29.6	53.6	31.3	34	25
CYANIDE	µg/L	7	3	3	2	5	6	8	5	13	1	8	7
TOTAL CHLORINE RESIDUAL*	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
AMMONIA as N	mg/L	28.7	28.2	27.7	26.8	29.2	31.2	30.6	29.4	26.4	28.9	29.4	33.8
CHRONIC TOXICITY*	TUc	48	10	48	48	48	48	10	48	10	84	48	
Human Health Protection (noncarcinogens)													
CHROMIUM (III) [using Cr total data]	µg/L	2	2	2	2	5	5	5	5	5	5	5	5

Underlined numbers used in calculations are one-half of MDLs for data showing less than MDL results.
Chlorine residual analysis was conducted daily. Daily maximum was reported.
* These constituents showed RPs.

Table R2-1

REASONABLE POTENTIAL ANALYSIS
HYPERION TREATMENT PLANT (OUTFALL 002)
(CA0109991, CI-1492)

Constituent	Unit	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01	Oct-01	Nov-01	Dec-01
Water Quality Objectives													
Marine Aquatic Life Protection													
ARSENIC	µg/L	**2.12**	3.13	1.88	2.03	1.36	1.72	2.58	1.6	3.67	4.64	2.69	**3.09**
CADMIUM	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.6	<1
CHROMIUM VI	µg/L	<10	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10
COPPER	µg/L	**34.6**	**15.6**	**10.3**	**27.2**	**13.2**	**5**	**11.4**	**15.4**	**14.4**	**12.4**	**22.5**	**12**
LEAD	µg/L	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**
MERCURY	µg/L	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.3**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**
NICKEL	µg/L	**10**	**22.6**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
SELENIUM	µg/L	**1.17**	**1.62**	**1.17**	**0.5**	**1.15**	**0.5**	**1**	**0.5**	**2**	**3.57**	**3.74**	**0.5**
SILVER	µg/L	**0.31**	**0.9**	**2.4**	**0.31**	**0.31**	**1.4**	**0.62**	**0.5**	**0.31**	**0.31**	**0.9**	**0.31**
ZINC	µg/L	**42.8**	**38**	**23.5**	**22.8**	**35**	**37.7**	**20.8**	**32.9**	**20.9**	**5**	**40.8**	**19**
CYANIDE	µg/L	**4**	**3**	**6**	**4**	**6**	**5**	**1**	**10**	**1**	**16**	**1**	**5**
TOTAL CHLORINE RESIDUAL*	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
AMMONIA as N	mg/L	34.4	32.8	31.5	33.4	31.8	32.6	30.4	30.1	27.8	27.8	30.1	31.5
CHRONIC TOXICITY*	TUc	**48**	**48**	**10**	**48**	**48**	**48**	**10**	**10**	**48**	**48**	**48**	
Human Health Protection (noncarcinogens)													
CHROMIUM (III) [using Cr total data]	µg/L	**12.6**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**

Underlined numbers used in calculations are one-half of MDLs for data showing less than MDL results.
Chlorine residual analysis was conducted daily. Daily maximum was reported.
* These constituents showed RPs.

Table R2-1

REASONABLE POTENTIAL ANALYSIS
HYPERION TREATMENT PLANT (OUTFALL 002)
(CA0109991, CI-1492)

Constituent	Unit	Jan-02	Feb-02	Mar-02	Apr-02	May-02	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02	Dec-02
Water Quality Objectives													
Marine Aquatic Life Protection													
ARSENIC	µg/L	**3.8**	**2.2**	**3.2**	**1.78**	**1.2**	**3.4**	**2.9**	**4**	**2.7**	**4.4**	**2.6**	**1.7**
CADMIUM	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
CHROMIUM VI	µg/L	< 10	< 10	< 10	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
COPPER	µg/L	**27**	**17**	**13**	**20**	**6**	**4.2**	**10**	**16**	**8**	**5.5**	**10.9**	**11.8**
LEAD	µg/L	**2.5**	**11**	**2.5**	**2.5**	**10.1**	**1**	**1**	**5**	**3.2**	**1**	**1**	**1**
MERCURY	µg/L	**0.15**	**0.15**	**0.15**	**0.15**	**0.03**	**0.02**	**0.05**	**0.078**	**0.01**	**0.07**	**0.01**	**0.024**
NICKEL	µg/L	**10**	**10**	**10**	**10**	**10**	**2.5**	**6**	**33**	**8**	**7.2**	**10.8**	**15.1**
SELENIUM	µg/L	**0.5**	**0.5**	**0.5**	**1.32**	**1.5**	**2**	**1.4**	**1**	**0.8**	**1.1**	**1.3**	**1.4**
SILVER	µg/L	**0.31**	**0.31**	**0.31**	**0.31**	**0.25**	**0.25**	**1.2**	**0.25**	**0.25**	**0.25**	**0.7**	**3.7**
ZINC	µg/L	**22**	**23**	**21**	**26**	**8.6**	**8.6**	**8.6**	**18**	**8.6**	**8.6**	**8.6**	**18.1**
CYANIDE	µg/L	**1**	**5**	**4**	**5**	**3**	**1**	**1**	**8**	**1**	**3.6**	**3.6**	**1**
TOTAL CHLORINE RESIDUAL*	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
AMMONIA as N	mg/L	34.7	32.1	29.8	30.9	35.7	32.5	31.7	30.7	30.4	32.3	33.3	36.1
CHRONIC TOXICITY*	TUc	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**
Human Health Protection (noncarcinogens)													
CHROMIUM (III) [using Cr total data]	µg/L	**5**	**5**	**5**	**5**	**0.5**	**0.5**	**0.5**	**3.4**	**3**	**3.1**	**0.5**	**0.5**

Underlined numbers used in calculations are one-half of MDLs for data showing less than MDL results.
Chlorine residual analysis was conducted daily. Daily maximum was reported.
* These constituents showed RPs.

Table R2-1

REASONABLE POTENTIAL ANALYSIS
HYPERION TREATMENT PLANT (OUTFALL 002)
(CA0109991, CI-1492)

Constituent	Unit	Jan-03	Feb-03	Mar-03	Apr-03	May-03	June 1, 2003	June 12, 2003	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03
Water Quality Objectives													
Marine Aquatic Life Protection													
ARSENIC	µg/L	**1.4**	**1.9**	**1.1**	**3**	**2.22**	**2.6**	**2.2**	**2.4**	**3.1**	**3.1**	**5**	**3.5**
CADMIUM	µg/L	<0.08	<0.08	<0.08	0.15	0.16	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
CHROMIUM VI	µg/L	<1	<2	2	<2	<2	<2		<2	4	2	<2	<2
COPPER	µg/L	**10**	**11**	**11**	**12**	**16**	**11**	**18**	**12.3**	**12.8**	**13.3**	**18.6**	**16.9**
LEAD	µg/L	**1**	**1**	**1**	**1**	**1.92**	**1**	**1.5**	**4.5**	**1.5**	**2.52**	**3**	**3**
MERCURY	µg/L	**0.16**	**0.08**	**0.011**	**0.13**	**0.011**	**0.011**	**0.18**	**0.011**	**0.011**	**0.011**	**0.011**	**0.011**
NICKEL	µg/L	**9.9**	**12**	**9.5**	**7.67**	**10.6**	**10.4**	**9.14**	**8.12**	**11.8**	**8.8**	**9.56**	**8.11**
SELENIUM	µg/L	**2**	**1.6**	**0.24**	**0.4**	**0.54**	**1**	**0.78**	**1.2**	**1.2**	**1**	**1.7**	**1.6**
SILVER	µg/L	**0.2**	**0.2**	**0.2**	**0.2**	**1.79**	**0.8**	**0.6**	**1.3**	**1.49**	**0.64**	**1.11**	**1.64**
ZINC	µg/L	**12**	**14**	**16**	**19**	**21**	**16**	**24**	**20.4**	**21**	**12**	**22**	**22.5**
CYANIDE	µg/L	**1**	**3.8**	**1**	**5.2**	**1**	**4**	**1**	**6**	**3**	**2**	**4**	**2**
TOTAL CHLORINE RESIDUAL*	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
AMMONIA as N	mg/L	37	35.2	36	32.7	36.3	36.4	32.2	31.8	36.9	32.3	35.6	34.5
CHRONIC TOXICITY*	TUc	**48**	**48**	**10**	**48**	**48**	**10**		**10**	**10**		**10**	**10**
Human Health Protection (noncarcinogens)													
CHROMIUM (III) [using Cr total data]	µg/L	**0.8**	**1.1**	**0.35**	**1.29**	**0.94**	**0.35**	**1.59**	**1.2**	**1.1**	**0.8**	**1.2**	**1.7**

Underlined numbers used in calculations are one-half of MDLs for data showing less than MDL results.
Chlorine residual analysis was conducted daily. Daily maximum was reported.
* These constituents showed RPs.

Table R2-1

REASONABLE POTENTIAL ANALYSIS
HYPERION TREATMENT PLANT (OUTFALL 002)
(CA0109991, CI-1492)

Constituent	Unit	Dec-03	January 1, 2004	January 27, 2004	Feb-04	Mar-04	Apr-04	May-04	June 2, 2004	June 16, 2004
Water Quality Objectives										
Marine Aquatic Life Protection										
ARSENIC	µg/L	**2.4**	**2.9**	**1.7**	**1.9**	**2.8**	**2**	**1.7**	**1.2**	**3.2**
CADMIUM	µg/L	<0.08	<0.16	0.19	0.28	0.63	0.24	<0.08	<0.08	<0.08
CHROMIUM VI	µg/L	<2	<2		<2	<2	<2	<2	<2	
COPPER	µg/L	**18**	**14.8**	**38.7**	**16.8**	**15.4**	**20.2**	**22.4**	**14.4**	**26.4**
LEAD	µg/L	**1.36**	**1.05**	**2.97**	**0.98**	**14.3**	**7**	**1.5**	**1.5**	**0.76**
MERCURY	µg/L	**0.094**	**0.011**	**0.011**	**0.011**	**0.038**	**0.011**	**0.011**	**0.011**	**0.025**
NICKEL	µg/L	**6.13**	**5.76**	**12.3**	**5.7**	**4.48**	**8.36**	**7.12**	**8.02**	**7.84**
SELENIUM	µg/L	**1.2**	**1.3**	**1.3**	**1.4**	**1.2**	**0.8**	**0.7**	**0.2**	**0.6**
SILVER	µg/L	**1**	**1.97**	**1.13**	**1.08**	**0.8**	**1.9**	**1.2**	**2.1**	**2.4**
ZINC	µg/L	**20.2**	**17.9**	**45.9**	**22**	**15**	**16.7**	**21.2**	**21.6**	**23.5**
CYANIDE	µg/L	**2**	**6**	**5**	**2**	**2**	**2**	**2**	**2**	**5**
TOTAL CHLORINE RESIDUAL*	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
AMMONIA as N	mg/L	35.4	35.2		32.5	33.7	36.3	36.5	33.3	
CHRONIC TOXICITY*	TUc						**48**	**48**	**10**	
Human Health Protection (noncarcinogens)										
CHROMIUM (III) [using Cr total data]	µg/L	**1.6**	**0.5**	**2**	**1.2**	**1.1**	**1.9**	**1.7**	**2.6**	**1.1**

Underlined numbers used in calculations are one-half of MDLs for data showing less than MDL results.
Chlorine residual analysis was conducted daily. Daily maximum was reported.
* These constituents showed RPs.

Table R2-1

REASONABLE POTENTIAL ANALYSIS
HYPERION TREATMENT PLANT (OUTFALL 002)
(CA0109991, CI-1492)

Constituent	Unit	Number of Nondetect	Number of Samples	Percent of Nondetect	Maximum Detected Effluent Concentration	Maximum Reported Effluent Concentration (max MDL if 100% ND or max MDL > max detect)	Standard Deviation	Mean	CV (set as 0.6 if nondetect >80%)	Multiplier	Projected Maximum Effluent Concentration (99/99)	Dilution Ratio	Background Seawater Concentration	Projected Maximum Receiving Water Concentration
Water Quality Objectives														
Marine Aquatic Life Protection														
ARSENIC	µg/L	1	69	1%	5	5	0.958068	2.443478	0.39	1.36	6.7889	84	3	3.0446
CADMIUM	µg/L	63	69	91%	0.63	2			0.6	1.57	3.1319	84		0.0368
CHROMIUM VI	µg/L	62	66	94%	10	10			0.6	1.59	15.8524	84		0.1865
COPPER	µg/L	7	69	10%	38.7	38.7	7.242182	14.98551	0.48	1.45	56.0580	84	2	2.6360
LEAD	µg/L	52	69	75%	14.3	14.3	2.297017	2.502319	0.92	1.88	26.9118	84		0.3166
MERCURY	µg/L	54	69	78%	0.3	0.3	0.070651	0.108014	0.65	1.62	0.4861	84	0.0005	0.0062
NICKEL	µg/L	25	69	36%	33	33	4.652611	10.34116	0.45	1.42	46.7005	84		0.5494
SELENIUM	µg/L	21	69	30%	3.74	3.74	0.659504	1.062029	0.62	1.59	5.9357	84		0.0698
SILVER	µg/L	28	69	41%	3.7	3.7	0.829103	1.03971	0.80	1.76	6.5257	84	0.16	0.2349
ZINC	µg/L	7	69	10%	66.4	66.4	11.87762	25.05942	0.47	1.44	95.5638	84	8	9.0302
CYANIDE	µg/L	23	69	33%	16	16	3.134923	4.307246	0.73	1.69	27.1102	84		0.3189
TOTAL CHLORINE RESIDUAL*	mg/L	NA	2369	100%	0.4	0.4			0.6	0.73	0.2931	84		0.0034
AMMONIA as N	mg/L	0	67	0%	37	37	3.268641	31.3806	0.10	1.09	40.3040	84		0.4742
CHRONIC TOXICITY*	TUc	5	59	8%	84	84	20.61698	35.48305	0.58	1.61	135.5618	84		1.5948
Human Health Protection (noncarcinogens)														
CHROMIUM (III) [using Cr total data]	µg/L	44	69	64%	18.4	18.4	2.830892	3.161159	0.90	1.86	34.2265	84		0.4027

Underlined numbers used in calculations are one-half of MDLs for data showing less than MDL results.
Chlorine residual analysis was conducted daily. Daily maximum was reported.
* These constituents showed RPs.

Table R2-1

REASONABLE POTENTIAL ANALYSIS
HYPERION TREATMENT PLANT (OUTFALL 002)
(CA0109991, CI-1492)

Constituent	Unit	Ocean Plan Water Quality Objectives	REASONABLE POTENTIAL (RP)	Calculated Effluent Limitations	Maximum MDL Reported (Jan 2003 - Jun 2004)	Performance Goal (PG) = MDL x 5	PG = 95th Percentile (if nondetect < 80%)	Maximum Detected Effluent Concentration	Proposed Effluent Limits	Possible PG	Proposed PG	Basis for PG
Water Quality Objectives												
Marine Aquatic Life Protection												
ARSENIC	µg/L	8	No	428	0.4	2	3.5	5	No Limit	3.5	**3.5**	95th percentile
CADMIUM	µg/L	1	No	85	0.16	0.8		0.63	No Limit	0.63	**0.63**	Max eff conc
CHROMIUM VI	µg/L	2	No	170	2	10		10	No Limit	10	**10**	from MDL
COPPER	µg/L	3	No	87	3	15	23	38.7	No Limit	23	**23**	95th percentile
LEAD	µg/L	2	No	170	3	15	3.8	14.3	No Limit	3.8	**3.8**	95th percentile
MERCURY	µg/L	0.04	No	3.358	0.022	0.11	0.34	0.3	No Limit	0.3	**0.3**	Max eff conc
NICKEL	µg/L	5	No	425	0.48	2.4	15	33	No Limit	15	**15**	95th percentile
SELENIUM	µg/L	15	No	1275	0.2	1	1.7	3.74	No Limit	1.7	**1.7**	95th percentile
SILVER	µg/L	0.7	No	46.06	0.4	2	2.2	3.7	No Limit	2.2	**2.2**	95th percentile
ZINC	µg/L	20	No	1028	4	20	39	66.4	No Limit	39	**39**	95th percentile
CYANIDE	µg/L	1	No	85	4	20	8.3	16	No Limit	8.3	**8.3**	95th percentile
TOTAL CHLORINE RESIDUAL*	mg/L	0.002	**Yes**	**0.17**	0.1	0.5		0.4	**0.17**	0.4	**No PG**	--
AMMONIA as N	mg/L	0.6	No	51			36.3	37	No Limit	36.3	**36.3**	95th percentile (based on 2003 & 2004 data)
CHRONIC TOXICITY*	TUc	1	**Yes**	**85**		--		84	**85**			
Human Health Protection (noncarcinogens)												
CHROMIUM (III) [using Cr total data]	µg/L	190,000	No	16150000	1.4	7	6.6	18.4	No Limit	6.6	**6.6**	95th percentile

Underlined numbers used in calculations are one-half of MDLs for data showing less than MDL results.
Chlorine residual analysis was conducted daily. Daily maximum was reported.
* These constituents showed RPs.