N00236_004188
ALAMEDA POINT
SSIC NO. 5090.3.A

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.mep/0592
DEC 3 2013

Mr. Christopher Lichens (2 copies)
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street, SFD 8-3
San Francisco, CA 94105-3901

Mr. James Fyfe (2 copies)
Hazardous Substances Engineer
Department of Toxic Substances Control
700 Heinz Avenue
Berkeley, CA 94710

Mr. John West
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, Ca 94612

Dear Mr. Lichens, Mr. Fyfe, and Mr. West:

SUBJECT: 2013 OPERABLE UNIT 2B PRE-DESIGN INVESTIGATION VALIDATED ANALYTICAL RESULTS, ALAMEDA POINT, ALAMEDA, CALIFORNIA

I am pleased to submit to you the validated analytical results for the August-September 2013 pre-design investigation for Operable Unit 2B soil and groundwater (on CD). The attached CD includes the validated analytical data, Figure 1 showing the sampling locations, and tables summarizing the analytical results.

If you have any questions, please call Ms. Mary Parker, the Project Manager, at 619-532-0945, or me at (619) 532-0951.

Sincerely,

DEREK J. ROBINSON
BRAC Environmental Coordinator
By direction of the Director

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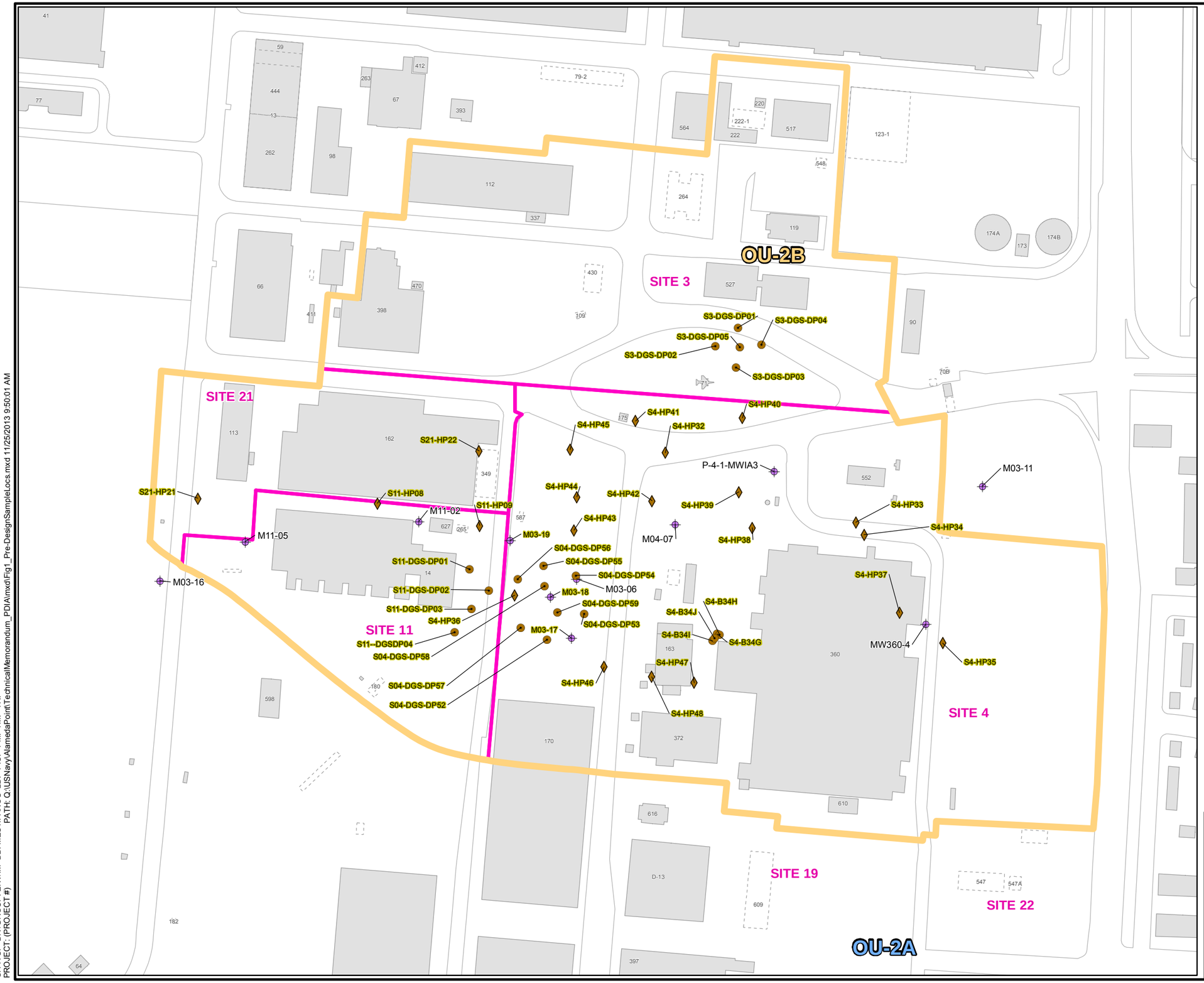
Ser BPMOW.mep/0592
DEC 3 2013

Enclosure: 1. 2013 Operable Unit 2B Pre-design Investigation Validated Analytical Results (CD)

Copy to:

Ms. Jennifer Ott, Deputy City Manager
Alameda City Hall
2263 Santa Clara Avenue
Alameda, CA 94501

Dr. Peter Russell
Russell Resources Inc.
440 Nova Albion Way, Suite 1
San Rafael, CA 94903



LEGEND:

- PRE-DESIGN INVESTIGATION MONITORING WELL SAMPLE LOCATION
- PRE-DESIGN INVESTIGATION HYDROPUNCH SAMPLE LOCATION
- PRE-DESIGN INVESTIGATION SOIL SAMPLE LOCATION

OU-2A AND OU-2B FEATURES

- OPERABLE UNIT-2B
- IR SITE BOUNDARY
- BUILDING AND BUILDING NUMBER
- ROAD

Note:

Highlighted sample IDs are the actual sample location surveyed in field by Virgil Chavez Land Surveying.

Source:
OTIE 2011

0 200 400
SCALE IN FEET

OPERABLE UNIT 2B, ALAMEDA POINT
ALAMEDA, CALIFORNIA

PRE-DESIGN INVESTIGATION SAMPLE LOCATION MAP

ARCADIS

FIGURE
1

CITY: SF DIV/GROUP: ENV/IM DB: MESTIFANOS LD: PIC: PM: TM: TR:
PROJECT (PROJECT #) PATH: Q:\USNavy\AlamedaPoint\TechnicalMemorandum_PDI\Mxd\Fig1_Pre-DesignSampleLocs.mxd 11/25/2013 9:50:01 AM

VALIDATED SOIL ANALYTICAL RESULTS
PRE-DESIGN INVESTIGATION
OPERABLE UNIT 2B, IR SITES 3, 4, 11, AND 21
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Location ID	Sample Type	Sample Date	Sample Depth ft bgs	Sample ID	Lab Sample ID	SVOCs 2-Methylnaphthalene ug/kg	SVOCs Acenaphthene ug/kg	SVOCs Acenaphthylene ug/kg	SVOCs Anthracene ug/kg	SVOCs Benzo(a)Anthracene ug/kg
S3-DGS-DP01	N	9/3/2013	0.5 - 1.5	S3-DGS-DP01-0.5-1.5	320-3949-1	0.43 J	1.5 U	0.50 U	1.5 U	1.3 J
S3-DGS-DP01	N	9/3/2013	3.0 - 4.0	S3-DGS-DP01-3.0-4.0	320-3949-2	1.7 U	1.7 U	0.56 U	1.7 U	0.52 J
S3-DGS-DP02	N	8/29/2013	1.0 - 1.5	S3-DGS-DP02-1.0-1.5	320-3875-18	35 U	35 U	62 J	33 J	540
S3-DGS-DP02	N	8/29/2013	3.5 - 4.0	S3-DGS-DP02-3.5-4.0	320-3875-19	15	4.4 J	3.6 J	5.7 J	23
S3-DGS-DP03	N	8/29/2013	1.0 - 1.5	S3-DGS-DP03-1.0-1.5	320-3875-12	1.6 U	1.6 U	1.3 J	0.82 J	6.9
S3-DGS-DP03	N	8/29/2013	3.5 - 4.0	S3-DGS-DP03-3.5-4.0	320-3875-13	7.9 U	18 J	2.6 U	18 J	34
S3-DGS-DP04	N	8/29/2013	1.0 - 1.5	S3-DGS-DP04-1.0-1.5	320-3875-20	1.6 J	1.2 J	5.8	9	62
S3-DGS-DP04	N	8/29/2013	3.5 - 4.0	S3-DGS-DP04-3.5-4.0	320-3875-27	7.7 J	1.6 J	2.7 J	8.4 J	33
S3-DGS-DP05	N	8/29/2013	0.0 - 0.5	S3-DGS-DP05-0.0-0.5	320-3875-14	18 U	18 U	6.1 U	9.5 J	47 J
S3-DGS-DP05	N	8/29/2013	0.5 - 2.0	S3-DGS-DP05-0.5-2.0	320-3875-16	0.79 J	1.3 J	1.2 J	15	96
S3-DGS-DP05	N	8/29/2013	2.0 - 4.0	S3-DGS-DP05-2.0-4.0	320-3875-17	1.7 U	1.7 U	0.61 J	1.3 J	4.4 J
S4-B34G	N	9/3/2013	1.0 - 1.5	S4-B34G-1.0-1.5	320-3949-3	-	-	-	-	-
S4-B34G	N	9/3/2013	5.5 - 6.0	S4-B34G-5.5-6.0	320-3949-4	-	-	-	-	-
S4-B34H	N	9/3/2013	1.0 - 1.5	S4-B34H-1.0-1.5	320-3949-5	-	-	-	-	-
S4-B34H	N	9/3/2013	5.5 - 6.0	S4-B34H-5.5-6.0	320-3949-6	-	-	-	-	-
S4-B34I	N	9/3/2013	1.0 - 1.5	S4-B34I-1.0-1.5	320-3949-7	-	-	-	-	-
S4-B34I	N	9/3/2013	5.5 - 6.0	S4-B34I-5.5-6.0	320-3949-8	-	-	-	-	-
S4-B34J	N	9/3/2013	1.0 - 1.5	S4-B34J-1.0-1.5	320-3949-9	-	-	-	-	-
S4-B34J	N	9/3/2013	5.5 - 6.0	S4-B34J-5.5-6.0	320-3949-10	-	-	-	-	-
M03-17	N	9/9/2013	4.5 - 5.0	M03-17-4.5-5.0	320-3845-7	-	-	-	-	-
M03-17	N	9/9/2013	8.0 - 8.5	M03-17-8.0-8.5	320-3845-8	-	-	-	-	-
M03-18	N	9/9/2013	3.5 - 4.0	M03-18-3.5-4.0	320-3845-1	-	-	-	-	-
M03-18	N	9/9/2013	9.8 - 10.3	M03-18-9.8-10.3	320-3845-3	-	-	-	-	-
M03-19	N	9/9/2013	4.5 - 5.0	M03-19-4.5-5.0	320-3845-5	-	-	-	-	-
M03-19	N	9/9/2013	5.25 - 5.5	M03-19-5.25-5.5	320-3845-6	-	-	-	-	-
S4-DGS-DP52	N	8/28/2013	4.5 - 5.0	S4-DGS-DP52-4.5-5.0	320-3875-3	-	-	-	-	-
S4-DGS-DP52	N	8/28/2013	10.3 - 10.5	S4-DGS-DP52-10.3-10.5	320-3875-4	-	-	-	-	-
S4-DGS-DP53	N	8/29/2013	4.5 - 5.0	S4-DGS-DP53-4.5-5.0	320-3875-21	-	-	-	-	-
S4-DGS-DP53	N	8/29/2013	9.8 - 10.13	S4-DGS-DP53-9.8-10.13	320-3875-22	-	-	-	-	-
S4-DGS-DP54	N	8/27/2013	5.0 - 5.4	S4-DGS-DP54-5.0-5.4	320-3845-9	-	-	-	-	-
S4-DGS-DP54	N	8/27/2013	8.0 - 8.5	S4-DGS-DP54-8.0-8.5	320-3845-10	-	-	-	-	-
S4-DGS-DP55	N	8/29/2013	5.0 - 5.2	S4-DGS-DP55-5.0-5.2	320-3875-23	-	-	-	-	-
S4-DGS-DP55	N	8/29/2013	6.5 - 7.0	S4-DGS-DP55-6.5-7.0	320-3875-24	-	-	-	-	-
S4-DGS-DP56	N	8/28/2013	5.3 - 5.35	S4-DGS-DP56-5.3-5.35	320-3875-5	-	-	-	-	-
S4-DGS-DP56	N	8/28/2013	5.35 - 5.5	S4-DGS-DP56-5.3.5-5.5	320-3875-6	-	-	-	-	-
S4-DGS-DP57	N	8/28/2013	5.85 - 6.2	S4-DGS-DP57-5.85-6.2	320-3875-1	-	-	-	-	-
S4-DGS-DP57	N	8/28/2013	4.25 - 4.5	S4-DGS-DP57-4.25-4.5	320-3875-2	-	-	-	-	-
S4-DGS-DP58	N	8/28/2013	4.5 - 5.0	S4-DGS-DP58-4.5-5.0	320-3875-7	-	-	-	-	-
S4-DGS-DP58	N	8/28/2013	9.75 - 9.95	S4-DGS-DP58-9.75-9.95	320-3875-8	-	-	-	-	-
S4-DGS-DP59	N	8/28/2013	5.0 - 5.5	S4-DGS-DP59-5.0-5.5	320-3875-9	-	-	-	-	-
S4-DGS-DP59	N	8/28/2013	10.3 - 10.65	S4-DGS-DP59-10.3-10.65	320-3875-10	-	-	-	-	-
S11-DGS-DP01	N	9/4/2013	0.5 - 1.0	S11-DGS-DP01-0.5-1.0	320-3949-13	110 U	110 U	38 U	110 U	44 J
S11-DGS-DP01	N	9/4/2013	1.0 - 1.5	S11-DGS-DP01-1.0-1.5	320-3949-14	690 J	5000	160 U	16000	27000
S11-DGS-DP02	N	9/4/2013	0.0 - 0.5	S11-DGS-DP02-0.0-0.5	320-3949-16	30 U	30 U	9.9 U	30 U	14 J
S11-DGS-DP03	N	9/4/2013	0.0 - 0.5	S11-DGS-DP03-0.0-0.5	320-3949-17	32 U	32 U	11 U	32 U	19 J
S11-DGS-DP03	N	9/4/2013	0.5 - 1.5	S11-DGS-DP03-0.5-1.5	320-3949-18	34 U	34 U	11 U	95 J	640
S11-DGS-DP04	N	8/29/2013	0.0 - 0.5	S11-DGS-DP04-0.0-0.5	320-3875-28	11 J	80 J	10 U	570	3900

VALIDATED SOIL ANALYTICAL RESULTS
PRE-DESIGN INVESTIGATION
OPERABLE UNIT 2B, IR SITES 3, 4, 11, AND 21
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Location ID	Sample Type	Sample Date	Sample Depth ft bgs	SVOCs Benzo(a)Pyrene ug/kg	SVOCs Benzo(b)fluoranthene ug/kg	SVOCs Benzo(g,h,i)Perylene ug/kg	SVOCs Benzo(k)Fluoranthene ug/kg	SVOCs Chrysene ug/kg	SVOCs Dibenzo(a,h)Anthracene ug/kg	SVOCs Fluoranthene ug/kg
S3-DGS-DP01	N	9/3/2013	0.5 - 1.5	1.7 J	3.2 J	3.6 J	1.4 J	4.2 J	1.5 U	1.3 J
S3-DGS-DP01	N	9/3/2013	3.0 - 4.0	0.83 J	1.2 J	1.7 U	1.7 U	0.73 J	1.7 U	1.8 J
S3-DGS-DP02	N	8/29/2013	1.0 - 1.5	960	710	570	570	570	67 J	600
S3-DGS-DP02	N	8/29/2013	3.5 - 4.0	35	58	30	18	49	8.4	52
S3-DGS-DP03	N	8/29/2013	1.0 - 1.5	18	14	22	10	8.8	2.5 J	15
S3-DGS-DP03	N	8/29/2013	3.5 - 4.0	27	31	18 J	18 J	33	7.9 U	110
S3-DGS-DP04	N	8/29/2013	1.0 - 1.5	82	87	38	52	68	5.8	120
S3-DGS-DP04	N	8/29/2013	3.5 - 4.0	46	69	18	29	52	4.3 J	74
S3-DGS-DP05	N	8/29/2013	0.0 - 0.5	59 J	72	39 J	45 J	66	18 U	100
S3-DGS-DP05	N	8/29/2013	0.5 - 2.0	80	71	30	69	120	7.4	120
S3-DGS-DP05	N	8/29/2013	2.0 - 4.0	6	6.9	5.6 J	4.4 J	6	1.7 U	5.1 J
S4-B34G	N	9/3/2013	1.0 - 1.5	-	-	-	-	-	-	-
S4-B34G	N	9/3/2013	5.5 - 6.0	-	-	-	-	-	-	-
S4-B34H	N	9/3/2013	1.0 - 1.5	-	-	-	-	-	-	-
S4-B34H	N	9/3/2013	5.5 - 6.0	-	-	-	-	-	-	-
S4-B34I	N	9/3/2013	1.0 - 1.5	-	-	-	-	-	-	-
S4-B34I	N	9/3/2013	5.5 - 6.0	-	-	-	-	-	-	-
S4-B34J	N	9/3/2013	1.0 - 1.5	-	-	-	-	-	-	-
S4-B34J	N	9/3/2013	5.5 - 6.0	-	-	-	-	-	-	-
M03-17	N	9/9/2013	4.5 - 5.0	-	-	-	-	-	-	-
M03-17	N	9/9/2013	8.0 - 8.5	-	-	-	-	-	-	-
M03-18	N	9/9/2013	3.5 - 4.0	-	-	-	-	-	-	-
M03-18	N	9/9/2013	9.8 - 10.3	-	-	-	-	-	-	-
M03-19	N	9/9/2013	4.5 - 5.0	-	-	-	-	-	-	-
M03-19	N	9/9/2013	5.25 - 5.5	-	-	-	-	-	-	-
S4-DGS-DP52	N	8/28/2013	4.5 - 5.0	-	-	-	-	-	-	-
S4-DGS-DP52	N	8/28/2013	10.3 - 10.5	-	-	-	-	-	-	-
S4-DGS-DP53	N	8/29/2013	4.5 - 5.0	-	-	-	-	-	-	-
S4-DGS-DP53	N	8/29/2013	9.8 - 10.13	-	-	-	-	-	-	-
S4-DGS-DP54	N	8/27/2013	5.0 - 5.4	-	-	-	-	-	-	-
S4-DGS-DP54	N	8/27/2013	8.0 - 8.5	-	-	-	-	-	-	-
S4-DGS-DP55	N	8/29/2013	5.0 - 5.2	-	-	-	-	-	-	-
S4-DGS-DP55	N	8/29/2013	6.5 - 7.0	-	-	-	-	-	-	-
S4-DGS-DP56	N	8/28/2013	5.3 - 5.35	-	-	-	-	-	-	-
S4-DGS-DP56	N	8/28/2013	5.35 - 5.5	-	-	-	-	-	-	-
S4-DGS-DP57	N	8/28/2013	5.85 - 6.2	-	-	-	-	-	-	-
S4-DGS-DP57	N	8/28/2013	4.25 - 4.5	-	-	-	-	-	-	-
S4-DGS-DP58	N	8/28/2013	4.5 - 5.0	-	-	-	-	-	-	-
S4-DGS-DP58	N	8/28/2013	9.75 - 9.95	-	-	-	-	-	-	-
S4-DGS-DP59	N	8/28/2013	5.0 - 5.5	-	-	-	-	-	-	-
S4-DGS-DP59	N	8/28/2013	10.3 - 10.65	-	-	-	-	-	-	-
S11-DGS-DP01	N	9/4/2013	0.5 - 1.0	46 J	43 J	110 U	110 U	60 J	110 U	53 J
S11-DGS-DP01	N	9/4/2013	1.0 - 1.5	22000	26000	11000	13000	26000	2800	62000
S11-DGS-DP02	N	9/4/2013	0.0 - 0.5	29 J	34 J	29 J	15 J	38 J	30 U	23 J
S11-DGS-DP03	N	9/4/2013	0.0 - 0.5	25 J	39 J	21 J	32 U	56 J	32 U	45 J
S11-DGS-DP03	N	9/4/2013	0.5 - 1.5	380	520	170	350	720	61 J	850
S11-DGS-DP04	N	8/29/2013	0.0 - 0.5	2100	3500	890	1500	4100	380	5600

VALIDATED SOIL ANALYTICAL RESULTS
PRE-DESIGN INVESTIGATION
OPERABLE UNIT 2B, IR SITES 3, 4, 11, AND 21
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Location ID	Sample Type	Sample Date	Sample Depth ft bgs	SVOCs Fluorene ug/kg	SVOCs Indeno(1,2,3-cd)Pyrene ug/kg	SVOCs Naphthalene ug/kg	SVOCs Phenanthrene ug/kg	SVOCs Pyrene ug/kg	Metals Antimony mg/kg	Metals Arsenic mg/kg	Metals Lead mg/kg
S3-DGS-DP01	N	9/3/2013	0.5 - 1.5	1.5 U	0.99 J	0.38 J	0.61 J	2.9 J	-	-	-
S3-DGS-DP01	N	9/3/2013	3.0 - 4.0	1.7 U	0.78 J	0.56 U	0.56 U	2.7 J	-	-	-
S3-DGS-DP02	N	8/29/2013	1.0 - 1.5	35 U	660	23 J	88 J	1000	-	-	-
S3-DGS-DP02	N	8/29/2013	3.5 - 4.0	33	21	5.3 J	98	100	-	-	-
S3-DGS-DP03	N	8/29/2013	1.0 - 1.5	1.6 U	22	1.4 J	3.7 J	21	-	-	-
S3-DGS-DP03	N	8/29/2013	3.5 - 4.0	7.9 U	16 J	2.6 U	2.6 U	110	-	-	-
S3-DGS-DP04	N	8/29/2013	1.0 - 1.5	1.9 J	42	4.0 J	30	140	-	-	-
S3-DGS-DP04	N	8/29/2013	3.5 - 4.0	4.6 J	22	6.3 J	36	93	-	-	-
S3-DGS-DP05	N	8/29/2013	0.0 - 0.5	18 U	49 J	6.1 U	36 J	110	-	-	-
S3-DGS-DP05	N	8/29/2013	0.5 - 2.0	1.1 J	40	1.2 J	23	130	-	-	-
S3-DGS-DP05	N	8/29/2013	2.0 - 4.0	1.7 U	5.6 J	0.40 J	1.9 J	6.5	-	-	-
S4-B34G	N	9/3/2013	1.0 - 1.5	-	-	-	-	-	-	-	1.8
S4-B34G	N	9/3/2013	5.5 - 6.0	-	-	-	-	-	-	-	58
S4-B34H	N	9/3/2013	1.0 - 1.5	-	-	-	-	-	-	-	4.8
S4-B34H	N	9/3/2013	5.5 - 6.0	-	-	-	-	-	-	-	76
S4-B34I	N	9/3/2013	1.0 - 1.5	-	-	-	-	-	-	-	1.9
S4-B34I	N	9/3/2013	5.5 - 6.0	-	-	-	-	-	-	-	34
S4-B34J	N	9/3/2013	1.0 - 1.5	-	-	-	-	-	-	-	5
S4-B34J	N	9/3/2013	5.5 - 6.0	-	-	-	-	-	-	-	87
M03-17	N	9/9/2013	4.5 - 5.0	-	-	-	-	-	0.59 J	13	-
M03-17	N	9/9/2013	8.0 - 8.5	-	-	-	-	-	15 J	17	-
M03-18	N	9/9/2013	3.5 - 4.0	-	-	-	-	-	3.8 J	15	-
M03-18	N	9/9/2013	9.8 - 10.3	-	-	-	-	-	0.32 J	10	-
M03-19	N	9/9/2013	4.5 - 5.0	-	-	-	-	-	0.44 J	3.1	-
M03-19	N	9/9/2013	5.25 - 5.5	-	-	-	-	-	0.43 UJ	3.2	-
S4-DGS-DP52	N	8/28/2013	4.5 - 5.0	-	-	-	-	-	1.6 J	7.7	-
S4-DGS-DP52	N	8/28/2013	10.3 - 10.5	-	-	-	-	-	1.0 J	23	-
S4-DGS-DP53	N	8/29/2013	4.5 - 5.0	-	-	-	-	-	0.47 J	4.7	-
S4-DGS-DP53	N	8/29/2013	9.8 - 10.13	-	-	-	-	-	0.51 J	3.8	-
S4-DGS-DP54	N	8/27/2013	5.0 - 5.4	-	-	-	-	-	2.1 J	11	-
S4-DGS-DP54	N	8/27/2013	8.0 - 8.5	-	-	-	-	-	0.54 J	17	-
S4-DGS-DP55	N	8/29/2013	5.0 - 5.2	-	-	-	-	-	0.27 J	3.7	-
S4-DGS-DP55	N	8/29/2013	6.5 - 7.0	-	-	-	-	-	7.4 J	42	-
S4-DGS-DP56	N	8/28/2013	5.3 - 5.35	-	-	-	-	-	0.51 UJ	7.2	-
S4-DGS-DP56	N	8/28/2013	5.35 - 5.5	-	-	-	-	-	0.51 UJ	6.8	-
S4-DGS-DP57	N	8/28/2013	5.85 - 6.2	-	-	-	-	-	0.52 UJ	3.5	-
S4-DGS-DP57	N	8/28/2013	4.25 - 4.5	-	-	-	-	-	0.56 UJ	6.1	-
S4-DGS-DP58	N	8/28/2013	4.5 - 5.0	-	-	-	-	-	0.54 J	3.7	-
S4-DGS-DP58	N	8/28/2013	9.75 - 9.95	-	-	-	-	-	0.32 J	8	-
S4-DGS-DP59	N	8/28/2013	5.0 - 5.5	-	-	-	-	-	1.0 J	1.4	-
S4-DGS-DP59	N	8/28/2013	10.3 - 10.65	-	-	-	-	-	0.84 J	23	-
S11-DGS-DP01	N	9/4/2013	0.5 - 1.0	110 U	42 J	38 U	38 U	60 J	-	-	-
S11-DGS-DP01	N	9/4/2013	1.0 - 1.5	8900	14000	1100 J	65000	45000	-	-	-
S11-DGS-DP02	N	9/4/2013	0.0 - 0.5	30 U	30 U	9.9 U	7.9 J	29 J	-	-	-
S11-DGS-DP03	N	9/4/2013	0.0 - 0.5	32 U	32 U	11 U	24 J	41 J	-	-	-
S11-DGS-DP03	N	9/4/2013	0.5 - 1.5	34 U	180	11 U	240	740	-	-	-
S11-DGS-DP04	N	8/29/2013	0.0 - 0.5	64 J	1100	16 J	2100	4600	-	-	-

VALIDATED SOIL ANALYTICAL RESULTS
PRE-DESIGN INVESTIGATION
OPERABLE UNIT 2B, IR SITES 3, 4, 11, AND 21
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Location ID	Sample Type	Sample Date	Sample Depth ft bgs
S3-DGS-DP01	N	9/3/2013	0.5 - 1.5
S3-DGS-DP01	N	9/3/2013	3.0 - 4.0
S3-DGS-DP02	N	8/29/2013	1.0 - 1.5
S3-DGS-DP02	N	8/29/2013	3.5 - 4.0
S3-DGS-DP03	N	8/29/2013	1.0 - 1.5
S3-DGS-DP03	N	8/29/2013	3.5 - 4.0
S3-DGS-DP04	N	8/29/2013	1.0 - 1.5
S3-DGS-DP04	N	8/29/2013	3.5 - 4.0
S3-DGS-DP05	N	8/29/2013	0.0 - 0.5
S3-DGS-DP05	N	8/29/2013	0.5 - 2.0
S3-DGS-DP05	N	8/29/2013	2.0 - 4.0
S4-B34G	N	9/3/2013	1.0 - 1.5
S4-B34G	N	9/3/2013	5.5 - 6.0
S4-B34H	N	9/3/2013	1.0 - 1.5
S4-B34H	N	9/3/2013	5.5 - 6.0
S4-B34I	N	9/3/2013	1.0 - 1.5
S4-B34I	N	9/3/2013	5.5 - 6.0
S4-B34J	N	9/3/2013	1.0 - 1.5
S4-B34J	N	9/3/2013	5.5 - 6.0
M03-17	N	9/9/2013	4.5 - 5.0
M03-17	N	9/9/2013	8.0 - 8.5
M03-18	N	9/9/2013	3.5 - 4.0
M03-18	N	9/9/2013	9.8 - 10.3
M03-19	N	9/9/2013	4.5 - 5.0
M03-19	N	9/9/2013	5.25 - 5.5
S4-DGS-DP52	N	8/28/2013	4.5 - 5.0
S4-DGS-DP52	N	8/28/2013	10.3 - 10.5
S4-DGS-DP53	N	8/29/2013	4.5 - 5.0
S4-DGS-DP53	N	8/29/2013	9.8 - 10.13
S4-DGS-DP54	N	8/27/2013	5.0 - 5.4
S4-DGS-DP54	N	8/27/2013	8.0 - 8.5
S4-DGS-DP55	N	8/29/2013	5.0 - 5.2
S4-DGS-DP55	N	8/29/2013	6.5 - 7.0
S4-DGS-DP56	N	8/28/2013	5.3 - 5.35
S4-DGS-DP56	N	8/28/2013	5.35 - 5.5
S4-DGS-DP57	N	8/28/2013	5.85 - 6.2
S4-DGS-DP57	N	8/28/2013	4.25 - 4.5
S4-DGS-DP58	N	8/28/2013	4.5 - 5.0
S4-DGS-DP58	N	8/28/2013	9.75 - 9.95
S4-DGS-DP59	N	8/28/2013	5.0 - 5.5
S4-DGS-DP59	N	8/28/2013	10.3 - 10.65
S11-DGS-DP01	N	9/4/2013	0.5 - 1.0
S11-DGS-DP01	N	9/4/2013	1.0 - 1.5
S11-DGS-DP02	N	9/4/2013	0.0 - 0.5
S11-DGS-DP03	N	9/4/2013	0.0 - 0.5
S11-DGS-DP03	N	9/4/2013	0.5 - 1.5
S11-DGS-DP04	N	8/29/2013	0.0 - 0.5

Notes:
ug/kg = microgram per kilogram
FD = Field Duplicate Sample
ft bgs = feet below ground surface
IR = Installation Restoration
J = Estimated value
mg/kg = milligram per kilogram
N = Normal Sample
U = Non-detect: The analyte was analyzed for but not detected at or above the stated limit
UJ = Estimated non-detect: The analyte was analyzed for but not detected; the sample detection limit is an estimated value

BENZO(A)PYRENE EQUIVALENT RESULTS
PRE-DESIGN INVESTIGATION
OPERABLE UNIT 2B, IR SITES 3, 4, 11, AND 21
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Sample Location ID	Sample Depth Range feet bgs	Sample Date	Total Benzo(a)Pyrene Equivalents[1] mg/kg
IR Site 3 PAH Exceedance Area			
S3-DGS-DP01	0.5 - 1.5	9/3/2013	0.0038 J
	3.0 - 4.0	9/3/2013	0.0028 J
S3-DGS-DP02	1.0 - 1.5	8/29/2013	1.2 J
	3.5 - 4.0	8/29/2013	0.054
S3-DGS-DP03	1.0 - 1.5	8/29/2013	0.025 J
	3.5 - 4.0	8/29/2013	0.043 J
S3-DGS-DP04	1.0 - 1.5	8/29/2013	0.11
	3.5 - 4.0	8/29/2013	0.063 J
S3-DGS-DP05	0.0 - 0.5	8/29/2013	0.094 J
	0.5 - 2.0	8/29/2013	0.11
	2.0 - 4.0	8/29/2013	0.0094 J
IR Site 11 PAH Exceedance Area			
S11-DGS-DP01	0.5 - 1.0	9/4/2013	0.17 J
	1.0 - 1.5	9/4/2013	32 J
S11-DGS-DP02	0.0 - 0.5	9/4/2013	0.067 J
S11-DGS-DP03	0.0 - 0.5	9/4/2013	0.066 J
	0.5 - 1.5	9/4/2013	0.58 J
S11-DGS-DP04	0.0 - 0.5	8/29/2013	3.3

Notes:
(1) Benzo[a]pyrene equivalents were calculated using potency equivalency factors. PAHs considered carcinogenic by the State of California were obtained from Cal/EPA (1994, 2003). Potency equivalency factors, with exception of dibenzo(a,h)anthracene were obtained from Cal/EPA (1993). The dibenzo(a,h)anthracene potency equivalency factor was obtained by taking the ratio of its cancer slope factor to the benzo(a)pyrene cancer slope factor, as given in Cal/EPA (1994).
bgs = below ground surface
J = Estimated value
mg/kg = milligram per kilogram
PAH = polynuclear aromatic hydrocarbon

VALIDATED GROUNDWATER ANALYTICAL RESULTS
PRE-DESIGN INVESTIGATION
OPERABLE UNIT 2B, IR SITES 3, 4, 11, AND 21
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Location ID	Sample Type	Sample Date	Sample Depth ft bgs	Sample ID	Lab Sample ID	VOCs 1,1,1,2-Tetrachloroethane ug/L	VOCs 1,1,1-Trichloroethane ug/L	VOCs 1,1,2,2-Tetrachloroethane ug/L
M03-06	N	8/26/2013	3 - 12	M03-06-DGS2013	320-3834-5	0.40 U	0.40 U	0.20 U
M03-06	FD	8/26/2013	3 - 12	DUP 1	320-3834-6	0.40 U	0.40 U	0.20 U
M03-11	N	8/26/2013	26 - 36	M03-11-DGS2013	320-3834-3	0.40 U	0.40 U	0.20 U
M03-16	N	8/27/2013	24.5 - 34	M03-16-DGS2013	320-3843-5	4.0 U	4.0 U	2.0 U
M03-17	N	9/9/2013	3 - 13	M03-17	320-4003-2	0.40 U	0.40 U	0.20 U
M03-18	N	9/9/2013	3 - 13	M03-18	320-4003-3	0.40 U	0.40 U	0.20 U
M03-18	FD	9/9/2013	3 - 13	Dup2	320-4003-5	0.40 U	0.40 U	0.20 U
M03-19	N	9/9/2013	3 - 13	M03-19	320-4003-4	0.40 U	0.40 U	0.20 U
M04-07	N	9/9/2013	3.5 - 13.5	M04-07-DGS2013	320-4003-1	0.40 U	0.40 U	0.20 U
MW360-4	N	8/26/2013	5 - 15	MW360-4-DGS2013	320-3834-4	2.0 U	2.0 U	1.0 U
P-4-1-MWIA3	N	8/26/2013	16 - 19	P-4-1-MWIA3-DGS2013	320-3834-7	100 U	100 U	50 U
S4-HP32	N	9/5/2013	5 - 10	S4-HP32-1	320-3973-2	0.40 U	0.40 U	0.20 U
S4-HP32	N	9/5/2013	25 - 30	S4-HP32-2	320-3973-4	80 U	80 U	40 U
S4-HP33	N	9/11/2013	7 - 12	S4-HP33	320-4024-9	0.40 U	0.40 U	0.20 U
S4-HP34	N	9/5/2013	5 - 10	S4-HP34	320-3970-1	0.40 U	0.40 U	0.20 U
S4-HP34-D	FD	9/5/2013	5 - 10	S4-HP34-D	320-3970-2	0.40 U	0.40 U	0.20 U
S4-HP35	N	9/4/2013	5 - 10	S4-HP35	320-3949-19	0.40 U	0.40 U	0.20 U
S4-HP36	N	9/5/2013	5 - 10	S4-HP36	320-3970-6	0.40 U	0.40 U	0.20 U
S4-HP37	N	9/21/2013	9 - 14	S4-HP37	320-4208-3	0.40 U	0.40 U	0.20 U
S4-HP38	N	9/5/2013	5 - 10	S4-HP38	320-3970-3	0.40 U	0.40 U	0.20 U
S4-HP39	N	9/11/2013	5 - 10	S4-HP39	320-4024-6	0.40 U	0.40 U	0.20 U
S4-HP40	N	9/6/2013	5 - 10	S4-HP40	320-3976-2	0.40 U	0.40 U	0.20 U
S4-HP41	N	9/6/2013	5 - 10	S4-HP41	320-3976-1	0.40 U	0.40 U	0.20 U
S4-HP42	N	9/5/2013	7 - 12	S4-HP42	320-3973-3	0.40 U	0.40 U	0.20 U
S4-HP43	N	9/11/2013	7 - 12	S4-HP43	320-4024-1	0.40 U	0.40 U	0.20 U
S4-HP44	N	9/5/2013	5 - 10	S4-HP44	320-3970-5	0.40 U	0.40 U	0.20 U
S4-HP45	N	9/5/2013	7 - 12	S4-HP45-1	320-3970-8	0.40 U	0.40 U	0.20 U
S4-HP45	N	9/5/2013	25 - 30	S4-HP45-2	320-3970-9	200 U	200 U	100 U
S4-HP46	N	9/5/2013	5 - 10	S4-HP46	320-3973-1	20 U	20 U	10 U
S4-HP47	N	9/11/2013	7 - 12	S4-HP47	320-4024-7	2.0 U	2.0 U	1.0 U
S4-HP48	N	9/5/2013	5 - 10	S4-HP48	320-3973-5	4.0 U	4.0 U	2.0 U
M11-02	N	8/27/2013	3 - 12	M11-02-DGS2013	320-3843-4	0.40 U	0.40 U	0.20 U
M11-05	N	8/27/2013	4 - 14	M11-05-DGS2013	320-3843-3	0.40 U	0.40 U	0.20 U
S11-HP08	N	9/6/2013	5 - 10	S11-HP08	320-3976-3	0.40 U	0.40 U	0.20 U
S11-HP09	N	9/11/2013	7 - 12	S11-HP09	320-4024-2	0.40 U	0.40 U	0.20 U
S11-HP09-D	FD	9/11/2013	7 - 12	S11-HP09-D	320-4024-3	0.40 U	0.40 U	0.20 U
S21-HP21	N	9/11/2013	7 - 12	S21-HP21-1	320-4024-4	0.40 U	0.40 U	0.20 U
S21-HP21	N	9/11/2013	25 - 30	S21-HP21-2	320-4024-5	16 U	16 U	8.0 U
S21-HP22	N	9/5/2013	7 - 12	S21-HP22-1	320-3970-4	0.40 U	0.40 U	0.20 U
S21-HP22	N	9/5/2013	20 - 25	S21-HP22-2	320-3970-7	100 U	100 U	50 U

VALIDATED GROUNDWATER ANALYTICAL RESULTS
PRE-DESIGN INVESTIGATION
OPERABLE UNIT 2B, IR SITES 3, 4, 11, AND 21
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Location ID	Sample Type	Sample Date	Sample Depth ft bgs	VOCs 1,1,2-Trichloroethane ug/L	VOCs 1,1-Dichloroethane ug/L	VOCs 1,1-Dichloroethene ug/L	VOCs 1,2-Dibromoethane ug/L	VOCs 1,2-Dichloroethane ug/L
M03-06	N	8/26/2013	3 - 12	0.40 U	0.16 J	0.43 J	0.40 U	0.40 U
M03-06	FD	8/26/2013	3 - 12	0.40 U	0.15 J	0.46 J	0.40 U	0.40 U
M03-11	N	8/26/2013	26 - 36	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
M03-16	N	8/27/2013	24.5 - 34	4.0 U	2.0 U	1.5 J	4.0 U	4.0 U
M03-17	N	9/9/2013	3 - 13	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
M03-18	N	9/9/2013	3 - 13	0.40 U	0.18 J	0.37 J	0.40 U	0.40 U
M03-18	FD	9/9/2013	3 - 13	0.40 U	0.18 J	0.31 J	0.40 U	0.40 U
M03-19	N	9/9/2013	3 - 13	0.40 U	0.57 J	0.56 J	0.40 U	0.40 U
M04-07	N	9/9/2013	3.5 - 13.5	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
MW360-4	N	8/26/2013	5 - 15	2.0 U	1.1 J	1.1 J	2.0 U	2.0 U
P-4-1-MWIA3	N	8/26/2013	16 - 19	100 U	50 U	79 J	100 U	100 U
S4-HP32	N	9/5/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP32	N	9/5/2013	25 - 30	80 U	40 U	80 U	80 U	80 U
S4-HP33	N	9/11/2013	7 - 12	0.40 U	0.11 J	0.40 U	0.40 U	0.40 U
S4-HP34	N	9/5/2013	5 - 10	0.40 U	0.32 J	0.40 U	0.40 U	0.40 U
S4-HP34-D	FD	9/5/2013	5 - 10	0.40 U	0.15 J	0.40 U	0.40 U	0.40 U
S4-HP35	N	9/4/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP36	N	9/5/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP37	N	9/21/2013	9 - 14	0.40 U	0.35 J	0.40 U	0.40 U	0.40 U
S4-HP38	N	9/5/2013	5 - 10	0.40 U	1.2	0.40 U	0.40 U	0.40 U
S4-HP39	N	9/11/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP40	N	9/6/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP41	N	9/6/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP42	N	9/5/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP43	N	9/11/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP44	N	9/5/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP45	N	9/5/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP45	N	9/5/2013	25 - 30	200 U	100 U	200 U	200 U	200 U
S4-HP46	N	9/5/2013	5 - 10	20 U	10 U	20 U	20 U	20 U
S4-HP47	N	9/11/2013	7 - 12	2.0 U	1.0 U	120	2.0 U	2.0 U
S4-HP48	N	9/5/2013	5 - 10	4.0 U	19	2.3 J	4.0 U	4.0 U
M11-02	N	8/27/2013	3 - 12	0.40 U	0.27 J	0.40 U	0.40 U	0.40 U
M11-05	N	8/27/2013	4 - 14	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S11-HP08	N	9/6/2013	5 - 10	0.40 U	0.20 U	0.31 J	0.40 U	0.40 U
S11-HP09	N	9/11/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S11-HP09-D	FD	9/11/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S21-HP21	N	9/11/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S21-HP21	N	9/11/2013	25 - 30	16 U	8.0 U	16 U	16 U	16 U
S21-HP22	N	9/5/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S21-HP22	N	9/5/2013	20 - 25	100 U	50 U	100 U	100 U	100 U

VALIDATED GROUNDWATER ANALYTICAL RESULTS
PRE-DESIGN INVESTIGATION
OPERABLE UNIT 2B, IR SITES 3, 4, 11, AND 21
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Location ID	Sample Type	Sample Date	Sample Depth ft bgs	VOCs 1,2-Dichloropropane ug/L	VOCs Bromodichloromethane ug/L	VOCs Bromomethane ug/L	VOCs Carbon Tetrachloride ug/L	VOCs Chlorodibromomethane ug/L
M03-06	N	8/26/2013	3 - 12	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
M03-06	FD	8/26/2013	3 - 12	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
M03-11	N	8/26/2013	26 - 36	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
M03-16	N	8/27/2013	24.5 - 34	2.0 U	4.0 U	4.0 U	4.0 U	4.0 U
M03-17	N	9/9/2013	3 - 13	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
M03-18	N	9/9/2013	3 - 13	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
M03-18	FD	9/9/2013	3 - 13	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
M03-19	N	9/9/2013	3 - 13	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
M04-07	N	9/9/2013	3.5 - 13.5	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
MW360-4	N	8/26/2013	5 - 15	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U
P-4-1-MWIA3	N	8/26/2013	16 - 19	50 U	100 U	100 U	100 U	100 U
S4-HP32	N	9/5/2013	5 - 10	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP32	N	9/5/2013	25 - 30	40 U	80 U	80 U	80 U	80 U
S4-HP33	N	9/11/2013	7 - 12	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP34	N	9/5/2013	5 - 10	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP34-D	FD	9/5/2013	5 - 10	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP35	N	9/4/2013	5 - 10	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP36	N	9/5/2013	5 - 10	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP37	N	9/21/2013	9 - 14	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP38	N	9/5/2013	5 - 10	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP39	N	9/11/2013	5 - 10	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP40	N	9/6/2013	5 - 10	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP41	N	9/6/2013	5 - 10	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP42	N	9/5/2013	7 - 12	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP43	N	9/11/2013	7 - 12	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP44	N	9/5/2013	5 - 10	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP45	N	9/5/2013	7 - 12	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S4-HP45	N	9/5/2013	25 - 30	100 U	200 U	200 U	200 U	200 U
S4-HP46	N	9/5/2013	5 - 10	10 U	20 U	20 U	20 U	20 U
S4-HP47	N	9/11/2013	7 - 12	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U
S4-HP48	N	9/5/2013	5 - 10	2.0 U	4.0 U	4.0 U	4.0 U	4.0 U
M11-02	N	8/27/2013	3 - 12	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
M11-05	N	8/27/2013	4 - 14	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S11-HP08	N	9/6/2013	5 - 10	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S11-HP09	N	9/11/2013	7 - 12	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S11-HP09-D	FD	9/11/2013	7 - 12	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S21-HP21	N	9/11/2013	7 - 12	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S21-HP21	N	9/11/2013	25 - 30	8.0 U	16 U	16 U	16 U	16 U
S21-HP22	N	9/5/2013	7 - 12	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U
S21-HP22	N	9/5/2013	20 - 25	50 U	100 U	100 U	100 U	100 U

VALIDATED GROUNDWATER ANALYTICAL RESULTS
PRE-DESIGN INVESTIGATION
OPERABLE UNIT 2B, IR SITES 3, 4, 11, AND 21
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Location ID	Sample Type	Sample Date	Sample Depth ft bgs	VOCs Chloroethane ug/L	VOCs Chloroform ug/L	VOCs Chloromethane ug/L	VOCs cis-1,2-Dichloroethene ug/L	VOCs Dichloromethane ug/L
M03-06	N	8/26/2013	3 - 12	0.40 U	0.20 U	0.40 U	0.37 J	0.40 U
M03-06	FD	8/26/2013	3 - 12	0.40 U	0.20 U	0.40 U	0.35 J	0.40 U
M03-11	N	8/26/2013	26 - 36	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
M03-16	N	8/27/2013	24.5 - 34	4.0 U	2.0 U	4.0 U	360	4.0 U
M03-17	N	9/9/2013	3 - 13	0.40 U	0.23 J	0.40 U	0.40 U	0.40 U
M03-18	N	9/9/2013	3 - 13	0.40 U	0.45 J	0.40 U	12	0.40 U
M03-18	FD	9/9/2013	3 - 13	0.40 U	0.44 J	0.40 U	13	0.40 U
M03-19	N	9/9/2013	3 - 13	0.40 U	0.20 U	0.40 U	2.9	0.40 U
M04-07	N	9/9/2013	3.5 - 13.5	0.40 U	0.20 U	0.40 U	0.16 J	0.40 U
MW360-4	N	8/26/2013	5 - 15	2.0 U	1.0 U	2.0 U	90	2.0 U
P-4-1-MWIA3	N	8/26/2013	16 - 19	100 U	50 U	100 U	11000	100 U
S4-HP32	N	9/5/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP32	N	9/5/2013	25 - 30	80 U	40 U	80 U	68 J	80 U
S4-HP33	N	9/11/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.14 J	0.40 U
S4-HP34	N	9/5/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.12 J	0.40 U
S4-HP34-D	FD	9/5/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP35	N	9/4/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP36	N	9/5/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.18 J	0.40 U
S4-HP37	N	9/21/2013	9 - 14	0.40 U	0.20 U	0.40 U	6.7	0.40 U
S4-HP38	N	9/5/2013	5 - 10	0.40 U	0.20 U	0.40 U	4.4	0.40 U
S4-HP39	N	9/11/2013	5 - 10	0.40 U	0.20 U	0.40 U	12	0.40 U
S4-HP40	N	9/6/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.46 J	0.40 U
S4-HP41	N	9/6/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP42	N	9/5/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S4-HP43	N	9/11/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.21 J	0.40 U
S4-HP44	N	9/5/2013	5 - 10	0.40 U	0.20 U	0.40 U	0.14 J	0.40 U
S4-HP45	N	9/5/2013	7 - 12	0.40 U	0.20 U	0.40 U	1.7	0.40 U
S4-HP45	N	9/5/2013	25 - 30	200 U	100 U	200 U	200 U	200 U
S4-HP46	N	9/5/2013	5 - 10	20 U	10 U	20 U	1400	20 U
S4-HP47	N	9/11/2013	7 - 12	2.0 U	1.0 U	2.0 U	34	2.0 U
S4-HP48	N	9/5/2013	5 - 10	4.0 U	2.0 U	4.0 U	400	4.0 U
M11-02	N	8/27/2013	3 - 12	0.40 U	0.20 U	0.40 U	3.6	0.40 U
M11-05	N	8/27/2013	4 - 14	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S11-HP08	N	9/6/2013	5 - 10	0.40 U	0.20 U	0.40 U	26	0.40 U
S11-HP09	N	9/11/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.67 J	0.40 U
S11-HP09-D	FD	9/11/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.47 J	0.40 U
S21-HP21	N	9/11/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.40 U	0.40 U
S21-HP21	N	9/11/2013	25 - 30	16 U	8.0 U	16 U	17 J	16 U
S21-HP22	N	9/5/2013	7 - 12	0.40 U	0.20 U	0.40 U	0.19 J	0.40 U
S21-HP22	N	9/5/2013	20 - 25	100 U	50 U	100 U	130 J	100 U

VALIDATED GROUNDWATER ANALYTICAL RESULTS
PRE-DESIGN INVESTIGATION
OPERABLE UNIT 2B, IR SITES 3, 4, 11, AND 21
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Location ID	Sample Type	Sample Date	Sample Depth ft bgs	VOCs Tetrachloroethene ug/L	VOCs trans-1,2-Dichloroethene ug/L	VOCs trans-1,3-Dichloropropene ug/L	VOCs Tribromomethane ug/L
M03-06	N	8/26/2013	3 - 12	0.20 U	1.1	0.20 U	0.40 U
M03-06	FD	8/26/2013	3 - 12	0.20 U	0.93 J	0.20 U	0.40 U
M03-11	N	8/26/2013	26 - 36	0.20 U	0.40 U	0.20 U	0.40 U
M03-16	N	8/27/2013	24.5 - 34	2.0 U	3.4 J	2.0 U	4.0 U
M03-17	N	9/9/2013	3 - 13	0.20 U	0.40 U	0.20 U	0.40 U
M03-18	N	9/9/2013	3 - 13	0.20 U	3.3	0.20 U	0.40 U
M03-18	FD	9/9/2013	3 - 13	0.20 U	3.8	0.20 U	0.40 U
M03-19	N	9/9/2013	3 - 13	0.20 U	0.26 J	0.20 U	0.40 U
M04-07	N	9/9/2013	3.5 - 13.5	0.20 U	0.40 U	0.20 U	0.40 U
MW360-4	N	8/26/2013	5 - 15	1.0 U	2.8 J	1.0 U	2.0 U
P-4-1-MWIA3	N	8/26/2013	16 - 19	50 U	840	50 U	100 U
S4-HP32	N	9/5/2013	5 - 10	0.20 U	0.40 U	0.20 U	0.40 U
S4-HP32	N	9/5/2013	25 - 30	40 U	80 U	40 U	80 U
S4-HP33	N	9/11/2013	7 - 12	0.20 U	0.40 U	0.20 U	0.40 U
S4-HP34	N	9/5/2013	5 - 10	0.20 U	0.40 U	0.20 U	0.40 U
S4-HP34-D	FD	9/5/2013	5 - 10	0.20 U	0.40 U	0.20 U	0.40 U
S4-HP35	N	9/4/2013	5 - 10	0.20 U	0.40 U	0.20 U	0.40 U
S4-HP36	N	9/5/2013	5 - 10	0.20 U	0.40 U	0.20 U	0.40 U
S4-HP37	N	9/21/2013	9 - 14	0.20 U	0.42 J	0.20 U	0.40 U
S4-HP38	N	9/5/2013	5 - 10	0.20 U	0.35 J	0.20 U	0.40 U
S4-HP39	N	9/11/2013	5 - 10	0.20 U	1.6	0.20 U	0.40 U
S4-HP40	N	9/6/2013	5 - 10	0.20 U	0.40 U	0.20 U	0.40 U
S4-HP41	N	9/6/2013	5 - 10	0.20 U	0.40 U	0.20 U	0.40 U
S4-HP42	N	9/5/2013	7 - 12	0.20 U	0.40 U	0.20 U	0.40 U
S4-HP43	N	9/11/2013	7 - 12	0.20 U	0.40 U	0.20 U	0.40 U
S4-HP44	N	9/5/2013	5 - 10	0.20 U	0.40 U	0.20 U	0.40 U
S4-HP45	N	9/5/2013	7 - 12	0.20 U	0.27 J	0.20 U	0.40 U
S4-HP45	N	9/5/2013	25 - 30	100 U	200 U	100 U	200 U
S4-HP46	N	9/5/2013	5 - 10	10 U	20 U	10 U	20 U
S4-HP47	N	9/11/2013	7 - 12	1.0 U	3.9 J	1.0 U	2.0 U
S4-HP48	N	9/5/2013	5 - 10	2.0 U	16	2.0 U	4.0 U
M11-02	N	8/27/2013	3 - 12	0.20 U	0.14 J	0.20 U	0.40 U
M11-05	N	8/27/2013	4 - 14	0.20 U	0.40 U	0.20 U	0.40 U
S11-HP08	N	9/6/2013	5 - 10	0.20 U	3.4	0.20 U	0.40 U
S11-HP09	N	9/11/2013	7 - 12	0.20 U	0.40 U	0.20 U	0.40 U
S11-HP09-D	FD	9/11/2013	7 - 12	0.20 U	0.12 J	0.20 U	0.40 U
S21-HP21	N	9/11/2013	7 - 12	0.20 U	0.40 U	0.20 U	0.40 U
S21-HP21	N	9/11/2013	25 - 30	8.0 U	16 U	8.0 U	16 U
S21-HP22	N	9/5/2013	7 - 12	0.20 U	0.40 U	0.20 U	0.40 U
S21-HP22	N	9/5/2013	20 - 25	50 U	100 U	50 U	100 U

VALIDATED GROUNDWATER ANALYTICAL RESULTS
PRE-DESIGN INVESTIGATION
OPERABLE UNIT 2B, IR SITES 3, 4, 11, AND 21
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Location ID	Sample Type	Sample Date	Sample Depth ft bgs	VOCs Trichloroethene ug/L	VOCs Vinyl Chloride ug/L	Metals Antimony mg/L	Metals Arsenic mg/L	Metals Iron mg/L	General Chemistry Nitrate-N mg/L
M03-06	N	8/26/2013	3 - 12	0.40 U	0.74 J	-	-	0.070 J	0.060 U
M03-06	FD	8/26/2013	3 - 12	0.40 U	0.71 J	-	-	0.57	0.060 U
M03-11	N	8/26/2013	26 - 36	0.40 U	0.40 U	-	-	0.17	0.21
M03-16	N	8/27/2013	24.5 - 34	100	4.0 U	-	-	0.59 J	0.60 U
M03-17	N	9/9/2013	3 - 13	0.40 U	0.40 U	0.13	0.76	2	0.15 U
M03-18	N	9/9/2013	3 - 13	0.32 J	1.3	0.0041 J	0.69	0.28	0.30 U
M03-18	FD	9/9/2013	3 - 13	0.37 J	1.3	0.0040 J	0.66	-	-
M03-19	N	9/9/2013	3 - 13	0.40 U	0.23 J	0.0040 U	0.013	0.16	0.060 U
M04-07	N	9/9/2013	3.5 - 13.5	0.40 U	0.40 U	-	-	0.57	0.030 U
MW360-4	N	8/26/2013	5 - 15	130	2.0 U	-	-	4.4 J	0.030 U
P-4-1-MWIA3	N	8/26/2013	16 - 19	2700	2900	-	-	0.48	0.15 U
S4-HP32	N	9/5/2013	5 - 10	0.40 U	0.40 U	-	-	0.052 J	0.30 U
S4-HP32	N	9/5/2013	25 - 30	5100	80 U	-	-	0.20 U	1.5 U
S4-HP33	N	9/11/2013	7 - 12	0.40 U	0.40 U	-	-	-	-
S4-HP34	N	9/5/2013	5 - 10	0.40 U	0.40 U	-	-	23 J	0.030 U
S4-HP34-D	FD	9/5/2013	5 - 10	0.40 U	0.40 U	-	-	0.062 J	0.030 U
S4-HP35	N	9/4/2013	5 - 10	0.40 U	0.40 U	-	-	-	-
S4-HP36	N	9/5/2013	5 - 10	0.40 U	0.40 U	-	-	0.040 U	0.030 U
S4-HP37	N	9/21/2013	9 - 14	0.41 J	0.40 U	-	-	-	-
S4-HP38	N	9/5/2013	5 - 10	0.29 J	2.8	-	-	0.040 U	0.030 U
S4-HP39	N	9/11/2013	5 - 10	0.17 J	35	-	-	-	-
S4-HP40	N	9/6/2013	5 - 10	0.40 U	0.40 U	-	-	-	-
S4-HP41	N	9/6/2013	5 - 10	0.40 U	0.40 U	-	-	-	-
S4-HP42	N	9/5/2013	7 - 12	0.40 U	0.40 U	-	-	-	-
S4-HP43	N	9/11/2013	7 - 12	0.40 U	0.40 U	-	-	-	-
S4-HP44	N	9/5/2013	5 - 10	0.40 U	0.40 U	-	-	0.25	0.030 U
S4-HP45	N	9/5/2013	7 - 12	0.40 U	1.6	-	-	-	-
S4-HP45	N	9/5/2013	25 - 30	8100	200 U	-	-	-	-
S4-HP46	N	9/5/2013	5 - 10	640	17 J	-	-	-	-
S4-HP47	N	9/11/2013	7 - 12	6	45	-	-	-	-
S4-HP48	N	9/5/2013	5 - 10	310	74	-	-	0.28	0.15 U
M11-02	N	8/27/2013	3 - 12	0.35 J	1.5	-	-	0.12 J	0.060 U
M11-05	N	8/27/2013	4 - 14	0.40 U	0.40 U	-	-	0.040 U	0.15 U
S11-HP08	N	9/6/2013	5 - 10	58	25	-	-	0.040 U	0.060 U
S11-HP09	N	9/11/2013	7 - 12	0.40 U	1	-	-	-	-
S11-HP09-D	FD	9/11/2013	7 - 12	0.40 U	0.72 J	-	-	-	-
S21-HP21	N	9/11/2013	7 - 12	0.40 U	0.40 U	-	-	-	-
S21-HP21	N	9/11/2013	25 - 30	1700	16 U	-	-	-	-
S21-HP22	N	9/5/2013	7 - 12	0.40 U	0.40 U	-	-	3.4	0.30 U
S21-HP22	N	9/5/2013	20 - 25	6700	100 U	-	-	2.7 J	2.6

VALIDATED GROUNDWATER ANALYTICAL RESULTS
PRE-DESIGN INVESTIGATION
OPERABLE UNIT 2B, IR SITES 3, 4, 11, AND 21
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Location ID	Sample Type	Sample Date	Sample Depth ft bgs	General Chemistry Sulfate mg/L	Dissolved Gases Ethane ug/L	Dissolved Gases Ethene ug/L	Dissolved Gases Methane ug/L
M03-06	N	8/26/2013	3 - 12	76	1.1 J	0.64 U	500
M03-06	FD	8/26/2013	3 - 12	75	1.2 J	0.64 U	510
M03-11	N	8/26/2013	26 - 36	26	0.68 U	0.64 U	0.37 U
M03-16	N	8/27/2013	24.5 - 34	4700	3.0 J	0.64 U	1400
M03-17	N	9/9/2013	3 - 13	120	4.3 J	0.64 U	2800
M03-18	N	9/9/2013	3 - 13	1500	3.8 J	1.1 J	480
M03-18	FD	9/9/2013	3 - 13	-	-	-	-
M03-19	N	9/9/2013	3 - 13	130	0.85 J	0.75 J	140
M04-07	N	9/9/2013	3.5 - 13.5	10	0.68 U	0.64 U	47
MW360-4	N	8/26/2013	5 - 15	63	0.81 J	0.64 U	52
P-4-1-MWIA3	N	8/26/2013	16 - 19	350	71	32	2300
S4-HP32	N	9/5/2013	5 - 10	400	0.82 J	0.98 J	140
S4-HP32	N	9/5/2013	25 - 30	2800	1.6 J	2.7 J	26
S4-HP33	N	9/11/2013	7 - 12	-	-	-	-
S4-HP34	N	9/5/2013	5 - 10	21	0.83 J	0.74 J	92
S4-HP34-D	FD	9/5/2013	5 - 10	23	0.96 J	0.90 J	87
S4-HP35	N	9/4/2013	5 - 10	-	-	-	-
S4-HP36	N	9/5/2013	5 - 10	37	2.6 J	0.64 U	430
S4-HP37	N	9/21/2013	9 - 14	-	-	-	-
S4-HP38	N	9/5/2013	5 - 10	14	1.1 J	1.7 J	850
S4-HP39	N	9/11/2013	5 - 10	-	-	-	-
S4-HP40	N	9/6/2013	5 - 10	-	-	-	-
S4-HP41	N	9/6/2013	5 - 10	-	-	-	-
S4-HP42	N	9/5/2013	7 - 12	-	-	-	-
S4-HP43	N	9/11/2013	7 - 12	-	-	-	-
S4-HP44	N	9/5/2013	5 - 10	20	1.6 J	0.64 U	870
S4-HP45	N	9/5/2013	7 - 12	-	-	-	-
S4-HP45	N	9/5/2013	25 - 30	-	-	-	-
S4-HP46	N	9/5/2013	5 - 10	-	-	-	-
S4-HP47	N	9/11/2013	7 - 12	-	-	-	-
S4-HP48	N	9/5/2013	5 - 10	59	21	1200	4000
M11-02	N	8/27/2013	3 - 12	54	0.68 U	0.64 U	18
M11-05	N	8/27/2013	4 - 14	140	0.68 U	0.64 U	26
S11-HP08	N	9/6/2013	5 - 10	48	6.2	6.2 J	4200
S11-HP09	N	9/11/2013	7 - 12	-	-	-	-
S11-HP09-D	FD	9/11/2013	7 - 12	-	-	-	-
S21-HP21	N	9/11/2013	7 - 12	-	-	-	-
S21-HP21	N	9/11/2013	25 - 30	-	-	-	-
S21-HP22	N	9/5/2013	7 - 12	330	0.88 J	0.92 J	41
S21-HP22	N	9/5/2013	20 - 25	1600	6.8 J	12	56

Notes:
ug/L = microgram per liter
FD = Field Duplicate Sample
ft bgs = feet below ground surface
J = Estimated value
mg/L = milligram per liter
N = Normal Sample
U = Non-detect: The analyte was analyzed for but not detected at or above the stated limit
UJ = Estimated non-detect: The analyte was analyzed for but not detected; the sample detection limit is an estimated value

N00236_004188
ALAMEDA POINT
SSIC NO. 5090.3

ANALYTICAL REPORT

IS AVAILABLE ELECTRONICALLY

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