Oilfield Environmental and Compliance, INC.

Heidi D'Agostino
Yolo County District Attorney
301 2nd Street
Woodland, CA 95695

25 January 2016

RE: Consumer Products Bioassay Testing Work Order: 1505053

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 01-Dec-15 11:15 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Meredith Sprister

Project Manager

TEL: (805) 922-4772
307 Roemer Way, Suite 300, Santa Maria, CA 93454 **www.oecusa.com** FAX: (805) 925-3376

Oilfield Environmental and Compliance, INC.

Yolo County District Attorney	Project: Consumer Products Bioassay Testing	
301 2nd Street	Project Number: [none]	**Reported:**
Woodland CA, 95695	Project Manager: Heidi D'Agostino	25-Jan-16 14:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
348E Seventh Generation Natural Dishwasher D	1505053-01	Product	25-Nov-15 10:30	01-Dec-15 11:15
349E ForceField FireGuard, Flame Retardant fo	1505053-02	Product	25-Nov-15 10:30	01-Dec-15 11:15
350E Armorall Leather Wipes, 20 Wipes	1505053-03	Product	25-Nov-15 10:30	01-Dec-15 11:15
351E Armorall Glass Wipes, 25 Wipes	1505053-04	Product	25-Nov-15 10:30	01-Dec-15 11:15
352E Prestone 50/50 Prediluted Antifreeze/Cool	1505053-05	Product	25-Nov-15 10:30	01-Dec-15 11:15
353E Prestone Concentrate Antifreeze/Coolant,	1505053-06	Product	25-Nov-15 10:30	01-Dec-15 11:15
354E Argan Oil Hair Color, Very Black, 3 fl oz	1505053-07	Product	25-Nov-15 10:30	01-Dec-15 11:15
355E Febreze Scented Oil Refill, 1.75 oz	1505053-08	Product	25-Nov-15 10:30	01-Dec-15 11:15
356E Ion Color-Preserving Masque, for color tre	1505053-09	Product	25-Nov-15 10:30	01-Dec-15 11:15
357E Mane 'n Tail Shampoo, 12 fl oz	1505053-10	Product	25-Nov-15 10:30	01-Dec-15 11:15
358E Mane 'n Tail Conditioner, 12 fl oz	1505053-11	Product	25-Nov-15 10:30	01-Dec-15 11:15
359E L'oreal Preference Permanent Haircolor, M	1505053-12	Product	25-Nov-15 10:30	01-Dec-15 11:15
360E Wella Permanent Liquid Hair Toner, T28 M	1505053-13	Product	25-Nov-15 10:30	01-Dec-15 11:15
361E Clairol Professional Soy4Plex Haircolor, 3	1505053-14	Product	25-Nov-15 10:30	01-Dec-15 11:15
362E Ion Color Brilliance Temporary Color Mas	1505053-15	Product	25-Nov-15 10:30	01-Dec-15 11:15

348E Seventh Generation Natural Dishwasher Detergent Gel, 42 oz

1505053-01 (Product)

Oilfield Environmental and Compliance

Microbiological Parameters by CA Dept. of Fish and Game

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bioassay 96 Hour Screen	Fail		Pass/Fail	1	B5L0162	05-Dec-15	05-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	**20**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	**20**		"	"	"	"	"	"	
Definitive Bioassay LC50	**60.2**		mg/L	1	B6A0005	02-Jan-16	02-Jan-16	Polisini & Miller (CDFG 1988)	LC50
LC50	Hazardous		"	"	"	"	"	"	

Oilfield Environmental and Compliance, INC.

Yolo County District Attorney	Project: Consumer Products Bioassay Testing	
301 2nd Street	Project Number: [none]	**Reported:**
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349E ForceField FireGuard, Flame Retardant for Fabrics & Upholstery, 22 fl oz

1505053-02 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance									
Microbiological Parameters by CA Dept. of Fish and Game									
Bioassay 96 Hour Screen	Pass		Pass/Fail	1	B5L0162	05-Dec-15	05-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	0.0		"	"	"	"	"	"	

350E Armorall Leather Wipes, 20 Wipes

1505053-03 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance									
Microbiological Parameters by CA Dept. of Fish and Game									
Bioassay 96 Hour Screen	Fail		Pass/Fail	1	B5L0162	05-Dec-15	05-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	**20**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	**20**		"	"	"	"	"	"	
Definitive Bioassay LC50	**258**		mg/L	1	B6A0104	06-Jan-16	06-Jan-16	Polisini & Miller (CDFG 1988)	LC50
LC50	Hazardous		"	"	"	"	"	"	

Oilfield Environmental and Compliance, INC.

Yolo County District Attorney	Project: Consumer Products Bioassay Testing	
301 2nd Street	Project Number: [none]	**Reported:**
Woodland CA, 95695	Project Manager: Heidi D'Agostino	25-Jan-16 14:50

351E Armorall Glass Wipes, 25 Wipes

1505053-04 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance									
Microbiological Parameters by CA Dept. of Fish and Game									
Bioassay 96 Hour Screen	Pass		Pass/Fail	1	B5L0162	05-Dec-15	05-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	0.0		"	"	"	"	"	"	

352E Prestone 50/50 Prediluted Antifreeze/Coolant 1 gal

1505053-05 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance									
Microbiological Parameters by CA Dept. of Fish and Game									
Bioassay 96 Hour Screen	Pass		Pass/Fail	1	B5L0212	08-Dec-15	08-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	**1.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	0.0		"	"	"	"	"	"	

353E Prestone Concentrate Antifreeze/Coolant, 1 gal

1505053-06 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance									
Microbiological Parameters by CA Dept. of Fish and Game									
Bioassay 96 Hour Screen	Pass		Pass/Fail	1	B5L0212	08-Dec-15	08-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	**1.0**		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	0.0		"	"	"	"	"	"	

354E Argan Oil Hair Color, Very Black, 3 fl oz

1505053-07 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance									
Microbiological Parameters by CA Dept. of Fish and Game									
Bioassay 96 Hour Screen	Pass		Pass/Fail	1	B5L0212	08-Dec-15	08-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	**1.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	0.0		"	"	"	"	"	"	

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Yolo County District Attorney	Project: Consumer Products Bioassay Testing	
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355E Febreze Scented Oil Refill, 1.75 oz

1505053-08 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance									
Microbiological Parameters by CA Dept. of Fish and Game									
Bioassay 96 Hour Screen	Fail		Pass/Fail	1	B5L0212	08-Dec-15	08-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	**20**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	**20**		"	"	"	"	"	"	
Definitive Bioassay LC50	**71.8**		mg/L	1	B6A0104	06-Jan-16	06-Jan-16	Polisini & Miller (CDFG 1988)	LC50
LC50	Hazardous		"	"	"	"	"	"	

Oilfield Environmental and Compliance, INC.

Yolo County District Attorney	Project: Consumer Products Bioassay Testing	
301 2nd Street	Project Number: [none]	**Reported:**
Woodland CA, 95695	Project Manager: Heidi D'Agostino	25-Jan-16 14:50

356E Ion Color-Preserving Masque, for color treated hair, 6 fl oz
1505053-09 (Product)

Oilfield Environmental and Compliance

Microbiological Parameters by CA Dept. of Fish and Game

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bioassay 96 Hour Screen	Fail		Pass/Fail	1	B5L0212	08-Dec-15	08-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	**1.0**		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	**3.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	**15**		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	**1.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	**4.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	**8.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	**6.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	**2.0**		"	"	"	"	"	"	
Definitive Bioassay LC50	**90.4**		mg/L	1	B6A0320	14-Jan-16	14-Jan-16	Polisini & Miller (CDFG 1988)	LC50
LC50	Hazardous		"	"	"	"	"	"	

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301 2nd Street	Project Number: [none]	**Reported:**
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357E Mane 'n Tail Shampoo, 12 fl oz
1505053-10 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance									
Microbiological Parameters by CA Dept. of Fish and Game									
Bioassay 96 Hour Screen	Fail		Pass/Fail	1	B5L0212	08-Dec-15	08-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	**20**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	**20**		"	"	"	"	"	"	
Definitive Bioassay LC50	**31.6**		mg/L	1	B6A0356	15-Jan-16	15-Jan-16	Polisini & Miller (CDFG 1988)	LC50
LC50	Hazardous		"	"	"	"	"	"	

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358E Mane 'n Tail Conditioner, 12 fl oz

1505053-11 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Microbiological Parameters by CA Dept. of Fish and Game

Bioassay 96 Hour Screen	Fail		Pass/Fail	1	B5L0212	08-Dec-15	08-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	**7.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	**8.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	**3.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	**5.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	**7.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	**5.0**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	0.0		"	"	"	"	"	"	
Definitive Bioassay LC50	**254**		mg/L	1	B6A0356	15-Jan-16	15-Jan-16	Polisini & Miller (CDFG 1988)	LC50
LC50	Hazardous		"	"	"	"	"	"	

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359E L'oreal Preference Permanent Haircolor, Medium Brown 5, 2 fl oz

1505053-12 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance									
Microbiological Parameters by CA Dept. of Fish and Game									
Bioassay 96 Hour Screen	Fail		Pass/Fail	1	B5L0212	08-Dec-15	08-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	**20**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	**20**		"	"	"	"	"	"	
Definitive Bioassay LC50	< 20		mg/L	1	B6A0104	06-Jan-16	06-Jan-16	Polisini & Miller (CDFG 1988)	LC50
LC50	Hazardous		"	"	"	"	"	"	

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360E Wella Permanent Liquid Hair Toner, T28 Natural Blonde, 1.4 fl oz
1505053-13 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance									
Microbiological Parameters by CA Dept. of Fish and Game									
Bioassay 96 Hour Screen	Fail		Pass/Fail	1	B5L0212	08-Dec-15	08-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	**20**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	**20**		"	"	"	"	"	"	
Definitive Bioassay LC50	< 20		mg/L	1	B6A0445	19-Jan-16	19-Jan-16	Polisini & Miller (CDFG 1988)	LC50
LC50	Hazardous		"	"	"	"	"	"	

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361E Clairol Professional Soy4Plex Haircolor, 3RN Medium Red-Neutral Brown, 2 oz
1505053-14 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance									
Microbiological Parameters by CA Dept. of Fish and Game									
Bioassay 96 Hour Screen	Fail		Pass/Fail	1	B5L0212	08-Dec-15	08-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	**20**		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	**20**		"	"	"	"	"	"	
Definitive Bioassay LC50	< 20		mg/L	1	B6A0445	19-Jan-16	19-Jan-16	Polisini & Miller (CDFG 1988)	LC50
LC50	Hazardous		"	"	"	"	"	"	

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362E Ion Color Brilliance Temporary Color Masque, Golden Blonde, 1.5 oz

1505053-15 (Product)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Microbiological Parameters by CA Dept. of Fish and Game

Bioassay 96 Hour Screen	Pass	Pass/Fail	1	B5L0212	08-Dec-15	08-Dec-15	Polisini & Miller (CDFG 1988)	LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0	Fish	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 72-Hr	0.0	"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 48-Hr	0.0	"	"	"	"	"	"	
Mortality Total of 20 @ 750ppm 24-Hr	0.0	"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 96-Hr	0.0	"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 72-Hr	0.0	"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 48-Hr	**1.0**	"	"	"	"	"	"	
Mortality Total of 20 @ 400ppm 24-Hr	0.0	"	"	"	"	"	"	

Oilfield Environmental and Compliance, INC.

Yolo County District Attorney	Project: Consumer Products Bioassay Testing	
301 2nd Street	Project Number: [none]	**Reported:**
Woodland CA, 95695	Project Manager: Heidi D'Agostino	25-Jan-16 14:50

Microbiological Parameters by CA Dept. of Fish and Game - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B5L0162 - Bio/Micro Prep										
Blank (B5L0162-BLK1)				Prepared & Analyzed: 05-Dec-15						
Bioassay 96 Hour Screen	Pass		Pass/Fail							LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish							
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"							
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"							
Mortality Total of 20 @ 750ppm 24-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 24-Hr	0.0		"							
Blank (B5L0162-BLK2)				Prepared & Analyzed: 05-Dec-15						
Bioassay 96 Hour Screen	Pass		Pass/Fail							LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish							
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"							
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"							
Mortality Total of 20 @ 750ppm 24-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 24-Hr	0.0		"							
Batch B5L0212 - Bio/Micro Prep										
Blank (B5L0212-BLK1)				Prepared & Analyzed: 08-Dec-15						
Bioassay 96 Hour Screen	Pass		Pass/Fail							LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish							
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"							
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"							
Mortality Total of 20 @ 750ppm 24-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 24-Hr	0.0		"							

Oilfield Environmental and Compliance, INC.

Yolo County District Attorney	Project: Consumer Products Bioassay Testing	
301 2nd Street	Project Number: [none]	**Reported:**
Woodland CA, 95695	Project Manager: Heidi D'Agostino	25-Jan-16 14:50

Microbiological Parameters by CA Dept. of Fish and Game - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B5L0212 - Bio/Micro Prep										
Blank (B5L0212-BLK2)				Prepared & Analyzed: 08-Dec-15						
Bioassay 96 Hour Screen	Pass		Pass/Fail							LC50
Mortality Total of 20 @ 750ppm 96-Hr	0.0		Fish							
Mortality Total of 20 @ 750ppm 72-Hr	0.0		"							
Mortality Total of 20 @ 750ppm 48-Hr	0.0		"							
Mortality Total of 20 @ 750ppm 24-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 96-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 72-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 48-Hr	0.0		"							
Mortality Total of 20 @ 400ppm 24-Hr	0.0		"							
Batch B6A0005 - Bio/Micro Prep										
Blank (B6A0005-BLK1)				Prepared & Analyzed: 02-Jan-16						
Definitive Bioassay LC50	ND		mg/L							LC50
LC50	Non-Hazardous		"							
Blank (B6A0005-BLK2)				Prepared & Analyzed: 02-Jan-16						
Definitive Bioassay LC50	ND		mg/L							LC50
LC50	Non-Hazardous		"							
Batch B6A0104 - Bio/Micro Prep										
Blank (B6A0104-BLK1)				Prepared & Analyzed: 06-Jan-16						
Definitive Bioassay LC50	ND		mg/L							LC50
LC50	Non-Hazardous		"							

Oilfield Environmental and Compliance, INC.

Yolo County District Attorney	Project: Consumer Products Bioassay Testing	
301 2nd Street	Project Number: [none]	**Reported:**
Woodland CA, 95695	Project Manager: Heidi D'Agostino	25-Jan-16 14:50

Microbiological Parameters by CA Dept. of Fish and Game - Definitive - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6A0104 - Bio/Micro Prep										
Blank (B6A0104-BLK2)				Prepared & Analyzed: 06-Jan-16						
Definitive Bioassay LC50	ND		mg/L							LC50
LC50	Non-Hazardous		"							
Batch B6A0320 - Bio/Micro Prep										
Blank (B6A0320-BLK1)				Prepared & Analyzed: 14-Jan-16						
Definitive Bioassay LC50	ND		mg/L							LC50
LC50	Non-Hazardous		"							
Blank (B6A0320-BLK2)				Prepared & Analyzed: 14-Jan-16						
Definitive Bioassay LC50	ND		mg/L							LC50
LC50	Non-Hazardous		"							
Batch B6A0356 - Bio/Micro Prep										
Blank (B6A0356-BLK1)				Prepared & Analyzed: 15-Jan-16						
Definitive Bioassay LC50	ND		mg/L							LC50
LC50	Non-Hazardous		"							
Blank (B6A0356-BLK2)				Prepared & Analyzed: 15-Jan-16						
Definitive Bioassay LC50	ND		mg/L							LC50
LC50	Non-Hazardous		"							
Batch B6A0445 - Bio/Micro Prep										
Blank (B6A0445-BLK1)				Prepared & Analyzed: 19-Jan-16						
Definitive Bioassay LC50	ND		mg/L							LC50
LC50	Non-Hazardous		"							

Oilfield Environmental and Compliance, INC.

Yolo County District Attorney	Project: Consumer Products Bioassay Testing	
301 2nd Street	Project Number: [none]	**Reported:**
Woodland CA, 95695	Project Manager: Heidi D'Agostino	25-Jan-16 14:50

Microbiological Parameters by CA Dept. of Fish and Game - Definitive - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6A0445 - Bio/Micro Prep										
Blank (B6A0445-BLK2)				Prepared & Analyzed: 19-Jan-16						
Definitive Bioassay LC50	ND		mg/L							LC50
LC50	Non-Hazardous		"							

Notes and Definitions

Z-01a	ND
Z-01	< 20
Non-Haz	Non-Hazardous
LC50	State of CA limit for Non-Hazardous Designation: LC50 > 500 mg/L Pass Screen: <40% dead in 750 mg/L (LC50 > 750 mg/L) Fail Screen: >40% dead in 750mg/L (Definitive Recommended) Fail Screen [CA Haz]: >60% dead in 400mg/L (LC50 < 400mg/L)
Haz	Hazardous
_Pass	Pass
_Fail	Fail
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Bioassay Definitive Test

Yolo

OEC-Oilfield Environmental & Compliance, Inc.
Polisini and Miller. CA Fish & Game Lab. 1988

Batch #: B6A0005
Sample ID: 1505053-01
Analyst: EDD
Start Date: 01/02/2015
LC50 Result: 60.20 mg/L

Hardness: EDTA Titrimetric Method
S.M. 2340 C (20th ed.)
End point: Eriochrome Black indicator solution from pink to blue

	Sample Vol. (ml)	Initial pH	pH (10.0-10.01)	EDTA Vol. (ml)	$CaCO_3$ mg/L
Method Blank	25	5.76	✓	0	0
LCS (90-110%)		1.97	✓	2.0	80
Control Initial		7.54	✓	1.0	40
Control Final		7.81	✓	1.0	40
400ppm Initial		7.62	✓	1.0	40
400ppm Final		7.81	✓	1.1	44

Calculate as follows: Hardness as CaCO3 mg/L = (mL 0.01m EDTA used)(CaCO3 equivalent to 1mL EDTA) (1,000) / mL sample

Chlorine: Negative / Positive	
Hardness:	
LCS ID:	4080404
LCS exp:	7/29/16
Spike Vol.:	2.0 mL
Alkalinity:	
LCS ID :	5120178
LCS exp:	6/10/16
Spike Vol.:	25 mL

Total Alkalinity as Calcium Carbonate
S.M. 2320 B. (20th ed.)
End point pH = 4.5

	Sample Vol. (ml)	Initial pH	Normality Stand.	Titrant Vol. to pH 4.5	$CaCO_3$ mg/L
Method Blank	25	5.76	0.10	0.01	2
LCS (80-120%)		11.19		11.42	2284
Control Initial		7.54		0.64	128
Control Final		7.81		0.94	188
400ppm Initial		7.62		0.76	152
400ppm Final		7.81		1.18	236

Calculate as follows: Alkalinity as CaCO3 mg/L = (mL standard acid used)(normality standard acid)(50,000) / mL sample

Fish Averages:	
Length (mm)	Weight (g)
50.	0.77
51.	0.96
53. max	1.01 max
47 min	0.92
48.	0.72 min
49.	0.73
49.	0.75
50.	0.85
50.	0.79
51.	0.91
Averages:	
50.	0.84

Reviewed and Date: 01/6/2016

Definitive Haz. Toxicity

OEC-Oilfield Environmental & Compliance

Hazardous Material Bioassay (Static)

Polisini and Miller. 1988

Sample Description: SOLID / AQ / PRODUCT

BATCH # B6A0005

SAMPLE ID: 1505053-01

Sample Received: 12/01/2015

Start Bioassay: 01/02/16

End Bioassay: 01/06/16

Analyst: EDD

Readouts:	Initial Readout ~~01/2~~ edd 14:00			24-Hr. 01/03 JMH 14:45				48-Hr. 01/04 JMH 9:30				72-Hr. 01/05 JMH 9:30				96-Hr. 01/06 JMH 9:20					
	pH	DO	Temp.	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	Total M	Comments
Control	7.4	8.3	16.1	7.7	5.2	20.2	0	7.8	5.5	20.2	0	7.5	5.2	20.6	0	7.5	5.3	20.1	0	0	
400 ppm	7.5	8.6	18.3	7.5	5.1	20.5	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
400 ppm	7.5	8.7	18.3	7.7	7.7	20.6	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
200 ppm	7.6	9.1	18.3	7.6	7.8	19.5	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
200 ppm	7.5	9.3	18.6	7.8	7.7	19.0	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
100 ppm	7.5	9.3	18.7	7.7	7.4	19.1	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
100 ppm	7.5	9.2	18.8	7.8	7.6	19.3	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
50 ppm	7.5	9.4	18.8	7.7	6.0	19.3	1	8.2	8.0	19.4	0	8.2	8.2	20.0	0	8.2	8.4	19.4	0	1	
50 ppm	7.5	9.0	18.8	7.7	5.6	19.5	2	7.5	5.2	19.8	1	8.2	8.2	19.9	0	8.2	8.4	19.5	0	3	
20 ppm	7.5	9.1	18.9	7.7	6.0	19.7	0	8.2	8.4	19.9	0	8.2	8.4	20.0	0	8.2	8.7	19.7	0	0	
20 ppm	7.5	9.1	18.9	7.7	6.1	19.8	0	8.2	8.4	20.0	0	8.2	8.3	20.2	0	8.2	8.5	19.8	0	0	
Air Control				7.7	5.0	20.3	0	8.1	7.9	20.4	0	7.9	7.9	20.7	0	8.0	7.9 ~~5.3~~ JMH 1/6	20.2	0	0	*Start taking data the day air is added to sample tanks

LC50= 60.20 mg/L

LC50 Method: Graphical | Probit | Spearman-Karber | Trimmed-SK

95% Confidence Interval:

Upper: 69.52 mg/L

Lower: 52.13 mg/L

Initial:

*Day 1	Hardness	Alkalinity
Control	40 mg/L	128 mg/L
400 ppm	40 mg/L	152 mg/L

Final:

*Day 5	Hardness	Alkalinity
Control	40 mg/L	188 mg/L
400 ppm	44 mg/L	236 mg/L

Test Organism: *Pimephales promelas*

Source: Anderson Farms

Fish ID: 5120515

Fish Data:	Avg.	Min.	Max.
Length (mm)	50.	47.	53.
Weight (g)	0.84	0.72	1.01

Method Parameters:

Sample Extraction: Mechanical Shaker w/ DI H_2O

Control Water Source: Soft Water with Filter for Chloramine Rmvl

Control Water Hardness: 40-48 mg/L CaCO3

Feeding: None

Temperature Range: 18 - 22°C

Photoperiod: 16hr. Light/ 8hr. Dark

Test Chamber Volume: 10L

Number of Replicates: 2

Fish per Chamber: 10.

Tanks aerated: None / All Tanks

Aeration Source: Outside Air

Aeration Rate: (Maintain DO > 4ppm.)

Aeration Method: narrow glass bore

Test Endpoints: Survival at 96 hours

Bioassay Definitive Test

OEC-Oilfield Environmental & Compliance, Inc.
Polisini and Miller. CA Fish & Game Lab. 1988

Batch #: B6A0104
Sample ID: 1505053-03
Analyst: JMH
Start Date: 1/6/16
LC50 Result: 257.97 mg/L

Hardness: EDTA Titrimetric Method
S.M. 2340 C (20th ed.)
End point: Eriochrome Black indicator solution from pink to blue

	Sample Vol. (ml)	Initial pH	pH (10.0-10.01)	EDTA Vol. (ml)	$CaCO_3$ mg/L
Method Blank	25	5.77	✓	0	0
LCS (90-110%)		2.02	✓	2.0	80
Control Initial		7.48	✓	1.1	44
Control Final		7.78	✓	1.0	40
400ppm Initial		7.47	✓	1.4	56
400 ppm Final		7.53	✓	1.4	56

Calculate as follows: Hardness as CaCO3 mg/L = (mL 0.01m EDTA used)(CaCO3 equivalent to 1mL EDTA) (1,000) / mL sample

Chlorine: Negative / Positive
Hardness:
LCS ID: 4080404
LCS exp: 7·29·16
Spike Vol.: 2.0 mL
Alkalinity:
LCS ID: 5120178
LCS exp: 6·10·16
Spike Vol.: 25 mL

Total Alkalinity as Calcium Carbonate
S.M. 2320 B. (20th ed.)
End point pH = 4.5

	Sample Vol. (ml)	Initial pH	Normality Stand.	Titrant Vol. to pH 4.5	$CaCO_3$ mg/L
Method Blank	25	5.77	0.10	0.01	2
LCS (80-120%)		11.20		12.31	2462
Control Initial		7.48		0.72	144
Control Final		7.78		0.76	152
400ppm Initial		7.47		0.85	170
400 ppm Final		7.53		0.90	180

Calculate as follows: Alkalinity as CaCO3 mg/L = (mL standard acid used)(normality standard acid)(50,000) / mL sample

Fish Averages:	
Length (mm)	Weight (g)
48.	0.72
50.	0.89
46. min	0.63 min
48.	0.66
50.	0.84
50.	0.83
51.	0.87
51.	0.87
51.	0.80
52. max	0.89 max
Averages:	
50.	0.80

Reviewed and Date: [signature] 1/11/16

Definitive Haz. Toxicity

OEC-Oilfield Environmental & Compliance

Hazardous Material Bioassay (Static)

Polisini and Miller. 1988

Sample Description: SOLID / AQ / PRODUCT

BATCH # B6A0104

SAMPLE ID: 1505053-03

Sample Received: 12/1/15

Start Bioassay: 1/6/16

End Bioassay: 1/10/16

Analyst: JMH

Readouts:	Initial Readout 1/6 JMH 15:00			24-Hr. 1/7 edd 13:45				48-Hr. 1/8 edd 13:25				72-Hr. 1/9 edd 11:50				96-Hr. 1/10 JMH 9:30					
	pH	DO	Temp.	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	Total M	Comments
Control	7.3	9.3	17.1	7.3	5.4	19.6	0	7.5	5.1	19.8	0	7.4	4.8	20.5	0	7.3	4.5	17.2	0	0	
400 ppm	7.3	8.3	18.9	7.3	4.4	20.4	2	7.7	6.7	21.0	0	7.9	7.9	21.6	0	7.9	~~7.9~~ 8.2 JMH 1/10	22.2	0	2	
400 ppm	7.3	7.0	17.8	7.4	6.8	20.6	10													10	
200 ppm	7.3	8.1	17.5	7.4	7.6	20.6	10													10	
200 ppm	7.3	6.6	17.3	7.5	5.8	20.6	1	7.9	7.9	21.0	0	8.1	8.4	21.6	0	7.9	9.0	22.2	0	1	
100 ppm	7.3	7.7	17.3	7.4	5.4	20.7	0	8.0	8.3	21.0	0	8.0	8.6	21.6	0	8.0	8.6	22.5	1	1	
~~50~~ 100 ppm	7.3	7.8	17.4	7.4	4.6	20.8	1	7.9	7.9	21.0	0	8.0	7.8	21.6	0	7.9	7.9	22.5	0	1	
50 ppm	7.3	7.7	17.5	7.4	5.0	20.8	0	8.0	8.2	21.0	0	8.0	8.6	21.7	0	8.0	8.4	22.6	0	0	
~~20~~ 50 ppm	7.3	7.8	17.5	7.4	4.9	20.7	0	8.1	8.8	20.9	0	8.2	8.9	21.7	0	8.1	8.7	22.5	0	0	
20 ppm	7.3	8.0	17.2	7.4	5.0	19.9	0	8.1	8.5	20.3	0	8.2	8.7	21.0	0	8.2	8.0	19.5	0	0	
20 ppm	7.3	7.8	17.0	7.4	5.6	19.8	0	8.1	8.9	20.2	0	8.2	8.9	20.9	0	8.3	8.3	19.2	0	0	
Air Control	7.3	9.5	17.3	7.3	5.6	19.6	0	8.0	8.8	19.8	0	8.1	8.4	20.1	0	8.1	8.1	~~16.7~~ 22.5	0	0	*Start taking data the day air is added to sample tanks

JMH 1/10

LC50= 257.97 mg/L

LC50 Method: Graphical | (Probit) | Spearman-Karber | Trimmed-SK

95% Confidence Interval:

Upper: 384.1 mg/L

Lower: 195.8 mg/L

Initial:

*Day 1	Hardness	Alkalinity
Control	44 mg/L	144 mg/L
400 ppm	56 mg/L	170 mg/L

Final:

*Day 5	Hardness	Alkalinity
Control	40 mg/L	152 mg/L
400 ppm	56 mg/L	180 mg/L

Test Organism: *Pimephales promelas*

Source: Anderson Farms

Fish ID: 5120515

Fish Data:	Avg.	Min.	Max.
Length (mm)	50.	46.	52.
Weight (g)	0.80	0.63	0.89

Method Parameters:

Sample Extraction: Mechanical Shaker w/ DI H_2O

Control Water Source: Soft Water with Filter for Chloramine Rmvl

Control Water Hardness: 40-48 mg/L CaCO3

Feeding: None

Temperature Range: 18 - 22°C

Photoperiod: 16hr. Light/ 8hr. Dark

Test Chamber Volume: 10L

Number of Replicates: 2

Fish per Chamber: 10.

Tanks aerated: None / (All Tanks)

Aeration Source: Outside Air

Aeration Rate: (Maintain DO > 4ppm.)

Aeration Method: narrow glass bore

Test Endpoints: Survival at 96 hours

Temperature fluctuations due to extreme temperature drops in the past week. I do not believe the temperature biased test results in either direction. Control tanks were set up along-side the test tanks and there were no mortalities.

Laura McKinley

Laura McKinley 1/11/2016

Bioassay Definitive Test

OEC-Oilfield Environmental & Compliance, Inc.
Polisini and Miller. CA Fish & Game Lab. 1988

Batch #: B6A0104
Sample ID: 1505053-08
Analyst: JMH
Start Date: 1/6/16
LC50 Result: 71.83 mg/L

Hardness: EDTA Titrimetric Method
S.M. 2340 C (20th ed.)
End point: Eriochrome Black indicator solution from pink to blue

	Sample Vol. (ml)	Initial pH	pH (10.0-10.01)	EDTA Vol. (ml)	$CaCO_3$ mg/L
Method Blank	25	5.77	✓	0	0
LCS (90-110%)		2.02	✓	2.0	80
Control Initial		7.48	✓	1.1	44
Control Final		7.78	✓	1.0	40
400ppm Initial		7.43	✓	0.90	36
400 ppm Final		7.49	✓	0.90	36

Calculate as follows: Hardness as CaCO3 mg/L = (mL 0.01m EDTA used)(CaCO3 equivalent to 1mL EDTA) (1,000) / mL sample

Chlorine: Negative / Positive	
Hardness:	
LCS ID:	4080404
LCS exp:	7·29·16
Spike Vol.:	2.0 mL
Alkalinity:	
LCS ID:	5120178
LCS exp:	6·10·16
Spike Vol.:	25 mL

Total Alkalinity as Calcium Carbonate
S.M. 2320 B. (20th ed.)
End point pH = 4.5

	Sample Vol. (ml)	Initial pH	Normality Stand.	Titrant Vol. to pH 4.5	$CaCO_3$ mg/L
Method Blank	25	5.77	0.10	0.01	2
LCS (80-120%)		11.20		12.31	2462
Control Initial		7.48		0.72	144
Control Final		7.78		0.76	152
400ppm Initial		7.43		0.68	136
400 ppm Final		7.49		0.72	144

Calculate as follows: Alkalinity as CaCO3 mg/L = (mL standard acid used)(normality standard acid)(50,000) / mL sample

Fish Averages:	
Length (mm)	Weight (g)
48.	0.72
50.	0.89
46. min	0.63 min
48.	0.66
50.	0.84
50.	0.83
51.	0.87
51.	0.87
51.	0.80
52. max	0.89 max
Averages:	
50.	0.80

Reviewed and Date: 1/11/16

Definitive Haz. Toxicity

OEC-Oilfield Environmental & Compliance

Hazardous Material Bioassay (Static)

Polisini and Miller. 1988

Sample Description: SOLID / AQ / (PRODUCT)

BATCH # B6A0104

SAMPLE ID: 1505053-08

Sample Received: 12/1/15

Start Bioassay: 1/6/16

End Bioassay: 1/10/16

Analyst: JMH

Readouts:	Initial Readout 1/6 JMH 15:10			24-Hr. 1/7 13:45 edd				48-Hr. 1/8 edd 13:25				72-Hr. 1/9 edd 11:50				96-Hr. 1/10 JMH 9:40					
	pH	DO	Temp.	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	Total M	Comments
Control	7.3	9.3	17.1	7.3	5.4	19.6	0	7.5	5.1	19.8	0	7.4	4.8	19.8	0	7.3	4.5	17.2	0	0	
400 ppm	7.3	7.9	16.9	7.2	7.0	20.5	10													10	
400 ppm	7.3	8.2	17.0	7.2	7.8	20.8	10													10	
200 ppm	7.3	8.0	17.1	7.3	7.2	20.9	10													10	
200 ppm	7.3	8.3	17.2	7.2	5.5	21.0	10													10	
100 ppm	7.3	8.6	17.4	7.1	4.0	20.8	1	7.7	6.7	21.3	5	7.9	7.5	21.6	0	8.3	8.6	19.9	0	6	
100 ppm	7.3	8.5	17.2	7.1	4.2	20.7	0	7.8	7.9	21.4	5	7.9	7.6	21.7	0	8.0	8.3	20.0	1	6	
50 ppm	7.3	8.5	17.3	7.2	4.5	20.8	0	7.9	8.2	21.5	0	8.0	8.3	21.7	0	8.2	9.0	20.0	0	0	
50 ppm	7.3	8.4	17.2	7.1	5.5	20.9	1	7.8	7.7	21.6	5	8.0	8.0	21.6	0	8.0	8.2	19.9	1	7	
20 ppm	7.3	8.8	17.2	7.2	6.0	21.0	0	7.9	8.3	20.8	0	8.0	8.1	21.2	0	8.2	8.5	18.2	0	0	
20 ppm	7.3	8.9	17.3	7.2	5.3	21.0	0	7.9	8.3	20.7	0	8.0	8.2	21.3	0	8.2	8.5	18.0	0	0	
Air Control	7.3	9.5	17.3	7.3	5.6	19.6	0	8.0	8.8	19.8	0	8.1	8.4	20.1	0	8.1	8.1	22.5 ~~16.7~~	0	0	*Start taking data the day air is added to sample tanks

JMH 1/10

LC50= 71.83 mg/L

LC50 Method: Graphical | Probit | Spearman-Karber | Trimmed-SK

95% Confidence Interval:

Upper: 89.2 mg/L

Lower: 56.8 mg/L

Method Parameters:

Sample Extraction: Mechanical Shaker w/ DI H_2O

Control Water Source: Soft Water with Filter for Chloramine Rmvl

Control Water Hardness: 40-48 mg/L CaCO3

Feeding: None

Temperature Range: 18 - 22°C

Photoperiod: 16hr. Light/ 8hr. Dark

Test Chamber Volume: 10L

Number of Replicates: 2

Fish per Chamber: 10.

Tanks aerated: None / All Tanks

Aeration Source: Outside Air

Aeration Rate: (Maintain DO > 4ppm.)

Aeration Method: narrow glass bore

Test Endpoints: Survival at 96 hours

Initial:

*Day 1	Hardness	Alkalinity
Control	44 mg/L	144 mg/L
ppm	36 mg/L	136 mg/L

Final:

*Day 5	Hardness	Alkalinity
Control	40 mg/L	152 mg/L
ppm	36 mg/L	144 mg/L

Fish ID: 5120515

Fish Data:	Avg.	Min.	Max.
Length (mm)	50.	46.	52.
Weight (g)	0.80	0.63	0.89

Test Organism: *Pimephales promelas*

Source: Anderson Farms

Temperature fluctuations due to extreme temperature drops in the past week. I do not believe the temperature biased test results in either direction. Control tanks were set up along-side the test tanks and there were no mortalities.

Laura McKinley

Laura McKinley 1/11/2016

Bioassay Definitive Test

OEC-Oilfield Environmental & Compliance, Inc.
Polisini and Miller. CA Fish & Game Lab. 1988

Batch #: B6A0320
Sample ID: 1505053-09
Analyst: EDD
Start Date: 1/14/2016
LC50 Result: 90.39 mg/L

Hardness: EDTA Titrimetric Method
S.M. 2340 C (20th ed.)
End point: Eriochrome Black indicator solution from pink to blue

	Sample Vol. (ml)	Initial pH	pH (10.0-10.01)	EDTA Vol. (ml)	$CaCO_3$ mg/L
Method Blank	25	5.86	✓	0	0
LCS (90-110%)		1.89	✓	2.0	80
Control Initial		7.53	✓	1.0	40
Control Final		~~8.31~~ 7.73	✓	1.0	40
750ppm Initial		7.49	✓	1.0	40
750ppm Final		7.55	✓	1.0	40

Calculate as follows: Hardness as CaCO3 mg/L = (mL 0.01m EDTA used)(CaCO3 equivalent to 1mL EDTA) (1,000) / mL sample

Chlorine: (Negative) / Positive	
Hardness:	
LCS ID:	4110041
LCS exp:	7/29/16
Spike Vol.:	2.0 mL
Alkalinity:	
LCS ID :	5120178
LCS exp:	6/10/16
Spike Vol.:	25 mL

Total Alkalinity as Calcium Carbonate
S.M. 2320 B. (20th ed.)
End point pH = 4.5

	Sample Vol. (ml)	Initial pH	Normality Stand.	Titrant Vol. to pH 4.5	$CaCO_3$ mg/L
Method Blank	25	5.86	0.20	0.01	2
LCS (80-120%)		11.01		11.12	2224
Control Initial		7.53		0.59	118
Control Final		~~8.31~~ 7.73		0.62	124
750ppm Initial		7.49		0.57	114
750ppm Final		7.55		0.65	130

Calculate as follows: Alkalinity as CaCO3 mg/L = (mL standard acid used)(normality standard acid)(50,000) / mL sample

Fish Averages:	
Length (mm)	Weight (g)
50.	0.65
55. max	0.99 max
53.	0.93
50.	0.70
50.	0.87
49.	0.65
51.	0.80
47. min	0.51 min
48.	0.52
54.	0.98
Averages:	
51.	0.76

Reviewed and Date: 1/18/16

Definitive Haz. Toxicity

OEC-Oilfield Environmental & Compliance

Hazardous Material Bioassay (Static)

Polisini and Miller. 1988

Sample Description: SOLID / AQ / PRODUCT

BATCH # B6A0320

SAMPLE ID: 1505053-09

Sample Received: 12/01/2015

Start Bioassay: 01/14/2016

End Bioassay: 01/18/2016

Analyst: EDD

Readouts:	Initial Readout 1/14/16 edd 17:15			24-Hr. 1/15/16 edd 16:30				48-Hr. 1/16/16 edd 13:50				72-Hr. 1/17/16 JMH 12:50				96-Hr. 1/18/16 JMH 10:10					
	pH	DO	Temp.	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	Total M	Comments
Control	7.3	9.7	16.9	7.4	6.2	19.8	1	7.4	4.3	20.0	0	7.6	4.0	21.3	0	7.4	4.1	21.9	0	1	
750 ppm	7.3	9.9	16.9	7.5	9.0	19.6	10	—	—	—		—	—	—		—	—	—		10	
750 ppm	7.3	9.6	16.9	7.5	8.8	20.1	10	—	—	—		—	—	—		—	—	—		10	
500 ppm	7.3	9.7	16.9	7.5	8.4	20.1	10	—	—	—		—	—	—		—	—	—		10	
500 ppm	7.3	9.7	16.9	7.5	8.6	20.2	10	—	—	—		—	—	—		—	—	—		10	
300 ppm	7.3	9.7	16.8	7.5	8.3	20.4	10	—	—	—		—	—	—		—	—	—		10	
300 ppm	7.3	9.7	17.1	7.6	8.2	20.5	10	—	—	—		—	—	—		—	—	—		10	
150 ppm	7.3	9.3	17.0	7.5	6.7	20.0	6	7.5	4.0	20.0	3	7.5	4.0	21.2	1	—	—	—		10	
150 ppm	7.3	9.7	16.9	7.5	7.1	20.0	4	7.5	5.5	20.0	4	7.5	4.1	21.3	2	—	—	—		10	
75 ppm	7.3	9.7	16.8	7.4	6.4	20.1	1	7.6	4.2	20.0	1	7.7	6.7	21.3	2	7.8	7.0	21.6	1	4	
75 ppm	7.3	9.7	16.8	7.3	6.1	20.2	0	7.8	7.3	20.0	0	7.7	7.7	21.4	2	7.8	7.7	21.7	1	3	
Air Control				7.4	6.4	19.9	0	8.0	8.3	20.3	0	8.2	8.1	21.5	0	8.0	8.5	22.0	0	0	*Start taking data the day air is added to sample tanks

LC50= 90.39 mg/L

LC50 Method: Graphical | Probit | Spearman-Karber | Trimmed-SK

95% Confidence Interval:

Upper: NA mg/L

Lower: NA mg/L

Initial:

*Day 1	Hardness	Alkalinity
Control	40 mg/L	118 mg/L
750 ppm	40 mg/L	114 mg/L

Final:

*Day 5	Hardness	Alkalinity
Control	40 mg/L	124 mg/L
750 ppm	~~44~~ 40 mg/L	130 mg/L

Test Organism: *Pimephales promelas*

Source: Anderson Farms

Fish ID:

Fish Data:	Avg.	Min.	Max.
Length (mm)	51.	47.	55.
Weight (g)	0.76	0.51	0.99

Method Parameters:

Sample Extraction: Mechanical Shaker w/ DI H_2O

Control Water Source: Soft Water with Filter for Chloramine Rmvl

Control Water Hardness: 40-48 mg/L CaCO3

Feeding: None

Temperature Range: 18 - 22°C

Photoperiod: 16hr. Light/ 8hr. Dark

Test Chamber Volume: 10L

Number of Replicates: 2

Fish per Chamber: 10.

Tanks aerated: None / All Tanks

Aeration Source: Outside Air

Aeration Rate: (Maintain DO > 4ppm.)

Aeration Method: narrow glass bore

Test Endpoints: Survival at 96 hours

Bioassay Definitive Test

OEC-Oilfield Environmental & Compliance, Inc.
Polisini and Miller. CA Fish & Game Lab. 1988

Batch #: B6A0356
Sample ID: 1505053-10
Analyst: EDD
Start Date: 1/15/2016
LC50 Result: 31.62 mg/L

Hardness: EDTA Titrimetric Method
S.M. 2340 C (20th ed.)
End point: Eriochrome Black indicator solution from pink to blue

	Sample Vol. (ml)	Initial pH	pH (10.0-10.01)	EDTA Vol. (ml)	$CaCO_3$ mg/L
Method Blank	25	5.71	✓	0.00	0
LCS (90-110%)		2.03	✓	2.0	80
Control Initial		7.61	✓	1.0	40
Control Final		7.94	✓	1.1	44
400ppm Initial		7.72	✓	1.0	40
400ppm Final		7.50	✓	1.1	44

Calculate as follows: Hardness as CaCO3 mg/L = (mL 0.01m EDTA used)(CaCO3 equivalent to 1mL EDTA) (1,000) / mL sample

Chlorine: Negative / Positive	
Hardness:	
LCS ID:	4110041
LCS exp:	7/29/16
Spike Vol.:	2.0 mL
Alkalinity:	
LCS ID :	5120178
LCS exp:	6/16/16
Spike Vol.:	25 mL

Total Alkalinity as Calcium Carbonate
S.M. 2320 B. (20th ed.)
End point pH = 4.5

	Sample Vol. (ml)	Initial pH	Normality Stand.	Titrant Vol. to pH 4.5	$CaCO_3$ mg/L
Method Blank	25	5.71	0.10	0.01	2
LCS (80-120%)		11.09		11.01	2202
Control Initial		7.61		0.71	142
Control Final		7.94		0.66	132
400ppm Initial		7.72		0.61	122
400ppm Final		7.50		0.64	128

Calculate as follows: Alkalinity as CaCO3 mg/L = (mL standard acid used)(normality standard acid)(50,000) / mL sample

Fish Averages:	
Length (mm)	Weight (g)
51.	0.88
49.	0.68
53. max	0.89 max
50.	0.83
53.	0.82
46. min	0.52 min
53.	0.88
47.	0.54
46.	0.53
48.	0.60
Averages:	
50.	0.72

Reviewed and Date: 1/19/16

Definitive Haz. Toxicity

OEC-Oilfield Environmental & Compliance

Hazardous Material Bioassay (Static)

Polisini and Miller. 1988

Sample Description: SOLID / AQ / PRODUCT

BATCH # B6A0356

SAMPLE ID: 1505053-10

Sample Received: 12/1/2015

Start Bioassay: 1/15/2016

End Bioassay: 1/19/2016

Analyst: EDD

Readouts:	Initial Readout 1/15/16 edd 16:30			24-Hr. 1/16/16 edd 13:50				48-Hr. 1/17/16 JMH 12:10				72-Hr. 1/18/16 JMH 10:25				96-Hr. 1/19/16 JMH 9:45					
	pH	DO	Temp.	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	Total M	Comments
Control	7.3	9.4	17.3	7.4	6.3	18.0	0	7.5	5.7	21.6	0	7.7	6.0	21.6	0	7.6	5.9	21.5	0	0	
400 ppm	7.4	8.5	17.5	7.3	4.0	18.0	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
400 ppm	7.4	8.7	17.2	7.2	4.0	18.0	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
200 ppm	7.4	9.0	17.1	7.4	5.6	18.0	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
200 ppm	7.4	9.2	17.1	7.3	4.0	18.0	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
100 ppm	7.4	8.9	17.0	7.2	4.0	18.1	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
100 ppm	7.4	8.9	17.0	7.2	4.1	18.2	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
50 ppm	7.3	9.0	16.9	7.5	5.9	18.0	7	7.8	6.6	21.4	3	—	—	—	—	—	—	—	—	10	
50 ppm	7.4	9.0	16.9	7.5	6.6	18.1	3	7.9	7.0	21.5	7	—	—	—	—	—	—	—	—	10	
20 ppm	7.3	9.2	16.9	7.5	6.6	18.1	0	8.1	7.8	21.5	0	8.1	8.3	21.8	0	8.1	8.6	21.6	0	0	
20 ppm	7.4	9.5	17.1	7.5	6.5	18.1	0	8.1	8.2	21.5	0	8.1	8.5	21.9	0	8.2	8.7	21.7	0	0	
Air Control				7.4	6.4	18.0	1	8.1	8.2	21.5	0	8.1	8.7	21.6	0	8.1	8.7	21.5	0	1	*Start taking data the day air is added to sample tanks

95% Confidence Interval:

Upper: N/A mg/L

Lower: N/A mg/L

LC50= 31.62 mg/L

LC50 Method: Graphical | Probit | Spearman-Karber | Trimmed-SK

Initial:

*Day 1	Hardness	Alkalinity
Control	40 mg/L	142 mg/L
400 ppm	40 mg/L	122 mg/L

Final:

*Day 5	Hardness	Alkalinity
Control	44 mg/L	132 mg/L
400 ppm	44 mg/L	128 mg/L

Test Organism: *Pimephales promelas*

Source: Anderson Farms

Fish ID: 6010182

Fish Data:	Avg.	Min.	Max.
Length (mm)	50.	46.	53.
Weight (g)	0.72	0.52	0.89

Method Parameters:

Sample Extraction: Mechanical Shaker w/ DI H_2O

Control Water Source: Soft Water with Filter for Chloramine Rmvl

Control Water Hardness: 40-48 mg/L CaCO3

Feeding: None

Temperature Range: 18 - 22°C

Photoperiod: 16hr. Light/ 8hr. Dark

Test Chamber Volume: 10L

Number of Replicates: 2

Fish per Chamber: 10.

Tanks aerated: None / All Tanks

Aeration Source: Outside Air

Aeration Rate: (Maintain DO > 4ppm.)

Aeration Method: narrow glass bore

Test Endpoints: Survival at 96 hours

Bioassay Definitive Test

OEC-Oilfield Environmental & Compliance, Inc.
Polisini and Miller. CA Fish & Game Lab. 1988

Batch #: B6A0356
Sample ID: 1505053-11
Analyst: EDD
Start Date: 1/15/2016
LC50 Result: 253.83 mg/L

Hardness: EDTA Titrimetric Method
S.M. 2340 C (20th ed.)
End point: Eriochrome Black indicator solution from pink to blue

	Sample Vol. (ml)	Initial pH	pH (10.0-10.01)	EDTA Vol. (ml)	$CaCO_3$ mg/L
Method Blank	25	5.71	✓	0	0
LCS (90-110%)		2.03	✓	2.0	80
Control Initial		7.61	✓	1.0	40
Control Final		7.94	✓	1.1	44
750ppm Initial		7.56	✓	1.0	40
750ppm Final		8.10	✓	1.0	40

Calculate as follows: Hardness as CaCO3 mg/L = (mL 0.01m EDTA used)(CaCO3 equivalent to 1mL EDTA) (1,000) / mL sample

Chlorine: Negative / Positive	
Hardness:	
LCS ID:	4110041
LCS exp:	7/29/16
Spike Vol.:	2.0 mL
Alkalinity:	
LCS ID:	5120178
LCS exp:	6/10/16
Spike Vol.:	25 mL

Total Alkalinity as Calcium Carbonate
S.M. 2320 B. (20th ed.)
End point pH = 4.5

	Sample Vol. (ml)	Initial pH	Normality Stand.	Titrant Vol. to pH 4.5	$CaCO_3$ mg/L
Method Blank	25	5.71	0.10	0.00	2
LCS (80-120%)		11.09		11.01	2202
Control Initial		7.61		0.71	142
Control Final		7.94		0.66	132
750ppm Initial		7.56		0.61	122
750ppm Final		8.10		0.75	150

Calculate as follows: Alkalinity as CaCO3 mg/L = (mL standard acid used)(normality standard acid)(50,000) / mL sample

Fish Averages:	
Length (mm)	Weight (g)
51.	0.88
49.	0.68
53. max	0.89 max
50.	0.83
53.	0.82
46. min	0.52 min
53.	0.88
47.	0.54
46.	0.53
48.	0.60
Averages:	
50.	0.72

Reviewed and Date: 1/19/16

Definitive Haz. Toxicity

OEC-Oilfield Environmental & Compliance

Hazardous Material Bioassay (Static)

Polisini and Miller. 1988

Sample Description: SOLID / AQ / PRODUCT

BATCH # B6A0356

SAMPLE ID: 1505053-11

Sample Received: 12/1/2015

Start Bioassay: 1/15/2016

End Bioassay: 1/19/2016

Analyst: EDD

Readouts:	Initial Readout 1/15/16 edd 16:30			24-Hr. 1/16/16 edd 13:50				48-Hr. 1/17/16 JMH 12:15				72-Hr. 1/18/16 JMH 10:30				96-Hr. 1/19/16 JMH 9:50					
	pH	DO	Temp.	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	Total M	Comments
Control	7.3	9.4	17.3	7.4	6.3	18.0	0	7.5	5.7	21.6	0	~~7.5~~ 7.7	~~5.7~~ 6.0	21.6	0	7.6	5.9	21.5	0	0	JMH 1/18
750 ppm	7.4	9.5	17.2	7.3	5.6	18.0	4	7.7	6.0	21.4	6	—								10	
750 ppm	7.4	9.7	17.2	7.2	4.0	18.1	2	7.6	5.0	21.3	8	—								10	
500 ppm	7.4	9.7	17.2	7.1	4.0	18.1	1	7.8	6.5	21.4	5	7.7	6.8	21.5	2	7.9	7.8	21.3	1	9	
500 ppm	7.4	9.7	17.3	7.2	5.8	18.2	0	7.8	7.0	21.4	6	7.5	4.3	21.5	4	—				10	
300 ppm	7.4	9.7	17.4	7.3	5.3	18.3	0	8.0	8.0	21.2	4	7.8	7.5	21.3	4	7.9	7.9	21.2	0	8	
300 ppm	7.4	9.7	17.4	7.3	5.5	18.3	0	7.9	7.1	21.5	3	7.8	7.6	21.5	1	8.0	8.2	21.3	2	6	
150 ppm	7.4	9.7	17.0	7.3	5.0	18.2	0	8.1	8.1	21.4	0	8.1	8.9	21.4	0	8.1	8.7	21.3	1	1	
150 ppm	7.4	9.7	17.0	7.3	5.9	18.1	0	8.0	7.5	21.2	0	8.0	8.5	21.4	0	8.1	8.4	21.3	1	1	
75 ppm	7.4	9.7	17.0	7.3	6.1	18.0	0	8.0	7.5	20.9	0	8.0	8.5	21.5	0	8.1	8.5	21.2	0	0	
75 ppm	7.4	9.7	17.1	7.3	7.0	18.0	0	8.1	8.2	21.5	0	8.1	8.7	21.5	0	8.2	8.7	21.3	0	0	
Air Control				7.4	6.4	18.0	1	8.1	8.2	21.5	0	8.1	8.7	21.6	0	8.1	8.7	21.5	0	1	*Start taking data the day air is added to sample tanks

95% Confidence Interval:

Upper: 301.09 mg/L

Lower: 202.28 mg/L

LC50= 253.83 mg/L

LC50 Method: Graphical | Probit | Spearman-Karber | Trimmed-SK

Initial:

*Day 1	Hardness	Alkalinity
Control	40 mg/L	142 mg/L
750 ppm	40 mg/L	122 mg/L

Final:

*Day 5	Hardness	Alkalinity
Control	44 mg/L	132 mg/L
750 ppm	40 mg/L	150 mg/L

Test Organism: *Pimephales promelas*

Source: Anderson Farms

Fish ID: 6010182

Fish Data:	Avg.	Min.	Max.
Length (mm)	50.	46.	53.
Weight (g)	0.72	0.52	0.89

Method Parameters:

Sample Extraction: Mechanical Shaker w/ DI H_2O

Control Water Source: Soft Water with Filter for Chloramine Rmvl

Control Water Hardness: 40-48 mg/L CaCO3

Feeding: None

Temperature Range: 18 - 22°C

Photoperiod: 16hr. Light/ 8hr. Dark

Test Chamber Volume: 10L

Number of Replicates: 2

Fish per Chamber: 10.

Tanks aerated: None / All Tanks

Aeration Source: Outside Air

Aeration Rate: (Maintain DO > 4ppm.)

Aeration Method: narrow glass bore

Test Endpoints: Survival at 96 hours

Bioassay Definitive Test

OEC-Oilfield Environmental & Compliance, Inc.
Polisini and Miller. CA Fish & Game Lab. 1988

Batch #: B6A0104
Sample ID: 1505053-12
Analyst: JMH
Start Date: 1/6/16
LC50 Result: L20 mg/L

Hardness: EDTA Titrimetric Method
S.M. 2340 C (20th ed.)
End point: Eriochrome Black indicator solution from pink to blue

	Sample Vol. (ml)	Initial pH	pH (10.0-10.01)	EDTA Vol. (ml)	$CaCO_3$ mg/L
Method Blank	25	5.77	✓	0	0
LCS (90-110%)		2.02	✓	2.0	80
Control Initial		7.48	✓	1.1	44
Control Final		7.78	✓	1.0	40
400ppm Initial		8.64	✓	0.80	32
400 ppm Final		8.31	✓	0.80	32

Calculate as follows: Hardness as CaCO3 mg/L = (mL 0.01m EDTA used)(CaCO3 equivalent to 1mL EDTA) (1,000) / mL sample

Chlorine: Negative / Positive	
Hardness:	
LCS ID: 4080404	
LCS exp: 7·29·16	
Spike Vol.: 2.0	mL
Alkalinity:	
LCS ID: 5120178	
LCS exp: 6·10·16	
Spike Vol.: 25	mL

Total Alkalinity as Calcium Carbonate
S.M. 2320 B. (20th ed.)
End point pH = 4.5

	Sample Vol. (ml)	Initial pH	Normality Stand.	Titrant Vol. to pH 4.5	$CaCO_3$ mg/L
Method Blank	25	5.77	0.10	0.01	2
LCS (80-120%)		11.20		12.31	2462
Control Initial		7.48		0.72	144
Control Final		7.78		0.76	152
400ppm Initial		8.64		0.73	146
400 ppm Final		8.31		0.80	160

Calculate as follows: Alkalinity as CaCO3 mg/L = (mL standard acid used)(normality standard acid)(50,000) / mL sample

Fish Averages:	
Length (mm)	Weight (g)
48.	0.72
50.	0.89
46. min	0.63 min
48.	0.66
50.	0.84
50.	0.83
51.	0.87
51.	0.87
51.	0.80
52. max	0.89 max
Averages:	
50.	0.80

Reviewed and Date: 1/11/16

Definitive Haz. Toxicity

OEC-Oilfield Environmental & Compliance

Hazardous Material Bioassay (Static)

Polisini and Miller. 1988

Sample Description: SOLID / AQ / PRODUCT

BATCH # B6A0104

SAMPLE ID: 1505053-12

Sample Received: 12/1/15

Start Bioassay: 1/6/16

End Bioassay: 1/10/16

Analyst: JMH

Readouts:	Initial Readout 1/6 JMH 15:20			24-Hr. 1/7 edd 13:45				48-Hr. 1/8 edd 13:25				72-Hr. 1/9 edd 11:50				96-Hr. 1/10 JMH 0930					
	pH	DO	Temp.	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	Total M	Comments
Control	7.3	9.3	17.1	7.3	5.4	19.6	0	7.5	5.1	19.8	0	7.4	4.8	20.5	0	7.3	4.5	17.2	0	0	
400 ppm	8.6	9.3	17.5	8.2	5.5	19.1	10													10	
400 ppm	8.6	8.7	17.5	8.4	7.1	19.6	10													10	
200 ppm	8.0	8.6	17.3	7.9	7.1	19.0	10													10	
200 ppm	8.0	9.0	17.3	7.8	5.7	19.1	10													10	
100 ppm	7.6	7.8	17.4	7.7	6.9	19.2	10													10	
100 ppm	7.6	9.3	17.5	7.6	7.6	19.5	10													10	
50 ppm	7.5	9.3	17.5	7.6	7.7	19.1	10													10	
50 ppm	7.5	9.3	17.3	7.6	7.5	19.2	10													10	
20 ppm	7.4	9.3	17.1	7.5	7.1	19.2	4	7.7	6.1	19.7	6									10	
20 ppm	7.4	9.4	17.1	7.5	6.6	19.4	4	7.7	6.1	19.7	6									10	
Air Control	7.3	9.5	17.3	7.3	5.6	19.6	0	8.0	8.8	19.8	0	8.1	8.4	20.1	0	8.1	8.1	22.5 ~~16.7~~ JMH 1/10	0	0	*Start taking data the day air is added to sample tanks

95% Confidence Interval:

Upper: NA mg/L

Lower: NA mg/L

LC50= < 20 mg/L

LC50 Method: Graphical | Probit | Spearman-Karber | Trimmed-SK

Method Parameters:

Sample Extraction: Mechanical Shaker w/ DI H_2O

Control Water Source: Soft Water with Filter for Chloramine Rmvl

Control Water Hardness: 40-48 mg/L CaCO3

Feeding: None

Temperature Range: 18 - 22°C

Photoperiod: 16hr. Light/ 8hr. Dark

Test Chamber Volume: 10L

Number of Replicates: 2

Fish per Chamber: 10.

Tanks aerated: None / All Tanks

Aeration Source: Outside Air

Aeration Rate: (Maintain DO > 4ppm.)

Aeration Method: narrow glass bore

Test Endpoints: Survival at 96 hours

Initial:

*Day 1	Hardness	Alkalinity
Control	44 mg/L	144 mg/L
400 ppm	32 mg/L	146 mg/L

Final:

*Day 5	Hardness	Alkalinity
Control	40 mg/L	152 mg/L
400 ppm	32 mg/L	160 mg/L

Fish ID: 5120515

Fish Data:	Avg.	Min.	Max.
Length (mm)	50.	46.	52.
Weight (g)	0.80	0.63	0.89

Test Organism: *Pimephales promelas*

Source: Anderson Farms

Bioassay Definitive Test

OEC-Oilfield Environmental & Compliance, Inc.
Polisini and Miller. CA Fish & Game Lab. 1988

Batch #: B6A0445
Sample ID: 1505053-13
Analyst: JMH
Start Date: 01/19/16
LC50 Result: <20 mg/L

Hardness: EDTA Titrimetric Method
S.M. 2340 C (20th ed.)
End point: Eriochrome Black indicator solution from pink to blue

	Sample Vol. (ml)	Initial pH	pH (10.0-10.01)	EDTA Vol. (ml)	$CaCO_3$ mg/L
Method Blank	25	5.85	✓	0	0
LCS (90-110%)		2.05	✓	2.0	80
Control Initial		7.26	✓	1.1	44
Control Final		7.90	✓	1.0	40
400 Initial		7.92	✓	1.0	40
400 Final		7.83	✓	1.0	40

Calculate as follows: Hardness as CaCO3 mg/L = (mL 0.01m EDTA used)(CaCO3 equivalent to 1mL EDTA) (1,000) / mL sample

Chlorine: Negative / Positive	
Hardness:	
LCS ID:	4080404
LCS exp:	7.29.16
Spike Vol.:	2.0 mL
Alkalinity:	
LCS ID:	S120178
LCS exp:	6.10.16
Spike Vol.:	25.0 mL

Total Alkalinity as Calcium Carbonate
S.M. 2320 B. (20th ed.)
End point pH = 4.5

	Sample Vol. (ml)	Initial pH	Normality Stand.	Titrant Vol. to pH 4.5	$CaCO_3$ mg/L
Method Blank	25	5.85	0.10	0.01	2
LCS (80-120%)		11.16		12.40	2480
Control Initial		7.26		0.68	136
Control Final		7.90		0.67	134
400 Initial		7.92		0.72	144
400 Final		7.83		0.76	152

Calculate as follows: Alkalinity as CaCO3 mg/L = (mL standard acid used)(normality standard acid)(50,000) / mL sample

Fish Averages:	
Length (mm)	Weight (g)
51.	0.90
48.	0.67
50.	0.78
49.	0.87
50.	0.75
45. min	0.62 min
47.	0.65
50.	0.84
50.	0.85
54. max	0.99 max
Averages:	
49.	0.79

Reviewed and Date: 1/25/16

Definitive Haz. Toxicity

OEC-Oilfield Environmental & Compliance

Hazardous Material Bioassay (Static)

Polisini and Miller. 1988

Sample Description: SOLID / AQ / PRODUCT

BATCH # B6A0445

SAMPLE ID: 1505053-13

Sample Received: 12/1/15

Start Bioassay: 1/19/16

End Bioassay: 1/23/16

Analyst: JMH

Readouts:	Initial Readout 1/19 JMH 15:25			24-Hr. 1/20 JMH 9:55				48-Hr. 1/21 edd 10:30				72-Hr. 1/22 edd 11:00				96-Hr. 1/23 edd 12:20					
	pH	DO	Temp.	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	Total M	Comments
Control	7.1	8.1 ~~8.1~~ JMH 1/19	18.0	7.3	6.5	20.8	0	7.5	5.4	20.4	0	7.5	5.2	20.8	0	7.7	5.2	19.7	0	0	
400 ppm	7.8	8.8	18.5	7.7	8.4	21.7	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
400 ppm	7.7	8.9	18.5	7.7	8.4	21.8	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
200 ppm	7.5	8.9	18.5	7.5	8.9	21.9	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
200 ppm	7.5	9.2	18.7	7.5	8.7	22.0	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
100 ppm	7.3	8.2	18.5	7.5 ~~7.5~~ JMH 1/20	8.0	20.9	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
100 ppm	7.4	8.7	18.5	7.4	7.9	20.7	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
50 ppm	7.2	8.1	18.5	7.4	8.0	20.7	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
50 ppm	8.3	8.2	18.4	7.4	8.3	20.7	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
20 ppm	7.2	6.5	18.6	7.3	7.3	20.8	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
20 ppm	7.2	7.4	18.5	7.4	7.8	20.7	10	—	~~7.6~~ JMH 1/20	—	—	—	—	—	—	—	—	—	—	10	
Air Control				7.3	6.1	20.8	0	8.1	8.4	20.3	0	8.1	8.8	20.7	0	8.2	8.7	19.6	0	0	*Start taking data the day air is added to sample tanks

LC50= < 20 mg/L

LC50 Method: Graphical | Probit | Spearman-Karber | Trimmed-SK

95% Confidence Interval:

Upper: NA mg/L

Lower: NA mg/L

Initial:

*Day 1	Hardness	Alkalinity
Control	402 mg/L	137 mg/L
400 ppm	40 mg/L	144 mg/L

Final:

*Day 5	Hardness	Alkalinity
Control	40 mg/L	134 mg/L
400 ppm	40 mg/L	132 mg/L

Test Organism: *Pimephales promelas*

Source: Anderson Farms

Fish ID: 6010310

Fish Data:	Avg.	Min.	Max.
Length (mm)	49.	47.	54.
Weight (g)	.79	.65	.99

Method Parameters:

Sample Extraction: Mechanical Shaker w/ DI H_2O

Control Water Source: Soft Water with Filter for Chloramine Rmvl

Control Water Hardness: 40-48 mg/L CaCO3

Feeding: None

Temperature Range: 18 - 22°C

Photoperiod: 16hr. Light/ 8hr. Dark

Test Chamber Volume: 10L

Number of Replicates: 2

Fish per Chamber: 10.

Tanks aerated: None / All Tanks

Aeration Source: Outside Air

Aeration Rate: (Maintain DO > 4ppm.)

Aeration Method: narrow glass bore

Test Endpoints: Survival at 96 hours

Bioassay Definitive Test

OEC-Oilfield Environmental & Compliance, Inc.
Polisini and Miller. CA Fish & Game Lab. 1988

Batch #: B6A0445
Sample ID: 1505053-14
Analyst: JMH
Start Date: 01/19/16
LC50 Result: <20 mg/L

Hardness: EDTA Titrimetric Method
S.M. 2340 C (20th ed.)
End point: Eriochrome Black indicator solution from pink to blue

	Sample Vol. (ml)	Initial pH	pH (10.0-10.01)	EDTA Vol. (ml)	$CaCO_3$ mg/L
Method Blank	25	5.85	✓	0	0
LCS (90-110%)		2.05	✓	2.0	80
Control Initial		7.26	✓	1.1	44
Control Final		7.90	✓	1.0	40
400 Initial		8.00	✓	1.1	44
400 Final		8.02	✓	1.2	48

Calculate as follows: Hardness as CaCO3 mg/L = (mL 0.01m EDTA used)(CaCO3 equivalent to 1mL EDTA) (1,000) / mL sample

Chlorine: Negative / Positive	
Hardness:	
LCS ID:	4080404
LCS exp:	7-29-16
Spike Vol.:	2.0 mL
Alkalinity:	
LCS ID :	5120178
LCS exp:	6-10-16
Spike Vol.:	25.0 mL

Total Alkalinity as Calcium Carbonate
S.M. 2320 B. (20th ed.)
End point pH = 4.5

	Sample Vol. (ml)	Initial pH	Normality Stand.	Titrant Vol. to pH 4.5	$CaCO_3$ mg/L
Method Blank	25	5.85	0.10	0.01	2
LCS (80-120%)		11.16		12.40	2480
Control Initial		7.26		0.68	136
Control Final		7.90		0.67	134
400 Initial		8.00		0.82	164
400 Final		8.02		0.74	148

Calculate as follows: Alkalinity as CaCO3 mg/L= (mL standard acid used)(normality standard acid)(50,000) / mL sample

Fish Averages:	
Length (mm)	Weight (g)
51.	0.90
48.	0.67
50.	0.78
49.	0.87
50.	0.75
45.	0.62
47. min	0.65 min
50.	0.84
50.	0.85
54. max	0.99 max
Averages:	
49.	0.79

Reviewed and Date: 1/25/16

Definitive Haz. Toxicity

OEC-Oilfield Environmental & Compliance

Hazardous Material Bioassay (Static)

Polisini and Miller. 1988

Sample Description: SOLID / AQ / PRODUCT

BATCH # B6A0445

SAMPLE ID: 1505053-14

Sample Received: 12/11/15

Start Bioassay: 1/19/16

End Bioassay: 1/23/16

Analyst: JMH

Readouts:	Initial Readout 1/19 JMH 15:40			24-Hr. 1/20 JMH 10:05				48-Hr. 1/21 edd 10:30				72-Hr. 1/22 edd 11:00				96-Hr. 1/23 edd 12:20				Total M	Comments
	pH	DO	Temp.	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M	pH	DO	Temp.	#M		
Control	7.1	~~18.1~~ JMH 1/19	18.0	7.3	6.5	20.8	0	7.5	5.4	20.4	0	7.5	5.2	20.8	0	7.7	5.2	19.7	0	0	
400 ppm	7.7	9.2	18.4	7.9	7.6	21.1	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
400 ppm	7.9	8.7	18.3	7.9	7.3	21.1	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
~~400~~ 200 ppm JMH 1/19	7.5	8.2	18.4	7.6	7.9	21.1	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
200 ppm	7.5	8.0	18.4	7.6	7.7	21.1	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
100 ppm	7.4	8.0	18.5	7.5	7.6	21.2	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
100 ppm	7.4	8.0	18.5	7.5	7.8	21.3	10	—	—	—	—	—	—	—	—	—	—	—	—	10	
50 ppm	7.3	8.8	17.7	7.5	7.1	20.4	3	7.6	4.0 ~~7~~ JMH 1/20	19.6	7	—	—	—	—	—	—	—	—	10	
50 ppm	7.3	8.9	18.0	7.4	6.7	20.3	2	7.6	4.0	19.6	8	—	—	—	—	—	—	—	—	10	
20 ppm	7.3	8.9	18.0	7.5	6.9	20.4	0	7.8	6.4	19.8	5	8.0	7.8	20.3	3	8.2	8.1	19.2	0	8	
20 ppm	7.3	9.0	18.0	7.5	6.8	20.5	0	7.9	7.4	19.9	5	8.0	8.0	20.3	2	8.2	8.0	19.3	0	7	
Air Control				7.3	6.1	20.8	0	8.1	8.4	20.3	0	8.1	8.8	20.7	0	8.2	8.7	19.6	0	0	*Start taking data the day air is added to sample tanks

LC50= L 20 mg/L

LC50 Method: Graphical | Probit | Spearman-Karber | Trimmed-SK

95% Confidence Interval:

Upper: NA mg/L

Lower: NA mg/L

Initial:

*Day 1	Hardness	Alkalinity
Control	46 mg/L	137 mg/L
400 ppm	44 mg/L	164 mg/L

Final:

*Day 5	Hardness	Alkalinity
Control	40 mg/L	134 mg/L
400 ppm	48 mg/L	148 mg/L

Test Organism: *Pimephales promelas*

Source: Anderson Farms

Fish ID: 6016316

Fish Data:	Avg.	Min.	Max.
Length (mm)			
Weight (g)			

	Average	Minimum	Maximum
Length (mm)	49.	47.	54.
Weight (g)	.79	.65	.99

Method Parameters:

Sample Extraction: Mechanical Shaker w/ DI H_2O

Control Water Source: Soft Water with Filter for Chloramine Rmvl

Control Water Hardness: 40-48 mg/L CaCO3

Feeding: None

Temperature Range: 18 - 22°C

Photoperiod: 16hr. Light/ 8hr. Dark

Test Chamber Volume: 10L

Number of Replicates: 2

Fish per Chamber: 10.

Tanks aerated: None / All Tanks

Aeration Source: Outside Air

Aeration Rate: (Maintain DO > 4ppm.)

Aeration Method: narrow glass bore

Test Endpoints: Survival at 96 hours

OFFICE OF THE DISTRICT ATTORNEY
YOLO COUNTY

301 2nd Street
Woodland, California 95695
Telephone: (530) 666-8424 Fax: (530) 666-8423

Please send results to:
Name: Investigator Heidi D'Agostino
Email: heidi.dagostino@yolocounty.org
Fax: 530-666-8185

Testing Facility
Facility name: Oilfield Environmental & Compliance, Inc.
Facility address: 307 Roemer Way
Santa Maria, CA 93454
Facility contact: Meredith Sprister, Project Manager

CHAIN OF CUSTODY RECORD

L1 Sample Number	Description	Manufacturer	UPC	Quantity	Main Ingredient / Or Usage / NOTES	Date sampled	Time sampled	Sample container description: Method of sampling: Composite (C) Grab (G)	Size of sample container (include units)	Type of sample container: Plastic (P), Cardboard/box (C)	Evidence tape: Yes (Y) No (N)	Transported in iced cooler: Yes (Y) No (N)	Required analysis: 96-hour fish bioassay
348E	Seventh Generation Natural Dishwasher Detergent Gel, 42 oz	Sevent Generation Inc	732913221714	1	liquid 1505053-1A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X
349E	ForceField FireGuard, Flame Retardant for Fabrics & Upholstery, 22 fl oz	Shield Industries Inc	609052130224	1	liquid 2A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X
350E	Armorall Leather Wipes, 20 wipes	The Armor All/STP Products Co	070612108814	1	solid 3A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X
351E	Armorall Glass Wipes, 25 wipes	The Armor All/STP Products Co	070612108654	1	solid 4A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X
352E	Prestone 50/50 Prediluted Antifreeze/Coolant, 1 gal	Prestone Products Corporation	797496871671	1	liquid 5A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X
353E	Prestone Concentrate Antifreeze/Coolant, 1 gal	Prestone Products Corporation	797496871572	1	liquid 6A	11/25/2015	10:30 AM	n/a	200g (min)	p	N	N	X
354E	Argan Oil Hair Color, Very Black, 3 fl oz	One 'n Only	074108258342	1	liquid 7A	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X
355E	Febreze Scented Oil Refill, 1.75 oz	Proctor & Gamble	037000461036	2	liquid 8A-B	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X
356E	Ion Color-Preserving Masque, for color treated hair, 6 fl oz	Ion Professional Products	033102833349	1	liquid 9A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X
357E	Mane 'n Tail Shampoo, 12 fl oz	Straight Arrow Products Inc	071409543214	1	liquid 10A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X
358E	Mane 'n Tail Conditioner, 12 fl oz	Straight Arrow Products Inc	071409543221	1	liquid 11A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X
359E	L'oreal Preference Permanent Haircolor, Medium Brown 5, 2 fl oz	L'oreal USA Inc	657201010255	2	liquid 12A-B	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X
360E	Wella Permanent Liquid Hair Toner, T28 Natural Blonde, 1.4 fl oz	The Wella Corporation	070018066909	3	liquid 13A-C	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X
361E	Clairol Professional Soy4Plex Haircolor, 3RN Medium Red-Neutral Brown, 2 oz	Proctor & Gamble	381519024153	2	liquid 14A-B	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X
362E	Ion Color BrillianceTemporary Color Masque, Golden Blonde, 1.5 oz	Ion Professional Products	033102821605	2	liquid 15A-B	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X
								n/a	200g (min)		N	N	X
								n/a	200g (min)		N	N	X
								n/a	200g (min)		N	N	X
								n/a	200g (min)		N	N	X
								n/a	200g (min)		N	N	X

NOTE: All Samples were taken at 301 2nd St. Woodland, CA 95695

	Name	Title	Date	Time	Remarks
Relinquished by:	Rachel Hunter	Legal Secretary	11/25/15	10:30 AM	
Received by:					
Relinquished by:	UPS		12/01/15	11:15	
Received by:	[illegible]	SAMPLE RECEIVING	12/01/15	11:15	OEC
Relinquished by:					
Received by:					

CLIENT: Yolo County DA

WORK ORDER: 1505053

TEMPERATURE: 13.9 °C

Acceptable Range: 0°C to 6°C [see exception notes below]

SAMPLE RECEIPT

COC RECEIVED DATE/TIME: 12/01/15 @ 1115

LOGIN DATE/TIME: 12/01/15 @ 1157

REFRIGERATOR(S): 8

SAMPLE TRANSPORT

- ☐ OEC Courier/Sampler
- ☐ Delivery (Other than OEC)
- ☐ After-Hours Outside Drop-Off [Brought Inside]

Initials/Date/Time: _____

- ☒ Shipment Carrier: UPS

Tracking #: 1Z 1Y9 57W 03 0983 3628

CUSTODY SEALS

☐ None Present

Cooler(s): ☐ Present, Intact ☐ Present, Not Intact ☐ None

Sample(s): ☐ Present, Intact ☐ Present, Not Intact ☐ None

SAMPLE RECEIPT, CONDITION, PRESERVATION

- ☐ Samples Received Outside Temperature Range [Acceptable]
  - ☐ Direct from Field, on Ice
  - ☐ Ambient: Air or Filter Matrix
  - ☐ Received Ambient, Placed on Ice for Transport
  - ☐ Sample Temperature Acceptable for Analysis Requested
- ☒ Samples Received Outside Temperature Range [Exception]
  - ☐ See Problem Chain *
  - ☒ Insufficient Ice or Unknown Cause
  - ☐ Expedited PM Notification [Init/Date/Time]: _____

	YES	NO	N/A	(**) OEC PRES. ID
COC Document(s) Received With Samples	☒	☐*	☐	
Correct Container(s) for Analysis Requested	☒	☐*	☐	
Container(s) Intact and in Good Condition	☒	☐*	☐	
Container Label(s) Consistent with COC	☒	☐*	☐	
Proper Preservation on Sample Label(s)	☐	☐	☒	
OEC Preservative Added **	☐	☐	☒	
VOA Containers Free of Headspace	☐	☐*	☒	
Tedlar Bag(s) Free of Condensation	☐	☐*	☒	

(*) PROBLEM CHAIN FORM REQUIRED

CONTAINERS, COC CHANGES, AND/OR CORRECTIONS

OEC CONTAINER ID	CONTAINER DESCRIPTION	PRESERVATIVE	CHECKS: Cl⁻, S⁻ &/or pH	MATRIX	COMMENTS	INITIALS
1A	1-1L Poly (42 oz Plastic Bottle)	—	—	P	Original Product Container	
2A	(22 oz Spray Bottle)	—	—	↓	↓	
3,4A	(Wipe Dispenser)	—	—	↓	↓	
5,6A	1-Gallon Poly EA	—	—	↓	↓	
7A	125 mL Poly (90 mL Tube)	—	—	↓	↓	
8A-B	2 Plastic Bags (2-2pk Refills)	—	—	↓	↓	
9A	1 8 oz Poly	—	—	↓	↓	
10,11A	1-250 mL Poly EA (355 mL Bottle)	—	—	↓	↓	
12A-B	2-50 mL Polys	—	—	↓	↓	
13A-C	3-50 mL Polys (Inside Box)	—	—	↓	↓	
14A-B	2-2 oz Polys (2 oz Tube)	—	—	↓	↓	
15A-B	2-2 oz Polys (1.5 oz Tube)	—	—	✓	✓	

Rev. 09/25/2015

RECEIPT LOGIN BY: EA

RECEIPT REVIEWED BY: [signature]

OFFICE OF THE DISTRICT ATTORNEY
YOLO COUNTY

301 2nd Street
Woodland, California 95695
Telephone: (530) 666-8424 Fax: (530) 666-8423

Please send results to:
Name: Investigator Heidi D'Agostino
Email: heidi.dagostino@yolocounty.org
Fax: 530-666-8185

Testing Facility
Facility name: Oilfield Environmental & Compliance, Inc.
Facility address: 307 Roemer Way
Santa Maria, CA 93454
Facility contact: Meredith Sprister, Project Manager

CHAIN OF CUSTODY RECORD

L1 Sample Number	Description	Manufacturer	UPC	Quantity	Main Ingredient / Or Usage / NOTES		Date sampled	Time sampled	Sample container description: Method of sampling: Composite (C) Grab (G)	Size of sample container (include units)	Type of sample container: Plastic (P), Cardboard/box (C)	Evidence tape: Yes (Y) No (N)	Transported in iced cooler: Yes (Y) No (N)	Required analysis: 96-hour fish bioassay	Definitive Bioassay
348E	Seventh Generation Natural Dishwasher Detergent Gel, 42 oz	Sevent Generation Inc	732913221714	1	liquid	1505653-1A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	Δ
349E	ForceField FireGuard, Flame Retardant for Fabrics & Upholstery, 22 fl oz	Shield Industries Inc	609052130224	1	liquid	2A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	
350E	Armorall Leather Wipes, 20 wipes	The Armor All/STP Products Co	070612108814	1	solid	3A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	Δ
351E	Armorall Glass Wipes, 25 wipes	The Armor All/STP Products Co	070612108654	1	solid	4A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	
352E	Prestone 50/50 Prediluted Antifreeze/Coolant, 1 gal	Prestone Products Corporation	797496871671	1	liquid	5A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	
353E	Prestone Concentrate Antifreeze/Coolant, 1 gal	Prestone Products Corporation	797496871572	1	liquid	6A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	
354E	Argan Oil Hair Color, Very Black, 3 fl oz	One 'n Only	074108258342	1	liquid	7A	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X	
355E	Febreze Scented Oil Refill, 1.75 oz	Proctor & Gamble	037000461036	2	liquid	8A-B	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X	Δ
356E	Ion Color-Preserving Masque, for color treated hair, 6 fl oz	Ion Professional Products	033102833349	1	liquid	9A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	
357E	Mane 'n Tail Shampoo, 12 fl oz	Straight Arrow Products Inc	071409543214	1	liquid	10A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	Δ
358E	Mane 'n Tail Conditioner, 12 fl oz	Straight Arrow Products Inc	071409543221	1	liquid	11A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	
359E	L'oreal Preference Permanent Haircolor, Medium Brown 5, 2 fl oz	L'oreal USA Inc	657201010255	2	liquid	12A-B	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	Δ
360E	Wella Permanent Liquid Hair Toner, T28 Natural Blonde, 1.4 fl oz	The Wella Corporation	070018066909	3	liquid	13A-C	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X	Δ
361E	Clairol Professional Soy4Plex Haircolor, 3RN Medium Red-Neutral Brown, 2 oz	Proctor & Gamble	381519024153	2	liquid	14A-B	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X	Δ
362E	Ion Color BrillianceTemporary Color Masque, Golden Blonde, 1.5 oz	Ion Professional Products	033102821605	2	liquid	15A-B	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X	
									n/a	200g (min)		N	N	X	
									n/a	200g (min)		N	N	X	
									n/a	200g (min)		N	N	X	
									n/a	200g (min)		N	N	X	
									n/a	200g (min)		N	N	X	

NOTE: All Samples were taken at 301 2nd St, Woodland, CA 95695

	Name	Title	Date	Time	Remarks
Relinquished by:	Rachel Hunter	Legal Secretary	11/25/15	10:30 AM	Δ add on 12/9/15 (MB)
Received by:					
Relinquished by:	UPS		12/01/15	11:15	
Received by:	[illegible]	SAMPLE RECEIVING	12/01/15	11:15	OEC
Relinquished by:					
Received by:					

OFFICE OF THE DISTRICT ATTORNEY
YOLO COUNTY

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Please send results to:
Name: Investigator Heidi D'Agostino
Email: heidi.dagostino@yolocounty.org
Fax: 530-666-8185

Testing Facility
Facility name: Oilfield Environmental & Compliance, Inc.
Facility address: 307 Roemer Way
Santa Maria, CA 93454
Facility contact: Meredith Sprister, Project Manager

CHAIN OF CUSTODY RECORD

L1 Sample Number	Description	Manufacturer	UPC	Quantity	Main Ingredient / Or Usage / NOTES	Date sampled	Time sampled	Sample container description: Method of sampling: Composite (C) Grab (G)	Size of sample container (Include units)	Type of sample container: Plastic (P), Cardboard/box (C)	Evidence tape: Yes (Y) No (N)	Transported in iced cooler: Yes (Y) No (N)	Required analysis: 96-hour fish bioassay	Definitive Bioassay
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349E	ForceField FireGuard, Flame Retardant for Fabrics & Upholstery, 22 fl oz	Shield Industries Inc	609052130224	1	liquid 2A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	
350E	Armorall Leather Wipes, 20 wipes	The Armor All/STP Products Co	070612108814	1	solid 3A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	△
351E	Armorall Glass Wipes, 25 wipes	The Armor All/STP Products Co	070612108654	1	solid 4A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	
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354E	Argan Oil Hair Color, Very Black, 3 fl oz	One 'n Only	074108258342	1	liquid 7A	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X	
355E	Febreze Scented Oil Refill, 1.75 oz	Proctor & Gamble	037000461036	2	liquid 8A-B	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X	△
356E	Ion Color-Preserving Masque, for color treated hair, 6 fl oz	Ion Professional Products	033102833349	1	liquid 9A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	Ⓐ
357E	Mane 'n Tail Shampoo, 12 fl oz	Straight Arrow Products Inc	071409543214	1	liquid 10A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	△
358E	Mane 'n Tail Conditioner, 12 fl oz	Straight Arrow Products Inc	071409543221	1	liquid 11A	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	Ⓐ
359E	L'oreal Preference Permanent Haircolor, Medium Brown 5, 2 fl oz	L'oreal USA Inc	657201010255	2	liquid 12A-B	11/25/2015	10:30 AM	n/a	200g (min)	P	N	N	X	△
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361E	Clairol Professional Soy4Plex Haircolor, 3RN Medium Red-Neutral Brown, 2 oz	Proctor & Gamble	381519024153	2	liquid 14A-B	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X	△
362E	Ion Color BrillianceTemporary Color Masque, Golden Blonde, 1.5 oz	Ion Professional Products	033102821605	2	liquid 15A-B	11/25/2015	10:30 AM	n/a	200g (min)	C	N	N	X	
								n/a	200g (min)		N	N	X	
								n/a	200g (min)		N	N	X	
								n/a	200g (min)		N	N	X	
								n/a	200g (min)		N	N	X	
								n/a	200g (min)		N	N	X	

NOTE: All Samples were taken at 301 2nd St. Woodland, CA 95695

	Name	Title	Date	Time	Remarks
Relinquished by:	Rachel Hunter	Legal Secretary	11/25/15	10:30 AM	△ add on 12/9/15 HLP Ⓐ add on 12/15/15 HLP
Received by:					
Relinquished by:	UPS		12/01/15	11:15	
Received by:	[illegible]	SAMPLE RECEIVING	12/01/15	11:15	OEC
Relinquished by:					
Received by:					