



Beckenhead

API #3004524340

Salmon 1E

75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

29 December 2016

Darrell Savage
Conoco Phillips-Farmington
3401 30th Street
Farmington, NM 87401
RE: API +

OIL CONS. DIV DIST. 3
JUN 22 2017

Enclosed are the results of analyses for samples received by the laboratory on 12/20/16 15:30.
If you need any further assistance, please feel free to contact me.

Sincerely,

Debbie Zufelt

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.

22



dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303

www.GreenAnalytical.com

Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: API +
Project Name / Number: Area 1
Project Manager: Darrell Savage

Reported:
12/29/16 11:44

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Salmon 1E	1612207-01	Water	12/20/16 10:02	12/20/16 15:30

OIL CONS. DIV DIST. 3
JUN 22 2017

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Page 2 of 7



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Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: API +
Project Name / Number: Area 1
Project Manager: Darrell Savage

Reported:
12/29/16 11:44

Salmon 1E

1612207-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate*	<10.0	10.0		mgCaCO ₃ /L	100	12/28/16	2320 B		JDA
Alkalinity, Carbonate*	1800	10.0		mgCaCO ₃ /L	100	12/28/16	2320 B		JDA
Alkalinity, Hydroxide*	4000	10.0		mgCaCO ₃ /L	100	12/28/16	2320 B		JDA
Alkalinity, Total*	5800	10.0		mgCaCO ₃ /L	100	12/28/16	2320 B		JDA
Chloride	11200	1000	219	mg/L	1000	12/27/16	EPA300.0		JDA
Conductivity*	51200	10.0		uS/cm	1	12/22/16	2510 B		BDV
pH*	12.9			pH Units	1	12/22/16	EPA150.1	H2	BDV
Resistivity	19.5			ohm/cm	1	12/22/16	2510 B		BDV
Total Dissolved Solids	24600	10.0		mg/L	1	12/22/16	EPA160.1		JDA
Specific Gravity	1.020	0.9300		N/A	1	12/22/16	Hydrometer		BDV
Sulfate	391	1000	199	mg/L	1000	12/27/16	EPA300.0	J	JDA

Potentially Dissolved Metals by ICP

Hardness	157	53.7	14.0	mg/L	100	12/28/16	2340 B		LLG
Silica Potentially Dissolved	<53.4	107	53.4	mg/L	100	12/28/16	2340 B		LLG
Barium*	<1.00	1.00	0.263	mg/L	100	12/28/16	EPA200.7		LLG
Calcium*	62.8	5.00	0.275	mg/L	100	12/28/16	EPA200.7		LLG
Iron*	<5.00	5.00	0.349	mg/L	100	12/28/16	EPA200.7		LLG
Lead*	<10.0	10.0	2.46	mg/L	100	12/28/16	EPA200.7		LLG
Magnesium*	<3.24	10.0	3.24	mg/L	100	12/28/16	EPA200.7		LLG
Manganese*	<0.500	0.500	0.073	mg/L	100	12/28/16	EPA200.7		LLG
Potassium*	1130	100	33.5	mg/L	100	12/28/16	EPA200.7		LLG
Silicon	<50.0	50.0	25.0	mg/L	100	12/28/16	EPA200.7		LLG
Sodium*	8790	100	30.5	mg/L	100	12/28/16	EPA200.7		LLG
Strontium*	<10.0	10.0	0.036	mg/L	100	12/28/16	EPA200.7		LLG
Zinc*	<5.00	5.00	0.218	mg/L	100	12/28/16	EPA200.7		LLG

Cation/Anion Balance 6.97

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: API +
Project Name / Number: Area 1
Project Manager: Darrell Savage

Reported:
12/29/16 11:44

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: API +
Project Name / Number: Area 1
Project Manager: Darrell Savage

Reported:
12/29/16 11:44

Notes and Definitions

J	Estimated concentration. Analyte concentration between MDL and RL.
H2	Sample analysis performed past hold time specified by the method.
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 *Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

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5 Day Rush

Client: COP	Phone# (505) 320-2634	Contact: Darrell Savage
Address: 3401 E. 30th St. Farmington, NM 87402	E-Mail Address: darrell.g.savage@conocophillips.com	

	75 Suttle Street
	Durango, CO 81303
	Phone: 970-247-4220
	FAX: 970-247-4227

CHAIN OF CUSTODY RECORD
GAL Work Order # 1612-207
PO#
Project Name: Area 1

Sample Location:	(1)BumperSpring, (2)CompressorDischarge, (3)Flowline, (4)Meter, (5)Oil Tank (6)PigLauncher, (7)PigReceiver, (8)Pipeline, (9)Pit Tank, (10)PostFilter, (11)PreFilter (12)SeparatorInlet, (13)SeparatorOutlet, (14)SeparatorDump, (15)SWDInlet (16)SWDOutlet, (17)TransferPump, (18)ValveCan, (19)WaterTank, (20)Wellhead (21)Other <u>Braden head valve</u>
Sample Type:	(1)Casing, (2)CO2GasTube, (3)Coupon, (4)Water, (5)H2SGasTube, (6)Metals (7)O2GasTube, (8)PipeSection, (9)Residual, (10)Sludge, (11)Solid, (12)Tubing, (13)Other

17.9c
NOice

Collection							Preservative			Analyses Required			
Well Name (Sample Name)	Date	Time	Collected By: (Init.)	Sample Location	Sample Type	No. of Containers	Filtered: Y / N	Unpreserved	H2SO4	Other:	Iron and Manganese	Phosphate	Full Water API
1. Salmon 1E	12-20-16	10:02	DS	21	4	1	N	Y					✓
2.													
3.													
4. Rush 5 day													
5.													
6. Send Results To:													
7. Victoria To Ramirez @conocophillips.com													
8.													
9.													
10.													
11.													
12.													
13.													
14.													
15.													
16.													
17.													
18.													
19.													
20.													

Relinquished by:	Date:	Time:	Received By:	Date:	Time:
Darrell	12-20-16	15:30	Christina Chan	12/20/16	15:30
		C.C.	Kangaroo		

Kangaroo 12-21-16 10:15 → Michael Valentine

API #3004524340

Salmon 1E



Catholic

75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

14 December 2016

OIL CONS. DIV DIST. 3
JUN 22 2017

Darrell Savage
Conoco Phillips-Farmington
3401 30th Street
Farmington, NM 87401
RE: API +

Enclosed are the results of analyses for samples received by the laboratory on 12/07/16 15:30.
If you need any further assistance, please feel free to contact me.

Sincerely,

Debbie Zufelt

Debbie Zufelt
Reports Manager

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Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: API +
Project Name / Number: Area 1
Project Manager: Darrell Savage

Reported:
12/14/16 12:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Salmon #1E	1612088-01	Water	12/07/16 08:20	12/07/16 15:30

OIL CONS. DIV DIST. 3

JUN 22 2017

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: API +
Project Name / Number: Area 1
Project Manager: Darrell Savage

Reported:
12/14/16 12:05

Salmon #1E

1612088-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate*	385	10.0		mgCaCO ₃ /L	5	12/13/16	2320 B		JDA
Alkalinity, Carbonate*	<10.0	10.0		mgCaCO ₃ /L	5	12/13/16	2320 B		JDA
Alkalinity, Hydroxide*	<10.0	10.0		mgCaCO ₃ /L	5	12/13/16	2320 B		JDA
Alkalinity, Total*	385	10.0		mgCaCO ₃ /L	5	12/13/16	2320 B		JDA
Chloride	24.2	25.0	5.47	mg/L	25	12/12/16	EPA300.0	J	JDA
Conductivity*	825	10.0		uS/cm	1	12/09/16	2510 B		BDV
pH*	7.79			pH Units	1	12/09/16	EPA150.1	H2	BDV
Resistivity	1210			ohm/cm	1	12/12/16	2510 B		BDV
Total Dissolved Solids	1140	10.0		mg/L	1	12/09/16	EPA160.1		JDA
Specific Gravity	0.9990	0.9300		N/A	1	12/12/16	Hydrometer		BDV
Sulfate	63.6	25.0	4.97	mg/L	25	12/12/16	EPA300.0		JDA

Potentially Dissolved Metals by ICP

Hardness	20.9	5.37	1.40	mg/L	10	12/13/16	2340 B		LLG
Silica Potentially Dissolved	130	10.7	5.34	mg/L	10	12/13/16	2340 B		LLG
Barium*	<0.100	0.100	0.026	mg/L	10	12/13/16	EPA200.7		LLG
Calcium*	5.73	0.500	0.028	mg/L	10	12/13/16	EPA200.7		LLG
Iron*	17.4	0.500	0.035	mg/L	10	12/13/16	EPA200.7		LLG
Lead*	<1.00	1.00	0.246	mg/L	10	12/13/16	EPA200.7		LLG
Magnesium*	1.60	1.00	0.324	mg/L	10	12/13/16	EPA200.7		LLG
Manganese*	1.06	0.050	0.007	mg/L	10	12/13/16	EPA200.7		LLG
Potassium*	<10.0	10.0	3.35	mg/L	10	12/13/16	EPA200.7		LLG
Silicon	60.7	5.00	2.50	mg/L	10	12/13/16	EPA200.7		LLG
Sodium*	222	10.0	3.05	mg/L	10	12/13/16	EPA200.7		LLG
Strontium*	<1.00	1.00	0.004	mg/L	10	12/13/16	EPA200.7		LLG
Zinc*	0.550	0.500	0.022	mg/L	10	12/13/16	EPA200.7		LLG

Cation/Anion Balance 5.28

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: API +
Project Name / Number: Area 1
Project Manager: Darrell Savage

Reported:
12/14/16 12:05

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: API +
Project Name / Number: Area 1
Project Manager: Darrell Savage

Reported:
12/14/16 12:05

Notes and Definitions

J	Estimated concentration. Analyte concentration between MDL and RL.
H2	Sample analysis performed past hold time specified by the method.
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 *Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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5 Day Rush

Client: COP	Phone# (505) 320-2634	Contact: Darrell Savage
Address: 3401 E. 30th St. Farmington, NM 87402	E-Mail Address: darrell.g.savage@conocophillips.com	



75 Suttle Street
Durango, CO 81303
Phone: 970-247-4220
FAX: 970-247-4227

CHAIN OF CUSTODY RECORD

GAL Work Order # 1612-088
PO#
Project Name: Area 1

206C
NO: u u

Sample Location: (1)BumperSpring, (2)CompressorDischarge, (3)Flowline, (4)Meter, (5)Oil Tank
(6)PigLauncher, (7)PigReceiver, (8)Pipeline, (9)Pit Tank, (10)PostFilter, (11)PreFilter
(12)SeparatorInlet, (13)SeparatorOutlet, (14)SeparatorDump, (15)SWDInlet
(16)SWDOutlet, (17)TransferPump, (18)ValveCan, (19)WaterTank, (20)Wellhead
(21)Other cathodic Protection well

Sample Type: (1)Casing, (2)CO2GasTube, (3)Coupon, (4)Water, (5)H2SGasTube, (6)Metals
(7)O2GasTube, (8)PipeSection, (9)Residual, (10)Sludge, (11)Solid, (12)Tubing, (13)Other

Collection							Preservative				Analyses Required			
Well Name (Sample Name)	Date	Time	Collected By: (Init.)	Sample Location	Sample Type	No. of Containers	Filtered: Y / N	Unpreserved	H2SO4	Other:	Iron and Manganese	Phosphate	Full Water API	
1. Salmon #1E	12-7-16	8:20	PS	21	4	1	N	Y					✓	
2.														
3.														
4. Please Forward Results														
5. To: Victoria.T. Ramirez @conocophillips.com														
6.														
7. "Rush 5 day turnaround"														
8.														
9.														
10.														
11.														
12.														
13.														
14.														
15.														
16.														
17.														
18.														
19.														
20.														

Relinquished by:	Date:	Time:	Received By:	Date:	Time:
<i>[Signature]</i>	12-7-16	15:30	<i>[Signature]</i>	12/7/16	15:30
<i>[Signature]</i>	12/7/16	16:55	Kangaroo Express	12/7/16	16:55
			Kangaroo	12-8-16	11:00
			Michael Valentine		

[illegible]



API #3004524340

Salmon 1E

75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

01 December 2016

Kevin Fredrickson
Conoco Phillips-Farmington
3401 30th Street
Farmington, NM 87401
RE: API +

OIL CONS. DIV DIST. 3

JUN 22 2017

Enclosed are the results of analyses for samples received by the laboratory on 11/22/16 15:40.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt
Reports Manager

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Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: API +
Project Name / Number: [none]
Project Manager: Kevin Fredrickson

Reported:
12/01/16 08:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Salmon 1 E Area 1	1611186-01	Water	11/22/16 10:00	11/22/16 15:40
Blanco 30-12 100S Area 1	1611186-02	Water	11/22/16 13:30	11/22/16 15:40

OIL CONS. DIV DIST. 3
JUN 22 2017

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Debbie Zufelt, Reports Manager

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Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: API +
Project Name / Number: [none]
Project Manager: Kevin Fredrickson

Reported:
12/01/16 08:02

Salmon 1 E Area 1

1611186-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate*	340	10.0		mgCaCO ₃ /L	5	11/28/16	2320 B		JDA
Alkalinity, Carbonate*	<10.0	10.0		mgCaCO ₃ /L	5	11/28/16	2320 B		JDA
Alkalinity, Hydroxide*	<10.0	10.0		mgCaCO ₃ /L	5	11/28/16	2320 B		JDA
Alkalinity, Total*	340	10.0		mgCaCO ₃ /L	5	11/28/16	2320 B		JDA
Chloride	10300	1000	219	mg/L	1000	11/30/16	EPA300.0	Q1	JDA
Conductivity*	29200	10.0		uS/cm	1	11/23/16	2510 B		BDV
pH*	7.37			pH Units	1	11/23/16	EPA150.1		BDV
Phosphate (PO ₄)	46.4	1.54	0.553	mg/L	10	11/30/16	EPA365.3/Calc		JDA
Phosphorus, Total	15.1	0.500	0.180	mg/L	10	11/30/16	EPA365.3		JDA
Resistivity	61.9			ohm/cm	1	11/23/16	2510 B		BDV
Total Dissolved Solids	17200	10.0		mg/L	1	11/23/16	EPA160.1		JDA
Specific Gravity	1.013	0.9300		N/A	1	11/23/16	Hydrometer		BDV
Sulfate	<199	1000	199	mg/L	1000	11/30/16	EPA300.0	Q1	JDA
Potentially Dissolved Metals by ICP									
Hardness	469	26.8	7.01	mg/L	50	11/29/16	2340 B		LLG
Silica Potentially Dissolved	<26.7	53.5	26.7	mg/L	50	11/29/16	2340 B		LLG
Barium*	9.28	0.500	0.132	mg/L	50	11/29/16	EPA200.7		LLG
Calcium*	135	2.50	0.138	mg/L	50	11/29/16	EPA200.7		LLG
Iron*	35.9	2.50	0.175	mg/L	50	11/29/16	EPA200.7		LLG
Lead*	<5.00	5.00	1.23	mg/L	50	11/29/16	EPA200.7		LLG
Magnesium*	32.0	5.00	1.62	mg/L	50	11/29/16	EPA200.7		LLG
Manganese*	<0.250	0.250	0.037	mg/L	50	11/29/16	EPA200.7		LLG
Potassium*	132	50.0	16.7	mg/L	50	11/29/16	EPA200.7		LLG
Silicon	<25.0	25.0	12.5	mg/L	50	11/29/16	EPA200.7		LLG
Sodium*	6260	50.0	15.3	mg/L	50	11/29/16	EPA200.7		LLG
Strontium*	21.9	5.00	0.018	mg/L	50	11/29/16	EPA200.7		LLG
Zinc*	<2.50	2.50	0.109	mg/L	50	11/29/16	EPA200.7		LLG
Cation/Anion Balance	-2.57								

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Debbie Zufelt, Reports Manager

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Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: API +
Project Name / Number: [none]
Project Manager: Kevin Fredrickson

Reported:
12/01/16 08:02

Blanco 30-12 100S Area 1

1611186-02 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Potentially Dissolved Metals by ICP									
Iron*	6.85	1.00	0.070	mg/L	20	11/29/16	EPA200.7		LLG
Manganese*	<0.100	0.100	0.015	mg/L	20	11/29/16	EPA200.7		LLG
Cation/Anion Balance	100.								

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Project: API +
Project Name / Number: [none]
Project Manager: Kevin Fredrickson

Reported:
12/01/16 08:02

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Project: API +
Project Name / Number: [none]
Project Manager: Kevin Fredrickson

Reported:
12/01/16 08:02

Notes and Definitions

Q3 Sample received without proper chemical preservation as requested by the method of analysis.
Q1 Sample received outside of acceptable temperature range for analyses requiring cold storage.
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
*Results reported on as received basis unless designated as dry.
RPD Relative Percent Difference
LCS Laboratory Control Sample (Blank Spike)
RL Report Limit
MDL Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Rush Salmon 1E

Client: COP	Phone# 505-320-4738	Contact: Kevin Fredrickson
Address:	E-Mail Address: Kevin.G.Fredrickson@conocophillips.com	



CHAIN OF CUSTODY RECORD
GAL Work Order # <u>1611-186</u>
PO#
Project Name:

Sample Location: (1)BumperSpring, (2)CompressorDischarge, (3)Flowline, (4)Meter, (5)Oil Tank
 (6)PigLauncher, (7)PigReceiver, (8)Pipeline, (9)Pit Tank, (10)PostFilter, (11)PreFilter
 (12)SeparatorInlet, (13)SeparatorOutlet, (14)SeparatorDump, (15)SWDInlet
 (16)SWDOutlet, (17)TransferPump, (18)ValveCan, (19)WaterTank, (20)Wellhead
 (21)Other

Sample Type: (1)Casing, (2)CO2GasTube, (3)Coupon, (4)Water, (5)H2SGasTube, (6)Metals
 (7)O2GasTube, (8)PipeSection, (9)Residual, (10)Sludge, (11)Solid, (12)Tubing, (13)Other

15.3c
NO ill c

Collection							Preservative				Analyses Required			
Well Name (Sample Name)	Date	Time	Collected By: (Init.)	Sample Location	Sample Type	No. of Containers	Filtered: Y / N	Unpreserved	H2SO4	Other:	Iron and Manganese	Phosphate	Full Water API	
Rush on Salmon 1E														
01. Salmon 1E area 1	11/22/16	10:00	DB	20	4	1	N	✓			✓	✓	✓	Q1, Q3
02. Blanco 30-12 100S area 1	11/22/16	13:30	DB	20	4	1	N	✓			✓	✓	✓	(Rush)
3.														
4.														
5.														
6.														
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17.														
18.														
19.														
20.														

Relinquished by:	Date:	Time:	Received By:	Date:	Time:
<i>[Signature]</i>	11-22-16	15:40	<i>[Signature]</i>	11/22/16	1540
<i>[Signature]</i>	11/22/16	16:55	Rangaraj Express	11/22/16	1655
Kangaroo	11-23-16	10:00	Dulinda Zupett	11-23-16	10:00 3.12

[illegible]