APPENDIX C

ABANDONMENT SCHEMATICS

of

FORMER GROUNDWATER MONITORING WELLS

CONOCOPHILLIPS

Downhole Well Profile

Date : 04/25/2016

Well Name / Licence # **COPRC DODO CANYON C-11 (Formerly WW02-A)**

KB ELEV:	217.85	m	**KB to CF:**		m
GL ELEV:	215.00	m	**KB to THF:**		m
CF ELEV:					
TD:	214.00	mKB	**PBTD:**	206.70	mKB

TUBULARS	**SIZE** (mm)	**WEIGHT** (kg/m)	**Drift ID** (mm)	**GRADE**	**THREAD**	**DEPTH** (mKB)
SURFACE:	244.475	53.57		J-55	LT&C	15.0
PRODUCTION:	177.8	38.692	159.41	P-110	LT&C	207.0

ZONE:		
PERFORATIONS:	N/A	PRE PACK SCREEN

JOINTS ON LOCATION		TALLIED LENGTH	m
JOINTS IN WELL		TALLIED LENGTH	m

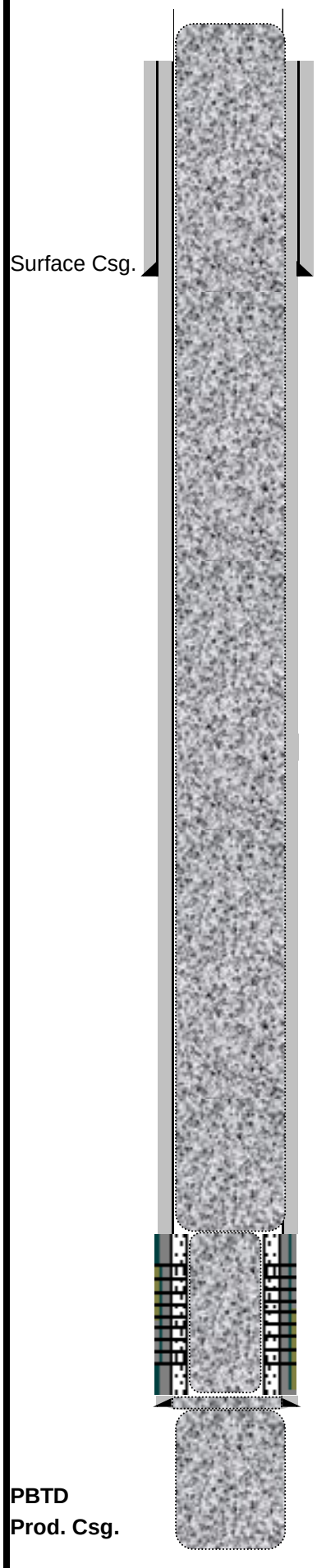
#	**DESCRIPTION** (starting at the bottom)	**LENGTH** (m)	**DEPTH** (mKB)
	BOTTOM OF TOOL STRING →		**202.00**
1			
2			
3			
4			
5			
6			
7	**193mm OD Pre Pack Screen. ID = 153mm. 196 to 202m.**		
8	**Annular thickness of screen = 6.5mm, Slot Size= 0.020**		
9	**12/20 Gravel Pack Sand.**		
10			
11	**Cemented from tagged PBTD of 207.65m KB to 4.5m**		
12	**from surface.**		
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			

STRING WT:		daN	WT. ON PACKER:		daN
STRING WT:		daN	WT. ON PACKER:		
WT. ON HANGER:		daN	FLANGED/THREADED:		mm
TBG SPOOL :			LIFT THREAD:		
WORKING PRESS.:		MPa	BPV THREAD(Y/N):		mm
SOUR TRIM ?			FLOW TEE TOP CONN.:		

WELLHEAD DATA	Make (or Model)	SIZE (mm)	Wk. Press. (MPa)	SERIAL NUMBER
MASTER VALVE :				
WING VALVE:				
CASING VALVES :				

SURFACE CSG. VENT:			
OPEN/CLOSED		BURST PLATE RATING:	kpa

REMARKS:



REPORT BY :Louis Borbely

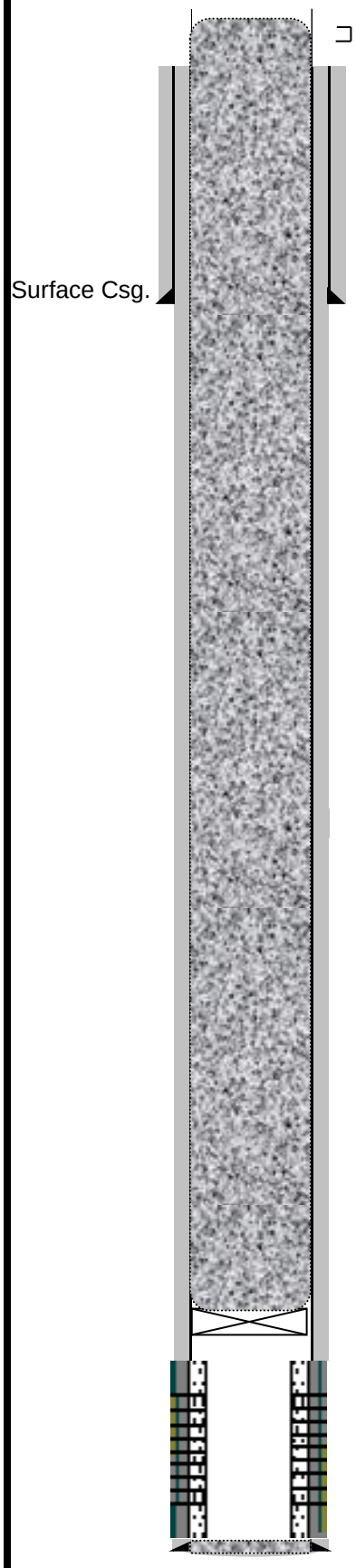
CONOCOPHILLIPS

Downhole Well Profile

Date : 04/25/2016

Well Name / Licience # **COPRC DODO CANYON C11B (WW02-B)**

KB ELEV:	217.85	m	**KB to CF:**		m
GL ELEV:	215.00	m	**KB to THF:**		m
CF ELEV:					
TD:	97.00	mKB	**PBTD:**	96.00	mKB



TUBULARS	**SIZE** (mm)	**WEIGHT** (kg/m)	**Drift ID** (mm)	**GRADE**	**THREAD**	**DEPTH** (mKB)
SURFACE:	244.475	53.57		J-55	LT&C	13.0
PRODUCTION:	177.8	38.692	159.41	P-110	LT&C	96.0

ZONE:		
PERFORATIONS:	N/A	PRE PACK SCREEN

JOINTS ON LOCATION		TALLIED LENGTH	m
JOINTS IN WELL		TALLIED LENGTH	m

#	**DESCRIPTION** (starting at the bottom)	**LENGTH** (m)	**DEPTH** (mKB)
	BOTTOM OF TOOL STRING →		
1	**193mm OD Pre Pack Screen. ID = 153mm**		
2	**Annular thickness of screen = 6.5mm, Slot Size= 0.020**		
3	**12/20 Gravel Pack Sand. Approx top of screen = 87m.**		
4			
5			
6	**Unactivated cement reatiner set at 79.64m KB CE Top at**		
7	**79.44m KB. Cement placed from retainer top to surface.**		
8			
9			
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20			
21			
22			

STRING WT:		daN	WT. ON PACKER:		daN
STRING WT:		daN	WT. ON PACKER:		
WT. ON HANGER:		daN	FLANGED/THREADED:		mm
TBG SPOOL :			LIFT THREAD:		
WORKING PRESS.:		MPa	BPV THREAD(Y/N):		mm
SOUR TRIM ?			FLOW TEE TOP CONN.:		

WELLHEAD DATA	Make (or Model)	SIZE (mm)	Wk. Press. (MPa)	SERIAL NUMBER
MASTER VALVE :				
WING VALVE:				
CASING VALVES :				

SURFACE CSG. VENT:			
OPEN/CLOSED		BURST PLATE RATING:	kpa

REMARKS:

PBTD	96.00
Prod. Csg.	97.00

REPORT BY :Louis Borbely

CONOCOPHILLIPS

Downhole Well Profile

Date : 04/25/2016

Well Name / Licence # **COPRC DODO CANYON WEST I-06 (Formerly WW04-A)**

KB ELEV:	252.95	m	**KB to CF:**		m
GL ELEV:	250.00	m	**KB to THF:**		m
CF ELEV:					
TD:	471.00	mKB	**PBTD:**	470.65	mKB

TUBULARS	**SIZE** (mm)	**WEIGHT** (kg/m)	**Drift ID** (mm)	**GRADE**	**THREAD**	**DEPTH** (mKB)
SURFACE:	244.475	53.57		J-55	LT&C	51.0
PRODUCTION:	177.8	38.692	159.41	P-110	LT&C	471.0

ZONE:		
PERFORATIONS:	399.0-408.0	127MM, 20 SPM 60 DEG PHASING

JOINTS ON LOCATION		TALLIED LENGTH	m
JOINTS IN WELL		TALLIED LENGTH	m

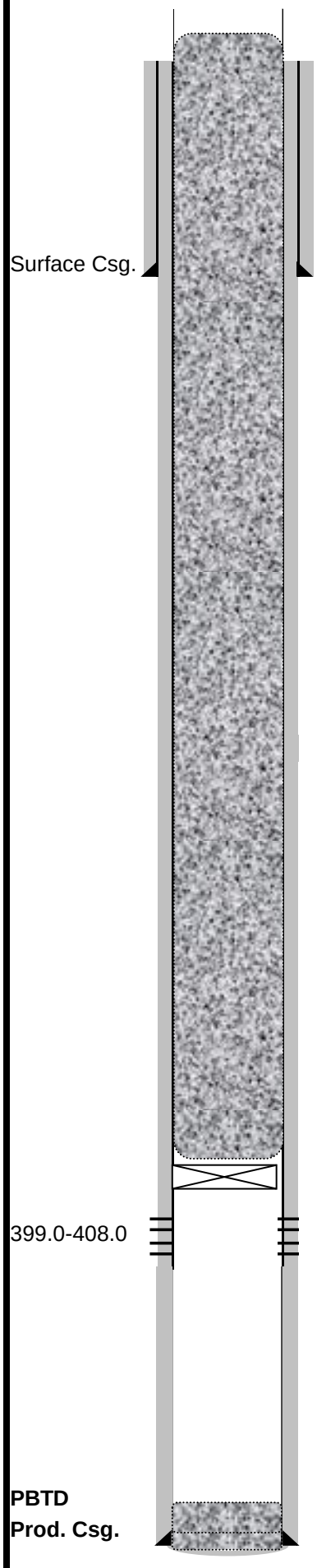
#	**DESCRIPTION** (starting at the bottom)	**LENGTH** (m)	**DEPTH** (mKB)
	BOTTOM OF TOOL STRING →		**396.00**
1			
2	**Top of permanent bridge plug set @ 386.8m KB.**		
3	**Cement placed from top of bridge plug 3.66m from surface.**		
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			

STRING WT:		daN	WT. ON PACKER:		daN
STRING WT:		daN	WT. ON PACKER:		
WT. ON HANGER:		daN	FLANGED/THREADED:		mm
TBG SPOOL :			LIFT THREAD:		
WORKING PRESS.:		MPa	BPV THREAD(Y/N):		mm
SOUR TRIM ?			FLOW TEE TOP CONN.:		

WELLHEAD DATA	Make (or Model)	SIZE (mm)	Wk. Press. (MPa)	SERIAL NUMBER
MASTER VALVE :				
WING VALVE:				
CASING VALVES :				

SURFACE CSG. VENT:			
OPEN/CLOSED		BURST PLATE RATING:	kpa

REMARKS:



REPORT BY :Louis Borbely

CONOCOPHILLIPS

Downhole Well Profile

Date : 04/25/2016

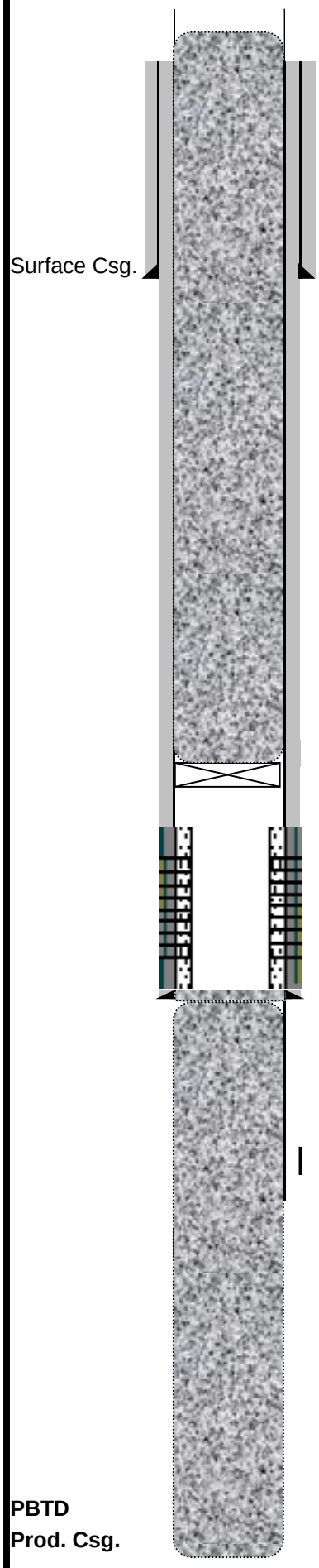
Well Name / Licence # **COPRC DODO CANYON D-04 (Formerly WW05-A)**

KB ELEV:	309.80	m	**KB to CF:**		m
GL ELEV:	307.00	m	**KB to THF:**		m
CF ELEV:					
TD:	373.00	mKB	**PBTD:**	109.00	mKB

TUBULARS	**SIZE** (mm)	**WEIGHT** (kg/m)	**Drift ID** (mm)	**GRADE**	**THREAD**	**DEPTH** (mKB)
SURFACE:	244.475	53.57		J-55	LT&C	12.0
PRODUCTION:	177.8	38.692	159.41	P-110	LT&C	107.0

ZONE:		
PERFORATIONS:	N/A	PRE PACK SCREEN

JOINTS ON LOCATION		TALLIED LENGTH	m
JOINTS IN WELL		TALLIED LENGTH	m



#	**DESCRIPTION** (starting at the bottom)	**LENGTH** (m)	**DEPTH** (mKB)
	BOTTOM OF TOOL STRING →		**107.00**
1	**Top of Permanent Bridge Plug @ 79.8m KB.**		
2	**Cement from top of bridge plug to 5.95m KB.**		
3			
4			
5			
6			
7	**193mm OD Pre Pack Screen. ID = 153mm. 92 to 107m.**		
8	**Annular thickness of screen = 6.5mm, Slot Size= 0.020**		
9	**12/20 Gravel Pack Sand.**		
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			

STRING WT:		daN	WT. ON PACKER:		daN
STRING WT:		daN	WT. ON PACKER:		
WT. ON HANGER:		daN	FLANGED/THREADED:		mm
TBG SPOOL :			LIFT THREAD:		
WORKING PRESS.:		MPa	BPV THREAD(Y/N):		mm
SOUR TRIM ?			FLOW TEE TOP CONN.:		

WELLHEAD DATA	Make (or Model)	SIZE (mm)	Wk. Press. (MPa)	SERIAL NUMBER
MASTER VALVE :				
WING VALVE:				
CASING VALVES :				

SURFACE CSG. VENT:			
OPEN/CLOSED		BURST PLATE RATING:	kpa

REMARKS:

Wellbore was drilled to a TD of 373m KB and cement plugs were run from 373m to 109m KB prior to running the 177.8 mm casing with a prepack screen to 107m KB.

REPORT BY :Louis Borbely

APPENDIX D

ANALYTICAL CHEMISTRY REPORTS

FEBRUARY 2016 TO MARCH 2013

AGAT Laboratories

6310 ROPER ROAD
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http://www.agatlabs.com

CLIENT NAME: HOBBIT ENVIRONMENTAL
935 BETE ALEXIS CIRCLE
PALMER, AK 99645
(907) 745-1815

ATTENTION TO: JEFF POWERS

PROJECT: Chinook EL 470

AGAT WORK ORDER: 16E067112

TRACE ORGANICS REVIEWED BY: Jarrod Roberts, Operations Manager

WATER ANALYSIS REVIEWED BY: Ngoc (Ruby) Vu, Lab Technician

DATE REPORTED: Feb 13, 2016

PAGES (INCLUDING COVER): 15

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (780) 395-2525

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

AGAT Laboratories

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FAX (780)462-2490
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 16E067112

PROJECT: Chinook EL 470

CLIENT NAME: HOBBIT ENVIRONMENTAL

ATTENTION TO: JEFF POWERS

SAMPLING SITE:

SAMPLED BY:

Petroleum Hydrocarbons (BTEX/F1-F4) in Water

DATE RECEIVED: 2016-02-09

DATE REPORTED: 2016-02-10

		SAMPLE DESCRIPTION:		WW02-A	WW02-A-D
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/3/2016	2/3/2016
Parameter	Unit	G / S	RDL	7379102	7379132
Benzene	mg/L		0.0005	<0.0005	<0.0005
Toluene	mg/L		0.0003	<0.0003	<0.0003
Ethylbenzene	mg/L		0.0005	<0.0005	<0.0005
Xylenes	mg/L		0.0005	<0.0005	<0.0005
C6 - C10 (F1)	mg/L		0.1	<0.1	<0.1
C6 - C10 (F1 minus BTEX)	mg/L		0.1	<0.1	<0.1
C>10 - C16	mg/L		0.1	<0.1	<0.1
C>16 - C34	mg/L		0.1	<0.1	<0.1
C>34 - C50	mg/L		0.1	<0.1	<0.1
Surrogate	Unit	Acceptable Limits			
Toluene-d8 (BTEX)	%	50-150		88	88
o-Terphenyl (F2-F4)	%	50-150		119	130

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

7379102-7379132 The C>6 - C10 fraction is calculated using the toluene response factor.
The C10 - C16, C16-34 and C34-50 fractions are calculated using the average response factor for nC10, nC16 and nC34.
BTEX has NOT been subtracted from Fraction 1.
Sample is blank corrected.
C6 –C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
Xylenes is a calculated parameter. The calculated value is the sum of m&p-Xylenes + o-Xylene.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 16E067112

PROJECT: Chinook EL 470

CLIENT NAME: HOBBIT ENVIRONMENTAL

ATTENTION TO: JEFF POWERS

SAMPLING SITE:

SAMPLED BY:

Metals - Dissolved - CCME with Mercury and Hexavalent Chromium

DATE RECEIVED: 2016-02-09

DATE REPORTED: 2016-02-12

		SAMPLE DESCRIPTION:		WW02-A	WW02-A-D
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/3/2016	2/3/2016
Parameter	Unit	G / S	RDL	7379102	7379132
Dissolved Aluminum	mg/L	0.1	0.004	<0.004	<0.004
Dissolved Antimony	mg/L	0.006	0.001	<0.001	<0.001
Dissolved Arsenic	mg/L	0.010	0.001	<0.001	<0.001
Dissolved Barium	mg/L	1	0.05	<0.05	<0.05
Dissolved Boron	mg/L	5	0.01	0.08	0.08
Dissolved Cadmium	mg/L	0.005	0.000016	<0.000016	<0.000016
Dissolved Chromium	mg/L	0.05	0.001	<0.001	<0.001
Dissolved Copper	mg/L	1	0.001	<0.001	<0.001
Dissolved Iron	mg/L	0.3	0.1	0.2	0.2
Dissolved Lead	mg/L	0.01	0.0005	<0.0005	<0.0005
Dissolved Manganese	mg/L	0.05	0.005	<0.005	0.007
Dissolved Mercury	mg/L		0.000005	<0.000005	<0.000005
Dissolved Molybdenum	mg/L		0.001	<0.001	<0.001
Dissolved Nickel	mg/L		0.01	<0.01	<0.01
Dissolved Selenium	mg/L		0.0005	<0.0005	<0.0005
Dissolved Silver	mg/L	NA	0.00006	<0.00006	<0.00006
Dissolved Sodium	mg/L	200	0.6	149	151
Dissolved Thallium	mg/L		0.0005	<0.0005	<0.0005
Dissolved Uranium	mg/L	0.02	0.001	<0.001	<0.001
Dissolved Zinc	mg/L	5	0.01	<0.01	<0.01
Hexavalent Chromium	mg/L		0.005	<0.005	<0.005

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (D Water)

7379102-7379132 < - Values refer to Report Detection Limit.
Dissolved Chromium (III) is a calculated parameter. The calculated value is the difference between the dissolved chromium value and the dissolved hexavalent chromium value.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 16E067112

PROJECT: Chinook EL 470

CLIENT NAME: HOBBIT ENVIRONMENTAL

ATTENTION TO: JEFF POWERS

SAMPLING SITE:

SAMPLED BY:

Metals - Total - CCME with Mercury and Hexavalent Chromium

DATE RECEIVED: 2016-02-09

DATE REPORTED: 2016-02-12

		SAMPLE DESCRIPTION:		WW02-A	WW02-A-D
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/3/2016	2/3/2016
Parameter	Unit	G / S	RDL	7379102	7379132
Total Aluminum	mg/L	0.1	0.005	0.015	0.011
Total Antimony	mg/L	0.006	0.001	<0.001	<0.001
Total Arsenic	mg/L	0.010	0.005	<0.005	<0.005
Total Barium	mg/L	1	0.05	<0.05	<0.05
Total Boron	mg/L	5	0.01	0.11	0.09
Total Cadmium	mg/L	0.005	0.000016	<0.000016	<0.000016
Total Chromium	mg/L	0.05	0.001	<0.001	<0.001
Total Chromium (VI)	mg/L		0.01	<0.01	<0.01
Total Cobalt	mg/L		0.001	<0.001	<0.001
Total Copper	mg/L		0.001	<0.001	<0.001
Total Iron	mg/L		0.1	0.2	0.2
Total Lead	mg/L	0.01	0.0010	<0.0010	<0.0010
Total Manganese	mg/L	0.05	0.005	0.011	0.011
Total Mercury	mg/L		0.000005	<0.000005	<0.000005
Total Molybdenum	mg/L		0.001	<0.001	<0.001
Total Nickel	mg/L		0.01	<0.01	<0.01
Total Selenium	mg/L	0.01	0.0010	<0.0010	<0.0010
Total Silver	mg/L		0.00005	<0.00005	<0.00005
Total Sodium	mg/L		0.6	163	159
Total Thallium	mg/L		0.0005	<0.0005	<0.0005
Total Uranium	mg/L	0.02	0.001	<0.001	<0.001
Total Zinc	mg/L	5	0.01	<0.01	<0.01

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (D Water)

7379102-7379132 < - Values refer to Report Detection Limit.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 16E067112

PROJECT: Chinook EL 470

CLIENT NAME: HOBBIT ENVIRONMENTAL

ATTENTION TO: JEFF POWERS

SAMPLING SITE:

SAMPLED BY:

Routine Chemistry Water Analysis

DATE RECEIVED: 2016-02-09

DATE REPORTED: 2016-02-11

		SAMPLE DESCRIPTION:		WW02-A	WW02-A-D
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/3/2016	2/3/2016
Parameter	Unit	G / S	RDL	7379102	7379132
pH	pH Units	6.5-8.5	NA	7.55	7.59
p - Alkalinity (as CaCO3)	mg/L		5	<5	<5
T - Alkalinity (as CaCO3)	mg/L		5	245	262
Bicarbonate	mg/L		5	299	320
Carbonate	mg/L		5	<5	<5
Hydroxide	mg/L		5	<5	<5
Electrical Conductivity	uS/cm		1	814	813
Fluoride	mg/L	1.5	0.05	<0.05	<0.05
Chloride	mg/L	250	1	20	20
Nitrite	mg/L	3	0.2	<0.2	<0.2
Nitrite-N	mg/L	1	0.02	<0.02	<0.02
Nitrate	mg/L	45	0.5	<0.5	<0.5
Nitrate-N	mg/L	10	0.02	<0.02	<0.02
Nitrate+Nitrite - Nitrogen	mg/L		0.02	<0.02	<0.02
Sulfate	mg/L	500	1	125	125
Dissolved Calcium	mg/L		0.3	17.2	17.5
Dissolved Magnesium	mg/L		0.2	5.7	5.9
Dissolved Sodium	mg/L	200	0.6	149	151
Dissolved Potassium	mg/L		0.6	5.7	5.9
Dissolved Iron	mg/L	0.3	0.1	0.2	0.2
Dissolved Manganese	mg/L	0.05	0.005	<0.005	0.007
Calculated TDS	mg/L		0.6	505	521
Sodium Adsorption Ratio	N/A			7.95	7.97
Hardness	mg CaCO3/L		1	66	68
Ion Balance	%		1	99	96

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Certificate of Analysis

AGAT WORK ORDER: 16E067112

PROJECT: Chinook EL 470

CLIENT NAME: HOBBIT ENVIRONMENTAL

ATTENTION TO: JEFF POWERS

SAMPLING SITE:

SAMPLED BY:

Routine Chemistry Water Analysis

DATE RECEIVED: 2016-02-09

DATE REPORTED: 2016-02-11

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (D Water)

7379102-7379132 < - Values refer to Report Detection Limits.
pH has been analyzed past the recommended holding time of 15 minutes from sampling (field measurement ideal if more accurate data required)
Nitrate and Nitrite: The regulatory hold time for the analysis of nitrate and/or nitrite in water is 48 hours in Alberta and 72 hours in British Columbia.
Calculated TDS is a calculated parameter. The calculation is from “Checking Analysis’ Correctness”, 1030E, Standard Methods for the Examination of Water and Wastewater.
Hardness is a calculated parameter. The calculation is from “Hardness by Calculation”, 2340B, Standard Methods for the Examination of Water and Wastewater.
Ion Balance is a calculated parameter. The calculated value is the ratio of the sum of anions divided by the sum of cations in meq/L, multiplied by 100.
Nitrate+Nitrite – Nitrogen is a calculated parameter. The calculated value is the sum of the nitrite as N and the nitrate as N values.
SAR is a calculated parameter. The calculated value is the ratio of the sodium concentration in mmol/L over the square rooted sum of the calcium and magnesium concentrations in mmol/L.

Certified By:

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Quality Assurance

CLIENT NAME: HOBBIT ENVIRONMENTAL

AGAT WORK ORDER: 16E067112

PROJECT: Chinook EL 470

ATTENTION TO: JEFF POWERS

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Petroleum Hydrocarbons (BTEX/F1-F4) in Water															
Benzene	1237	7379132	< 0.0005	< 0.0005	NA	< 0.0005	90%	80%	120%	109%	80%	120%	112%	70%	130%
Toluene	1237	7379132	< 0.0003	< 0.0003	NA	< 0.0003	89%	80%	120%	95%	80%	120%	90%	70%	130%
Ethylbenzene	1237	7379132	< 0.0005	< 0.0005	NA	< 0.0005	103%	80%	120%	91%	80%	120%	82%	70%	130%
Xylenes	1237	7379132	< 0.0005	< 0.0005	NA	< 0.0005	98%	80%	120%	89%	80%	120%	82%	70%	130%
C6 - C10 (F1)	1237	7379132	< 0.1	< 0.1	NA	< 0.1	104%	80%	120%	84%	80%	120%	87%	70%	130%
C>10 - C16	676	LS	0.3	0.3	NA	< 0.1	93%	80%	120%	102%	80%	120%	76%	70%	130%
C>16 - C34	676	LS	0.1	0.1	NA	< 0.1	102%	80%	120%	100%	80%	120%	86%	70%	130%
C>34 - C50	676	LS	< 0.1	< 0.1	NA	< 0.1	101%	80%	120%						

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Certified By:

AGAT Laboratories

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Quality Assurance

CLIENT NAME: HOBBIT ENVIRONMENTAL

AGAT WORK ORDER: 16E067112

PROJECT: Chinook EL 470

ATTENTION TO: JEFF POWERS

SAMPLING SITE:

SAMPLED BY:

Water Analysis

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals - Total - CCME with Mercury and Hexavalent Chromium															
Total Aluminum	42	7381515	0.032	0.029	9.8%	< 0.004	106%	80%	120%				90%	80%	120%
Total Antimony	42	7381515	<0.001	<0.001	NA	< 0.001	101%	80%	120%				102%	80%	120%
Total Arsenic	42	7381515	<0.005	<0.005	NA	< 0.001	88%	80%	120%				103%	80%	120%
Total Barium	42	7381515	0.06	0.06	NA	< 0.05	90%	80%	120%				94%	80%	120%
Total Boron	42	7381515	0.05	0.05	0.0%	< 0.01	96%	80%	120%				110%	80%	120%
Total Cadmium	42	7381515	0.000021	<0.	NA	< 0.000016	90%	80%	120%				100%	80%	120%
Total Chromium	42	7381515	<0.001	<0.001	NA	< 0.001	89%	80%	120%				92%	80%	120%
Total Chromium (VI)	41	7382118	< 0.01	< 0.01	NA	< 0.01	95%	80%	120%	90%	80%	120%	98%	80%	120%
Total Cobalt	42	7381515	<0.001	<0.001	NA	< 0.001	87%	80%	120%				95%	80%	120%
Total Copper	42	7381515	0.001	0.003	NA	< 0.001	86%	80%	120%				93%	80%	120%
Total Iron	42	7381515	0.9	0.9	0.0%	< 0.1	96%	80%	120%				109%	80%	120%
Total Lead	42	7381515	<0.0010	0.0012	NA	< 0.0005	92%	80%	120%				100%	80%	120%
Total Manganese	42	7381515	0.064	0.070	9.0%	< 0.005	98%	80%	120%				103%	80%	120%
Total Mercury	43	7379102	<0.	<0.	NA	< 0.000005	88%	80%	120%				87%	80%	120%
Total Molybdenum	42	7381515	0.003	0.003	NA	< 0.001	99%	80%	120%				101%	80%	120%
Total Nickel	42	7381515	<0.01	<0.01	NA	< 0.01	86%	80%	120%				94%	80%	120%
Total Selenium	42	7381515	<0.0010	<0.0010	NA	< 0.0005	98%	80%	120%				102%	80%	120%
Total Silver	42	7381515	<0.00005	<0.00005	NA	< 0.00005	94%	80%	120%				97%	80%	120%
Total Sodium	42	7381515	47.0	48.9	4.0%	< 0.6	98%	80%	120%				105%	80%	120%
Total Thallium	42	7381515	<0.0005	<0.0005	NA	< 0.0005	90%	80%	120%				102%	80%	120%
Total Uranium	42	7381515	<0.001	<0.001	NA	< 0.001	94%	80%	120%				102%	80%	120%
Total Zinc	42	7381515	0.14	0.15	6.9%	< 0.01	99%	80%	120%				97%	80%	120%
Metals - Dissolved - CCME with Mercury and Hexavalent Chromium															
Dissolved Aluminum	41	7379102	<0.004	<0.004	NA	< 0.004	91%	80%	120%				90%	80%	120%
Dissolved Antimony	41	7379102	<0.001	<0.001	NA	< 0.001	103%	80%	120%				103%	80%	120%
Dissolved Arsenic	41	7379102	<0.001	<0.001	NA	< 0.001	98%	80%	120%				102%	80%	120%
Dissolved Barium	41	7379102	<0.05	<0.05	NA	< 0.05	101%	80%	120%				93%	80%	120%
Dissolved Boron	41	7379102	0.08	0.08	0.0%	< 0.01	94%	80%	120%				84%	80%	120%
Dissolved Cadmium	41	7379102	0.000021	<0.	NA	< 0.000016	94%	80%	120%				99%	80%	120%
Dissolved Chromium	41	7379102	<0.001	<0.001	NA	< 0.001	100%	80%	120%				96%	80%	120%
Dissolved Copper	41	7379102	<0.001	<0.001	NA	< 0.001	98%	80%	120%				96%	80%	120%
Dissolved Lead	41	7379102	<0.0005	<0.0005	NA	< 0.0005	97%	80%	120%				98%	80%	120%
Dissolved Mercury	43	7379102	<0.	<0.	NA	< 0.000005	88%	80%	120%	87%	80%	120%			
Dissolved Molybdenum	41	7379102	<0.001	<0.001	NA	< 0.001	107%	80%	120%				112%	80%	120%

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

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Quality Assurance

CLIENT NAME: HOBBIT ENVIRONMENTAL

AGAT WORK ORDER: 16E067112

PROJECT: Chinook EL 470

ATTENTION TO: JEFF POWERS

SAMPLING SITE:

SAMPLED BY:

Water Analysis (Continued)

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Dissolved Nickel	41	7379102	<0.01	<0.01	NA	< 0.01	95%	80%	120%				97%	80%	120%
Dissolved Selenium	41	7379102	< 0.0005	< 0.0005	NA	< 0.0005	104%	80%	120%				112%	80%	120%
Dissolved Silver	41	7379102	<0.00006	<0.00006	NA	< 0.00005	92%	80%	120%				115%	80%	120%
Dissolved Thallium	41	7379102	<0.0005	<0.0005	NA	< 0.0005	96%	80%	120%				100%	80%	120%
Dissolved Uranium	41	7379102	<0.001	<0.001	NA	< 0.001	101%	80%	120%				110%	80%	120%
Dissolved Zinc	41	7379102	<0.01	<0.01	NA	< 0.01	103%	80%	120%				92%	80%	120%
Hexavalent Chromium	1		NA	NA	NA	< 0.005	95%	80%	120%	90%	80%	120%	NA	80%	120%

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Routine Chemistry Water Analysis															
pH	1172	7377778	7.80	7.73	0.9%		99%	90%	110%						
p - Alkalinity (as CaCO3)	1172	7377778	<5	<5	NA	< 5									
T - Alkalinity (as CaCO3)	1172	7377778	400	399	0.2%	< 5	92%	80%	120%						
Bicarbonate	1172	7377778	488	487	0.2%	< 5									
Carbonate	1172	7377778	<5	<5	NA	< 5									
Hydroxide	1172	7377778	<5	<5	NA	< 5									
Electrical Conductivity	1172	7377778	1740	1750	0.9%	< 1	107%	80%	120%						
Fluoride	351	7378974	<0.05	<0.05	NA	< 0.05	112%	80%	120%	104%	80%	120%	94%	80%	120%
Chloride	351	7378974	48	50	4.1%	< 1	110%	80%	120%	106%	80%	120%	99%	80%	120%
Nitrite	351	7378974	<0.05	<0.05	NA	< 0.05	110%	80%	120%	105%	80%	120%	101%	80%	120%
Nitrate	351	7378974	0.7	0.7	NA	< 0.5	111%	80%	120%	103%	80%	120%	100%	80%	120%
Sulfate	351	7378974	7	7	0.0%	< 1	109%	80%	120%	101%	80%	120%	102%	80%	120%
Dissolved Calcium	41	7379102	17.2	17.5	1.6%	< 0.3	103%	80%	120%				114%	80%	120%
Dissolved Magnesium	41	7379102	5.7	5.8	0.3%	< 0.2	104%	80%	120%				109%	80%	120%
Dissolved Sodium	41	7379102	149	149	0.0%	< 0.6	98%	80%	120%				116%	80%	120%
Dissolved Potassium	41	7379102	5.7	5.7	1.4%	< 0.6	98%	80%	120%				106%	80%	120%
Dissolved Iron	41	7379102	0.2	0.2	0.0%	< 0.1	98%	80%	120%				102%	80%	120%
Dissolved Manganese	41	7379102	<0.005	0.007	0.0%	< 0.005	100%	80%	120%				102%	80%	120%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.
If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.

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Method Summary

CLIENT NAME: HOBBIT ENVIRONMENTAL

AGAT WORK ORDER: 16E067112

PROJECT: Chinook EL 470

ATTENTION TO: JEFF POWERS

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Benzene	ORG-170-5110/5140/5430/5440	EPA SW846 8260-W	GC/MS
Toluene	ORG-170-5110/5140/5430/5440	EPA SW846 8260-W	GC/MS
Ethylbenzene	ORG-170-5110/5140/5430/5440	EPA SW846 8260-W	GC/MS
Xylenes	ORG-170-5110/5140/5430/5440	EPA SW846 8260-W	GC/MS
C6 - C10 (F1)	ORG-170-5110/5140/5430/5440	CCME Tier 1 Method-W L	GC/FID
C6 - C10 (F1 minus BTEX)	ORG-170-5110/5140/5430/5440	CCME Tier 1 Method-W L	GC/FID
C>10 - C16	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
C>16 - C34	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
C>34 - C50	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
Toluene-d8 (BTEX)	ORG-170-5110/5140/5430/5440	EPA SW846 8260-W	GC/MS
o-Terphenyl (F2-F4)	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID

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Method Summary

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AGAT WORK ORDER: 16E067112

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SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Aluminum	INO-171-6202	SM 3125 B	ICP-MS
Dissolved Antimony	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Arsenic	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Barium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Boron	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Cadmium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Chromium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Copper	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Iron	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Lead	INOR-171-6202	SM 3125 B DW	ICP-MS
Dissolved Manganese	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Mercury		SM 3112 B	CV/AFS
Dissolved Molybdenum	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Nickel	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Selenium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Silver	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Sodium	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Thallium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Uranium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Zinc	INOR-171-6202	SM 3125 B	ICP-MS
Hexavalent Chromium	SPE 0101	EPA SW 846-6010B, SM 3030B	SPECTROPHOTOMETER
Total Aluminum	INOR-171-6201, INOR-171-6100	SM 3030 E; SM 3125 B	ICP-MS
Total Antimony	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP-MS
Total Arsenic	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Barium	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Boron	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Cadmium	INOR-171-6201	SM 3030 E; SM 3125 B	ICP/MS
Total Chromium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Chromium (VI)	SOIL 0600	REISENAUER	SPECTROPHOTOMETER
Total Cobalt	INOR-171-6100, -6202	SM 3030 E; SM 3125 B	ICP-MS
Total Copper	INOR-171-6100, -6202	SM 3030 E; SM 3125 B	ICP-MS
Total Iron	INOR-171-6100, 171-6201	SM 3030 E; SM 3120 B	ICP/OES
Total Lead	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Manganese	INOR-171-6201	SM 3030 E; SM 3120 B	ICP/OES
Total Mercury	INOR-171-6202	SM 3112 B	CV/AFS
Total Molybdenum	INOR-171-6202	SM 3030 E; SM 3125 B	ICP/MS
Total Nickel	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Selenium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Silver	INO-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Sodium	INOR-171-6201	SM 3030 E; SM 3120 B TW	ICP/OES
Total Thallium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Uranium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Zinc	INORG-171-6202	SM 3030 E; SM 3125 B	ICP-MS
pH	INOR-171-6205	SM 4500 H+	PH METER
p - Alkalinity (as CaCO3)	INOR-171-6205	SM 2320 B	TITRATION
T - Alkalinity (as CaCO3)	INOR-171-6205	SM 2320 B	TITRATION
Bicarbonate	INOR-171-6205	SM 2320 B	PC TITRATE
Carbonate	INOR-171-6205	SM 2320 B	PC TITRATE

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Method Summary

CLIENT NAME: HOBBIT ENVIRONMENTAL

AGAT WORK ORDER: 16E067112

PROJECT: Chinook EL 470

ATTENTION TO: JEFF POWERS

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Hydroxide	INOR-171-6205	SM 2320 B	TITRATION
Electrical Conductivity	INOR-171-6205	SM 2510 B	CONDUCTIVITY METER
Fluoride	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Chloride	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Nitrite	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrite-N	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Nitrate-N	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate+Nitrite - Nitrogen	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Sulfate	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Dissolved Calcium	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Magnesium	INST 0140	SM 3120 B	ICP/OES
Dissolved Potassium	INST 0140	SM 3120 B	ICP/OES
Calculated TDS		SM 1030E	CALCULATION
Sodium Adsorption Ratio		CARTER & GREGORICH 2007	ICP/OES
Hardness		SM 3120 B	ICP/OES
Ion Balance		SM 1030E	CALCULATION

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Laboratory Use Only
Arrival Temperature: 3.6 °C
AGAT Job Number: 16 E067112
Date and Time: '16 FEB 09 11:58

Chain of Custody Record

Report Information
Company: Hobbit Environmental
Contact: Jeff Powers
Address:
Phone: 907 355 1769 Fax:
LSD:
Client Project #: Chinook EL 470

Report Information
1. Name: Jeff Powers
Email: japowers@mtaonline.net
2. Name: Brenda White
Email: Brenda.M.White@conocophillips.com
3. Name:
Email:

Report Format
☐ Single Sample per Page
☑ Multiple Samples per Page

Turnaround Time Required (TAT)
Regular TAT ☑ 5 to 7 business days
Rush TAT ☐ Less than 24 hours ☐ 24 to 48 hours ☐ 48 to 72 hours
Date Required:

RUSH TAT REQUESTS UPON SELECTING A RUSH TAT, THE CLIENT ACCEPTS THAT A RUSH SURCHARGE WILL BE ADDED TO THE INVOICE. *SEE BACK FOR SURCHARGE.*

Invoice To Same Yes ☐ / No ☐
Company:
Contact:
Address:
Phone: Fax:
PO/AFE#:

Requirements *(Selection may impact detection limits)*
☐ CCME ☐ AB Tier 1 ☐ BC CSR
☐ Agricultural ☐ Agricultural ☐ AW
☐ Industrial ☐ Industrial ☐ IW
☐ Residential/Park ☐ Residential/Park ☐ LW
☐ Commercial ☐ Commercial ☐ DW
☐ Drinking Water ☐ Natural Area
☒ FWAL ☐ AB Surface Water
☐ Other
☐ D50 (Drilling) ☐ SPIGEC

LABORATORY USE (LAB ID #)	SAMPLE IDENTIFICATION	SAMPLE MATRIX	DATE/TIME SAMPLED	COMMENTS - SITE SAMPLE INFO. SAMPLE CONTAINMENT	# OF CONTAINERS	Detailed Soil Salinity (Saturated Paste)	CCME BTEX/F1-F4	Soil Metals ☐ HWS-B ☐ Cr^6 ☐ Hg	Water Metals ☒ Dissolved ☐ Total ☒ Hg ☒ Cr^6	Routine Water Potability	AB Class 2 Landfill	BC Landfill	D50 Detailed Soil Salinity (As Received)	Microtox	BTEXS/VPH/EPH ☐ LEPH/HEPH ☐	HOLD FOR 60 DAYS	PRESERVED (Y/N)	CONTAMINATED/HAZARDOUS (Y/N)
7379102	WW02-A	Water	2/3/16 1630		8		X		X	X							X	
132	WW02-A-D	Water	2/3/16 1645		8		X		X	X							X	

Samples Relinquished By (Print Name and Sign): Jeff Powers Jeffrey Powers — Date/Time: 2/4/16
Samples Received By (Print Name and Sign): AYSBCA B. — Date/Time: 09FEB16 @11:58
Samples Relinquished By (Print Name and Sign): — Date/Time:
Samples Received By (Print Name and Sign): — Date/Time:
Samples Relinquished By (Print Name and Sign): — Date/Time:
Samples Received By (Print Name and Sign): — Date/Time:

Pink Copy - Client
Yellow Copy - AGAT
White Copy- AGAT

Page ____ of ____
N°: AB 004480

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: HOBBIT

Courier: CANADIAN NORTH / D.O Prepaid Collect

Waybill# 518-6981317 1

Branch [EDM] GP FN FM RD VAN LYD FSJ EST Other:_____

If multiple sites were submitted at once: Yes No

Custody Seal Intact: Yes No NA

TAT: <24hr 24-48hr 48-72hr Reg Other_____

Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes No

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry: –

Hydrocarbons: Earliest Expiry –

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES NO Precaution Taken:_____

Legal Samples: Yes No

International Samples: Yes No

Tape Sealed: Yes No

Coolant Used: Icepack Bagged Ice Free Ice Free Water None

Temperature (Bottles/Jars only) N/A if only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar) 3.5 + 3.4 + 3.9 = 3.6 °C 2(Bottle/Jar)___+___+___=___°C

3 (Bottle/Jar)___+___+___=___°C 4 (Bottle/Jar)___+___+___=___°C

5 (Bottle/Jar)___+___+___=___°C 6 (Bottle/Jar)___+___+___=___°C

7 (Bottle/Jar)___+___+___=___°C 8 (Bottle/Jar)___+___+___=___°C

9 (Bottle/Jar)___+___+___=___°C 10 (Bottle/Jar)___+___+___=___°C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No: 16E067112

Samples Damaged: Yes No If YES why?

No Bubble Wrap Frozen Courier

Other: _____

Account Project Manager: _____ have they been notified of the above issues: Yes No

Whom spoken to: _____ Date/Time: _____

CPM Initial_____

General Comments: _____

* Subcontracted Analysis (See CPM)

Date issued: October 05, 2015
Document ID: SR-9505.003

CANADIAN NORTH CARGO

518-69313171

NOT NEGOTIABLE / NON NÉGOCIABLE
AIR WAYBILL
LETTRE DE TRANSPORT AÉRIEN

SHIPPER NAME / NOM DE L'EXPÉDITEUR	ACCOUNT NUMBER / NO. DE COMPTE
MXL Contracting	MACUSCD
ADDRESS / ADRESSE: Box 511	
CITY / VILLE: Norman Wells PROVINCE: N.T. POSTAL CODE / CODE POSTAL: X0E 0S0	
TELEPHONE: 867 587 4585	SHIPPER'S REFERENCE NUMBER / NO. DE RÉFÉRENCE DE L'EXPÉDITEUR: 6571

CONSIGNEE NAME / NOM DE DESTINATAIRE	ACCOUNT NUMBER / NO. DE COMPTE
Agat Lab	
ADDRESS / ADRESSE: 6310 Roper Rd	
CITY / VILLE: Edmonton PROVINCE: AB POSTAL CODE / CODE POSTAL: T6B 3P9	
TELEPHONE (REQUIRED / REQUIS): *	ATTENTION / À L'ATTENTION DE:

SERVICE REQUIRED (DESCRIPTION ON BACK)
SERVICE REQUIS (DESCRIPTION AU VERSO)

- [X] GUARANTEED PRIORITY / PRIORITAIRE GARANTI — DATE
- REQUESTED FLIGHT — EQUIPMENT FLT
- [ ] ENVELOPE [ ] GENERAL
- THIRD PARTY ACCOUNT # /
- NAME / NOM

INSURANCE / ASSURANCE
IF INSURANCE IS REQUIRED, INDICATE AMOUNT TO BE INSURED
SI UNE ASSURANCE EST REQUISE, INDIQUER LE MONTANT ASSURER
AMOUNT OF INSURANCE / DECLARED VALUE
MONTANT DE L'ASSURANCE / VALEUR DÉCLARÉE

[ ] INSURANCE DECLINED / L'ASSURANCE À DÉCLINÉ — INITIAL / INITIALE

METHOD OF PAYMENT
MODE DE PAIEMENT

- [X] PREPAID / PORT PAYÉ
- [ ] COLLECT / PORT DÛ
- [ ] CASH / COMPTANT
- [X] ACCOUNT / COMPTE
- [ ] CREDIT CARD / CARTE DE CRÉDIT

The carrier's liability in the event of loss, damage or delay, whether it be caused by the negligence of the carrier or otherwise, is limited to CAD $1.10 per kilogram, but not less than CAD $50.00, unless a higher value for the shipment is declared on the Air Waybill at the time of receipt of the shipment from the shipper.

AGENT'S SIGNATURE / SIGNATURE DE L'AGENT
X
DATE: M / DJ — TIME / HEURE: AM / PM — Y / A

SHIPPER'S SIGNATURE / SIGNATURE DE L'EXPÉDITEUR
X

NUMBER OF PIECES / NO. DE COLIS	WEIGHT / POIDS	REQUIRED DESCRIPTION OF CONTENTS / DESCRIPTION DU CONTENU REQUIS
1	8 KG	Water Samples Non Haz

DELIVER / LIVRAISON — [ ] HOLD AND NOTIFY / CONSERVEZ ET AVISEZ [ ] NORMAL / NORMALE [ ] SPECIAL / SPÉCIALE

SPECIAL DELIVERY INSTRUCTIONS / DIRECTIVES SPÉCIALES
Attention Daniel Woodyat

SHIPPER CERTIFIES THAT THE PARTICULARS ON THE FACE HEREOF ARE CORRECT AND THAT INSOFAR AS ANY PART OF THE CONSIGNMENT CONTAINS DANGEROUS GOODS, SUCH PARTS IS PROPERLY DESCRIBED BY NAME AND IS IN PROPER CONDITION FOR CARRIAGE BY AIR ACCORDING TO THE APPLICABLE DANGEROUS GOODS REGULATION. SHIPPER HEREBY AGREES THAT THIS AIR WAYBILL IS SUBJECT TO THE TERMS AND CONDITIONS ON THE REVERSE HEREOF.

L'EXPÉDITEUR CERTIFIE QUE LES INDICATIONS PORTÉES SUR LE PRÉSENT DOCUMENT SONT EXACTES ET QUE, DANS LA MESURE OÙ UNE PARTIE QUELCONQUE DE L'EXPÉDITION CONTIENT DES MARCHANDISES DANGEREUSES, CETTE PARTIE D'EXPÉDITION EST CORRECTEMENT DÉSIGNÉE ET BIEN PRÉPARÉE POUR LE TRANSPORT AÉRIEN, CONFORMÉMENT À LA RÉGLEMENTATION POUR LE TRANSPORT DES MARCHANDISES DANGEREUSES APPLICABLE. PAR LA PRÉSENTE, L'EXPÉDITEUR CONVIENT QUE LA PRÉSENTE LETTRE DE TRANSPORT AÉRIEN EST ASSUJETTIE AUX CONDITIONS QUI FIGURENT AU VERSO.

CS 005

AGAT Laboratories
6310 Roper Road
Edmonton, Alberta T6B 3P9
P: 780.395-2525. • F: 780-462-2490
webearth.agatlabs.com

Laboratory Use Only
Arrival Temperature: 3.6 °C
AGAT Job Number: 16E067112
Date and Time: '16FEB09 11:58

Chain of Custody Record

Report Information
Company: Hobbit Environmental
Contact: Jeff Powers
Address:
Phone: 907 355 1769 Fax:
LSD:
Client Project #: Chinook EL 470

Report Information
1. Name: Jeff Powers
Email: japowers@ptaconline.net
2. Name: Brenda White
Email: Brenda.M.White@conocophillips.com
3. Name:
Email:

Report Format
☐ Single Sample per Page
☑ Multiple Samples per Page

Turnaround Time Required (TAT)
Regular TAT ☑ 5 to 7 business days
Rush TAT ☐ Less than 24 hours ☐ 24 to 48 hours ☐ 48 to 72 hours
Date Required:
RUSH TAT REQUESTS UPON SELECTING A RUSH TAT, THE CLIENT ACCEPTS THAT A RUSH SURCHARGE WILL BE ADDED TO THE INVOICE. *SEE BACK FOR SURCHARGE.*

Invoice To Same Yes ☐ / No ☐
Company:
Contact:
Address:
Phone: Fax:
PO/AFE#:

Requirements *(Selection may impact detection limits)*
☐ CCME ☐ AB Tier 1 ☐ BC CSR
☐ Agricultural ☐ Agricultural ☐ AW
☐ Industrial ☐ Industrial ☐ IW
☐ Residential/Park ☐ Residential/Park ☐ LW
☐ Commercial ☐ Commercial ☐ DW
☐ Drinking Water ☐ Natural Area
☒ FWAL ☐ AB Surface Water
☐ Other
☐ D50 (Drilling) ☐ SPIGEC

LABORATORY USE (LAB ID #)	SAMPLE IDENTIFICATION	SAMPLE MATRIX	DATE/TIME SAMPLED	COMMENTS - SITE SAMPLE INFO. SAMPLE CONTAINMENT	# OF CONTAINERS	Detailed Soil Salinity (Saturated Paste)	CCME BTEX/F1-F4	Soil Metals ☐ HWS-B ☐ Cr^6 ☐ Hg	Water Metals ☒ Dissolved ☐ Total ☐ Hg ☐ Cr^6	Routine Water Potability	AB Class 2 Landfill	BC Landfill	D50 Detailed Soil Salinity (As Received)	Microtox	BTEXS/VPH/EPH ☐ LEPH/HEPH ☐	HOLD FOR 60 DAYS	PRESERVED (Y/N)	CONTAMINATED/HAZARDOUS (Y/N)
7379102	WW02-A	Water	2/3/16 1630		8		X			X					X		X	
132	WW02-A-D	Water	2/3/16 1645		8		X			X					X		X	

Samples Relinquished By (Print Name and Sign):	Date/Time	Samples Received By (Print Name and Sign):	Date/Time
Jeff Powers Jeffrey Powers	2/4/16	ABBAY B.	09FEB16 @11:58
Samples Relinquished By (Print Name and Sign):	Date/Time	Samples Received By (Print Name and Sign):	Date/Time
Samples Relinquished By (Print Name and Sign):	Date/Time	Samples Received By (Print Name and Sign):	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy- AGAT

Page ____ of ____
N°: AB 004480

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: HOBBIT

Courier: CANADIAN NORTH / D.O Prepaid Collect

Waybill# 518-6981317 1

Branch: [EDM] GP FN FM RD VAN LYD FSJ EST Other:____

If multiple sites were submitted at once: Yes No

Custody Seal Intact: Yes No NA

TAT: <24hr 24-48hr 48-72hr Reg Other_____

Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes No

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry: —

Hydrocarbons: Earliest Expiry —

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES NO Precaution Taken:_____

Legal Samples: Yes No

International Samples: Yes No

Tape Sealed: Yes No

Coolant Used: Icepack Bagged Ice Free Ice Free Water None

Temperature (Bottles/Jars only) N/A if only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar) 3.5 + 3.4 + 3.9 = 3.6 °C 2(Bottle/Jar)___+___+___=___°C

3 (Bottle/Jar)___+___+___=___°C 4 (Bottle/Jar)___+___+___=___°C

5 (Bottle/Jar)___+___+___=___°C 6 (Bottle/Jar)___+___+___=___°C

7 (Bottle/Jar)___+___+___=___°C 8 (Bottle/Jar)___+___+___=___°C

9 (Bottle/Jar)___+___+___=___°C 10 (Bottle/Jar)___+___+___=___°C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No: 16E067112

Samples Damaged: Yes No If YES why?

No Bubble Wrap Frozen Courier

Other: _____

Account Project Manager: _____ have they been notified of the above issues: Yes No

Whom spoken to: _____ Date/Time: _____

CPM Initial_____

General Comments: _____

* Subcontracted Analysis (See CPM)

CANADIAN NORTH
C A R G O

518-69313171

NOT NEGOTIABLE / NON NÉGOCIABLE
AIR WAYBILL
LETTRE DE TRANSPORT AÉRIEN

SHIPPER NAME / NOM DE L'EXPÉDITEUR: MXL / Canco	ACCOUNT NUMBER / NO. DE COMPTE: MACIISCID
ADDRESS / ADRESSE: Box 511	
CITY / VILLE: Norman Wells	PROVINCE: N.T.
POSTAL CODE / CODE POSTAL: X0E 0V0	
TELEPHONE: 867 587 4575	SHIPPER'S REFERENCE NUMBER / NO. DE RÉFÉRENCE DE L'EXPÉDITEUR: 6571
CONSIGNEE NAME / NOM DE DESTINATAIRE: Agat Lab	ACCOUNT NUMBER / NO. DE COMPTE
ADDRESS / ADRESSE: 6310 Roper Rd	
CITY / VILLE: Edmonton	PROVINCE: AB
POSTAL CODE / CODE POSTAL: T6B 3P9	
TELEPHONE (REQUIRED / REQUIS): *	ATTENTION / À L'ATTENTION DE

SERVICE REQUIRED (DESCRIPTION ON BACK)
SERVICE REQUIS (DESCRIPTION AU VERSO)

[X] GUARANTEED PRIORITY / PRIORITAIRE GARANTI — DATE

REQUESTED FLIGHT | EQUIPMENT FLT

[ ] ENVELOPE [ ] GENERAL

THIRD PARTY ACCOUNT # /

NAME / NOM

INSURANCE / ASSURANCE
IF INSURANCE IS REQUIRED, INDICATE AMOUNT TO BE INSURED
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AMOUNT OF INSURANCE / INSURED VALUE
MONTANT DE L'ASSURANCE / VALEUR DÉCLARÉE

[ ] INSURANCE DECLINED / L'ASSURANCE À DÉCLINÉ — INITIAL / INITIALE

METHOD OF PAYMENT
MODE DE PAIEMENT

[X] PREPAID / PORT PAYÉ [ ] COLLECT / PORT DÛ

[ ] CASH / COMPTANT [X] ACCOUNT / COMPTE [ ] CREDIT CARD / CARTE DE CRÉDIT

The carrier's liability in the event of loss, damage or delay, whether it be caused by the negligence of the carrier or otherwise, is limited to CAD $1.10 per kilogram, but not less than CAD $50.00, unless a higher value for the shipment is declared on the Air Waybill at the time of receipt of the shipment from the shipper.

AGENT'S SIGNATURE / SIGNATURE DE L'AGENT: X

DATE: [illegible] TIME / HEURE: [illegible] AM/PM

M DD Y/A

SHIPPER'S SIGNATURE / SIGNATURE DE L'EXPÉDITEUR: X

NUMBER OF PIECES / NO. DE COLIS	WEIGHT / POIDS	REQUIRED DESCRIPTION OF CONTENTS / DESCRIPTION DU CONTENU REQUIS
1	8 KG	Water Samples: Non Haz

DELIVER / LIVRAISON [ ] HOLD AND NOTIFY / CONSERVEZ ET AVISEZ [ ] NORMAL / NORMALE [ ] SPECIAL / SPÉCIALE

SPECIAL DELIVERY INSTRUCTIONS / DIRECTIVES SPÉCIALES

Attention: Daniel Woodley

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CS 005

AGAT Laboratories

6310 ROPER ROAD
EDMONTON, ALBERTA
CANADA T6B 3P9
TEL (780)395-2525
FAX (780)462-2490
http://www.agatlabs.com

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.
2100, 250 6 AVENUE SW
CALGARY, AB T2P3H7
(403) 233-4000

ATTENTION TO: Brenda White

PROJECT: Chinook EL 470

AGAT WORK ORDER: 16E067509

TRACE ORGANICS REVIEWED BY: Jarrod Roberts, Operations Manager

WATER ANALYSIS REVIEWED BY: Melinda Guay, Technical Reviewer

DATE REPORTED: Feb 16, 2016

PAGES (INCLUDING COVER): 15

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (780) 395-2525

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 16E067509

PROJECT: Chinook EL 470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Brenda White

SAMPLING SITE:

SAMPLED BY:

Petroleum Hydrocarbons (BTEX/F1-F2) in Water

DATE RECEIVED: 2016-02-10

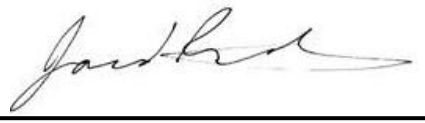
DATE REPORTED: 2016-02-16

		SAMPLE DESCRIPTION:		WW05A 1700	WW04A 1200
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/5/2016	2/5/2016
Parameter	Unit	G / S	RDL	7381515	7381556
Benzene	mg/L		0.0005	<0.0005	<0.0005
Toluene	mg/L		0.0003	0.0008	0.0550
Ethylbenzene	mg/L		0.0005	<0.0005	<0.0005
Xylenes	mg/L		0.0005	<0.0005	<0.0005
C6 - C10 (F1)	mg/L		0.1	<0.1	<0.1
C6 - C10 (F1 minus BTEX)	mg/L		0.1	<0.1	<0.1
C10 - C16 (F2)	mg/L		0.1	<0.1	1.2
Surrogate	Unit	Acceptable Limits			
Toluene-d8 (BTEX)	%	50-150		78	83
o-Terphenyl (F2)	%	50-150		148	149

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

7381515-7381556 The F1 (C6 - C10) fraction is determined by integrating the FID chromatogram from the beginning of the nC6 peak to the apex of the last nC10 peak.
The C6 - C10 fraction is calculated from the FID toluene response factor.
The F2 (C10 - C16) fraction is determined by integrating the FID chromatogram from the apex of the nC10 peak to the apex of the nC16 peak.
The F2 (C10 - C16) fraction is calculated using the average response factor for nC10, nC16, and nC34.
Quality control for the calibration follows the guidelines set out in the CCME Contaminated Sites Method for Soils.
The (F1 minus BTEX) has been calculated by subtracting the BTEX concentration from Fraction 1.
C6 –C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
Xylenes is a calculated parameter. The calculated value is the sum of m&p-Xylenes + o-Xylene.

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 16E067509

PROJECT: Chinook EL 470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Brenda White

SAMPLING SITE:

SAMPLED BY:

Metals - Dissolved - CCME with Mercury and Hexavalent Chromium

DATE RECEIVED: 2016-02-10

DATE REPORTED: 2016-02-16

		SAMPLE DESCRIPTION:		WW05A 1700		WW04A 1200
		SAMPLE TYPE:		Water		Water
		DATE SAMPLED:		2/5/2016		2/5/2016
Parameter	Unit	G / S	RDL	7381515	RDL	7381556
Dissolved Aluminum	mg/L	0.1	0.004	<0.004	0.004	<0.004
Dissolved Antimony	mg/L	0.006	0.001	<0.001	0.001	<0.001
Dissolved Arsenic	mg/L	0.010	0.001	<0.001	0.001	<0.001
Dissolved Barium	mg/L	1	0.05	0.07	0.05	2.32
Dissolved Boron	mg/L	5	0.01	0.05	0.1	0.9
Dissolved Cadmium	mg/L	0.005	0.000016	<0.000016	0.000016	0.000093
Dissolved Chromium	mg/L	0.05	0.001	<0.001	0.001	<0.001
Dissolved Copper	mg/L	1	0.001	<0.001	0.001	0.001
Dissolved Iron	mg/L	0.3	0.1	0.2	0.1	<0.1
Dissolved Lead	mg/L	0.01	0.0005	<0.0005	0.0005	0.0060
Dissolved Manganese	mg/L	0.05	0.005	0.047	0.005	<0.005
Dissolved Mercury	mg/L		0.000005	<0.000005	0.000005	<0.000005
Dissolved Molybdenum	mg/L		0.001	0.004	0.001	0.144
Dissolved Nickel	mg/L		0.01	<0.01	0.01	<0.01
Dissolved Selenium	mg/L		0.0005	<0.0005	0.0005	<0.0005
Dissolved Silver	mg/L	NA	0.00006	<0.00006	0.00006	0.00008
Dissolved Sodium	mg/L	200	0.6	41.2	1.0	1460
Dissolved Thallium	mg/L		0.0005	<0.0005	0.0005	<0.0005
Dissolved Uranium	mg/L	0.02	0.001	<0.001	0.001	<0.001
Dissolved Zinc	mg/L	5	0.01	<0.01	0.01	<0.01
Hexavalent Chromium	mg/L		0.005	<0.005	0.005	<0.005

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (D Water)

7381515-7381556 < - Values refer to Report Detection Limit.
Dissolved Chromium (III) is a calculated parameter. The calculated value is the difference between the dissolved chromium value and the dissolved hexavalent chromium value.

Certified By:

AGAT Laboratories

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EDMONTON, ALBERTA
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FAX (780)462-2490
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 16E067509

PROJECT: Chinook EL 470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Brenda White

SAMPLING SITE:

SAMPLED BY:

Metals - Total - CCME with Mercury and Hexavalent Chromium

DATE RECEIVED: 2016-02-10

DATE REPORTED: 2016-02-16

		SAMPLE DESCRIPTION:		WW05A 1700		WW04A 1200
		SAMPLE TYPE:		Water		Water
		DATE SAMPLED:		2/5/2016		2/5/2016
Parameter	Unit	G / S	RDL	7381515	RDL	7381556
Total Aluminum	mg/L	0.1	0.005	0.029	0.005	0.061
Total Antimony	mg/L	0.006	0.001	<0.001	0.001	0.002
Total Arsenic	mg/L	0.010	0.005	<0.005	0.005	<0.005
Total Barium	mg/L	1	0.05	0.06	0.05	2.59
Total Boron	mg/L	5	0.01	0.05	0.1	1.7
Total Cadmium	mg/L	0.005	0.000016	0.000021	0.000016	0.000116
Total Chromium	mg/L	0.05	0.001	<0.001	0.001	0.010
Total Chromium (VI)	mg/L		0.01	<0.01	0.01	<0.01
Total Cobalt	mg/L		0.001	<0.001	0.001	<0.001
Total Copper	mg/L		0.001	0.001	0.001	0.039
Total Iron	mg/L		0.1	0.9	0.1	9.3
Total Lead	mg/L	0.01	0.0010	<0.0010	0.0010	0.118
Total Manganese	mg/L	0.05	0.005	0.064	0.005	0.128
Total Mercury	mg/L		0.000005	<0.000005	0.000005	<0.000005
Total Molybdenum	mg/L		0.001	0.003	0.001	0.102
Total Nickel	mg/L		0.01	<0.01	0.01	<0.01
Total Selenium	mg/L	0.01	0.0010	<0.0010	0.0010	0.0090
Total Silver	mg/L		0.00005	<0.00005	0.00005	<0.00005
Total Sodium	mg/L		0.6	47.0	6	1530
Total Thallium	mg/L		0.0005	<0.0005	0.0005	<0.0005
Total Uranium	mg/L	0.02	0.001	<0.001	0.001	<0.001
Total Zinc	mg/L	5	0.01	0.14	0.01	0.04

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (D Water)

7381515-7381556 < - Values refer to Report Detection Limit.

Certified By:

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CANADA T6B 3P9
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Certificate of Analysis

AGAT WORK ORDER: 16E067509

PROJECT: Chinook EL 470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Brenda White

SAMPLING SITE:

SAMPLED BY:

Routine Chemistry Water Analysis

DATE RECEIVED: 2016-02-10

DATE REPORTED: 2016-02-16

		SAMPLE DESCRIPTION:		WW05A 1700		WW04A 1200
		SAMPLE TYPE:		Water		Water
		DATE SAMPLED:		2/5/2016		2/5/2016
Parameter	Unit	G / S	RDL	7381515	RDL	7381556
pH	pH Units	6.5-8.5	NA	7.46	NA	8.69
p - Alkalinity (as CaCO3)	mg/L		5	<5	5	96
T - Alkalinity (as CaCO3)	mg/L		5	174	5	1410
Bicarbonate	mg/L		5	212	5	1490
Carbonate	mg/L		5	<5	5	116
Hydroxide	mg/L		5	<5	5	<5
Electrical Conductivity	uS/cm		1	549	1	6750
Fluoride	mg/L	1.5	0.05	<0.05	0.45	<0.45
Chloride	mg/L	250	1	9	3	1460
Nitrite	mg/L	3	0.05	<0.05	0.05	<0.05
Nitrite-N	mg/L	1	0.02	<0.02	0.02	<0.02
Nitrate	mg/L	45	0.5	<0.5	0.5	<0.5
Nitrate-N	mg/L	10	0.02	<0.02	0.02	<0.02
Nitrate+Nitrite - Nitrogen	mg/L		0.02	<0.02	0.02	<0.02
Sulfate	mg/L	500	1	83	1	<1
Dissolved Calcium	mg/L		0.3	39.2	0.3	3.2
Dissolved Magnesium	mg/L		0.2	17.1	0.2	3.0
Dissolved Sodium	mg/L	200	0.6	41.2	1.0	1460
Dissolved Potassium	mg/L		0.6	6.6	0.6	16.6
Dissolved Iron	mg/L	0.3	0.1	0.2	0.1	<0.1
Dissolved Manganese	mg/L	0.05	0.005	0.047	0.005	<0.005
Calculated TDS	mg/L		0.6	325	0.6	3920
Sodium Adsorption Ratio	N/A			1.38		141
Hardness	mg CaCO3/L		1	168	1	20
Ion Balance	%		1	98	1	93

Certified By:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 16E067509

PROJECT: Chinook EL 470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Brenda White

SAMPLING SITE:

SAMPLED BY:

Routine Chemistry Water Analysis

DATE RECEIVED: 2016-02-10

DATE REPORTED: 2016-02-16

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (D Water)

7381515-7381556 < - Values refer to Report Detection Limits.
pH has been analyzed past the recommended holding time of 15 minutes from sampling (field measurement ideal if more accurate data required)
Nitrate and Nitrite: The regulatory hold time for the analysis of nitrate and/or nitrite in water is 48 hours in Alberta and 72 hours in British Columbia.
Calculated TDS is a calculated parameter. The calculation is from “Checking Analysis’ Correctness”, 1030E, Standard Methods for the Examination of Water and Wastewater.
Hardness is a calculated parameter. The calculation is from “Hardness by Calculation”, 2340B, Standard Methods for the Examination of Water and Wastewater.
Ion Balance is a calculated parameter. The calculated value is the ratio of the sum of anions divided by the sum of cations in meq/L, multiplied by 100.
Nitrate+Nitrite – Nitrogen is a calculated parameter. The calculated value is the sum of the nitrite as N and the nitrate as N values.
SAR is a calculated parameter. The calculated value is the ratio of the sodium concentration in mmol/L over the square rooted sum of the calcium and magnesium concentrations in mmol/L.

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Quality Assurance

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 16E067509

PROJECT: Chinook EL 470

ATTENTION TO: Brenda White

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Feb 16, 2016			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Petroleum Hydrocarbons (BTEX/F1-F2) in Water															
Benzene	1237	7379132	< 0.0005	< 0.0005	NA	< 0.0005	90%	80%	120%	109%	80%	120%	112%	70%	130%
Toluene	1237	7379132	< 0.0003	< 0.0003	NA	< 0.0003	89%	80%	120%	95%	80%	120%	90%	70%	130%
Ethylbenzene	1237	7379132	< 0.0005	< 0.0005	NA	< 0.0005	103%	80%	120%	91%	80%	120%	82%	70%	130%
Xylenes	1237	7379132	< 0.0005	< 0.0005	NA	< 0.0005	98%	80%	120%	89%	80%	120%	82%	70%	130%
C6 - C10 (F1)	1237	7379132	< 0.1	< 0.1	NA	< 0.1	104%	80%	120%	84%	80%	120%	87%	70%	130%
C10 - C16 (F2)	676	LS	0.3	0.3	NA	< 0.1	93%	80%	120%	102%	80%	120%	76%	70%	130%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

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Water Analysis

RPT Date: Feb 16, 2016

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals - Dissolved - CCME with Mercury and Hexavalent Chromium															
Dissolved Aluminum	41	7379102	<0.004	<0.004	NA	< 0.004	91%	80%	120%				90%	80%	120%
Dissolved Antimony	41	7379102	<0.001	<0.001	NA	< 0.001	103%	80%	120%				103%	80%	120%
Dissolved Arsenic	41	7379102	<0.001	<0.001	NA	< 0.001	98%	80%	120%				102%	80%	120%
Dissolved Barium	41	7379102	<0.05	<0.05	NA	< 0.05	101%	80%	120%				93%	80%	120%
Dissolved Boron	41	7379102	0.08	0.08	0.0%	< 0.01	94%	80%	120%				84%	80%	120%
Dissolved Cadmium	41	7379102	<0.	<0.	NA	< 0.000016	94%	80%	120%				99%	80%	120%
Dissolved Chromium	41	7379102	<0.001	<0.001	NA	< 0.001	100%	80%	120%				96%	80%	120%
Dissolved Copper	41	7379102	<0.001	<0.001	NA	< 0.001	98%	80%	120%				96%	80%	120%
Dissolved Iron	41	7379102	0.2	0.2	NA	< 0.1	98%	80%	120%				102%	80%	120%
Dissolved Lead	41	7379102	<0.0005	<0.0005	NA	< 0.0005	97%	80%	120%				98%	80%	120%
Dissolved Manganese	41	7379102	<0.005	0.007	NA	< 0.005	100%	80%	120%				102%	80%	120%
Dissolved Mercury	45	7378974	<0.	0.000006	NA	< 0.000005	82%	80%	120%	81%	80%	120%			
Dissolved Molybdenum	41	7379102	<0.001	<0.001	NA	< 0.001	107%	80%	120%				112%	80%	120%
Dissolved Nickel	41	7379102	<0.01	<0.01	NA	< 0.01	95%	80%	120%				97%	80%	120%
Dissolved Selenium	41	7379102	<0.0005	<0.0005	NA	< 0.0005	104%	80%	120%				112%	80%	120%
Dissolved Silver	41	7379102	<0.00006	<0.00006	NA	< 0.00005	92%	80%	120%				115%	80%	120%
Dissolved Sodium	41	7379102	149	149	0.0%	< 0.6	98%	80%	120%				116%	80%	120%
Dissolved Thallium	41	7379102	<0.0005	<0.0005	NA	< 0.0005	96%	80%	120%				100%	80%	120%
Dissolved Uranium	41	7379102	<0.001	<0.001	NA	< 0.001	101%	80%	120%				110%	80%	120%
Dissolved Zinc	41	7379102	<0.01	<0.01	NA	< 0.01	103%	80%	120%				92%	80%	120%
Hexavalent Chromium	41	7382118	< 0.005	< 0.005	0.0%	< 0.005	95%	80%	120%	92%	80%	120%	98%	80%	120%

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Metals - Total - CCME with Mercury and Hexavalent Chromium															
Total Aluminum	42	7381515	0.032	0.029	9.8%	< 0.004	106%	80%	120%				90%	80%	120%
Total Antimony	42	7381515	<0.001	<0.001	NA	< 0.001	101%	80%	120%				102%	80%	120%
Total Arsenic	42	7381515	<0.005	<0.005	NA	< 0.001	88%	80%	120%				103%	80%	120%
Total Barium	42	7381515	0.06	0.06	NA	< 0.05	90%	80%	120%				94%	80%	120%
Total Boron	42	7381515	0.05	0.05	0.0%	< 0.01	96%	80%	120%				110%	80%	120%
Total Cadmium	42	7381515	0.000021	0.000021	NA	< 0.000016	90%	80%	120%				100%	80%	120%
Total Chromium	42	7381515	<0.001	<0.001	NA	< 0.001	89%	80%	120%				92%	80%	120%
Total Cobalt	42	7381515	<0.001	<0.001	NA	< 0.001	87%	80%	120%				95%	80%	120%
Total Copper	42	7381515	0.001	0.003	NA	< 0.001	86%	80%	120%				93%	80%	120%
Total Iron	42	7381515	0.9	0.9	0.0%	< 0.1	96%	80%	120%				109%	80%	120%
Total Lead	42	7381515	<0.0010	0.0025	NA	< 0.0005	92%	80%	120%				100%	80%	120%
Total Manganese	42	7381515	0.064	0.070	9.0%	< 0.005	98%	80%	120%				103%	80%	120%
Total Mercury	45	7378974	0.000048	0.000047	2.1%	< 0.000005	82%	80%	120%				100%	80%	120%
Total Molybdenum	42	7381515	0.003	0.003	NA	< 0.001	99%	80%	120%				101%	80%	120%

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Quality Assurance

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AGAT WORK ORDER: 16E067509

PROJECT: Chinook EL 470

ATTENTION TO: Brenda White

SAMPLING SITE:

SAMPLED BY:

Water Analysis (Continued)

RPT Date: Feb 16, 2016			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Total Nickel	42	7381515	<0.01	<0.01	NA	< 0.01	86%	80%	120%				94%	80%	120%
Total Selenium	42	7381515	<0.0010	<0.0010	NA	< 0.0005	98%	80%	120%				102%	80%	120%
Total Silver	42	7381515	<0.00005	<0.00005	NA	< 0.00005	94%	80%	120%				97%	80%	120%
Total Sodium	42	7381515	47.0	48.9	4.0%	< 0.6	98%	80%	120%				105%	80%	120%
Total Thallium	42	7381515	<0.0005	<0.0005	NA	< 0.0005	90%	80%	120%				102%	80%	120%
Total Uranium	42	7381515	<0.001	<0.001	NA	< 0.001	94%	80%	120%				102%	80%	120%
Total Zinc	42	7381515	0.14	0.15	6.9%	< 0.01	99%	80%	120%				97%	80%	120%

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Routine Chemistry Water Analysis															
pH	1173	7378994	7.72	7.75	0.4%		99%	90%	110%						
p - Alkalinity (as CaCO3)	1173	7378994	<5	<5	NA	< 5									
T - Alkalinity (as CaCO3)	1173	7378994	671	645	4.0%	< 5	91%	80%	120%						
Bicarbonate	1173	7378994	819	787	4.0%	< 5									
Carbonate	1173	7378994	<5	<5	NA	< 5									
Hydroxide	1173	7378994	<5	<5	NA	< 5									
Electrical Conductivity	1173	7378994	2860	2860	0.0%	< 1	102%	80%	120%						
Fluoride	1091	7381515	<0.05	<0.05	NA	< 0.05	110%	80%	120%	117%	80%	120%	98%	80%	120%
Chloride	1091	7381515	9	9	0.0%	< 1	118%	80%	120%	109%	80%	120%	112%	80%	120%
Nitrite	1091	7381515	<0.05	<0.05	NA	< 0.05	118%	80%	120%	109%	80%	120%	111%	80%	120%
Nitrate	1091	7381515	<0.5	<0.5	NA	< 0.5	118%	80%	120%	110%	80%	120%	111%	80%	120%
Sulfate	1091	7381515	83	84	1.2%	< 1	116%	80%	120%	110%	80%	120%	109%	80%	120%
Dissolved Calcium	41	7379102	17.2	17.5	1.7%	< 0.3	103%	80%	120%				114%	80%	120%
Dissolved Magnesium	41	7379102	5.7	5.8	1.7%	< 0.2	104%	80%	120%				109%	80%	120%
Dissolved Sodium	41	7379102	149	149	0.0%	< 0.6	98%	80%	120%				116%	80%	120%
Dissolved Potassium	41	7379102	5.7	5.7	0.0%	< 0.6	98%	80%	120%				106%	80%	120%
Dissolved Iron	41	7379102	0.2	0.2	NA	< 0.1	98%	80%	120%				102%	80%	120%
Dissolved Manganese	41	7379102	<0.005	0.007	NA	< 0.005	100%	80%	120%				102%	80%	120%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.
If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.

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Method Summary

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 16E067509

PROJECT: Chinook EL 470

ATTENTION TO: Brenda White

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Benzene	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
Toluene	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
Ethylbenzene	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
Xylenes	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
C6 - C10 (F1)	ORG-170-5110/5140/5430/5440	CCME Tier 1 Method-W L	GC/FID
C6 - C10 (F1 minus BTEX)	ORG-170-5110/5140/5430/5440	CCME Tier 1 Method-W L	GC/FID
C10 - C16 (F2)	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
Toluene-d8 (BTEX)	ORG-170-5110/5140/5430/5440	EPA 624 & SW-846 5030-W	GC/MS
o-Terphenyl (F2)	ORG-170-5120/5300	CCME Tier 1 Method-W H	GCFID

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SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Aluminum	INO-171-6202	SM 3125 B	ICP-MS
Dissolved Antimony	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Arsenic	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Barium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Boron	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Cadmium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Chromium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Copper	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Iron	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Lead	INOR-171-6202	SM 3125 B DW	ICP-MS
Dissolved Manganese	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Mercury		SM 3112 B	CV/AFS
Dissolved Molybdenum	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Nickel	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Selenium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Silver	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Sodium	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Thallium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Uranium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Zinc	INOR-171-6202	SM 3125 B	ICP-MS
Hexavalent Chromium	SPE 0101	EPA SW 846-6010B, SM 3030B	SPECTROPHOTOMETER
Total Aluminum	INOR-171-6201, INOR-171-6100	SM 3030 E; SM 3125 B	ICP-MS
Total Antimony	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP-MS
Total Arsenic	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Barium	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Boron	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Cadmium	INOR-171-6201	SM 3030 E; SM 3125 B	ICP/MS
Total Chromium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Chromium (VI)	SOIL 0600	REISENAUER	SPECTROPHOTOMETER
Total Cobalt	INOR-171-6100, -6202	SM 3030 E; SM 3125 B	ICP-MS
Total Copper	INOR-171-6100, -6202	SM 3030 E; SM 3125 B	ICP-MS
Total Iron	INOR-171-6100, 171-6201	SM 3030 E; SM 3120 B	ICP/OES
Total Lead	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Manganese	INOR-171-6201	SM 3030 E; SM 3120 B	ICP/OES
Total Mercury	INOR-171-6202	SM 3112 B	CV/AFS
Total Molybdenum	INOR-171-6202	SM 3030 E; SM 3125 B	ICP/MS
Total Nickel	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Selenium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Silver	INO-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Sodium	INOR-171-6201	SM 3030 E; SM 3120 B TW	ICP/OES
Total Thallium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Uranium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Zinc	INORG-171-6202	SM 3030 E; SM 3125 B	ICP-MS
pH	INOR-171-6205	SM 4500 H+	PH METER
p - Alkalinity (as CaCO3)	INOR-171-6205	SM 2320 B	TITRATION
T - Alkalinity (as CaCO3)	INOR-171-6205	SM 2320 B	TITRATION
Bicarbonate	INOR-171-6205	SM 2320 B	PC TITRATE
Carbonate	INOR-171-6205	SM 2320 B	PC TITRATE

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AGAT WORK ORDER: 16E067509

PROJECT: Chinook EL 470

ATTENTION TO: Brenda White

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Hydroxide	INOR-171-6205	SM 2320 B	TITRATION
Electrical Conductivity	INOR-171-6205	SM 2510 B	CONDUCTIVITY METER
Fluoride	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Chloride	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Nitrite	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrite-N	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Nitrate-N	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate+Nitrite - Nitrogen	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Sulfate	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Dissolved Calcium	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Magnesium	INST 0140	SM 3120 B	ICP/OES
Dissolved Potassium	INST 0140	SM 3120 B	ICP/OES
Calculated TDS		SM 1030E	CALCULATION
Sodium Adsorption Ratio		CARTER & GREGORICH 2007	ICP/OES
Hardness		SM 3120 B	ICP/OES
Ion Balance		SM 1030E	CALCULATION

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Chain of Custody Record

Laboratory Use Only
Arrival Temperature: 4.2°C
AGAT Job Number: 16E067509
Date and Time: '16 FEB 10 11:13

Report Information
Company: Hobbit Environmental
Contact: Jeff Powers
Address:
Phone: 907 355 1769 Fax:
LSD:
Client Project #: Chinook EL 470

Report Information
1. Name: Jeff Powers
Email: jwpowers@mtaonline.net
2. Name: Brenda White
Email: Brenda.M.White@conocophillips.com
3. Name:
Email:

Report Format
☐ Single Sample per Page
☒ Multiple Samples per Page

Turnaround Time Required (TAT)
Regular TAT ☒ 5 to 7 business days
Rush TAT ☐ Less than 24 hours ☐ 24 to 48 hours ☐ 48 to 72 hours
Date Required:
RUSH TAT REQUESTS UPON SELECTING A RUSH TAT, THE CLIENT ACCEPTS THAT A RUSH SURCHARGE WILL BE ADDED TO THE INVOICE. SEE BACK FOR SURCHARGE.

Invoice To Same Yes ☐ / No ☒
Company: Conoco Phillips Canada
Contact: Brenda White
Address:
Phone: Fax:
PO/AFE#:

Requirements (Selection may impact detection limits)
☐ CCME ☐ AB Tier 1 ☐ BC CSR
☐ Agricultural ☐ Agricultural ☐ AW
☐ Industrial ☐ Industrial ☐ IW
☐ Residential/Park ☐ Residential/Park ☐ LW
☐ Commercial ☐ Commercial ☐ DW
☐ Drinking Water ☐ Natural Area
☒ FWAL ☐ AB Surface Water
☐ Other
☐ D50 (Drilling) ☐ SPIGEC

LABORATORY USE (LAB ID #)	SAMPLE IDENTIFICATION	SAMPLE MATRIX	DATE/TIME SAMPLED	COMMENTS - SITE SAMPLE INFO. SAMPLE CONTAINMENT	# OF CONTAINERS	Detailed Soil Salinity (Saturated Paste)	CCME BTEX/F1-F4	Soil Metals ☐ HWS-B ☐ Cr^6 ☐ Hg	Water Metals ☒ Dissolved ☐ Total ☐ Hg ☐ Cr^6	Routine Water Potability	AB Class 2 Landfill	BC Landfill	D50 Detailed Soil Salinity (As Received)	Microtox	BTEXS/VPH/EPH ☐ LEPH/HEPH ☐								HOLD FOR 60 DAYS	PRESERVED (Y/N)	CONTAMINATED/HAZARDOUS (Y/N)
7381515	WW05A 1700	Water	2/5/16 1700		8		X		X	X														
556	WW07A 1200	Water	2/7/16 1200		8		X		X	X														

Samples Relinquished By (Print Name and Sign): Jeff Powers — Date/Time: 2/9/16 0900 — Samples Received By (Print Name and Sign): Jason Trasmonte — Date/Time: 2/10/16 1113H
Samples Relinquished By (Print Name and Sign): — Date/Time: — Samples Received By (Print Name and Sign): — Date/Time:
Samples Relinquished By (Print Name and Sign): — Date/Time: — Samples Received By (Print Name and Sign): — Date/Time:

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

Page ____ of ____
N°: AB 004476

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: Hobbit Environmental

Courier: Canadian North Prepaid Collect

Waybill# 518-YVQ-7054-3443

Branch [EDM] GP FN FM RD VAN LYD FSJ EST Other:____

If multiple sites were submitted at once: Yes (No)

Custody Seal Intact: Yes No (NA)

TAT: <24hr 24-48hr 48-72hr (Reg) Other____

Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes (No)

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry: n/a

Hydrocarbons: Earliest Expiry Feb. 19, 2016

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES (NO) Precaution Taken:____

Legal Samples: Yes (No)

International Samples: Yes (No)

Tape Sealed: Yes (No)

Coolant Used: Icepack Bagged Ice Free Ice Free Water None

Temperature (Bottles/Jars only) N/A if only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar) 3.1 + 4.9 + 4.6 = 4.2 °C 2(Bottle/Jar)___+___+___=___°C

3 (Bottle/Jar)___+___+___=___°C 4 (Bottle/Jar)___+___+___=___°C

5 (Bottle/Jar)___+___+___=___°C 6 (Bottle/Jar)___+___+___=___°C

7 (Bottle/Jar)___+___+___=___°C 8 (Bottle/Jar)___+___+___=___°C

9 (Bottle/Jar)___+___+___=___°C 10 (Bottle/Jar)___+___+___=___°C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No: 16E067509

Samples Damaged: Yes (No) If YES why?

No Bubble Wrap Frozen Courier

Other:____

Account Project Manager:____ have they been notified of the above issues: Yes No

Whom spoken to:____ Date/Time:____

CPM Initial____

General Comments:____

* Subcontracted Analysis (See CPM)

Date issued: October 05, 2015
Document ID: SR-9505.003

518-YVQ-7054-3443

SHIPPER'S NAME AND ADDRESS

MacKay Expediting & Logistics Ltd

Norman Wells, NT
Canada
REgistered Ship

SHIPPER'S ACCOUNT NUMBER: MAC115CW

NOT NEGOTIABLE
AIR WAYBILL
(AIR CONSIGNMENT NOTE)

Canadian North
101 3731 52 Ave E
Edmonton Int Arpt, AB T9E 0V4
Canada

GST #: R 892440629

Copies 1, 2 and 3 of this Air Waybill are originals and have the same validity.

It is agreed that the goods described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. ALL GOODS MAY BE CARRIED BY ANY OTHER MEANS INCLUDING ROAD OR ANY OTHER CARRIER UNLESS SPECIFIC CONTRARY INSTRUCTIONS ARE GIVEN HEREON BY THE SHIPPER, AND THE SHIPPER AGREES THAT THE SHIPMENTS MAY BE CARRIED VIA INTERMEDIATE STOPPING PLACES WHICH THE CARRIER DEEMS APPROPRIATE. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.

CONSIGNEE'S NAME AND ADDRESS

AGAT Laboratories YEG
6310 Roper Road
780 395 2525
Edmonton, AB
Canada
1 780 395 2525 Dan Woogler

CONSIGNEE'S ACCOUNT NUMBER

SIGNATURE | RECEIVED IN GOOD ORDER | PLACE | DATE/TIME

PRINTED NAME

ISSUING CARRIER'S AGENT NAME AND CITY

ALSO NOTIFY: NAME AND ADDRESS *(OPTIONAL ACCOUNTING INFORMATION)*

Acc.#: MAC115CW
MacKay Expediting & Logistics Ltd (MXL)
18, Yellowknife Airport
100 McMillan Street
Yellowknife, NT X1A 3T2

TO EXPEDITE MOVEMENT, SHIPMENT MAY BE DIVERTED TO MOTOR OR OTHER CARRIER UNLESS SHIPPER GIVES OTHER INSTRUCTIONS HEREON.

AGENT'S IATA CODE | ACCOUNT NO.

DOMESTIC LIABILITY:

AIRPORT OF DEPARTURE (ADDR OF FIRST CARRIER) AND REQUESTED ROUTING

Norman Wells

ROUTING AND DESTINATION

TO	BY FIRST CARRIER	TO	BY	TO	BY
YEG	Canadian North				

CURRENCY	CHGS Code	WT/VAL PPD	WT/VAL COLL	OTHER PPD	OTHER COLL	DECLARED VALUE FOR CARRIAGE	DECLARED VALUE FOR CUSTOMS
CAD	3RD	X		X		NVD	NCV

AIRPORT OF DESTINATION: Edmonton

FOR CARRIER USE ONLY: FLIGHT/DATE | FLIGHT/DATE

AMOUNT OF INSURANCE: 0.00

INSURANCE - If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".

INSURANCE DECLINED INITIALS ____

HANDLING INFORMATION These commodities licensed by US for ultimate destination

Hold and Notify
Keep Cool

DUPLICATE COPY

NO. OF PIECES RCP	GROSS WEIGHT	kg/lb	RATE CLASS	COMMODITY ITEM NO.	CHARGEABLE WEIGHT	RATE / CHARGE	TOTAL	NATURE AND QUANTITY OF GOODS (INCL. DIMENSIONS OR VOLUME)
1	10	K	M	GAD 30	10	MIN	56.80	Water Samples DIMS 16x11x16IN (bulk)
1	10						56.80	

PREPAID	WEIGHT CHARGE	COLLECT	P-UP ZONE	PICKUP CHARGES	ORIGIN ADVANCE CHARGES	DESCRIPTION OF ORIGIN ADVANCE
	56.80	0.00		0.00	0.00	

VALUATION CHARGE		DEL ZONE	DELIVERY CHARGES	DEST. ADVANCE CHARGES	DESCRIPTION OF DEST. ADVANCE
0.00	0.00		0.00	0.00	

TAX		OTHER CHARGES AND DESCRIPTION	ITEMS PREPAID	ITEMS COLLECT
3.69	0.00	17.04 Nav Canada Charge, Fuel S		

TOTAL OTHER CHARGES DUE AGENT		Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations.
0.00	0.00	
TOTAL OTHER CHARGES DUE CARRIER		**RE-WEIGH/DIMENSIONAL WEIGHT AND SHIPPER GUARANTEES ALL CHARGES SUBJECT TO RATE AUDIT**
17.04	0.00	
COD → CURRENCY: CAD	0.00	
TOTAL PREPAID	TOTAL COLLECT	PRINTED NAME ____ SIGNATURE ____
77.53	0.00	SIGNATURE OF SHIPPER ABOVE AND INITIAL APPLICABLE BOX BELOW. [X] THIS SHIPMENT DOES NOT CONTAIN DANGEROUS GOODS REGULATED IN AIR TRANSPORT. [ ] THIS SHIPMENT DOES CONTAIN DANGEROUS GOODS REGULATED IN AIR TRANSPORT.

CURRENCY CONVERSION RATES	TOTAL COLLECT IN DESTINATION CURRENCY	EXECUTED ON	
		2/9/2016 (Date) 10:44 (Time)	at (Place) 995302 SIGNATURE OF ISSUING CARRIER OR ITS AGENT
FOR CARRIERS USE ONLY AT DESTINATION (ALL COLLECT CHARGES IN DESTINATION CURRENCY)	CHARGES AT DESTINATION	TOTAL COLLECT CHARGES	

518-YVQ-7054-3443

AGAT Laboratories
6310 Roper Road
Edmonton, Alberta T6B 3P9
P: 780.395-2525. • F: 780-462-2490
webearth.agatlabs.com

Chain of Custody Record

Laboratory Use Only
Arrival Temperature: 4.2°C
AGAT Job Number: 16E067509
Date and Time: '16 FEB 10 11:13

Report Information
Company: Hobbit Environmental
Contact: Jeff Powers
Address:
Phone: 907 355 1769 Fax:
LSD:
Client Project #: Chinook EL 470

Report Information
1. Name: Jeff Powers
Email: japowers@mtaonline.net
2. Name: Brenda White
Email: Brenda.M.White@conocophillips.com
3. Name:
Email:

Report Format
☐ Single Sample per Page
☒ Multiple Samples per Page

Turnaround Time Required (TAT)
Regular TAT ☒ 5 to 7 business days
Rush TAT ☐ Less than 24 hours ☐ 24 to 48 hours ☐ 48 to 72 hours
Date Required:
RUSH TAT REQUESTS UPON SELECTING A RUSH TAT, THE CLIENT ACCEPTS THAT A RUSH SURCHARGE WILL BE ADDED TO THE INVOICE. SEE BACK FOR SURCHARGE.

Invoice To Same Yes ☐ / No ☒
Company: Conoco Phillips Canada
Contact: Brenda White
Address:
Phone: Fax:
PO/AFE#:

Requirements (Selection may impact detection limits)
☒ CCME ☐ AB Tier 1 ☐ BC CSR
☐ Agricultural ☐ Agricultural ☐ AW
☐ Industrial ☐ Industrial ☐ IW
☐ Residential/Park ☐ Residential/Park ☐ LW
☐ Commercial ☐ Commercial ☐ DW
☐ Drinking Water ☐ Natural Area
☒ FWAL ☐ AB Surface Water
☐ Other
☐ D50 (Drilling) ☐ SPIGEC

LABORATORY USE (LAB ID #)	SAMPLE IDENTIFICATION	SAMPLE MATRIX	DATE/TIME SAMPLED	COMMENTS - SITE SAMPLE INFO. SAMPLE CONTAINMENT	# OF CONTAINERS	Detailed Soil Salinity (Saturated Paste)	CCME BTEX/F1-F4	Soil Metals ☐ HWS-B ☐ Cr^{6+} ☐ Hg	Water Metals ☒ Dissolved ☐ Total ☐ Hg ☐ Cr^{6+}	Routine Water Potability	AB Class 2 Landfill	BC Landfill	D50 Detailed Soil Salinity (As Received)	Microtox	BTEXS/VPH/EPH ☐ LEPH/HEPH ☐	HOLD FOR 60 DAYS	PRESERVED (Y/N)	CONTAMINATED/HAZARDOUS (Y/N)
7381515	WW05A 1700	Water	2/5/16 1700		8		X		X	X								
556	WW01A 1200	Water	2/7/16 1200		8		X		X	X								

Samples Relinquished By (Print Name and Sign):	Date/Time	Samples Received By (Print Name and Sign):	Date/Time
Jeff Powers Jeff Powers	2/9/16 0800	Jason Trasmonte	2/10/16 1113H

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

Page ____ of ____
N°: AB 004476

Document ID: DIC-50-1507-003
Date Revised: October 24th, 2014

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: Hobbit Environmental

Courier: Canadian North Prepaid Collect

Waybill# 518-YVQ-7054-3443

Branch: (EDM) GP FN FM RD VAN LYD FSJ EST Other:____

If multiple sites were submitted at once: Yes (No)

Custody Seal Intact: Yes No (NA)

TAT: <24hr 24-48hr 48-72hr (Reg) Other____

Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes (No)

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry: n/a

Hydrocarbons: Earliest Expiry Feb. 19, 2016

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES (NO) Precaution Taken:____

Legal Samples: Yes (No)

International Samples: Yes (No)

Tape Sealed: Yes (No)

Coolant Used: Icepack Bagged Ice Free Ice Free Water None

Temperature (Bottles/Jars only) N/A if only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar) 3.1 + 4.9 + 4.6 = 4.2 °C	2 (Bottle/Jar) ___ + ___ + ___ = ___ °C
3 (Bottle/Jar) ___ + ___ + ___ = ___ °C	4 (Bottle/Jar) ___ + ___ + ___ = ___ °C
5 (Bottle/Jar) ___ + ___ + ___ = ___ °C	6 (Bottle/Jar) ___ + ___ + ___ = ___ °C
7 (Bottle/Jar) ___ + ___ + ___ = ___ °C	8 (Bottle/Jar) ___ + ___ + ___ = ___ °C
9 (Bottle/Jar) ___ + ___ + ___ = ___ °C	10 (Bottle/Jar) ___ + ___ + ___ = ___ °C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No: 16E067509

Samples Damaged: Yes (No) If YES why?

No Bubble Wrap Frozen Courier

Other:____

Account Project Manager:____ have they been notified of the above issues: Yes No

Whom spoken to:____ Date/Time:____

CPM Initial____

General Comments:____

* Subcontracted Analysis (See CPM)

518 | YVO | 7054-3443 518-YVQ-7054-3443

SHIPPER'S NAME AND ADDRESS
MacKay Expediting & Logistics Ltd

Norman Wells, NT
Canada
REgistered Ship

SHIPPER'S ACCOUNT NUMBER: MAC115CW

NOT NEGOTIABLE
AIR WAYBILL
(AIR CONSIGNMENT NOTE)

Canadian North
101 3731 52 Ave E
Edmonton Int Arpt, AB T9E 0V4
Canada

GST #: R 892440629

Copies 1, 2 and 3 of this Air Waybill are originals and have the same validity.

It is agreed that the goods described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. ALL GOODS MAY BE CARRIED BY ANY OTHER MEANS INCLUDING ROAD OR ANY OTHER CARRIER UNLESS SPECIFIC CONTRARY INSTRUCTIONS ARE GIVEN HEREON BY THE SHIPPER, AND THE SHIPPER AGREES THAT THE SHIPMENTS MAY BE CARRIED VIA INTERMEDIATE STOPPING PLACES WHICH THE CARRIER DEEMS APPROPRIATE. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.

CONSIGNEE'S NAME AND ADDRESS
AGAT Laboratories YEG
6310 Roper Road
780 395 2525
Edmonton, AB
Canada
1 780 395 2525 Dan Woogler

CONSIGNEE'S ACCOUNT NUMBER

SIGNATURE | RECEIVED IN GOOD ORDER | PLACE | DATE/TIME

PRINTED NAME

ISSUING CARRIER'S AGENT NAME AND CITY

ALSO NOTIFY: NAME AND ADDRESS *(OPTIONAL ACCOUNTING INFORMATION)*
Acc.#: MAC115CW
MacKay Expediting & Logistics Ltd (MXL)
18, Yellowknife Airport
100 McMillan Street
Yellowknife, NT X1A 3T2
TO EXPEDITE MOVEMENT, SHIPMENT MAY BE DIVERTED TO MOTOR OR OTHER CARRIER UNLESS SHIPPER GIVES OTHER INSTRUCTIONS HEREON.

AGENT'S IATA CODE | ACCOUNT NO.

DOMESTIC LIABILITY:

AIRPORT OF DEPARTURE (ADDR OF FIRST CARRIER) AND REQUESTED ROUTING
Norman Wells

ROUTING AND DESTINATION

TO	BY FIRST CARRIER	TO	BY	TO	BY
YEG	Canadian North				

CURRENCY	CHGS Code	WT/VAL PPD	WT/VAL COLL	OTHER PPD	OTHER COLL	DECLARED VALUE FOR CARRIAGE	DECLARED VALUE FOR CUSTOMS
CAD	3RD	X		X		NVD	NCV

AIRPORT OF DESTINATION: Edmonton

FOR CARRIER USE ONLY: FLIGHT/DATE | FLIGHT/DATE

AMOUNT OF INSURANCE: 0.00

INSURANCE - If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".

INSURANCE DECLINED INITIALS ____

HANDLING INFORMATION These commodities licensed by US for ultimate destination
Hold and Notify
Keep Cool

DUPLICATE COPY

NO. OF PIECES RCP	GROSS WEIGHT	kg / lb	RATE CLASS	COMMODITY ITEM NO.	CHARGEABLE WEIGHT	RATE / CHARGE	TOTAL	NATURE AND QUANTITY OF GOODS (INCL. DIMENSIONS OR VOLUME)
1	10	K	M	GAD 30	10	MIN	56.80	Water Samples DIMS 16x11x16IN (bulk)
1	10						56.80	

PREPAID	WEIGHT CHARGE	COLLECT	P-UP ZONE	PICKUP CHARGES	ORIGIN ADVANCE CHARGES	DESCRIPTION OF ORIGIN ADVANCE
56.80		0.00		0.00	0.00	

VALUATION CHARGE		DEL ZONE	DELIVERY CHARGES	DEST. ADVANCE CHARGES	DESCRIPTION OF DEST. ADVANCE
0.00	0.00		0.00	0.00	

TAX		OTHER CHARGES AND DESCRIPTION	ITEMS PREPAID	ITEMS COLLECT
3.69	0.00	17.04 Nav Canada Charge, Fuel S		

TOTAL OTHER CHARGES DUE AGENT		Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations.
0.00	0.00	
TOTAL OTHER CHARGES DUE CARRIER		**RE-WEIGH/DIMENSIONAL WEIGHT AND SHIPPER GUARANTEES ALL CHARGES SUBJECT TO RATE AUDIT**
17.04	0.00	
COD CURRENCY: CAD	0.00	
TOTAL PREPAID	**TOTAL COLLECT**	PRINTED NAME ____ SIGNATURE ____
77.53	0.00	SIGNATURE OF SHIPPER ABOVE AND INITIAL APPLICABLE BOX BELOW.

[X] THIS SHIPMENT DOES NOT CONTAIN DANGEROUS GOODS REGULATED IN AIR TRANSPORT.

[ ] THIS SHIPMENT DOES CONTAIN DANGEROUS GOODS REGULATED IN AIR TRANSPORT.

CURRENCY CONVERSION RATES	TOTAL COLLECT IN DESTINATION CURRENCY	EXECUTED ON (Date)	(Time)	at (Place)	SIGNATURE OF ISSUING CARRIER OR ITS AGENT
		2/9/2016 10:44			995302

FOR CARRIERS USE ONLY AT DESTINATION (ALL COLLECT CHARGES IN DESTINATION CURRENCY)	CHARGES AT DESTINATION	TOTAL COLLECT CHARGES

518-YVQ-7054-3443

AGAT Laboratories

6310 ROPER ROAD
EDMONTON, ALBERTA
CANADA T6B 3P9
TEL (780)395-2525
FAX (780)462-2490
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

ConocoPhillips - Petroleum Hydrocarbons (BTEXS/F1-F4) in Water

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
Benzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Toluene	mg/L		0.0005	0.0028	0.0405	0.0402
Ethylbenzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Xylenes	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Styrene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
C6 - C10 (F1)	mg/L		0.1	<0.1	<0.1	<0.1
C6 - C10 (F1 minus BTEX)	mg/L		0.1	<0.1	<0.1	<0.1
C>10 - C16	mg/L		0.1	<0.1	0.5	<0.1
C16 - C34	mg/L		0.1	0.2	5.2	<0.1
C>34 - C50	mg/L		0.1	0.5	2.3	<0.1
Surrogate	Unit	Acceptable Limits				
Toluene-d8 (BTEX)	%	50-150		103	104	104
o-Terphenyl (F2-F4)	%	50-150		82	80	82

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5789103-5789117 The C>6 - C10 fraction is calculated using the toluene response factor.
The C10 - C16 fraction is calculated using the average response factor for nC10, nC16 and nC34.
BTEX has NOT been subtracted from Fraction 1.
Sample is blank corrected.

Certified By:

AGAT Laboratories

6310 ROPER ROAD
EDMONTON, ALBERTA
CANADA T6B 3P9
TEL (780)395-2525
FAX (780)462-2490
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Ethanolamines in Water by HPLC - Low Level

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
Ethanolamine (MEA)	mg/L		0.075	<0.075	<0.075	<0.075
Monoisopropanolamine (MIPA)	mg/L		0.1	<0.1	<0.1	<0.1
Diethanolamine (DEA)	mg/L		0.06	<0.06	<0.06	<0.06
Diisopropanolamine (DIPA)	mg/L		0.1	<0.1	<0.1	<0.1

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

AGAT Laboratories

6310 ROPER ROAD
EDMONTON, ALBERTA
CANADA T6B 3P9
TEL (780)395-2525
FAX (780)462-2490
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Formaldehyde in Water

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
Formaldehyde	mg/L		0.1	<0.1	<0.1	<0.1

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

AGAT Laboratories

6310 ROPER ROAD
EDMONTON, ALBERTA
CANADA T6B 3P9
TEL (780)395-2525
FAX (780)462-2490
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Glycols Analysis in Water

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
Propylene Glycol	mg/L		10	<10	<10	<10
Monoethylene Glycol	mg/L		10	<10	<10	<10
Diethylene Glycol	mg/L		5	<5	<5	<5
Triethylene Glycol	mg/L		10	<10	<10	<10
Tetraethylene Glycol	mg/L		10	<10	<10	<10
Surrogate	Unit	Acceptable Limits				
Heptanol	%	50-150		106	84	78

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
5789103-5789117 Identification based on retention time relative to standards.

Certified By:

AGAT Laboratories
6310 ROPER ROAD
EDMONTON, ALBERTA
CANADA T6B 3P9
TEL (780)395-2525
FAX (780)462-2490
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Hydrocarbon Scan C60, Cumulative (GC/FID) - Water

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
C10	mg/L		0.1	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)
C11 (C10 - C11)	mg/L		0.1	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)
C12 (C10 - C12)	mg/L		0.1	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)
C13 (C10 - C13)	mg/L		0.1	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)
C14 (C10 - C14)	mg/L		0.1	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)
C15 (C10 - C15)	mg/L		0.1	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)
C16 (C10 - C16)	mg/L		0.1	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)
C17 (C10 - C17)	mg/L		0.1	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)
C18 (C10 - C18)	mg/L		0.1	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)
C19 (C10 - C19)	mg/L		0.1	<0.1 (<0.1)	0.1 (0.1)	<0.1 (<0.1)
C20 (C10 - C20)	mg/L		0.1	<0.1 (<0.1)	<0.1 (0.1)	<0.1 (<0.1)
C21 (C10 - C21)	mg/L		0.1	<0.1 (<0.1)	0.4 (0.5)	<0.1 (<0.1)
C22 (C10 - C22)	mg/L		0.1	<0.1 (<0.1)	<0.1 (0.5)	<0.1 (<0.1)
C23 (C10 - C23)	mg/L		0.1	<0.1 (<0.1)	<0.1 (0.5)	<0.1 (<0.1)
C24 (C10 - C24)	mg/L		0.1	<0.1 (<0.1)	<0.1 (0.5)	<0.1 (<0.1)
C25 (C10 - C25)	mg/L		0.1	<0.1 (<0.1)	1.4 (1.9)	<0.1 (<0.1)
C26 (C10 - C26)	mg/L		0.1	<0.1 (<0.1)	<0.1 (1.9)	<0.1 (<0.1)
C27 (C10 - C27)	mg/L		0.1	<0.1 (<0.1)	<0.1 (1.9)	<0.1 (<0.1)
C28 (C10 - C28)	mg/L		0.1	<0.1 (<0.1)	<0.1 (1.9)	<0.1 (<0.1)
C29 (C10 - C29)	mg/L		0.1	<0.1 (<0.1)	<0.1 (1.9)	<0.1 (<0.1)
C30 (C10 - C30)	mg/L		0.1	<0.1 (<0.1)	2.4 (4.3)	<0.1 (<0.1)
C31 (C10 - C31)	mg/L		0.1	<0.1 (<0.1)	<0.1 (4.3)	<0.1 (<0.1)
C32 (C10 - C32)	mg/L		0.1	<0.1 (<0.1)	<0.1 (4.3)	<0.1 (<0.1)
C33 (C10 - C33)	mg/L		0.1	<0.1 (<0.1)	<0.1 (4.3)	<0.1 (<0.1)
C34 (C10 - C34)	mg/L		0.1	<0.1 (<0.1)	0.4 (4.7)	<0.1 (<0.1)
C35 (C10 - C35)	mg/L		0.1	<0.1 (<0.1)	1.0 (5.7)	<0.1 (<0.1)
C36 (C10 - C36)	mg/L		0.1	<0.1 (<0.1)	<0.1 (5.7)	<0.1 (<0.1)
C37 (C10 - C37)	mg/L		0.1	<0.1 (<0.1)	<0.1 (5.7)	<0.1 (<0.1)
C38 (C10 - C38)	mg/L		0.1	<0.1 (<0.1)	<0.1 (5.7)	<0.1 (<0.1)
C39 (C10 - C39)	mg/L		0.1	<0.1 (<0.1)	0.7 (6.4)	<0.1 (<0.1)

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Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Hydrocarbon Scan C60, Cumulative (GC/FID) - Water

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
C40 (C10 - C40)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.4)	<0.1 (<0.1)
C41 (C10 - C41)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.4)	<0.1 (<0.1)
C42 (C10 - C42)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.4)	<0.1 (<0.1)
C43 (C10 - C43)	mg/L		0.1	<0.1 (<0.1)	0.3 (6.7)	<0.1 (<0.1)
C44 (C10 - C44)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C45 (C10 - C45)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C46 (C10 - C46)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C47 (C10 - C47)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C48 (C10 - C48)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C49 (C10 - C49)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C50 (C10 - C50)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C51 (C10 - C51)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C52 (C10 - C52)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C53 (C10 - C53)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C54 (C10 - C54)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C55 (C10 - C55)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C56 (C10 - C56)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C57 (C10 - C57)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C58 (C10 - C58)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C59 (C10 - C59)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)
C60 (C10 - C60)	mg/L		0.1	<0.1 (<0.1)	<0.1 (6.7)	<0.1 (<0.1)

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5789103-5789117 The first value in the result field is that for the individual carbon fraction. The bracketed result is the cumulative total up to, and including, that carbon fraction. Results are calculated using appropriate n-alkane response factors in the C10 through C60 range.

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Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Methanol Analysis in Water

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
Methanol	mg/L		1	<1	<1	13
Surrogate	Unit	Acceptable Limits				
4-Methyl-2-pentanone	%	50-150		93	94	111

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
5789103-5789117 Analysis by GC/FID.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Polyaromatic Hydrocarbon Analysis - Water FWAL

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
Naphthalene	mg/L		0.00001	<0.00001	<0.00001	0.00006
2-Methylnaphthalene	mg/L		0.00001	<0.00001	<0.00001	0.00009
Quinoline	mg/L		0.00005	<0.00005	<0.00005	<0.00005
Acenaphthylene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Acenaphthene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Fluorene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Phenanthrene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Anthracene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Acridine	mg/L		0.00005	<0.00005	<0.00005	<0.00005
Fluoranthene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Pyrene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Benzo[a]anthracene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Chrysene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Benzo[b+j]fluoranthene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Benzo[k]fluoranthene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Benzo[a]pyrene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Indeno[1,2,3-cd]pyrene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Dibenzo[ah]anthracene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Benzo[ghi]perylene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Surrogate	Unit	Acceptable Limits				
2-Fluorobiphenyl	%	50-150		97	93	91
p-Terphenyl-d14	%	50-150		116	108	112

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5789103-5789117 Based on GC/MS target ion analysis.
Isomers Benzo(b)fluoranthene and Benzo(j)fluoranthene have the same GC retention time and are reported as the sum based on the Benzo(b)fluoranthene response.

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Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Volatile Organic Compounds in Water

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

SAMPLE DESCRIPTION:				WW02-A	WW04-A	WW05-A
SAMPLE TYPE:				Water	Water	Water
DATE SAMPLED:				9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
Chloromethane	mg/L		0.001	<0.001	<0.001	<0.001
Vinyl Chloride	mg/L		0.001	<0.001	<0.001	<0.001
Bromomethane	mg/L		0.001	<0.001	<0.001	<0.001
Chloroethane	mg/L		0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L		0.001	<0.001	<0.001	<0.001
Acetone	mg/L		0.01	<0.01	8.36	<0.01
1,1-Dichloroethylene	mg/L		0.001	<0.001	<0.001	<0.001
Methylene Chloride	mg/L		0.001	<0.001	<0.001	<0.001
Methyl tert-Butyl Ether	mg/L		0.001	<0.001	<0.001	<0.001
Methyl Ethyl Ketone	mg/L		0.01	<0.01	0.01	<0.01
trans-1,2-Dichloroethylene	mg/L		0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L		0.001	<0.001	<0.001	<0.001
cis-1,2 Dichloroethylene	mg/L		0.001	<0.001	<0.001	<0.001
Chloroform	mg/L		0.001	<0.001	0.001	<0.001
1,2-Dichloroethane	mg/L		0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L		0.001	<0.001	<0.001	<0.001
Carbon Tetrachloride	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Benzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
1,2-Dichloropropane	mg/L		0.001	<0.001	<0.001	<0.001
Trichloroethylene	mg/L		0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/L		0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L		0.001	<0.001	<0.001	<0.001
Methyl Isobutyl Ketone	mg/L		0.01	<0.01	<0.01	<0.01
cis-1,3-Dichloropropene	mg/L		0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L		0.001	<0.001	<0.001	<0.001
Toluene	mg/L		0.0003	0.0030	0.0430	0.0413
2-Hexanone	mg/L		0.01	<0.01	<0.01	<0.01
Dibromochloromethane	mg/L		0.001	<0.001	<0.001	<0.001
Ethylene Dibromide	mg/L		0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/L		0.001	<0.001	<0.001	0.004

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Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Volatile Organic Compounds in Water

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
1,1,1,2-Tetrachloroethane	mg/L		0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/L		0.001	<0.001	<0.001	<0.001
Ethylbenzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
m,p-Xylenes	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Bromoform	mg/L		0.001	<0.001	<0.001	<0.001
Styrene	mg/L		0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L		0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
1,3-Dichlorobenzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
1,4-Dichlorobenzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
1,2-Dichlorobenzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
1,2,4-Trichlorobenzene	mg/L		0.001	<0.001	<0.001	<0.001
Total Xylenes	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Surrogate	Unit	Acceptable Limits				
Toluene-d8	%	50-150		92	94	97

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5789103-5789117 1,1,2,2-Tetrachloroethane reported only for samples matrices which can be purged. Otherwise N/A.

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Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

CCME / Alberta Tier 1 Metals + Hg (Dissolved)

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
Dissolved Aluminum	mg/L	0.005	0.004	<0.004	<0.004	<0.004
Dissolved Antimony	mg/L	0.006	0.001	<0.001	<0.001	<0.001
Dissolved Arsenic	mg/L	0.005	0.001	<0.001	<0.001	0.001
Dissolved Barium	mg/L	1	0.05	<0.05	<0.05	<0.05
Dissolved Boron	mg/L	0.5	0.01	0.05	0.04	0.06
Dissolved Cadmium	mg/L	VAR	0.00005	<0.00005	<0.00005	0.00015
Dissolved Chromium	mg/L		0.001	<0.001	<0.001	<0.001
Dissolved Cobalt	mg/L		0.001	<0.001	<0.001	<0.001
Dissolved Copper	mg/L	0.002	0.002	<0.002	<0.002	<0.002
Dissolved Iron	mg/L	0.3	0.1	<0.1	<0.1	<0.1
Dissolved Lead	mg/L	0.001	0.001	<0.001	<0.001	<0.001
Dissolved Manganese	mg/L	0.05	0.005	0.015	0.014	0.044
Dissolved Mercury	mg/L	0.000026	0.000025	<0.000025	<0.000025	<0.000025
Dissolved Molybdenum	mg/L		0.003	<0.003	0.010	0.117
Dissolved Nickel	mg/L	VAR	0.003	<0.003	<0.003	<0.003
Dissolved Selenium	mg/L	0.001	0.001	<0.001	<0.001	<0.001
Dissolved Silver	mg/L	0.0001	0.00005	<0.00005	<0.00005	<0.00005
Dissolved Sodium	mg/L	200	0.6	154	1500	46.8
Dissolved Thallium	mg/L		0.0001	<0.0001	<0.0001	<0.0001
Dissolved Uranium	mg/L	0.01	0.001	<0.001	<0.001	<0.001
Dissolved Zinc	mg/L	0.03	0.004	<0.004	<0.004	<0.004

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 GW (Ag, F)
5789103-5789117 < - Values refer to Report Detection Limit.

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Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

CCME / Alberta Tier 1 Metals + Hg (Total)

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
Total Aluminum	mg/L	0.005	0.002	0.015	0.032	0.021
Total Antimony	mg/L	0.006	0.001	<0.001	0.002	<0.001
Total Arsenic	mg/L	0.005	0.001	<0.001	<0.001	<0.001
Total Barium	mg/L	1	0.05	<0.05	2.39	<0.05
Total Boron	mg/L	0.5	0.01	0.08	0.69	0.04
Total Cadmium	mg/L	VAR	0.00005	<0.00005	0.00012	<0.00005
Total Chromium	mg/L		0.001	<0.001	0.011	0.006
Total Cobalt	mg/L		0.001	<0.001	<0.001	<0.001
Total Copper	mg/L	0.002	0.002	<0.002	0.029	<0.002
Total Iron	mg/L	0.3	0.1	<0.1	8.0	2.0
Total Lead	mg/L	0.001	0.001	<0.001	0.040	0.005
Total Manganese	mg/L	0.05	0.005	<0.005	0.100	0.076
Total Mercury	mg/L	0.000026	0.000025	<0.000025	0.00322	<0.000025
Total Molybdenum	mg/L		0.003	<0.003	0.084	0.009
Total Nickel	mg/L	0.025	0.003	<0.003	0.003	0.004
Total Selenium	mg/L	0.001	0.001	0.001	0.019	0.005
Total Silver	mg/L	0.0001	0.00005	<0.00005	<0.00005	<0.00005
Total Sodium	mg/L	200	0.6	11.8	1080	32.3
Total Thallium	mg/L		0.001	<0.001	<0.001	<0.001
Total Uranium	mg/L	0.01	0.001	<0.001	<0.001	<0.001
Total Zinc	mg/L	0.03	0.001	<0.001	<0.001	0.064

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 GW (Ag, F)
5789103-5789117 < - Values refer to Report Detection Limit.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Routine Chemistry Water Analysis

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
pH	pH Units	6.5-8.5	NA	8.03	8.98	8.03
p - Alkalinity (as CaCO3)	mg/L		5	<5	125	<5
T - Alkalinity (as CaCO3)	mg/L		5	267	1440	146
Bicarbonate	mg/L		5	326	1450	178
Carbonate	mg/L		5	<5	150	<5
Hydroxide	mg/L		5	<5	<5	<5
Electrical Conductivity	uS/cm		1	750	6200	482
Fluoride	mg/L	1.5	0.05	<0.05	<0.05	<0.05
Chloride	mg/L	250	1	19	1340	9
Nitrite	mg/L	3.2	0.05	<0.05	<0.05	<0.05
Nitrate	mg/L	45	0.5	<0.5	<0.5	<0.5
Sulfate	mg/L	500	1	121	<1	86
Dissolved Calcium	mg/L		0.3	17.4	3.7	39.0
Dissolved Magnesium	mg/L		0.2	5.8	3.2	15.6
Dissolved Sodium	mg/L	200	0.6	154	1500	46.8
Dissolved Potassium	mg/L		0.6	6.6	18.8	10.7
Dissolved Iron	mg/L	0.3	0.1	<0.1	<0.1	<0.1
Dissolved Manganese	mg/L	0.05	0.005	0.015	0.014	0.044
Calculated TDS	mg/L		1	523	3840	316
Hardness	mg CaCO3/L		1	67	22	162
Ion Balance	%		0.001	97.8	99.4	112
Nitrate+Nitrite-N	mg/L		0.02	<0.02	<0.02	<0.02
Nitrate-N	mg/L		0.02	<0.02	<0.02	<0.02
Nitrite-N	mg/L		0.01	<0.01	<0.01	<0.01
SAR			0.20	8.16	138	1.60

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (D Water)

5789103-5789117 < - Values refer to Report Detection Limits.

pH has been analyzed past the recommended holding time of 15 minutes from sampling (field measurement ideal if more accurate data required)Nitrate and Nitrite: The regulatory hold time for the analysis of nitrate and/or nitrite in water is 48 hours in Alberta and 72 hours in British Columbia.

Certified By:

AGAT Laboratories
6310 ROPER ROAD
EDMONTON, ALBERTA
CANADA T6B 3P9
TEL (780)395-2525
FAX (780)462-2490
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Water Analysis - Total Solids

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
Total Dissolved Solids	mg/L		5	525	3970	365
Total Suspended Solids	mg/L		1	4	20	8
Total Solids	mg/L		1	529	3990	373

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Water Analysis - Total/Dissolved Cr+6

DATE RECEIVED: 2014-09-10

DATE REPORTED: 2014-09-16

		SAMPLE DESCRIPTION:		WW02-A	WW04-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		9/4/2014	9/4/2014	9/4/2014
Parameter	Unit	G / S	RDL	5789103	5789116	5789117
Total Chromium (VI)	mg/L		0.001	<0.001	<0.001	<0.001
Dissolved Chromium (VI)	mg/L		0.001	<0.001	<0.001	<0.001

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

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Chromatogram Image

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

ATTENTION TO: Accounts Payable

IMAGE001: 5789103, WW02-A

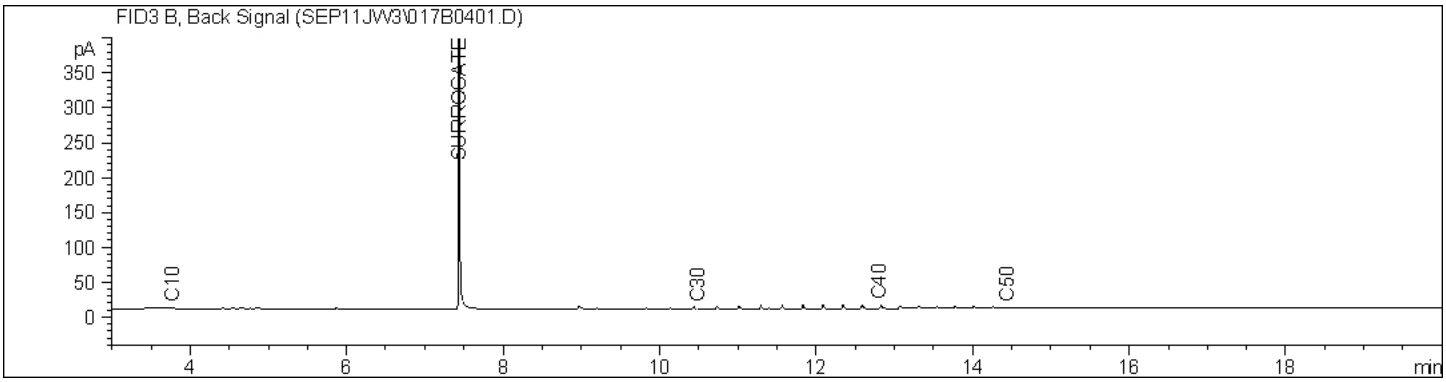


IMAGE002: 5789116, WW04-A

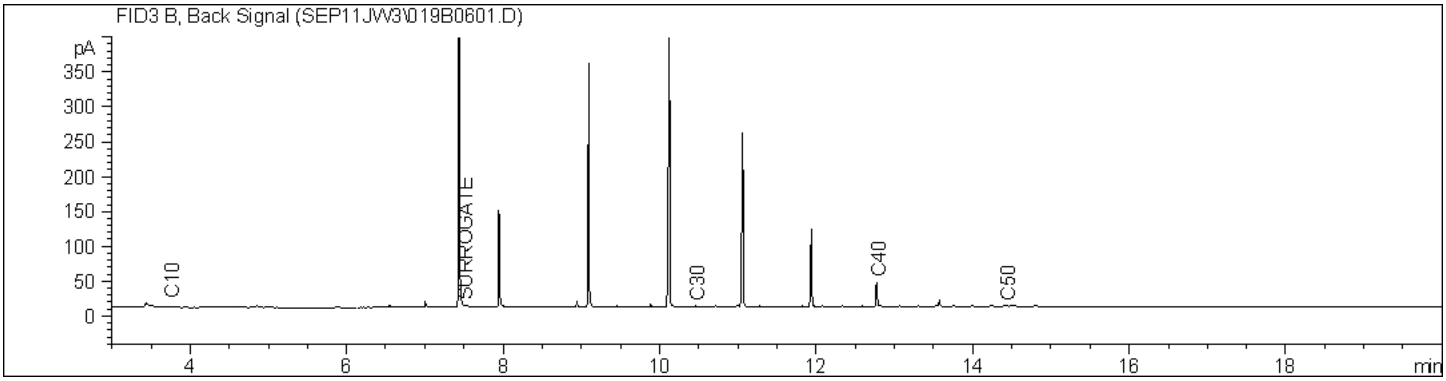
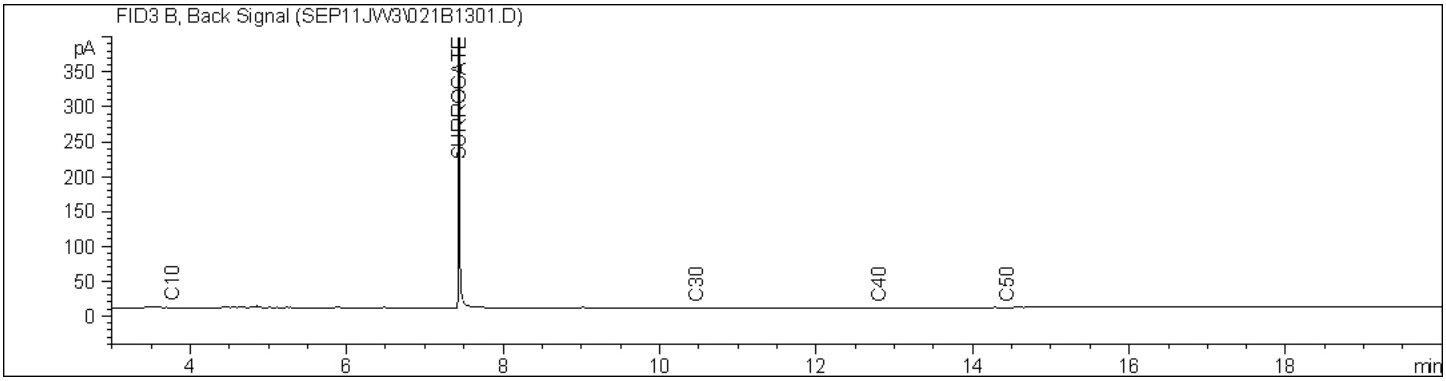


IMAGE003: 5789117, WW05-A



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Chromatogram Image

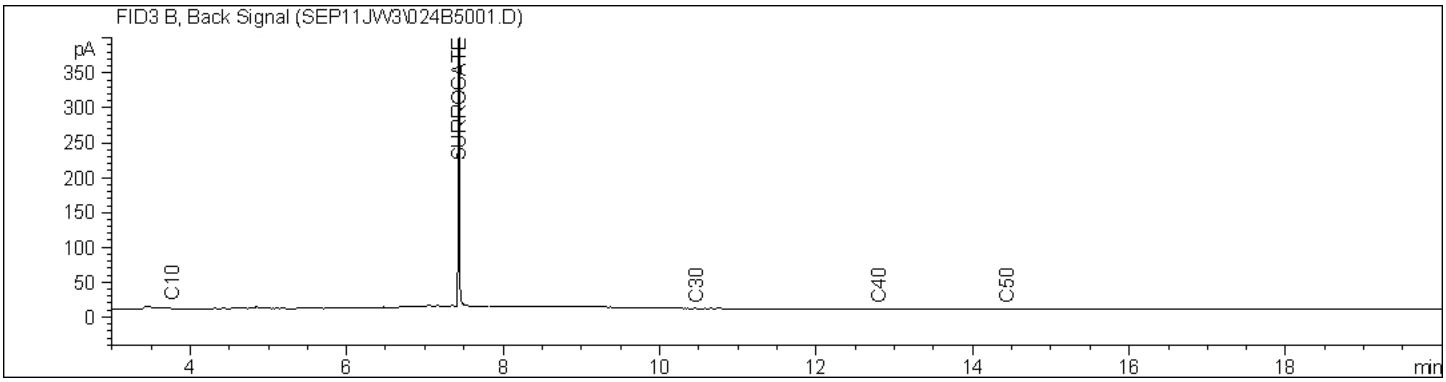
CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E886638

PROJECT: Water Samples

ATTENTION TO: Accounts Payable

IMAGE004: 5789119, 2A Cellar



AGAT Laboratories
2910 12 Street NE
Calgary, Alberta
T2E 7P7
webearth.agatlabs.com
P: 403.735.2005 • F: 403.735.2771

Chain of Custody Record

Laboratory Use Only
Arrival Temperature: 2.8°C
AGAT Job Number: 14ES866638
Date and Time:

Report Information
Company: ConocoPhillips
Contact:
Address:
Phone: Fax:
LSD:
Client Project #:

Report Information
1. Name: Jeff Powers
Email: japowers@mtaonline.net
2. Name:
Email:
3. Name:
Email:

Report Format
☐ Single Sample per Page
☐ Multiple Samples per Page

Turnaround Time Required (TAT)
Regular TAT ☑ 5-7 Business Days
14 SEP 10 -9
Rush TAT (Surcharge) ☐ Less than 24 Hours (200%) ☐ Less than 48 Hours (100%) ☐ Less than 72 Hours (50%)
Date Required:

Invoice To Same ☐ Yes ☐ No
Company:
Contact:
Address:
Phone: Fax:
PO/AFE#

Requirements (Check One)
☑ CCME: ☐ Agricultural ☐ Industrial ☐ Residential/ Park ☐ Commercial ☐ Drinking Water ☐ FWAL
☐ AB Tier 1: ☐ Agricultural ☐ Industrial ☐ Residential/ Park ☐ Commercial ☐ Natural Area
☐ BC CSR: ☐ AW ☐ IW ☐ LW ☐ DW
☐ Other
☐ D50 (Drilling) ☐ SPIGEC ☐

LABORATORY USE (LAB ID#)	SAMPLE IDENTIFICATION	SAMPLE MATRIX	DATE/ TIME SAMPLED	COMMENTS- SITE SAMPLE INFO, SAMPLE CONTAINMENT	# of CONTAINERS	BTEX F1-4	PAHs	VOCs	Total and Dissolved metals	Total and Dissolved Mercury	Total and dissolved hexavalent chromium	Routine potability	Total solids	Glycols	Methanol	Amines	Formaldehyde	C60 scan				HOLD FOR 60 DAYS	PRESERVED (Y/N)	CONTAMINATED/ HAZARDOUS (Y/N)
5789103	WWO2-A	W	4-Sep-14	Chinook		X	X	X	X	X	X	X	X	X	X	X	X	X						
116	WWO4-A	W	4-Sep-14	Chinook		X	X	X	X	X	X	X	X	X	X	X	X	X						
117	WWO5-A	W	4-Sep-14	Chinook		X	X	X	X	X	X	X	X	X	X	X	X	X						
119	2A Cellar	W	4-Sep-14	Chinook		X		X										X						

Samples Relinquished By (Print Name and Sign):	Date/ Time:	Samples Relinquished By (Print Name and Sign): A.Wright A.Wright	Date/ Time: 10 Sep 14 @ 9:11am	Page	of
Samples Relinquished By (Print Name and Sign):	Date/ Time:	Samples Relinquished By (Print Name and Sign):	Date/ Time:		
Samples Relinquished By (Print Name and Sign):	Date/ Time:	Samples Relinquished By (Print Name and Sign):	Date/ Time:		

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: Abbot / Conoco

Courier: Canadian North Prepaid [X] Collect [ ]

Waybill #: 515-YVO-7867-0922

Branch: EDM [✓] GP [ ] FN [ ] FM [ ] RD [ ] VAN [ ] LYD [ ] FSJ [ ] EST [ ] Other: ____

Custody Seal Intact: Yes [ ] No [ ] NA [✓]

TAT: <24hr [ ] 24-48hr [ ] 48-72hr [ ] Reg [✓] Other ____

Cooler Quantity: 3

TIME SENSITIVE ISSUES - Shipping

Earliest Date Sampled: 04Sep14 ALREADY EXCEEDED? Yes [ ] No [✓]

MIBI/Time Sensitive Test*: TS Expiry: 11Sep14

Hydrocarbon Test: PAH Expiry: 11Sep14

Are samples received more than **5 days** after sampling: Yes [ ] No [✓]

**Residual Chlorine, DO, Turbidity, BOD, Nitrate/Nitrite, Microtox*

Temperature (to be recorded from bottles/jars only)

N/A – Only Soil Bags Received AVG: 2.8°C

(1) (Bottle/Jar) 2.5 + 3.3 + 3.5 = 3.1 °C (2) (Bottle/Jar) 2.6 + 3.3 + 2.7 = 2.9 °C

(3) (Bottle/Jar) 2.4 + 2.2 + 2.2 = 2.3 °C (4) (Bottle/Jar) ___ + ___ + ___ = ___ °C

(5) (Bottle/Jar) ___ + ___ + ___ = ___ °C (6) (Bottle/Jar) ___ + ___ + ___ = ___ °C

(If more than 6 coolers are received use another sheet of paper and attach)

SAMPLE INTEGRITY - Shipping

Hazardous Samples: Why Hazardous: ____

Precaution taken: ____

Legal Samples: Yes [ ] No [✓]

International Samples: Yes [ ] No [✓] Tape Sealed: Yes [ ] No [✓]

Coolant used: Icepack [ ] Bagged Ice [ ] Free Ice [ ] Free Water [ ] None [ ]

LOGISTICS USE ONLY

Workorder No: L4E886638

Samples Damaged: Yes [ ] No [✓] If YES why?

No Bubble Wrap [ ] Frozen [ ] Courier [ ]

Other: ____

Correct Sample Requirements for Testing

Correct Bottles: Yes [✓] No [ ] Correct Amount: Yes [✓] No [ ]

Correct Labels: Yes [✓] No [ ]

If NO to any of the above, explain why: ____

Visible Sediment in Waters : Yes [✓] No [ ]

Additional Integrity Issues or concerns:

Diss Mt to be filtered & pres in Lab.

Diss Cr6 to be filt/pres in Calgary

Cr6, VOCs, Glycols, Methanol, Amines, TOC, Fwd Hyb to YVC

Account Project Manager: Dan W have they been notified of the above issues: Yes [ ] No [ ]

Whom spoken to: Dan W Date/Time: 10Sep14

CPM Initial ____

518 | YVQ | 7867-0922

518-YVQ-7867-0922

SHIPPER'S NAME AND ADDRESS

ConocoPhillips Canada

C/O Hobbitt Enviromental
Norman Wells, NT
Canada
RSCWPV9468301

SHIPPER'S ACCOUNT NUMBER: CON106CW

NOT NEGOTIABLE

AIR WAYBILL

(AIR CONSIGNMENT NOTE)

Canadian North
101 3731 52 Ave E
Edmonton International Airport, A
Canada

GST #: R 892440629

Copies 1, 2 and 3 of this Air Waybill are originals and have the same validity.

It is agreed that the goods described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. ALL GOODS MAY BE CARRIED BY ANY OTHER MEANS INCLUDING ROAD OR ANY OTHER CARRIER UNLESS SPECIFIC CONTRARY INSTRUCTIONS ARE GIVEN HEREON BY THE SHIPPER, AND THE SHIPPER AGREES THAT THE SHIPMENTS MAY BE CARRIED VIA INTERMEDIATE STOPPING PLACES WHICH THE CARRIER DEEMS APPROPRIATE. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.

CONSIGNEE'S NAME AND ADDRESS

AGAT Laboratories Ltd
6310 Roper Road
Edmonton, AB T6B 3P9
Canada
780-395-2525 403-735-2745

CONSIGNEE'S ACCOUNT NUMBER: AGA100CW

SIGNATURE | **RECEIVED IN GOOD ORDER** | **PLACE** | **DATE/TIME**

PRINTED NAME

ISSUING CARRIER'S AGENT NAME AND CITY

ALSO NOTIFY: NAME AND ADDRESS *(OPTIONAL ACCOUNTING INFORMATION)*

Acc.#: CON106CW
ConocoPhillips Canada
PO Box 130, Stn. M
1600,401-9th Ave. SW
Calgary,AB T2P 2H7

TO EXPEDITE MOVEMENT, SHIPMENT MAY BE DIVERTED TO MOTOR OR OTHER CARRIER UNLESS SHIPPER GIVES OTHER INSTRUCTIONS HERE

AGENT'S IATA CODE | **ACCOUNT NO.**

DOMESTIC LIABILITY:

AIRPORT OF DEPARTURE (ADDR OF FIRST CARRIER) AND REQUESTED ROUTING

Norman Wells

ROUTING AND DESTINATION

TO	BY FIRST CARRIER	TO	BY	TO	BY
YEG	Canadian North				

CURRENCY	CHGS Code	WT/VAL PPD	WT/VAL COLL	OTHER PPD	OTHER COLL	DECLARED VALUE FOR CARRIAGE	DECLARED VALUE FOR CUSTOMS
CAD	3RD	X		X		NVD	NCV

AIRPORT OF DESTINATION: Edmonton

FOR CARRIER USE ONLY — FLIGHT/DATE | FLIGHT/DATE

AMOUNT OF INSURANCE: 0.00

INSURANCE - If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".

INSURANCE DECLINED INITIALS ____

HANDLING INFORMATION These commodities licensed by US for ultimate destination

HFPU
Time Sensitive
Keep Cool

DUPLICATE COPY

NO. OF PIECES RCP	GROSS WEIGHT	kg / lb	RATE CLASS / COMMODITY ITEM NO.	CHARGEABLE WEIGHT	RATE / CHARGE	TOTAL	NATURE AND QUANTITY OF GOODS (INCL. DIMENSIONS OR VOLUME)
3	35	K	GAD 20	38	$5.31	201.78	Water Samples DIMS 25x13x42IN (bulk)
3	35					201.78	

PREPAID	WEIGHT CHARGE	COLLECT	P-UP ZONE	PICKUP CHARGES	ORIGIN ADVANCE CHARGES	DESCRIPTION OF ORIGIN ADVANCE
201.78		0.00		0.00	0.00	
VALUATION CHARGE			**DEL ZONE**	**DELIVERY CHARGES**	**DEST. ADVANCE CHARGES**	**DESCRIPTION OF DEST. ADVANCE**
0.00		0.00		0.00	0.00	
TAX			**OTHER CHARGES AND DESCRIPTION**		**ITEMS PREPAID**	**ITEMS COLLECT**
13.42		0.00	66.59 Nav Canada Charge, Fuel S			
TOTAL OTHER CHARGES DUE AGENT			Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations.			
0.00		0.00				
TOTAL OTHER CHARGES DUE CARRIER			**RE-WEIGH/DIMENSIONAL WEIGHT AND SHIPPER GUARANTEES ALL CHARGES SUBJECT TO RATE AUDIT**			
66.59		0.00				
COD	**CURRENCY**					
	CAD	0.00				
TOTAL PREPAID		**TOTAL COLLECT**	PRINTED NAME		SIGNATURE	
281.79		0.00	SIGNATURE OF SHIPPER ABOVE AND INITIAL APPLICABLE BOX BELOW.			
			[X] THIS SHIPMENT DOES NOT CONTAIN DANGEROUS GOODS REGULATED IN AIR TRANSPORT.		[ ] THIS SHIPMENT DOES CONTAIN DANGEROUS GOODS REGULATED IN AIR TRANSPORT.	
CURRENCY CONVERSION RATES	**TOTAL COLLECT DESTINATION**		**EXECUTED ON**			
			9/5/2014 09:01 (Date) (Time)		at (Place)	995302 SIGNATURE OF ISSUING CARRIER OR ITS AGENT
FOR CARRIER'S USE ONLY AT DESTINATION (ALL CHARGES IN DESTINATION CURRENCY)	**CHARGES AT DESTINATION**	**TOTAL COLLECT CHARGES**				

518-YVQ-7867-0922

AGAT Laboratories

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EDMONTON, ALBERTA
CANADA T6B 3P9
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FAX (780)462-2490
http://www.agatlabs.com

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.
2100, 250 6 AVENUE SW
CALGARY, AB T2P3H7
(403) 233-4000

ATTENTION TO: Accounts Payable

PROJECT:

AGAT WORK ORDER: 14E854856

TRACE ORGANICS REVIEWED BY: Joydee Saez, Technical Reviewer

WATER ANALYSIS REVIEWED BY: Joydee Saez, Technical Reviewer

DATE REPORTED: Jun 28, 2014

PAGES (INCLUDING COVER): 24

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (780) 395-2525

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 14E854856

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Glycols Analysis in Water

DATE RECEIVED: 2014-06-22

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW02-A	WW03-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		6/19/2014	6/19/2014	6/19/2014
Parameter	Unit	G / S	RDL	5500062	5500063	5500064
Propylene Glycol	mg/L		10	<10	<10	<10
Monoethylene Glycol	mg/L		10	<10	<10	<10
Diethylene Glycol	mg/L		5	<5	<5	<5
Triethylene Glycol	mg/L		10	<10	<10	<10
Tetraethylene Glycol	mg/L		10	<10	<10	<10
Surrogate	Unit	Acceptable Limits				
Heptanol	%	50-150		85	85	81

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
5500062-5500064 Identification based on retention time relative to standards.

Certified By:

AGAT Laboratories

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EDMONTON, ALBERTA
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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 14E854856

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Methanol Analysis in Water

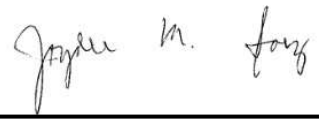
DATE RECEIVED: 2014-06-22

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW02-A	WW03-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		6/19/2014	6/19/2014	6/19/2014
Parameter	Unit	G / S	RDL	5500062	5500063	5500064
Methanol	mg/L		1	<1	<1	<1
Surrogate	Unit	Acceptable Limits				
4-Methyl-2-pentanone	%	50-150		70	70	63

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
5500062-5500064 Analysis by GC/FID.

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 14E854856

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Petroleum Hydrocarbons (BTEX/F1-F4) in Water

DATE RECEIVED: 2014-06-22

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW02-A	WW03-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		6/19/2014	6/19/2014	6/19/2014
Parameter	Unit	G / S	RDL	5500062	5500063	5500064
Benzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Toluene	mg/L		0.0005	<0.0005	0.0009	0.0051
Ethylbenzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Xylenes	mg/L		0.0005	<0.0005	0.0015	<0.0005
C6 - C10 (F1)	mg/L		0.1	<0.1	<0.1	<0.1
C6 - C10 (F1 minus BTEX)	mg/L		0.1	<0.1	<0.1	<0.1
C>10 - C16	mg/L		0.1	<0.1	<0.1	<0.1
C>16 - C34	mg/L		0.1	<0.1	<0.1	<0.1
C>34 - C50	mg/L		0.1	<0.1	<0.1	<0.1
Surrogate	Unit	Acceptable Limits				
Toluene-d8 (BTEX)	%	50-150		98	96	98
o-Terphenyl (F2-F4)	%	50-150		107	104	83

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5500062-5500064 The C>6 - C10 fraction is calculated using the toluene response factor.
The C10 - C16 fraction is calculated using the average response factor for nC10, nC16 and nC34.
BTEX has NOT been subtracted from Fraction 1.
Sample is blank corrected.

Certified By:

AGAT Laboratories

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 14E854856

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Polyaromatic Hydrocarbon Analysis - Water FWAL

DATE RECEIVED: 2014-06-22

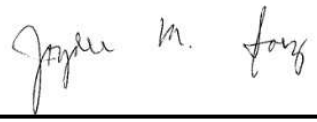
DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW02-A	WW03-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		6/19/2014	6/19/2014	6/19/2014
Parameter	Unit	G / S	RDL	5500062	5500063	5500064
Naphthalene	mg/L		0.00001	<0.00001	<0.00001	0.00003
2-Methylnaphthalene	mg/L		0.00001	<0.00001	<0.00001	0.00005
Quinoline	mg/L		0.00005	<0.00005	<0.00005	<0.00005
Acenaphthylene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Acenaphthene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Fluorene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Phenanthrene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Anthracene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Acridine	mg/L		0.00005	<0.00005	<0.00005	<0.00005
Fluoranthene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Pyrene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Benzo[a]anthracene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Chrysene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Benzo[b+j]fluoranthene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Benzo[k]fluoranthene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Benzo[a]pyrene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Indeno[1,2,3-cd]pyrene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Dibenzo[ah]anthracene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Benzo[ghi]perylene	mg/L		0.00001	<0.00001	<0.00001	<0.00001
Surrogate	Unit	Acceptable Limits				
2-Fluorobiphenyl	%	50-150		86	82	80
p-Terphenyl-d14	%	50-150		110	105	102

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5500062-5500064 Based on GC/MS target ion analysis.
Isomers Benzo(b)fluoranthene and Benzo(j)fluoranthene have the same GC retention time and are reported as the sum based on the Benzo(b)fluoranthene response.

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 14E854856

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Volatile Organic Compounds in Water

DATE RECEIVED: 2014-06-22

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW02-A	WW03-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		6/19/2014	6/19/2014	6/19/2014
Parameter	Unit	G / S	RDL	5500062	5500063	5500064
Chloromethane	mg/L		0.001	<0.001	<0.001	<0.001
Vinyl Chloride	mg/L		0.001	<0.001	<0.001	<0.001
Bromomethane	mg/L		0.001	<0.001	<0.001	<0.001
Chloroethane	mg/L		0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L		0.001	<0.001	<0.001	<0.001
Acetone	mg/L		0.01	<0.01	<0.01	<0.01
1,1-Dichloroethylene	mg/L		0.001	<0.001	<0.001	<0.001
Methylene Chloride	mg/L		0.001	<0.001	<0.001	<0.001
Methyl tert-butyl ether	mg/L		0.001	<0.001	<0.001	<0.001
Methyl Ethyl Ketone	mg/L		0.01	<0.01	<0.01	<0.01
trans- 1,2-dichloroethylene	mg/L		0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L		0.001	<0.001	<0.001	<0.001
cis- 1,2-Dichloroethylene	mg/L		0.001	<0.001	<0.001	<0.001
Chloroform	mg/L		0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L		0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L		0.001	<0.001	<0.001	<0.001
Carbon Tetrachloride	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Benzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
1,2-Dichloropropane	mg/L		0.001	<0.001	<0.001	<0.001
Trichloroethylene	mg/L		0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/L		0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L		0.001	<0.001	<0.001	<0.001
Methyl Isobutyl Ketone	mg/L		0.01	<0.01	<0.01	<0.01
cis-1,3-Dichloropropene	mg/L		0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L		0.001	<0.001	<0.001	<0.001
Toluene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
2-Hexanone	mg/L		0.01	<0.01	<0.01	<0.01
Dibromochloromethane	mg/L		0.001	<0.001	<0.001	<0.001
Ethylene Dibromide	mg/L		0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/L		0.001	<0.001	<0.001	<0.001

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Certificate of Analysis

AGAT WORK ORDER: 14E854856

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Volatile Organic Compounds in Water

DATE RECEIVED: 2014-06-22

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW02-A	WW03-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		6/19/2014	6/19/2014	6/19/2014
Parameter	Unit	G / S	RDL	5500062	5500063	5500064
1,1,1,2-Tetrachloroethane	mg/L		0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/L		0.001	<0.001	<0.001	<0.001
Ethylbenzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
m, p-Xylene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Bromoform	mg/L		0.001	<0.001	<0.001	<0.001
Styrene	mg/L		0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L		0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
1,3-Dichlorobenzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
1,4-Dichlorobenzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
1,2-Dichlorobenzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
1,2,4-Trichlorobenzene	mg/L		0.001	<0.001	<0.001	<0.001
Total Xylenes	mg/L		0.001	<0.001	<0.001	<0.001
Surrogate	Unit	Acceptable Limits				
Toluene-d8	%	50-150		109	93	66

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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Certificate of Analysis

AGAT WORK ORDER: 14E854856

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

CCME / Alberta Tier 1 Metals + Hg (Dissolved)

DATE RECEIVED: 2014-06-22

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW02-A	WW03-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		6/19/2014	6/19/2014	6/19/2014
Parameter	Unit	G / S	RDL	5500062	5500063	5500064
Dissolved Aluminum	mg/L	0.005	0.004	0.026	0.032	<0.004
Dissolved Antimony	mg/L	0.006	0.001	<0.001	<0.001	<0.001
Dissolved Arsenic	mg/L	0.005	0.001	<0.001	<0.001	<0.001
Dissolved Barium	mg/L	1	0.05	<0.05	<0.05	<0.05
Dissolved Boron	mg/L	0.5	0.01	0.10	0.11	0.05
Dissolved Cadmium	mg/L	VAR	0.00005	<0.00005	<0.00005	<0.00005
Dissolved Chromium	mg/L		0.001	<0.001	<0.001	<0.001
Dissolved Cobalt	mg/L		0.001	<0.001	<0.001	<0.001
Dissolved Copper	mg/L	0.002	0.002	<0.002	<0.002	<0.002
Dissolved Iron	mg/L	0.3	0.1	0.3	0.2	0.3
Dissolved Lead	mg/L	0.001	0.001	<0.001	<0.001	<0.001
Dissolved Manganese	mg/L	0.05	0.005	0.010	0.010	0.042
Dissolved Mercury	mg/L	0.000026	0.000025	<0.000025	<0.000025	<0.000025
Dissolved Molybdenum	mg/L		0.003	<0.003	<0.003	0.007
Dissolved Nickel	mg/L	VAR	0.003	<0.003	<0.003	<0.003
Dissolved Selenium	mg/L	0.001	0.001	<0.001	<0.001	<0.001
Dissolved Silver	mg/L	0.0001	0.00005	<0.00005	<0.00005	<0.00005
Dissolved Sodium	mg/L	200	0.6	167	167	44.9
Dissolved Thallium	mg/L		0.0001	<0.0001	<0.0001	<0.0001
Dissolved Uranium	mg/L	0.01	0.001	<0.001	<0.001	<0.001
Dissolved Zinc	mg/L	0.03	0.004	<0.004	<0.004	0.014

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 GW (Ag, F)
5500062-5500064 < - Values refer to Report Detection Limit.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E854856

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

CCME / Alberta Tier 1 Metals + Hg (Total)

DATE RECEIVED: 2014-06-22

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW02-A	WW03-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		6/19/2014	6/19/2014	6/19/2014
Parameter	Unit	G / S	RDL	5500062	5500063	5500064
Total Aluminum	mg/L	0.005	0.002	0.032	0.031	0.017
Total Antimony	mg/L	0.006	0.001	<0.001	<0.001	<0.001
Total Arsenic	mg/L	0.005	0.001	<0.001	<0.001	<0.001
Total Barium	mg/L	1	0.05	<0.05	<0.05	<0.05
Total Boron	mg/L	0.5	0.01	0.10	0.10	0.05
Total Cadmium	mg/L	VAR	0.00005	<0.00005	<0.00005	<0.00005
Total Chromium	mg/L		0.001	0.001	0.004	0.003
Total Cobalt	mg/L		0.001	<0.001	<0.001	<0.001
Total Copper	mg/L	0.002	0.002	<0.002	<0.002	<0.002
Total Iron	mg/L	0.3	0.1	0.3	0.4	0.5
Total Lead	mg/L	0.001	0.001	<0.001	<0.001	<0.001
Total Manganese	mg/L	0.05	0.005	0.036	0.038	0.043
Total Mercury	mg/L	0.000026	0.000025	<0.000025	<0.000025	<0.000025
Total Molybdenum	mg/L		0.003	<0.003	<0.003	0.007
Total Nickel	mg/L	0.025	0.003	<0.003	<0.003	<0.003
Total Selenium	mg/L	0.001	0.001	<0.001	<0.001	<0.001
Total Silver	mg/L	0.0001	0.00005	<0.00005	<0.00005	<0.00005
Total Sodium	mg/L	200	0.6	152	150	40.4
Total Thallium	mg/L		0.001	<0.001	<0.001	<0.001
Total Uranium	mg/L	0.01	0.001	<0.001	<0.001	<0.001
Total Zinc	mg/L	0.03	0.001	0.010	0.016	0.034

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 GW (Ag, F)
5500062-5500064 < - Values refer to Report Detection Limit.

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Certificate of Analysis

AGAT WORK ORDER: 14E854856

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Routine Chemistry Water Analysis

DATE RECEIVED: 2014-06-22

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW02-A	WW03-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		6/19/2014	6/19/2014	6/19/2014
Parameter	Unit	G / S	RDL	5500062	5500063	5500064
pH	pH Units	6.5-8.5	NA	8.25	8.22	8.01
p - Alkalinity (as CaCO3)	mg/L		5	<5	<5	<5
T - Alkalinity (as CaCO3)	mg/L		5	246	244	156
Bicarbonate	mg/L		5	300	297	190
Carbonate	mg/L		5	<5	<5	<5
Hydroxide	mg/L		5	<5	<5	<5
Electrical Conductivity	uS/cm		1	820	822	530
Fluoride	mg/L	1.5	0.05	<0.05	<0.05	<0.05
Chloride	mg/L	250	1	20	20	7
Nitrite	mg/L	3.2	0.05	<0.05	<0.05	<0.05
Nitrate	mg/L	45	0.5	<0.5	<0.5	<0.5
Sulfate	mg/L	500	1	122	119	89
Dissolved Calcium	mg/L		0.3	16.1	16.1	43.8
Dissolved Magnesium	mg/L		0.2	6.0	6.1	19.1
Dissolved Sodium	mg/L	200	0.6	167	167	44.9
Dissolved Potassium	mg/L		0.6	6.5	6.5	8.1
Dissolved Iron	mg/L	0.3	0.1	0.3	0.2	0.3
Dissolved Manganese	mg/L	0.05	0.005	0.010	0.010	0.042
Calculated TDS	mg/L		1	521	516	328
Electrical Conductivity	dS/M		1	<1	<1	<1
Hardness	mg CaCO3/L		1	65	65	188
Ion Balance	%		0.001	109	111	115
Nitrate+Nitrite-N	mg/L		0.02	<0.02	<0.02	<0.02
Nitrate-N	mg/L		0.02	<0.02	<0.02	<0.02
Nitrite-N	mg/L		0.01	<0.01	<0.01	<0.01
SAR			0.20	9.02	8.99	1.42

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Certificate of Analysis

AGAT WORK ORDER: 14E854856

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

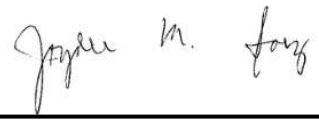
Routine Chemistry Water Analysis

DATE RECEIVED: 2014-06-22

DATE REPORTED: 2014-06-28

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (D Water)
5500062-5500064 < - Values refer to Report Detection Limits.
pH: Analyzed past the regulatory hold time of 15 minutes.
Nitrate and Nitrite: The regulatory hold time for the analysis of nitrate and/or nitrite in water is 48 hours in Alberta and 72 hours in British Columbia.

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 14E854856

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Water Analysis - Hexavalent Chromium

DATE RECEIVED: 2014-06-22

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW02-A	WW03-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		6/19/2014	6/19/2014	6/19/2014
Parameter	Unit	G / S	RDL	5500062	5500063	5500064
Hexavalent Chromium	µg/L		5	<5	<5	<5

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
5500062-5500064 pH: Analyzed past the regulatory hold time of 15 minutes.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E854856

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Water Analysis - Total Solids

DATE RECEIVED: 2014-06-22

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW02-A	WW03-A	WW05-A
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		6/19/2014	6/19/2014	6/19/2014
Parameter	Unit	G / S	RDL	5500062	5500063	5500064
Total Dissolved Solids	mg/L		5	430	400	240
Total Suspended Solids	mg/L		1	<1	<1	<1
Total Solids	mg/L		1	430	400	240

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

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Quality Assurance

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E854856

PROJECT:

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Jun 28, 2014			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Petroleum Hydrocarbons (BTEX/F1-F4) in Water															
Benzene	578	5472890	< 0.0005	< 0.0005	NA	< 0.0005	102%	80%	120%	85%	80%	120%	86%	70%	130%
Toluene	578	5472890	< 0.0005	< 0.0005	NA	< 0.0005	96%	80%	120%	83%	80%	120%	79%	70%	130%
Ethylbenzene	578	5472890	< 0.0005	< 0.0005	NA	< 0.0005	82%	80%	120%	80%	80%	120%	75%	70%	130%
Xylenes	578	5472890	< 0.0005	< 0.0005	NA	< 0.0005	96%	80%	120%	91%	80%	120%	86%	70%	130%
C6 - C10 (F1)	578	5472890	< 0.1	< 0.1	NA	< 0.1	102%	80%	120%	90%	80%	120%	85%	70%	130%
C>10 - C16	481	5483568	<0.1	<0.1	NA	< 0.1	120%	80%	120%	109%	80%	120%	95%	70%	130%
C>16 - C34	481	5483568	<0.1	<0.1	NA	< 0.1	119%	80%	120%	96%	80%	120%	93%	70%	130%
C>34 - C50	481	5483568	<0.1	<0.1	NA	< 0.1	120%	80%	120%	90%	80%	120%	112%	70%	130%
Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.															
Polyaromatic Hydrocarbon Analysis - Water FWAL															
Naphthalene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	100%	70%	130%	97%	70%	130%	96%	70%	130%
2-Methylnaphthalene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001				86%	70%	130%	86%	70%	130%
Quinoline	403	5482575	< 0.00005	< 0.00005	NA	< 0.00005	102%	70%	130%	120%	70%	130%	120%	70%	130%
Acenaphthylene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	76%	70%	130%	70%	70%	130%	70%	70%	130%
Acenaphthene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	86%	70%	130%	84%	70%	130%	84%	70%	130%
Fluorene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	79%	70%	130%	76%	70%	130%	76%	70%	130%
Phenanthrene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	102%	70%	130%	100%	70%	130%	98%	70%	130%
Anthracene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	92%	70%	130%	85%	70%	130%	83%	70%	130%
Acridine	403	5482575	< 0.00005	< 0.00005	NA	< 0.00005	80%	70%	130%	105%	70%	130%	106%	70%	130%
Fluoranthene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	86%	70%	130%	80%	70%	130%	81%	70%	130%
Pyrene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	87%	70%	130%	81%	70%	130%	83%	70%	130%
Benzo[a]anthracene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	79%	70%	130%	71%	70%	130%	74%	70%	130%
Chrysene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	102%	70%	130%	97%	70%	130%	97%	70%	130%
Benzo[b+j]fluoranthene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	91%	70%	130%	83%	70%	130%	82%	70%	130%
Benzo[k]fluoranthene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	104%	70%	130%	96%	70%	130%	95%	70%	130%
Benzo[a]pyrene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	78%	70%	130%	74%	70%	130%	74%	70%	130%
Indeno[1,2,3-cd]pyrene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	89%	70%	130%	79%	70%	130%	78%	70%	130%
Dibenzo[ah]anthracene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	94%	70%	130%	83%	70%	130%	82%	70%	130%
Benzo[ghi]perylene	403	5482575	< 0.00001	< 0.00001	NA	< 0.00001	92%	70%	130%	84%	70%	130%	82%	70%	130%
Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.															
Volatile Organic Compounds in Water															
Chloromethane	445	5472816	< 0.001	< 0.001	NA	< 0.001	124%	60%	140%	133%	60%	140%	94%	60%	140%
Vinyl Chloride	445	5472816	< 0.001	< 0.001	NA	< 0.001	135%	60%	140%	140%	60%	140%	78%	60%	140%
Bromomethane	445	5472816	< 0.001	< 0.001	NA	< 0.001	98%	60%	140%	NA	60%	140%	62%	60%	140%
Chloroethane	445	5472816	< 0.001	< 0.001	NA	< 0.001	135%	60%	140%	110%	60%	140%	100%	60%	140%
Trichlorofluoromethane	445	5472816	< 0.001	< 0.001	NA	< 0.001	112%	60%	140%	106%	60%	140%	91%	60%	140%
Acetone	445	5472816	< 0.01	< 0.01	NA	< 0.01	115%	60%	140%	74%	60%	140%	130%	60%	140%
1,1-Dichloroethylene	445	5472816	< 0.001	< 0.001	NA	< 0.001	100%	60%	140%	119%	60%	140%	84%	60%	140%

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Trace Organics Analysis (Continued)

RPT Date: Jun 28, 2014			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Methylene Chloride	445	5472816	< 0.001	< 0.001	NA	< 0.001	140%	60%	140%	116%	60%	140%	119%	60%	140%
Methyl tert-butyl ether	445	5472816	< 0.001	< 0.001	NA	< 0.001	85%	60%	140%	87%	60%	140%	71%	60%	140%
Methyl Ethyl Ketone	445	5472816	< 0.01	< 0.01	NA	< 0.01	113%	60%	140%	100%	60%	140%	86%	60%	140%
trans- 1,2-dichloroethylene	445	5472816	< 0.001	< 0.001	NA	< 0.001	123%	60%	140%	106%	60%	140%	94%	60%	140%
1,1-Dichloroethane	445	5472816	< 0.001	< 0.001	NA	< 0.001	118%	60%	140%	105%	60%	140%	91%	60%	140%
cis- 1,2-Dichloroethylene	445	5472816	< 0.001	< 0.001	NA	< 0.001	109%	60%	140%	97%	60%	140%	84%	60%	140%
Chloroform	445	5472816	< 0.001	< 0.001	NA	< 0.001	124%	60%	140%	108%	60%	140%	91%	60%	140%
1,2-Dichloroethane	445	5472816	< 0.001	< 0.001	NA	< 0.001	92%	60%	140%	99%	60%	140%	100%	60%	140%
1,1,1-Trichloroethane	445	5472816	< 0.001	< 0.001	NA	< 0.001	92%	60%	140%	95%	60%	140%	82%	60%	140%
Carbon Tetrachloride	445	5472816	< 0.0005	< 0.0005	NA	< 0.0005	97%	60%	140%	103%	60%	140%	95%	60%	140%
Benzene	445	5472816	< 0.0005	< 0.0005	NA	< 0.0005	96%	80%	120%	112%	80%	120%	117%	70%	130%
1,2-Dichloropropane	445	5472816	< 0.001	< 0.001	NA	< 0.001	116%	60%	140%	138%	60%	140%	126%	60%	140%
Bromodichloromethane	445	5472816	< 0.001	< 0.001	NA	< 0.001	126%	60%	140%	137%	60%	140%	125%	60%	140%
trans-1,3-Dichloropropene	445	5472816	< 0.001	< 0.001	NA	< 0.001	74%	60%	140%	86%	60%	140%	69%	60%	140%
Methyl Isobutyl Ketone	445	5472816	< 0.01	< 0.01	NA	< 0.01	85%	60%	140%	106%	60%	140%	83%	60%	140%
cis-1,3-Dichloropropene	445	5472816	< 0.001	< 0.001	NA	< 0.001	68%	60%	140%	77%	60%	140%	81%	60%	140%
1,1,2-Trichloroethane	445	5472816	< 0.001	< 0.001	NA	< 0.001	139%	60%	140%	124%	60%	140%	120%	60%	140%
Toluene	445	5472816	< 0.0005	< 0.0005	NA	< 0.0005	90%	80%	120%	112%	80%	120%	93%	70%	130%
2-Hexanone	445	5472816	< 0.01	< 0.01	NA	< 0.01	140%	60%	140%	95%	60%	140%	103%	60%	140%
Dibromochloromethane	445	5472816	< 0.001	< 0.001	NA	< 0.001	128%	60%	140%	114%	60%	140%	110%	60%	140%
Ethylene Dibromide	445	5472816	< 0.001	< 0.001	NA	< 0.001	112%	60%	140%	115%	60%	140%	108%	60%	140%
Tetrachloroethene	445	5472816	< 0.001	< 0.001	NA	< 0.001	102%	60%	140%	111%	60%	140%	88%	60%	140%
1,1,1,2-Tetrachloroethane	445	5472816	< 0.001	< 0.001	NA	< 0.001	122%	60%	140%	130%	60%	140%	104%	60%	140%
Chlorobenzene	445	5472816	< 0.001	< 0.001	NA	< 0.001	114%	60%	140%	137%	60%	140%	98%	60%	140%
Ethylbenzene	445	5472816	< 0.0005	< 0.0005	NA	< 0.0005	91%	80%	120%	116%	80%	120%	80%	70%	130%
m, p-Xylene	445	5472816	< 0.0005	< 0.0005	NA	< 0.0005	111%	60%	140%	123%	60%	140%	95%	60%	140%
Bromoform	445	5472816	< 0.001	< 0.001	NA	< 0.001	116%	60%	140%	109%	60%	140%	114%	60%	140%
Styrene	445	5472816	< 0.001	< 0.001	NA	< 0.001	80%	60%	140%	94%	60%	140%	NA	60%	140%
o-Xylene	445	5472816	< 0.0005	< 0.0005	NA	< 0.0005	93%	60%	140%	115%	60%	140%	85%	60%	140%
1,3-Dichlorobenzene	445	5472816	< 0.0005	< 0.0005	NA	< 0.0005	137%	60%	140%	92%	60%	140%	73%	60%	140%
1,4-Dichlorobenzene	445	5472816	< 0.0005	< 0.0005	NA	< 0.0005	108%	60%	140%	89%	60%	140%	68%	60%	140%
1,2-Dichlorobenzene	445	5472816	< 0.0005	< 0.0005	NA	< 0.0005	100%	60%	140%	92%	60%	140%	75%	60%	140%
1,2,4-Trichlorobenzene	445	5472816	< 0.001	< 0.001	NA	< 0.001	71%	60%	140%	83%	60%	140%	70%	60%	140%
Total Xylenes	445	5472816	< 0.001	< 0.001	NA	< 0.001	102%	60%	140%	119%	60%	140%	90%	60%	140%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Glycols Analysis in Water															
Propylene Glycol	43	5500063	<10	<10	NA	< 10	85%	70%	130%	73%	70%	130%	87%	60%	140%
Monoethylene Glycol	43	5500063	<10	<10	NA	< 10	86%	70%	130%	73%	70%	130%	88%	60%	140%
Diethylene Glycol	43	5500063	<5	<5	NA	< 5	85%	70%	130%	73%	70%	130%	86%	60%	140%

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Trace Organics Analysis (Continued)

RPT Date: Jun 28, 2014			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Triethylene Glycol	43	5500063	<10	<10	NA	< 10	83%	70%	130%	72%	70%	130%	84%	60%	140%
Tetraethylene Glycol	43	5500063	<10	<10	NA	< 10	80%	70%	130%	70%	70%	130%	79%	60%	140%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Methanol Analysis in Water															
Methanol	4181	5500062	<1	<1	NA	< 1	91%	80%	120%	90%	80%	120%	106%	70%	130%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

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Water Analysis

RPT Date: Jun 28, 2014			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Routine Chemistry Water Analysis															
pH	642	5503107	8.90	8.90	0.0%		101%	90%	110%						
T - Alkalinity (as CaCO3)	642	5503107	1430	1430	0.0%	< 5	85%	80%	120%						
Bicarbonate	642	5503107	1474	1465	0.6%	< 5									
Electrical Conductivity	642	5503107	6812	6772	0.6%	< 1	100%	80%	120%						
Fluoride	95	5471264	< 0.05	< 0.05	NA	< 0.05	97%	80%	120%	95%	80%	120%	100%	80%	120%
Chloride	95	5471264	15	15	0.0%	< 1	94%	80%	120%	93%	80%	120%	102%	80%	120%
Nitrite	95	5471264	< 0.05	< 0.05	NA	< 0.05	94%	80%	120%	93%	80%	120%	104%	80%	120%
Nitrate	95	5471264	73	73	0.0%	< 0.5	98%	80%	120%	99%	80%	120%	102%	80%	120%
Sulfate	95	5471264	55	56	1.8%	< 1	100%	80%	120%	94%	80%	120%	103%	80%	120%
Dissolved Calcium	173	5470936	17.4	17.9	2.9%	< 0.3	110%	80%	120%				114%	80%	120%
Dissolved Magnesium	173	5470936	14.0	14.4	2.6%	< 0.2	106%	80%	120%				107%	80%	120%
Dissolved Sodium	173	5470936	87.8	90.2	2.7%	< 0.6	101%	80%	120%				98%	80%	120%
Dissolved Potassium	173	5470936	378	388	2.7%	< 0.6	100%	80%	120%				97%	80%	120%
Dissolved Iron	173	5470936	<0.1	<0.1	NA	< 0.1	96%	80%	120%				104%	80%	120%
Dissolved Manganese	173	5470936	<0.005	0.014	NA	< 0.005	95%	80%	120%				102%	80%	120%
CCME / Alberta Tier 1 Metals + Hg (Total)															
Total Aluminum	174	5500062	0.032	0.039	19.7%	< 0.002	101%	80%	120%				109%	80%	120%
Total Antimony	174	5500062	< 0.001	< 0.001	NA	< 0.001	107%	80%	120%				94%	80%	120%
Total Arsenic	174	5500062	< 0.001	< 0.001	NA	< 0.001	94%	80%	120%				101%	80%	120%
Total Barium	174	5500062	< 0.05	< 0.05	NA	< 0.05	102%	80%	120%				100%	80%	120%
Total Boron	174	5500062	0.10	0.11	9.5%	< 0.01	98%	80%	120%				104%	80%	120%
Total Cadmium	174	5500062	< 0.00005	< 0.00005	NA	< 0.00005	95%	80%	120%				100%	80%	120%
Total Chromium	174	5500062	0.001	0.001	0.0%	< 0.001	93%	80%	120%				93%	80%	120%
Total Cobalt	174	5500062	< 0.001	< 0.001	NA	< 0.001	90%	80%	120%				100%	80%	120%
Total Copper	174	5500062	< 0.002	< 0.002	NA	< 0.002	91%	80%	120%				96%	80%	120%
Total Iron	175	5500062	0.3	0.3	0.0%	< 0.1	94%	80%	120%				96%	80%	120%
Total Lead	174	5500062	< 0.001	< 0.001	NA	< 0.001	98%	80%	120%				102%	80%	120%
Total Manganese	175	5500062	0.014	0.036	NA	< 0.005	95%	80%	120%				92%	80%	120%
Total Mercury	174	5500062	< 0.000025	< 0.000025	NA	< 0.000025	112%	80%	120%				104%	80%	120%
Total Molybdenum	174	5500062	< 0.003	< 0.003	NA	< 0.003	92%	80%	120%				100%	80%	120%
Total Nickel	174	5500062	< 0.003	< 0.003	NA	< 0.003	92%	80%	120%				98%	80%	120%
Total Selenium	174	5500062	< 0.001	< 0.001	NA	< 0.001	94%	80%	120%				97%	80%	120%
Total Silver	174	5500062	< 0.00005	< 0.00005	NA	< 0.00005	92%	80%	120%				97%	80%	120%
Total Sodium	175	5500062	152	149	1.9%	< 0.6	96%	80%	120%				106%	80%	120%
Total Thallium	174	5500062	< 0.001	< 0.001	NA	< 0.001	93%	80%	120%				101%	80%	120%
Total Uranium	174	5500062	< 0.001	< 0.001	NA	< 0.001	98%	80%	120%				108%	80%	120%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

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Water Analysis (Continued)

RPT Date: Jun 28, 2014			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Total Zinc	174	5500062	0.010	0.009	10.5%	< 0.001	97%	80%	120%				95%	80%	120%
Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.															
CCME / Alberta Tier 1 Metals + Hg (Dissolved)															
Dissolved Aluminum	174	5470880	0.007	0.006	15.4%	< 0.004	101%	80%	120%				103%	80%	120%
Dissolved Antimony	174	5470880	< 0.001	< 0.001	NA	< 0.001	107%	80%	120%				95%	80%	120%
Dissolved Arsenic	174	5470880	< 0.001	< 0.001	NA	< 0.001	93%	80%	120%				102%	80%	120%
Dissolved Barium	174	5470880	0.74	0.69	7.0%	< 0.05	102%	80%	120%				87%	80%	120%
Dissolved Boron	174	5470880	0.05	0.05	0.0%	< 0.01	98%	80%	120%				101%	80%	120%
Dissolved Cadmium	174	5470880	0.00020	0.00020	0.0%	< 0.00005	95%	80%	120%				100%	80%	120%
Dissolved Chromium	174	5470880	< 0.001	< 0.001	NA	< 0.001	93%	80%	120%				97%	80%	120%
Dissolved Cobalt	174	5470880	0.0029	0.0028	3.5%	< 0.00019	90%	80%	120%				99%	80%	120%
Dissolved Copper	174	5470880	0.003	0.002	NA	< 0.002	91%	80%	120%				90%	80%	120%
Dissolved Lead	174	5470880	0.005	0.005	0.0%	< 0.001	98%	80%	120%				101%	80%	120%
Dissolved Mercury	174	5470880	< 0.000025	< 0.000025	0.0%	< 0.000025	98%	80%	120%				100%	80%	120%
Dissolved Molybdenum	174	5470880	< 0.003	< 0.003	NA	< 0.003	92%	80%	120%				99%	80%	120%
Dissolved Nickel	174	5470880	0.122	0.118	3.3%	< 0.003	92%	80%	120%				97%	80%	120%
Dissolved Selenium	174	5470880	0.002	0.002	0.0%	< 0.001	94%	80%	120%				102%	80%	120%
Dissolved Silver	174	5470880	< 0.00005	< 0.00005	NA	< 0.00005	92%	80%	120%				97%	80%	120%
Dissolved Thallium	174	5470880	< 0.0001	< 0.0001	NA	< 0.0001	93%	80%	120%				101%	80%	120%
Dissolved Uranium	174	5470880	0.003	0.003	0.0%	< 0.001	98%	80%	120%				108%	80%	120%
Dissolved Zinc	174	5470880	1.10	1.06	3.7%	< 0.004	97%	80%	120%				100%	80%	120%
Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.															
Water Analysis - Total Solids															
Total Dissolved Solids	176	5487676	185	185	0.0%	< 5	84%	80%	120%						
Total Suspended Solids	176	5503107	26	26	0.0%	< 1	87%	80%	120%				87%	80%	120%
Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.															
Water Analysis - Hexavalent Chromium															
Hexavalent Chromium	174	5500062	< 5	< 5	NA	< 5	120%	80%	120%	104%	80%	120%	97%	80%	120%
Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.															

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Water Analysis (Continued)

RPT Date: Jun 28, 2014			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

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Method Summary

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AGAT WORK ORDER: 14E854856

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Propylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Monoethylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Diethylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Triethylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Tetraethylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Heptanol	TO 1410	EPA SW-846 8015	GC/FID
Methanol	TO 1420	EPA 8015	GC/FID
4-Methyl-2-pentanone	TO 1420	EPA 8015	GC/FID
Benzene	ORG-170-5110/5140/5430/5440	EPA SW846 8260-W	GC/MS
Toluene	ORG-170-5110/5140/5430/5440	EPA SW846 8260-W	GC/MS
Ethylbenzene	ORG-170-5110/5140/5430/5440	EPA SW846 8260-W	GC/MS
Xylenes	ORG-170-5110/5140/5430/5440	EPA SW846 8260-W	GC/MS
C6 - C10 (F1)	ORG-170-5110/5140/5430/5440	CCME Tier 1 Method-W L	GC/FID
C6 - C10 (F1 minus BTEX)	ORG-170-5110/5140/5430/5440	CCME Tier 1 Method-W L	GC/FID
C>10 - C16	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
C>16 - C34	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
C>34 - C50	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
Toluene-d8 (BTEX)	ORG-170-5110/5140/5430/5440	EPA SW846 8260-W	GC/MS
o-Terphenyl (F2-F4)	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
Naphthalene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
2-Methylnaphthalene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Quinoline	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Acenaphthylene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Acenaphthene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Fluorene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Phenanthrene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Anthracene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Acridine	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Fluoranthene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Pyrene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Benzo[a]anthracene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Chrysene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Benzo[b+j]fluoranthene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Benzo[k]fluoranthene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Benzo[a]pyrene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Indeno[1,2,3-cd]pyrene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Dibenzo[ah]anthracene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Benzo[ghi]perylene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
2-Fluorobiphenyl	ORG-170-5420/-5421	EPA SW-846 3510 & 8270	GC/MS
p-Terphenyl-d14	ORG-170-5420/-5421	EPA SW-846 3510 & 8270	GC/MS
Chloromethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Vinyl Chloride	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS

AGAT Laboratories

6310 ROPER ROAD
EDMONTON, ALBERTA
CANADA T6B 3P9
TEL (780)395-2525
FAX (780)462-2490
http://www.agatlabs.com

Method Summary

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E854856

PROJECT:

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Bromomethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Chloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Trichlorofluoromethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Acetone	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,1-Dichloroethylene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Methylene Chloride	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Methyl tert-butyl ether	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Methyl Ethyl Ketone	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
trans- 1,2-dichloroethylene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,1-Dichloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
cis- 1,2-Dichloroethylene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Chloroform	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,2-Dichloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,1,1-Trichloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Carbon Tetrachloride	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Benzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,2-Dichloropropane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Trichloroethylene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Bromodichloromethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
trans-1,3-Dichloropropene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Methyl Isobutyl Ketone	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
cis-1,3-Dichloropropene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,1,2-Trichloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Toluene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
2-Hexanone	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Dibromochloromethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Ethylene Dibromide	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Tetrachloroethene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS

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CANADA T6B 3P9
TEL (780)395-2525
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Method Summary

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E854856

PROJECT:

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
1,1,1,2-Tetrachloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Chlorobenzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Ethylbenzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
m, p-Xylene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Bromoform	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Styrene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,1,2,2-Tetrachloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
o-Xylene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,3-Dichlorobenzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,4-Dichlorobenzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,2-Dichlorobenzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,2,4-Trichlorobenzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Total Xylenes	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Toluene-d8	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS

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Method Summary

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E854856

PROJECT:

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Aluminum	INO-171-6202	SM 3125 B	ICP-MS
Dissolved Antimony	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Arsenic	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Barium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Boron	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Cadmium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Chromium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Cobalt	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP-MS
Dissolved Copper	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Iron	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Lead	INOR-171-6202	SM 3125 B DW	ICP-MS
Dissolved Manganese	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Mercury	INOR-171-6202	SM 3125 B DW	ICP-MS
Dissolved Molybdenum	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Nickel	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Selenium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Silver	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Sodium	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Thallium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Uranium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Zinc	INOR-171-6202	SM 3125 B	ICP-MS
Total Aluminum	INOR-171-6201, INOR-171-6100	SM 3030 E; SM 3125 B	ICP-MS
Total Antimony	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP-MS
Total Arsenic	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Barium	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Boron	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Cadmium	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Chromium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Cobalt	INOR-171-6100, -6202	SM 3030 E; SM 3125 B	ICP-MS
Total Copper	INOR-171-6100, -6202	SM 3030 E; SM 3125 B	ICP-MS
Total Iron	INOR-171-62012	SM 3030 E; SM 3120 B	ICP/OES
Total Lead	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Manganese	INOR-171-6201	SM 3030 E; SM 3120 B	ICP/OES
Total Mercury	INOR-171-6202	SM 3125 B TW	ICP-MS
Total Molybdenum	INOR-171-6202	SM 3030 E; SM 3125 B	ICP/MS
Total Nickel	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Selenium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Silver	INO-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Sodium	INOR-171-6201	SM 3030 E; SM 3120 B TW	ICP/OES
Total Thallium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Uranium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Zinc	INORG-171-6202	SM 3030 E; SM 3125 B	ICP-MS
pH	INOR-171-6205	SM 4500 H+	PH METER
p - Alkalinity (as CaCO3)	INOR-171-6205	SM 2320 B	TITRATION
T - Alkalinity (as CaCO3)	INOR-171-6205	SM 2320 B	TITRATION
Bicarbonate	INOR-171-6205	CARTER & GREGORICH 2007	PC TITRATE
Carbonate	INOR-171-6205	CARTER & GREGORICH 2007	PC TITRATE

AGAT Laboratories

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CANADA T6B 3P9
TEL (780)395-2525
FAX (780)462-2490
http://www.agatlabs.com

Method Summary

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E854856

PROJECT:

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Hydroxide	INOR-171-6205	SM 2320 B	TITRATION
Electrical Conductivity	INOR-171-6205	SM 2510 B	CONDUCTIVITY METER
Fluoride	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Chloride	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Nitrite	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Sulfate	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Dissolved Calcium	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Magnesium	INST 0140	SM 3120 B	ICP/OES
Dissolved Sodium	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Potassium	INST 0140	SM 3120 B	ICP/OES
Dissolved Iron	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Manganese	INOR-171-6201	SM 3120 B	ICP/OES
Hexavalent Chromium	SPE 0101	EPA SW 846-6010B, SM 3030B	SPECTROPHOTOMETER
Total Dissolved Solids	INOR-171-6104	SM 2540 C	GRAVIMETRIC
Total Suspended Solids	INORG-171-6102	SM 2540 D	GRAVIMETRIC
Total Solids	INOR-171-6102, INOR-171-6104	SM 2540 G	CALCULATION

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Chromatogram Image

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E854856

PROJECT:

ATTENTION TO: Accounts Payable

IMAGE001: 5500062, WW02-A

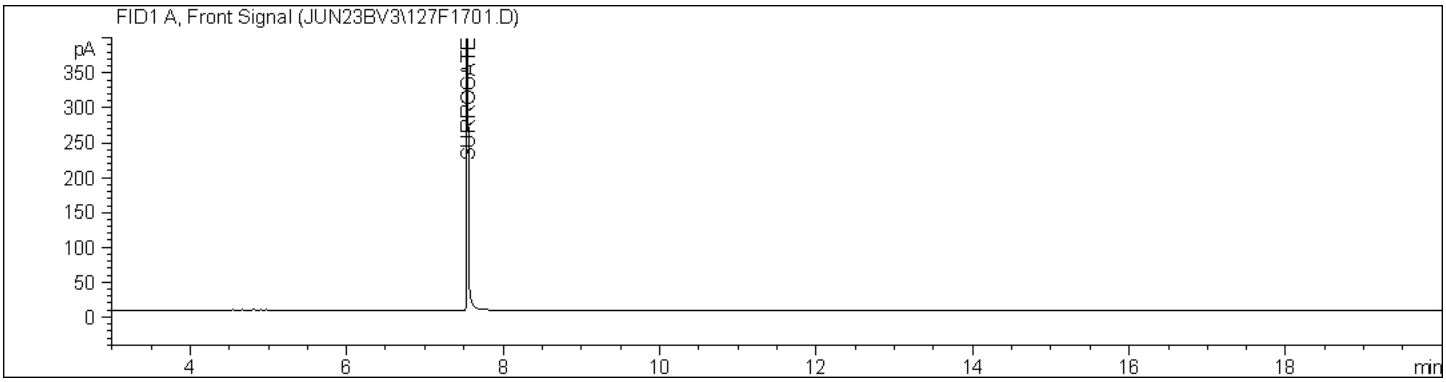


IMAGE002: 5500063, WW03-A

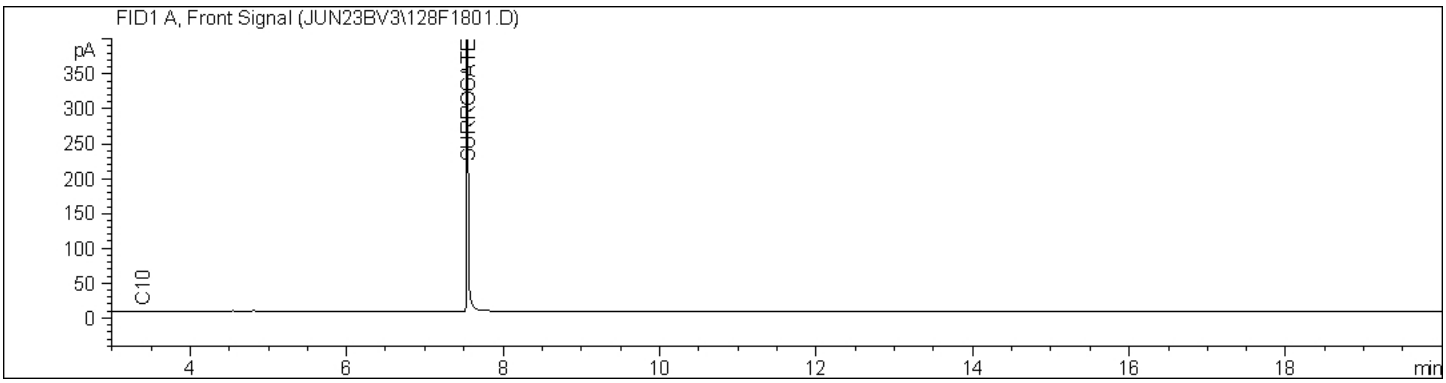
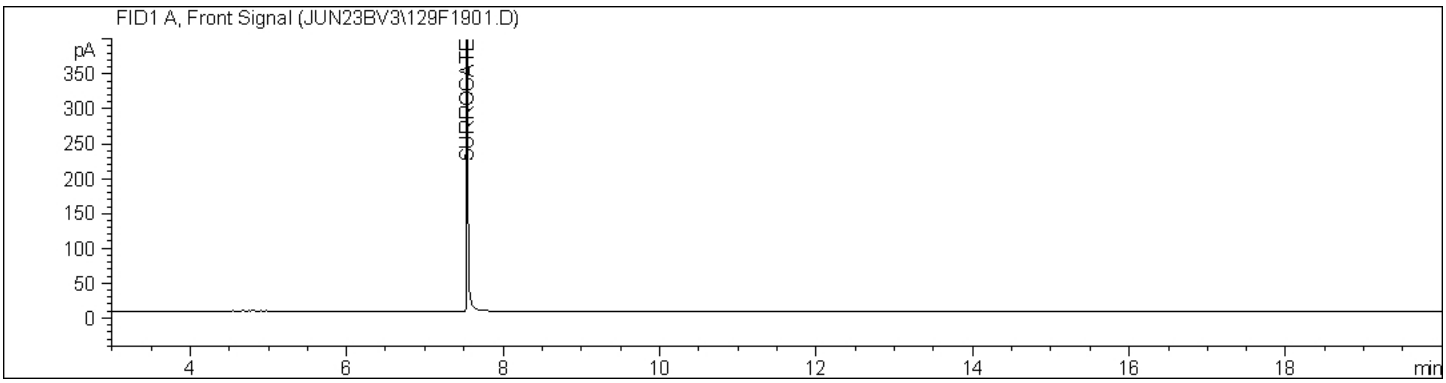


IMAGE003: 5500064, WW05-A



Samples on this CofC in two coolers. 1 CofC sent because so few sent in order. JP

AGAT Laboratories

2910 12 Street NE
Calgary, Alberta
T2E 7P7
webearth.agatlabs.com
P: 403.735.2005 • F: 403.735.2771

Laboratory Use Only
Arrival Temperature: 3.4°C
AGAT Job Number: A14554856
Date and Time:

Chain of Custody Record

Report Information
Company: Hobbit
Contact: Jeff Powers
Address: 935 Belle Alexis Circle, Palmer, AK
Phone: 907 355 1769 Fax:
LSD:
Client Project #:

Report Information
1. Name: Jeff Powers
Email: japowers@mtaonline.net
2. Name: Sandra Marlies
Email: sandra.marlies@conocophillips.com
3. Name:
Email:

Report Format
☐ Single Sample per Page
☒ Multiple Samples per Page

Turnaround Time Required (TAT)
Regular TAT ☒ 5-7 Business Days
Rush TAT (Surcharge) ☐ Less than 24 Hours (200%) ☐ Less than 48 Hours (100%) ☐ Less than 72 Hours (50%)
Date Required:

Invoice To Same ☐ Yes ☒ No
Company: ConocoPhillips
Contact: USER ID-Jenkich
Address: Activity Code:203
Phone: Fax:
PO/AFE#: 10359506

Requirements (Check One)
☒ CCME ☐ AB Tier 1 ☐ BC CSR
☐ Agricultural ☐ Agricultural ☐ AW
☐ Industrial ☐ Industrial ☐ IW
☐ Residential/ Park ☐ Residential/ Park ☐ LW
☐ Commercial ☐ Commercial ☐ DW
☒ Drinking Water ☐ Natural Area
☒ FWAL
☐ Other
☐ D50 (Drilling) ☐ SPIGEC ☐

LABORATORY USE (LAB ID#)	SAMPLE IDENTIFICATION	SAMPLE MATRIX	DATE/ TIME SAMPLED	COMMENTS- SITE SAMPLE INFO, SAMPLE CONTAINMENT	# of CONTAINERS	Routine Potability	Total and dissolved hexavalent chromium	Total and Dissolved mercury	Total and dissolved metals	Total solids	BTEX F1-F4	PAHs	VOC scan	Glycols	Alcohols	'14 JUN 22 8:38					HOLD FOR 60 DAYS	PRESERVED (Y/N)	CONTAMINATED/ HAZARDOUS (Y/N)
55 00102	WW02-A	Water	6-20-14 1400			X	X	X	X	X	X	X	X	X	X								
003	WW03-A	Water	6-20-14 1500			X	X	X	X	X	X	X	X	X	X								
004	WW05-A	Water	6-21-14 1500			X	X	X	X	X	X	X	X	X	X								

Notes: 1) All Dissolved Metals Samples Not Preserved due to no Filtration in field
2) Sample WW05-A Cr6+ Exception, Dissolved Cr6+ to Filtered by inadvertently preserved please take note

Any questions or concerns Contact Jeff Powers (Hobbit) 907 355 1769

Samples Relinquished By (Print Name and Sign): Jeff Powers	Date/ Time: 6-21-14 1000	Samples Relinquished By (Print Name and Sign):	Date/ Time: Jun 22 14	Date/ Time:	Page	of	
Samples Relinquished By (Print Name and Sign):	Date/ Time:	Samples Relinquished By (Print Name and Sign):		Date/ Time:			
Samples Relinquished By (Print Name and Sign):	Date/ Time:	Samples Relinquished By (Print Name and Sign):		Date/ Time:	No: EAB		

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: HOBBIT / CPC

Courier: Canpar North Prepaid ☐ Collect ☐

Waybill #: 515 XNB 7965303

Branch: EDM ☑ GP ☐ FN ☐ FM ☐ RD ☐ VAN ☐ LYD ☐ FSJ ☐ EST ☐ Other: _____

Custody Seal Intact: Yes ☐ No ☐ NA ☑

TAT: <24hr ☐ 24-48hr ☐ 48-72hr ☐ Reg ☑ Other _____

Cooler Quantity: 2

TIME SENSITIVE ISSUES - Shipping

Earliest Date Sampled: Jun 19 ALREADY EXCEEDED? Yes ☑ No ☐

MIBI/Time Sensitive Test*: Rec Expiry: Jun 21

Hydrocarbon Test: Lab to fill Expiry: Jul 3

Are samples received more than **5 days** after sampling: Yes ☐ No ☑

**Residual Chlorine, DO, Turbidity, BOD, Nitrate/Nitrite, Microtox*

Temperature (to be recorded from bottles/jars only)

3.4°C

N/A – Only Soil Bags Received

(1) (Bottle/Jar) 3.4 + 4.6 + 2.9 = ____ °C (2) (Bottle/Jar) 5.6 + 2.1 + 2.2 = ____ °C

(3) (Bottle/Jar) ___ + ___ + ___ = ____ °C (4) (Bottle/Jar) ___ + ___ + ___ = ____ °C

(5) (Bottle/Jar) ___ + ___ + ___ = ____ °C (6) (Bottle/Jar) ___ + ___ + ___ = ____ °C

(If more than 6 coolers are received use another sheet of paper and attach)

SAMPLE INTEGRITY - Shipping

Hazardous Samples: Why Hazardous: _____

Precaution taken: _____

Legal Samples: Yes ☐ No ☑

International Samples: Yes ☐ No ☐ Tape Sealed: Yes ☐ No ☐

Coolant used: Icepack ☐ Bagged Ice ☑ Free Ice ☐ Free Water ☐ None ☐

LOGISTICS USE ONLY

Workorder No: L4E554856

Samples Damaged: Yes ☐ No ☑ If YES why?

No Bubble Wrap ☐ Frozen ☐ Courier ☐

Other: _____

Correct Sample Requirements for Testing

Correct Bottles: Yes ☑ No ☐ Correct Amount: Yes ☑ No ☐

Correct Labels: Yes ☑ No ☐

If NO to any of the above, explain why:

_____

Visible Sediment in Waters : Yes ☑ No ☐

Additional Integrity Issues or concerns:

_____

_____

_____

Account Project Manager: _____ have they been notified of the above issues: Yes ☐ No ☐

Whom spoken to: _____ Date/Time: _____

CPM Initial ____

518 YVQ 78653013

518 YVQ 78653013

Field	Content
Shipper's Name and Address / Nom et adresse de l'expéditeur	ConocoPhillips Canada Norman Wells, Nt 907-355-1769 RSLNZ09280616
Shipper's Account Number / Numéro de compte de l'expéditeur	CON106CW
Not negotiable / Non négociable — Air Waybill / Lettre de transport aérien — Issued by / Émise par	North 101 3731 52 Ave E Edmonton International Ai Canada
Consignee's Name and Address / Nom et adresse du destinataire	AGAT Laboratories Ltd 6310 Roper Road Edmonton, AB T6B 3P9 780-395-2525 403-735-2745
Consignee's Account Number / Numéro de compte du destinataire	AGA100CW
Issuing Carrier's Agent Name and City / Nom et ville de l'agent du transporteur émetteur	
Accounting Information / Renseignements comptables	Acc.#: CON106CW ConocoPhillips Canada PO Box 130, Stn. M 1600,401-9th Ave. SW Calgary,AB T2P 2H7
Agent's IATA Code / Code IATA de l'agent	
Account Number / Numéro de compte	
Airport of Departure (Address of first Carrier) and Requested Routing / Aéroport de départ (Adresse du premier transporteur) et itinéraire demandé	Norman Wells
Currency / Monnaie	CAD
CHGS Code	PPD
WT/Val	X
Other	X
Declared Value for Carriage / Valeur déclarée pour le transport	NVD
Declared Value for Customs / Valeur déclarée pour la douane	NCV
Airport of Destination / Aéroport de destination	Edmonton
Amount of Insurance / Montant de l'assurance	NIL
Handling Information / Renseignements pour le traitement de l'expédition	HFPU
SCI	

Copies 1, 2 and 3 of this Air Waybill are originals and have the same validity
Les exemplaires 1, 2 et 3 de cette lettre de transport aérien sont originaux et ont la même validité

It is agreed that the goods described herein are accepted for carriage in apparent good order and condition (except as noted) and SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. ALL GOODS MAY BE CARRIED BY ANY OTHER MEANS INCLUDING ROAD OR ANY OTHER CARRIER UNLESS SPECIFIC CONTRARY INSTRUCTIONS ARE GIVEN HEREON BY THE SHIPPER, AND SHIPPER AGREES THAT THE SHIPMENT MAY BE CARRIED VIA INTERMEDIATE STOPPING PLACES WHICH THE CARRIER DEEMS APPROPRIATE. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY.

Il est convenu que les marchandises décrites dans le présent document sont acceptées pour le transport en bon état apparent (sauf annotation contraire) et que le transport est SOUMIS AUX CONDITIONS DU CONTRAT QUI FIGURENT AU VERSO. LES MARCHANDISES PEUVENT ÊTRE TRANSPORTÉES PAR TOUT AUTRE MOYEN Y COMPRIS PAR ROUTE OU PAR TOUT AUTRE TRANSPORTEUR À MOINS QUE DES INSTRUCTIONS CONTRAIRES PRÉCISES, À CE SUJET NE SOIENT DONNÉES PAR L'EXPÉDITEUR. L'ATTENTION DE L'EXPÉDITEUR EST ATTIRÉE SUR L'AVIS CONCERNANT LA LIMITATION DE RESPONSABILITÉ DU TRANSPORTEUR.

INSURANCE - If Carrier offers insurance and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance". ASSURANCE - si le transporteur propose une assurance et que l'expéditeur en fait la demande conformément aux présentes conditions indiquer le montant à assurer en chiffres dans la case "Montant de l'assurance".

Canada Guaranteed

Number of Pieces / Nombre de colis RCP	Gross Weight / Poids brut	kg/lb	Rate Class / Commodity Item No.	Chargeable Weight / Poids de taxation	Rate / Charge	Total	Nature and Quantity of Goods (including Dimensions or Volume)
2	20	K	GAD 20	23	5.31	122.13	Water Samples 5T DIMS 23x13x27IN (bulk)
2	20	K				122.13	

	Prepaid / Port payé	Collect / Port dû
Weight Charge / Taxation au poids	0.00	122.13
Valuation charge / Taxation à la valeur	0.00	0.00
Tax / Taxe	0.00	8.24
Total other Charges Due Agent / Total des autres frais dûs à l'agent	0.00	0.00
Total other Charges Due Carrier / Total des autres frais dûs au transporteur	0.00	42.75
Total prepaid / Total port payé — Total collect / Total port dû	0.00	173.12
Currency Conversion Rates / Taux conversion monnaie — CC Charges in Destination Currency / Port dû en monnaie du pays de destination		
For Carrier's Use only at Destination — Charges at Destination / Frais à l'arrivée — Total collect Charges / Total dû		

Other Charges / Autres frais

Nav Canada Charge 6.11 Fuel Surcharge 36.64
Goods/Service Tax 8.24

Shipper certifies that the particulars on the face hereof are correct and that **insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations.**

L'expéditeur certifie que les indications portées sur le présent document sont exactes et **que dans la mesure où une partie quelconque de l'expédition contient des marchandises dangereuses, cette partie d'expédition est correctement dénommée et bien préparée pour le transport par air conformément à la réglementation applicable.**

Signature of Shipper or his Agent / Signature de l'expéditeur ou de son agent

X

Executed on / Fait le (Date) 6/10/2014 at / à (Place) 10:07 — Signature of Issuing Carrier or its Agent / Signature du transporteur émetteur ou de son agent 991809

CS002 (10/01)

AGAT Laboratories

6310 ROPER ROAD
EDMONTON, ALBERTA
CANADA T6B 3P9
TEL (780)395-2525
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CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.
2100, 250 6 AVENUE SW
CALGARY, AB T2P3H7
(403) 233-4000

ATTENTION TO: Accounts Payable

PROJECT:

AGAT WORK ORDER: 14E855121

TRACE ORGANICS REVIEWED BY: Joydee Saez, Technical Reviewer

WATER ANALYSIS REVIEWED BY: Joydee Saez, Technical Reviewer

DATE REPORTED: Jun 28, 2014

PAGES (INCLUDING COVER): 21

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (780) 395-2525

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 14E855121

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

ConocoPhillips - Petroleum Hydrocarbons (BTEXS/F1-F4) in Water

DATE RECEIVED: 2014-06-23

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW04-A	WW07-A
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		6/21/2014	6/21/2014
Parameter	Unit	G / S	RDL	5503107	5503109
Benzene	mg/L		0.0005	0.0005	0.0006
Toluene	mg/L		0.0005	0.0333	0.0354
Ethylbenzene	mg/L		0.0005	<0.0005	<0.0005
Xylenes	mg/L		0.0005	0.0009	0.0009
Styrene	mg/L		0.0005	<0.0005	<0.0005
C6 - C10 (F1)	mg/L		0.1	<0.1	<0.1
C6 - C10 (F1 minus BTEX)	mg/L		0.1	<0.1	<0.1
C>10 - C16	mg/L		0.1	0.5	0.1
C16 - C34	mg/L		0.1	7.2	6.4
C>34 - C50	mg/L		0.1	1.4	1.7
Surrogate	Unit	Acceptable Limits			
Toluene-d8 (BTEX)	%	50-150		95	95
o-Terphenyl (F2-F4)	%	50-150		104	105

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5503107-5503109 The C>6 - C10 fraction is calculated using the toluene response factor.
The C10 - C16 fraction is calculated using the average response factor for nC10, nC16 and nC34.
BTEX has NOT been subtracted from Fraction 1.
Sample is blank corrected.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E855121

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Glycols Analysis in Water

DATE RECEIVED: 2014-06-23

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW04-A	WW07-A
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		6/21/2014	6/21/2014
Parameter	Unit	G / S	RDL	5503107	5503109
Propylene Glycol	mg/L		10	<10	<10
Monoethylene Glycol	mg/L		10	<10	<10
Diethylene Glycol	mg/L		5	<5	<5
Triethylene Glycol	mg/L		10	<10	<10
Tetraethylene Glycol	mg/L		10	<10	<10
Surrogate	Unit	Acceptable Limits			
Heptanol	%	50-150		95	88

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
5503107-5503109 Identification based on retention time relative to standards.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E855121

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Methanol Analysis in Water

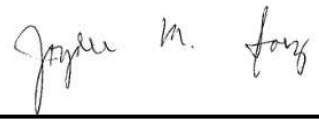
DATE RECEIVED: 2014-06-23

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW04-A	WW07-A
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		6/21/2014	6/21/2014
Parameter	Unit	G / S	RDL	5503107	5503109
Methanol	mg/L		1	<1	<1
Surrogate	Unit	Acceptable Limits			
4-Methyl-2-pentanone	%	50-150		72	67

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
5503107-5503109 Analysis by GC/FID.

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 14E855121

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Volatile Organic Compounds in Water

DATE RECEIVED: 2014-06-23

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW04-A	WW07-A
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		6/21/2014	6/21/2014
Parameter	Unit	G / S	RDL	5503107	5503109
Chloromethane	mg/L		0.001	<0.001	<0.001
Vinyl Chloride	mg/L		0.001	<0.001	<0.001
Bromomethane	mg/L		0.001	<0.001	<0.001
Chloroethane	mg/L		0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L		0.001	<0.001	<0.001
Acetone	mg/L		0.01	13.2	14.0
1,1-Dichloroethylene	mg/L		0.001	<0.001	<0.001
Methylene chloride	mg/L		0.001	<0.001	<0.001
Methyl tert-Butyl Ether	mg/L		0.001	<0.001	<0.001
Methyl Ethyl Ketone	mg/L		0.01	0.12	0.09
trans-1,2-Dichloroethylene	mg/L		0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L		0.001	<0.001	<0.001
cis-1,2 Dichloroethylene	mg/L		0.001	<0.001	<0.001
Chloroform	mg/L		0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L		0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L		0.001	<0.001	<0.001
Carbon Tetrachloride	mg/L		0.0005	<0.0005	<0.0005
Benzene	mg/L		0.0005	<0.0005	<0.0005
1,2-Dichloropropane	mg/L		0.001	<0.001	<0.001
Trichloroethylene	mg/L		0.001	<0.001	<0.001
Bromodichloromethane	mg/L		0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L		0.001	<0.001	<0.001
Methyl Isobutyl Ketone	mg/L		0.01	<0.01	<0.01
cis-1,3-Dichloropropene	mg/L		0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L		0.001	<0.001	<0.001
Toluene	mg/L		0.0005	0.0361	0.0352
2-Hexanone	mg/L		0.01	<0.01	<0.01
Dibromochloromethane	mg/L		0.001	<0.001	<0.001
Ethylene dibromide	mg/L		0.001	<0.001	<0.001
Tetrachloroethene	mg/L		0.001	<0.001	<0.001

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Certificate of Analysis

AGAT WORK ORDER: 14E855121

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Volatile Organic Compounds in Water

DATE RECEIVED: 2014-06-23

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW04-A	WW07-A
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		6/21/2014	6/21/2014
Parameter	Unit	G / S	RDL	5503107	5503109
1,1,1,2-Tetrachloroethane	mg/L		0.001	<0.001	<0.001
Chlorobenzene	mg/L		0.001	<0.001	<0.001
Ethylbenzene	mg/L		0.0005	<0.0005	<0.0005
m,p-Xylenes	mg/L		0.0005	<0.0005	<0.0005
Bromoform	mg/L		0.001	<0.001	<0.001
Styrene	mg/L		0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L		0.001	<0.001	<0.001
o-Xylene	mg/L		0.0005	<0.0005	<0.0005
1,3-Dichlorobenzene	mg/L		0.0005	<0.0005	<0.0005
1,4-Dichlorobenzene	mg/L		0.0005	<0.0005	<0.0005
1,2-Dichlorobenzene	mg/L		0.0005	<0.0005	<0.0005
1,2,4-Trichlorobenzene	mg/L		0.001	<0.001	<0.001
Total Xylenes	mg/L		0.0005	<0.0005	<0.0005
Surrogate	Unit	Acceptable Limits			
Toluene-d8	%	50-150		102	107

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E855121

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

CCME / Alberta Tier 1 Metals (Dissolved) (Full Package)

DATE RECEIVED: 2014-06-23

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW04-A	WW07-A
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		6/21/2014	6/21/2014
Parameter	Unit	G / S	RDL	5503107	5503109
Dissolved Aluminum	mg/L	0.005	0.004	0.004	<0.004
Dissolved Antimony	mg/L	0.006	0.001	<0.001	<0.001
Dissolved Arsenic	mg/L	0.005	0.001	<0.001	<0.001
Dissolved Barium	mg/L	1	0.05	1.49	1.79
Dissolved Bismuth	mg/L		0.02	<0.02	<0.02
Dissolved Boron	mg/L	0.5	0.01	1.02	1.00
Dissolved Cadmium	mg/L	VAR	0.00005	0.00010	0.00011
Dissolved Chromium	mg/L		0.001	<0.001	<0.001
Dissolved Cobalt	mg/L		0.00019	<0.00019	<0.00019
Dissolved Copper	mg/L	0.002	0.002	<0.002	<0.002
Dissolved Iron	mg/L	0.3	0.1	0.1	<0.1
Dissolved Lead	mg/L	0.001	0.001	<0.001	<0.001
Dissolved Manganese	mg/L	0.05	0.005	0.021	0.012
Dissolved Mercury	mg/L		0.000025	0.00203	0.00168
Dissolved Molybdenum	mg/L		0.003	0.092	0.098
Dissolved Nickel	mg/L	VAR	0.003	<0.003	<0.003
Dissolved Selenium	mg/L	0.001	0.001	<0.001	<0.001
Dissolved Silver	mg/L	0.0001	0.0001	<0.0001	<0.0001
Dissolved Sodium	mg/L	200	0.6	1610	1630
Dissolved Thallium	mg/L		0.0001	<0.0001	<0.0001
Dissolved Uranium	mg/L	0.01	0.001	<0.001	<0.001
Dissolved Zinc	mg/L	0.03	0.004	<0.004	<0.004

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 GW (Ag, F)
5503107-5503109 < - Values refer to Report Detection Limit.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E855121

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

CCME / Alberta Tier 1 Metals (Total) (Full)

DATE RECEIVED: 2014-06-23

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW04-A	WW07-A
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		6/21/2014	6/21/2014
Parameter	Unit	G / S	RDL	5503107	5503109
Total Aluminum	mg/L	0.005	0.002	0.067	0.620
Total Antimony	mg/L	0.006	0.001	0.005	0.023
Total Arsenic	mg/L	0.005	0.001	<0.001	0.002
Total Barium	mg/L	1	0.05	1.85	4.41
Total Beryllium	mg/L		0.001	<0.001	<0.001
Total Boron	mg/L	0.5	0.01	1.00	0.97
Total Cadmium	mg/L	VAR	0.00005	0.00012	0.00027
Total Chromium	mg/L		0.001	0.022	0.136
Total Cobalt	mg/L		0.001	0.001	0.007
Total Copper	mg/L	0.002	0.002	0.031	0.282
Total Iron	mg/L	0.3	0.1	11.2	192
Total Lead	mg/L	0.001	0.001	0.049	0.574
Total Lithium	mg/L		0.001	1.60	1.60
Total Manganese	mg/L	0.05	0.005	0.160	2.01
Total Molybdenum	mg/L		0.003	0.080	0.121
Total Nickel	mg/L	0.025	0.003	0.020	0.062
Total Phosphorus	mg/L		0.08	<0.08	<0.08
Total Selenium	mg/L	0.001	0.001	0.003	0.002
Total Silicon	mg/L		0.032	1.73	7.33
Total Silver	mg/L	0.0001	0.00005	0.00292	0.00154
Total Sodium	mg/L	200	0.6	1820	1590
Total Strontium	mg/L		0.001	0.562	0.779
Total Thallium	mg/L		0.001	<0.001	<0.001
Total Tin	mg/L		0.001	0.001	0.026
Total Titanium	mg/L		0.001	0.052	0.087
Total Uranium	mg/L	0.01	0.001	<0.001	<0.001
Total Zinc	mg/L	0.03	0.001	0.071	0.356
Total Zirconium	mg/L		0.01	<0.01	0.02

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E855121

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

CCME / Alberta Tier 1 Metals (Total) (Full)

DATE RECEIVED: 2014-06-23

DATE REPORTED: 2014-06-28

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 GW (Ag, F)
5503107-5503109 < - Values refer to Report Detection Limit.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E855121

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Routine Chemistry Water Analysis

DATE RECEIVED: 2014-06-23

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW04-A	WW07-A
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		6/21/2014	6/21/2014
Parameter	Unit	G / S	RDL	5503107	5503109
pH	pH Units	6.5-8.5	NA	8.90	8.90
p - Alkalinity (as CaCO3)	mg/L		5	111	114
T - Alkalinity (as CaCO3)	mg/L		5	1430	1420
Bicarbonate	mg/L		5	1470	1460
Carbonate	mg/L		5	133	137
Hydroxide	mg/L		5	<5	<5
Electrical Conductivity	uS/cm		1	6810	6770
Fluoride	mg/L	1.5	0.05	<0.05	<0.05
Chloride	mg/L	250	1	1350	1360
Nitrite	mg/L	3.2	0.05	<0.05	<0.05
Nitrate	mg/L	45	0.5	<0.5	<0.5
Sulfate	mg/L	500	1	<1	<1
Dissolved Calcium	mg/L		0.3	1.5	1.4
Dissolved Magnesium	mg/L		0.2	3.0	2.7
Dissolved Sodium	mg/L	200	0.6	1610	1630
Dissolved Potassium	mg/L		0.6	16.2	14.9
Dissolved Iron	mg/L	0.3	0.1	<0.1	<0.1
Dissolved Manganese	mg/L	0.05	0.005	<0.005	<0.005
Calculated TDS	mg/L		1	3960	3980
Hardness	mg CaCO3/L		1	16	15
Ion Balance	%		0.001	106	107
Nitrate+Nitrite-N	mg/L		0.02	<0.02	<0.02
Nitrate-N	mg/L		0.02	<0.02	<0.02
Nitrite-N	mg/L		0.01	<0.01	<0.01
SAR			0.20	175	186

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (D Water)
5503107-5503109 < - Values refer to Report Detection Limits.
pH: Analyzed past the regulatory hold time of 15 minutes.
Nitrate and Nitrite: The regulatory hold time for the analysis of nitrate and/or nitrite in water is 48 hours in Alberta and 72 hours in British Columbia.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E855121

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Water Analysis - Hexavalent Chromium

DATE RECEIVED: 2014-06-23

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW04-A	WW07-A
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		6/21/2014	6/21/2014
Parameter	Unit	G / S	RDL	5503107	5503109
Hexavalent Chromium	µg/L		5	<5	<5

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
5503107-5503109 pH: Analyzed past the regulatory hold time of 15 minutes.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 14E855121

PROJECT:

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Water Analysis - Total Solids

DATE RECEIVED: 2014-06-23

DATE REPORTED: 2014-06-28

		SAMPLE DESCRIPTION:		WW04-A	WW07-A
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		6/21/2014	6/21/2014
Parameter	Unit	G / S	RDL	5503107	5503109
Total Dissolved Solids	mg/L		5	3770	3800
Total Suspended Solids	mg/L		1	26	264
Total Solids	mg/L		1	3800	4060

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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Quality Assurance

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.
AGAT WORK ORDER: 14E855121
PROJECT:
ATTENTION TO: Accounts Payable
SAMPLING SITE:
SAMPLED BY:

Trace Organics Analysis

RPT Date: Jun 28, 2014			DUPLICATE				REFERENCE MATERIAL				METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
ConocoPhillips - Petroleum Hydrocarbons (BTEXS/F1-F4) in Water															
Benzene	578	5472890	< 0.0005	< 0.0005	NA	< 0.0005	102%	80%	120%	85%	80%	120%	86%	70%	130%
Toluene	578	5472890	< 0.0005	< 0.0005	NA	< 0.0005	96%	80%	120%	83%	80%	120%	79%	70%	130%
Ethylbenzene	578	5472890	< 0.0005	< 0.0005	NA	< 0.0005	82%	80%	120%	80%	80%	120%	75%	70%	130%
Xylenes	578	5472890	< 0.0005	< 0.0005	NA	< 0.0005	98%	80%	120%	91%	80%	120%	86%	70%	130%
Styrene	578	5472890	< 0.0005	< 0.0005	NA	< 0.0005	88%	80%	120%	99%	80%	120%	81%	70%	130%
C6 - C10 (F1)	578	5472890	< 0.1	< 0.1	NA	< 0.1	102%	80%	120%	90%	80%	120%	85%	70%	130%
C>10 - C16	487	5506850	< 0.1	< 0.1	NA	< 0.1	110%	80%	120%	113%	80%	120%	113%	70%	130%
C16 - C34	487	5506850	< 0.1	< 0.1	NA	< 0.1	108%	80%	120%	95%	80%	120%	94%	70%	130%
C>34 - C50	487	5506850	< 0.1	< 0.1	NA	< 0.1	111%	80%	120%	87%	80%	120%	90%	70%	130%
Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.															
Glycols Analysis in Water															
Propylene Glycol	44	5513332	<10	<10	NA	< 10	87%	70%	130%	84%	70%	130%	86%	60%	140%
Monoethylene Glycol	44	5513332	<10	<10	NA	< 10	88%	70%	130%	85%	70%	130%	87%	60%	140%
Diethylene Glycol	44	5513332	<5	<5	NA	< 5	87%	70%	130%	84%	70%	130%	86%	60%	140%
Triethylene Glycol	44	5513332	<10	<10	NA	< 10	85%	70%	130%	82%	70%	130%	84%	60%	140%
Tetraethylene Glycol	44	5513332	<10	<10	NA	< 10	81%	70%	130%	79%	70%	130%	81%	60%	140%
Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.															
Methanol Analysis in Water															
Methanol	4181	5500062	<1	<1	NA	< 1	91%	80%	120%	90%	80%	120%	106%	70%	130%
Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.															
Volatile Organic Compounds in Water															
Chloromethane	4181	5508982	<0.001	<0.001	NA	< 0.001	94%	60%	140%	125%	60%	140%	106%	60%	140%
Vinyl Chloride	4181	5508982	<0.001	<0.001	NA	< 0.001	139%	60%	140%	130%	60%	140%	106%	60%	140%
Bromomethane	4181	5508982	<0.001	<0.001	NA	< 0.001	120%	60%	140%	125%	60%	140%	91%	60%	140%
Chloroethane	4181	5508982	<0.001	<0.001	NA	< 0.001	73%	60%	140%	99%	60%	140%	84%	60%	140%
Trichlorofluoromethane	4181	5508982	<0.001	<0.001	NA	< 0.001	129%	60%	140%	120%	60%	140%	94%	60%	140%
Acetone	4181	5508982	<0.01	<0.01	NA	< 0.01	94%	60%	140%	103%	60%	140%	95%	60%	140%
1,1-Dichloroethylene	4181	5508982	<0.001	<0.001	NA	< 0.001	121%	60%	140%	127%	60%	140%	96%	60%	140%
Methylene chloride	4181	5508982	<0.001	<0.001	NA	< 0.001	102%	60%	140%	122%	60%	140%	91%	60%	140%
Methyl tert-Butyl Ether	4181	5508982	<0.001	<0.001	NA	< 0.001	75%	60%	140%	80%	60%	140%	75%	60%	140%
Methyl Ethyl Ketone	4181	5508982	<0.01	<0.01	NA	< 0.01	96%	60%	140%	130%	60%	140%	96%	60%	140%
trans-1,2-Dichloroethylene	4181	5508982	<0.001	<0.001	NA	< 0.001	122%	60%	140%	124%	60%	140%	96%	60%	140%
1,1-Dichloroethane	4181	5508982	<0.001	<0.001	NA	< 0.001	102%	60%	140%	112%	60%	140%	88%	60%	140%
cis-1,2 Dichloroethylene	4181	5508982	<0.001	<0.001	NA	< 0.001	100%	60%	140%	118%	60%	140%	88%	60%	140%
Chloroform	4181	5508982	<0.001	<0.001	NA	< 0.001	103%	60%	140%	112%	60%	140%	85%	60%	140%
1,2-Dichloroethane	4181	5508982	<0.001	<0.001	NA	< 0.001	96%	60%	140%	110%	60%	140%	88%	60%	140%
1,1,1-Trichloroethane	4181	5508982	<0.001	<0.001	NA	< 0.001	114%	60%	140%	114%	60%	140%	86%	60%	140%

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Trace Organics Analysis (Continued)

RPT Date: Jun 28, 2014			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Carbon Tetrachloride	4181	5508982	<0.0005	<0.0005	NA	< 0.0005	116%	60%	140%	114%	60%	140%	87%	60%	140%
Benzene	4181	5508982	<0.0005	<0.0005	NA	< 0.0005	94%	60%	140%	108%	60%	140%	81%	60%	140%
1,2-Dichloropropane	4181	5508982	<0.001	<0.001	NA	< 0.001	91%	60%	140%	107%	60%	140%	81%	60%	140%
Trichloroethylene	4181	5508982	<0.001	<0.001	NA	< 0.001	98%	60%	140%	100%	60%	140%	81%	60%	140%
Bromodichloromethane	4181	5508982	<0.001	<0.001	NA	< 0.001	91%	60%	140%	106%	60%	140%	84%	60%	140%
trans-1,3-Dichloropropene	4181	5508982	<0.001	<0.001	NA	< 0.001	83%	60%	140%	96%	60%	140%	72%	60%	140%
Methyl Isobutyl Ketone	4181	5508982	<0.01	<0.01	NA	< 0.01	96%	60%	140%	115%	60%	140%	96%	60%	140%
cis-1,3-Dichloropropene	4181	5508982	<0.001	<0.001	NA	< 0.001	77%	60%	140%	105%	60%	140%	76%	60%	140%
1,1,2-Trichloroethane	4181	5508982	<0.001	<0.001	NA	< 0.001	89%	60%	140%	106%	60%	140%	77%	60%	140%
Toluene	4181	5508982	<0.0005	<0.0005	NA	< 0.0005	94%	60%	140%	108%	60%	140%	82%	60%	140%
2-Hexanone	4181	5508982	<0.01	<0.01	NA	< 0.01	99%	60%	140%	111%	60%	140%	100%	60%	140%
Dibromochloromethane	4181	5508982	<0.001	<0.001	NA	< 0.001	80%	60%	140%	106%	60%	140%	79%	60%	140%
Ethylene dibromide	4181	5508982	<0.001	<0.001	NA	< 0.001	81%	60%	140%	105%	60%	140%	84%	60%	140%
Tetrachloroethene	4181	5508982	<0.001	<0.001	NA	< 0.001	101%	60%	140%	112%	60%	140%	88%	60%	140%
1,1,1,2-Tetrachloroethane	4181	5508982	<0.001	<0.001	NA	< 0.001	85%	60%	140%	97%	60%	140%	83%	60%	140%
Chlorobenzene	4181	5508982	<0.001	<0.001	NA	< 0.001	94%	60%	140%	104%	60%	140%	80%	60%	140%
Ethylbenzene	4181	5508982	<0.0005	<0.0005	NA	< 0.0005	93%	60%	140%	100%	60%	140%	78%	60%	140%
m,p-Xylenes	4181	5508982	<0.0005	<0.0005	NA	< 0.0005	91%	60%	140%	100%	60%	140%	75%	60%	140%
Bromoform	4181	5508982	<0.001	<0.001	NA	< 0.001	85%	60%	140%	105%	60%	140%	81%	60%	140%
Styrene	4181	5508982	<0.001	<0.001	NA	< 0.001	83%	60%	140%	93%	60%	140%	72%	60%	140%
1,1,2,2-Tetrachloroethane	4181	5508982	<0.001	<0.001	NA	< 0.001	118%	60%	140%	129%	60%	140%	132%	60%	140%
o-Xylene	4181	5508982	<0.0005	<0.0005	NA	< 0.0005	92%	60%	140%	101%	60%	140%	75%	60%	140%
1,3-Dichlorobenzene	4181	5508982	<0.0005	<0.0005	NA	< 0.0005	96%	60%	140%	121%	60%	140%	76%	60%	140%
1,4-Dichlorobenzene	4181	5508982	<0.0005	<0.0005	NA	< 0.0005	87%	60%	140%	99%	60%	140%	77%	60%	140%
1,2-Dichlorobenzene	4181	5508982	<0.0005	<0.0005	NA	< 0.0005	92%	60%	140%	102%	60%	140%	73%	60%	140%
1,2,4-Trichlorobenzene	4181	5508982	<0.001	<0.001	NA	< 0.001	89%	60%	140%	112%	60%	140%	71%	60%	140%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

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Quality Assurance

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AGAT WORK ORDER: 14E855121

PROJECT:

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

Water Analysis

RPT Date: Jun 28, 2014			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Routine Chemistry Water Analysis															
pH	642	5503107	8.90	8.90	0.0%		101%	90%	110%						
T - Alkalinity (as CaCO3)	642	5503107	1430	1430	0.0%	< 5	85%	80%	120%						
Bicarbonate	642	5503107	1470	1460	0.7%	< 5									
Electrical Conductivity	642	5503107	6810	6770	0.6%	< 1	100%	80%	120%						
Fluoride	709	5501062	0.14	0.13	7.4%	< 0.05	103%	80%	120%	100%	80%	120%	99%	80%	120%
Chloride	709	5501062	19	19	0.0%	< 1	100%	80%	120%	107%	80%	120%	102%	80%	120%
Nitrite	709	5501062	< 0.05	< 0.05	NA	< 0.05	101%	80%	120%	107%	80%	120%	104%	80%	120%
Nitrate	709	5501062	0.9	0.9	0.0%	< 0.5	104%	80%	120%	111%	80%	120%	106%	80%	120%
Sulfate	709	5501062	8	8	0.0%	< 1	102%	80%	120%	105%	80%	120%	106%	80%	120%
Dissolved Calcium	175	5497239	251	253	0.8%	< 0.3	99%	80%	120%				101%	80%	120%
Dissolved Magnesium	175	5497239	90.0	88.0	2.2%	< 0.2	108%	80%	120%				101%	80%	120%
Dissolved Sodium	175	5497239	29.4	29.7	1.0%	< 0.6	97%	80%	120%				103%	80%	120%
Dissolved Potassium	175	5497239	2.9	2.9	0.0%	< 0.6	95%	80%	120%				108%	80%	120%
Dissolved Iron	175	5497239	<0.1	<0.1	NA	< 0.1	98%	80%	120%				111%	80%	120%
Dissolved Manganese	175	5497239	0.098	0.091	7.4%	< 0.005	95%	80%	120%				110%	80%	120%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Water Analysis - Hexavalent Chromium															
Hexavalent Chromium	177	5503107	< 5	< 5	NA	< 5	114%	80%	120%	99%	80%	120%	91%	80%	120%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Water Analysis - Total Solids															
Total Dissolved Solids	176	5487676	185	185	0.0%	< 5	84%	80%	120%						
Total Suspended Solids	176	5503107	26	26	0.0%	< 1	87%	80%	120%				87%	80%	120%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

CCME / Alberta Tier 1 Metals (Total) (Full)															
Total Aluminum	174	5500062	0.048	0.039	20.7%	< 0.002	101%	80%	120%				109%	80%	120%
Total Antimony	174	5500062	< 0.001	< 0.001	NA	< 0.001	107%	80%	120%				94%	80%	120%
Total Arsenic	174	5500062	< 0.001	< 0.001	NA	< 0.001	94%	80%	120%				101%	80%	120%
Total Barium	174	5500062	< 0.05	< 0.05	NA	< 0.05	102%	80%	120%				93%	80%	120%
Total Beryllium	174	5500062	< 0.001	< 0.001	NA	< 0.001	103%	80%	120%				111%	80%	120%
Total Boron	174	5500062	0.10	0.11	9.5%	< 0.01	98%	80%	120%				105%	80%	120%
Total Cadmium	174	5500062	< 0.00005	< 0.00005	NA	< 0.00005	95%	80%	120%				100%	80%	120%
Total Chromium	174	5500062	0.001	0.001	0.0%	< 0.001	93%	80%	120%				93%	80%	120%
Total Cobalt	174	5500062	< 0.001	< 0.001	NA	< 0.001	90%	80%	120%				99%	80%	120%

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Water Analysis (Continued)

RPT Date: Jun 28, 2014

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Total Copper	174	5500062	< 0.002	< 0.002	NA	< 0.002	91%	80%	120%				96%	80%	120%
Total Iron	175	5500062	0.34	0.35	2.9%	< 0.1	94%	80%	120%				96%	80%	120%
Total Lead	174	5500062	< 0.001	< 0.001	NA	< 0.001	98%	80%	120%				102%	80%	120%
Total Lithium	174	5500062	0.090	0.093	3.3%	< 0.001	92%	80%	120%				111%	80%	120%
Total Manganese	175	5500062	0.011	0.019	0.0%	< 0.005	95%	80%	120%				92%	80%	120%
Total Molybdenum	174	5500062	< 0.003	< 0.003	NA	< 0.003	92%	80%	120%				100%	80%	120%
Total Nickel	174	5500062	< 0.003	< 0.003	NA	< 0.003	92%	80%	120%				98%	80%	120%
Total Phosphorus	175	5500062	<0.08	<0.08	0.0%	< 0.08	93%	80%	120%				92%	80%	120%
Total Selenium	174	5500062	< 0.001	< 0.001	NA	< 0.001	94%	80%	120%				108%	80%	120%
Total Silicon	175	5500062	3.30	3.16	4.6%	< 0.032	98%	80%	120%				101%	80%	120%
Total Silver	174	5500062	< 0.00005	< 0.00005	NA	< 0.00005	92%	80%	120%				97%	80%	120%
Total Sodium	175	5500062	152	149	1.9%	< 0.6	96%	80%	120%				106%	80%	120%
Total Thallium	174	5500062	< 0.001	< 0.001	NA	< 0.001	93%	80%	120%				101%	80%	120%
Total Tin	174	5500062	< 0.001	< 0.001	NA	< 0.001	93%	80%	120%				99%	80%	120%
Total Titanium	174	5500062	<0.001	< 0.001	NA	< 0.001	120%	80%	120%				93%	80%	120%
Total Uranium	174	5500062	< 0.001	< 0.001	NA	< 0.001	98%	80%	120%				108%	80%	120%
Total Zinc	174	5500062	0.010	0.009	10.5%	< 0.001	97%	80%	120%				95%	80%	120%
Total Zirconium	175	5500062	<0.01	0.04	0.0%	< 0.01	108%	80%	120%				92%	80%	120%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

CCME / Alberta Tier 1 Metals (Dissolved) (Full Package)

Dissolved Aluminum	174	5470880	0.007	0.006	15.4%	< 0.004	101%	80%	120%				103%	80%	120%
Dissolved Antimony	174	5470880	< 0.001	< 0.001	NA	< 0.001	107%	80%	120%				95%	80%	120%
Dissolved Arsenic	174	5470880	< 0.001	< 0.001	NA	< 0.001	93%	80%	120%				102%	80%	120%
Dissolved Barium	174	5470880	0.74	0.69	7.0%	< 0.05	102%	80%	120%				87%	80%	120%
Dissolved Bismuth	175	5497239	< 0.02	< 0.02	NA	< 0.02	103%	80%	120%				95%	80%	120%
Dissolved Boron	174	5470880	0.05	0.05	0.0%	< 0.01	98%	80%	120%				101%	80%	120%
Dissolved Cadmium	174	5470880	0.00020	0.00020	0.0%	< 0.00005	95%	80%	120%				100%	80%	120%
Dissolved Chromium	174	5470880	< 0.001	< 0.001	NA	< 0.001	93%	80%	120%				97%	80%	120%
Dissolved Cobalt	174	5470880	0.0029	0.0028	3.5%	< 0.00019	90%	80%	120%				99%	80%	120%
Dissolved Copper	174	5470880	0.003	0.002	NA	< 0.002	91%	80%	120%		80%	120%	90%	80%	120%
Dissolved Iron	175	5497239	< 0.1	< 0.1	0.0%	< 0.1	98%	80%	120%				111%	80%	120%
Dissolved Lead	174	5470880	0.005	0.005	0.0%	< 0.001	98%	80%	120%		80%	120%	101%	80%	120%
Dissolved Manganese	175	5497239	0.098	0.091	7.4%	< 0.005	95%	90%	110%				110%	75%	125%
Dissolved Mercury	174	5470880	< 0.000025	< 0.000025	0.0%	< 0.000025	98%	80%	120%				100%	80%	120%
Dissolved Molybdenum	174	5470880	< 0.003	< 0.003	NA	< 0.003	92%	80%	120%		80%	120%	99%	80%	120%
Dissolved Selenium	174	5470880	0.002	0.002	0.0%	< 0.001	94%	80%	120%		80%	120%	102%	80%	120%
Dissolved Silver	174	5470880	< 0.00005	< 0.00005	NA	< 0.0001	92%	80%	120%		80%	120%	97%	80%	120%

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Water Analysis (Continued)

RPT Date: Jun 28, 2014			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Dissolved Sodium	175	5497239	29.4	29.7	1.0%	< 0.6	97%	80%	120%				103%	80%	120%
Dissolved Thallium	174	5470880	< 0.0001	< 0.0001	NA	< 0.0001	93%	80%	120%		80%	120%	101%	80%	120%
Dissolved Uranium	174	5470880	0.003	0.003	0.0%	< 0.001	98%	80%	120%		80%	120%	108%	80%	120%
Dissolved Zinc	174	5470880	1.10	1.06	3.7%	< 0.004	97%	80%	120%		80%	120%	100%	80%	120%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Certified By:

AGAT Laboratories

6310 ROPER ROAD
EDMONTON, ALBERTA
CANADA T6B 3P9
TEL (780)395-2525
FAX (780)462-2490
http://www.agatlabs.com

Method Summary

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E855121

PROJECT:

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Benzene	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
Toluene	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
Ethylbenzene	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
Xylenes	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
Styrene	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
C6 - C10 (F1)	ORG-170-5110/5140/5430/5440	CCME Tier 1 Method-W L	GC/FID
C6 - C10 (F1 minus BTEX)	ORG-170-5110/5140/5430/5440	CCME Tier 1 Method-W L	GC/FID
C>10 - C16	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
C16 - C34	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
C>34 - C50	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
Toluene-d8 (BTEX)	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
o-Terphenyl (F2-F4)	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
Propylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Monoethylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Diethylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Triethylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Tetraethylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Heptanol	TO 1410	EPA SW-846 8015	GC/FID
Methanol	TO 1420	EPA 8015	GC/FID
4-Methyl-2-pentanone	TO 1420	EPA 8015	GC/FID
Chloromethane	TO 0330	EPA SW-846 8260	GC/MS
Vinyl Chloride	TO 0330	EPA SW-846 8260	GC/MS
Bromomethane	TO 0330	EPA SW-846 8260	GC/MS
Chloroethane	TO 0330	EPA SW-846 8260	GC/MS
Trichlorofluoromethane	TO 0330	EPA SW-846 8260	GC/MS
Acetone	TO 0330	EPA SW-846 8260	GC/MS
1,1-Dichloroethylene	TO 0330	EPA SW-846 8260	GC/MS
Methylene chloride	TO 0330	EPA SW-846 8260	GC/MS
Methyl tert-Butyl Ether	TO 0330	EPA SW-846 8260	GC/MS
Methyl Ethyl Ketone	TO 0330	EPA SW-846 8260	GC/MS
trans-1,2-Dichloroethylene	TO 0330	EPA SW-846 8260	GC/MS
1,1-Dichloroethane	TO 0330	EPA SW-846 8260	GC/MS
cis-1,2 Dichloroethylene	TO 0330	EPA SW-846 8260	GC/MS
Chloroform	TO 0330	EPA SW-846 8260	GC/MS
1,2-Dichloroethane	TO 0330	EPA SW-846 8260	GC/MS
1,1,1-Trichloroethane	TO 0330	EPA SW-846 8260	GC/MS
Carbon Tetrachloride	TO 0330	EPA SW-846 8260	GC/MS
Benzene	TO 0330	EPA SW-846 8260	GC/MS
1,2-Dichloropropane	TO 0330	EPA SW-846 8260	GC/MS
Trichloroethylene	TO 0330	EPA SW-846 8260	GC/MS
Bromodichloromethane	TO 0330	EPA SW-846 8260	GC/MS
trans-1,3-Dichloropropene	TO 0330	EPA SW-846 8260	GC/MS
Methyl Isobutyl Ketone	TO 0330	EPA SW-846 8260	GC/MS

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Method Summary

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E855121

PROJECT:

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
cis-1,3-Dichloropropene	TO 0330	EPA SW-846 8260	GC/MS
1,1,2-Trichloroethane	TO 0330	EPA SW-846 8260	GC/MS
Toluene	TO 0330	EPA SW-846 8260	GC/MS
2-Hexanone	TO 0330	EPA SW-846 8260	GC/MS
Dibromochloromethane	TO 0330	EPA SW-846 8260	GC/MS
Ethylene dibromide	TO 0330	EPA SW-846 8260	GC/MS
Tetrachloroethene	TO 0330	EPA SW-846 8260	GC/MS
1,1,1,2-Tetrachloroethane	TO 0330	EPA SW-846 8260	GC/MS
Chlorobenzene	TO 0330	EPA SW-846 8260	GC/MS
Ethylbenzene	TO 0330	EPA SW-846 8260	GC/MS
m,p-Xylenes	TO 0330	EPA SW-846 8260	GC/MS
Bromoform	TO 0330	EPA SW-846 8260	GC/MS
Styrene	TO 0330	EPA SW-846 8260	GC/MS
1,1,2,2-Tetrachloroethane	TO 0330	EPA SW-846 8260	GC/MS
o-Xylene	TO 0330	EPA SW-846 8260	GC/MS
1,3-Dichlorobenzene	TO 0330	EPA SW-846 8260	GC/MS
1,4-Dichlorobenzene	TO 0330	EPA SW-846 8260	GC/MS
1,2-Dichlorobenzene	TO 0330	EPA SW-846 8260	GC/MS
1,2,4-Trichlorobenzene	TO 0330	EPA SW-846 8260	GC/MS
Total Xylenes	TO 0330	EPA SW-846 8260	GC/MS
Toluene-d8	TO 0330	EPA SW-846 8260	GC/MS

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Method Summary

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E855121

PROJECT:

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Aluminum	INO-171-6202	SM 3125 B	ICP-MS
Dissolved Antimony	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Arsenic	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Barium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Bismuth	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Boron	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Cadmium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Chromium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Cobalt	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP-MS
Dissolved Copper	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Iron	INOR-171-6202, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Lead	INOR-171-6202	SM 3125 B DW	ICP-MS
Dissolved Manganese	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Mercury	INOR-171-6202	SM 3125 B DW	ICP-MS
Dissolved Molybdenum	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Nickel	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Selenium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Silver	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Sodium	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Thallium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Uranium	INOR-171-6202	SM 3125 B	ICP-MS
Dissolved Zinc	INOR-171-6202	SM 3125 B	ICP-MS
Total Aluminum	INOR-171-6201, INOR-171-6100	SM 3030 E; SM 3125 B	ICP-MS
Total Antimony	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP-MS
Total Arsenic	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Barium	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Beryllium	INOR-171-6100, -6202	SM 3030 E; SM 3125 B	ICP-MS
Total Boron	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Cadmium	INOR-171-6201	SM 3030 E; SM 3125 B	ICP-MS
Total Chromium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Cobalt	INOR-171-6100, -6202	SM 3030 E; SM 3125 B	ICP-MS
Total Copper	INOR-171-6100, -6202	SM 3030 E; SM 3125 B	ICP-MS
Total Iron	INOR-171-62012	SM 3030 E; SM 3120 B	ICP/OES
Total Lead	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Lithium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Manganese	INOR-171-6201	SM 3030 E; SM 3120 B	ICP/OES
Total Molybdenum	INOR-171-6202	SM 3030 E; SM 3125 B	ICP/MS
Total Nickel	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Phosphorus	INOR-171-6100, 171-6201	SM 3030 E; SM 3120 B	ICP/OES
Total Selenium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Silicon	INOR-171-6201	SM 3030 E; SM 3120 B	ICP/OES
Total Silver	INO-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Sodium	INOR-171-6201	SM 3030 E; SM 3120 B TW	ICP/OES
Total Strontium	INOR-171-6201	SM 3030 E; SM 3120 B	ICP/OES
Total Thallium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Tin	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS

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Method Summary

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E855121

PROJECT:

ATTENTION TO: Accounts Payable

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Total Titanium	INOR-171-6100, -6202	SM 3030 E; SM 3125 B	ICP-MS
Total Uranium	INOR-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Zinc	INORG-171-6202	SM 3030 E; SM 3125 B	ICP-MS
Total Zirconium	INOR-171-6100, -6202	SM 3030 E; SM 3120 B	ICP-MS
pH	INOR-171-6205	SM 4500 H+	PH METER
p - Alkalinity (as CaCO3)	INOR-171-6205	SM 2320 B	TITRATION
T - Alkalinity (as CaCO3)	INOR-171-6205	SM 2320 B	TITRATION
Bicarbonate	INOR-171-6205	CARTER & GREGORICH 2007	PC TITRATE
Carbonate	INOR-171-6205	CARTER & GREGORICH 2007	PC TITRATE
Hydroxide	INOR-171-6205	SM 2320 B	TITRATION
Electrical Conductivity	INOR-171-6205	SM 2510 B	CONDUCTIVITY METER
Fluoride	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Chloride	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Nitrite	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Sulfate	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Dissolved Calcium	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Magnesium	INST 0140	SM 3120 B	ICP/OES
Dissolved Sodium	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Potassium	INST 0140	SM 3120 B	ICP/OES
Dissolved Iron	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Manganese	INOR-171-6201	SM 3120 B	ICP/OES
Hexavalent Chromium	SPE 0101	EPA SW 846-6010B, SM 3030B	SPECTROPHOTOMETER
Total Dissolved Solids	INOR-171-6104	SM 2540 C	GRAVIMETRIC
Total Suspended Solids	INORG-171-6102	SM 2540 D	GRAVIMETRIC
Total Solids	INOR-171-6102, INOR-171-6104	SM 2540 G	CALCULATION

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Chromatogram Image

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E855121

PROJECT:

ATTENTION TO: Accounts Payable

IMAGE001: 5503107, WW04-A

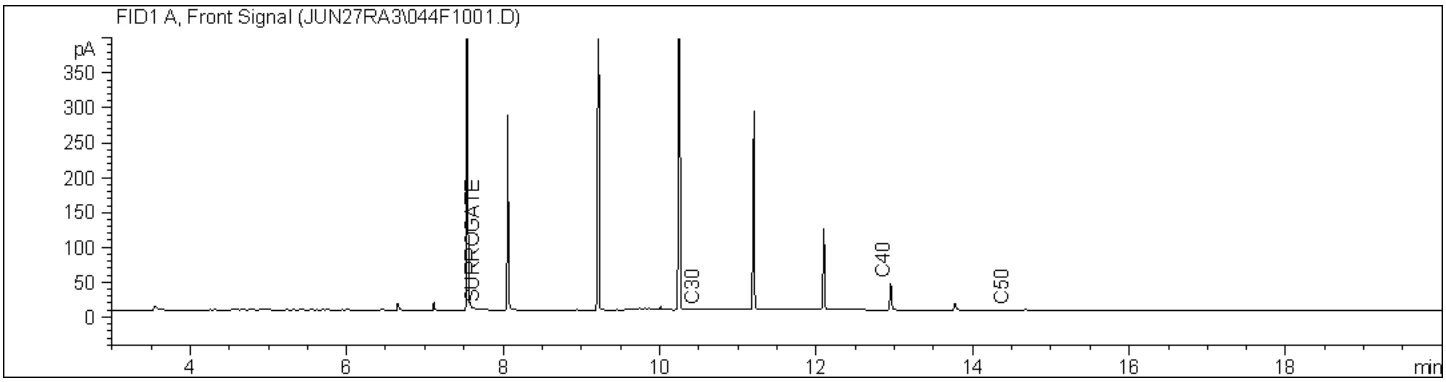
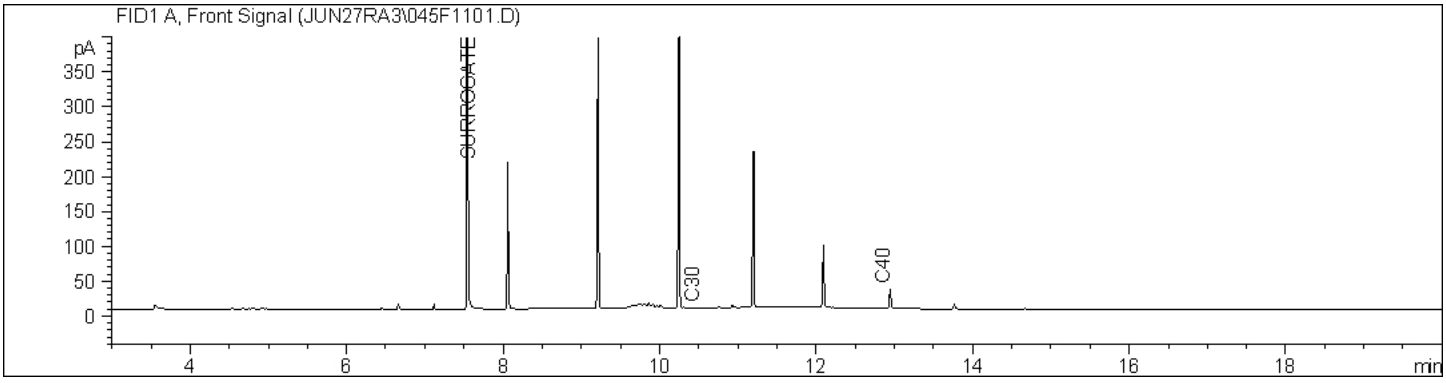


IMAGE002: 5503109, WW07-A



AGAT Laboratories

2910 12 Street NE
Calgary, Alberta
T2E 7P7
webearth.agatlabs.com
P: 403.735.2005 • F: 403.735.2771

Laboratory Use Only
Arrival Temperature:
AGAT Job Number: WE855121
Date and Time:

Chain of Custody Record

Report Information
Company: Kobb, t
Contact: Jeff Towers
Address:
Phone: 907 355 1769 Fax:
LSD:
Client Project #:

Report Information
1. Name: Jeff Towers
Email: jtowers@mtaonline.net
2. Name: Sandra Marken
Email: sandra.marken@conocophillips.com
3. Name:
Email:

Report Format
☐ Single Sample per Page
☒ Multiple Samples per Page

Turnaround Time Required (TAT)
Regular TAT ☑ 5-7 Business Days
JUN 23 '14 10:55
Rush TAT (Surcharge) ☐ Less than 24 Hours (200%)
☐ Less than 48 Hours (100%)
☐ Less than 72 Hours (50%)
Date Required:

Invoice To Same ☐ Yes ☒ No
Company: ConocoPhillips
Contact: USER ID-Jenkich
Address: Activity Code:203
Phone: Fax:
PO/AFE# 10359506

Requirements (Check One)
☑ CCME ☐ AB Tier 1 ☐ BC CSR
☐ Agricultural ☐ Agricultural ☐ AW
☐ Industrial ☐ Industrial ☐ IW
☐ Residential/ Park ☐ Residential/ Park ☐ LW
☐ Commercial ☐ Commercial ☐ DW
☑ Drinking Water ☐ Natural Area
☑ FWAL
☐ Other
☐ D50 (Drilling) ☐ SPIGEC ☐

LABORATORY USE (LAB ID#)	SAMPLE IDENTIFICATION	SAMPLE MATRIX	DATE/ TIME SAMPLED	COMMENTS- SITE SAMPLE INFO, SAMPLE CONTAINMENT	# of CONTAINERS	Routine Potability	Total and dissolved hexavalent chromium	Total and Dissolved mercury	Total and dissolved metals	Total solids	BTEX F1-F4	PAHs	VOC scan	Glycols	Alcohols							HOLD FOR 60 DAYS	PRESERVED (Y/N)	CONTAMINATED/ HAZARDOUS (Y/N)
	~~WW02-A~~		6-21-14			X	X	X	X	X	X	X	X	X	X									
503107	WW04-A	Water	6-21-14 1208			X	X	X	X	X	X	X	X	X	X									
109	~~WW05-A~~ WW07A	Water	6-21-14 1400			X	X	X	X	X	X	X	X	X	X									

Notes: 1) No samples filtered
2) Samples for Total Analysis Preserved
3) Samples for dissolved analysis not preserved as they were not filtered in the field

Samples Relinquished By (Print Name and Sign): Jeff Towers	Date/ Time: 6-22-14	Samples Relinquished By (Print Name and Sign): Whit Smith	Date/ Time: 23 JUN 14	Page	of
Samples Relinquished By (Print Name and Sign):	Date/ Time: 1000	Samples Relinquished By (Print Name and Sign):	Date/ Time: 0100		
Samples Relinquished By (Print Name and Sign):	Date/ Time:	Samples Relinquished By (Print Name and Sign):	Date/ Time:		

E 04367

Document ID: DIV-50-1507.002

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: Conoco / Hobbit

Courier: Canadian North Prepaid ☐ Collect ☐

Waybill #: 518 NVQ 7865 3131

Branch: EDM ☒ GP ☐ FN ☐ FM ☐ RD ☐ VAN ☐ LYD ☐ FSJ ☐ EST ☐ Other: _____

Custody Seal Intact: Yes ☐ No ☐ NA ☒

TAT: <24hr ☐ 24-48hr ☐ 48-72hr ☐ Reg ☒ Other _____

Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

Earliest Date Sampled: 21 Jun 14 ALREADY EXCEEDED? Yes ☒ No ☐

MIBI/Time Sensitive Test*: Routine/CVC Expiry: 23 JUNE 14

Hydrocarbon Test: N/A Expiry: N/A

Are samples received more than **5 days** after sampling: Yes ☐ No ☒

**Residual Chlorine, DO, Turbidity, BOD, Nitrate/Nitrite, Microtox*

Temperature (to be recorded from bottles/jars only)

N/A – Only Soil Bags Received

(1) (Bottle/Jar) 2.3 + 4.2 + 2.6 = 3.0 °C (2)(Bottle/Jar) ___ + ___ + ___ = ___ °C

(3) (Bottle/Jar) ___ + ___ + ___ = ___ °C (4) (Bottle/Jar) ___ + ___ + ___ = ___ °C

(5) (Bottle/Jar) ___ + ___ + ___ = ___ °C (6) (Bottle/Jar) ___ + ___ + ___ = ___ °C

(If more than 6 coolers are received use another sheet of paper and attach)

SAMPLE INTEGRITY - Shipping

Hazardous Samples: Why Hazardous: N/A

Precaution taken: N/A

Legal Samples: Yes ☐ No ☒

International Samples: Yes ☐ No ☒ Tape Sealed: Yes ☐ No ☒

Coolant used: Icepack ☐ Bagged Ice ☒ Free Ice ☐ Free Water ☐ None ☐

LOGISTICS USE ONLY

Workorder No: 14E855121

Samples Damaged: Yes ☐ No ☒ If YES why?

No Bubble Wrap ☐ Frozen ☐ Courier ☐

Other: _____

Correct Sample Requirements for Testing

Correct Bottles: Yes ☒ No ☐ Correct Amount: Yes ☒ No ☐

Correct Labels: Yes ☒ No ☐

If NO to any of the above, explain why:

_____

Visible Sediment in Waters : Yes ☒ No ☐

Additional Integrity Issues or concerns:

_____

_____

_____

Account Project Manager: _____ have they been notified of the above issues: Yes ☐ No ☐

Whom spoken to: _____ Date/Time: _____

CPM Initial _____

518 YVQ 78653131 D-5

518 YVQ 78653131

CS002 (10/01)

Shipper's Name and Address / Nom et adresse de l'expéditeur

ConocoPhillips Canada

Norman Wells, NT X0E 0V0
Jeff Powers 907 355 1769
RSLNZ09230616

Shipper's Account Number / Numéro de compte de l'expéditeur: CON106CW

Not negotiable / Non négociable

Air Waybill **Lettre de transport aérien**

Issued by / Émise par: Canadian North
101 3731 52 Ave E
Edmonton International A1
Canada

Copies 1, 2 and 3 of this Air Waybill are originals and have the same validity
Les exemplaires 1, 2 et 3 de cette lettre de transport aérien sont originaux et ont la même validité

Consignee's Name and Address / Nom et adresse du destinataire

AGAT Laboratories Ltd
6310 Roper Road
Edmonton, AB T6B 3P9
780-395-2525 403-735-2745

Consignee's Account Number / Numéro de compte du destinataire: AGA100CW

It is agreed that the goods described herein are accepted for carriage in apparent good order and condition (except as noted) and SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. ALL GOODS MAY BE CARRIED BY ANY OTHER MEANS INCLUDING ROAD OR ANY OTHER CARRIER UNLESS SPECIFIC CONTRARY INSTRUCTIONS ARE GIVEN HEREON BY THE SHIPPER, AND SHIPPER AGREES THAT THE SHIPMENT MAY BE CARRIED VIA INTERMEDIATE STOPPING PLACES WHICH THE CARRIER DEEMS APPROPRIATE. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY.

Il est convenu que les marchandises décrites dans le présent document sont acceptées pour le transport en bon état apparent (sauf annotation contraire) et que le transport est SOUMIS AUX CONDITIONS DU CONTRAT QUI FIGURENT AU VERSO. LES MARCHANDISES PEUVENT ÊTRE TRANSPORTÉES PAR TOUT AUTRE MOYEN Y COMPRIS PAR ROUTE OU PAR TOUT AUTRE TRANSPORTEUR À MOINS QUE DES INSTRUCTIONS CONTRAIRES PRÉCISES À CE SUJET NE SOIENT DONNÉES PAR L'EXPÉDITEUR. L'ATTENTION DE L'EXPÉDITEUR EST ATTIRÉE SUR L'AVIS CONCERNANT LA LIMITATION DE RESPONSABILITÉ DU TRANSPORTEUR.

Issuing Carrier's Agent Name and City / Nom et ville de l'agent du transporteur émetteur

Accounting Information / Renseignements comptables

Acc.#: CON106CW
ConocoPhillips Canada
PO Box 130, Stn. M
1600,401-9th Ave. SW
Calgary,AB T2P 2H7

Agent's IATA Code / Code IATA de l'agent

Account Number / Numéro de compte

Airport of Departure (Address of first Carrier) and Requested Routing
Aéroport de départ (Adresse du premier transporteur) et itinéraire demandé

Norman Wells

To / À	By first Carrier / Par premier transpor	Routing and Destination / Routage et destination	to / à	by / par	to / à	by / par

Airport of Destination / Aéroport de destination: Edmonton North

Flight Date / Vol. / Date — For Carrier Use Only / Réservé au transporteur — Flight Date / Vol. / Date

Currency / Monnaie	CHGS Code / Frais	WT/VAL PPD / Payé	WT/VAL COLL / D0	Other / Autres PPD / Payé	Other / Autres COLL / D0	Declared Value of Carriage / Valeur déclarée pour le transport	Declared Value for Customs / Valeur déclarée pour la douane
CAD		X				NVD	NCV

Amount of Insurance / Montant de l'assurance: NIL

INSURANCE - If carrier offers insurance and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".
ASSURANCE - si le transporteur propose une assurance et que l'expéditeur en fait la demande conformément aux présentes conditions indiquer le montant à assurer en chiffres dans la case "Montant de l'assurance".

Handling Information / Renseignements pour le traitement de l'expédition

HFPU
Keep Cool

SCI

Number of Pieces / Nombre de colis RCP	Gross Weight / Poids brut	kg / lb	Rate Class / Classif. du tarif — Commodity Item No. / N° d'article de la marchandise	Chargeable Weight / Poids de taxation	Rate / Charge / Tarif / Montant	Total	Nature and Quantity of Goods (including Dimensions or Volume) / Nature et quantité des marchandises (y compris dimensions ou volume)
2	32	K	GAD 20	32	5.31	169.92	Water Samples: Keep 5T DIMS 23x13x27IN (bulk)
2	32	K				169.92	

Canada Guaranteed

Prepaid / Port payé | Weight Charge / Taxtion au poids | Collect / Port dû

Other Charges / Autres frais

169.92 — Valuation charge / Taxation à la valeur — 0.00

0.00 — Tax / Taxe — 0.00

11.47 — Total other Charges Due Agent / Total des autres frais dûs à l'agent — 0.00

Nav Canada Charge 8.50 Fuel Surcharge 69.99
Goods/Service Tax 11.47

0.00 — Total other Charges Due Carrier / Total des autres frais dûs au transporteur — 0.00

Shipper certifies that the particulars on the face hereof are correct and that **insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations.**
L'expéditeur certifie que les indications portées sur le présent document sont exactes et **que dans la mesure où une partie quelconque de l'expédition contient des marchandises dangereuses, cette partie d'expédition est correctement dénommée et bien préparée pour le transport par air conformément à la réglementation applicable.**

59.48 — Total prepaid / Total port payé — 0.00 — Total collect / Total port dû

Signature of Shipper or his Agent / Signature de l'expéditeur ou de son agent

240 — Currency Conversion Rates / Taux de conversion monnaie — CC Charges in Destination Currency / Frais en devise monnaie du pays de destination

For Carrier's Use only at Destination / Réservé au transporteur à destination — Charges at Destination / Frais à l'arrivée — Total collect Charges / Total dû

Executed on / Fait le (Date) 07.27.2011 at / à (Place) 10:32 (Lieu)

Signature of Issuing Carrier or its Agent / Signature du transporteur émetteur ou de son agent

991552

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CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.
401 -9 AVE SW
CALGARY, AB T2P3C5
(403) 233-4000

ATTENTION TO: Sandra Marken

PROJECT NO: Chinook EL470

AGAT WORK ORDER: 14E810302

TRACE ORGANICS REVIEWED BY: Laarni Hafso, Laboratory Manager

WATER ANALYSIS REVIEWED BY: Shanna Mills, Inorganics Manager

DATE REPORTED: Feb 20, 2014

PAGES (INCLUDING COVER): 26

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (780) 395-2525

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

Alcohol Analysis in Water - Methanol

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-15

		SAMPLE DESCRIPTION:		WW02-A	WW09-Z
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/10/2014	2/10/2014
Parameter	Unit	G / S	RDL	5154154	5154166
Methanol	mg/L		1	<1	<1
Surrogate	Unit	Acceptable Limits			
4-Methyl-2-pentanone	%	50-150		77	75

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
5154154-5154166 Analysis by GC/FID.

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AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

ConocoPhillips - Petroleum Hydrocarbons (BTEXS/F1-F4) in Water

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-18

		SAMPLE DESCRIPTION:		WW02-A	WW09-Z
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/10/2014	2/10/2014
Parameter	Unit	G / S	RDL	5154154	5154166
Benzene	mg/L		0.0005	<0.0005	<0.0005
Toluene	mg/L		0.0005	0.0006	<0.0005
Ethylbenzene	mg/L		0.0005	<0.0005	<0.0005
Xylenes	mg/L		0.0005	<0.0005	<0.0005
Styrene	mg/L		0.0005	<0.0005	<0.0005
C6 - C10 (F1)	mg/L		0.1	<0.1	<0.1
C6 - C10 (F1 minus BTEX)	mg/L		0.1	<0.1	<0.1
C>10 - C16	mg/L		0.1	<0.1	<0.1
C16 - C34	mg/L		0.1	<0.1	<0.1
C>34 - C50	mg/L		0.1	<0.1	<0.1
Surrogate	Unit	Acceptable Limits			
Toluene-d8 (BTEX)	%	50-150		102	102
o-Terphenyl (F2-F4)	%	50-150		108	108

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5154154-5154166 The C>6 - C10 fraction is calculated using the toluene response factor.
The C10 - C16 fraction is calculated using the average response factor for nC10, nC16 and nC34.
BTEX has NOT been subtracted from Fraction 1.
Sample is blank corrected.

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AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

Glycols Analysis in Water

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-13

		SAMPLE DESCRIPTION:		WW02-A	WW09-Z
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/10/2014	2/10/2014
Parameter	Unit	G / S	RDL	5154154	5154166
Propylene Glycol	mg/L		10	<10	<10
Monoethylene Glycol	mg/L		10	<10	<10
Diethylene Glycol	mg/L		5	<5	<5
Triethylene Glycol	mg/L		10	<10	<10
Tetraethylene Glycol	mg/L		10	<10	<10
Surrogate	Unit	Acceptable Limits			
Heptanol	%	50-150		98	100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
5154154-5154166 Identification based on retention time relative to standards.

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AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

Polyaromatic Hydrocarbon Analysis - Water FWAL

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-16

		SAMPLE DESCRIPTION:		WW02-A	WW09-Z
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/10/2014	2/10/2014
Parameter	Unit	G / S	RDL	5154154	5154166
Naphthalene	mg/L		0.00001	<0.00001	<0.00001
2-Methylnaphthalene	mg/L		0.00001	<0.00001	<0.00001
Quinoline	mg/L		0.00005	<0.00005	<0.00005
Acenaphthylene	mg/L		0.00001	<0.00001	<0.00001
Acenaphthene	mg/L		0.00001	<0.00001	<0.00001
Fluorene	mg/L		0.00001	<0.00001	<0.00001
Phenanthrene	mg/L		0.00001	<0.00001	<0.00001
Anthracene	mg/L		0.00001	<0.00001	<0.00001
Acridine	mg/L		0.00005	<0.00005	<0.00005
Fluoranthene	mg/L		0.00001	<0.00001	<0.00001
Pyrene	mg/L		0.00001	<0.00001	<0.00001
Benzo(a)anthracene	mg/L		0.00001	<0.00001	<0.00001
Chrysene	mg/L		0.00001	<0.00001	<0.00001
Benzo(b)fluoranthene	mg/L		0.00001	<0.00001	<0.00001
Benzo(k)fluoranthene	mg/L		0.00001	<0.00001	<0.00001
Benzo(a)pyrene	mg/L		0.00001	<0.00001	<0.00001
Indeno(1,2,3-cd)pyrene	mg/L		0.00001	<0.00001	<0.00001
Dibenzo(ah)anthracene	mg/L		0.00001	<0.00001	<0.00001
Benzo(ghi)perylene	mg/L		0.00001	<0.00001	<0.00001
Surrogate	Unit	Acceptable Limits			
2-Fluorobiphenyl	%	50-150		100	100
p-Terphenyl-d14	%	50-150		98	98

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5154154-5154166 Based on GC/MS target ion analysis.
Isomers Benzo(b)fluoranthene and Benzo(j)fluoranthene have the same GC retention time and are reported as the sum based on the Benzo(b)fluoranthene response.

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AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

Volatile Organic Compounds in Water

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-18

		SAMPLE DESCRIPTION:		WW02-A	WW09-Z
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/10/2014	2/10/2014
Parameter	Unit	G / S	RDL	5154154	5154166
Chloromethane	mg/L		0.001	<0.001	<0.001
Vinyl Chloride	mg/L		0.001	<0.001	<0.001
Bromomethane	mg/L		0.001	<0.001	<0.001
Chloroethane	mg/L		0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L		0.001	<0.001	<0.001
Acetone	mg/L		0.01	<0.01	<0.01
1,1-Dichloroethylene	mg/L		0.001	<0.001	<0.001
Methylene Chloride	mg/L		0.001	<0.001	<0.001
Methyl tert-butyl ether	mg/L		0.001	<0.001	<0.001
Methyl Ethyl Ketone	mg/L		0.01	<0.01	<0.01
trans- 1,2-dichloroethylene	mg/L		0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L		0.001	<0.001	<0.001
cis- 1,2-Dichloroethylene	mg/L		0.001	<0.001	<0.001
Chloroform	mg/L		0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L		0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L		0.001	<0.001	<0.001
Carbon Tetrachloride	mg/L		0.0005	<0.0005	<0.0005
Benzene	mg/L		0.0005	<0.0005	<0.0005
1,2-Dichloropropane	mg/L		0.001	<0.001	<0.001
Trichloroethylene	mg/L		0.001	<0.001	<0.001
Bromodichloromethane	mg/L		0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L		0.001	<0.001	<0.001
Methyl Isobutyl Ketone	mg/L		0.01	<0.01	<0.01
cis-1,3-Dichloropropene	mg/L		0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L		0.001	<0.001	<0.001
Toluene	mg/L		0.0005	<0.0005	<0.0005
2-Hexanone	mg/L		0.01	<0.01	<0.01
Dibromochloromethane	mg/L		0.001	<0.001	<0.001
Ethylene Dibromide	mg/L		0.001	<0.001	<0.001
Tetrachloroethene	mg/L		0.001	0.001	0.002
1,1,1,2-Tetrachloroethane	mg/L		0.001	<0.001	<0.001

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Certificate of Analysis

AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

Volatile Organic Compounds in Water

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-18

		SAMPLE DESCRIPTION:		WW02-A	WW09-Z
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/10/2014	2/10/2014
Parameter	Unit	G / S	RDL	5154154	5154166
Chlorobenzene	mg/L		0.001	<0.001	<0.001
Ethylbenzene	mg/L		0.0005	<0.0005	<0.0005
m & p-Xylene	mg/L		0.0005	<0.0005	<0.0005
Bromoform	mg/L		0.001	<0.001	<0.001
Styrene	mg/L		0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L		0.001	<0.001	<0.001
o-Xylene	mg/L		0.0005	<0.0005	<0.0005
1,3-Dichlorobenzene	mg/L		0.0005	<0.0005	<0.0005
1,4-Dichlorobenzene	mg/L		0.0005	<0.0005	<0.0005
1,2-Dichlorobenzene	mg/L		0.0005	<0.0005	<0.0005
1,2,4-Trichlorobenzene	mg/L		0.001	<0.001	<0.001
Total Xylenes	mg/L		0.001	<0.001	<0.001
Surrogate	Unit	Acceptable Limits			
Toluene-d8	%	50-150		98	99

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

CCME / Alberta Tier 1 Metals (Dissolved) (Full Package)

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-18

		SAMPLE DESCRIPTION:		WW02-A	WW09-Z
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/10/2014	2/10/2014
Parameter	Unit	G / S	RDL	5154154	5154166
Dissolved Aluminum	mg/L	0.005	0.002	<0.002	0.003
Dissolved Antimony	mg/L	0.006	0.001	<0.001	<0.001
Dissolved Arsenic	mg/L	0.005	0.001	<0.001	<0.001
Dissolved Barium	mg/L	1	0.05	<0.05	<0.05
Dissolved Boron	mg/L	0.5	0.01	0.08	0.08
Dissolved Cadmium	mg/L	VAR	0.00005	<0.00005	<0.00005
Dissolved Calcium	mg/L		0.3	15.9	15.4
Dissolved Chromium	mg/L		0.001	<0.001	<0.001
Dissolved Copper	mg/L	0.002	0.002	<0.002	<0.002
Dissolved Iron	mg/L	0.3	0.1	<0.1	<0.1
Dissolved Lead	mg/L	0.001	0.001	<0.001	<0.001
Dissolved Lithium	mg/L		0.001	0.070	0.069
Dissolved Magnesium	mg/L		0.2	5.9	5.8
Dissolved Manganese	mg/L	0.05	0.005	0.009	0.009
Dissolved Mercury (Low Level)	mg/L	0.000026	0.000025	<0.000025	<0.000025
Dissolved Molybdenum	mg/L		0.003	<0.003	<0.003
Dissolved Nickel	mg/L	VAR	0.003	<0.003	<0.003
Dissolved Phosphorus	mg/L		0.08	0.15	0.12
Dissolved Potassium	mg/L		0.6	5.8	5.8
Dissolved Selenium	mg/L	0.001	0.001	<0.001	<0.001
Dissolved Silver	mg/L	0.0001	0.00001	<0.00001	0.00001
Dissolved Silicon	mg/L		0.032	3.45	3.43
Dissolved Sodium	mg/L	200	0.6	158	159
Dissolved Strontium	mg/L		0.001	0.413	0.415
Dissolved Sulphur	mg/L		0.3	39.6	39.0
Dissolved Thallium	mg/L		0.0001	<0.0001	<0.0001
Dissolved Tin	mg/L		0.00025	<0.00025	<0.00025
Dissolved Uranium	mg/L	0.01	0.001	<0.001	<0.001
Dissolved Vanadium	mg/L		0.001	<0.001	<0.001
Dissolved Zinc	mg/L	0.03	0.001	<0.001	<0.001
Dissolved Zirconium	mg/L		0.06	<0.06	<0.06

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Certificate of Analysis

AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

CCME / Alberta Tier 1 Metals (Dissolved) (Full Package)

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-18

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 GW (Ag, F)
5154154-5154166 < - Values refer to Method Detection Limit.

Certified By: gmills

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Certificate of Analysis

AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

CCME / Alberta Tier 1 Metals (Total) (Full Package)

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-19

		SAMPLE DESCRIPTION:		WW02-A	WW09-Z
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/10/2014	2/10/2014
Parameter	Unit	G / S	RDL	5154154	5154166
Total Aluminum	mg/L	0.005	0.002	0.071	0.064
Total Antimony	mg/L	0.006	0.001	<0.001	<0.001
Total Arsenic	mg/L	0.005	0.001	<0.001	<0.001
Total Barium	mg/L	1	0.05	<0.05	<0.05
Total Boron	mg/L	0.5	0.01	0.09	0.09
Total Cadmium	mg/L	0.000017	0.00005	<0.00005	<0.00005
Total Calcium	mg/L		0.3	16.7	16.6
Total Chromium	mg/L		0.001	<0.001	<0.001
Total Copper	mg/L	0.002	0.002	<0.002	<0.002
Total Iron	mg/L	0.3	0.1	0.2	0.2
Total Lead	mg/L	0.001	0.001	<0.001	<0.001
Total Lithium	mg/L		0.001	0.083	0.081
Total Magnesium	mg/L		0.2	5.6	5.4
Total Manganese	mg/L	0.05	0.005	0.010	0.010
Total Mercury (Low Level)	mg/L	0.000026	0.000025	<0.000025	<0.000025
Total Molybdenum	mg/L		0.003	<0.003	<0.003
Total Nickel	mg/L	0.025	0.01	<0.01	<0.01
Total Phosphorus	mg/L		0.08	0.15	0.13
Total Potassium	mg/L		0.6	6.0	5.8
Total Selenium	mg/L	0.001	0.001	<0.001	<0.001
Total Silicon	mg/L		0.032	3.14	3.08
Total Silver	mg/L	0.0001	0.00005	<0.00005	0.00005
Total Sodium	mg/L	200	0.6	148	147
Total Strontium	mg/L		0.001	0.423	0.405
Total Sulphur	mg/L		0.3	35.0	34.1
Total Thallium	mg/L		0.0005	<0.0005	<0.0005
Total Tin	mg/L		0.000025	0.000318	0.000351
Total Uranium	mg/L	0.01	0.001	<0.001	<0.001
Total Vanadium	mg/L		0.001	<0.001	<0.001
Total Zinc	mg/L	0.03	0.001	<0.001	<0.001
Total Zirconium	mg/L		0.01	<0.01	<0.01

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Certificate of Analysis

AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

CCME / Alberta Tier 1 Metals (Total) (Full Package)

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-19

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 GW (Ag, F)
5154154-5154166 < - Values refer to Report Detection Limits.

Certified By: gmills

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Certificate of Analysis

AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

Routine Chemistry Water Analysis

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-18

		SAMPLE DESCRIPTION:		WW02-A	WW09-Z
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2/10/2014	2/10/2014
Parameter	Unit	G / S	RDL	5154154	5154166
pH	pH Units	6.5-8.5	NA	8.16	8.12
p - Alkalinity (as CaCO3)	mg/L		5	<5	<5
T - Alkalinity (as CaCO3)	mg/L		5	305	270
Bicarbonate	mg/L		5	372	330
Carbonate	mg/L		5	<5	<5
Hydroxide	mg/L		5	<5	<5
Electrical Conductivity	uS/cm		1	830	830
Fluoride	mg/L	1.5	0.05	<0.05	<0.05
Chloride	mg/L	250	1	19	20
Nitrite	mg/L	3.2	0.05	<0.05	<0.05
Nitrate	mg/L	45	0.5	<0.5	<0.5
Sulfate	mg/L	500	1	121	122
Dissolved Calcium	mg/L		0.3	15.9	15.4
Dissolved Magnesium	mg/L		0.2	5.9	5.8
Dissolved Sodium	mg/L	200	0.6	158	159
Dissolved Potassium	mg/L		0.6	5.8	5.8
Dissolved Iron	mg/L	0.3	0.1	<0.1	<0.1
Dissolved Manganese	mg/L	0.05	0.005	0.009	0.009
Calculated TDS	mg/L		1	509	490
Hardness	mg CaCO3/L		1	64	62
Ion Balance	%		0.1	90.7	97.6
Nitrate + Nitrite-N	mg/L		0.02	<0.02	<0.02
Nitrate-N	mg/L		0.02	<0.02	<0.02
Nitrite-N	mg/L		0.01	<0.01	<0.01

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (D Water)
5154154-5154166 < - Values refer to Report Detection Limits.

Certified By: gmills

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Certificate of Analysis

AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

Water Analysis - Cr6

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-18

SAMPLE DESCRIPTION:				WW02-A	WW09-Z
SAMPLE TYPE:				Water	Water
DATE SAMPLED:				2/10/2014	2/10/2014
Parameter	Unit	G / S	RDL	5154154	5154166
Hexavalent Chromium	mg/L		0.01	<0.01	<0.01

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

ATTENTION TO: Sandra Marken

Water Analysis-phenols

DATE RECEIVED: 2014-02-12

DATE REPORTED: 2014-02-18

				SAMPLE DESCRIPTION:	WW02-A	WW09-Z
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2/10/2014	2/10/2014
Parameter	Unit	G / S	RDL		5154154	5154166
Phenols	mg/L		0.002		0.002	0.002

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By: gmills

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Quality Assurance

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.
AGAT WORK ORDER: 14E810302
PROJECT NO: Chinook EL470
ATTENTION TO: Sandra Marken

Trace Organics Analysis

RPT Date:			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
ConocoPhillips - Petroleum Hydrocarbons (BTEXS/F1-F4) in Water															
Benzene	499	5154567	<0.0005	<0.0005	NA	< 0.0005	115%	80%	120%	113%	80%	120%	114%	70%	130%
Toluene	499	5154567	<0.0005	<0.0005	NA	< 0.0005	115%	80%	120%	112%	80%	120%	114%	70%	130%
Ethylbenzene	499	5154567	<0.0005	<0.0005	NA	< 0.0005	115%	80%	120%	108%	80%	120%	108%	70%	130%
Xylenes	499	5154567	<0.0005	<0.0005	NA	< 0.0005	118%	80%	120%	109%	80%	120%	119%	70%	130%
Styrene	499	5154567	<0.0005	<0.0005	NA	< 0.0005	117%	80%	120%	112%	80%	120%	130%	70%	130%
C6 - C10 (F1)	499	5154567	<0.1	<0.1	NA	< 0.1	102%	80%	120%	87%	80%	120%	73%	70%	130%
C>10 - C16	439	5160101	<0.1	<0.1	NA	< 0.1	92%	80%	120%	94%	80%	120%	90%	70%	130%
C16 - C34	439	5160101	<0.1	<0.1	NA	< 0.1	91%	80%	120%	113%	80%	120%	101%	70%	130%
C>34 - C50	439	5160101	<0.1	<0.1	NA	< 0.1	95%	80%	120%						
Volatile Organic Compounds in Water															
Chloromethane	472	5153274	< 0.001	< 0.001	NA	< 0.001	131%	60%	140%	117%	60%	140%	136%	60%	140%
Vinyl Chloride	472	5153274	< 0.001	< 0.001	NA	< 0.001	140%	60%	140%	108%	60%	140%	107%	60%	140%
Bromomethane	472	5153274	< 0.001	< 0.001	NA	< 0.001	118%	60%	140%	93%	60%	140%	115%	60%	140%
Chloroethane	472	5153274	< 0.001	< 0.001	NA	< 0.001	116%	60%	140%	109%	60%	140%	109%	60%	140%
Trichlorofluoromethane	472	5153274	< 0.001	< 0.001	NA	< 0.001	127%	60%	140%	112%	60%	140%	109%	60%	140%
Acetone	472	5153274	< 0.01	< 0.01	NA	< 0.01	102%	60%	140%	99%	60%	140%	63%	60%	140%
1,1-Dichloroethylene	472	5153274	< 0.001	< 0.001	NA	< 0.001	112%	60%	140%	99%	60%	140%	101%	60%	140%
Methylene Chloride	472	5153274	< 0.001	< 0.001	NA	< 0.001	138%	60%	140%	111%	60%	140%	115%	60%	140%
Methyl tert-butyl ether	472	5154154	< 0.001	< 0.001	NA	< 0.001	71%	60%	140%	66%	60%	140%	64%	60%	140%
Methyl Ethyl Ketone	472	5153274	< 0.01	< 0.01	NA	< 0.01	118%	60%	140%	131%	60%	140%	73%	60%	140%
trans- 1,2-dichloroethylene	472	5153274	0.013	0.013	0.0%	< 0.001	120%	60%	140%	104%	60%	140%	103%	60%	140%
1,1-Dichloroethane	472	5153274	< 0.001	< 0.001	NA	< 0.001	101%	60%	140%	104%	60%	140%	102%	60%	140%
cis- 1,2-Dichloroethylene	472	5153274	0.0109	0.0114	4.5%	< 0.001	120%	60%	140%	108%	60%	140%	107%	60%	140%
Chloroform	472	5153274	< 0.001	< 0.001	NA	< 0.001	111%	60%	140%	102%	60%	140%	102%	60%	140%
1,2-Dichloroethane	472	5153274	<0.001	<0.001	0.0%	< 0.001	105%	60%	140%	99%	60%	140%	99%	60%	140%
1,1,1-Trichloroethane	472	5153274	< 0.001	< 0.001	NA	< 0.001	139%	60%	140%	110%	60%	140%	95%	60%	140%
Carbon Tetrachloride	472	5153274	< 0.0005	< 0.0005	NA	< 0.0005	97%	60%	140%	72%	60%	140%	71%	60%	140%
Benzene	472	5153274	< 0.0005	< 0.0005	NA	< 0.0005	107%	60%	140%	102%	60%	140%	102%	60%	140%
1,2-Dichloropropane	472	5153274	< 0.001	< 0.001	NA	< 0.001	110%	60%	140%	102%	60%	140%	102%	60%	140%
Trichloroethylene	472	5153274	0.093	0.097	4.2%	< 0.001	103%	60%	140%	97%	60%	140%	90%	60%	140%
Bromodichloromethane	472	5153274	< 0.001	< 0.001	NA	< 0.001	95%	60%	140%	85%	60%	140%	87%	60%	140%
trans-1,3-Dichloropropene	472	5153274	< 0.001	< 0.001	NA	< 0.001	115%	60%	140%	117%	60%	140%	97%	60%	140%
Methyl Isobutyl Ketone	472	5153274	< 0.01	< 0.01	NA	< 0.01	105%	60%	140%	108%	60%	140%	105%	60%	140%
cis-1,3-Dichloropropene	472	5153274	< 0.001	< 0.001	NA	< 0.001	101%	60%	140%	99%	60%	140%	88%	60%	140%
1,1,2-Trichloroethane	472	5153274	< 0.001	< 0.001	NA	< 0.001	107%	60%	140%	103%	60%	140%	103%	60%	140%
Toluene	472	5153274	< 0.0005	< 0.0005	NA	< 0.0005	107%	60%	140%	102%	60%	140%	102%	60%	140%
2-Hexanone	472	5153274	< 0.01	< 0.01	NA	< 0.01	91%	60%	140%	95%	60%	140%	72%	60%	140%
Dibromochloromethane	472	5153274	< 0.001	< 0.001	NA	< 0.001	94%	60%	140%	91%	60%	140%	85%	60%	140%
Ethylene Dibromide	472	5153274	< 0.001	< 0.001	NA	< 0.001	121%	60%	140%	117%	60%	140%	104%	60%	140%

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Quality Assurance

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.
AGAT WORK ORDER: 14E810302
PROJECT NO: Chinook EL470
ATTENTION TO: Sandra Marken

Trace Organics Analysis (Continued)

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Tetrachloroethene	472	5154154	< 0.001	< 0.001	NA	< 0.001	105%	60%	140%	70%	60%	140%	108%	60%	140%
1,1,1,2-Tetrachloroethane	472	5153274	< 0.001	< 0.001	NA	< 0.001	100%	60%	140%	92%	60%	140%	91%	60%	140%
Chlorobenzene	472	5153274	< 0.001	< 0.001	NA	< 0.001	108%	60%	140%	100%	60%	140%	101%	60%	140%
Ethylbenzene	472	5153274	< 0.0005	< 0.0005	NA	< 0.0005	107%	60%	140%	104%	60%	140%	104%	60%	140%
m & p-Xylene	472	5153274	< 0.0005	< 0.0005	NA	< 0.0005	103%	60%	140%	100%	60%	140%	100%	60%	140%
Bromoform	472	5153274	< 0.001	< 0.001	NA	< 0.001	103%	60%	140%	97%	60%	140%	93%	60%	140%
Styrene	472	5153274	< 0.001	< 0.001	NA	< 0.001	101%	60%	140%	95%	60%	140%	95%	60%	140%
1,1,2,2-Tetrachloroethane	472	5153274	< 0.001	< 0.001	NA	< 0.001	119%	60%	140%	112%	60%	140%	115%	60%	140%
o-Xylene	472	5153274	< 0.0005	< 0.0005	NA	< 0.0005	103%	60%	140%	100%	60%	140%	101%	60%	140%
1,3-Dichlorobenzene	472	5153274	< 0.0005	< 0.0005	NA	< 0.0005	107%	60%	140%	98%	60%	140%	99%	60%	140%
1,4-Dichlorobenzene	472	5153274	< 0.0005	< 0.0005	NA	< 0.0005	108%	60%	140%	100%	60%	140%	100%	60%	140%
1,2-Dichlorobenzene	472	5153274	< 0.0005	< 0.0005	NA	< 0.0005	106%	60%	140%	99%	60%	140%	99%	60%	140%
1,2,4-Trichlorobenzene	472	5153274	< 0.001	< 0.001	NA	< 0.001	114%	60%	140%	102%	60%	140%	101%	60%	140%
Polyaromatic Hydrocarbon Analysis - Water FWAL															
Naphthalene	332	TW	0.00002	0.00001	NA	< 0.00001	99%	70%	130%	88%	70%	130%	86%	70%	130%
2-Methylnaphthalene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001				90%	70%	130%	88%	70%	130%
Quinoline	332	TW	< 0.00005	< 0.00005	NA	< 0.00005	95%	70%	130%	91%	70%	130%	92%	70%	130%
Acenaphthylene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	109%	70%	130%	92%	70%	130%	88%	70%	130%
Acenaphthene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	105%	70%	130%	95%	70%	130%	93%	70%	130%
Fluorene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	104%	70%	130%	94%	70%	130%	90%	70%	130%
Phenanthrene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	95%	70%	130%	88%	70%	130%	89%	70%	130%
Anthracene	332	TW	0.00002	0.00002	0.0%	< 0.00001	99%	70%	130%	85%	70%	130%	82%	70%	130%
Acridine	332	TW	< 0.00005	< 0.00005	NA	< 0.00005	102%	70%	130%	96%	70%	130%	94%	70%	130%
Fluoranthene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	103%	70%	130%	92%	70%	130%	88%	70%	130%
Pyrene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	103%	70%	130%	91%	70%	130%	88%	70%	130%
Benzo(a)anthracene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	107%	70%	130%	92%	70%	130%	91%	70%	130%
Chrysene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	104%	70%	130%	92%	70%	130%	91%	70%	130%
Benzo(b)fluoranthene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	106%	70%	130%	93%	70%	130%	92%	70%	130%
Benzo(k)fluoranthene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	104%	70%	130%	93%	70%	130%	91%	70%	130%
Benzo(a)pyrene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	111%	70%	130%	93%	70%	130%	90%	70%	130%
Indeno(1,2,3-cd)pyrene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	104%	70%	130%	93%	70%	130%	91%	70%	130%
Dibenzo(ah)anthracene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	103%	70%	130%	93%	70%	130%	91%	70%	130%
Benzo(ghi)perylene	332	TW	< 0.00001	< 0.00001	NA	< 0.00001	103%	70%	130%	92%	70%	130%	91%	70%	130%
Alcohol Analysis in Water - Methanol															
Methanol	4062	5154154	<1	<1	NA	< 1	102%	80%	120%	98%	70%	130%	103%	70%	130%
Glycols Analysis in Water															
Propylene Glycol	17	5154166	<10	<10	NA	< 10	104%	70%	130%	94%	70%	130%	93%	60%	140%
Monoethylene Glycol	17	5154166	<10	<10	NA	< 10	105%	70%	130%	96%	70%	130%	94%	60%	140%

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Quality Assurance

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

ATTENTION TO: Sandra Marken

Trace Organics Analysis (Continued)

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Diethylene Glycol	17	5154166	<5	<5	NA	< 5	104%	70%	130%	94%	70%	130%	93%	60%	140%
Triethylene Glycol	17	5154166	<10	<10	NA	< 10	102%	70%	130%	90%	70%	130%	89%	60%	140%
Tetraethylene Glycol	17	5154166	<10	<10	NA	< 10	86%	70%	130%	74%	70%	130%	73%	60%	140%

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AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

ATTENTION TO: Sandra Marken

Water Analysis

RPT Date:			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Routine Chemistry Water Analysis															
pH	537	4154	8.16	8.11	0.6%		100%	80%	120%						
p - Alkalinity (as CaCO3)	537	4154	< 5	< 5	NA	< 5									
T - Alkalinity (as CaCO3)	537	4154	305	270	12.2%	< 5	105%	80%	120%						
Bicarbonate	537	4154	372	329	12.3%	< 5									
Carbonate	537	4154	< 5	< 5	NA	< 5									
Hydroxide	537	4154	< 5	< 5	NA	< 5									
Electrical Conductivity	537	4154	830	834	0.5%	< 1	103%	80%	120%						
Fluoride	581	5154154	< 0.05	< 0.05	NA	< 0.05	103%	80%	120%	90%	80%	120%	100%	80%	120%
Chloride	581	5154154	19	20	5.1%	< 1	102%	80%	120%	87%	80%	120%	102%	80%	120%
Nitrite	581	5154154	< 0.05	< 0.05	NA	< 0.05	103%	80%	120%	93%	80%	120%	101%	80%	120%
Nitrate	581	5154154	< 0.5	< 0.5	NA	< 0.5	105%	80%	120%	94%	80%	120%	100%	80%	120%
Sulfate	581	5154154	121	120	0.8%	< 1	102%	80%	120%	90%	80%	120%	102%	80%	120%
Dissolved Calcium	49	5162668	5.5	5.7	3.5%	< 0.3	105%	80%	120%				103%	80%	120%
Dissolved Magnesium	49	5162668	3.9	3.8	2.9%	< 0.2	107%	80%	120%				104%	80%	120%
Dissolved Sodium	49	5162668	1590	1630	2.5%	< 0.6	100%	80%	120%				102%	80%	120%
Dissolved Potassium	49	5162668	13.4	13.4	0.3%	< 0.6	96%	80%	120%				98%	80%	120%
Dissolved Iron	49	5162668	<0.1	<0.1	NA	< 0.1	101%	80%	120%				97%	80%	120%
Dissolved Manganese	49	5162668	0.044	0.049	10.8%	< 0.005	93%	80%	120%				95%	80%	120%
Comments: N/A - Not Available.															
Water Analysis-phenols															
Phenols	116	5162668	0.02	0.02	NA	< 0.002	91%	80%	120%	98%	80%	120%	94%	80%	120%
Water Analysis - Cr6															
Hexavalent Chromium	6481	4166	< 0.01	< 0.01	NA	< 0.01	90%	80%	120%	88%	80%	120%	82%	80%	120%
CCME / Alberta Tier 1 Metals (Dissolved) (Full Package)															
Dissolved Aluminum	45	5154154	< 0.002	< 0.002	NA	< 0.002	118%	80%	120%				95%	80%	120%
Dissolved Antimony	45	5154154	< 0.001	< 0.001	NA	< 0.001	93%	80%	120%				87%	80%	120%
Dissolved Arsenic	45	5154154	< 0.001	< 0.001	NA	< 0.001	95%	80%	120%				104%	80%	120%
Dissolved Barium	45	5154154	< 0.05	< 0.05	NA	< 0.05	88%	80%	120%				88%	80%	120%
Dissolved Boron	45	5154154	0.08	0.08	0.0%	< 0.01	100%	80%	120%				92%	80%	120%
Dissolved Cadmium	45	5154154	< 0.00005	< 0.00005	NA	< 0.00005	86%	80%	120%				86%	80%	120%
Dissolved Calcium	49	5162668	5.5	5.7	3.5%	< 0.3	105%	80%	120%				103%	80%	120%
Dissolved Chromium	45	5154154	< 0.001	< 0.001	NA	< 0.001	94%	80%	120%				93%	80%	120%
Dissolved Copper	45	5154154	< 0.002	< 0.002	NA	< 0.002	95%	80%	120%				93%	80%	120%
Dissolved Iron	49	5162668	<0.1	<0.1	0.0%	< 0.1	101%	80%	120%				97%	80%	120%
Dissolved Lead	45	5154154	< 0.001	< 0.001	NA	< 0.001	86%	80%	120%				92%	80%	120%
Dissolved Lithium	45	5154154	0.070	0.070	0.0%	< 0.001	93%	80%	120%				88%	80%	120%
Dissolved Magnesium	49	5162668	3.9	3.8	2.9%	< 0.2	107%	80%	120%				104%	80%	120%

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Quality Assurance

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

ATTENTION TO: Sandra Marken

Water Analysis (Continued)

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Dissolved Manganese	49	5162668	0.044	0.049	11.4%	< 0.005	93%	80%	120%				95%	80%	120%
Dissolved Mercury (Low Level)	45	5154154	< 0.000025	< 0.000025	0.0%	< 0.000025	106%	80%	120%				95%	80%	120%
Dissolved Molybdenum	45	5154154	< 0.003	< 0.003	NA	< 0.003	89%	80%	120%				88%	80%	120%
Dissolved Nickel	45	5154154	< 0.003	< 0.003	NA	< 0.003	89%	80%	120%				93%	80%	120%
Dissolved Phosphorus	49	5162668	<0.08	<0.08	0.0%	< 0.08	92%	80%	120%				96%	80%	120%
Dissolved Potassium	49	5162668	13.4	13.4	0.3%	< 0.6	96%	80%	120%				98%	80%	120%
Dissolved Selenium	45	5154154	< 0.001	< 0.001	NA	< 0.001	97%	80%	120%				103%	80%	120%
Dissolved Silver	45	5154154	< 0.00001	< 0.00001	NA	< 0.00001	85%	80%	120%				80%	80%	120%
Dissolved Silicon	49	5162668	1.19	1.21	1.7%	< 0.032	98%	80%	120%				106%	80%	120%
Dissolved Sodium	49	5162668	1590	1630	2.5%	< 0.6	100%	80%	120%				102%	80%	120%
Dissolved Strontium	49	5162668	0.497	0.520	4.5%	< 0.001	95%	80%	120%				96%	80%	120%
Dissolved Sulphur	49	5162668	2.3	2.5	8.3%	< 0.3	90%	80%	120%				98%	80%	120%
Dissolved Thallium	45	5154154	< 0.0001	< 0.0001	NA	< 0.0001	86%	80%	120%				94%	80%	120%
Dissolved Tin	45	5154154	< 0.00025	< 0.00025	NA	< 0.00025	93%	80%	120%				85%	80%	120%
Dissolved Uranium	45	5154154	< 0.001	< 0.001	NA	< 0.001	87%	80%	120%				93%	80%	120%
Dissolved Vanadium	45	5154154	< 0.001	< 0.001	NA	< 0.001	93%	80%	120%				98%	80%	120%
Dissolved Zinc	45	5154154	< 0.001	< 0.001	NA	< 0.001	98%	80%	120%				96%	80%	120%
Dissolved Zirconium	49	5162668	<0.06	<0.06	0.0%	< 0.06	110%	80%	120%				94%	80%	120%
CCME / Alberta Tier 1 Metals (Total) (Full Package)															
Total Aluminum	49	5161401	0.924	0.912	1.3%	< 0.002	110%	80%	120%				90%	80%	120%
Total Antimony	49	5161401	0.048	0.048	NA	< 0.001	106%	80%	120%				88%	80%	120%
Total Arsenic	49	5161401	0.001	0.001	NA	< 0.001	97%	80%	120%				100%	80%	120%
Total Barium	49	5161401	0.15	0.15	NA	< 0.05	104%	80%	120%				94%	80%	120%
Total Boron	49	5161401	0.04	0.04	NA	< 0.01	110%	80%	120%				99%	80%	120%
Total Cadmium	49	5161401	0.00052	0.00053	1.9%	< 0.00005	92%	80%	120%				98%	80%	120%
Total Calcium	49	5161401	27.0	27.0	0.0%	< 0.3	100%	80%	120%				97%	80%	120%
Total Chromium	49	5161401	0.0083	0.0087	4.7%	< 0.001	87%	80%	120%				96%	80%	120%
Total Copper	49	5161401	0.220	0.213	3.2%	< 0.002	95%	80%	120%				82%	80%	120%
Total Iron	49	5161401	2.0	2.0	0.0%	< 0.1	92%	80%	120%				93%	80%	120%
Total Lead	49	5161401	0.036	0.036	NA	< 0.001	98%	80%	120%				96%	80%	120%
Total Lithium	49	5161401	0.032	0.031	3.2%	< 0.001	92%	80%	120%				95%	80%	120%
Total Magnesium	49	5161401	9.0	9.0	NA	< 0.2	96%	80%	120%				95%	80%	120%
Total Manganese	49	5161401	0.033	0.033	NA	< 0.005	91%	80%	120%				92%	80%	120%
Total Mercury (Low Level)	50	5161401	<0.	<0.00025	NA	< 0.000025	111%	80%	120%				91%	80%	120%
Total Molybdenum	49	5161401	0.003	0.003	NA	< 0.003	97%	80%	120%				94%	80%	120%
Total Nickel	49	5161401	< 0.01	< 0.01	NA	< 0.01	92%	80%	120%				97%	80%	120%
Total Phosphorus	49	5161401	0.31	0.30	3.3%	< 0.08	82%	80%	120%				89%	80%	120%
Total Potassium	49	5161401	2.0	2.0	0.0%	< 0.6	91%	80%	120%				91%	80%	120%

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Quality Assurance

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

ATTENTION TO: Sandra Marken

Water Analysis (Continued)

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Total Selenium	49	5161401	< 0.001	< 0.001	NA	< 0.001	94%	80%	120%				99%	80%	120%
Total Silicon	49	5161401	13.0	13.0	0.0%	< 0.032	91%	80%	120%				98%	80%	120%
Total Silver	49	5161401	0.00011	< 0.00005	NA	< 0.00005	94%	80%	120%				96%	80%	120%
Total Sodium	49	5161401	172	178	3.4%	< 0.6	92%	80%	120%				101%	80%	120%
Total Strontium	49	5161401	0.088	0.082	7.1%	< 0.001	88%	80%	120%				96%	80%	120%
Total Sulphur	49	5161401	12.0	12.0	0.0%	< 0.3	81%	80%	120%				90%	80%	120%
Total Thallium	49	5161401	< 0.0005	< 0.0005	NA	< 0.0005	96%	80%	120%				98%	80%	120%
Total Tin	49	5161401	0.00132	0.00119	NA	< 0.000025	102%	80%	120%				99%	80%	120%
Total Uranium	49	5161401	< 0.001	< 0.001	NA	< 0.001	97%	80%	120%				101%	80%	120%
Total Vanadium	49	5161401	0.005	0.005	NA	< 0.001	89%	80%	120%				95%	80%	120%
Total Zinc	49	5161401	1.07	1.10	2.8%	< 0.001	90%	80%	120%				85%	80%	120%
Total Zirconium	49	5161401	<0.01	<0.01	NA	< 0.01	98%	80%	120%				92%	80%	120%

Certified By: gmills

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Method Summary

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PROJECT NO: Chinook EL470

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Methanol	TO 1420	EPA SW-846 3500 & 8015	GC/FID
4-Methyl-2-pentanone	TO 1420	EPA 8015	GC/FID
Benzene	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
Toluene	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
Ethylbenzene	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
Xylenes	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
Styrene	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
C6 - C10 (F1)	ORG-170-5110/5140/5430/5440	CCME Tier 1 Method-W L	GC/FID
C6 - C10 (F1 minus BTEX)	ORG-170-5110/5140/5430/5440	CCME Tier 1 Method-W L	GC/FID
C>10 - C16	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
C16 - C34	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
C>34 - C50	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
Toluene-d8 (BTEX)	ORG-170-5110/5140/5430/5440	EPA 8260-W	GC/MS
o-Terphenyl (F2-F4)	ORG-170-5120/5300	CCME Tier 1 Method-W H	GC/FID
Propylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Monoethylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Diethylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Triethylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Tetraethylene Glycol	TO 1410	EPA SW-846 8015-W	GC/FID
Heptanol	TO 1410	EPA SW-846 8015	GC/FID
Naphthalene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
2-Methylnaphthalene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Quinoline	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Acenaphthylene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Acenaphthene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Fluorene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Phenanthrene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Anthracene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Acridine	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Fluoranthene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Pyrene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Benzo(a)anthracene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Chrysene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Benzo(b)fluoranthene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Benzo(k)fluoranthene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Benzo(a)pyrene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Dibenzo(ah)anthracene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
Benzo(ghi)perylene	ORG-170-5421	EPA SW-846 3510 & 8270	GC/MS
2-Fluorobiphenyl	ORG-170-5420/-5421	EPA SW-846 3510 & 8270	GC/MS
p-Terphenyl-d14	ORG-170-5420/-5421	EPA SW-846 3510 & 8270	GC/MS
Chloromethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS

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Method Summary

CLIENT NAME: CONOCOPHILLIPS CANADA RES. CORP.

AGAT WORK ORDER: 14E810302

PROJECT NO: Chinook EL470

ATTENTION TO: Sandra Marken

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Vinyl Chloride	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Bromomethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Chloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Trichlorofluoromethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Acetone	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,1-Dichloroethylene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Methylene Chloride	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Methyl tert-butyl ether	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Methyl Ethyl Ketone	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
trans- 1,2-dichloroethylene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,1-Dichloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
cis- 1,2-Dichloroethylene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Chloroform	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,2-Dichloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,1,1-Trichloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Carbon Tetrachloride	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Benzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,2-Dichloropropane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Trichloroethylene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Bromodichloromethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
trans-1,3-Dichloropropene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Methyl Isobutyl Ketone	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
cis-1,3-Dichloropropene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,1,2-Trichloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Toluene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
2-Hexanone	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Dibromochloromethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Ethylene Dibromide	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Tetrachloroethene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,1,1,2-Tetrachloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Chlorobenzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Ethylbenzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
m & p-Xylene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Bromoform	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Styrene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,1,2,2-Tetrachloroethane	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
o-Xylene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,3-Dichlorobenzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,4-Dichlorobenzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,2-Dichlorobenzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
1,2,4-Trichlorobenzene	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Total Xylenes	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS
Toluene-d8	ORG-170-5400 & ORG-170-5410	EPA SW-846 5230B & 8260	GC/MS

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Aluminum	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS
Dissolved Antimony	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP-MS
Dissolved Arsenic	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP-MS
Dissolved Barium	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP-MS
Dissolved Boron	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP-MS
Dissolved Cadmium	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS
Dissolved Calcium	INOR-171-6202, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Chromium	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS
Dissolved Copper	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP-MS
Dissolved Iron	INOR-171-6202, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Lead	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS
Dissolved Lithium	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS
Dissolved Magnesium	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Manganese	INOR-171-6202, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Mercury (Low Level)	INOR-171-6202, INOR-171-6100	SM 3112 B	ICP/MS
Dissolved Molybdenum	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS
Dissolved Nickel	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS
Dissolved Phosphorus	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/OES
Dissolved Potassium	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Selenium	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS
Dissolved Silver	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS
Dissolved Silicon	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Sodium	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Strontium	INOR-171-6202, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Sulphur	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Thallium	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS
Dissolved Tin	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Dissolved Uranium	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS
Dissolved Vanadium	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP/MS
Dissolved Zinc	INOR-171-6202, INOR-171-6100	SM 3125 B	ICP-MS
Dissolved Zirconium	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Total Aluminum	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Antimony	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP-MS
Total Arsenic	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP-MS
Total Barium	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Boron	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Cadmium	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Calcium	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3120 B	ICP/OES
Total Chromium	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Copper	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Iron	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3120 B	ICP/OES
Total Lead	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP-MS
Total Lithium	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Magnesium	INOR-171-6201, INOR-171-6100	SM 3030 E; SM 3120 B	ICP/OES
Total Manganese	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3120 B	ICP/OES
Total Mercury (Low Level)	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3112 B	ICP/MS
Total Molybdenum	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Nickel	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Phosphorus	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/OES
Total Potassium	INOR-171-6201, INOR-171-6100	SM 3030 E; SM 3120 B	ICP/OES
Total Selenium	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP-MS
Total Silicon	INOR-171-6201, INOR-171-6100	SM 3030 E; SM 3120 B	ICP/OES
Total Silver	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Sodium	INOR-171-6201, INOR-171-6100	SM 3030 E; SM 3120 B	ICP/OES
Total Strontium	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3120 B	ICP/OES

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PROJECT NO: Chinook EL470

ATTENTION TO: Sandra Marken

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Total Sulphur	INOR-171-6201, INOR-171-6100	SM 3030 E; SM 3120 B	ICP/OES
Total Thallium	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Tin	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Uranium	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Vanadium	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Zinc	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3125 B	ICP/MS
Total Zirconium	INOR-171-6202, INOR-171-6100	SM 3030 E; SM 3120 B	ICP/OES
pH	INOR-171-6205	SM 4500 H+	PC Titrate
p - Alkalinity (as CaCO3)	INOR-171-6205	SM 2320 B	PC Titrate
T - Alkalinity (as CaCO3)	INOR-171-6205	SM 2320 B	PC Titrate
Bicarbonate	INOR-171-6205	SM 2320 B	PC Titrate
Carbonate	INOR-171-6205	SM 2320 B	PC Titrate
Hydroxide	INOR-171-6205	SM 2320 B	PC Titrate
Electrical Conductivity	INOR-171-6205	SM 2510 B	PC Titrate
Fluoride	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Chloride	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Nitrite	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Nitrate	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Sulfate	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Dissolved Calcium	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Magnesium	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Sodium	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Potassium	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Iron	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Dissolved Manganese	INOR-171-6201, INOR-171-6100	SM 3120 B	ICP/OES
Hexavalent Chromium	SPE 0101	EPA SW 846-6010B, SM 3030B	SPECTROPHOTOMETER
Phenols	INST 0300	SM 420.2	CONTINUOUS FLOW ANALYZER