



PO Bag 4000
 Vegreville, Alberta
 Canada T9C 1T4
 (780) 632-8211

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

RESULTS: Karla Reesor Baytex Energy Ltd. 403 807 2995	CLIENT SAMPLE ID PRAMP_RENO_20170215	CANISTER ID H3290	Matrix Ambient Air	Priority Normal
DESCRIPTION:				
INVOICE: Anthony Traverse Bay-Reno Station 2800 520 3rd Ave SW Calgary AB T2P 0R3	DATE SAMPLED: 15-Feb-17 REPORT CREATED: 21-Mar-17	10:45	DATE RECEIVED: 17-Feb-17 REPORT NUMBER: 17020180 VERSION: Version 01	

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
17020180-001	1-Butene		0.45	ppmv	0.14	NA-025	21-Feb-17
17020180-001	Acetylene		0.3	ppmv	0.3	NA-025	21-Feb-17
17020180-001	n-Butane		1.1	ppmv	0.3	NA-025	21-Feb-17
17020180-001	cis-2-Butene		0.6	ppmv	0.1	NA-025	21-Feb-17
17020180-001	Ethane		0.4	ppmv	0.1	NA-025	21-Feb-17
17020180-001	Ethylacetylene		0.42	ppmv	0.08	NA-025	21-Feb-17
17020180-001	Ethylene	K, T, U	< 0.3	ppmv	0.3	NA-025	21-Feb-17
17020180-001	Isobutane		0.5	ppmv	0.1	NA-025	21-Feb-17
17020180-001	Isobutylene		0.4	ppmv	0.1	NA-025	21-Feb-17
17020180-001	Methane		4.6	ppmv	0.1	NA-025	21-Feb-17
17020180-001	n-Propane		0.47	ppmv	0.10	NA-025	21-Feb-17
17020180-001	Propylene		0.4	ppmv	0.1	NA-025	21-Feb-17
17020180-001	Propyne		0.5	ppmv	0.1	NA-025	21-Feb-17
17020180-001	trans-2-Butene		0.41	ppmv	0.12	NA-025	21-Feb-17
17020180-001	2,5-Dimethylthiophene	K, T, U	< 1.2	ppbv	1.2	NA-024	21-Feb-17
17020180-001	2-Ethylthiophene	K, T, U	< 1.4	ppbv	1.4	NA-024	21-Feb-17
17020180-001	2-Methylthiophene	K, T, U	< 1.1	ppbv	1.1	NA-024	21-Feb-17
17020180-001	3-Methylthiophene	K, T, U	< 0.7	ppbv	0.7	NA-024	21-Feb-17

Report certified by: Krista Gegolick, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: Tuesday, March 21, 2017

Inquiries: (780) 632 8455

E-mail: EAS.Results@innotechalberta.ca

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_RENO_20170215	H3290	Ambient Air	15-Feb-17	10:45
DESCRIPTION:				
REPORT NUMBER:	17020180	REPORT CREATED:	21-Mar-17	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
17020180-001	Butyl mercaptan	K, T, U	< 1.1	ppbv	1.1	NA-024	21-Feb-17
17020180-001	Carbon disulphide	K, T, U	< 0.8	ppbv	0.8	NA-024	21-Feb-17
17020180-001	Carbonyl sulphide	K, T, U	< 1.4	ppbv	1.4	NA-024	21-Feb-17
17020180-001	Dimethyl disulphide	K, T, U	< 1.1	ppbv	1.1	NA-024	21-Feb-17
17020180-001	Dimethyl sulphide	K, T, U	< 1.0	ppbv	1.0	NA-024	21-Feb-17
17020180-001	Ethyl mercaptan	K, T, U	< 0.8	ppbv	0.8	NA-024	21-Feb-17
17020180-001	Ethyl sulphide	K, T, U	< 1.2	ppbv	1.2	NA-024	21-Feb-17
17020180-001	Hydrogen sulphide	K, T, U	< 1.0	ppbv	1.0	NA-024	21-Feb-17
17020180-001	Isobutyl mercaptan	K, T, U	< 1.1	ppbv	1.1	NA-024	21-Feb-17
17020180-001	Isopropyl mercaptan	K, T, U	< 1.2	ppbv	1.2	NA-024	21-Feb-17
17020180-001	Methyl mercaptan	K, T, U	< 1.2	ppbv	1.2	NA-024	21-Feb-17
17020180-001	Pentyl mercaptan	K, T, U	< 2.7	ppbv	2.7	NA-024	21-Feb-17
17020180-001	Propyl mercaptan	K, T, U	< 1.4	ppbv	1.4	NA-024	21-Feb-17
17020180-001	tert-Butyl mercaptan	K, T, U	< 1.2	ppbv	1.2	NA-024	21-Feb-17
17020180-001	Thiophene	K, T, U	< 1.0	ppbv	1.0	NA-024	21-Feb-17
17020180-001	1,1,1-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	1,1,2,2-Tetrachloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	1,1,2-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	1,1-Dichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	1,1-Dichloroethylene	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Mar-17
17020180-001	1,2,3-Trimethylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	01-Mar-17
17020180-001	1,2,4-Trichlorobenzene	K, T, U	< 1.1	ppbv	1.1	AC-058	01-Mar-17
17020180-001	1,2,4-Trimethylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	01-Mar-17
17020180-001	1,2-Dibromoethane	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	1,2-Dichlorobenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	01-Mar-17

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17020180-001	1,2-Dichloroethane	I	0.02	ppbv	0.01	AC-058	01-Mar-17
17020180-001	1,2-Dichloropropane	K, T, U	< 0.01	ppbv	0.01	AC-058	01-Mar-17
17020180-001	1,3,5-Trimethylbenzene		0.04	ppbv	0.03	AC-058	01-Mar-17
17020180-001	1,3-Butadiene	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	1,3-Dichlorobenzene	K, T, U	< 0.4	ppbv	0.4	AC-058	01-Mar-17
17020180-001	1,4-Dichlorobenzene	K, T, U	< 0.5	ppbv	0.5	AC-058	01-Mar-17
17020180-001	1,4-Dioxane	K, T, U	< 0.5	ppbv	0.5	AC-058	01-Mar-17
17020180-001	1-Butene		0.18	ppbv	0.03	AC-058	01-Mar-17
17020180-001	1-Hexene	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	1-Pentene	K, T, U	< 0.01	ppbv	0.01	AC-058	01-Mar-17
17020180-001	2,2,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	01-Mar-17
17020180-001	2,2-Dimethylbutane		0.04	ppbv	0.01	AC-058	01-Mar-17
17020180-001	2,3,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	01-Mar-17
17020180-001	2,3-Dimethylbutane		0.10	ppbv	0.03	AC-058	01-Mar-17
17020180-001	2,3-Dimethylpentane		0.10	ppbv	0.03	AC-058	01-Mar-17
17020180-001	2,4-Dimethylpentane		0.03	ppbv	0.01	AC-058	01-Mar-17
17020180-001	2-Methylheptane		0.06	ppbv	0.01	AC-058	01-Mar-17
17020180-001	2-Methylhexane		0.10	ppbv	0.01	AC-058	01-Mar-17
17020180-001	2-Methylpentane		0.30	ppbv	0.01	AC-058	01-Mar-17
17020180-001	3-Methylheptane		0.04	ppbv	0.03	AC-058	01-Mar-17
17020180-001	3-Methylhexane		0.14	ppbv	0.03	AC-058	01-Mar-17
17020180-001	3-Methylpentane		0.27	ppbv	0.01	AC-058	01-Mar-17
17020180-001	Acetone		2.5	ppbv	0.5	AC-058	01-Mar-17
17020180-001	Acrolein	K, T, U	< 0.4	ppbv	0.4	AC-058	01-Mar-17
17020180-001	Benzene		0.15	ppbv	0.01	AC-058	01-Mar-17

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17020180-001	Benzyl chloride	K, T, U	< 0.5	ppbv	0.5	AC-058	01-Mar-17
17020180-001	Bromodichloromethane	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Bromoform	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Bromomethane	K, T, U	< 0.01	ppbv	0.01	AC-058	01-Mar-17
17020180-001	Carbon disulfide	K, T, U	< 0.01	ppbv	0.01	AC-058	01-Mar-17
17020180-001	Carbon tetrachloride	I	0.12	ppbv	0.01	AC-058	01-Mar-17
17020180-001	Chlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Chloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Chloroform	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Chloromethane		0.57	ppbv	0.03	AC-058	01-Mar-17
17020180-001	cis-1,2-Dichloroethene	K, T, U	< 0.01	ppbv	0.01	AC-058	01-Mar-17
17020180-001	cis-1,3-Dichloropropene	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Mar-17
17020180-001	cis-2-Butene		0.04	ppbv	0.03	AC-058	01-Mar-17
17020180-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Cyclohexane		0.25	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Cyclopentane		0.09	ppbv	0.01	AC-058	01-Mar-17
17020180-001	Dibromochloromethane	K, T, U	< 0.01	ppbv	0.01	AC-058	01-Mar-17
17020180-001	Ethanol		1.9	ppbv	0.4	AC-058	01-Mar-17
17020180-001	Ethyl acetate	K, T, U	< 0.5	ppbv	0.5	AC-058	01-Mar-17
17020180-001	Ethylbenzene		0.05	ppbv	0.01	AC-058	01-Mar-17
17020180-001	Freon-11	I	0.35	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Freon-113	I	0.12	ppbv	0.01	AC-058	01-Mar-17
17020180-001	Freon-114	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Freon-12		0.74	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Hexachloro-1,3-butadiene	K, T, U	< 0.68	ppbv	0.68	AC-058	01-Mar-17

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17020180-001	Isobutane		1.36	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Isopentane		0.95	ppbv	0.04	AC-058	01-Mar-17
17020180-001	Isoprene	K, T, U	< 0.01	ppbv	0.01	AC-058	01-Mar-17
17020180-001	Isopropyl alcohol	K, T, U	< 0.5	ppbv	0.5	AC-058	01-Mar-17
17020180-001	Isopropylbenzene		0.02	ppbv	0.01	AC-058	01-Mar-17
17020180-001	m,p-Xylene		0.31	ppbv	0.04	AC-058	01-Mar-17
17020180-001	m-Diethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Mar-17
17020180-001	m-Ethyltoluene	K, T, U	< 0.11	ppbv	0.11	AC-058	01-Mar-17
17020180-001	Methyl butyl ketone	K, T, U	< 0.68	ppbv	0.68	AC-058	01-Mar-17
17020180-001	Methyl ethyl ketone	K, T, U	< 0.4	ppbv	0.4	AC-058	01-Mar-17
17020180-001	Methyl isobutyl ketone	K, T, U	< 0.5	ppbv	0.5	AC-058	01-Mar-17
17020180-001	Methyl methacrylate	K, T, U	< 0.10	ppbv	0.10	AC-058	01-Mar-17
17020180-001	Methyl tert butyl ether	K, T, U	< 0.04	ppbv	0.04	AC-058	01-Mar-17
17020180-001	Methylcyclohexane		0.26	ppbv	0.01	AC-058	01-Mar-17
17020180-001	Methylcyclopentane		0.36	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Methylene chloride	K, T, U	< 0.4	ppbv	0.4	AC-058	01-Mar-17
17020180-001	n-Butane		1.34	ppbv	0.04	AC-058	01-Mar-17
17020180-001	n-Decane	K, T, U	< 0.08	ppbv	0.08	AC-058	01-Mar-17
17020180-001	n-Dodecane	K, T, U	< 0.5	ppbv	0.5	AC-058	01-Mar-17
17020180-001	n-Heptane	K, T, U	< 0.01	ppbv	0.01	AC-058	01-Mar-17
17020180-001	n-Hexane		0.25	ppbv	0.01	AC-058	01-Mar-17
17020180-001	n-Octane		0.12	ppbv	0.03	AC-058	01-Mar-17
17020180-001	n-Pentane		0.5	ppbv	0.1	AC-058	01-Mar-17
17020180-001	n-Propylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	01-Mar-17
17020180-001	n-Undecane	K, T, U	< 0.7	ppbv	0.7	AC-058	01-Mar-17

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CLIENT SAMPLE ID PRAMP_RENO_20170215	CANISTER ID H3290	Matrix Ambient Air	DATE SAMPLED 15-Feb-17 10:45
DESCRIPTION:			
REPORT NUMBER: 17020180	REPORT CREATED: 21-Mar-17	VERSION: Version 01	

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
17020180-001	Naphthalene	K, T, U	< 0.7	ppbv	0.7	AC-058	01-Mar-17
17020180-001	n-Nonane		0.07	ppbv	0.01	AC-058	01-Mar-17
17020180-001	o-Ethyltoluene	I	0.02	ppbv	0.01	AC-058	01-Mar-17
17020180-001	o-Xylene		0.10	ppbv	0.01	AC-058	01-Mar-17
17020180-001	p-Diethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Mar-17
17020180-001	p-Ethyltoluene	K, T, U	< 0.10	ppbv	0.10	AC-058	01-Mar-17
17020180-001	Styrene	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Mar-17
17020180-001	Tetrachloroethylene	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Mar-17
17020180-001	Tetrahydrofuran	K, T, U	< 0.5	ppbv	0.5	AC-058	01-Mar-17
17020180-001	Toluene		0.41	ppbv	0.01	AC-058	01-Mar-17
17020180-001	trans-1,2-Dichloroethylene	K, T, U	< 0.01	ppbv	0.01	AC-058	01-Mar-17
17020180-001	trans-1,3-Dichloropropylene	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Mar-17
17020180-001	trans-2-Butene	K, T, U	< 0.01	ppbv	0.01	AC-058	01-Mar-17
17020180-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17
17020180-001	Trichloroethylene	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Mar-17
17020180-001	Vinyl acetate	K, T, U	< 0.5	ppbv	0.5	AC-058	01-Mar-17
17020180-001	Vinyl chloride	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Mar-17



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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

Page 7 of 12

Revision History

Order ID	Ver	Date	Reason
17020180	01	21-Mar-17	Report created



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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

Page 8 of 12

Methods

Method	Description
AC-058	VOC - GC/MS Volatile Organic Compounds
NA-024	RSC - GC/SCD Reduced Sulphur Compound Screening Analysis
NA-025	C1C4 or - GC/FID Hydrocarbon Analysis

Qualifiers

Data Qualifier Translation

B	Blank contamination; Analyte detected above the method reporting limit in an associated blank
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J1	Reported value is estimated; Surrogate recoveries limits were exceeded
J2	Reported value is estimated; No known QC criteria for this component
J3	Reported value is estimated; The value failed to meet QC criteria for either precision or accuracy
J4	Reported value is estimated; The sample matrix interfered with the analysis
K	Off-scale low. Actual value is known to be less than the value given
L	Off-scale high. Actual value is known to be greater than value given
N	Non-target analyte; Tentatively identified compound (using mass spectroscopy)
Q	Sample held beyond the accepted holding time
R	Rejected data; Not suitable for the projects intended use
T	Value reported is less than the laboratory method detection limit
U	Compound was analyzed for but not detected
V	Analyte was detected in both the sample and the associated method blank



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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

Page 10 of 12

Order Comments

17020180

Project: PRAMP_RENO Station. Please send results to PRAMP committee also. Lat.55°52'10.75N, :pmh/ 117°3'44"



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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

Page 11 of 12

Sample Comments



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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

Page 12 of 12

Result Comments

Note: Results relate only to items tested