APPENDIX K

2015 Laboratory Reports for Nutrients and Chlorophyll-*a*

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Bernward J. Hay The Louis Berger Group, Inc. 117 Kendrick Street, Suite 400 Needham, MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 144517 Client Identification: Vernon, Wilder, Bellows Falls | 2004247.006.02 Date Received: 6/11/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 144517

Client: The Louis Berger Group, Inc.

Client Designation: Vernon, Wilder, Bellows Falls | 2004247.006.02

Temperate Acceptable to	ure upon receipt (°C): 3.4 emperature range (°C): 0-6	4	Received on ice or cold packs (Yes/No): Υ							
Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)				
144517.01	06-W-01_1	6/11/15	6/4/15	aqueous		Adheres to Sample Acceptance Policy				
144517.02	06-W-01_2	6/11/15	6/4/15	aqueous		Adheres to Sample Acceptance Policy				
144517.03	Filter Blank	6/11/15	6/4/15	aqueous		Adheres to Sample Acceptance Policy				
144517.04	06-BF-01_1	6/11/15	6/5/15	aqueous		Adheres to Sample Acceptance Policy				

144517.05	06-BF-01_2	6/11/15	6/5/15	aqueous	Adheres to Sample Acceptance Policy
144517.06	06-V-01_1	6/11/15	6/6/15	aqueous	Adheres to Sample Acceptance Policy
144517.07	06-V-01_2	6/11/15	6/6/15	aqueous	Adheres to Sample Acceptance Policy
144517.08	06-BF-01_1	6/11/15	6/10/15	aqueous	Adheres to Sample Acceptance Policy
144517.09	06-BE-01 2	6/11/15	6/10/15	aqueous	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

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M

EAI ID#: 144517

Client: The Louis Berger Group, Inc.

Client Designation: Vernon, Wilder, Bellows Falls | 2004247.006.02

Sample ID:	06-W-01_1	06-BF-01_1	06-V-01_1	06-BF-01_1					
Lab Sample ID:	144517.01	144517.04	144517.06	144517.08					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	6/4/15	6/5/15	6/6/15	6/10/15		Ana	alysis		
Date Received:	6/11/15	6/11/15	6/11/15	6/11/15	Units	Date	Time	Method A	Analyst
Nitrate/Nitrite-N TKN	0.14 ≤ 0.5	0.14 < 0.5	0.12 < 0.5	0.17 1.3	mg/L mg/L	6/16/15 6/19/15	9:28 11:32	353.2 4500N _{ora} C/N	KD I SEL
Total Nitrogen Total Phosphorus-P	< 0.5 0.012	< 0.5 0.011	< 0.5 0.013	1.47 0.012	mg/L mg/L	6/19/15 6/18/15	14:20 11:17	4500 _{org} C/NC 365.1	SEL SEL

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

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EAI ID#: 144517

Client: The Louis Berger Group, Inc.

Client Designation: Vernon, Wilder, Bellows Falls | 2004247.006.02

Sample ID:	06-W-01_2	Filter Blank	06-BF-01_2	06-V-01_2					
					-				
Lab Sample ID:	144517.02	144517.03	144517.05	144517.07					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	6/4/15	6/4/15	6/5/15	6/6/15		Α	nalvsis		
Date Received:	6/11/15	6/11/15	6/11/15	6/11/15	Units	Date	Time	Method	Analys t
Chlorophyll a	0.7	< 0.5	0.7	0.7	mg/m³	06/22/15	15:00	10200H3	scw

Sample ID:	06-BF-01_2
Lab Sample ID:	144517.09
Matrix:	aqueous
Date Sampled:	6/10/15
Date Received:	6/11/15
Chlorophyll a	1.4

	Ana	lysis		
Units	Date	Time	Method A	nalyst
mg/m³	06/22/15	15:00	10200H3	SCW

Samples for Chlorophyll a were filtered in the field by the client.

QC REPORT

EAI ID#: 144517

Client: The Louis Berger Group, Inc.

Client Designation: Vernon, Wilder, Bellows Falls | 2004247.006.02

Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	5.0 (100 %R)	5.0 (100 %R) (0 RPD)	mg/L 6/16/15	90 - 110	20	353.2
TKN	< 0.5	11 (106 %R)	11 (105 %R) (1 RPD)	mg/L 6/19/15	90 - 111	20	4500N _{org} C/N
Total Phosphorus-P	< 0.002	0.046 (92 %R)	0.049 (97 %R) (5 RPD)	mg/L_6/18/15	90 - 110	20	365.1

Samples were analyzed within holding times unless noted on the sample results page.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.

Exceptions to the above statements are flagged or noted above or on the QC Narrative page.

*/! Flagged analyte recoveries deviated from the QA/QC limits.

Professional laboratory & drivere	JUN Eastern Analy		Quote #:	GWP OIL FUND BROWNFI	BEGIII ATORY PROGRAM: NPDES: R		PROJECT #: 2004247.006.02	SITE NAME: Vernon, by John &	. Ë-MAIL: mburak@louisberger.com / b	· FAX.	PHONE: 518-727-5453	CITY: Needham	ADDRESS: 117 Kendrick Street, Suit4 4	COMPANY: Louis Berger	PROJECT MANAGER: Bernward Hay/	PRESERVATIVE: H-HCL; N-HNO;; S-H,SO,; Na-I	PIATRIX: A-AIR; 3-SUE; 1948-UKUUNU VATER; 3 	Mirniy, A An. C Sou, CW Challing Warran C	~ E-10-39-90#	* 06-36-01-1 6	06-V-01-2 6	Cm y m 0 - 1	06-15-01-2 6	04-35-01-16	Filter Black C	0-11-1-1 G	6-2-2-6	SAMPLE I.D.		Page of	4 4
(W)	Cical, Inc. 25 CHENELL DRIVE C		P0 #:	ELD OTHER:	GP POTW STORMWATER	THER. CT River		allows Taills	hay@louisberger.com		Ext:	STATE: MA ZIP: 02494	00		Matthew Burak	NaOH; M-MEOH	W-SUNFACE VVALER; DVY-DRINRING VVALER;	W Cineser Waren DW Datumur Waren	holis 9:10	hidis 9:10	5/15-10:10/10.15 54 C	718/12 10:07/21/2/	15/15 1020/1028 SW C	15/15/10:20/10:20 501 C	Main Stage	2/1251:52/10:0752/C	4/15 4:58/10:07 SW C	START & FINISH MATRIX (SEE BELOW) GRAB/*COMPOSITE 5242 5242BTEX 5242 MTBE 5242 5242 MTBE 5242 MTBE		BOLD FIELD	PRINT
HITE: ORIGINAL GREEN: PROJECT MANA	ONCORD, NH 03301 TEL: 603,228.0525 1.800.287.05	RELINQUISHED BY: DATE: TIME:		- RELINOUISHED BY: DATE: TIME:	RELUNQUISHED BY DATE TIME	154:12 SIMP GAR GAW	SAMPLER(S):	MKR/SDR	PRESUMPTIVE CERTAINTY NO FAX E-MAIL	ELECTRONIC OF			- REPORTING LEVEL PRELINS: YES ON NO	- OA/OC REPORTING OPTI	DATE NEEDED;				•									1.4 DIOXANE 8021B BTEX HALOS 8015B GRO MAVPH 4270D 525 SVIDS EDB ABN A PN PAH TPH \$100 L1 L2 8015B DRO MAEPH PEST 508 PCB 508 PEST 509 PCB 508 PEST 509 PCB 508 PCB 3082 OIL & GREASE 1664 OIL & GREASE 1664 TPH 1664 TOLP 1311 ABN DISSOLVED METALS (LIST BELOW) TOTAL METALS (LIST BELOW) TOTAL METALS (LIST BELOW) TES		S REQUIRED. PLEASE CIRCLE REQUEST	+ CHAIN-OF-CUSTODY RECORD
GER)	25 FAX: 603.228.4591 E-MAIL: CUSTOMERSERVICE@E	RECEIVED BY: FIELD READINGS:	Suspected Contamination	RECEIVED BY: SITE HISTORY:	AFORINED BY:	11/11/11/11/11/11/11/11	11 de la	a custom	PDF / EQUIS		Notes: (ie: Special Detec	SAMPLES FIELD FI			TEMP Z. W or METALS: 8 RCRA					XXX		XXX		XX			XXX	Br CI F SQ NO, NO, NAMO BOD CBOD T. ALK. TKN NH3 MASS O. PHOS. PH T. RES. CHLORINE COD PHENOLS TOC DOC TOTAL CYANIDE TOTAL SULFIDE REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT INTABILITY TOTAL COLFORM E. COLI FECAL COLFORM ENTEROCIOCCI HETEROCINOPHIC PLATE COUNT TOTAL NITrogen	INORGANICS MICRO O	ED ANALYSIS.	
	AILABS.COM WWW.EAILABS.COM		N:				2/2/201	ker ,	s added per	-	TION LIMITS, BILLING INFO, IF DIFFERENT)	LTERED? LI YES KI NO			13 PP FE, MN PB, CU						X / Filed gigo M		×		XIANDING	X / Filmadal W.		Chlorophyll a # of Containers EOH VA WATES #		E	144517

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Bernward J. Hay The Louis Berger Group, Inc. 117 Kendrick Street, Suite 400 Needham, MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 144758 Client Identification: Vernon | 2004247.006.02 Date Received: 6/18/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

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- > : "greater than" followed by the reporting limit
- %R:%Recovery

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We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

7.13.15

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 144758

Client: The Louis Berger Group, Inc.

Client Designation: Vernon | 2004247.006.02

Temperature upon receipt (°C): Acceptable temperature range (°C): 0-6		1.6	Received on ice or cold packs (Yes/No): Υ								
Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)					
144758.01	06-W-01_1	6/18/15	6/11/15	aqueous		Adheres to Sample Acceptance Policy					
144758.02	06-W-01_2	6/18/15	6/11/15	aqueous		Adheres to Sample Acceptance Policy					
144758.03	06-V-01_1	6/18/15	6/12/15	aqueous		Adheres to Sample Acceptance Policy					
144758.04	06-V-01_2	6/18/15	6/12/15	aqueous		Adheres to Sample Acceptance Policy					
144758.05	06-V-01_1	6/18/15	6/17/15	aqueous		Adheres to Sample Acceptance Policy					
144758.06	06-V-01_2	6/18/15	6/17/15	aqueous		Adheres to Sample Acceptance Policy					

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples. References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

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www.eailabs.com | 800.287.0525 | customerservice@eailabs.com

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EAI ID#: 144758

Client: The Louis Berger Group, Inc. Client Designation: Vernon | 2004247.006.02

Sample ID:	06-W-01_1	06-V-01_1	06-V-01_1					
Lab Sample ID:	144758.0 1	144758.03	144758.05					
Matrix:	aqueous	aqueous	aqueous					
Date Sampled:	6/ 11 /15	6/12/15	6/17/15		A	nalvsis	i	
Date Received:	6/18/15	6/18/15	6/18/15	Units	Date	Tim	e Method	Analyst
Nitrate/Nitrite-N	0.14	0.13	0.13	mg/L	06/19/15	15:20	353.2	KD
TKN	< 0.5	< 0.5	< 0.5	mg/L	06/23/15	10:00	4500N _{org} C	/N SCW
Total Nitrogen	< 0.5	< 0.5	< 0.5	mg/L	06/29/15	16:00	4500 _{org} C/N	O3 SCW
Total Phosphorus-P	0.026	0.021	0.018	mg/L	06/30/15	13:51	365.1	SEL

Sample ID:	06-W-01_2	06-V-01_2	06-V-01_2					
Lab Sample ID:	144758.02	144758.04	144758.06					
Matrix:	aqueous	aqueous	aqueous					
Date Sampled:	6/11/15	6/12/15	6/17/15		Ana	lysis		
Date Received:	6/18/15	6/18/15	6/18/15	Units	Date	Time	Method A	nalyst
Chlorophyll a	1.1	0.8	1.1	mg/m ³	06/22/15	15:00	10200H3	SCW

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

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QC REPORT

EAI ID#: 144758

- . .

Client: The Louis Berger Group, Inc.

Client Designation: Vernon | 2004247.006.02

Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	5.0 (100 %R)	5.0 (99 %R) (1 RPD)	mg/L 6/19/15	90 - 110	20	353.2
TKN	< 0.5	10 (101 %R)	9.8 (98 %R) (3 RPD)	mg/L 6/23/15	90 - 111	20	4500N _{org} C/N
Total Phosphorus-P	< 0.005	0.30 (101 %R)	0.31 (102 %R) (1 RPD)	mg/L 6/30/15	90 - 110	20	365.1

Samples were analyzed within holding times unless noted on the sample results page.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.

Exceptions to the above statements are flagged or noted above or on the QC Narrative page.

*/! Flagged analyte recoveries deviated from the QA/QC limits.

Professional laboratory & drilling service	1 1 Eastern Anal	010TE #:	REGULATORY PROGRAM: NPDES	State: NE MA ME	BROLET #. 2004247.006.02	stre NAME. Vernon	FAX: F-MAII, mburak@louisberger.com	PHONE: 018-121-0403	CITY: Needham	ADDRESS: 117 Kendrick Street, Suit4	COMPANY: Louis Berger	PROJECT MANAGER: Bernward Ha	PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; N	MATRIX: A-AIR; S-SOIL; GW-GROUND WATER	06-V-01-2	1-10-1-90	16-10-2	06 V-01-1		5-10-1-30	16-1-01-1	-	06-10-01-2	1-10-M-40	SAMPLE I.D.		Page 1 of 1	
	lytical, Inc. 75 CHEN	P0 #:	RGP POTW STORMWATER	VT 0THER: CT River			/ bhay@louisberger.com	EXT.:	STATE: MA ZIP: 0	1 400		y/Matthew Burak	a-NaOH; M-MEOH	; SW-SURFACE WATER; DW-DRINKING W	66/12/15 10-30/10:35 SW	06/15/15 10:30/10:35 SW	100/17/18-10:10/	06/17/15 12:10/	-	66/12/15- 10:05/0:10 SW	06/12/15 10:05/10:10 SW		06/11/15 9:10/9:15 SW	16/11/12 9/10/4:12 SM	SAMPLING DATE/TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE/TIME MATRIX (SEE BELOW)	00		PRINT
(WHITE: ORIG	RELINQUIS	N-EINÇOD	Rei Waniis	RELINDING	SAMPLER(S):		PRESUMPT		2494 A	REPORTING		DATE N		ATER;	¢					C	0	•	·	O	GRAB/*COMPOSITE 524.2 524.2 STEX 524.2 MTBE 8260B 524 VTICs 1.4 DIOXANE 8021B BTEX HALOS 8015B GRO MAVPH 5270D 525 SVTICs EDB DBCP			CHAIN.
INAL GREEN: PROJ	HED BY: DATE:		and 6/18	HED BY: DATE:		אעם/פחם	TIVE CERTAINTY NO FAX	OR ELECT	B C IF YES: I	G LEVEL PRELIMS	DEDA	EEDED:			-										ABN A EN PAH TPH 8100 L1 L2 8015B DRO MAEPH PEST 805 PCB 608 PEST 8051A PCB 8082 OIL & GREASE 1564 TPH 1664 TCLP 1311 ABN METALS VOC PEST HERB	D. PLEASE CIRCLE I		-DE-CUSTONY RI
ect Manager)	TIME: RECEIVED BY: 1.800.287.0525 FAX: 603.2	IIII.	1458 ///	IN:55 At CA	21/2 81/9		(E-MAL POP EQUIS	RONIC OPTIONS	FAX OR PDF	YES OR NO		Темр		~		X X					X			XXXX	DISSOLVED METALS (LIST BELOW) TOTAL METALS (LIST BELOW) TS TSS TDS SPEC. CON. Br ci F SO, NO, NO, NO, NO, NO, NO, NO, NO, NO, NO,	METALS INOR		170RD
- - - - - - - - - - - - - - - - - - -	228 4591 E-Mail: custome	SUSPECTED	SITE HISTO	Men Mr-V		06-0	66-	NULES: (IE:	SAMPLE	VIEW NO UIHER MEI		I METALS		,							-		-		EXAMPLE IN IS EXAMPLE pH T. RES. CHLORINE COD PHENOLS TOC DOC TOTAL CYANIDE TOTAL SULFIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY TOTAL COLFORM FECAL COLFORM E. COLI FECAL COLFORM	GANICS Mi		RESET
	DINGS:	CONTAMINATION:	04/17/15 N:	1-01_2 Filter for	06/12/15 botto	1-01-2 / Filen	N 41 / 2 - 101 N	SPECIAL DETECTION LIMITS, BILLING	S FIELD FILTERED?			: 8 RCRA 13 PP FE	·		× 1	× /	*			× 1/.	X //		X /	X /	ENTEROCOCCI HETEROTROPHIC PLATE COUNT Total Nitrogen Chlorophyll a # of Containess		,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	14475
	VW.EAILABS.COM		Lotte	porsuld- Cery ~		al for vieway	icls n	- INEO-IF VIFFERENI)	here terretaria	×		E, MN PB, CU			Filened 6/17/15 17:43					HILD BUILD VICI			Filtowel 41/115 Vit		Notes Meoh Vial #		ن 4	.

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Bernward J. Hay The Louis Berger Group, Inc. 117 Kendrick Street, Suite 400 Needham , MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 145173 Client Identification: Vernon | 2004247.006.02 Date Received: 7/1/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

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We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

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Lorraine Olashaw, Lab Director

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SAMPLE CONDITIONS PAGE

EAI ID#: 145173

Client: The Louis Berger Group, Inc. Client Designation: Vernon | 2004247.006.02

Temperat Acceptable	temperature range (°C): 0-6	2.8		Receiv	red on ice or cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date Sampled	Sample % D Matrix Weig	ry ght Exceptions/Comments (other than thermal preservation)
145173.01	06-BF-01_1	7/1/15	6/18/15	aqueous	Adheres to Sample Acceptance Policy
145173.02	06-BF-01_2	7/1/15	6/18/15	aqueous	Adheres to Sample Acceptance Policy
145173.03	06-BF-01_1	7/1/15	6/29/15	aqueous	Adheres to Sample Acceptance Policy
145173.04	06-W-01_1	7/1/15	6/19/15	aqueous	Adheres to Sample Acceptance Policy
145173.05	06-W-01_2	7/1/15	6/19/15	aqueous	Adheres to Sample Acceptance Policy
145173.06	06-BF-01_2	7/1/15	6/29/15	aqueous	Adheres to Sample Acceptance Policy
145173.07	06-V-01_1	7/1/15	6/27/15	aqueous	Adheres to Sample Acceptance Policy
145173.08	06-V-01_2	7/1/15	6/27/15	aqueous	Adheres to Sample Acceptance Policy
145173.09	06-W-01_1	7/1/15	6/28/15	aqueous	Adheres to Sample Acceptance Policy
145173.1	06-W-01_2	7/1/15	6/28/15	aqueous	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

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4) Hach Water Analysis Handbook, 2nd edition, 1992 Eastern Analytical, Inc.

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2.EX



EAI ID#: 145173

Client: The Louis Berger Group, Inc. Client Designation: Vernon | 2004247.006.02

Sample ID: 06-BF-01_1 06-BF-01_1 06-W-01_1 06-V-01_1 Lab Sample ID: 145173.01 145173.03 145173.04 145173.07 Matrix: aqueous aqueous aqueous aqueous Date Sampled: 6/18/15 6/29/15 6/19/15 6/27/15 Analysis Date Received: 7/1/15 7/1/15 7/1/15 7/1/15 Date Time Method Ar Nitrate/Nitrite-N 0.10 0.13 0.09 0.09 mg/L 07/07/15 14:46 353.2 TKN < 0.5 < 0.5 < 0.5 < 0.5 mg/L 07/13/15 12:36 4500N _{org} C/N Total Nitrogen < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5										
Lab Sample ID: 145173.01 145173.03 145173.04 145173.07 Matrix: aqueous aqu	Sample ID:	06-BF-01_1	06-BF-01_1	06-W-01_1	06-V-01_1					
Matrix: aqueous aqueous <t< td=""><td>Lab Sample ID:</td><td>145173.01</td><td>145173.03</td><td>145173.04</td><td>145173.07</td><td></td><td></td><td></td><td></td><td></td></t<>	Lab Sample ID:	145173.01	145173.03	145173.04	145173.07					
Date Sampled: 6/18/15 6/29/15 6/19/15 6/27/15 Analysis Date Received: 7/1/15 7/1/15 7/1/15 Units Date Time Method Ar Nitrate/Nitrite-N 0.10 0.13 0.09 0.09 mg/L 07/07/15 14:46 353.2 TKN < 0.5 < 0.5 < 0.5 < 0.5 mg/L 07/13/15 12:36 4500N _{org} C/N Total Nitrogen < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 <	Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Received: 7/1/15 7/1/15 7/1/15 7/1/15 Units Date Time Method Ar Nitrate/Nitrite-N 0.10 0.13 0.09 mg/L 07/07/15 14:46 353.2 TKN < 0.5	Date Sampled:	6/18/15	6/29/15	6/19/15	6/27/15		A	nalvsis		
Nitrate/Nitrite-N 0.10 0.13 0.09 mg/L 07/07/15 14:46 353.2 TKN < 0.5	Date Received:	7/1/15	7/1/15	7/1/15	7/1/15	Units	Date	Time	e Method	Analyst
TKN < 0.5 < 0.5 < 0.5 < 0.5 mg/L 07/13/15 12:36 4500N _{org} C/N Total Nitrogen < 0.5	Nitrate/Nitrite-N	0.10	0.13	0.09	0.09	mg/L	07/07/15	14:46	353.2	KD
Total Nitrogen < 0.5 < 0.5 < 0.5 < 0.5 mg/L 07/14/15 9:45 4500 g/c/NO3 Total Phosphorus-P 0.012 0.036 0.011 0.019 mg/L 07/15/15 12:07 365.1	TKN	< 0.5	< 0.5	< 0.5	< 0.5	mg/L	07/13/15	12:36	4500N _{org} C	/N SEL
Total Phosphorus-P 0.012 0.036 0.011 0.019 mg/L 07/15/15 12:07 365.1	Total Nitrogen	< 0.5	< 0.5	< 0.5	< 0.5	mg/L	07/14/15	9:45	4500 _{oro} C/N	O3 SEL
	Total Phosphorus-P	0.012	0.036	0.011	0.019	mg/L	07/15/15	12:07	365.1	SEL

Sample ID:	06-W-01_1							
Lab Sample ID:	145173.09							
Matrix:	aqueous							
Date Sampled:	6/28/15				Ana	alysis		
Date Received:	7/1/15			Units	Date	Time	Method A	nalyst
Nitrate/Nitrite-N	0.09			mg/L	07/07/15	14:52	353.2	KD
TKN	< 0.5			mg/L	07/13/15	12:36	4500N _{org} C/N	SEL
Total Nitrogen	< 0.5			mg/L	07/14/15	9:45	4500 _{ora} C/NO3	3 SEL
Total Phosphorus-P	0.018			mg/L	07/15/15	12:15	365.1	SEL

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

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EAI ID#: 145173

Client: The Louis Berger Group, Inc. Client Designation: Vernon | 2004247.006.02

Sample ID:	06-BF-01_2	06-W-01_2	06-BF-01_2	06-V-01_2					
Lab Sample ID:	145173.02	145173.05	145173.06	145173.08					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	6/18/15	6/19/15	6/29/15	6/27/15		Aı	nalysis		
Date Received:	7/1/15	7/1/15	7/1/15	7/1/15	Units	Date	Time	Method A	Analyst
Chlorophyll a	2.2	1.5	1.5	1.1	mg/m ³	07/01/15	16:00	10200H3	SCW

Sample ID:	06-W-01_2
Lab Sample ID:	145173.1
Matrix:	aqueous
Date Sampled:	6/28/15
Date Received:	7/1/15
Chlorophyll a	1.5

Analysis											
Units	Date	Time	Method A	nalyst							
mg/m³	07/01/15	16:00	10200H3	SCW							

3

QC REPORT

EAI ID#: 145173

Client: The Louis Berger Group, Inc.

Client Designation: Vernon | 2004247.006.02

				Date of			
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	5.0 (100 %R)	5.0 (100 %R) (0 RPD)	mg/L 7/7/15	90 - 110	20	353.2
TKN	< 0.5	10 (100 %R)	10 (101 %R) (1 RPD)	mg/L 7/13/15	90 - 111	20	4500N _{org} C/N
Total Phosphorus-P	< 0.002	0.050 (99 %R)	0.052 (105 %R) (6 RPD)	mg/L 7/15/15	90 - 110	20	365.1

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Samples were analyzed within holding times unless noted on the sample results page. Instrumentation was calibrated in accordance with the method requirements. The method blanks were free of contamination at the reporting limits. The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria. Exceptions to the above statements are flagged or noted above or on the QC Narrative page.

*/! Flagged analyte recoveries deviated from the QA/QC limits.

06-W-00-L 06-B SAMPLE 06-W-00-L SAMPLE SAMPLE 07-W-00-W-00-L SAMPLE SAMPLE 08-W-00-W-00-L SAMPLE SAMPLE 08-W-00-W-00-W-00-L SAMPLE SAMPLE 09-W-00-W-00-W-00-W-00-W-00-W-00-W-00-W
Single State Single State Single State Single State



Bernward J. Hay The Louis Berger Group, Inc. 117 Kendrick Street, Suite 400 Needham, MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 145559 Client Identification: Vernon, Bellows Falls, Wilder Date Received: 7/10/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit

%R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

7/24/15 Lorraine Olashaw, Lab Directo

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE



EAI ID#: 145559

Client: The Louis Berger Group, Inc. Client Designation: Vernon, Bellows Falls, Wilder

Temperat	ure upon receipt (°C): emperature range (°C): 0-6	4.6 Received on ice or cold packs (Yes/No): Υ								
Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)				
145559.01	06-BF-01_1	7/10/15	7/7/15	aqueous		Adheres to Sample Acceptance Policy				
145559.02	06-BF-01_2	7/10/15	7/7/15	aqueous		Adheres to Sample Acceptance Policy				
145559.03	06-W-01_1	7/10/15	7/8/15	aqueous		Adheres to Sample Acceptance Policy				
145559.04	06-W-01_2	7/10/15	7/8/15	aqueous		Adheres to Sample Acceptance Policy				
145559.05	06-V-011	7/10/15	7/9/15	aqueous		Adheres to Sample Acceptance Policy				
145559.06	06-V-01_2	7/10/15	7/9/15	aqueous		Adheres to Sample Acceptance Policy				

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

Eastern Analytical, Inc.

www.eailabs.com | 800.287.0525 | customerservice@eailabs.com

1

LABORATORY REPORT

EAI ID#: 145559

Client: The Louis Berger Group, Inc. Client Designation: Vernon, Bellows Falls, Wilder

Sample ID:	06-BF-01_1	06-W-01_1	06-V-01_1					
Lab Sample ID:	145559.01	145559.03	145559.05					
Matrix:	aqueous	aqueous	aqueous					
Date Sampled:	7/7/15	7/8/15	7/9/15		ıA	alysis		
Date Received:	7/10/15	7/10/15	7/10/15	Units	Date	Time	e Method	Analyst
Nitrate/Nitrite-N	0.13	0.12	0.13	mg/L	07/14/15	15:35	353.2	KD
TKN	0.6	< 0.5	< 0.5	mg/L	07/17/15	11:35	4500N _{org} C	/N SEL
Total Nitrogen	0.73	< 0.5	< 0.5	mg/L	07/17/15	16:10	4500 _{org} C/N	O3 SEL
Total Phosphorus-P	0.014	0.014	0.012	mg/L	07/20/15	13:30	365.1	SEL

Sample ID:	06-BF-01_2	06-W-01_2	06-V-01_2					
Lab Sample ID:	145559.02	145559.04	145559.06					
Matrix:	aqueous	aqueous	aqueous					
Date Sampled:	7/7/15	7/8/15	7/9/15		Ana	alysis		
Date Received:	7/10/15	7/10/15	7/10/15	Units	Date	Time	Method A	nalyst
Chlorophyll a	< 0.5	1.1	1.1	mg/m ³	07/10/15	16:30	10200H3	SCW

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

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QC REPORT

EAI ID#: 145559

Client: The Louis Berger Group, Inc.

Client Designation: Vernon, Bellows Falls, Wilder

				Date of			
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	4.9 (98 %R)	4.9 (98 %R) (0 RPD)	mg/L 7/14/15	90 - 110	20	353.2
TKN	< 0.5	11 (106 %R)	10 (100 %R) (6 RPD)	mg/L 7/17/15	90 - 111	20	4500N _{org} C/N
Total Phosphorus-P	< 0.002	0.053 (105 %R)	0.055 (109 %R) (4 RPD)	mg/L 7/20/15	90 - 110	20	365.1

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Samples were analyzed within holding times unless noted on the sample results page. Instrumentation was calibrated in accordance with the method requirements. The method blanks were free of contamination at the reporting limits. The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria. Exceptions to the above statements are flagged or noted above or on the QC Narrative page. */! Flagged analyte recoveries deviated from the QA/QC limits.

Professional laboratory & drilling services	A malytical -	Onorr 4. Die Fund, BROWARIELD ON OTHER:	REGULATORY PROGRAM: NPDES: RGP POTW STORM	TATE (NH) MA ME (VR) OTHER	STE NAME: Vernen bellens Feils (4/1)	E-MAIL Maburate Clouis burg r. (0	PHONE 578/727-5453	CITY: Liter le STATE: Mt	ADDRESS: 139 West St.	PROJECT MANAGER: BACTIONED HEY Mai	PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; Na-NaOH; M-MEOH	MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER;		-	02-v-01-2 7/2/15 11:00	06-1-01-1 1/9/15 1100	0/2-W-01-12 7/8/15 151	Rh-W-01 1 7/8/5 15	06-138-01-22 7/7/15 13/2	26-13F-01-1 7/7/15 12 10	*IF COMPOS INDICATE BO SAMPLE I.D. START & FIN DATE/TIM	Samplin Date / Ti		Page of /	•
25 CHENELL DRIVE CONCORD, I	Relino	RELIN	ATER OR	- Mile	SAMPLER	PRESU	EXT.:) // //P: A	QA/Q	they Burek DATE	· · · · · · · · · · · · · · · · · · ·	W-DRINKING WATER;			JAM Su C	113 AUSCU (in the second se	St Stu C	Sw C		때 앞 코 큐 Matrix (sef Grab/*Co 524.2 btex 524. 8260B 624 VTI 1. 4 Dioxane 8021B btex 1 8015B GR0 MAVI	E BELOW) MPOSITE 2 MTBE ONLY ICS HALOS	Voc	BOLD FIELDS REQU	CH
NH 03301 TEL: 603,228,0525 RIGINAL GREEN: PROJ	QUISHED BY: DATE:	QUISHED BY: DATE:	VUSHED BY: DATE:	8 7/2/2 - 2/2/5 B	(S): MKS SDB	MPTIVE CERTAINTY NO FAX	OR ELECT	B C IF YES:	TING LEVEL PREIMO												8270D 625 SVTIC ABN A BN TPH8100 LI I 8015B DRO MAEI PEST 608 PCB PEST 8081A PCB OIL & GREASE 1664 TCLP 1311 ABN VOC PEST HER	55 EDB DBCP PAH 12 PH 608 8082 TPH 1664 Metals B	SVOC read	IRED. PLEASE CIRCLE	IN-OF-CUSTODY RI
1.800.287.0525 Fax: 603.228. ECT MANAGER)	TIME: RECEIVED BY:	RECEIVED BY:	Aller Pollogan	CM Werterin	and the	E-MAIL PDF Equis	RONIC OPTIONS	FAX OR PDF	VFC OF NO ICE?	TEMP. C						XX		XX		X	DISSOLVED METALS (LI TOTAL METALS (LIST B TS TSS TDS BR CI F SI NO ₂ NO ₃ NO ₃ BOD CBOD T. TKN NH ₃ T. P	ST BELOW) ELOW) SPEC. CON. 24 NOZZ ALK. HOSZ O. PHOS.	METALS INORG	REQUESTED ANALYSIS	ECORD
4591 E-Mail: customerservice@eailabs.com ww	Field Readings:	Suspected Contamination:	SITE HISTORY:	20/01×1/0/			Notes: (ie: Special Detection Limits, Billing	SAMPLES FIELD FILTERED?	ES NO OTHER METALS:	METALS: 8 RCRA 13 PP FE,					×	X	X	X	X	· · ·	pH T. Res. Chlore COD Phenols Total Cvanide Tota Reactive Cvanide F Flashpoint Ignitab Total Colform E. Fecal Colform E. Fecal Colform Enterococci Heterotrophic Plate Tofac I IV i Ch Icacphy # of Containers	ne TOC DOC AL SULFIDE REACTIVE SULFIDE HILITY COLI COUNT THEREM	NICS MICROLE JEIEM	145559	Contracting Dury
V.EAILABS.COM							fo, If Different)	IN NO		ЧN Рв, Cu					21/2/1 Write		1242 27 1		Here 2 19/15		Notes OH Vial #			4	



Bernward J. Hay The Louis Berger Group, Inc. 117 Kendrick Street, Suite 400 Needham , MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 145878 Client Identification: TransCanada Water Quality Date Received: 7/20/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

orieniól

Lorraine Olashaw, Lab Director

<u>8.3.(5</u> Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 145878

Client: The Louis Berger Group, Inc. (MA) Client Designation: TransCanada Water Quality

Temperate Acceptable te	ure upon receipt (°C): 1. emperature range (°C): 0-6	4		Re	eceived	on ice or cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
145878.01	06-BF-01_1	7/20/15	7/15/15	aqueous		Adheres to Sample Acceptance Policy
145878.02	06-BF-01_2	7/20/15	7/15/15	aqueous		Adheres to Sample Acceptance Policy
145878.03	06-W-01_1	7/20/15	7/16/15	aqueous		Adheres to Sample Acceptance Policy
145878.04	06-W-01_2	7/20/15	7/16/15	aqueous		Adheres to Sample Acceptance Policy
145878.05	06-V-01_1	7/20/15	7/17/15	aqueous		Adheres to Sample Acceptance Policy
145878.06	06-V-01_2	7/20/15	7/17/15	aqueous		Adheres to Sample Acceptance Policy
145878.07	Replicate-1_1	7/20/15		aqueous		No sample date and time given
145878.08	Replicate-1_2	7/20/15		aqueous		No sample date and time given

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

Eastern Analytical, Inc.

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EAI ID#: 145878

Client: The Louis Berger Group, Inc. (MA) Client Designation: TransCanada Water Quality

Sample ID:	06-BF-01_1	06-W-01_1	06-V-01_1	Replicate-1_1					
Lab Sample ID:	145878.01	145878.03	145878.05	145878.07					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	7/15/15	7/16/15	7/17/15			A	nalysis		
Date Received:	7/20/15	7/20/15	7/20/15	7/20/15	Units	Date	Time	Method	Analyst
Nitrate/Nitrite-N	0.3	0.3	0.14	0.3	mg/L	07/29/15	17:35	300.0	KD
TKN	< 0.5	< 0.5	< 0.5	< 0.5	mg/L	07/29/15	12:15	4500N _{org} C/	'N SEL
Total Nitrogen	< 0.5	< 0.5	< 0.5	< 0.5	mg/L	07/31/15	12:15	4500 _{org} C/N	D3 SEL
Total Phosphorus-P	0.009	0.009	0.009	0.012	mg/L	07/31/15	12:20	365.1	SEL

Sample ID:	06-BF-01_2	06-W-01_2	06-V-01_2	Replicate-1_2					
Lab Sample ID:	145878.02	145878.04	145878.06	145878.08					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	7/15/15	7/16/15	7/17/15			An	alysis		
Date Received:	7/20/15	7/20/15	7/20/15	7/20/15	Units	Date	Time	Method A	nalyst
Chlorophyll a	2.9	1.5	2.9	2.9	mg/m ³	07/20/15	15:30	10200H3	SCW

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

QC REPORT



EAI ID#: 145878

Client: The Louis Berger Group, Inc. (MA)

Client Designation: TransCanada Water Quality

Parameter Name	Blank	LCS	LCSD	Date of Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	3.9	3.94	mg/L 7/29/15			300.0
TKN	< 0.5	9.8 (98 %R)	11 (105 %R) (7 RPD)	mg/L 7/29/15	90 - 111	20	4500N _{org} C/N
Total Phosphorus-P	< 0.002	0.050 (100 %R)	0.051 (102 %R) (2 RPD)	mg/L 7/31/15	90 - 110	20	365.1

Samples were analyzed within holding times unless noted on the sample results page.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.

Exceptions to the above statements are flagged or noted above or on the QC Narrative page.

*/! Flagged analyte recoveries deviated from the QA/QC limits.

Drofessional laboratory & drilling services	Quore #:	REGULATORY PROGRAM: NPDES: RGP GWP. OIL FUND. BROWNFIELD OR (SME (NH) MA ME (TT)	STE NAME: ICAnslande Lici	E-MAIL: 100 burge & Blow's longs	PHONE (518) (727-5453	ADDRESS: 139 West St.	PROJECT MANAGER: 1111 100 1/10	Mulling Br	PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; Na-NaOH	MATRIX: A-AIR; S-SOH; GW-GROUND WATER; SW-SU	Replicate -1-2	Modicate-1-1		N6-V-01-2 10/1:	06-V-01-1 12/17	N/ W-01-2 7/16	06-W-01_1 7/161	06-05-01-2 5/15	16-BF-01-1 7/15	Sample I.D. Strange			D
25 CHENELL	PO #:	POTW STORMWATER OR OTHER:	OTHER:	to Brakity	r. Cox	EXT.:	STATE: MA IP: 0/0'	Lonury (22	10 01	; M-MEOH	RFACE WATER; DW-DRINKING WATER;	1 Sul C	- Sw c	111.00	11511:20/1:36 Sul C	15 11.20/1:30 SW C	7 MS 140/201 31	7 M3 111:01/42:01 511	15 11: Stalling Sul C	15 11:54/11:59 5W C	SAMPLING ATE/TIME FCOMPOSITE, DICATE BOTH DATE/TIME MATRIX (SEE BELOW) GRAB/*COMPOSITE		Bold	
(WHITE: ORIGINAL	REZINQUISHED B	WELLINQUISHED B	20/11/	SAMPLER(S): MKB	PRESUMPTIVE CE	OR (Reporting Leve	DATE NEEDE	-					 •							524.2 524.2 BTEX 524.2 MTBE ONLY 8260B 624 VTICs 1, 4 Dioxane 8021B BTEX HALOS 8015B GRO MAVPH 8270D 625 SVTICs EDB DBCI ABN A BN PAH TPH8100 L1 L2		FIELDS REQUIRED. P	Chain-of-
Tel: 603.228.0525 1.800.28	V: DATE TIME	Y: DATE: IME:	1/13/15 19:00	50B, .	RTAINTY NO FAX E-MAI	ELECTRONIC	C IF VEC - FAY OR		0							-					8015B DRO MAEPH PEST 608 PCB 608 PEST 8081A PCB 8082 OIL & GREASE 1664 TPH 1664 TCLP 1311 ABN METALS VOC VOC PEST DISSOLIVED METALS (LIST BELOW) TOTAL METALS (LIST BELOW)		LEASE CIRCLE REQUI	CUSTODY RECOR
17.0525 Fax: 603.228.4591 anager)	RECEIVED BY:	NECEVED BY:	3		L PDF Equis	DPTIONS	PDE	TEMP. 1. 4					×			XX		X X		× ×	TS TSS TDS SPEC. CON. BR CI F 504 NO2 NO3 NO3NO2 BOD CBOD T. ALK. TKN NH3 T. PHOS: O. PHOS PH T. RES. CHLORINE		ested Analysis.	õ
E-Mail: customerservice@eail	CLUA Suspected Contamination:	SITE HISTORY:		74		NOTES: (IE: SPECIAL DETECTIO	NO OTHER FIELD FILT	C METALS: 8 RCRA					×			X		X	X	X	COD PRENOLS TOC DOC Total Cianide Total Sulfide Reactive Cianide Reactive Sulfide Flashfoint Ignitability Total Coliform E. Coli Fecal Coliform Enterotocci Heterotrophic Plate Count Total Marcong Culseroh II. Co			
ABS.COM WWW.EAILABS.COM						n Limits, Billing Info, If Different)	RED? YES NO	13 PP FE, MN PB, CU							Fitend S/1/		Altane 7/14/15	~	1 Filend Wight		# OF CONTAINERS MEON VIA WEON VIA VIA VIA VIA VIA VIA VIA VIA	JER I	4	45878



Bernward J. Hay The Louis Berger Group, Inc. (MA) 117 Kendrick Street, Suite 400 Needham, MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 146243 Client Identification: Vernon, Bellows Falls, Wilder TransCanada Water Quality Date Received: 7/29/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

Date

of pages (excluding cover letter)

Mr

SAMPLE CONDITIONS PAGE

EAI ID#: 146243

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Temperat Acceptable f	ure upon receipt (°C): emperature range (°C): 0-6	3.4		Re	eceived	on ice or cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
146243.01	06-V-01_1	7/29/15	7/22/15	aqueous		Adheres to Sample Acceptance Policy
146243.02	06-V-01_2	7/29/15	7/22/15	aqueous		Adheres to Sample Acceptance Policy
146243.03	06-BF-01_1	7/29/15	7/23/15	aqueous		Adheres to Sample Acceptance Policy
146243.04	06-BF-01_2	7/29/15	7/23/15	aqueous		Adheres to Sample Acceptance Policy
146243.05	06-W-01_1	7/29/15	7/24/15	aqueous		Adheres to Sample Acceptance Policy
146243.06	06-W-01_2	7/29/15	7/24/15	aqueous		Adheres to Sample Acceptance Policy
146243.07	Replicate-2_1	7/29/15		aqueous		Adheres to Sample Acceptance Policy Date sampled not provided.
146243.08	Replicate-2_2	7/29/15		aqueous		Adheres to Sample Acceptance Policy Date sampled not provided.

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992 Eastern Analytical, Inc.

www.eailabs.com | 800.287.0525 | customerservice@eailabs.com

EAI ID#: 146243

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Sample ID:	06-V-01_1	06-BF-01_1	06-W-01_1	Replicate-2_1					
Lab Sample ID:	146243.01	146243.03	146243.05	146243.07					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	7/22/15	7/23/15	7/24/15			Ai	nalvsis		
Date Received:	7/29/15	7/29/15	7/29/15	7/29/15	Units	Date	Time	Method	Analysi
Nitrate/Nitrite-N	0.14	0.14	0.11	0.16	mg/L	08/04/15	2:23	300.0	KD
TKN	0.9	< 0.5	< 0.5	0.5	mg/L	08/04/15	11:45	4500N _{org} C/	'N SEL
Total Nitrogen	1.04	< 0.5	< 0.5	.66	mg/L	08/05/15	10:45	4500 _{org} C/N	D3 SEL
Total Phosphorus-P	0.011	0.019	0.014	0.012	mg/L	07/31/15	12:36	365.1	SEL

Sample ID:	06-V-01_2	06-BF-01_2	06-W-01_2	Replicate-2_2					
Lab Sample ID:	146243.02	146243.04	146243.06	146243.08					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	7/22/15	7/23/15	7/24/15			An	alysis		
Date Received:	7/29/15	7/29/15	7/29/15	7/29/15	Units	Date	Time	Method A	nalyst
Chlorophyll a	1.1	3.6	0.6	1.1	mg/m ³	08/03/15	15:00	10200H3	SCW

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations. Nitrate/Nitrite: The matrix spike and matrix spike duplicate analyzed on sample "Replicate-2_1" exhibited recoveries below the acceptance criteria which may indicate a matrix interference.

QC REPORT

EAI ID#: 146243

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

				Date of			
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	4.0 (99 %R)	4.0 (100 %R) (1 RPD)	mg/ L 8/4/15	90 - 110	20	300.0
TKN	< 0.5	10 (103 %R)	9.9 (99 %R) (4 RPD)	mg/ L 8/4/15	90 - 111	20	4500N _{org} C/N
Total Phosphorus-P	< 0.002	0.050 (100 %R)	0.051 (102 %R) (2 RPD)	mg/ L 7/31/15	90 - 110	20	365.1

Samples were analyzed within holding times unless noted on the sample results page. Instrumentation was calibrated in accordance with the method requirements. The method blanks were free of contamination at the reporting limits. The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria. Exceptions to the above statements are flagged or noted above or on the QC Narrative page. */! Flagged analyte recoveries deviated from the QA/QC limits.

LUSTOMERSERVICE@EAILABS.COM WWW.EAILABS.COM	ا 3.228,4591 E-Mail: د 1	325 FAX: 6	800.287.03 CT MAN	525 I. Proje	.228.0	GR:	н <u>н</u> н	H 0330	ORD. N			VELL [5 CHE	rtical, Inc. 2	MARASTERN Analy Messional laboratory & drilling services	prof
TELD READINGS:	BY:	Received	Time:		DATE:		BY:	JISHED	LINO	25				P0 #:	DTE #:	Quo
USPECTED CONTAMINATION:	- B	BECEIVED	IME:		DATE	4	°®Y:	JISHEE	<u>cinq</u>	 TX					OVYI, VILIUND, DAVYNEI	,
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		PDECEQ	E-MAIL	No Fax .		AINT	CERT	PTIVE	ESUM	PR				ugy.con	HIL: Paburely Olovist	E-M
		E Star	ONIC OPT	ELECTR			/-	0R		-						Fax.
VOTES: //E: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT)			VX OR PDF	F YES: F		C			A		v V		ZIP:	STATE: 1444	1: 1+C-012 7-54	CITY:
	CE? (TES) NO	SNO	Yes or No	REPORT		1		J.	PORT	z Q	°(2		A	MESS: 13, 5, w-s4 St.	ADDI
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						-	-				 			-NaOH; M-MEOH	eservative: H-HCL; N-HNO ₃ ; S-H ₂ SO ₄ ; Na	PRE
· ·												ATER;	NUNG W	SW-SURFACE WATER; DW-DRI	ITRIX: A-AIR; S-SOIL; GW-GROUND WATER;	MAT
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FLASHPOINT TOTAL COLLFORT FECAL COLLFORT FECAL COLLFORT FECAL COLLFORT FECAL COLLFORT FECAL COLLFORT FECAL COLLFORT HETEROTROPHIC TGACI Chilcrec # OF CONTAIN HEOLOGY	TKN NH3 pH T. Res COD Phen Total Cyanide Reactive Cyanide	BR CI NO ₂ NO ₃ BOD CBO	TOTAL METALS	TCLP IBII VOC PEST	OIL & GREASE	PEST 608	TPH8100	8270D 625 Abn A	8015B GRO	8021B BT	524.2 524.2 BTEX 8260B 624	Grab/*	Matrix	INDICATE BOTH START & FINISH DATE / TIME	Sample I.D.	<u> </u>
IGNITABILITY A E. COLI 1 PLATE COUNT NSAFESON PLAYIL- CA ERS	T. PHOS O. F CHLORINE OLS TOC DOC TOTAL SULFIDE	F SQ NO ₃ NO ₂ D T. ALK.	(LIST BELOW)	ABN METALS - HERB	PLB 8082 1664 TPH 1664	PCB 608		SVTICs EDB D <u>BN PAH</u>	MAVPH	EX HALOS	524.2 MTBE OWLY VTICs	*Composit	(SEE BELOV	SAMPLING DATE/TIME *IF COMPOSITE,		<u></u>
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Bernward J. Hay The Louis Berger Group, Inc. (MA) 117 Kendrick Street, Suite 400 Needham, MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 146636 Client Identification: Vernon, Bellows Falls, Wilder TransCanada Water Quality Date Received: 8/6/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

8/17/15 Lorraine Olashaw, Lab Directo

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

Sample % Dry

EAI ID#: 146636

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Date

8/6/15

8/5/15

Date

Temperature upon receipt (°C):	0
Acceptable temperature range (°C): 0-6	

06-BF-01 2

146636.1

Received on ice or cold packs (Yes/No): Y

Adheres to Sample Acceptance Policy

Lab ID	Sample ID	Received	Sampled	Matrix Weight	Exceptions/Comments (other than thermal preservation)
146636.01	06-BF-01_1	8/6/15	7/29/15	aqueous	Adheres to Sample Acceptance Policy
146636.02	06-BF-01_2	8/6/15	7/29/15	aqueous	Adheres to Sample Acceptance Policy
146636.03	06-W-01_1	8/6/15	7/30/15	aqueous	Adheres to Sample Acceptance Policy
146636.04	06-W-01_2	8/6/15	7/30/15	aqueous	Adheres to Sample Acceptance Policy
146636.05	06-V-01_1	8/6/15	7/31/15	aqueous	Adheres to Sample Acceptance Policy
146636.06	06-V-01_2	8/6/15	7/31/15	aqueous	Adheres to Sample Acceptance Policy
146636.07	06-V-01_1	8/6/15	8/4/15	aqueous	Adheres to Sample Acceptance Policy
146636.08	06-V-01_2	8/6/15	8/4/15	aqueous	Adheres to Sample Acceptance Policy
146636.09	06-BF-01_1	8/6/15	8/5/15	aqueous	Adheres to Sample Acceptance Policy

aqueous

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

Eastern Analytical, Inc.

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M

EAI ID#: 146636

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Sample ID:	06-BF-01_1	06-W-01_1	06-V-01_1	06-V-01_1		:			
Lab Sample ID:	146636.01	146636.03	146636.05	146636.07					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	7/29/15	7/30/15	7/31/15	8/4/15		Aı	nalysis		
Date Received:	8/6/15	8/6/15	. 8/6/15	8/6/15	Units	Date	Time	e Method	Analyst
Nitrate/Nitrite-N	0.13	0.14	0.12	0.12	mg/L	08/12/15	12:14	300.0	KD
TKN	< 0.5	0.6	0.7	0.6	mg/L	08/11/15	11:34	4500N _{org} C/	'N SEL
Total Nitrogen	< 0.5	0.74	0.82	0.72	mg/L	08/13/15	15:00	4500 _{org} C/N	O3 SEL
Total Phosphorus-P	0.009	0.022	0.009	0.009	mg/L	08/10/15	11:31	365.1	SEL

Sample ID:	06-BF-01_1	
l ab Sample ID:	146636.09	
Matrice	140000.00	
watrix:	aqueous	
Date Sampled:	8/5/15	
Date Received:	8/6/15	
Nitrate/Nitrite-N	0.13	
TKN	0.5	
Total Nitrogen	0.63	
Total Phosphorus-P	0.006	

Analysis											
Units	Date	Time	Method A	nalyst							
mg/L	08/12/15	15:36	300.0	KD							
mg/L	08/11/15	11:34	4500N _{org} C/N	SEL							
mg/L	08/13/15	15:00	4500 _{org} C/NO	3 SEL							
mg/L	08/10/15	11:38	365.1	SEL							

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

EAI ID#: 146636

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

06-BF-01_2	06-W-01_2	06-V-01_2	06-V-01_2					
146636.02	146636.04	146636.06	146636.08					
aqueous	aqueous	aqueous	aqueous					
7/29/15	7/30/15	7/31/15	8/4/15		A	nalysis		
8/6/15	8/6/15	8/6/15	8/6/15	Units	Date	Time	Method	Analyst
4.6	2.8	2.4	4.6	mg/m³	08/10/15	12:00	10200H3	SCW
	06-BF-01_2 146636.02 aqueous 7/29/15 8/6/15 4.6	06-BF-01_2 06-W-01_2 146636.02 146636.04 aqueous aqueous 7/29/15 7/30/15 8/6/15 8/6/15 4.6 2.8	06-BF-01_2 06-W-01_2 06-V-01_2 146636.02 146636.04 146636.06 aqueous aqueous aqueous 7/29/15 7/30/15 7/31/15 8/6/15 8/6/15 8/6/15	06-BF-01_2 06-W-01_2 06-V-01_2 06-V-01_2 146636.02 146636.04 146636.06 146636.08 aqueous aqueous aqueous aqueous 7/29/15 7/30/15 7/31/15 8/4/15 8/6/15 8/6/15 8/6/15 8/6/15 4.6 2.8 2.4 4.6	06-BF-01_2 06-W-01_2 06-V-01_2 06-V-01_2 146636.02 146636.04 146636.06 146636.08 aqueous aqueous aqueous aqueous 7/29/15 7/30/15 7/31/15 8/4/15 8/6/15 8/6/15 8/6/15 Units 4.6 2.8 2.4 4.6 mg/m³	06-BF-01_2 06-W-01_2 06-V-01_2 06-V-01_2 146636.02 146636.04 146636.06 146636.08 aqueous aqueous aqueous 7/29/15 7/30/15 7/31/15 8/4/15 8/6/15 8/6/15 8/6/15 8/6/15 Date 4.6 2.8 2.4 4.6 mg/m³ 08/10/15	06-BF-01_2 06-W-01_2 06-V-01_2 06-V-01_2 146636.02 146636.04 146636.06 146636.08 aqueous aqueous aqueous 7/29/15 7/30/15 7/31/15 8/4/15 8/6/15 8/6/15 8/6/15 8/6/15 4.6 2.8 2.4 4.6 mg/m³ 08/10/15 12:00	06-BF-01_2 06-W-01_2 06-V-01_2 06-V-01_2 146636.02 146636.04 146636.06 146636.08 aqueous aqueous aqueous 7/29/15 7/30/15 7/31/15 8/4/15 8/6/15 8/6/15 8/6/15 Units Date 4.6 2.8 2.4 4.6 mg/m³ 08/10/15 10200H3

Sample ID:	06-BF-01_2							
Lab Sample ID:	146636.1							
Matrix:	aqueous							
Date Sampled:	8/5/15				Ana	alysis		
Date Received:	8/6/15			Units	Date	Time	Method A	nalyst
Chlorophyll a	3.9		·	mg/m³	08/10/15	12:00	10200H3	SCW

QC REPORT



EAI ID#: 146636

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

			Date of								
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method				
Nitrate/Nitrite-N	< 0.05	3.9 (96 %R)	4.0 (99 %R) (3 RPD)	mg/L 8/12/15	90 - 110	20	300.0				
TKN	< 0.5	9.8 (98 %R)	9.7 (97 %R) (1 RPD)	mg/L 8/11/15	90 - 111	20	4500N _{org} C/N				
Total Phosphorus-P	< 0.002	0.047 (94 %R)	0.047 (95 %R) (1 RPD)	mg/L 8/10/15	90 - 110	20	365.1				

Samples were analyzed within holding times unless noted on the sample results page. Instrumentation was calibrated in accordance with the method requirements. The method blanks were free of contamination at the reporting limits. The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria. Exceptions to the above statements are flagged or noted above or on the QC Narrative page. */! Flagged analyte recoveries deviated from the QA/QC limits.

		Q	S#7/ 7*								
JUU eastern a professiona	CITY: <u>Had Ky</u> PHONE: <u>SLB</u> 227 5 FAX: E-MAIL: <u>Mart KOLOCO</u> STRE NAME: <u>KCCMON</u> <u>Bellow</u> PROJECT #: <u>INTERNY PROGRAM: NPD</u> GWP, OIL FUND, BRO QUOTE #:	PROJECT MANAGER: Matthe Company: Lours Bar	Matrix: A-Air; S-Soil; GW-Ground W. WW-Waste Water Preservative: H-HCL; N-HNO;; S-H,SO;	N-BF-01-1	06-1-01-2	16-V-01-2	06-12-01-2 12-12-01-1	06-W-01_1	06-27-01-1	Sample I.D.	
amalytical, inc. 25 c d laboratory services	SYS3 STATE: MLA IP SYS3 STATE: MLA IP Sherpar Com Sherpar Com Sherpar Com Sherpar Com State Car Other: ES: RGP POTW STORMWATER OR WHIELD OR OTHER: PO #:	yes brack fremmere &	ATER; SW-SURFACE WATER; DW-DRINKING 4; Na-NaOH; M-MEOH	8/5/15-12:54/15:04/S	5 Cover 2 1/2/2 21 21/2/2	0/4/15 11:02/11:07S	7/70/00/ 3:22 00 51	1 were signal and were	1/20/201 13:12 10/10/17	SAMPLING DATE/TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE/TIME	
HENELL DRIVE	4 mg 10 4	lax	s Water;		2 C	5° E C ()		S C		MATRIX (SEE BELOW) GRAB/*Composite 524.2 524.2 BTEX 524.2 MTBE ONLY	
CONCORD, NH 03301 TEL: 603.228.0525 1.800.287.0525 FAX: 603.228.4591 E-MAI	A B C IF VEST FAX OR PDF OR PRESUMPTIVE CERTAINTY NO FAX E-MAIL (PDF) RELINQUISHED BY: DATE: TIME: RECEIVED BY: RELINQUISHED BY: DATE: TIME: RECEIVED BY: RELINQUISHED BY: DATE: TIME: RECEIVED BY:	DATE NEEDED: ASH QA/QC REPORTING OPTIONS ICE? YES NO								8260B 624 YILLS I, 4 DIOXANE EDB DBCP 8021B BTEX HALOS 8015B GRO MEGRO MAVPH 8270D 625 SVTICS ABN A BN PAH TPH8100 L1 L2 8015B DRO MEDRO MAEPH PEST 608 PCB 608 PEST 8081A PCB 8082 OIL & GREASE I664 TPH I664 TCLP 1311 ABN METALS VOC PEST HERB DISSOLVED METALS DISSOLVED METALS (LIST BELOW) TOTAL METALS (LIST BELOW) TS TSS TDS SPEC. CON. BR CI F SQ4 NO3 NO3 ROD CBOD T. ALK. TKN NH3 T. PHOS. O. PHOS. PH T. <td>VOC SVOC TOPMETAIS INORGANICS</td>	VOC SVOC TOPMETAIS INORGANICS
AIL: CUSTOMERSERVICE@EAILABS.COM	DISSOLVED METALS FIELD FILTERED? YES NO NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT) SITE HISTORY: SUSPECTED CONTAMINATION: FIELD READINGS:	OTHER METALS: 8 RCRA 13 PP FE, MN PB, CU		<u><u> </u></u>	X 1 War Filtred 19:	SE181 SU(15/L / X / X	× 1 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1		X 1 Visit Citter	REACTIVE CYANIDE TUTAL SULFIDE REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY TOTAL COLIFORM E. COLI FECAL COLIFORM ENTEROCOCCI HETEROTROPHIC PLATE COUNT TGT-1 Nitrogen Chilsrophyll-G # OF CONTAINERS POZ TTT # 0	Micro OTHER



Bernward J. Hay The Louis Berger Group, Inc. (MA) 117 Kendrick Street, Suite 400 Needham, MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 146818 Client Identification: Vernon, Bellows Falls, Wilder TransCanada Water Quality Date Received: 8/12/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 146818

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Temperature upon receipt (°C): 2.5 Received on ice or cold packs (Yes/No): Y Acceptable temperature range (°C): 0-6					
Lab ID	Sample ID	Date Received	Date Sampled	Sample % Dry Matrix Weight	Exceptions/Comments (other than thermal preservation)
146818.01	06-W-01_1	8/12/15	8/6/15	aqueous	Adheres to Sample Acceptance Policy
146818.02	06-W-01_2	8/12/15	8/6/15	aqueous	Adheres to Sample Acceptance Policy
146818.03	06-W-01_1	8/12/15	8/11/15	aqueous	Adheres to Sample Acceptance Policy
146818.04	06-W-01_2	8/12/15	8/11/15	aqueous	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992 Eastern Analytical, Inc.

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EAI ID#: 146818

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Sample ID:	06-W-01_1	06-W-01_1	
Lab Sample ID:	146818.01	146818.03	
Matrix:	aqueous	aqueous	
Date Sampled:	8/6/15	8/11/15	Analysis
Date Received:	8/12/15	8/12/15	Units Date Time Method Analyst
Nitrate/Nitrite-N	0.15	0.17	mg/L 08/14/15 9:03 353.2 KD
TKN	< 0.5	< 0.5	mg/L 08/17/15 12:25 4500N _{ora} C/N SEL
Total Nitrogen	< 0.5	< 0.5	mg/L 08/17/15 14:40 4500 _{ora} C/NO3 SEL
Total Phosphorus-P	0.008	0.009	mg/L 08/25/15 14:11 365.1 SEL

Sample ID:	06-W-01_2	06-W-01_2					
Lab Sample ID:	146818.02	146818.04					
Matrix:	aqueous	aqueous					
Date Sampled:	8/6/15	8/11/15		Ana	alysis		
Date Received:	8/12/15	8/12/15	Units	Date	Time	Method A	nalyst
Chlorophyll a	3.1	2.5	mg/m³	08/18/15	15:00	10200H3	SCW

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.



Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

				Date of			
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	4.9 (98 %R)	4.8 (97 %R) (1 RPD)	mg/L 8/14/15	90 - 110	20	353.2
TKN	< 0.5	11 (107 %R)	10 (100 %R) (7 RPD)	mg/L 8/17/15	90 - 111	20	4500N _{org} C/N
Total Phosphorus-P	< 0.002	0.046 (92 %R)	0.048 (96 %R) (4 RPD)	mg/L 8/25/15	90 - 110	20	365.1

Samples were analyzed within holding times unless noted on the sample results page.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.

Exceptions to the above statements are flagged or noted above or on the QC Narrative page.

*/! Flagged analyte recoveries deviated from the QA/QC limits.



Bernward J. Hay The Louis Berger Group, Inc. (MA) 117 Kendrick Street, Suite 400 Needham, MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 147075 Client Identification: Vernon, Bellows Falls, Wilder TransCanada Water Quality Date Received: 8/19/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R:% Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 147075

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Temperate Acceptable te	ure upon receipt (°C): 3.4 emperature range (°C): 0-6	Į		Received	on ice or cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date Sampled	Sample % Dry Matrix Weight	Exceptions/Comments (other than thermal preservation)
147075.01	06-BF-01_1	8/19/15	8/12/15	aqueous	Adheres to Sample Acceptance Policy
147075.02	06-BF-01_2	8/19/15	8/12/15	aqueous	Adheres to Sample Acceptance Policy
147075.03	06-V-01_1	8/19/15	8/13/15	aqueous	Adheres to Sample Acceptance Policy
147075.04	06-V-01_2	8/19/15	8/13/15	aqueous	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

Eastern Analytical, Inc.

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EAI ID#: 147075

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Sample ID:	06-BF-01_1	06-V-01_1	
Lab Sample ID:	147075.01	147075.03	
Matrix:	aqueous	aqueous	
Date Sampled:	8/12/15	8/13/15	Analysis
Date Received:	8/19/15	8/19/15	Units Date Time Method Analyst
Nitrate/Nitrite-N	0.16	0.14	mg/L 08/25/15 23:14 300.0 KD
TKN	< 0.5	< 0.5	mg/L 08/26/15 11:44 4500N _{orr} C/N SEL
Total Nitrogen	< 0.5	< 0.5	mg/L 08/26/15 13:50 4500 C/NO3 SEL
Total Phosphorus-P	0.012	0.023	mg/L 08/25/15 16:32 365.1 SEL

Sample ID:	06-BF-01_2	06-V-01_2					
Lab Sample ID:	147075.02	147075.04					
Matrix:	aqueous	aqueous					
Date Sampled:	8/12/15	8/13/15		Ana	alysis		
Date Received:	8/19/15	8/19/15	Units	Date	Time	Method A	nalyst
Chlorophyll a	3.2	4.3	mg/m³	08/24/15	14:30	10200H3	SCW

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

06-BF-01_2: Chlorophyll a was filtered in the field on 8/12/15.

06-V-01_2: Chlorophyll a was filtered in the field on 8/13/15.

QC REPORT



EAI ID#: 147075

D-4- - 5

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	4.0 (100 %R)	4.1 (102 %R) (2 RPD)	, mg/L 8/26/15	90 - 110	20	300.0
TKN	< 0.5	9.8 (98 %R)	9.9 (99 %R) (62 RPD)	mg/L 8/26/15	90 - 111	20	4500N _{org} C/N
Total Phosphorus-P	< 0.002	0.048 (95 %R)	0.049 (98 %R) (3 RPD)	mg/L 8/25/15	90 - 110	20	365.1

Samples were analyzed within holding times unless noted on the sample results page. Instrumentation was calibrated in accordance with the method requirements. The method blanks were free of contamination at the reporting limits. The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria. Exceptions to the above statements are flagged or noted above or on the QC Narrative page. */! Flagged analyte recoveries deviated from the QA/QC limits.

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Bernward J. Hay The Louis Berger Group, Inc. (MA) 117 Kendrick Street, Suite 400 Needham MA 02494

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 147309



Client Identification: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Date Received: 8/26/2015

Report revision/reissue: Revision, replaces report dated 9/14/2015

Revision information: Chlorophyll a Analysis Date and Time have been revised.

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

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- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R:% Recovery

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The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

l	evente Oluson	

Lorraine Olashaw, Lab Director

9.16.15 Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 147309

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Temperat Acceptable t	ure upon receipt (°C): emperature range (°C): 0-6	5.7		Re	eceived	on ice or cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
147309.01	06-BF-01_1	8/26/15	8/19/15	aqueous		Adheres to Sample Acceptance Policy
147309.02	Replicate 3_1	8/26/15		aqueous		Date sampled not provided.
147309.03	Replicate 3_2	8/26/15		aqueous		Date sampled not provided.
147309.04	06-BF-01_2	8/26/15	8/19/15	aqueous		Adheres to Sample Acceptance Policy
147309.05	06-W-01_1	8/26/15	8/22/15	aqueous		Adheres to Sample Acceptance Policy
147309.06	06-W-01_2	8/26/15	8/22/15	aqueous		Adheres to Sample Acceptance Policy
147309.07	06-V-01_1	8/26/15	8/24/15	aqueous		Adheres to Sample Acceptance Policy
147309.08	06-V-01_2	8/26/15	8/24/15	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992 Eastern Analytical, Inc.

www.eailabs.com | 800.287.0525 | customerservice@eailabs.com

EAI ID#: 147309

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Sample ID:	06-BF-01_1	Replicate 3_1	06-W-01_1	06-V-01_1					
Lab Sample ID:	147309.01	147309.02	147309.05	147309.07					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	8/19/15		8/22/15	8/24/15		Ai	nalysis		
Date Received:	8/26/15	8/26/15	8/26/15	8/26/15	Units	Date	Ťime	Method A	Analyst
Nitrate/Nitrite-N	0.19	0.18	0.27	0.18	mg/L	08/31/15	14:48	300.0	KD
TKN	0.5	1.0	0.5	0.7	mg/L	09/02/15	11:38	4500N _{org} C/I	N SEL
Total Nitrogen	0.69	1.18	0.77	0.88	mg/L	09/02/15	16:30	4500 _{org} C/NC	3 SEL
Total Phosphorus-P	0.009	0.008	0.012	0.009	mg/L	09/08/15	13:03	365.1	SEL

Sample ID:	Replicate 3_2	06-BF-01_2	06-W-01_2	06-V-01_2					
Lab Sample ID:	147309.03	147309.04	147309.06	147309.08					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:		8/19/15	8/22/15	8/24/15		Ana	alysis		
Date Received:	8/26/15	8/26/15	8/26/15	8/26/15	Units	Date	Time	Method A	nalyst
Chloroph yl l a	3.9	4.2	2.4	3.2	mg/m³	08/31/15	14:42	10200H3	SCW

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

Chlorophyll a was filtered in the field and prepped in the lab at 17:00 on 8/26/2015.

2

QC REPORT

EAI ID#: 147309

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Parameter Name	Blank	LCS	LCSD	Date of Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	4.0 (101 %R)	4.2 (105 %R) (4 RPD)	mg/L 8/31/15	90 - 110	20	300.0
TKN	< 0.5	10 (102 %R)	9.8 (98 %R) (4 RPD)	mg/L 9/2/15	90 - 111	20	4500N _{org} C/N
Total Phosphorus-P	< 0.002	0.049 (97 %R)	0.050 (100 %R) (3 RPD)	mg/L 9/8/15	90 - 110	20	365.1

Samples were analyzed within holding times unless noted on the sample results page.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.

Exceptions to the above statements are flagged or noted above or on the QC Narrative page.

*/! Flagged analyte recoveries deviated from the QA/QC limits.

3.COM WWW.EAILABS.COM	Feld Readings:	feived By: X: 603.228.4591 E-Mail:	Time: Re 1.800.287.0525 Fa Dject Manager)	Date: L: 603.228.0525 GREEN: Pro	RELINQUISHED BY: CORD, NH 03301 TEI TE: ORIGINAL	DRIVE CONC	25 CHENELL	allytical, imc. toratory services	MM eastern an professional L
	SUSPECTED CONTAMINATION:	7	-	7				PO #:	
	SITE HISTORY:	EIVED BY: UNIVERSITY	TIME: RE	SPAC I	RELINQUISHED BY:		KUK	ELD OR OTHER:	GWP, OIL FUND, BROWN
	_	TEIVED BY: 1. D.	Time: Rei	Z DATE:	RELINQUISHED BY:			V I UTHER:	SIALE INH (MA) IME
		1158 A.S.	1 02:16 -	2/140/12	AMPLER(S): WALDA	s 690	4 OT Ad	"Quality EA/	PROJECT #: Trans Carder With
			ļ	ດ ໃນ	1. Kn			5 children	SITE NAME: ELEMON, Belleve Fall
		Equis	VX E-MAIL (PDF)	NNTY NO F	PRESUMPTIVE CERTA			1. Con	F-MAIL: Marialle ON Couisbarra
imits, Billing Info, If Different)	NOTES: (IE: SPECIAL DETECTION LI		CTRONIC OPTIONS		OR		EXT.:		PHONE: USUSI / wi Jusi
ED? YES NO	DISSOLVED METALS FIELD FILTERI		: FAX OR PDF		A B	280		STATE: MA	CITY: HAdden
	OTHER METALS:	ICE? (ES) NO	ORTING OPTIONS	PAFI	QA/QC Reporting Level			, vov	ADDRESS: 1391 Lafast ST.
PP FE, MN PB, CU	METALS: 8 RCRA 13	TEMP 527 °C		ASAP	DATE NEEDED: -	1	tlay	wale Bernuers	PROJECT MANAGER: MAHLAN D
								va-NaOH; M-MEOH	WW-WASTE WATER PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; 1
							DRINKING WATER	N: SW-SURFACE WATER: DW-	MATRIX: A-AIR: S-SOIL: GW-GROUND WATER
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1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	×	X	X				1:21 SV C	8/24/15-11:25/1	M-V-01_1
(Vial) Filtent 21/15-21:13	X						3 Ju (8120/15 91-34/15	05-tu-01-2
	X	\times	X				500	82. 1 S/20/8	06-2-01-1
SIAN Fiterer	×;						St C	8/9/5 11:21 40	NG-13F-01-2
Vizi	×								Replical 3-2
And the second sec	X	×	×						Realizak 2_1
	X	×	×				Sw C	Shalls ILISLAS	06-11-01-1
# OF CONTAINERS # OF CONTAINERS MEOH VAL #	Reactive Cyanide Flashpoint Ign Total Coliform Fecal Coliform Enterostrophic PL Heterostrophic PL Tofal N Chlut spl	BOD CBOD TKN NH3 (pH T. Res. CH COD PHENOIS TOTAL CYANIDE	TOTAL METALS (LI TOTAL METALS (LI TS TSS TE BR CI F NO2 NO3 (PEST 608 PEST 8081A OIL & GREASE 16 TCLP 1311 A	80218 BIEX 8015B GRO 8270D 625 ABN A Bi TPH8100 LI 8015B DRO	524.2 524.2 BTEX 8260B 624 1, 4 DIOXANE	MATRIX (INDICATE BOTH START & FINISH DATE / TIME	Sample I.D.
/	REACTIVE SULFIDE ITTABILITY E. COLI ATE COUNT HOLGON MI-G	T. ALK. T. PHOS. O. PHO ILORINE TOC DOC TOTAL SULHIDE	леки 5 (LIST BELOW) 55 BELOW) 05 SPEC. Con. 504 NQ2N05>	PCB 608 PCB 8082 64 TPH 1664 BN METALS	HALOS MEGRO MAVPH SVTICS N PAH L2 MEDRO MAEPH	524.2 MTBE ONLY VTICs EDB DBCP	SEE BELOW	SAMPLING DATE/TIME *IF COMPOSITE	
		NORGANICS	P METALS		SVC	NO			
4		INALYSIS.	E REQUESTED	EASE CIRCLI	REQUIRED. PLE		D O F		Page of
00°.	141		RECORD	USTODY	CHAIN-OF-O				5



Bernward J. Hay The Louis Berger Group, Inc. (MA) 117 Kendrick Street, Suite 400 Needham, MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 147566 Client Identification: Vernon, Bellows Falls, Wilder TransCanada Water Quality Date Received: 9/2/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit

%R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

quant Du Shan

Lorraine Olashaw, Lab Director

Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE



EAI ID#: 147566

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Temperat Acceptable t	ure upon receipt (°C): emperature range (°C): 0-6	4.1		Re	ceived	on ice or cold packs (Yes/No): Y
Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
147566.01	Filtered Blank	9/2/15		aqueous		Date sampled not provided
147566.02	06-BF-01_01	9/2/15	8/28/15	aqueous		Adheres to Sample Acceptance Policy
147566.03	06-BF-01_2	9/2/15	8/28/15	aqueous		Adheres to Sample Acceptance Policy
147566.04	06-W-01_1	9/2/15	8/29/15	aqueous		Adheres to Sample Acceptance Policy
147566.05	06-W-01_2	9/2/15	8/29/15	aqueous		Adheres to Sample Acceptance Policy
147566.06	Replicate-4_1	9/2/15		aqueous		Date sampled not provided
147566.07	Replicate-4_2	9/2/15		aqueous		Date sampled not provided
147566.08	06-V-01_1	9/2/15	8/31/15	aqueous		Adheres to Sample Acceptance Policy
147566.09	06-V-01_2	9/2/15	8/31/15	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

Eastern Analytical, Inc. www.eailabs.com | 800.287.0525 | customerservice@eailabs.com

MAL

EAI ID#: 147566

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Sample ID:	Filtered Blank	06-BF-01_2	06-W-01_2	Replicate-4_2					
Lab Calcula ID.	4.7500.04	4 (7500.00	4 47500 05						
Lab Sample ID:	147566.01	147566.03	14/566.05	14/566.07					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:		8/28/15	8/29/15			Ai	nalysis		
Date Received:	9/2/15	9/2/15	9/2/15	9/2/15	Units	Date	Time	Method A	Anal y st
Chloroph y ll a	< 0.5	3.1	4.7	3.9	mg/m³	09/04/15	16:00	10200H3	SCW

LABORATORY REPORT

Sample ID:	06-BF-01_01	06-W-01_1	Replicate-4_1	06-V-01_1					
Lab Sample ID:	147566.02	147566.04	147566.06	147566.08					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	8/28/15	8/29/15		8/31/15		Ana	alysis		
Date Received:	9/2/15	9/2/15	9/2/15	9/2/15	Units	Date	Time	Method A	Analyst
Nitrate/Nitrite-N	0.17	0.26	0.16	0.14	mg/L	09/15/15	14:18	300.0	KD
TKN	< 0.5	1.2	< 0.5	< 0.5	mg/L	09/11/15	11:54	4500N _{org} C/I	N SEL
Total Nitrogen	< 0.5	1.5	< 0.5	< 0.5	mg/L	09/18/15	14:50	4500 _{ora} C/NC	D3 SCW
Total Phosphorus-P	0.012	0.009	0.011	0.010	mg/L	09/08/15	13:20	365.1	SEL

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

Chlorophyll a: Samples was field filtered by client.

2

EAI ID#: 147566

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Sample ID:	06-V-01_2								
Lab Sample ID:	147566.09								
Matrix:	aqueous								
Date Sampled:	8/31/15					Ana	alysis		
Date Received:	9/2/15				Units	Date	Time	Method	Analyst
Chlorophyll a	3.2				mg/m³	9/04/15	16:00	10200H3	SCW

Chlorophyll a: Sample was field filtered by client.

Eastern Analytical, Inc.

QC REPORT

EAI ID#: 147566

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

				Date of			
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	3.9 (98 %R)	4.0 (99 %R) (1 RPD)	mg/L 9/15/15	90 - 110	20	300.0
TKN	< 0.5	10 (103 %R)	9.9 (99 %R) (4 RPD)	mg/L 9/11/15	90 - 111	20	4500N _{org} C/N
Total Phosphorus-P	< 0.002	0.049 (97 %R)	0.050 (100 %R) (3 RPD)	mg/L 9/8/15	90 - 110	20	365.1

Samples were analyzed within holding times unless noted on the sample results page.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.

Exceptions to the above statements are flagged or noted above or on the QC Narrative page.

*/! Flagged analyte recoveries deviated from the QA/QC limits.

CUSTOMERSERVICE@EAILABS.COM WWW.EAILABS.COM	1.287.0525 Fax: 603.228.4591 E-Mail: Manager)	L: 603,228.0525 1.800	Concord, NH 03301 Tei HITE: Original	5 CHENELL DRIVE	k drilling services	Professional Inhomatory &
FIELD READINGS:	ME: RECEIVED BY:	Date: Th	RELINQUISHED BY:		m Analytical, In	
Suspected Contamination:					P0 #:	Quote #:
SITE HISTORY:	ME: RECEIVED BY:	7-2-7/5 3-	- RELINOUISHED BY:		IL FUND, BROWNFIELD OR OTHER:	MENOLATORY FROMM
	ME: RECEIVED BY: , , ,		RELINQUISHED BY:		A NIDDEC. DCD DOTW (TONWATTA O	
	PS Prave laver			CONT OF	WE VIT AVE DATION	PROJECT #: 12 MILLION
		son ·	- SAMPLER(S): MLD.	-O LANSA	Dellows Palls Wildy	SITE NAME: VERNOCH
	-MAIL PDF Equis	AINTY NO FAX E-	PRESUMPTIVE CERTA		Jawisher William	E-MAIL: Mbualua
Notes: (ie: Special Detection Limits, Billing Info, If Different)	IC OPTIONS	ELECTRONI	OR	EXT.:	POL - 191	PHONE: (51) /
SAMPLES FIELD FILTERED? VES NO	OR PDF	C IF YES: FAX	A (B)	ZIP: 01035	TALE STATES AND STATES MAR	CITY: - Mazluy
OTHER METALS:	OP THOMS ICE? (YES) NO	REPORTING Pheime: Vec	- QA/QC . REPORTING LEVEN		Jest St. Comp	ADDRESS: 121 6
METALS: 8 RCRA 13 PP FE, MN PB, CU	TEMP 411 °C	A842	DATE NEEDED:	1 they	MANIew Durinke/ Beenver	PROJECT MANAGER:
				111110 17771CH,	R R HNO3; S-H ₂ SO4; Na-NaOH; M-MEOH	WW-WASTE WATER PRESERVATIVE: H-HCL; N-H
					W-GROHND WATER: SW-SURFACE WATER: DW-DR	MATRIX: A-Air: S-Soli. GW
× (Und State				No.	08/31/15 11:33	06-1-1,2
1	X X			Ser C	51/1 2/16/8 O	1-10-V-91-1
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X	× ×			Sw C		Replicate -4
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X (Viva) 8418 2233				20	2 (3/28/15 12:52:00	06-25-01
× .	XX			Ser C	08/28/8 13:00	06-35-01-01
X 1 CUILO 8/2017/5					Venk	Filtered B
REACTIVE CYANIDE FLASHPOINT IE TOTAL COLIFORM ENTEROCOCCI HETEROTROPHIC PI TOTA L M Chilorophic PI TOTA L M CHILOROPHIC CHILOROPHIC PI TOTA L M CHILOROPHIC PI TOTA L M CHILOROPHIC TOTA L M CHILOROPHIC TOTA L M CHILOROPHIC TOTA L M CHILOROPHIC TOTA L M CHILOROPHIC TOTA L M CHILOROPHIC CHILOROPH	TOTAL METALS (L TS TSS T BR CI F NO2 NO3 6 BOD CBOD TKN NH3 6 PH T. RES. C COD PHENOL9 TOTAL CYANIDE	PEST 608 PEST 8081A OIL & GREASE 1 TCLP 1311 VOC PEST DISSOLVED METAN	I, 4 DIOXANE 8021B BTEX 8015B GRO 8270D 625 ABN A TPH8100 L1 8015B DRO	Matrix (Grab/*) 524.2 524.2 btex 8760b 624	INDICATE BOTH START & FINISH DATE / TIME	Sample
REACTIVE SULFIDE NITABILITY E. COLI ATE COUNT IN 1999	IST BELOW) DS SPEC. CON. SO4 NO3NO2 T. ALK. SL. PHOS. O. PHOS. HLORINE TOC DOC TOTAL SULFIDE	PCB 608 PCB 8082 664 TPH 1664 IBN METALS HERB S (LIST BELOW)	HALOS MAVPH SVTICS EDB DBCF N PAH L2 MAEPH	(SEE BELOW) Composite 524.2 MTBE ONLY VTICS	SAMPLING DATE/TIME *IF COMPOSITE	
MICRO OTLIER	AIS INORGANICS					
	SUESTED ANALYSIS		OS REQUIRED. PLE			Page of _
147566		LISTONY REC.	OHAIN-OT-O			

147588



Bernward J. Hay The Louis Berger Group, Inc. (MA) 117 Kendrick Street, Suite 400 Needham, MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 148056 Client Identification: Vernon, Bellows Falls, Wilder Date Received: 9/16/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit

%R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Olashaw, Lab Director

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 148056

Client: The Louis Berger Group, Inc. (MA) Client Designation: Vernon, Bellows Falls, Wilder

Temperate Acceptable to	ure upon receipt (°C): emperature range (°C): 0-6	4.3		Received on ice or cold packs (Yes/No): Y										
Lab ID	Sample ID	Date Received	Date Sampled	Sample % Matrix W	6 Dry Veight	Exceptions/Comments (other than thermal preservation)								
148056.01	06-BF-01_1	9/16/15	9/9/15	aqueous		Adheres to Sample Acceptance Policy								
148056.02	06-BF-01_2	9/16/15	9/9/15	aqueous		Adheres to Sample Acceptance Policy								
148056.03	06-W-01_1	9/16/15	9/9/15	aqueous		Adheres to Sample Acceptance Policy								
148056.04	06-W-01_2	9/16/15	9/11/15	aqueous		Adheres to Sample Acceptance Policy								
148056.05	Replicate-5_1	9/16/15		aqueous		Adheres to Sample Acceptance Policy								
148056.06	Replicate-5_2	9/16/15		aqueous		Adheres to Sample Acceptance Policy								
148056.07	06-V-01_1	9/16/15	9/13/15	aqueous		Adheres to Sample Acceptance Policy								
148056.08	06-V-01_2	9/16/15	9/13/15	aqueous		Adheres to Sample Acceptance Policy								

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

Eastern Analytical, Inc. www.eailabs.com | 800.287.0525 | customerservice@eailabs.com

EAI ID#: 148056

Client: The Louis Berger Group, Inc. (MA) Client Designation: Vernon, Bellows Falls, Wilder

Sample ID:	06-BF-01_1	06-W-01_1	Replicate-5_1	06-V-01_1					
Lab Sample ID:	148056.01	148056.03	148056.05	148056.07					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	9/9/15	9/9/15		9/13/15		Ana	alysis		
Date Received:	9/16/15	9/16/15	9/16/15	9/16/15	Units	Date	Time	Method	Analyst
Nitrate/Nitrite-N	0.12	0.16	0.14	0.18	mg/L	9/18/15	4:50	300.0	KD
TKN	0.7	< 0.5	< 0.5	< 0.5	mg/L	9/30/15	13:32	4500N _{ora} C/N	I SEL
Total Nitrogen	0.8	< 0.5	< 0.5	< 0.5	mg/L	9/30/15	16:00	4500 _{ora} C/NC	SEL
Total Phosphorus-P	0.024	0.011	0.019	0.019	mg/L	9/28/15	11:32	365.1	SEL

Total Nitrogen is determined by the addition of Nitrate/Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

Eastern Analytical, Inc.



EAI ID#: 148056

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder

				Date of			
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	3.8 (96 %R)	3.8 (95 %R) (1 RPD)	mg/L 9/18/15	90 - 110	20	300.0
TKN	< 0.5	10 (103 %R)	10 (103 %R) (0 RPD)	mg/L 9/30/15	90 - 111	20	4500NorgC/N
Total Phosphorus-P	< 0.002	0.046 (92 %R)	0.050 (99 %R) (7 RPD)	mg/L 9/28/15	90 - 110	20	365.1

Samples were analyzed within holding times unless noted on the sample results page.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.

Exceptions to the above statements are flagged or noted above or on the QC Narrative page.

*/! Flagged analyte recoveries deviated from the QA/QC limits.



EAI ID#: 148056

Client: The Louis Berger Group, Inc. (MA) Client Designation: Vernon, Bellows Falls, Wilder

Sample ID:	06-BF-01_2	06-W-01_2	Replicate-5_2	06-V-01_2					
Lab Sample ID:	148056.02	148056.04	148056.06	148056.08					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	9/9/15	9/11/15		9/13/15		Ana	alysis		
Date Received:	9/16/15	9/16/15	9/16/15	9/16/15	Units	Date	Time	Method	Analyst
Chlorophyll a	6.8	2.5	2.8	4.0	mg/m³	9/18/15	17:15	10200H3	SCW

Chlorophyll a: Samples were prepared at 16:00 9/16/2015

Professional Langarry & drilling services	N n	0uote #:	REGULATORY PROGRAM: NPDES: GWP. OIL FUND. BROWNER	STATE: NH MA ME V	PROJECT # RAJ POT TI	E-MAIL: MARCENER ALCONAL CALLANS	FAX:	PHONE: 518 727 5453	CITY: Hardlary	ADDRESS: 139 West St	PROJECT MANAGER: Mathue	WW-WASTE WATER Preservative: H-HCL; N-HNO3; S-H2SO4; Na	Matrix: A-Air; S-Soil; GW-Ground Water;		No-V-01-2	064-1-01-1	Red lick -S-2	Rializak-5-1	06-01-2 0	06-11-01-1	06-75-0-1	1/2-13-13-1	Sample I.D.		Page of	
25	ytical, In	PO #:	RGP POTW STORMWATER OR LD OR OTHER:	/T 0THER:	4069 Miler	Decile Larr	1		STATE: MA	6 57040	Bucale Benne	a-NaOH; M-MEOH	SW-SURFACE WATER; DW-DRINI		9/11/15 10:22:20	1/12/15 10:22			1/11/15 10:35	1/11/15 10:35:47	8/9/15 10:58	1/1/15 10:50-58	SAMPLING DATE/TIME *If Composite, Indicate Both Start & Finish Date/Time			
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Bernward J. Hay The Louis Berger Group, Inc. (MA) 117 Kendrick Street, Suite 400 Needham, MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 148259 Client Identification: Vernon, Bellows Falls, Wilder TransCanada Water Quality Date Received: 9/23/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

________ Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 148259

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Temperat Acceptable	ture upon receipt (°C):	4.7		Received	on ice or cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date Sampled	Sample % Dry Matrix Weight	Exceptions/Comments (other than thermal preservation)
148259.01	06-BF-01_2	9/23/15	9/22/15	aqueous	Adheres to Sample Acceptance Policy
148259.02	06-BF-01_1	9/23/15	9/22/15	aqueous	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

Eastern Analytical, Inc.

www.eailabs.com | 800.287.0525 | customerservice@eailabs.com

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EAI ID#: 148259

Client: The Louis Berger Group, Inc. (MA) Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

Sample ID:	06-BF-01_2					
Lab Sample ID:	148259.01					
Matrix:	aqueous					
Date Sampled:	9/22/15		Δr	nalveis		
Date Received:	9/23/15	Units	Date	Time	Method A	Analyst
Chlorophyll a	4.3	mg/m³ (09/23/15	16:00	10200H3	SCW

LABORATORY REPORT

Sample ID:	06-BF-01_1						
Lab Sample ID:	148259.02						
Matrix:	aqueous						
Date Sampled:	9/22/15			Ana	alysis		
Date Received:	9/23/15		Units	Date	Time	Method A	nalyst
Nitrate/Nitrite-N	0.11		mg/L	10/02/15	10:41	353.2	KD
TKN	< 0.5		mg/L	10/06/15	12:14	4500N _{org} C/N	ŚEL
Total Nitrogen	< 0.5		mg/L	10/06/15	15:05	4500 _{org} C/NO3	SEL
Total Phosphorus-P	0.009		mg/L	09/29/15	12:42	365.1	SEL

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

QC REPORT

EAI ID#: 148259

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder TransCanada Water Quality

				Date of			
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	4.9 (98 %R)	4.8 (96 %R) (2 RPD)	mg/L 10/2/15	90 - 110	20	353.2
TKN	< 0.5	10 (102 %R)	10 (101 %R) (1 RPD)	mg/L 10/6/15	90 - 111	20	4500NomC/N
Total Phosphorus-P	< 0.002	0.047 (93 %R)	0.050 (101 %R) (8 RPD)	mg/L 9/29/15	90 - 110	20	365.1

Samples were analyzed within holding times unless noted on the sample results page. Instrumentation was calibrated in accordance with the method requirements. The method blanks were free of contamination at the reporting limits. The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria. Exceptions to the above statements are flagged or noted above or on the QC Narrative page. */! Flagged analyte recoveries deviated from the QA/QC limits.

Professional Langary & drilling services	n n Analyi	QUOTE #:	REGULATORY PROGRAM: NPDES: R GWP, OIL FUND, BROWNFIELD	STATE: NH MAY ME VT	PROJECT #: EAJ POJ IU	SITE NAME: Vernus, Bellious Tat	E-MAIL: on burnhe ON Low is bur	FAX:	CITY: TLADLEY	ADDRESS, 137 West 67.	PROJECT MANAGER: MATLEIN D	W W-WAJIE WALEK PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; Na-N	MATRIX: A-AIN; S-SOIL; GW-GROUND WATER, SV	-						NRF-N	U6-3F-01-2 91	Sample I.D.			
24	tical.	P0 #:	GP POTW STORMWATER OR OR OTHER:	0THER:	4064 1100	5 wilder	Jul. Com		STATE: MLA		urale/Bench	IaOH; M-MEOH	N-SURFACE WATER; DW-DRIN						and a that	10:58	1/15 10:58	SAMPLING DATE/TIME *If Composite, Indicate Both Start & Finish Date/Time			
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Bernward J. Hay The Louis Berger Group, Inc. (MA) 117 Kendrick Street, Suite 400 Needham, MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 148502 Client Identification: Vernon, Bellows Falls, Wilder Date Received: 9/30/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit

%R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

leverie as

Lorraine Olashaw, Lab Director

(0.13.(5 Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE



EAI ID#: 148502

Client: The Louis Berger Group, Inc. (MA) Client Designation: Vernon, Bellows Falls, Wilder

Temperature upon receipt (°C): Acceptable temperature range (°C): 0-6		2.1 Received on ice or cold packs (Yes/No): Y									
Lab ID	Sample ID	Date Received	Date Sampled	Sample % Matrix We	Dry eight	Exceptions/Comments (other than thermal preservation)					
148502.01	06-W-01_1	9/30/15	9/23/15	aqueous		Adheres to Sample Acceptance Policy					
148502.02	06-W-01_2	9/30/15	9/23/15	aqueous		Adheres to Sample Acceptance Policy					
148502.03	06-V-01_1	9/30/15	9/24/15	aqueous		Adheres to Sample Acceptance Policy					
148502.04	06-V-01_2	9/30/15	9/24/15	aqueou s		Adheres to Sample Acceptance Policy					
148502.05	06-BF-01_1	9/30/15	9/28/15	aqueous		Adheres to Sample Acceptance Policy					
148502.06	06-BF-01_2	9/30/15	9/28/15	aqueou s		Adheres to Sample Acceptance Policy					
148502.07	06-W-01_1	9/30/15	9/29/15	aqueous		Adheres to Sample Acceptance Policy					
148502.08	06-W-01_2	9/30/15	9/29/15	aqueous		Adheres to Sample Acceptance Policy					
148502.09	Replicate-6_1	9/30/15		aqueous		Adheres to Sample Acceptance Policy Date sampled not provided					
148502.1	Replicate-6_2	9/30/15		aqueous		Adheres to Sample Acceptance Policy Date sampled not provided					

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

Eastern Analytical, Inc.

www.eailabs.com | 800.287.0525 | customerservice@eailabs.com



EAI ID#: 148502

Client: The Louis Berger Group, Inc. (MA) Client Designation: Vernon, Bellows Falls, Wilder

Sample ID:	06-W-01_1	06-V-01_1	06-BF-01_1	06-W-01_1					
Lab Sample ID:	148502.01	148502.03	148502.05	148502.07					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	9/23/15	9/24/15	9/28/15	9/29/15		Aı	nalysis		
Date Received:	9/30/15	9/30/15	9/30/15	9/30/15	Units	Date	Tim	e Method	l Analyst
Nitrate/Nitrite-N	0.14	0.13	0.08	0.15	mg/L	10/09/15	3:38	300.0	KD
TKN	< 0.5	< 0.5	0.7	1.0	mg/L	10/12/15	12:54	4500N _{org} C	/N SEL
Total Nitrogen	< 0.5	< 0.5	0.78	1.15	mg/Ļ	10/12/15	15:40	4500 _{org} C/N	IO3 SEL
Total Phosphorus-P	0.009	0.008	0.009	0.008	mg/L	10/05/15	13:02	365.1	SEL

Chlorophyll a	3.5	4.6	5.0	3.9	mg/m ³	09/30/15	17:00	10200H3	SCW
Date Received:	9/30/15	9/30/15	9/30/15	9/30/15	Units	Date	Time	Method A	nalyst
Date Sampled:	9/23/15	9/24/15	9/28/15	9/29/15		Ana	alysis		
Matrix:	aqueous	aqueous	aqueous	aqueous					
Lab Sample ID:	148502.02	148502.04	148502.06	148502.08					
Sample ID:	06-W-01_2	06-V-01_2	06-BF-01_2	06-W-01_2					

Total Nitrogen is determined by the addition of Nitrate/Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.



EAI ID#: 148502

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder

				Date of			
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
Nitrate/Nitrite-N	< 0.05	3.8 (94 %R)	3.7 (93 %R) (1 RPD)	mg/L 10/9/15	90 - 110	20	300.0
TKN	< 0.5	10 (101 %R)	11 (110 %R) (9 RPD)	mg/L 10/12/15	90 - 111	20	4500N _{org} C/N
Total Phosphorus-P	< 0.002	0.048 (96 %R)	0.049 (98 %R) (2 RPD)	mg/L 10/5/15	90 - 110	20	365.1

Samples were analyzed within holding times unless noted on the sample results page.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.

Exceptions to the above statements are flagged or noted above or on the QC Narrative page.

*/! Flagged analyte recoveries deviated from the QA/QC limits.

LABORATORY REPORT

EAI ID#: 148502

Client: The Louis Berger Group, Inc. (MA) Client Designation: Vernon, Bellows Falls, Wilder

Sample ID:	Replicate-6_1							
Lab Sample ID:	148502.09							
Matrix:	aqueous							
Date Sampled:					Ar	nalysis		
Date Received:	9/30/15		1	Units	Date	Time	e Method /	Analyst
Nitrate/Nitrite-N	0.18			mg/L	10/09/15	14:40	300.0	KD
TKN	< 0.5			mg/L	10/12/15	12:54	4500N _{org} C/I	N SEL
Total Nitrogen	< 0.5			mg/L	10/12/15	15:40	4500 _{org} C/NC)3 SEL
Total Phosphorus-P	0.009			mg/L	10/05/15	13:06	365.1	SEL

Contraction of the local division of the loc

Sample ID:	Replicate-6_2						
Lab Sample ID:	148502.1						
Matrix:	aqueous						
Date Sampled:				Ana	lysis		
Date Received:	9/30/15		Units	Date	Time	Method A	nalyst
Chlorophyll a	5.3		mg/m³	09/30/15	17:00	10200H3	SCW

Total Nitrogen is determined by the addition of Nitrate/Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

Eastern Analytical, Inc.

Professional La	A Ana	QUOTE #:	MEGULATORT FRUGRAM: INFLIES GWP, OIL FUND, BROWN	STATE: NH CAN ME	PROJECT #: 1/2/2010 WATE	SITE NAME: VERNON, Bellows to	E-MAIL: Montale ON LOONS &	Eav.	CITY: TINGUY -5453	ADDRESS 129 LARST ST	Project Manager: Matthey Company: Clanks Delth	PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4;	MATRIX: A-AIR; S-SOIL; GW-GROUND WATE WW-WASTE WATER	- Onplaceter & 2	· lupliche-l_	E-10-M-30	: N-W-01_1	06-17-01-2	- 11-12F-01-1	* 106-V-01-2	· [14-1-0]-]	, 06-W-01-2	· Ob-w-a-1	Sample I.D.			Page Of	J
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Bernward J. Hay The Louis Berger Group, Inc. (MA) 117 Kendrick Street, Suite 400 Needham, MA 02494



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 148816 Client Identification: Vernon, Bellows Falls, Wilder | Transcanada Water Quality Study Date Received: 10/7/2015

Dear Mr. Hay:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

<u>(D.(9.(5</u> Date



SAMPLE CONDITIONS PAGE

EAI ID#: 148816

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder | Transcanada Water Quality Study

Temperat Acceptable t	ure upon receipt (°C): 4.3 emperature range (°C): 0-6	3	Received on ice or cold packs (Yes/No): Υ								
Lab ID	Sample ID	Date Received	Date Sampled	Sample % Dry Matrix Weig	/ ht Exceptions/Comments (other than thermal preservation)						
148816.01	06-V-01_1	10/7/15	10/2/15	aqueous	Adheres to Sample Acceptance Policy						
148816.02	06-V-01_2	10/7/15	10/2/15	aqueous	Adheres to Sample Acceptance Policy						
148816.03	Filter Blank	10/7/15	10/2/15	aqueous	Adheres to Sample Acceptance Policy						

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992 Eastern Analytical, Inc.

www.eailabs.com | 800.287.0525 | customerservice@eailabs.com

M

EAI ID#: 148816

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder | Transcanada Water Quality Study

Sample ID:	06-V-01_1							
Lab Sample ID:	148816.01							
Matrix:	aqueous							
Date Sampled:	10/2/15				Anal	veie		
Date Received:	10/7/15		RL	Units	Date	Time	Method	Analyst
Nitrate/Nitrite-N	0.11		0.05	mg/L	10/09/15	16:05	353.2	KD
TKN	0.7		0.5	mg/L	10/12/15	12:54	4500NorgC/NH3	SEL
Total Nitrogen	0.81		0.5	mg/L	10/12/15	15:40	4500 _{org} C/NO3	SEL
Total Phosphorus-P	0.096		0.002	mg/L	10/14/15	10:19	365.1	SEL

LABORATORY REPORT

Sample ID:	06-V-01_2	Filter Blank
Lab Sample ID:	148816.02	148816.03
Matrix:	aqueous	aqueous
Date Sampled:	10/2/15	10/2/15
Date Received:	10/7/15	10/7/15
Chlorophyll a	9.0	< 0.5

		Ana	lysis		
RL	Units	Date	Time	Method	Analyst
0.5	mg/m³	10/07/15	5 17:00	10200H3	SCW

Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations. Chlorophyll a was prepped in the laboratory on the day of receipt, 10/07/2015 17:00 hours.



EAI ID#: 148816

Client: The Louis Berger Group, Inc. (MA)

Client Designation: Vernon, Bellows Falls, Wilder | Transcanada Water Quality Study

				Date of			
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
	•						
Nitrate/Nitrite-N	< 0.05	5.0 (100 %R)	4.8 (97 %R) (3 RPD)	mg/L 10/9/15	90 - 110	20	353.2
TKN	< 0.5	10 (101 %R)	11 (110 %R) (9 RPD)	mg/L 10/12/15	90 - 111	20	4500N _{org} C/N
Total Phosphorus-P	< 0.002	0.048 (97 %R)	0.051 (101 %R) (4 RPD)	mg/L 10/14/15	90 - 110	20	365.1

Samples were analyzed within holding times unless noted on the sample results page. Instrumentation was calibrated in accordance with the method requirements. The method blanks were free of contamination at the reporting limits. The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria. Exceptions to the above statements are flagged or noted above or on the QC Narrative page. */! Flagged analyte recoveries deviated from the QA/QC limits.



APPENDIX L

2012 Mainstem Water Quality Monthly Figures

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W-02 Mean Profile

W-03 Mean Profile ----- Inflow

Wilder - June 2012 Temperature

Figure L-1. 2012 June water temperatures at all Wilder stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.

W-01 Mean Profile

----- Discharge



Wilder - July 2012 Temperature

Figure L-2. 2012 July water temperatures at all Wilder stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.



Wilder - August 2012 Temperature

Figure L-3. 2012 August water temperatures at all Wilder stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.



Wilder - September 2012 Temperature

2012 September water temperatures at all Wilder stations with inflow (USGS Gage No. 01138500) and Wilder project discharge. Figure L-4.



Bellows Falls - June 2012 Temperature

Figure L-5. 2012 June water temperatures at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Bellows Falls - July 2012 Temperature

2012 July water temperatures at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge. Figure L-6.



Bellows Falls - August 2012 Temperature

Figure L-7. 2012 August water temperatures at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Bellows Falls - September 2012 Temperature

Figure L-8. 2012 September water temperatures at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Vernon - June 2012 Temperature

2012 June water temperatures at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge. Figure L-9.



2012 July water temperatures at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge. Figure L-10.

Vernon - July 2012 Temperature



0

2012 August water temperatures at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge. Figure L-11.

V-01 Mean Profile

8/16/2012

V-02 Mean Profile

8/11/2012

8/6/2012

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22

21

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19

18 -

8/1/2012



V-03 M ean Profile ----- Inflow _____ Discharge

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0

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8/21/2012



V-02 Mean Profile

Vernon - September 2012 Temperature

2012 September water temperatures at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge. Figure L-12.

______V-01 ______V-TR

V-01 Mean Profile

V-03 Mean Profile ----- Inflow — Discharge



2012 June dissolved oxygen (mg/L) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge. Figure L-13.



Wilder - July 2012 Dissolved Oxygen (mg/L)

Figure L-14. 2012 July dissolved oxygen (mg/L) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.



Wilder - August 2012 Dissolved Oxygen (mg/L)

Figure L-15. 2012 August dissolved oxygen (mg/L) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.



Wilder - September 2012 Dissolved Oxygen (mg/L)

Figure L-16. 2012 September dissolved oxygen (mg/L) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.



2012 June dissolved oxygen (mg/L) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge. Figure L-17.





Bellows Falls - July 2012 Dissolved Oxygen (mg/L)

Figure L-18. 2012 July dissolved oxygen (mg/L) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Bellows Falls- August 2012 Dissolved Oxygen (mg/L)

Figure L-19. 2012 August dissolved oxygen (mg/L) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Bellows Falls - September 2012 Dissolved Oxygen (mg/L)

Figure L-20. 2012 September dissolved oxygen (mg/L) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Vernon - June 2012 Dissolved Oxygen (mg/L)

Figure L-21. 2012 June dissolved oxygen (mg/L) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.



2012 July dissolved oxygen (mg/L) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge. Figure L-22.

Discharge

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Vernon - August 2012 Dissolved Oxygen (mg/L)

Figure L-23. 2012 August dissolved oxygen (mg/L) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.


Vernon - September 2012 Dissolved Oxygen (mg/L)

Figure L-24. 2012 September dissolved oxygen (mg/L) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.



Wilder - June 2012 Dissolved Oxygen (percent saturation)

2012 June dissolved oxygen (percent saturation) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge. Figure L-25.



Wilder - July 2012 Dissolved Oxygen (percent saturation)

Figure L-26. 2012 July dissolved oxygen (percent saturation) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.



2012 August dissolved oxygen (percent saturation) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge. Figure L-27.





Wilder - September 2012 Dissolved Oxygen (percent saturation)

2012 September dissolved oxygen (percent saturation) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge. Figure L-28.



Bellows Falls - June 2012 Dissolved Oxygen (percent saturation)

Figure L-29. 2012 June dissolved oxygen (percent saturation) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Bellows Falls - July 2012 Dissolved Oxygen (percent saturation)

Figure L-30. 2012 July dissolved oxygen (percent saturation) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Bellows Falls - August 2012 Dissolved Oxygen (percent saturation)

Figure L-31. 2012 August dissolved oxygen (percent saturation) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Bellows Falls - September 2012 Dissolved Oxygen (percent saturation)

Figure L-32. 2012 September dissolved oxygen (percent saturation) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and project discharge.



Vernon - June 2012 Dissolved Oxygen (percent saturation)

Figure L-33. 2012 June dissolved oxygen (percent saturation) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.



Vernon - July 2012 Dissolved Oxygen (percent saturation)

Figure L-34. 2012 July dissolved oxygen (percent saturation) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.



V-02 Mean Profile

Figure L-35. 2012 August dissolved oxygen (percent saturation) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.

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V-01 Mean Profile

-V-01

V-TR

V-03 M ean Profile ----- Inflow — Discharge



Vernon - September 2012 Dissolved Oxygen (percent saturation)

Figure L-36. 2012 September dissolved oxygen (percent saturation) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.





Wilder - June 2012 pH (standard units)

Figure L-37. 2012 June pH (standard units) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.



Wilder - July 2012 pH (standard units)

2012 July pH (standard units) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge. Figure L-38.



Wilder - August 2012 pH (standard units)

Figure L-39. 2012 August pH (standard units) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.



Wilder - September 2012 pH (standard units)

Figure L-40. 2012 September pH (standard units) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.



Bellows Falls - June 2012 pH (standard units)

Figure L-41. 2012 June pH (standard units) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Bellows Falls - July 2012 pH (standard units)

2012 July pH (standard units) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge. Figure L-42.



Bellows Falls - August 2012 pH (standard units)

Figure L-43. 2012 August pH (standard units) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Bellows Falls - September 2012 pH (standard units)

Figure L-44. 2012 September pH (standard units) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Figure L-45. 2012 June pH (standard units) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.

Vernon - June 2012 pH (standard units)



Vernon - July 2012 pH (standard units)

Figure L-46. 2012 July pH (standard units) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.



Vernon - August 2012 pH (standard units)

Figure L-47. 2012 August pH (standard units) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.



Vernon - September 2012 pH (standard units)

Figure L-48. 2012 September pH (standard units) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.



Figure L-49. 2012 June specific conductivity (µS/cm) at all Wilder mainstem stations with inflow (USGS Gage No. 0113850 Connecticut River at Wells River, VT) and Wilder project discharge.





Wilder - July 2012 Specific Conductivity (µS/cm)

Figure L-50. 2012 July specific conductivity (µS/cm) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.



Wilder - August 2012 Specific Conductivity (µS/cm)

Figure L-51. 2012 August specific conductivity (µS/cm) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.



Wilder - September 2012 Specific Conductivity (µS/cm)

Figure L-52. 2012 September specific conductivity (µS/cm) at all Wilder mainstem stations with inflow (USGS Gage No. 01138500) and Wilder project discharge.



Bellows Falls - June 2012 Specific Conductivity (µS/cm)

Figure L-53. 2012 June specific conductivity (µS/cm) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Bellows Falls - July 2012 Specific Conductivity (µS/cm)

Figure L-54. 2012 July specific conductivity (µS/cm) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Bellows Falls - August 2012 Specific Conductivity (µS/cm)

Figure L-55. 2012 August specific conductivity (μS/cm) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Bellows Falls - September 2012 Specific Conductivity (µS/cm)

Figure L-56. 2012 September specific conductivity (µS/cm) at all Bellows Falls stations with inflow (USGS Gage No. 01144500), bypassed reach flow, and Bellows Falls project discharge.



Figure L-57. 2012 June specific conductivity (µS/cm) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.





Figure L-58. 2012 July specific conductivity (µS/cm) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.

Vernon - July 2012 Specific Conductivity (µS/cm)



Vernon - August 2012 Specific Conductivity (µS/cm)

Figure L-59. 2012 August specific conductivity (µS/cm) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.


Vernon - September 2012 Specific Conductivity (µS/cm)

Figure L-60. 2012 September specific conductivity (µS/cm) at all mainstem Vernon stations with inflow (USGS Gage No. 01154500) and Vernon project discharge.

APPENDIX M

2012 Mean Daily Air Temperature and Total Daily Precipitation

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June 2012 Air Temperature and Precipitation

Figure M-1. 2012 June daily mean air temperature (°C) and daily precipitation (inches) for the study area.



July 2012 Air Temperature and Precipitation

Figure M-2. 2012 July daily mean air temperature (°C) and daily precipitation (inches) for the study area.



August 2012 Air Temperature and Precipitation

Figure M-3. 2012 August daily mean air temperature (°C) and daily precipitation (inches) for the study area.



September 2012 Air Temperature and Precipitation

Figure M-4. 2012 September daily mean air temperature (°C) and daily precipitation (inches) for the study area.

APPENDIX N

Revised supporting Geodata filed separately in kmz and Arc (zipfile) Formats.

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APPENDIX O

2015 Mainstem Continuous Water Temperature with Impoundment Water Surface Elevations (as measured at the dams)

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Figure O-1. May 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with impoundment water surface elevation measured at the dam.



Wilder - June 2015 Temperature

Figure O-2. June 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with impoundment water surface elevation measured at the dam.



Wilder - July 2015 Temperature

Figure O-3. 2015 July 15-minute continuous water temperatures at all mainstem Wilder stations with impoundment water surface elevation measured at the dam.



Wilder - August 2015 Temperature

Figure O-4. August 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with impoundment water surface elevation measured at the dam.



Wilder - September 2015 Temperature

Figure O-5. September 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with impoundment water surface elevation measured at the dam.



Figure O-6. October 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with impoundment water surface elevation measured at the dam.



Wilder - November 2015 Temperature

Figure O-7. November 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with impoundment water surface elevation measured at the dam.



Bellows Falls - April 2015 Temperature

Figure O-8. April 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with impoundment water surface elevation measured at the dam.



Bellows Falls - May 2015 Temperature

Figure O-9. May 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with impoundment water surface elevation measured at the dam.



Bellows Falls - June 2015 Temperature

Figure O-10. June 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with impoundment water surface elevation measured at the dam.



Bellows Falls - July 2015 Temperature

Figure O-11. July 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with impoundment water surface elevation measured at the dam.



Bellows Falls - August 2015 Temperature

Figure O-12. August 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with impoundment water surface elevation measured at the dam.



Bellows Falls - September 2015 Temperature

Figure O-13. September 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with impoundment water surface elevation measured at the dam.



Bellows Falls - October 2015 Temperature

Figure O-14. October 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with impoundment water surface elevation measured at the dam.



Bellows Falls - November 2015 Temperature

Figure O-15. November 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with impoundment water surface elevation measured at the dam.



Vernon - April 2015 Temperature

Figure O-16. April 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with impoundment water surface elevation measured at the dam.



Vernon - May 2015 Temperature

Figure O-17. 2015 May 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with impoundment water surface elevation measured at the dam.



Vernon - June 2015 Temperature

Figure O-18. June 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with impoundment water surface elevation measured at the dam.



Vernon - July 2015 Temperature

Figure O-19. July 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with impoundment water surface elevation measured at the dam.



Vernon - August 2015 Temperature

Figure O-20. August 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with impoundment water surface elevation measured at the dam.



Vernon - September 2015 Temperature

Figure O-21. September 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with impoundment water surface elevation measured at the dam.



Vernon - October 2015 Temperature

Figure O-22. October 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with impoundment water surface elevation measured at the dam.



Vernon - November 2015 Temperature

Figure O-23. November 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with impoundment water surface elevation measured at the dam.

APPENDIX P

2015 Mainstem Continuous Water Temperature with Mean Daily Air Temperature

Note: Mean daily air temperatures as measured at the three weather stations listed below may not exactly reflect conditions at the respective water quality monitoring stations due to differences in elevation, distance between the weather station and water quality monitoring stations and other local environmental factors. Mean daily air temperatures are intended to illustrate the general air temperature trends throughout the respective project areas.

Wilder Project Area: NOAA NOWData for Station USC00438556, Union Village Dam, VT (Latitude 43.7917°N, Longitude -72.2578°W, Elevation 460 ft). The nearest distance to the Connecticut River is approximately 6 miles. The elevation of the weather station is approximately 75 feet higher than the water elevation of the full Wilder impoundment.

Bellows Falls Project Area: NOAA NOWData for Station USC00435982, North Springfield Lake, VT (Latitude 43.3392°N, Longitude -72.5056°W, Elevation 560 ft). The nearest distance to the Connecticut River is approximately 9 miles. The elevation of the weather station is approximately 270 feet higher than the water elevation of the full Bellows Falls impoundment.

Vernon Project Area: NOAA NOWData for Station USC00274399, Keene, NH (Latitude 42.939°N, Longitude -72.3247°W, Elevation 511 ft). The nearest distance to the Connecticut River is approximately 15 miles. The elevation of the weather station is approximately 290 feet higher than the water elevation of the full Vernon impoundment.

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Wilder - May 2015 Temperature



Figure P-1. May 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with mean daily air temperature.

Wilder - June 2015 Temperature



Figure P-2. June 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with mean daily air temperature.



Figure P-3. July 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with mean daily air temperature.

Wilder - July 2015 Temperature



Wilder - August 2015 Temperature

Figure P-4. August 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with mean daily air temperature.



Wilder - September 2015 Temperature

Figure P-5. September 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with mean daily air temperature.



Wilder - October 2015 Temperature

Figure P-6. October 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with mean daily air temperature.



Wilder - November 2015 Temperature

Figure P-7. November 2015 15-minute continuous water temperatures at all mainstem Wilder monitoring stations with mean daily air temperature.

27 26 25 24 23 22 21 20 19 18 2 17 Temperatur 15 14 13 12 11 10 9 8 7 6 5 -4/1/2015 4/6/2015 4/11/2015 4/16/2015 4/21/2015

Bellows Falls - April 2015 Temperature

- 06-BF-TR

----- 06-BF-BR

Figure P-8. April 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with mean daily air temperature.

_____06-BF-02 _____06-BF-01

----- 06-BF-04

- 06-BF-03

_



- Bypassed Reach Flow ------ Mean Daily Air Temperature



Bellows Falls - May 2015 Temperature

Figure P-9. May 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with mean daily air temperature.

27 26 25 24 23 22 21 20 19 18 0 17 Temperature 1 14 13 12 11 10 9 8 7 6 5 . 6/1/2015 6/6/2015 6/11/2015 6/16/2015 6/21/2015 06-BF-TR - 06-BF-04 - 06-BF-03 - 06-8F-02 ----- 06-BF-01 06-BF-03 M ean Profile o 06-BF-02 Mean Profile 06-BF-04 M ean Profile 06-BF-01 Mean Profile 06-BF-TR

Bellows Falls - June 2015 Temperature

Figure P-10. June 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with mean daily air temperature.



Mean Daily Air Temperature



Bellows Falls - July 2015 Temperature

Figure P-11. July 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with mean daily air temperature.



Bellows Falls - August 2015 Temperature

Figure P-12. August 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with mean daily air temperature.



Figure P-13. September 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with mean daily air temperature.

Bellows Falls - September 2015 Temperature



Bellows Falls - October 2015 Temperature

Figure P-14. October 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with mean daily air temperature.



Bellows Falls - November 2015 Temperature

Figure P-15. November 2015 15-minute continuous water temperatures at all mainstem Bellows Falls monitoring stations with mean daily air temperature.



Vernon - April 2015 Temperature

Figure P-16. April 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with mean daily air temperature.

Vernon - May 2015 Temperature



Figure P-17. May 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with mean daily air temperature.

Vernon - June 2015 Temperature



Figure P-18. June 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with mean daily air temperature.



Vernon - July 2015 Temperature

Figure P-19. July 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with mean daily air temperature.



Vernon - August 2015 Temperature

Figure P-20. August 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with mean daily air temperature.



Vernon - September 2015 Temperature

Figure P-21. September 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with mean daily air temperature.



Vernon - October 2015 Temperature

Figure P-22. October 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with mean daily air temperature.



Vernon - November 2015 Temperature

Figure P-23. November 2015 15-minute continuous water temperatures at all mainstem Vernon monitoring stations with mean daily air temperature.