

Numéro de demande d'analyse: **18-873731**

Demande d'analyse reçue le: 2018-03-19

Date d'émission du certificat: 2018-04-13

Numéro de version du certificat: 1

- Certificat d'analyse officiel
 Certificat d'analyse préliminaire

Requérant

Sanexen Services Environnementaux Inc.

9935, rue de Châteauneuf, Entrée 1, Bureau 200

Brossard, Québec, Canada

J4Z 3V4

Téléphone : (450) 466-2123

Télécopieur : (450) 466-2240

Bon de commande	Votre Projet	Chargé de Projet
RA18-901-1	RA18-901-1	M. Kevin Randall

Commentaires

Les critères génériques du "Guide d'intervention - Protection des sols et réhabilitation des terrains contaminés" inclus dans ce certificat sont à titre indicatif seulement.

Les critères A pour les métaux correspondent à ceux de la région des Basses-Terres du St-Laurent.

Les critères D, si inclus dans le présent certificat, correspondent aux critères du "Règlement sur l'enfouissement des sols contaminés" et sont à titre indicatif seulement.

Cette version remplace et annule toute version antérieure, le cas échéant.

NA : Information non-fournie et/ou non-applicable

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Client: **Sanexen Services Environnementaux Inc.**

 Numéro de demande: **18-873731**

Bon de commande	Votre Projet	Chargé de Projet
RA18-901-1	RA18-901-1	M. Kevin Randall

Échantillon(s)

No Labo.	3576290
Votre Référence	FD7-180315
Matrice	Eau souterraine
Prélevé par	Carl Lamonde
Lieu de prélèvement	Boucherville
Prélevé le	2018-03-15
Reçu Labo	2018-03-19

Paramètre(s)

Méthode

Référence

Dioxines et Furanes (Sous-traitance)

(Analyse effectuée en sous-traitance)

Préparation	-
Analyse	-
No. séquence	NA

Dioxines et furanes

<Annexe>

Note 1 : Ces résultats et commentaires, le cas échéant, ne se rapportent qu'aux échantillons soumis pour les analyses réalisées au site de Pointe-Claire (#307).



Fatima Sobh, chimiste





Eurofins Environment Testing Canada, Inc.
ATTN: Eurofins QC
121 Hymus Blvd.
Pointe-Claire QC H9R1E6

Date Received: 22-MAR-18
Report Date: 09-APR-18 08:21 (MT)
Version: FINAL

Client Phone: 514-697-3273

Certificate of Analysis

Lab Work Order #: L2070855
Project P.O. #: CT-060393
Job Reference: CT-060393
C of C Numbers:
Legal Site Desc:

Whitney Davis, B.Sc.
Account Manager

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ADDRESS: 1435 Norjohn Court, Unit 1, Burlington, ON, L7L 0E6 Canada | Phone: +1 905 331 3111 | Fax: +1 905 331 4567
ALS CANADA LTD Part of the ALS Group An ALS Limited Company



1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6
Phone: 905-331-3111, FAX: 905-331-4567

Certificate of Analysis

ALS Project Contact: Whitney Davis
ALS Project ID: FIN100
ALS WO#: L2070855
Date of Report: 9-Apr-18
Date of Sample Receipt: 22-Mar-18

Client Name: Eurofins
Client Address: 121 Hymus Blvd.
Pointe-Claire, QC H9R1E6
Client Contact: Eurofins QCSTraitance
Client Project ID: CT-060393

COMMENTS: PCDD/F by EPA 1613B

Certified by:

A handwritten signature in black ink, appearing to read "Bradley Reimer", is written over a horizontal line.

Bradley Reimer
GC/MS Laboratory Senior Technical Specialist

Results in this certificate relate only to the samples as submitted to the laboratory.
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ALS Life sciences

Sample Analysis summary Report

Sample Name FD7-180315

ALS Sample ID L2070855-1

Sample Size	0.82
Sample size units	L
Percent Moisture	n/a
Sample Matrix	Water
Sampling Date	15-Mar-18
Extraction Date	26-Mar-18

Target Analytes	pg/L
2,3,7,8-TCDD	<0.36
1,2,3,7,8-PeCDD	<0.24
1,2,3,4,7,8-HxCDD	<0.25
1,2,3,6,7,8-HxCDD	<0.25
1,2,3,7,8,9-HxCDD	<0.25
1,2,3,4,6,7,8-HpCDD	<0.31
OCDD	0.939
2,3,7,8-TCDF	<0.30
1,2,3,7,8-PeCDF	0.476
2,3,4,7,8-PeCDF	<0.18
1,2,3,4,7,8-HxCDF	<0.17
1,2,3,6,7,8-HxCDF	<0.17
2,3,4,6,7,8-HxCDF	<0.16
1,2,3,7,8,9-HxCDF	<0.66
1,2,3,4,6,7,8-HpCDF	<0.23
1,2,3,4,7,8,9-HpCDF	<0.13
OCDF	<0.29

Extraction Standards	% Rec
13C12-2,3,7,8-TCDD	68
13C12-1,2,3,7,8-PeCDD	73
13C12-1,2,3,4,7,8-HxCDD	78
13C12-1,2,3,6,7,8-HxCDD	65
13C12-1,2,3,4,6,7,8-HpCDD	77
13C12-OCDD	59
13C12-2,3,7,8-TCDF	71
13C12-1,2,3,7,8-PeCDF	73
13C12-2,3,4,7,8-PeCDF	78
13C12-1,2,3,4,7,8-HxCDF	80
13C12-1,2,3,6,7,8-HxCDF	71
13C12-2,3,4,6,7,8-HxCDF	76
13C12-1,2,3,7,8,9-HxCDF	73
13C12-1,2,3,4,6,7,8-HpCDF	82
13C12-1,2,3,4,7,8,9-HpCDF	84

Cleanup Standard	%
37Cl4-2,3,7,8-TCDD (Cleanup)	73

Homologue Group Totals	pg/L
Total-TCDD	<0.36
Total-PeCDD	<0.24
Total-HxCDD	<0.25
Total-HpCDD	<0.13
Total-TCDF	<0.30
Total-PeCDF	0.476
Total-HxCDF	<0.21
Total-HpCDF	<0.13

Toxic Equivalency - (WHO 2005)

Lower Bound PCDD/F TEQ (WHO 2005)	0.0146
Mid Point PCDD/F TEQ (WHO 2005)	0.491
Upper Bound PCDD/F TEQ (WHO 2005)	0.896

ALS Life sciences

Quality Control Summary Report

Sample Name	Method Blank	Laboratory Control Sample
ALS Sample ID	WG2737957-1	WG2737957-2
Sample Size	1.00	1.00
Sample size units	L	n/a
Percent Moisture	n/a	n/a
Sample Matrix	QC	QC
Sampling Date	n/a	n/a
Extraction Date	26-Mar-18	26-Mar-18
Target Analytes	pg/L	% Rec
2,3,7,8-TCDD	<0.28	105
1,2,3,7,8-PeCDD	<0.32	111
1,2,3,4,7,8-HxCDD	<0.33	103
1,2,3,6,7,8-HxCDD	<0.42	102
1,2,3,7,8,9-HxCDD	<0.66	108
1,2,3,4,6,7,8-HpCDD	0.880	107
OCDD	<1.4	102
2,3,7,8-TCDF	<0.24	109
1,2,3,7,8-PeCDF	<0.47	107
2,3,4,7,8-PeCDF	<0.23	104
1,2,3,4,7,8-HxCDF	<0.36	108
1,2,3,6,7,8-HxCDF	<0.24	111
2,3,4,6,7,8-HxCDF	<0.23	107
1,2,3,7,8,9-HxCDF	<0.56	108
1,2,3,4,6,7,8-HpCDF	<0.50	97
1,2,3,4,7,8,9-HpCDF	<0.25	104
OCDF	<1.3	112
Extraction Standards	% Rec	% Rec
13C12-2,3,7,8-TCDD	78	81
13C12-1,2,3,7,8-PeCDD	79	84
13C12-1,2,3,4,7,8-HxCDD	82	83
13C12-1,2,3,6,7,8-HxCDD	69	72
13C12-1,2,3,4,6,7,8-HpCDD	84	88
13C12-OCDD	69	73
13C12-2,3,7,8-TCDF	78	79
13C12-1,2,3,7,8-PeCDF	77	81
13C12-2,3,4,7,8-PeCDF	81	85
13C12-1,2,3,4,7,8-HxCDF	82	84
13C12-1,2,3,6,7,8-HxCDF	73	72
13C12-2,3,4,6,7,8-HxCDF	82	83
13C12-1,2,3,7,8,9-HxCDF	87	92
13C12-1,2,3,4,6,7,8-HpCDF	85	89
13C12-1,2,3,4,7,8,9-HpCDF	93	98
Cleanup Standard		
37Cl4-2,3,7,8-TCDD (Cleanup)	82	91
Homologue Group Totals	pg/L	
Total-TCDD	<0.28	
Total-PeCDD	<0.26	
Total-HxCDD	<0.24	
Total-HpCDD	0.880	
Total-TCDF	<0.24	
Total-PeCDF	<0.21	
Total-HxCDF	<0.14	
Total-HpCDF	<0.13	
Toxic Equivalency - (WHO 2005)		
Lower Bound PCDD/F TEQ (WHO 2005)	0.00880	
Mid Point PCDD/F TEQ (WHO 2005)	0.852	
Upper Bound PCDD/F TEQ (WHO 2005)	1.00	

ALS Life sciences

Sample Analysis Report

Sample Name FD7-180315
 ALS Sample ID L2070855-1
 Analysis Method EPA 1613B
 Analysis Type Sample
 Sample Matrix Water

Sampling Date 15-Mar-18
 Extraction Date 26-Mar-18
 Sample Size 0.82 L
 Percent Moisture n/a
 Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 04-Apr-2018

Run Information **Run 1**
 Filename 7-180403A10
 Run Date 03-Apr-18 16:20
 Final Volume 20 uL
 Dilution Factor 1
 Analysis Units pg/L
 Instrument - Column HRMS-7 DB5MSUSP703614H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/L	EDL pg/L	Flags	EMPC pg/L	LQL
2,3,7,8-TCDD	1	NotFnd	<0.36	0.36	U		12
1,2,3,7,8-PeCDD	1	31.97	<0.24	0.24	M,U	0.21	61
1,2,3,4,7,8-HxCDD	0.1	NotFnd	<0.25	0.25	U		61
1,2,3,6,7,8-HxCDD	0.1	NotFnd	<0.25	0.25	U		61
1,2,3,7,8,9-HxCDD	0.1	NotFnd	<0.25	0.25	U		61
1,2,3,4,6,7,8-HpCDD	0.01	35.70	<0.31	0.13	M,J,R	0.31	61
OCDD	0.0003	37.17	0.939	0.28	M,J		120
2,3,7,8-TCDF	0.1	NotFnd	<0.30	0.30	U		12
1,2,3,7,8-PeCDF	0.03	31.03	0.476	0.22	M,J		61
2,3,4,7,8-PeCDF	0.3	NotFnd	<0.18	0.18	U		61
1,2,3,4,7,8-HxCDF	0.1	33.53	<0.17	0.17	M,U	0.15	61
1,2,3,6,7,8-HxCDF	0.1	NotFnd	<0.17	0.17	U		61
2,3,4,6,7,8-HxCDF	0.1	NotFnd	<0.16	0.16	U		61
1,2,3,7,8,9-HxCDF	0.1	34.36	<0.66	0.21	M,J,R	0.66	61
1,2,3,4,6,7,8-HpCDF	0.01	35.13	<0.23	0.096	M,J,R	0.23	61
1,2,3,4,7,8,9-HpCDF	0.01	NotFnd	<0.13	0.13	U		61
OCDF	0.0003	NotFnd	<0.29	0.29	U		120

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	27.77	68 25-164
13C12-1,2,3,7,8-PeCDD	2000	31.96	73 25-181
13C12-1,2,3,4,7,8-HxCDD	2000	34.03	78 32-141
13C12-1,2,3,6,7,8-HxCDD	2000	34.08	65 28-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.69	77 23-140
13C12-OCDD	4000	37.17	59 17-157
13C12-2,3,7,8-TCDF	2000	26.84	71 24-169
13C12-1,2,3,7,8-PeCDF	2000	31.02	73 24-185
13C12-2,3,4,7,8-PeCDF	2000	31.75	78 21-178
13C12-1,2,3,4,7,8-HxCDF	2000	33.53	80 26-152
13C12-1,2,3,6,7,8-HxCDF	2000	33.60	71 26-123
13C12-2,3,4,6,7,8-HxCDF	2000	33.93	76 29-147
13C12-1,2,3,7,8,9-HxCDF	2000	34.35	73 28-136
13C12-1,2,3,4,6,7,8-HpCDF	2000	35.12	82 28-143
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.94	84 26-138

Cleanup Standard	pg	Conc. pg/L	EDL pg/L
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.78	73 35-197

Homologue Group Totals	# peaks	Conc. pg/L	EDL pg/L
Total-TCDD	0.00	<0.36	0.36 U 12
Total-PeCDD	0.00	<0.24	0.24 U 61
Total-HxCDD	0.00	<0.25	0.25 U 61
Total-HpCDD	0.00	<0.13	0.13 U 61
Total-TCDF	0.00	<0.30	0.30 U 12
Total-PeCDF	1.00	0.476	0.22 61
Total-HxCDF	0.00	<0.21	0.21 U 61
Total-HpCDF	0.00	<0.13	0.13 U 61

Toxic Equivalency - (WHO 2005)	pg/L
Lower Bound PCDD/F TEQ (WHO 2005)	0.0146
Mid Point PCDD/F TEQ (WHO 2005)	0.491
Upper Bound PCDD/F TEQ (WHO 2005)	0.896

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.

 J indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

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Laboratory Method Blank Analysis Report

Sample Name	Method Blank	Sampling Date	n/a	
ALS Sample ID	WG2737957-1	Extraction Date	26-Mar-18	
Analysis Method	EPA 1613B	Sample Size	1	L
Analysis Type	Blank	Percent Moisture	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved:
T. Patterson
 --e-signature--
 04-Apr-2018

Run Information	Run 1
Filename	7-180403A05
Run Date	03-Apr-18 12:46
Final Volume	20 uL
Dilution Factor	1
Analysis Units	pg/L
Instrument - Column	HRMS-7 DB5MSUSP703614H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/L	EDL pg/L	Flags	EMPC pg/L	LQL
2,3,7,8-TCDD	1	NotFnd	<0.28	0.28	U		10
1,2,3,7,8-PeCDD	1	31.98	<0.32	0.26	M,J,R	0.32	50
1,2,3,4,7,8-HxCDD	0.1	34.04	<0.33	0.24	M,J,R	0.33	50
1,2,3,6,7,8-HxCDD	0.1	34.10	<0.42	0.24	M,J,R	0.42	50
1,2,3,7,8,9-HxCDD	0.1	34.21	<0.66	0.24	M,J,R	0.66	50
1,2,3,4,6,7,8-HpCDD	0.01	35.71	0.880	0.17	M,J		50
OCDD	0.0003	37.18	<1.4	0.29	J,R	1.4	100
2,3,7,8-TCDF	0.1	NotFnd	<0.24	0.24	U		10
1,2,3,7,8-PeCDF	0.03	31.03	<0.47	0.21	M,J,R	0.47	50
2,3,4,7,8-PeCDF	0.3	31.77	<0.23	0.18	M,J,R	0.23	50
1,2,3,4,7,8-HxCDF	0.1	33.54	<0.36	0.13	M,J,R	0.36	50
1,2,3,6,7,8-HxCDF	0.1	33.61	<0.24	0.12	M,J,R	0.24	50
2,3,4,6,7,8-HxCDF	0.1	33.95	<0.23	0.12	M,J,R	0.23	50
1,2,3,7,8,9-HxCDF	0.1	34.36	<0.56	0.14	M,J,R	0.56	50
1,2,3,4,6,7,8-HpCDF	0.01	35.13	<0.50	0.10	M,J,R	0.50	50
1,2,3,4,7,8,9-HpCDF	0.01	35.95	<0.25	0.13	M,J,R	0.25	50
OCDF	0.0003	37.27	<1.3	0.23	M,J,R	1.3	100

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	27.78	78 25-164
13C12-1,2,3,7,8-PeCDD	2000	31.97	79 25-181
13C12-1,2,3,4,7,8-HxCDD	2000	34.04	82 32-141
13C12-1,2,3,6,7,8-HxCDD	2000	34.09	69 28-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.69	84 23-140
13C12-OCDD	4000	37.18	69 17-157
13C12-2,3,7,8-TCDF	2000	26.87	78 24-169
13C12-1,2,3,7,8-PeCDF	2000	31.02	77 24-185
13C12-2,3,4,7,8-PeCDF	2000	31.76	81 21-178
13C12-1,2,3,4,7,8-HxCDF	2000	33.54	82 26-152
13C12-1,2,3,6,7,8-HxCDF	2000	33.61	73 26-123
13C12-2,3,4,6,7,8-HxCDF	2000	33.94	82 29-147
13C12-1,2,3,7,8,9-HxCDF	2000	34.36	87 28-136
13C12-1,2,3,4,6,7,8-HpCDF	2000	35.13	85 28-143
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.94	93 26-138

Cleanup Standard	pg	Conc.	EDL
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.80	82 35-197

Homologue Group Totals	# peaks	Conc. pg/L	EDL pg/L
Total-TCDD	0.00	<0.28	0.28 U 10
Total-PeCDD	0.00	<0.26	0.26 U 50
Total-HxCDD	0.00	<0.24	0.24 U 50
Total-HpCDD	1.00	0.880	0.17 50
Total-TCDF	0.00	<0.24	0.24 U 10
Total-PeCDF	0.00	<0.21	0.21 U 50
Total-HxCDF	0.00	<0.14	0.14 U 50
Total-HpCDF	0.00	<0.13	0.13 U 50

Toxic Equivalency - (WHO 2005)	pg/L
Lower Bound PCDD/F TEQ (WHO 2005)	0.00880
Mid Point PCDD/F TEQ (WHO 2005)	0.852
Upper Bound PCDD/F TEQ (WHO 2005)	1.00

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.	TEF	Indicates the Toxic Equivalency Factor	TEQ	Indicates the Toxic Equivalency
M	Indicates that a peak has been manually integrated.				
U	Indicates that this compound was not detected above the EDL.				
J	Indicates that a target analyte was detected below the calibrated range.				
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.				
LQL	Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.				
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure				

ALS Life sciences

Laboratory Control Sample Analysis Report

Sample Name	Laboratory Control Sample	Sampling Date	n/a	
ALS Sample ID	WG2737957-2	Extraction Date	26-Mar-18	
Analysis Method	EPA 1613B	Sample Size	1	n/a
Analysis Type	LCS	Percent Moisture	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved:
T. Patterson
--e-signature--
04-Apr-2018

Run Information	Run 1
Filename	7-180403A02
Run Date	03-Apr-18 10:38
Final Volume	20 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-7 DB5MSUSP703614H

Target Analytes	pg	Ret. Time	% Rec	Limits	Flags
2,3,7,8-TCDD	200	27.81	105	67-158	
1,2,3,7,8-PeCDD	1000	31.98	111	70-142	
1,2,3,4,7,8-HxCDD	1000	34.04	103	70-164	
1,2,3,6,7,8-HxCDD	1000	34.09	102	76-134	
1,2,3,7,8,9-HxCDD	1000	34.22	108	64-162	
1,2,3,4,6,7,8-HpCDD	1000	35.70	107	70-140	
OCDD	2000	37.18	102	78-144	
2,3,7,8-TCDF	200	26.89	109	75-158	
1,2,3,7,8-PeCDF	1000	31.04	107	80-134	
2,3,4,7,8-PeCDF	1000	31.77	104	68-160	
1,2,3,4,7,8-HxCDF	1000	33.54	108	72-134	
1,2,3,6,7,8-HxCDF	1000	33.62	111	84-130	
2,3,4,6,7,8-HxCDF	1000	33.95	107	78-130	
1,2,3,7,8,9-HxCDF	1000	34.36	108	70-156	
1,2,3,4,6,7,8-HpCDF	1000	35.14	97	82-122	
1,2,3,4,7,8,9-HpCDF	1000	35.95	104	78-138	
OCDF	2000	37.28	112	63-170	
Extraction Standards	pg		% Rec	Limits	
13C12-2,3,7,8-TCDD	2000	27.78	81	20-175	
13C12-1,2,3,7,8-PeCDD	2000	31.97	84	21-227	
13C12-1,2,3,4,7,8-HxCDD	2000	34.04	83	21-193	
13C12-1,2,3,6,7,8-HxCDD	2000	34.09	72	25-163	
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.69	88	26-166	
13C12-OCDD	4000	37.18	73	13-138	
13C12-2,3,7,8-TCDF	2000	26.87	79	22-152	
13C12-1,2,3,7,8-PeCDF	2000	31.03	81	21-192	
13C12-2,3,4,7,8-PeCDF	2000	31.76	85	13-328	
13C12-1,2,3,4,7,8-HxCDF	2000	33.54	84	19-202	
13C12-1,2,3,6,7,8-HxCDF	2000	33.61	72	21-159	
13C12-2,3,4,6,7,8-HxCDF	2000	33.94	83	17-205	
13C12-1,2,3,7,8,9-HxCDF	2000	34.36	92	22-176	
13C12-1,2,3,4,6,7,8-HpCDF	2000	35.13	89	21-158	
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.94	98	20-186	
Cleanup Standard	pg				
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.81	91	31-191	