

APPENDIX 4



Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

Pioneer Env. Assoc., LLC.
PO Box 354
Vergennes, VT 05491
Attn: Meddie Perry

PROJECT Waitsfield WS
ORDER ID: 50289
RECEIVE DATE: December 6, 2006
REPORT REVISED: January 31, 2007

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Different groups of analyses may be reported under separate cover.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which include matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits, unless otherwise noted.

Analyst ID of 999 indicates analysis performed at our Randolph, VT facility; NELAP # NH 2037. E indicates sample analyzed past EPA method specified holding time.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

Enclosures

RECEIVED

FEB 03 2007

Pioneer Environmental Assoc.



Laboratory Services

160 James Brown Drive
 Williston, Vermont 05495
 (802) 879-4333
 FAX 879-7103

LABORATORY REPORT

CLIENT: Pioneer Env. Assoc., LLC.
 PROJECT: Waitsfield WS
REPORT REVISED : January 31, 2007

ORDER ID: 50289
 DATE RECEIVED: December 6, 2006
 SAMPLER: LW

Ref. Number: 289075	Site: Well R-1	Date Sampled: December 6, 2006	Time: NI
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<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Corrosivity	-1.95		Langlier's Index	1/12/07	808
pH	6.20	S.U.	EPA 150.1	12/6/06 4:45 PM	911
Chloride	< 2.50	mg/L	EPA 300.0	12/7/06	168
Color	< 1.	C.U.	EPA 110.2	12/12/06	911
Fluoride	< 0.25	mg/L	EPA 300.0	12/7/06	168
Nitrogen, Nitrite	< 0.020	mg/L	EPA 300.0	12/7/06 1:38 AM	168
Nitrogen, Nitrate	0.382	mg/L	EPA 300.0	12/7/06 1:38 AM	168
Odor	< 1.	T.O.N.	EPA 140.1	12/8/06	911
Total Dissolved Solids	180. E	mg/L	SM19 2540C	12/18/06	903
Turbidity	0.06	N.T.U.	EPA 180.1	12/6/06 4:30 PM	911
Total Coliform	< 1.	MPN/100 ml	SM 9223B	12/6/06 4:55 PM	168
E. coli	< 1.	MPN/100 ml	SM 9223B	12/6/06 4:55 PM	168
Antimony	< 0.002	mg/L	SM 3113B	12/20/06	808
Arsenic	< 0.002	mg/L	SM 3113B	12/21/06	808
Barium	< 0.020	mg/L	EPA 200.7	1/12/07	808
Beryllium	< 0.002	mg/L	SM 3113B	12/26/06	999
Cadmium	< 0.002	mg/L	EPA 200.7	1/12/07	808
Chromium	< 0.020	mg/L	EPA 200.7	1/12/07	808
Copper	< 0.020	mg/L	EPA 200.7	1/12/07	808
Total Hardness, as CaCO3	80.8	mg/L	EPA 6010	1/12/07	808
Iron	< 0.020	mg/L	EPA 200.7	1/12/07	808
Lead	< 0.001	mg/L	SM 3113B	1/9/07	503
Manganese	< 0.020	mg/L	EPA 200.7	1/12/07	808
Total Mercury	< 0.001	mg/L	EPA 245.1	12/14/06	808
Nickel	< 0.020	mg/L	EPA 200.7	1/12/07	808
Selenium	< 0.010	mg/L	SM 3113B	12/21/06	808
Sodium	4.9	mg/L	EPA 200.7	1/17/07	999
Thallium	< 0.002	mg/L	EPA 200.9	12/26/06	999



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LABORATORY REPORT

CLIENT: Pioneer Env. Assoc., LLC.

ORDER ID: 50289

PROJECT: Waitsfield WS

DATE RECEIVED: December 6, 2006

REPORT DATE: December 19, 2006

SAMPLER: LW

ANALYST: 212

Ref. Number: 289067

Site: Well R-1

Date Sampled: December 6, 2006 Time: NI

<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>Method</u>	<u>Analysis Date</u>
Ethylene Dibromide (EDB)	< 0.03	ug/L	EPA 504.1	12/18/06
1,2-Dibromo-3-chloropropane	< 0.05	ug/L	EPA 504.1	12/18/06



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LABORATORY REPORT

CLIENT: Pioneer Env. Assoc., LLC.

ORDER ID: 50289

PROJECT: Waitsfield WS

DATE RECEIVED: December 6, 2006

REPORT DATE: December 19, 2006

SAMPLER: LW

ANALYST: 212

Ref. Number: 289068

Site: Well R-1

Date Sampled: December 6, 2006 Time: NI

<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>Method</u>	<u>Analysis Date</u>
Aldrin	< 0.5	ug/L	EPA 505	12/12/06
Chlordane	< 0.2	ug/L	EPA 505	12/12/06
Dieldrin	< 0.5	ug/L	EPA 505	12/12/06
Endrin	< 0.5	ug/L	EPA 505	12/12/06
Heptachlor	< 0.1	ug/L	EPA 505	12/12/06
Heptachlor Epoxide	< 0.1	ug/L	EPA 505	12/12/06
Lindane (g-BHC)	< 0.1	ug/L	EPA 505	12/12/06
Methoxychlor	< 1.0	ug/L	EPA 505	12/12/06
Toxaphene	< 2.0	ug/L	EPA 505	12/12/06
Aroclor1016	< 0.5	ug/L	EPA 505	12/12/06
Aroclor1221	< 0.5	ug/L	EPA 505	12/12/06
Aroclor1232	< 0.5	ug/L	EPA 505	12/12/06
Aroclor1242	< 0.5	ug/L	EPA 505	12/12/06
Aroclor1248	< 0.5	ug/L	EPA 505	12/12/06
Aroclor1254	< 0.5	ug/L	EPA 505	12/12/06
Aroclor1260	< 0.5	ug/L	EPA 505	12/12/06
Surrogate 1	102.	%	EPA 505	12/12/06



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LABORATORY REPORT

Pioneer Env. Assoc., LLC.
PO Box 354
Vergennes, VT 05491
Attn: Meddie Perry

PROJECT: Waitsfield WS
ORDER ID: 50289
RECEIVE DATE: December 6, 2006
REPORT DATE: December 19, 2006

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Different groups of analyses may be reported under separate cover.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

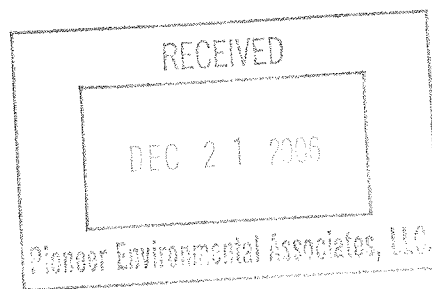
Blank contamination was not observed at levels affecting the analytical results.

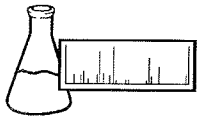
Analytical method precision and accuracy was monitored by laboratory control standards which include matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits, unless otherwise noted.

*NR indicates surrogate falls outside laboratory QA/QC parameters.
QA indicates associated QA/QC did not meet laboratory guidelines.*

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director





ENDYNE, INC.

Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

CLIENT: Pioneer Env. Assoc., LLC.
PROJECT: Waitsfield WS
REPORT December 19, 2006

ORDER ID: 50289
DATE RECEIVED: December 6, 2006
SAMPLER: LW
ANALYST: 212

Ref. Number: 289072

Site: Well R-1

Date Sampled: December 6, 2006

Time: NI

<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>Method</u>	<u>Analysis Date</u>
2,4-D	< 5.0	ug/L	EPA 515.2	12/15/06
2,4-DB	< 11.0	ug/L	EPA 515.2	12/15/06
Dicamba	< 10.0	ug/L	EPA 515.2	12/15/06
Dinoseb	< 3.0	ug/L	EPA 515.2	12/15/06
Pentachlorophenol	< 0.5	ug/L	EPA 515.2	12/15/06
Picloram	< 5.0 QA	ug/L	EPA 515.2	12/15/06
2,4,5-TP (Silvex)	< 2.0	ug/L	EPA 515.2	12/15/06
2,4,5-T	< 3.0	ug/L	EPA 515.2	12/15/06
Surrogate 1	35. NR	%	EPA 515.2	12/15/06

LABORATORY REPORT

EPA 524.2

 CLIENT: Pioneer Env. Assoc., LLC.
 PROJECT: Waitsfield WS
 SITE: Well R-1
 DATE RECEIVED: December 6, 2006
 REPORT DATE: December 20, 2006
 ANALYSIS DATE: December 18, 2006

 ORDER ID: 50289
 REFERENCE NUMBER: 289071
 DATE SAMPLED: December 6, 2006
 TIME SAMPLED: NI
 SAMPLER: LW
 ANALYST: 725

<u>Parameter</u>	<u>Result</u> <u>ug/L</u>	<u>Parameter</u>	<u>Result</u> <u>ug/L</u>
Benzene	< 0.5	Hexachlorobutadiene	< 1.0
Bromobenzene	< 0.5	Isopropylbenzene	< 0.5
Bromomethane	< 0.5	4-Isopropyltoluene	< 0.5
Bromochloromethane	< 0.5	Naphthalene	< 1.0
n-Butylbenzene	< 0.5	MTBE	< 1.0
sec-Butylbenzene	< 0.5	n-Propylbenzene	< 0.5
tert-Butylbenzene	< 0.5	Styrene	< 0.5
Carbon tetrachloride	< 0.5	1,1,1,2-Tetrachloroethane	< 0.5
Chlorobenzene	< 0.5	1,1,2,2-Tetrachloroethane	< 1.0
Chloroethane	< 0.5	Tetrachloroethene	< 0.5
Chloromethane	< 1.0	Toluene	< 0.5
2-Chlorotoluene	< 0.5	1,2,3-Trichlorobenzene	< 0.5
4-Chlorotoluene	< 0.5	1,2,4-Trichlorobenzene	< 0.5
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.5
Dichloromethane	< 1.0	1,1,2-Trichloroethane	< 0.5
Dichlorodifluoromethane	< 0.5	Trichloroethene	< 0.5
1,2-Dichlorobenzene	< 0.5	Trichlorofluoromethane	< 0.5
1,3-Dichlorobenzene	< 0.5	1,2,3-Trichloropropane	< 0.5
1,4-Dichlorobenzene	< 0.5	1,2,4-Trimethylbenzene	< 0.5
1,2-Dichloroethane	< 0.5	1,3,5-Trimethylbenzene	< 0.5
1,1-Dichloroethane	< 0.5	Vinyl Chloride	< 0.5
1,1-Dichloroethene	< 0.5	Xylenes, Total	< 1.0
cis-1,2-Dichloroethene	< 0.5	Bromodichloromethane	< 0.5
trans-1,2-Dichloroethene	< 0.5	Chloroform	< 0.5
1,2-Dichloropropane	< 0.5	Dibromochloromethane	< 0.5
1,3-Dichloropropane	< 0.5	Bromoform	< 0.5
2,2-Dichloropropane	< 0.5	Total Trihalomethanes	< 2.0
1,1-Dichloropropene	< 0.5	Surrogate 1	92.0%
cis-1,3-Dichloropropene	< 0.5	Surrogate 2	95.0%
trans-1,3-Dichloropropene	< 0.5	UIP's	0.
Ethylbenzene	< 0.5		



LABORATORY REPORT

CLIENT: Pioneer Env. Assoc., LLC.
PROJECT: Waitsfield WS
REPORT DATE: December 29, 2006

ORDER ID: 50289
DATE RECEIVED: December 6, 2006
SAMPLER: LW
ANALYST: 207

Ref. Number: 289069

Site: Well R-1

Date Sampled: December 6, 2006 Time: NI

<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>Method</u>	<u>Analysis Date</u>
Alachlor	< 1.0	ug/L	EPA 525.2	12/20/06
Atrazine	< 1.0	ug/L	EPA 525.2	12/20/06
Benzo(a)pyrene	< 0.1	ug/L	EPA 525.2	12/20/06
Butachlor	< 1.0	ug/L	EPA 525.2	12/20/06
Di(2-ethylhexyl) adipate	< 5.0	ug/L	EPA 525.2	12/20/06
Di(2-ethylhexyl) phthalate	< 3.0	ug/L	EPA 525.2	12/20/06
Hexachlorobenzene	< 0.5	ug/L	EPA 525.2	12/20/06
Hexachlorocyclopentadiene	< 5.0	ug/L	EPA 525.2	12/20/06
Metolachlor (Dual)	< 1.0	ug/L	EPA 525.2	12/20/06
Metribuzin (Sencor)	< 2.0	ug/L	EPA 525.2	12/20/06
Propachlor	< 1.0	ug/L	EPA 525.2	12/20/06
Simazine	< 1.0	ug/L	EPA 525.2	12/20/06
Surrogate 1	98.	ug/L	EPA 525.2	12/20/06



Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
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FAX 879-7103

LABORATORY REPORT

Pioneer Env. Assoc., LLC.
PO Box 354
Vergennes, VT 05491
Attn: Meddie Perry

PROJECT: Waitsfield WS
ORDER ID: 50289
RECEIVE DATE: December 6, 2006
REPORT DATE: February 6, 2007

The following analyses were performed by a certified subcontracted laboratory.

Enclosed please find the original subcontracted laboratory report. As a reminder, the Vermont Agency of Natural Resources Water Supply Division requires that all permitted water supplies submit a copy of the subcontracted laboratory report to their office.

RECEIVED
FEB 08 2007

Pioneer Environmental Assoc

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218



Endyne, Inc.
160 James Brown Drive
Williston, VT 05495-

January 26, 2007
Project No: 66236

Laboratory Report

Project Name 50289

Parameters	Units	Results	Method	Detection Limit	Date/Time Analyzed	Date/Time Prep	Analyst
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Sample Description	Well R-1						
Matrix	Drinking Water						
SAL Sample Number	66236.01						
Date/Time Collected	12/06/06						
Date/Time Received	12/12/06 11:40						

Carbamate Pesticides (Group I Unreg.)

3-Hydroxycarbofuran	ug/l	0.5 U	EPA 531.1	0.5	12/20/06 12:16		JKS
Aldicarb	ug/l	0.5 U	EPA 531.1	0.5	12/20/06 12:16		JKS
Aldicarb sulfone	ug/l	0.5 U	EPA 531.1	0.5	12/20/06 12:16		JKS
Aldicarb sulfoxide	ug/l	0.5 U	EPA 531.1	0.5	12/20/06 12:16		JKS
Carbaryl	ug/l	0.5 U	EPA 531.1	0.5	12/20/06 12:16		JKS
Methomyl	ug/l	0.5 U	EPA 531.1	0.5	12/20/06 12:16		JKS

Carbamate Pesticides (Primary DW)

Carbofuran	ug/l	0.5 U	EPA 531.1	0.5	12/20/06 12:16		JKS
Oxamyl (Vydate)	ug/l	0.5 U	EPA 531.1	0.5	12/20/06 12:16		JKS

Sample Description	Well R-1						
Matrix	Drinking Water						
SAL Sample Number	66236.02						
Date/Time Collected	12/06/06						
Date/Time Received	12/12/06 11:40						

Radiochemistry

Radium-226	pCi/l	0.2±0.8 U1	EPA 903.1	0.2	01/22/07 14:40	01/15/07 10:15	DF
Radium-228	pCi/l	0.6±0.3 U1	EPA RA-05	0.6	01/24/07 13:21	01/22/07 15:50	DF

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218



Endyne, Inc.
160 James Brown Drive
Williston, VT 05495-

January 26, 2007
Project No: 66236

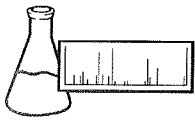
Laboratory Report

Project Name 50289

Footnotes

- * Test results presented in this report meet all the requirements of the NELAC standards.
- ** A statement of estimated uncertainty of test results is available upon request.
- U Analyte was undetected. Indicated concentration is method detection limit.
- U1 Analyte was not detected; indicated concentration is method detection limit. Radiochemistry MDL is sample specific and matrix dependent.

Samples received at 17.6 degrees C.



ENDYNE, INC.

Laboratory Services

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Williston, Vermont 05495
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FAX 879-7103

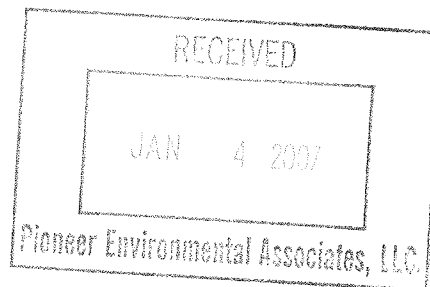
LABORATORY REPORT

Pioneer Env. Assoc., LLC.
PO Box 354
Vergennes, VT 05491
Attn: Meddie Perry

PROJECT: Waitsfield WS
ORDER ID: 50289
RECEIVE DATE: December 6, 2006
REPORT DATE: December 28, 2006

The following analyses were performed by a certified subcontracted laboratory.

Enclosed please find the original subcontracted laboratory report. As a reminder, the Vermont Agency of Natural Resources Water Supply Division requires that all permitted water supplies submit a copy of the subcontracted laboratory report to their office.



Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

VERMONT DEPARTMENT OF HEALTH LABORATORY
195 COLCHESTER AVENUE
BURLINGTON, VERMONT 05402-1125
(802) 863-7335 (800) 660-9997 (VT ONLY)

INORGANIC CHEMISTRY REPORT

LITS Number 2006034355-001-A

State Health Dept No. 07C1695

Kit Type Kit RU (uranium)

WSID#

Kit Number 9602901

Report To

Address

ENDYNE INC
160 JAMES BROWN DR

WILLISTON VT 05495

Date/Time Received 12/08/2006 10:40:00

Date/Time of Collection 12/06/2006 00:00:00

Town Waitsfield

Person Taking Sample LW

Date Analyzed 12/11/2006

Sample Location WELL R-1

Report Status Final

Field Sample Number 289074/50289

Date Reported 12/26/2006

Released by JPM

Public Water System Only

Sampler Title

Purpose of Sample

Type of Sample

CHLORINE, TOTAL (mg/L)

CHLORINE, FREE (mg/L)

Field Temp (C)

Metals	Result	Units	Method	Limits
URANIUM	0.003	mg/L	EPA 200.8	0.020 mg/L Vermont MCL

Comments:

Sample submitted in Non-Standard Vermont Health Department Container

Registry Comments:

Definitions: mg/L = milligrams per liter, or ppm (parts per million) < = less than

MCL = Maximum Contaminant Level SMCL = Secondary Maximum Contaminant Level VHA = Vermont Health Advisory

Action Level = level at or above which a water treatment action is determined for public water supplies

and should be considered for private supplies. * Total Nitrate and Nitrite = Nitrate-Nitrite, total measured as Nitrogen.

This is a public record. Information contained in this report may be used for statistical purposes and may be released upon request, pursuant to Vermont Access to Public Documents law (1 V.S.A 315 - 320). Results relate only to the items tested.

This report shall not be reproduced, except in full, without the written approval of the laboratory.

Page: 1 / 1

Date Printed: 12/26/2006 10:43:36

If you have questions about this report, please call the Laboratory at (802)863-7335.

VERMONT DEPARTMENT OF HEALTH LABORATORY
 195 COLCHESTER AVENUE
 BURLINGTON, VERMONT 05402-1125
 (802) 863-7335 (800) 660-9997 (VT ONLY)
 RADIOCHEMISTRY RESULTS

LITS Number 2006054134-001-A

State Health Dept No. 07R0465

Kit Type Gross Alpha - Kit RA

WSID#

Kit Number 9609335

Public Water System Only

Report To

ENDYNE INC
 160 JAMES BROWN DR

WILLISTON VT 05495

Sampler Title
 Purpose of Sample
 Type of Sample Water
 CHLORINE, FREE
 CHLORINE, TOTAL
 Field Temp (C)

Date/Time Received 12/08/2006 10:41:00

Date/Time of Sampling 12/06/2006 00:00:00

Town Waitsfield

Person Taking Sample LW

Sample Location WELL R-1/289074/50289

Field Sample Number

Report Status Final

Date Reported 12/15/2006

Released by CMK

Analysis	Result		Units	Limit	Method
Gross Alpha	1.66 +/- 0.84		pCi/L	A.G.A.15 - see results interpretation sheet	EERF 00-02

Comments:

Registry Comments:

Definitions: pCi/L = picoCuries per liter < = less than +/- = plus or minus A.G.A. = adjusted gross alpha
 A picoCurie is a unit for measuring radioactivity and is one trillionth of a curie. Curies and picoCuries are measurements of much of the radioactive substance disintegrates or decays. The first number of the result represents the level of radiation, the second, after the +/-, the possible variation above or below the measured level.

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GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.
P.O. Box 1200
228 Main Street
Buzzards Bay, MA 02532
Telephone (508) 759-4441
FAX (508) 759-4475

December 22, 2006

Ms. Alison Florucci
Endyne, Inc.
160 James Brown Dr.
Williston, VT 05495

LABORATORY REPORT

Project: **50289**
Lab ID: **101920**
Received: **12-08-06**

Dear Alison:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. This report may only be used or reproduced in its entirety.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Eric H. Jensen
Operations Manager

EHJ/jll
Enclosures



Sample Receipt Report

Project: 50289
Client: Endyne, Inc.
Lab ID: 101920

Delivery: UPS
Airbill: 1Z7092X90359590854
Lab Receipt: 12-08-06
Temperature: 2.3'C
Chain of Custody: Present
Custody Seal(s): n/a

Lab ID	Field ID		Matrix	Sampled	Method			Notes
101920-1	Well R-1		Aqueous	12/6/06 0:00	Lachat 10-204-00-1-A (EPA 335.4) Total Cyanide			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C803835	250 mL Plastic	n/a	n/a	NaOH	n/a	n/a	n/a	

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **Well R-1**
 Project: **50289**
 Client: **Endyne, Inc.**

Matrix: **Aqueous**
 Received: **12-08-06 15:25**

Lab ID: **101920-01** Sampled: **12-06-06 00:00** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	BRL	mg/L	0.01	1	50 mL	12-12-06 11:56	TCN-1283-W	Lachat 10-204-00-1-A (EPA 335.4)	1	DDW

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

Project Narrative

Project: **50289**
Client: **Endyne, Inc.**

Lab ID: **101920**
Received: **12-08-06 15:25**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1. No method modifications, non-conformances or analytical issues were noted.

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Sample**

Category: **Inorganic Chemistry**

Matrix: **Aqueous**

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	mg/L	0.45	0.47	103 %	80 - 120 %	12-12-06 09:19	TCN-1283-W	Lachat 10-204-00-1-A (EPA 335.4)	1	DDW

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

1 Instrument ID: Lachat 8000 Autoanalyzer

**Quality Control Report
Method Blank**

Category: **Inorganic Chemistry**

Matrix: **Aqueous**

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	BRL	mg/L	0.01	12-12-06 09:19	TCN-1283-W	Lachat 10-204-00-1-A (EPA 335.4)	1	DDW

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

1 Instrument ID: Lachat 8000 Autoanalyzer

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states.

Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT, Department of Health Services, PH-0586

Categories: Potable Water, Wastewater, Solid Waste and Soil
http://www.dph.state.ct.us/BRS/Environmental_Lab/OutStateLabList.htm

FLORIDA, Department of Health, Bureau of Laboratories, E87643

Categories: SDWA, CWA, RCRA/CERCLA
<http://www.floridadep.org/labs/qa/dohforms.htm>

MAINE, Department of Human Services, MA103

Categories: Drinking Water and Wastewater
<http://www.state.me.us/dhs/eng/water/Compliance.htm>

MASSACHUSETTS, Department of Environmental Protection, M-MA-103

Categories: Potable Water and Non-Potable Water
<http://www.state.ma.us/dep/bspt/wes/files/certlabs.pdf>

NEW HAMPSHIRE, Department of Environmental Services, 202703

Categories: Drinking Water and Wastewater
<http://www.des.state.nh.us/asp/NHELAP/labsview.asp>

NEW YORK, Department of Health, 11754

Categories: Potable Water, Non-Potable Water and Solid Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

PENNSYLVANIA, Department of Environmental Protection, 68-665

Environmental Laboratory Registration (Non-drinking water and Non-wastewater)
<http://www.dep.state.pa.us/Labs/Registered/>

RHODE ISLAND, Department of Health, 54

Categories: Surface Water, Air, Wastewater, Potable Water, Sewage
http://www.healthri.org/labs/labsCT_MA.htm

U.S. Department of Agriculture, Soil Permit, S-53921

Foreign soil import permit

VERMONT, Department of Environmental Conservation, Water Supply Division

Category: Drinking Water
<http://www.vermontdrinkingwater.org/wsops/labtable.PDF>

