

## LABORATORY REPORT

Client:	GEOSYNTEC CONSULTANTS, INC.	Date of Report:	06/21/04
Address:	2100 Main Street, Suite 150	Date Received:	05/27/04
	Huntington Beach, CA 92648	CAS Project No:	P2401137
Contact:	Mr. Mike Reardon	Purchase Order:	SB0202/31

Client Project ID: Ascon LF/SB0202 / 31

Thirteen (13) Stainless Steel Summa Canisters labeled:

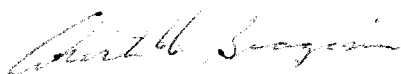
"AA-01-052504"	"AA-02-052504"	"AA-03-052504"	"AA-04-052504"
"AA-05-052504"	"AA-07-052504"	"AA-01-052604"	"AA-02-052604"
"AA-03-052604"	"AA-04-052604"	"AA-05-052604"	"AA-07-052604"
"PNL-L3B-SFU"			

The samples were received at the laboratory under chain of custody on May 27, 2004. The samples were received intact. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time that they were received at the laboratory.

### C1 through C6 Hydrocarbon Analysis

One of the samples was analyzed per modified EPA Method TO-3 for C<sub>1</sub> through >C<sub>6</sub> hydrocarbons using a gas chromatograph equipped with a flame ionization detector (FID).

Reviewed and Approved:



Aristotle Bragasin  
Analytical Chemist  
Air Quality Laboratory

Reviewed and Approved:



Wade Henton  
GC-VOA Team Leader  
Air Quality Laboratory

CAS Project No: P2401137

### Volatile Organic Compound Analysis

The samples were also analyzed by combined gas chromatography/mass spectrometry (GC/MS) for selected volatile organic compounds and tentatively identified compounds. The analyses were performed according to the methodology outlined in EPA Method TO-15. The analyses were performed by gas chromatography/mass spectrometry, utilizing a direct cryogenic trapping technique. The analytical systems used were comprised of Hewlett Packard Models 5972 GC/MS/DS and 5973 GC/MS/DS each interfaced to a Tekmar AutoCan Elite whole air inlet system/cryogenic concentrator. A 100% Dimethylpolysiloxane capillary column (RT<sub>x</sub>-1, Restek Corporation, Bellefonte, PA) was used to achieve chromatographic separation.

The laboratory control sample recovery was not within specified limits on the Hewlett Packard Model 5973 GC/MS/DS on June 11, 2004. Methyl tert-Butyl Ether was biased high. Methyl tert-Butyl Ether was not detected in the samples labeled "AA-04-052604", "AA-05-052604" and "AA-07-052604". The samples were not significantly affected.

The results of analyses are given on the attached data sheets. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-L3B-SFU  
**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID : P2401137  
CAS Sample ID : P2401137-013

**Test Code:** Modified EPA TO-3  
**Instrument ID:** HP5890II/GC8/FID  
**Analyst:** Regan Lau  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00333

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date Analyzed:** 6/8/04  
**Volume(s) Analyzed:** 1.0 ml

Pi 1 = 0.6

Pf 1 = 3.7

D.F. = 1.20

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	34	0.60	
C <sub>2</sub> as Ethane	ND	0.60	
C <sub>3</sub> as Propane	ND	0.60	
C <sub>4</sub> as n-Butane	ND	0.60	
C <sub>5</sub> as n-Pentane	ND	0.60	
C <sub>6</sub> as n-Hexane	ND	0.60	
C <sub>6</sub> + as n-Hexane	22	1.2	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RL Date: 6/17/04

**3**

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID : P2401137  
CAS Sample ID : P040607-MB

**Test Code:** Modified EPA TO-3  
**Instrument ID:** HP5890II/GC8/FID  
**Analyst:** Regan Lau  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 6/07/04  
**Volume(s) Analyzed:** 1.0 ml

D.F. = 1.00

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	ND	0.50	
C <sub>2</sub> as Ethane	ND	0.50	
C <sub>3</sub> as Propane	ND	0.50	
C <sub>4</sub> as n-Butane	ND	0.50	
C <sub>5</sub> as n-Pentane	ND	0.50	
C <sub>6</sub> as n-Hexane	ND	0.50	
C <sub>6</sub> + as n-Hexane	ND	1.0	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RL Date: 6/7/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID : P2401137  
CAS Sample ID : P040608-MB

**Test Code:** Modified EPA TO-3  
**Instrument ID:** HP5890II/GC8/FID  
**Analyst:** Regan Lau  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 6/08/04  
**Volume(s) Analyzed:** 1.0 ml

D.F. = 1.00

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	ND	0.50	
C <sub>2</sub> as Ethane	ND	0.50	
C <sub>3</sub> as Propane	ND	0.50	
C <sub>4</sub> as n-Butane	ND	0.50	
C <sub>5</sub> as n-Pentane	ND	0.50	
C <sub>6</sub> as n-Hexane	ND	0.50	
C <sub>6</sub> <sup>+</sup> as n-Hexane	ND	1.0	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RL Date: 6/17/04

**5**

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-01-052504  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-001

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00574

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/10/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.7      Pf 1 = 3.5

D.F. = 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.76	ND	0.37	
75-01-4	Vinyl Chloride	ND	0.76	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.76	ND	0.34	
74-83-9	Bromomethane	ND	0.76	ND	0.20	
75-00-3	Chloroethane	ND	0.76	ND	0.29	
67-64-1	Acetone	ND	7.6	ND	3.2	
75-69-4	Trichlorofluoromethane	1.3	0.76	0.24	0.14	
107-13-1	Acrylonitrile	ND	0.76	ND	0.35	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene chloride	0.81	0.76	0.23	0.22	
76-13-1	Trichlorotrifluoroethane	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	0.76	ND	0.24	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	0.76	ND	0.22	
78-93-3	2-Butanone (MEK)	1.5	0.76	0.52	0.26	
156-59-2	cis-1,2-Dichloroethene	ND	0.76	ND	0.19	
67-66-3	Chloroform	ND	0.76	ND	0.16	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.76	ND	0.14	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RCR

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-01-052504  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-001

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00574

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/10/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.7      Pf 1 = 3.5

D.F. = 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.76	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.76	ND	0.14	
10061-01-5	cis-1,3-Dichloropropene	ND	0.76	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	0.76	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.76	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.76	ND	0.14	
108-88-3	Toluene	2.3	0.76	0.62	0.20	
591-78-6	2-Hexanone	ND	0.76	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.089	
106-93-4	1,2-Dibromoethane	ND	0.76	ND	0.099	
127-18-4	Tetrachloroethene	ND	0.76	ND	0.11	
108-90-7	Chlorobenzene	ND	0.76	ND	0.17	
100-41-4	Ethylbenzene	ND	0.76	ND	0.18	
136777-61-2	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.76	ND	0.074	
100-42-5	Styrene	ND	0.76	ND	0.18	
95-47-6	o-Xylene	ND	0.76	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.76	ND	0.11	
541-73-1	1,3-Dichlorobenzene	ND	0.76	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.76	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: Rcr      Date: 6/17/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** AA-01-052504

**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137

**CAS Sample ID:** P2401137-001

### Tentatively Identified Compounds

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2

**Analyst:** Aristotle Bragasin

**Sampling Media:** Summa Canister

**Test Notes:** T

**Container ID:** AC00574

**Date Collected:** 5/25/04

**Date Received:** 5/27/04

**Date Analyzed:** 6/10/04

**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.7

Pf 1 = 3.5

D.F. = 1.52

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
6.17	Ethanol	20	
19.49	Hexamethylcyclotrisiloxane (Possible Artifact)	50	
21.86	Heptanal	3	
24.80	Octanal	7	
24.97	Unidentified Siloxane (Possible Artifact)	10	
25.49	2-Ethyl-1-hexanol	6	
25.79	C <sub>12</sub> H <sub>26</sub> Branched Alkane	5	
26.14	C <sub>12</sub> H <sub>26</sub> Branched Alkane	5	
26.52	C <sub>12</sub> H <sub>26</sub> Branched Alkane	4	
26.58	C <sub>12</sub> H <sub>26</sub> Branched Alkane	4	
26.89	Nonanal	10	
27.89	Unidentified Siloxane (Possible Artifact)	7	
28.48	Decanal	6	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC Date: 6/17/04

Page No.:



# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **AA-01-052504**  
 Client Project ID: **Ascon LF/SB0202 / 31**

CAS Project ID: P2401137  
 CAS Sample ID: P2401137-001DUP

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
 Analyst: Aristotle Bragasin  
 Sampling Media: Summa Canister  
 Test Notes:  
 Container ID: AC00574

Date Collected: 5/25/04  
 Date Received: 5/27/04  
 Date(s) Analyzed: 6/10/04  
 Volume(s) Analyzed: 1.00 Liter(s)

Pi 1 = -2.7

Pf 1 = 3.5

D.F. = 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.76	ND	0.37	
75-01-4	Vinyl Chloride	ND	0.76	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.76	ND	0.34	
74-83-9	Bromomethane	ND	0.76	ND	0.20	
75-00-3	Chloroethane	ND	0.76	ND	0.29	
67-64-1	Acetone	ND	7.6	ND	3.2	
75-69-4	Trichlorofluoromethane	1.2	0.76	0.21	0.14	
107-13-1	Acrylonitrile	ND	0.76	ND	0.35	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene chloride	0.79	0.76	0.23	0.22	
76-13-1	Trichlorotrifluoroethane	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	0.76	ND	0.24	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	0.76	ND	0.22	
78-93-3	2-Butanone (MEK)	1.5	0.76	0.50	0.26	
156-59-2	cis-1,2-Dichloroethene	ND	0.76	ND	0.19	
67-66-3	Chloroform	ND	0.76	ND	0.16	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.76	ND	0.14	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG

Date: 6/17/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** AA-01-052504

**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137

**CAS Sample ID:** P2401137-001DUP

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2

**Analyst:** Aristotle Bragasin

**Sampling Media:** Summa Canister

**Test Notes:**

**Container ID:** AC00574

**Date Collected:** 5/25/04

**Date Received:** 5/27/04

**Date(s) Analyzed:** 6/10/04

**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.7

Pf 1 = 3.5

D.F. = 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.76	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.76	ND	0.14	
10061-01-5	cis-1,3-Dichloropropene	ND	0.76	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	0.76	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.76	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.76	ND	0.14	
108-88-3	Toluene	2.3	0.76	0.62	0.20	
591-78-6	2-Hexanone	ND	0.76	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.089	
106-93-4	1,2-Dibromoethane	ND	0.76	ND	0.099	
127-18-4	Tetrachloroethene	ND	0.76	ND	0.11	
108-90-7	Chlorobenzene	ND	0.76	ND	0.17	
100-41-4	Ethylbenzene	ND	0.76	ND	0.18	
136777-61-2	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.76	ND	0.074	
100-42-5	Styrene	ND	0.76	ND	0.18	
95-47-6	o-Xylene	ND	0.76	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.76	ND	0.11	
541-73-1	1,3-Dichlorobenzene	ND	0.76	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.76	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: Re Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** AA-01-052504

**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID: P2401137

CAS Sample ID: P2401137-001DUP

### Tentatively Identified Compounds

Test Code: EPA TO-15  
Instrument ID: Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
Analyst: Aristotle Bragasin  
Sampling Media: Summa Canister  
Test Notes: T  
Container ID: AC00574

Date Collected: 5/25/04  
Date Received: 5/27/04  
Date Analyzed: 6/10/04  
Volume(s) Analyzed: 1.00 Liter(s)

Pi 1 = -2.7

Pf 1 = 3.5

D.F. = 1.52

GC / MS Ret. Time	Compound Identification	Concentration µg/m <sup>3</sup>	Data Qualifier
6.16	Ethanol	20	
19.49	Hexamethylcyclotrisiloxane (Possible Artifact)	50	
21.85	Heptanal	5	
24.80	Octanal	7	
24.96	Unidentified Siloxane (Possible Artifact)	10	
25.49	2-Ethyl-1-hexanol	5	
25.79	C <sub>12</sub> H <sub>26</sub> Branched Alkane	5	
26.14	C <sub>12</sub> H <sub>26</sub> Branched Alkane	5	
26.51	C <sub>12</sub> H <sub>26</sub> Branched Alkane	3	
26.58	C <sub>12</sub> H <sub>26</sub> Branched Alkane	2	
26.88	Nonanal	10	
27.88	Unidentified Siloxane (Possible Artifact)	7	
28.48	Decanal	6	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **AA-02-052504**  
 Client Project ID: **Ascon LF/SB0202 / 31**

CAS Project ID: P2401137  
 CAS Sample ID: P2401137-002

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
 Analyst: Aristotle Bragasin  
 Sampling Media: Summa Canister  
 Test Notes:  
 Container ID: AC00634

Date Collected: 5/25/04  
 Date Received: 5/27/04  
 Date(s) Analyzed: 6/10/04  
 Volume(s) Analyzed: 1.00 Liter(s)

Pi 1 = -3.2      Pf 1 = 3.7

D.F. = 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.80	ND	0.39	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.80	ND	0.21	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
67-64-1	Acetone	22	8.0	9.1	3.4	
75-69-4	Trichlorofluoromethane	1.2	0.80	0.21	0.14	
107-13-1	Acrylonitrile	ND	0.80	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene chloride	ND	0.80	ND	0.23	
76-13-1	Trichlorotrifluoroethane	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	0.80	ND	0.26	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	2.4	0.80	0.69	0.23	
78-93-3	2-Butanone (MEK)	4.0	0.80	1.4	0.27	
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
67-66-3	Chloroform	ND	0.80	ND	0.16	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.80	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.80	ND	0.13	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-02-052504  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-002

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00634

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/10/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.2

Pf 1 = 3.7

D.F. = 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.80	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.80	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	ND	0.80	ND	0.21	
591-78-6	2-Hexanone	1.4	0.80	0.35	0.20	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	
108-90-7	Chlorobenzene	ND	0.80	ND	0.17	
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
136777-61-2	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.80	ND	0.19	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-02-052504  
**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID: P2401137  
CAS Sample ID: P2401137-002

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:** T  
**Container ID:** AC00634

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date Analyzed:** 6/10/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.2

Pf 1 = 3.7

D.F. = 1.60

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
5.27	Acetaldehyde	7	
6.16	Ethanol	20	
9.13	Butanal	5	
13.10	Pentanal	8	
14.71	Diisobutene	10	
17.77	Hexanal	10	
19.49	Hexamethylcyclotrisiloxane (Possible Artifact)	200	
21.85	Heptanal	20	
23.58	Unidentified Oxygenated Compound	10	
24.80	Octanal	30	
24.96	Unidentified Siloxane (Possible Artifact)	30	
25.49	2-Ethyl-1-hexanol	20	
26.88	Nonanal	40	
27.88	Unidentified Siloxane (Possible Artifact)	10	
28.47	Decanal	9	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-03-052504  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-003

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00187

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.0

Pf 1 = 3.5

D.F. = 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.78	ND	0.38	
75-01-4	Vinyl Chloride	ND	0.78	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.78	ND	0.35	
74-83-9	Bromomethane	ND	0.78	ND	0.20	
75-00-3	Chloroethane	ND	0.78	ND	0.30	
67-64-1	Acetone	ND	7.8	ND	3.3	
75-69-4	Trichlorofluoromethane	1.3	0.78	0.22	0.14	
107-13-1	Acrylonitrile	ND	0.78	ND	0.36	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene chloride	ND	0.78	ND	0.22	
76-13-1	Trichlorotrifluoroethane	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	0.78	ND	0.25	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.78	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
108-05-4	Vinyl Acetate	2.3	0.78	0.64	0.22	
78-93-3	2-Butanone (MEK)	2.9	0.78	1.0	0.26	
156-59-2	cis-1,2-Dichloroethene	ND	0.78	ND	0.20	
67-66-3	Chloroform	ND	0.78	ND	0.16	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.78	ND	0.14	
71-43-2	Benzene	ND	0.78	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.78	ND	0.12	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-03-052504  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-003

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00187

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.0

Pf 1 = 3.5

D.F. = 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.78	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.78	ND	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.78	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	0.78	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.78	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.78	ND	0.14	
108-88-3	Toluene	3.8	0.78	1.0	0.21	
591-78-6	2-Hexanone	ND	0.78	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.092	
106-93-4	1,2-Dibromoethane	ND	0.78	ND	0.10	
127-18-4	Tetrachloroethene	ND	0.78	ND	0.12	
108-90-7	Chlorobenzene	ND	0.78	ND	0.17	
100-41-4	Ethylbenzene	ND	0.78	ND	0.18	
136777-61-2	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.78	ND	0.075	
100-42-5	Styrene	ND	0.78	ND	0.18	
95-47-6	o-Xylene	ND	0.78	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.78	ND	0.11	
541-73-1	1,3-Dichlorobenzene	ND	0.78	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.78	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC

Date: 6/17/04

Page No.:



# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** AA-03-052504

**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137

**CAS Sample ID:** P2401137-003

### Tentatively Identified Compounds

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2

**Analyst:** Aristotle Bragasin

**Sampling Media:** Summa Canister

**Test Notes:** T

**Container ID:** AC00187

**Date Collected:** 5/25/04

**Date Received:** 5/27/04

**Date Analyzed:** 6/11/04

**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.0

Pf 1 = 3.5

D.F. = 1.56

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
6.16	Ethanol	10	
8.75	Trimethylsilanol	4	
9.54	Acetic Acid	8	
19.48	Hexamethylcyclotrisiloxane (Possible Artifact)	20	
23.70	Benzaldehyde	6	
24.96	Unidentified Siloxane (Possible Artifact)	7	
25.49	2-Ethyl-1-hexanol	4	
26.89	Unidentified Oxygenated Compound	4	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** AA-04-052504

**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137

**CAS Sample ID:** P2401137-004

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2

**Analyst:** Aristotle Bragasin

**Sampling Media:** Summa Canister

**Test Notes:**

**Container ID:** AC00355

**Date Collected:** 5/25/04

**Date Received:** 5/27/04

**Date(s) Analyzed:** 6/11/04

**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.9

Pf 1 = 3.5

D.F. = 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.77	ND	0.37	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.77	ND	0.29	
67-64-1	Acetone	12	7.7	4.9	3.2	
75-69-4	Trichlorofluoromethane	1.3	0.77	0.23	0.14	
107-13-1	Acrylonitrile	ND	0.77	ND	0.35	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene chloride	ND	0.77	ND	0.22	
76-13-1	Trichlorotrifluoroethane	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	0.77	ND	0.25	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
108-05-4	Vinyl Acetate	3.2	0.77	0.91	0.22	
78-93-3	2-Butanone (MEK)	3.8	0.77	1.3	0.26	
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.19	
67-66-3	Chloroform	ND	0.77	ND	0.16	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-04-052504  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-004

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00355

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.9

Pf 1 = 3.5

D.F. = 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.11	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	0.77	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	5.0	0.77	1.3	0.20	
591-78-6	2-Hexanone	ND	0.77	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
127-18-4	Tetrachloroethene	ND	0.77	ND	0.11	
108-90-7	Chlorobenzene	ND	0.77	ND	0.17	
100-41-4	Ethylbenzene	ND	0.77	ND	0.18	
136777-61-2	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.77	ND	0.075	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	ND	0.77	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 6/11/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-04-052504  
**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID: P2401137  
CAS Sample ID: P2401137-004

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:** T  
**Container ID:** AC00355

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.9

Pf 1 = 3.5

D.F. = 1.54

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
6.16	Ethanol	20	
9.56	Acetic Acid	10	
23.70	Benzaldehyde	6	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RG

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** AA-05-052504

**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137

**CAS Sample ID:** P2401137-005

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2

**Analyst:** Aristotle Bragasin

**Sampling Media:** Summa Canister

**Test Notes:**

**Container ID:** AC00537

**Date Collected:** 5/25/04

**Date Received:** 5/27/04

**Date(s) Analyzed:** 6/11/04

**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.4

Pf 1 = 3.5

D.F. = 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.74	ND	0.36	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
67-64-1	Acetone	18	7.4	7.7	3.1	
75-69-4	Trichlorofluoromethane	1.3	0.74	0.22	0.13	
107-13-1	Acrylonitrile	ND	0.74	ND	0.34	
75-35-4	1,1-Dichloroethene	ND	0.74	ND	0.19	
75-09-2	Methylene chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane	ND	0.74	ND	0.097	
75-15-0	Carbon Disulfide	ND	0.74	ND	0.24	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.21	
108-05-4	Vinyl Acetate	6.4	0.74	1.8	0.21	
78-93-3	2-Butanone (MEK)	3.2	0.74	1.1	0.25	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
67-66-3	Chloroform	ND	0.74	ND	0.15	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-05-052504  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-005

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00537

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.4

Pf 1 = 3.5

D.F. = 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.74	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	0.74	ND	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.74	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	6.1	0.74	1.6	0.20	
591-78-6	2-Hexanone	ND	0.74	ND	0.18	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.096	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	
108-90-7	Chlorobenzene	ND	0.74	ND	0.16	
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
136777-61-2	m,p -Xylenes	ND	1.5	ND	0.34	
75-25-2	Bromoform	ND	0.74	ND	0.072	
100-42-5	Styrene	ND	0.74	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-05-052504  
**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID: P2401137  
 CAS Sample ID: P2401137-005

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:** T  
**Container ID:** AC00537

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.4

Pf 1 = 3.5

D.F. = 1.48

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
5.27	Acetaldehyde	6	
6.16	Ethanol	10	
9.59	Acetic Acid	8	
19.48	Hexamethylcyclotrisiloxane (Possible Artifact)	4	
24.97	Unidentified Siloxane (Possible Artifact)	20	
27.88	Unidentified Siloxane (Possible Artifact)	10	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **AA-07-052504**  
 Client Project ID: **Ascon LF/SB0202 / 31**

CAS Project ID: P2401137  
 CAS Sample ID: P2401137-006

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
 Analyst: Aristotle Bragasin  
 Sampling Media: Summa Canister  
 Test Notes:  
 Container ID: AC00622

Date Collected: 5/25/04  
 Date Received: 5/27/04  
 Date(s) Analyzed: 6/11/04  
 Volume(s) Analyzed: 1.00 Liter(s)

Pi 1 = -2.6

Pf 1 = 3.5

D.F. = 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.75	ND	0.36	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.28	
67-64-1	Acetone	16	7.5	6.7	3.2	
75-69-4	Trichlorofluoromethane	1.3	0.75	0.22	0.13	
107-13-1	Acrylonitrile	ND	0.75	ND	0.35	
75-35-4	1,1-Dichloroethene	ND	0.75	ND	0.19	
75-09-2	Methylene chloride	ND	0.75	ND	0.22	
76-13-1	Trichlorotrifluoroethane	ND	0.75	ND	0.098	
75-15-0	Carbon Disulfide	ND	0.75	ND	0.24	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	
108-05-4	Vinyl Acetate	2.5	0.75	0.71	0.21	
78-93-3	2-Butanone (MEK)	2.4	0.75	0.81	0.25	
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
67-66-3	Chloroform	ND	0.75	ND	0.15	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.75	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.75	ND	0.12	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC

Date: 6/11/04



# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** AA-07-052504

**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID: P2401137

CAS Sample ID: P2401137-006

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2

**Analyst:** Aristotle Bragasin

**Sampling Media:** Summa Canister

**Test Notes:**

**Container ID:** AC00622

Date Collected: 5/25/04

Date Received: 5/27/04

Date(s) Analyzed: 6/11/04

Volume(s) Analyzed: 1.00 Liter(s)

Pi 1 = -2.6

Pf 1 = 3.5

D.F. = 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.75	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
10061-01-5	cis-1,3-Dichloropropene	ND	0.75	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	0.75	ND	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	3.0	0.75	0.79	0.20	
591-78-6	2-Hexanone	ND	0.75	ND	0.18	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.75	ND	0.098	
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	
108-90-7	Chlorobenzene	ND	0.75	ND	0.16	
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
136777-61-2	m,p -Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.75	ND	0.073	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.12	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC Date: 6/17/04

Page No.

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** AA-07-052504

**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID: P2401137

CAS Sample ID: P2401137-006

### Tentatively Identified Compounds

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2

**Analyst:** Aristotle Bragasin

**Sampling Media:** Summa Canister

**Test Notes:** T

**Container ID:** AC00622

**Date Collected:** 5/25/04

**Date Received:** 5/27/04

**Date Analyzed:** 6/11/04

**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.6

Pf 1 = 3.5

D.F. = 1.50

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
5.27	Acetaldehyde	6	
9.58	Acetic Acid	3	
17.78	Hexanal	5	
19.48	Hexamethylcyclotrisiloxane (Possible Artifact)	7	
21.86	Heptanal	7	
24.81	Octanal	10	
24.97	Unidentified Siloxane (Possible Artifact)	4	
26.88	Nonanal	7	
27.89	Unidentified Siloxane (Possible Artifact)	5	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-01-052604  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-007

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasini  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00584

**Date Collected:** 5/26/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -5.6

Pf 1 = 3.5

D.F. = 2.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	1.0	ND	0.48	
75-01-4	Vinyl Chloride	ND	1.0	ND	0.39	
106-99-0	1,3-Butadiene	ND	1.0	ND	0.45	
74-83-9	Bromomethane	ND	1.0	ND	0.26	
75-00-3	Chloroethane	ND	1.0	ND	0.38	
67-64-1	Acetone	ND	10	ND	4.2	
75-69-4	Trichlorofluoromethane	ND	1.0	ND	0.18	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	1.0	ND	0.25	
75-09-2	Methylene chloride	1.0	1.0	0.30	0.29	
76-13-1	Trichlorotrifluoroethane	ND	1.0	ND	0.13	
75-15-0	Carbon Disulfide	ND	1.0	ND	0.32	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ND	0.25	
75-34-3	1,1-Dichloroethane	ND	1.0	ND	0.25	
1634-04-4	Methyl tert-Butyl Ether	ND	1.0	ND	0.28	
108-05-4	Vinyl Acetate	1.7	1.0	0.48	0.28	
78-93-3	2-Butanone (MEK)	2.7	1.0	0.92	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ND	0.25	
67-66-3	Chloroform	ND	1.0	ND	0.20	
107-06-2	1,2-Dichloroethane	ND	1.0	ND	0.25	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ND	0.18	
71-43-2	Benzene	ND	1.0	ND	0.31	
56-23-5	Carbon Tetrachloride	ND	1.0	ND	0.16	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-01-052604  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-007

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00584

**Date Collected:** 5/26/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -5.6

Pf 1 = 3.5

D.F. = 2.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	1.0	ND	0.22	
75-27-4	Bromodichloromethane	ND	1.0	ND	0.15	
79-01-6	Trichloroethene	ND	1.0	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ND	0.22	
108-10-1	4-Methyl-2-pentanone	ND	1.0	ND	0.24	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ND	0.22	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ND	0.18	
108-88-3	Toluene	4.1	1.0	1.1	0.27	
591-78-6	2-Hexanone	ND	1.0	ND	0.24	
124-48-1	Dibromochloromethane	ND	1.0	ND	0.12	
106-93-4	1,2-Dibromoethane	ND	1.0	ND	0.13	
127-18-4	Tetrachloroethene	ND	1.0	ND	0.15	
108-90-7	Chlorobenzene	ND	1.0	ND	0.22	
100-41-4	Ethylbenzene	ND	1.0	ND	0.23	
136777-61-2	m,p-Xylenes	ND	2.0	ND	0.46	
75-25-2	Bromoform	ND	1.0	ND	0.097	
100-42-5	Styrene	ND	1.0	ND	0.23	
95-47-6	o-Xylene	ND	1.0	ND	0.23	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ND	0.17	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ND	0.17	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ND	0.17	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 6/17/04

28

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-01-052604  
**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID: P2401137  
CAS Sample ID: P2401137-007

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:** T  
**Container ID:** AC00584

**Date Collected:** 5/26/04  
**Date Received:** 5/27/04  
**Date Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -5.6

Pf 1 = 3.5

D.F. = 2.00

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
21.36	3-Heptanone	10	
23.37	Unidentified Oxygenated Compound	9	
23.59	Unidentified Oxygenated Compound	20	
23.68	2-Ethylhexanal + Benzaldehyde	20	
25.49	2-Ethyl-1-hexanol	50	
26.88	Nonanal	4	
29.37	C <sub>9</sub> H <sub>8</sub> O Compound	7	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-02-052604  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-008

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00518

**Date Collected:** 5/26/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.6      Pf 1 = 3.5

D.F. = 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.82	ND	0.40	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.82	ND	0.37	
74-83-9	Bromomethane	ND	0.82	ND	0.21	
75-00-3	Chloroethane	ND	0.82	ND	0.31	
67-64-1	Acetone	15	8.2	6.2	3.5	
75-69-4	Trichlorofluoromethane	1.3	0.82	0.23	0.15	
107-13-1	Acrylonitrile	ND	0.82	ND	0.38	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene chloride	ND	0.82	ND	0.24	
76-13-1	Trichlorotrifluoroethane	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	0.82	ND	0.26	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.82	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.82	ND	0.23	
108-05-4	Vinyl Acetate	5.6	0.82	1.6	0.23	
78-93-3	2-Butanone (MEK)	2.8	0.82	0.95	0.28	
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
67-66-3	Chloroform	ND	0.82	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.82	ND	0.15	
71-43-2	Benzene	ND	0.82	ND	0.26	
56-23-5	Carbon Tetrachloride	ND	0.82	ND	0.13	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-02-052604  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-008

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00518

**Date Collected:** 5/26/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.6

Pf 1 = 3.5

D.F. = 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.82	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.82	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.82	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.82	ND	0.15	
108-88-3	Toluene	4.2	0.82	1.1	0.22	
591-78-6	2-Hexanone	ND	0.82	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.82	ND	0.096	
106-93-4	1,2-Dibromoethane	ND	0.82	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.82	ND	0.12	
108-90-7	Chlorobenzene	ND	0.82	ND	0.18	
100-41-4	Ethylbenzene	ND	0.82	ND	0.19	
136777-61-2	m,p-Xylenes	ND	1.6	ND	0.38	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.82	ND	0.19	
95-47-6	o-Xylene	ND	0.82	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
541-73-1	1,3-Dichlorobenzene	ND	0.82	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.82	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.82	ND	0.14	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RL Date: 6/17/04

Page No.:

31

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-02-052604  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-008

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:** T  
**Container ID:** AC00518

**Date Collected:** 5/26/04  
**Date Received:** 5/27/04  
**Date Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.6

Pf 1 = 3.5

D.F. = 1.64

GC / MS Ret. Time	Compound Identification	Concentration µg/m <sup>3</sup>	Data Qualifier
5.26	Acetaldehyde	8	
9.53	Acetic Acid	40	
13.10	Pentanal	4	
17.78	Hexanal	5	
19.48	Hexamethylcyclotrisiloxane (Possible Artifact)	9	
21.49	Cyclohexanone	5	
21.85	Heptanal	5	
24.80	Octanal	4	
24.97	Unidentified Siloxane (Possible Artifact)	9	
27.09	n-Undecane	6	
27.89	Unidentified Siloxane (Possible Artifact)	5	
28.59	n-Dodecane	4	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC Date: 6/17/04

Page No.:



# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-03-052604  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-009

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasini  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00592

**Date Collected:** 5/26/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -4.8

Pf 1 = 3.5

D.F. = 1.84

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.92	ND	0.45	
75-01-4	Vinyl Chloride	ND	0.92	ND	0.36	
106-99-0	1,3-Butadiene	ND	0.92	ND	0.42	
74-83-9	Bromomethane	ND	0.92	ND	0.24	
75-00-3	Chloroethane	ND	0.92	ND	0.35	
67-64-1	Acetone	16	9.2	6.6	3.9	
75-69-4	Trichlorofluoromethane	1.2	0.92	0.22	0.16	
107-13-1	Acrylonitrile	ND	0.92	ND	0.42	
75-35-4	1,1-Dichloroethene	ND	0.92	ND	0.23	
75-09-2	Methylene chloride	ND	0.92	ND	0.26	
76-13-1	Trichlorotrifluoroethane	ND	0.92	ND	0.12	
75-15-0	Carbon Disulfide	ND	0.92	ND	0.30	
156-60-5	trans-1,2-Dichloroethene	ND	0.92	ND	0.23	
75-34-3	1,1-Dichloroethane	ND	0.92	ND	0.23	
1634-04-4	Methyl tert-Butyl Ether	ND	0.92	ND	0.26	
108-05-4	Vinyl Acetate	3.4	0.92	1.0	0.26	
78-93-3	2-Butanone (MEK)	2.4	0.92	0.80	0.31	
156-59-2	cis-1,2-Dichloroethene	ND	0.92	ND	0.23	
67-66-3	Chloroform	ND	0.92	ND	0.19	
107-06-2	1,2-Dichloroethane	ND	0.92	ND	0.23	
71-55-6	1,1,1-Trichloroethane	ND	0.92	ND	0.17	
71-43-2	Benzene	ND	0.92	ND	0.29	
56-23-5	Carbon Tetrachloride	ND	0.92	ND	0.15	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** AA-03-052604

**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137

**CAS Sample ID:** P2401137-009

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2

**Analyst:** Aristotle Bragasin

**Sampling Media:** Summa Canister

**Test Notes:**

**Container ID:** AC00592

**Date Collected:** 5/26/04

**Date Received:** 5/27/04

**Date(s) Analyzed:** 6/11/04

**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -4.8

Pf 1 = 3.5

D.F. = 1.84

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.92	ND	0.20	
75-27-4	Bromodichloromethane	ND	0.92	ND	0.14	
79-01-6	Trichloroethene	ND	0.92	ND	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.92	ND	0.20	
108-10-1	4-Methyl-2-pentanone	ND	0.92	ND	0.22	
10061-02-6	trans-1,3-Dichloropropene	ND	0.92	ND	0.20	
79-00-5	1,1,2-Trichloroethane	ND	0.92	ND	0.17	
108-88-3	Toluene	1.5	0.92	0.41	0.24	
591-78-6	2-Hexanone	ND	0.92	ND	0.22	
124-48-1	Dibromochloromethane	ND	0.92	ND	0.11	
106-93-4	1,2-Dibromoethane	ND	0.92	ND	0.12	
127-18-4	Tetrachloroethene	ND	0.92	ND	0.14	
108-90-7	Chlorobenzene	ND	0.92	ND	0.20	
100-41-4	Ethylbenzene	ND	0.92	ND	0.21	
136777-61-2	m,p-Xylenes	ND	1.8	ND	0.42	
75-25-2	Bromoform	ND	0.92	ND	0.089	
100-42-5	Styrene	ND	0.92	ND	0.22	
95-47-6	o-Xylene	ND	0.92	ND	0.21	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.92	ND	0.13	
541-73-1	1,3-Dichlorobenzene	ND	0.92	ND	0.15	
106-46-7	1,4-Dichlorobenzene	ND	0.92	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.92	ND	0.15	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: R.G. Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** AA-03-052604

**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137

**CAS Sample ID:** P2401137-009

### Tentatively Identified Compounds

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2

**Analyst:** Aristotle Bragasin

**Sampling Media:** Summa Canister

**Test Notes:** T

**Container ID:** AC00592

**Date Collected:** 5/26/04

**Date Received:** 5/27/04

**Date Analyzed:** 6/11/04

**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -4.8

Pf 1 = 3.5

D.F. = 1.84

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
9.53	Acetic Acid	8	
27.09	n-Undecane	4	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC Date: 6/17/04

Page No.:

## COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **AA-04-052604**  
 Client Project ID: **Ascon LF/SB0202 / 31**

CAS Project ID: P2401137  
 CAS Sample ID: P2401137-010

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
 Analyst: Aristotle Bragasin  
 Sampling Media: Summa Canister  
 Test Notes:  
 Container ID: AC00596

Date Collected: 5/26/04  
 Date Received: 5/27/04  
 Date(s) Analyzed: 6/12/04  
 Volume(s) Analyzed: 1.00 Liter(s)

Pi 1 = -3.6

Pf 1 = 3.5

D.F. = 1.64

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.82	ND	0.40	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.82	ND	0.37	
74-83-9	Bromomethane	ND	0.82	ND	0.21	
75-00-3	Chloroethane	ND	0.82	ND	0.31	
67-64-1	Acetone	10	8.2	4.2	3.5	
75-69-4	Trichlorofluoromethane	1.2	0.82	0.22	0.15	
107-13-1	Acrylonitrile	ND	0.82	ND	0.38	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene chloride	ND	0.82	ND	0.24	
76-13-1	Trichlorotrifluoroethane	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	0.82	ND	0.26	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.82	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.82	ND	0.23	L
108-05-4	Vinyl Acetate	ND	0.82	ND	0.23	
78-93-3	2-Butanone (MEK)	1.7	0.82	0.57	0.28	
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
67-66-3	Chloroform	ND	0.82	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.82	ND	0.15	
71-43-2	Benzene	ND	0.82	ND	0.26	
56-23-5	Carbon Tetrachloride	ND	0.82	ND	0.13	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

L = Laboratory control sample recovery not within specified limits.

Verified By: RG Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-04-052604  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-010

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00596

**Date Collected:** 5/26/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/12/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.6

Pf 1 = 3.5

D.F. = 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.82	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.82	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.82	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.82	ND	0.15	
108-88-3	Toluene	ND	0.82	ND	0.22	
591-78-6	2-Hexanone	ND	0.82	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.82	ND	0.096	
106-93-4	1,2-Dibromoethane	ND	0.82	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.82	ND	0.12	
108-90-7	Chlorobenzene	ND	0.82	ND	0.18	
100-41-4	Ethylbenzene	ND	0.82	ND	0.19	
136777-61-2	m,p-Xylenes	ND	1.6	ND	0.38	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.82	ND	0.19	
95-47-6	o-Xylene	ND	0.82	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
541-73-1	1,3-Dichlorobenzene	ND	0.82	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.82	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.82	ND	0.14	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RL Date: 6/12/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

Client: GeoSyntec Consultants, Inc.  
 Client Sample ID: AA-04-052604  
 Client Project ID: Ascon LF/SB0202 / 31

CAS Project ID: P2401137  
 CAS Sample ID: P2401137-010

### Tentatively Identified Compounds

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
 Analyst: Aristotle Bragasin  
 Sampling Media: Summa Canister  
 Test Notes: T  
 Container ID: AC00596

Date Collected: 5/26/04  
 Date Received: 5/27/04  
 Date Analyzed: 6/12/04  
 Volume(s) Analyzed: 1.00 Liter(s)

Pi 1 = -3.6

Pf 1 = 3.5

D.F. = 1.64

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
5.39	Acetaldehyde	4	
9.53	Acetic Acid	7	
17.21	Hexanal	4	
18.73	Hexamethylcyclotrisiloxane (Possible Artifact)	10	
20.95	Heptanal	7	
22.73	Benzaldehyde	10	
23.85	Octanal	10	
23.99	Unidentified Siloxane (Possible Artifact)	10	
26.13	Nonanal	20	
27.19	Unidentified Siloxane (Possible Artifact)	8	
28.73	C <sub>9</sub> H <sub>8</sub> O Compound	4	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC Date: 6/12/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-05-052604  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-011

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00594

**Date Collected:** 5/26/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/12/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -1.7      Pf 1 = 3.5

D.F. = 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	0.84	0.70	0.41	0.34	
75-01-4	Vinyl Chloride	ND	0.70	ND	0.27	
106-99-0	1,3-Butadiene	ND	0.70	ND	0.32	
74-83-9	Bromomethane	ND	0.70	ND	0.18	
75-00-3	Chloroethane	ND	0.70	ND	0.27	
67-64-1	Acetone	8.8	7.0	3.7	2.9	
75-69-4	Trichlorofluoromethane	1.3	0.70	0.23	0.12	
107-13-1	Acrylonitrile	ND	0.70	ND	0.32	
75-35-4	1,1-Dichloroethene	ND	0.70	ND	0.18	
75-09-2	Methylene chloride	ND	0.70	ND	0.20	
76-13-1	Trichlorotrifluoroethane	ND	0.70	ND	0.091	
75-15-0	Carbon Disulfide	ND	0.70	ND	0.22	
156-60-5	trans-1,2-Dichloroethene	ND	0.70	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.70	ND	0.17	
1634-04-4	Methyl tert-Butyl Ether	ND	0.70	ND	0.19	L
108-05-4	Vinyl Acetate	0.87	0.70	0.25	0.20	
78-93-3	2-Butanone (MEK)	1.5	0.70	0.51	0.24	
156-59-2	cis-1,2-Dichloroethene	ND	0.70	ND	0.18	
67-66-3	Chloroform	ND	0.70	ND	0.14	
107-06-2	1,2-Dichloroethane	ND	0.70	ND	0.17	
71-55-6	1,1,1-Trichloroethane	ND	0.70	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

L = Laboratory control sample recovery not within specified limits.

Verified By: RC Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** AA-05-052604

**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137

**CAS Sample ID:** P2401137-011

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3

**Analyst:** Aristotle Bragasin

**Sampling Media:** Summa Canister

**Test Notes:**

**Container ID:** AC00594

**Date Collected:** 5/26/04

**Date Received:** 5/27/04

**Date(s) Analyzed:** 6/12/04

**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -1.7

Pf 1 = 3.5

D.F. = 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.70	ND	0.10	
79-01-6	Trichloroethene	ND	0.70	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	0.70	ND	0.17	
10061-02-6	trans-1,3-Dichloropropene	ND	0.70	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.70	ND	0.13	
108-88-3	Toluene	0.76	0.70	0.20	0.19	
591-78-6	2-Hexanone	ND	0.70	ND	0.17	
124-48-1	Dibromochloromethane	ND	0.70	ND	0.082	
106-93-4	1,2-Dibromoethane	ND	0.70	ND	0.091	
127-18-4	Tetrachloroethene	ND	0.70	ND	0.10	
108-90-7	Chlorobenzene	ND	0.70	ND	0.15	
100-41-4	Ethylbenzene	ND	0.70	ND	0.16	
136777-61-2	m,p -Xylenes	ND	1.4	ND	0.32	
75-25-2	Bromoform	ND	0.70	ND	0.068	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	ND	0.70	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.70	ND	0.10	
541-73-1	1,3-Dichlorobenzene	ND	0.70	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.70	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.70	ND	0.12	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 6/17/04

Page No.:



# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-05-052604  
**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID: P2401137  
CAS Sample ID: P2401137-011

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:** T  
**Container ID:** AC00594

**Date Collected:** 5/26/04  
**Date Received:** 5/27/04  
**Date Analyzed:** 6/12/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -1.7

Pf 1 = 3.5

D.F. = 1.40

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
5.39	Acetaldehyde	4	
9.57	Acetic Acid	10	
17.20	Hexanal	4	
18.73	Hexamethylcyclotrisiloxane (Possible Artifact)	8	
20.95	Heptanal	7	
22.72	Benzaldehyde	7	
23.85	Octanal	10	
23.99	Unidentified Siloxane (Possible Artifact)	4	
26.13	Nonanal	20	
27.19	Unidentified Siloxane (Possible Artifact)	7	
27.82	Decanal	5	
28.77	C <sub>9</sub> H <sub>8</sub> O Compound	6	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC Date: 6/17/04

Page No.:

41

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **AA-07-052604**  
 Client Project ID: **Ascon LF/SB0202 / 31**

CAS Project ID: P2401137  
 CAS Sample ID: P2401137-012

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
 Analyst: Aristotle Bragasin  
 Sampling Media: Summa Canister  
 Test Notes:  
 Container ID: AC00324

Date Collected: 5/26/04  
 Date Received: 5/27/04  
 Date(s) Analyzed: 6/12/04  
 Volume(s) Analyzed: 1.00 Liter(s)

Pi 1 = -3.5

Pf 1 = 3.5

D.F. = 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	0.95	0.82	0.46	0.39	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.82	ND	0.37	
74-83-9	Bromomethane	ND	0.82	ND	0.21	
75-00-3	Chloroethane	ND	0.82	ND	0.31	
67-64-1	Acetone	ND	8.2	ND	3.4	
75-69-4	Trichlorofluoromethane	1.2	0.82	0.22	0.15	
107-13-1	Acrylonitrile	ND	0.82	ND	0.38	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene chloride	ND	0.82	ND	0.23	
76-13-1	Trichlorotrifluoroethane	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	0.82	ND	0.26	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.82	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.82	ND	0.23	L
108-05-4	Vinyl Acetate	ND	0.82	ND	0.23	
78-93-3	2-Butanone (MEK)	0.90	0.82	0.30	0.28	
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
67-66-3	Chloroform	ND	0.82	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.82	ND	0.15	
71-43-2	Benzene	ND	0.82	ND	0.26	
56-23-5	Carbon Tetrachloride	ND	0.82	ND	0.13	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

L = Laboratory control sample recovery not within specified limits.

Verified By: RC

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** AA-07-052604

**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137

**CAS Sample ID:** P2401137-012

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3

**Analyst:** Aristotle Bragasin

**Sampling Media:** Summa Canister

**Test Notes:**

**Container ID:** AC00324

**Date Collected:** 5/26/04

**Date Received:** 5/27/04

**Date(s) Analyzed:** 6/12/04

**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.5

Pf 1 = 3.5

D.F. = 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.82	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.82	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.82	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.82	ND	0.15	
108-88-3	Toluene	ND	0.82	ND	0.22	
591-78-6	2-Hexanone	ND	0.82	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.82	ND	0.096	
106-93-4	1,2-Dibromoethane	ND	0.82	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.82	ND	0.12	
108-90-7	Chlorobenzene	ND	0.82	ND	0.18	
100-41-4	Ethylbenzene	ND	0.82	ND	0.19	
136777-61-2	m,p-Xylenes	ND	1.6	ND	0.38	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.82	ND	0.19	
95-47-6	o-Xylene	ND	0.82	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
541-73-1	1,3-Dichlorobenzene	ND	0.82	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.82	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.82	ND	0.14	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** AA-07-052604  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-012

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:** T  
**Container ID:** AC00324

**Date Collected:** 5/26/04  
**Date Received:** 5/27/04  
**Date Analyzed:** 6/12/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.5

Pf 1 = 3.5

D.F. = 1.63

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
6.28	Ethanol	20	
18.73	Hexamethylcyclotrisiloxane (Possible Artifact)	30	
23.85	Octanal	5	
23.98	Unidentified Siloxane (Possible Artifact)	10	
24.58	2-Ethyl-1-hexanol	4	
26.13	Nonanal	10	
27.19	Unidentified Siloxane (Possible Artifact)	20	
27.83	Decanal	7	
29.59	Unidentified Siloxane (Possible Artifact)	5	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-L3B-SFU  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-013

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00333

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 0.050 Liter(s)

Pi 1 = 0.6

Pf 1 = 3.7

D.F. = 1.20

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	12	ND	5.8	
75-01-4	Vinyl Chloride	ND	12	ND	4.7	
106-99-0	1,3-Butadiene	ND	12	ND	5.4	
74-83-9	Bromomethane	ND	12	ND	3.1	
75-00-3	Chloroethane	ND	12	ND	4.5	
67-64-1	Acetone	ND	120	ND	51	
75-69-4	Trichlorofluoromethane	ND	12	ND	2.1	
107-13-1	Acrylonitrile	ND	12	ND	5.5	
75-35-4	1,1-Dichloroethene	ND	12	ND	3.0	
75-09-2	Methylene chloride	ND	12	ND	3.5	
76-13-1	Trichlorotrifluoroethane	ND	12	ND	1.6	
75-15-0	Carbon Disulfide	ND	12	ND	3.9	
156-60-5	trans-1,2-Dichloroethene	ND	12	ND	3.0	
75-34-3	1,1-Dichloroethane	ND	12	ND	3.0	
1634-04-4	Methyl tert-Butyl Ether	ND	12	ND	3.3	
108-05-4	Vinyl Acetate	ND	12	ND	3.4	
78-93-3	2-Butanone (MEK)	ND	12	ND	4.1	
156-59-2	cis-1,2-Dichloroethene	ND	12	ND	3.0	
67-66-3	Chloroform	ND	12	ND	2.5	
107-06-2	1,2-Dichloroethane	ND	12	ND	3.0	
71-55-6	1,1,1-Trichloroethane	ND	12	ND	2.2	
71-43-2	Benzene	140	12	43	3.8	
56-23-5	Carbon Tetrachloride	ND	12	ND	1.9	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC Date: 6/11/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-L3B-SFU  
**Client Project ID:** Ascon LF/SB0202 / 31

**CAS Project ID:** P2401137  
**CAS Sample ID:** P2401137-013

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00333

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date(s) Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 0.050 Liter(s)

Pi 1 = 0.6

Pf 1 = 3.7

D.F. = 1.20

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	12	ND	2.6	
75-27-4	Bromodichloromethane	ND	12	ND	1.8	
79-01-6	Trichloroethene	ND	12	ND	2.2	
10061-01-5	cis-1,3-Dichloropropene	ND	12	ND	2.6	
108-10-1	4-Methyl-2-pentanone	ND	12	ND	2.9	
10061-02-6	trans-1,3-Dichloropropene	ND	12	ND	2.6	
79-00-5	1,1,2-Trichloroethane	ND	12	ND	2.2	
108-88-3	Toluene	200	12	53	3.2	
591-78-6	2-Hexanone	ND	12	ND	2.9	
124-48-1	Dibromochloromethane	ND	12	ND	1.4	
106-93-4	1,2-Dibromoethane	ND	12	ND	1.6	
127-18-4	Tetrachloroethene	ND	12	ND	1.8	
108-90-7	Chlorobenzene	ND	12	ND	2.6	
100-41-4	Ethylbenzene	650	12	150	2.8	
136777-61-2	m,p-Xylenes	620	24	140	5.5	
75-25-2	Bromoform	ND	12	ND	1.2	
100-42-5	Styrene	ND	12	ND	2.8	
95-47-6	o-Xylene	390	12	90	2.8	
79-34-5	1,1,2,2-Tetrachloroethane	ND	12	ND	1.7	
541-73-1	1,3-Dichlorobenzene	ND	12	ND	2.0	
106-46-7	1,4-Dichlorobenzene	ND	12	ND	2.0	
95-50-1	1,2-Dichlorobenzene	ND	12	ND	2.0	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-L3B-SFU  
**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID: P2401137  
CAS Sample ID: P2401137-013

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:** T  
**Container ID:** SC00333

**Date Collected:** 5/25/04  
**Date Received:** 5/27/04  
**Date Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 0.050 Liter(s)

Pi 1 = 0.6

Pf 1 = 3.7

D.F. = 1.20

GC / MS Ret. Time	Compound Identification	Concentration µg/m <sup>3</sup>	Data Qualifier
11.17	Methylcyclopentane	50	
13.53	Dimethylcyclopentane Isomer	50	
13.65	Dimethylcyclopentane Isomer	40	
13.77	Dimethylcyclopentane Isomer	60	
15.32	Methylcyclohexane	70	
16.50	Trimethylcyclopentane Isomer	60	
17.92	Dimethylcyclohexane Isomer	50	
20.46	Trimethylcyclohexane Isomer	90	
23.34	C <sub>9</sub> H <sub>16</sub> Compound	50	
23.58	C <sub>10</sub> H <sub>22</sub> Branched Alkane + Unidentified Oxygenated Compound	50	
24.14	3-Ethyltoluene	50	
24.98	1,2,4-Trimethylbenzene	50	
25.64	1,2,3-Trimethylbenzene	70	
28.57	Naphthalene	40	
29.55	C <sub>14</sub> H <sub>30</sub> Branched Alkane	40	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RG

Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **Method Blank**  
 Client Project ID: **Ascon LF/SB0202 / 31**

CAS Project ID: P2401137  
 CAS Sample ID: P040610-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
 Analyst: Michelle Sakamoto/Aristotle Bragasin  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date(s) Analyzed: 6/10/04  
 Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.50	ND	0.24	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene chloride	ND	0.50	ND	0.14	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	0.50	ND	0.16	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	0.50	ND	0.14	
78-93-3	2-Butanone (MEK)	ND	0.50	ND	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
67-66-3	Chloroform	ND	0.50	ND	0.10	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: Rc

Date: 6/10/04

Page No.:



## COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

Client: GeoSyntec Consultants, Inc.

Client Sample ID: Method Blank

Client Project ID: Ascon LF/SB0202 / 31

CAS Project ID: P2401137

CAS Sample ID: P040610-MB

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/HP5972/HP5890 II+/MS2

Analyst: Michelle Sakamoto/Aristotle Bragasin

Sampling Media: Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date(s) Analyzed: 6/10/04

Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
136777-61-2	<i>m,p</i> -Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	<i>o</i> -Xylene	ND	0.50	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RGDate: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID: P2401137  
CAS Sample ID: P040610-MB

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Michelle Sakamoto/Aristotle Bragasin  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 6/10/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
	No Compounds Detected		

Verified By: RG Date: 6/17/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **Method Blank**  
 Client Project ID: **Ascon LF/SB0202 / 31**

CAS Project ID: P2401137  
 CAS Sample ID: P040611-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
 Analyst: Rusty Bravo/Wade Henton  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date(s) Analyzed: 6/11/04  
 Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.50	ND	0.24	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene chloride	ND	0.50	ND	0.14	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	0.50	ND	0.16	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	L
108-05-4	Vinyl Acetate	ND	0.50	ND	0.14	
78-93-3	2-Butanone (MEK)	ND	0.50	ND	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
67-66-3	Chloroform	ND	0.50	ND	0.10	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

L = Laboratory control sample recovery not within specified limits.

Verified By: RC Date: 6/17/04

51

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID: P2401137  
 CAS Sample ID: P040611-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
136777-61-2	<i>m,p</i> -Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	<i>o</i> -Xylene	ND	0.50	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: Ru Date: 6/17/04

Page No.:

52

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** Method Blank

**Client Project ID:** Ascon LF/SB0202 / 31

CAS Project ID: P2401137

CAS Sample ID: P040611-MB

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 6/11/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
	No Compounds Detected		

Verified By: RG Date: 6/11/04

Page No.:

**Columbia Analytical Services, Inc.**  
**Sample Acceptance Check Form**

Client: GeoSyntec Consultants, Inc.

Work order: P2401137

Project: Ascon LF/SB0202 / 31

Sample(s) received on: 5/27/04

Date opened: 5/27/04

by: SM

**Note:** This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client or as required by the method/SOP.

		<b>Yes</b>	<b>No</b>	<b>N/A</b>
1	Were <b>custody seals</b> on outside of cooler/Box?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were custody seals on outside of sample container?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Were <b>sample containers</b> properly marked with client sample ID?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Did <b>sample containers</b> arrive in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Were <b>chain-of-custody</b> papers used and filled out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Did <b>sample container labels</b> and/or tags agree with custody papers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Was <b>sample volume</b> received adequate for analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Are samples within specified holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Was proper <b>temperature</b> (thermal preservation) of cooler at receipt adhered to?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Cooler Temperature _____ NA _____ °C			
	Blank Temperature _____ NA _____ °C			
9	Is pH (acid) <b>preservation</b> necessary, according to method/SOP or Client specified information?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Is there a client indication that the submitted samples are pH (acid) preserved?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were <b>VOA vials</b> checked for presence/absence of air bubbles?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	<b>Tubes:</b> Are the tubes capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Do they contain moisture?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	<b>Badges:</b> Are the badges properly capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Are dual bed badges separated and individually capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Lab Sample ID	Required pH	pH (as received, if required)	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2401137-001			NA	
P2401137-002			NA	
P2401137-003			NA	
P2401137-004			NA	
P2401137-005			NA	
P2401137-006			NA	
P2401137-007			NA	
P2401137-008			NA	
P2401137-009			NA	
P2401137-010			NA	

Explain any discrepancies: (include lab sample ID numbers): \_\_\_\_\_

**Columbia Analytical Services, Inc.**

**Sample Acceptance Check Form**

Client: GeoSyntec Consultants, Inc.

Work order:

P2401137

Project: Ascon LF/SB0202 / 31

Sample(s) received on: 5/27/04

Date opened: 5/27/04

by: SM

Lab Sample ID	Required pH	pH (as received, if required)	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2401137-011			NA	
P2401137-012			NA	
P2401137-013			NA	

# Chain of Custody Record Analytical Service Request

**Air Quality Laboratory**  
2665 Park Center Drive, Suite D  
Simi Valley, California 93065  
Phone (805) 526-7161  
Fax (805) 526-7270



An Employee - Owned Company

<b>Client/Address</b> Geosyntec 2100 Main St. #150 Huntington Beach, CA 92648				<b>Project Name</b> Ascra LF				<b>Analysis</b> CAS Project No. P2401137			
<b>Phone</b> (714) 919-0800 <b>Fax</b> (714) 969-0820				<b>Project Number</b> SB0202/31				Cooler / Blank Temp			
<b>Email</b> mreardon@geosyntec.com				<b>Sampling Location</b> Huntington Beach				Expected Turnaround Time 24 Hr - 48 Hr - 3 Day - 4 Day - 5 Day			
<b>Contact</b> Mike Reardon				<b>P.O. #/Billing Information</b> SB0202/31 Geosyntec				Comments (e.g., preservative or specific instructions)			
Client Sample ID	Date Collected	Time Collected	Lab Sample No.	Type of Sample	Container ID (Serial #)	Flow Controller (Serial #)	Sample Volume (Liters)	TO-15 TO-154 TO-3 Project List			Comments
AA-01-052504	5/25/04	7:30-3:30	-1	Summ	01924	01704	6	X			261
AA-02-052504			-2		06634	01678					235
AA-03-052504			-3		07148	01321					019
AA-04-052504			-4		01530	01316					109
AA-05-052504			-5		01885	01691					248
AA-07-052504			-6		02043	01994					382
AA-01-052604	5/26/04	7:30-3:30	-7		02000	01597					196
AA-02-052604			-8		01866	01685					242
AA-03-052604			-9		02006	01960					351
AA-04-052604			-10		02022	01414					224
AA-05-052604			-11		02024	01655					249
AA-07-052604			-12		01577	01612					
ONI-L3B-SFU	5/25/04	10:58	-13	Soil Fluy	01180/SC00333		6		X		
<b>Relinquished by: (Signature)</b> K. Reardon				<b>Received by: (Signature)</b> K. Reardon				<b>Date:</b> 5/27/04 <b>Time:</b> 1145			
<b>Relinquished by: (Signature)</b> K. Reardon				<b>Received by: (Signature)</b> K. Reardon				<b>Date:</b> 5/27/04 <b>Time:</b> 1500			
<b>Relinquished by: (Signature)</b> K. Reardon				<b>Received by: (Signature)</b> K. Reardon				<b>Date:</b> 5/27/04 <b>Time:</b> 1500			



*CE Schmidt, Ph.D.*  
*Environmental Consultant*

ATTACHMENT C

LABORATORY REPORTS

Phase VIII- Pit F Downhole Flux Testing/Control Agent Testing

## LABORATORY REPORT

Client:	GEOSYNTEC CONSULTANTS, INC.	Date of Report:	07/15/04
Address:	2100 Main Street, Suite 150	Date Received:	06/28/04
	Huntington Beach, CA 92648	CAS Project No:	P2401374
Contact:	Mr. Mike Reardon	Purchase Order:	SB0202-31H
Client Project ID: Ascon LF/SB0202-31H			

One (1) Tedlar Bag Sample labeled:

"PNL-F5-13.5-S"

The sample was received at the laboratory under chain of custody on June 28, 2004. The sample was received intact. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time that it was received at the laboratory.

### Sulfur Analysis

The sample was analyzed for twenty sulfur compounds per modified SCAQMD Method 307-91 and ASTM D 5504-01 using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD). All compounds with the exception of hydrogen sulfide and carbonyl sulfide are quantitated against the initial calibration curve for methyl mercaptan.

The results of analyses are given on the attached data sheets. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Reviewed and Approved:



Zheng Wang  
Analytical Chemist  
Air Quality Laboratory

Reviewed and Approved:



Wade Henton  
GC-VOA Team Leader  
Air Quality Laboratory

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F5-13.5-S  
**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401374  
**CAS Sample ID:** P2401374-001

**Test Code:** ASTM D 5504-01  
**Instrument ID:** HP5890 II/GC5/SCD  
**Analyst:** Zheng Wang/Wade Henton  
**Sampling Media:** Tedlar Bag  
**Test Notes:**

**Date Collected:** 6/28/04  
**Time Collected:** 09:28  
**Date Received:** 6/28/04  
**Date Analyzed:** 6/28/04  
**Time Analyzed:** 15:53

**Volume(s) Analyzed:** 1.0 ml(s)

D.F.= 1.00

CAS #	Compound	Result μg/m³	MRL μg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	10.0	7.00	7.18	5.00	
463-58-1	Carbonyl Sulfide	82.0	12.0	33.4	5.00	
74-93-1	Methyl Mercaptan	ND	9.80	ND	5.00	
75-08-1	Ethyl Mercaptan	ND	13.0	ND	5.00	
75-18-3	Dimethyl Sulfide	ND	13.0	ND	5.00	
75-15-0	Carbon Disulfide	14.4	7.80	4.62	2.50	
75-33-2	Isopropyl Mercaptan	ND	16.0	ND	5.00	
75-66-1	tert-Butyl Mercaptan	ND	18.0	ND	5.00	
107-03-9	n-Propyl Mercaptan	ND	16.0	ND	5.00	
624-89-5	Ethyl Methyl Sulfide	ND	17.0	ND	5.00	
110-02-1	Thiophene	ND	18.0	ND	5.00	
513-44-0	Isobutyl Mercaptan	ND	18.0	ND	5.00	
352-93-2	Diethyl Sulfide	ND	18.0	ND	5.00	
109-79-5	n-Butyl Mercaptan	ND	18.0	ND	2.50	
624-92-0	Dimethyl Disulfide	ND	9.60	ND	5.00	
616-44-4	3-Methylthiophene	ND	20.0	ND	5.00	
110-01-0	Tetrahydrothiophene	ND	18.0	ND	5.00	
638-02-8	2,5-Dimethylthiophene	ND	23.0	ND	5.00	
872-55-9	2-Ethylthiophene	ND	23.0	ND	5.00	
110-81-6	Diethyl Disulfide	ND	12.0	ND	2.50	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: KWH Date: 07/13/04

Page No.:

**2**

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401374  
CAS Sample ID: P040628-MB

**Test Code:** ASTM D 5504-01  
**Instrument ID:** HP5890 II/GC5/SCD  
**Analyst:** Zheng Wang/Wade Henton  
**Sampling Media:** Tedlar Bag  
**Test Notes:**

**Date Collected:** NA  
**Time Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 6/28/04  
**Time Analyzed:** 10:46  
**Volume(s) Analyzed:** 1.0 ml(s)

D.F.= 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.00	ND	5.00	
463-58-1	Carbonyl Sulfide	ND	12.0	ND	5.00	
74-93-1	Methyl Mercaptan	ND	9.80	ND	5.00	
75-08-1	Ethyl Mercaptan	ND	13.0	ND	5.00	
75-18-3	Dimethyl Sulfide	ND	13.0	ND	5.00	
75-15-0	Carbon Disulfide	ND	7.80	ND	2.50	
75-33-2	Isopropyl Mercaptan	ND	16.0	ND	5.00	
75-66-1	tert-Butyl Mercaptan	ND	18.0	ND	5.00	
107-03-9	n-Propyl Mercaptan	ND	16.0	ND	5.00	
624-89-5	Ethyl Methyl Sulfide	ND	16.0	ND	5.00	
110-02-1	Thiophene	ND	17.0	ND	5.00	
513-44-0	Isobutyl Mercaptan	ND	18.0	ND	5.00	
352-93-2	Diethyl Sulfide	ND	18.0	ND	5.00	
109-79-5	n-Butyl Mercaptan	ND	18.0	ND	5.00	
624-92-0	Dimethyl Disulfide	ND	9.60	ND	2.50	
616-44-4	3-Methylthiophene	ND	20.0	ND	5.00	
110-01-0	Tetrahydrothiophene	ND	18.0	ND	5.00	
638-02-8	2,5-Dimethylthiophene	ND	23.0	ND	5.00	
872-55-9	2-Ethylthiophene	ND	23.0	ND	5.00	
110-81-6	Diethyl Disulfide	ND	12.0	ND	2.50	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: KUH Date: 07/13/04

Page No.:

**Columbia Analytical Services, Inc.**  
**Sample Acceptance Check Form**

Client: GeoSyntec Consultants, Inc.

Work order: P2401374

Project: Ascon LF/SB0202-31H

Sample(s) received on: 6/28/04

Date opened: 6/28/04

by: SM

**Note:** This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client or as required by the method/SOP.

		<b>Yes</b>	<b>No</b>	<b>N/A</b>
1	Were <b>custody seals</b> on outside of cooler/Box?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Were custody seals on outside of sample container?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Were <b>sample containers</b> properly marked with client sample ID?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Did <b>sample containers</b> arrive in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Were <b>chain-of-custody</b> papers used and filled out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Did <b>sample container labels</b> and/or tags agree with custody papers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Was <b>sample volume</b> received adequate for analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Are samples within specified holding times?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Was proper <b>temperature</b> (thermal preservation) of cooler at receipt adhered to?			
	Cooler Temperature <u>NA</u> °C			
	Blank Temperature <u>NA</u> °C			
9	Is pH (acid) <b>preservation</b> necessary, according to method/SOP or Client specified information?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Is there a client indication that the submitted samples are <b>pH</b> (acid) preserved?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were <b>VOA vials</b> checked for presence/absence of air bubbles?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	<b>Tubes:</b> Are the tubes capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Do they contain moisture?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	<b>Badges:</b> Are the badges properly capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Are dual bed badges separated and individually capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Lab Sample ID	Required pH	pH (as received, if required)	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2401374-001			NA	

Explain any discrepancies: (include lab sample ID numbers): \_\_\_\_\_



## LABORATORY REPORT

Client:	GEOSYNTEC CONSULTANTS, INC.	Date of Report:	07/15/04
Address:	2100 Main Street, Suite 150 Huntington Beach, CA 92648	Date Received:	06/28/04
Contact:	Mr. Mike Reardon	CAS Project No:	P2401376
		Purchase Order:	SB0202-31H
Client Project ID: Ascon LF/SB0202-31H			

One (1) 1.0 Liter Canister Sample labeled:

"PNL-F5-13.5-T"

The sample was received at the laboratory under chain of custody on June 28, 2004. The sample was received intact. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time that it was received at the laboratory.

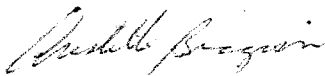
### C1 through C6 Hydrocarbon Analysis

The sample was analyzed per modified EPA Method TO-3 for C<sub>1</sub> through >C<sub>6</sub> hydrocarbons using a gas chromatograph equipped with a flame ionization detector (FID).

### Volatile Organic Compound Analysis

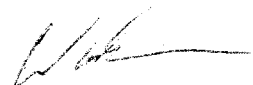
The sample was also analyzed by combined gas chromatography/mass spectrometry (GC/MS) for volatile organic compounds and tentatively identified compounds. The analyses were performed according to the methodology outlined in EPA Method TO-15. The analyses were performed by gas chromatography/mass spectrometry, utilizing a direct cryogenic trapping technique. The analytical system used was comprised of a Hewlett Packard Model 5972 GC/MS/DS interfaced to a Tekmar AutoCan Elite whole air inlet system/cryogenic concentrator. A 100% Dimethylpolysiloxane capillary column (RT<sub>x</sub>-1, Restek Corporation, Bellefonte, PA) was used to achieve chromatographic separation..

Reviewed and Approved:



Aristotle Bragasin  
Analytical Chemist  
Air Quality Laboratory

Reviewed and Approved:



Wade Henton  
GC-VOA Team Leader  
Air Quality Laboratory

CAS Project No: P2401376

The results of analyses are given on the attached data sheets. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report



# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F5-13.5-T  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID : P2401376  
 CAS Sample ID : P2401376-001

**Test Code:** Modified EPA TO-3  
**Instrument ID:** HP5890II/GC8/FID  
**Analyst:** Wade Henton/Regan Lau  
**Sampling Media:** 1.0 Liter Canister  
**Test Notes:**

**Date Collected:** 6/28/04  
**Date Received:** 6/28/04  
**Date Analyzed:** 6/30/04  
**Volume(s) Analyzed:** 1.0 ml

Pi 1 = 0.5      Pf 1 = 10.0

D.F. = 1.63

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	59	0.81	
C <sub>2</sub> as Ethane	ND	0.81	
C <sub>3</sub> as Propane	ND	0.81	
C <sub>4</sub> as n-Butane	ND	0.81	
C <sub>5</sub> as n-Pentane	ND	0.81	
C <sub>6</sub> as n-Hexane	ND	0.81	
C <sub>6</sub> + as n-Hexane	22	1.6	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG      Date: 7/13/04

**3**

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **PNL-F5-13.5-T**  
 Client Project ID: **Ascon LF/SB0202-31H**

CAS Project ID : P2401376  
 CAS Sample ID : P2401376-001DUP

Test Code: **Modified EPA TO-3**  
 Instrument ID: **HP5890II/GC8/FID**  
 Analyst: **Wade Henton/Regan Lau**  
 Sampling Media: **1.0 Liter Canister**  
 Test Notes:

Date Collected: 6/28/04  
 Date Received: 6/28/04  
 Date Analyzed: 6/30/04  
 Volume(s) Analyzed: **1.0 ml**

Pi 1 = 0.5      Pf 1 = 10.0

D.F. = 1.63

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	59	0.81	
C <sub>2</sub> as Ethane	ND	0.81	
C <sub>3</sub> as Propane	ND	0.81	
C <sub>4</sub> as n-Butane	ND	0.81	
C <sub>5</sub> as n-Pentane	ND	0.81	
C <sub>6</sub> as n-Hexane	ND	0.81	
C <sub>6</sub> <sup>+</sup> as n-Hexane	24	1.6	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/13/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID : P2401376  
CAS Sample ID : P040630-MB

**Test Code:** Modified EPA TO-3  
**Instrument ID:** HP5890II/GC8/FID  
**Analyst:** Wade Henton/Regan Lau  
**Sampling Media:** 1.0 Liter Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 6/30/04  
**Volume(s) Analyzed:** 1.0 ml

D.F. = 1.00

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	ND	0.50	
C <sub>2</sub> as Ethane	ND	0.50	
C <sub>3</sub> as Propane	ND	0.50	
C <sub>4</sub> as n-Butane	ND	0.50	
C <sub>5</sub> as n-Pentane	ND	0.50	
C <sub>6</sub> as n-Hexane	ND	0.50	
C <sub>6</sub> + as n-Hexane	ND	1.0	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/13/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **PNL-F5-13.5-T**  
 Client Project ID: **Ascon LF/SB0202-31H**

CAS Project ID: P2401376  
 CAS Sample ID: P2401376-001

Test Code: Modified EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
 Analyst: Aristotle Bragasin  
 Sampling Media: 1.0 Liter Canister  
 Test Notes:  
 Container ID: ISC00001

Date Collected: 6/28/04  
 Date Received: 6/28/04  
 Date(s) Analyzed: 6/30/04  
 Volume(s) Analyzed: 0.10 Liter(s)

Pi 1 = 0.5      Pf 1 = 10.0

D.F. = 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	8.2	ND	3.9	
75-01-4	Vinyl Chloride	ND	8.2	ND	3.2	
106-99-0	1,3-Butadiene	ND	8.2	ND	3.7	
74-83-9	Bromomethane	ND	8.2	ND	2.1	
75-00-3	Chloroethane	ND	8.2	ND	3.1	
67-64-1	Acetone	ND	82	ND	34	
75-69-4	Trichlorofluoromethane	ND	8.2	ND	1.5	
107-13-1	Acrylonitrile	ND	8.2	ND	3.8	
75-35-4	1,1-Dichloroethene	ND	8.2	ND	2.1	
75-09-2	Methylene chloride	ND	8.2	ND	2.3	
76-13-1	Trichlorotrifluoroethane	ND	8.2	ND	1.1	
75-15-0	Carbon Disulfide	ND	8.2	ND	2.6	
156-60-5	trans-1,2-Dichloroethene	ND	8.2	ND	2.1	
75-34-3	1,1-Dichloroethane	ND	8.2	ND	2.0	
1634-04-4	Methyl tert-Butyl Ether	ND	8.2	ND	2.3	
108-05-4	Vinyl Acetate	ND	16	ND	4.6	
78-93-3	2-Butanone (MEK)	ND	8.2	ND	2.8	
156-59-2	cis-1,2-Dichloroethene	ND	8.2	ND	2.1	
67-66-3	Chloroform	ND	8.2	ND	1.7	
107-06-2	1,2-Dichloroethane	ND	8.2	ND	2.0	
71-55-6	1,1,1-Trichloroethane	ND	8.2	ND	1.5	
71-43-2	Benzene	ND	8.2	ND	2.6	
56-23-5	Carbon Tetrachloride	ND	8.2	ND	1.3	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RL      Date: 7/13/04

Page No.

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F5-13.5-T  
**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401376  
**CAS Sample ID:** P2401376-001

**Test Code:** Modified EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** 1.0 Liter Canister  
**Test Notes:**  
**Container ID:** ISC00001

**Date Collected:** 6/28/04  
**Date Received:** 6/28/04  
**Date(s) Analyzed:** 6/30/04  
**Volume(s) Analyzed:** 0.10 Liter(s)

Pi 1 = 0.5      Pf 1 = 10.0

D.F. = 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	8.2	ND	1.8	
75-27-4	Bromodichloromethane	ND	8.2	ND	1.2	
79-01-6	Trichloroethene	ND	8.2	ND	1.5	
10061-01-5	cis-1,3-Dichloropropene	ND	8.2	ND	1.8	
108-10-1	4-Methyl-2-pentanone	ND	8.2	ND	2.0	
10061-02-6	trans-1,3-Dichloropropene	ND	8.2	ND	1.8	
79-00-5	1,1,2-Trichloroethane	ND	8.2	ND	1.5	
108-88-3	Toluene	ND	8.2	ND	2.2	
591-78-6	2-Hexanone	ND	8.2	ND	2.0	
124-48-1	Dibromochloromethane	ND	8.2	ND	0.96	
106-93-4	1,2-Dibromoethane	ND	8.2	ND	1.1	
127-18-4	Tetrachloroethene	ND	8.2	ND	1.2	
108-90-7	Chlorobenzene	ND	8.2	ND	1.8	
100-41-4	Ethylbenzene	ND	8.2	ND	1.9	
136777-61-2	m,p-Xylenes	ND	16	ND	3.8	
75-25-2	Bromoform	ND	8.2	ND	0.79	
100-42-5	Styrene	ND	8.2	ND	1.9	
95-47-6	o-Xylene	ND	8.2	ND	1.9	
79-34-5	1,1,2,2-Tetrachloroethane	ND	8.2	ND	1.2	
541-73-1	1,3-Dichlorobenzene	ND	8.2	ND	1.4	
106-46-7	1,4-Dichlorobenzene	ND	8.2	ND	1.4	
95-50-1	1,2-Dichlorobenzene	ND	8.2	ND	1.4	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RL      Date: 7/13/04

Page No.

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F5-13.5-T  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401376  
CAS Sample ID: P2401376-001

### Tentatively Identified Compounds

**Test Code:** Modified EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** 1.0 Liter Canister  
**Test Notes:** T  
**Container ID:** ISC00001

**Date Collected:** 6/28/04  
**Date Received:** 6/28/04  
**Date Analyzed:** 6/30/04  
**Volume(s) Analyzed:** 0.10 Liter(s)

Pi 1 = 0.5

Pf 1 = 10.0

D.F. = 1.63

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
15.38	Trimethylcyclopentane Isomer	3,000	
16.14	Trimethylcyclopentane Isomer	1,000	
17.81	Tetramethylcyclopentane Isomer	2,000	
18.94	C <sub>9</sub> H <sub>18</sub> Compound	3,000	
19.98	C <sub>9</sub> H <sub>20</sub> Compound	1,000	
20.45	Trimethylcyclohexane Isomer	2,000	
20.84	Dimethylcyclopentane Isomer	2,000	
21.03	Trimethylcyclohexane Isomer	2,000	
21.73	C <sub>9</sub> H <sub>18</sub> Compound	1,000	
22.72	C <sub>10</sub> H <sub>20</sub> Compound	2,000	
23.34	C <sub>9</sub> H <sub>16</sub> Compound	2,000	
23.57	C <sub>9</sub> H <sub>18</sub> Compound + C <sub>10</sub> H <sub>20</sub> Compound	1,000	
24.45	C <sub>10</sub> H <sub>20</sub> Compound	3,000	
24.83	C <sub>10</sub> H <sub>20</sub> Compound	1,000	
25.64	C <sub>10</sub> H <sub>20</sub> Compound + C <sub>11</sub> H <sub>22</sub> Compound	1,000	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RC Date: 7/13/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **Method Blank**  
 Client Project ID: **Ascon LF/SB0202-31H**

CAS Project ID: P2401376  
 CAS Sample ID: P040630-MB

Test Code: **Modified EPA TO-15**  
 Instrument ID: **Tekmar AUTOCAN/HP5972/HP5890 II+/MS2**  
 Analyst: **Aristotle Bragasin**  
 Sampling Media: **1.0 Liter Canister**  
 Test Notes:

Date Collected: **NA**  
 Date Received: **NA**  
 Date(s) Analyzed: **6/30/04**  
 Volume(s) Analyzed: **1.00 Liter(s)**

D.F. = 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.50	ND	0.24	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene chloride	ND	0.50	ND	0.14	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	0.50	ND	0.16	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	1.0	ND	0.28	
78-93-3	2-Butanone (MEK)	ND	0.50	ND	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
67-66-3	Chloroform	ND	0.50	ND	0.10	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC Date: 7/13/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401376  
**CAS Sample ID:** P040630-MB

**Test Code:** Modified EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** 1.0 Liter Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 6/30/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
136777-61-2	<i>m,p</i> -Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	<i>o</i> -Xylene	ND	0.50	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC Date: 7/13/04

Page No.:



# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401376  
CAS Sample ID: P040630-MB

### Tentatively Identified Compounds

**Test Code:** Modified EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5972/HP5890 II+/MS2  
**Analyst:** Aristotle Bragasin  
**Sampling Media:** 1.0 Liter Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 6/30/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

GC / MS Ret. Time	Compound Identification	Concentration $\mu\text{g}/\text{m}^3$	Data Qualifier
	No Compounds Detected		

**Columbia Analytical Services, Inc.**  
**Sample Acceptance Check Form**

Client: GeoSyntec Consultants, Inc. Work order: P2401376  
Project: Ascon LF/SB0202-31H  
Sample(s) received on: 6/28/04 Date opened: 6/28/04 by: SM

**Note:** This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client or as required by the method/SOP.

		<b>Yes</b>	<b>No</b>	<b>N/A</b>
1	Were <b>custody seals</b> on outside of cooler/Box?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were custody seals on outside of sample container?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Were <b>sample containers</b> properly marked with client sample ID?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Did <b>sample containers</b> arrive in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Were <b>chain-of-custody</b> papers used and filled out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Did <b>sample container labels</b> and/or tags agree with custody papers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Was <b>sample volume</b> received adequate for analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Are samples within specified holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Was proper <b>temperature</b> (thermal preservation) of cooler at receipt adhered to?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Cooler Temperature <u>NA</u> °C			
	Blank Temperature <u>NA</u> °C			
9	Is pH (acid) <b>preservation</b> necessary, according to method/SOP or Client specified information?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Is there a client indication that the submitted samples are <b>pH</b> (acid) preserved?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were <b>VOA vials</b> checked for presence/absence of air bubbles?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	<b>Tubes:</b> Are the tubes capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Do they contain moisture?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	<b>Badges:</b> Are the badges properly capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Are dual bed badges separated and individually capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Lab Sample ID	Required pH	pH (as received, if required)	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2401376-001			NA	

Explain any discrepancies: (include lab sample ID numbers): \_\_\_\_\_

# Chain of Custody Record Analytical Service Request

**Air Quality Laboratory**  
2665 Park Center Drive, Suite D  
Simi Valley, California 93065  
Phone (805) 526-7161  
Fax (805) 526-7270



Client/Address GeoSyntec Consultants 2100 Main St. #150 Huntington Beach, CA 92648		Project Name Ascon LF		Analysis		CAS Project No. P2401375	
Phone (714) 969-0800	Fax (714) 969-0820	Project Number SB0202-31H		Sampling Location Huntington Beach, CA		Container / Blank	
Email mreardon@geosyntec.com		P.O. #/Billing Information SB0202-31H		P.O. #/Billing Information SB0202-31H		Temp	
Contact M. Reardon		Sample Volume (Liters) 1.0		Flow Controller (Serial #) 06757 / 1560001		Comments (e.g., preservative or specific instructions)	
Client Sample ID DNL-FS-13.5-T	Date Collected 06-28-04	Time Collected 9:28	Lab Sample No.	Type of Sample PUMP HOLE	Container ID (Serial #) 06757 / 1560001	Expected Turnaround Time 24 Hr 48 Hr 3 Day 5 Day Standard (10 Business Days)	
Relinquished by: (Signature) M. Reardon		Date 06-28-04	Time 11:54	Received by: (Signature) K. Davis		Date 06-28-04	Time 11:54
Relinquished by: (Signature) K. Davis		Date 06-28-04	Time 12:00	Received by: (Signature) J. Camors		Date 06-28-04	Time 12:05
Relinquished by: (Signature) J. Camors		Date 06-28-04	Time 15:40	Received by: (Signature) Sharon Malone		Date 06-28-04	Time 15:40
Additional Comments							

## LABORATORY REPORT

Client:	GEOSYNTEC CONSULTANTS, INC.	Date of Report:	07/16/04
Address:	2100 Main Street, Suite 150	Date Received:	06/29/04
	Huntington Beach, CA 92648	CAS Project No:	P2401379
Contact:	Mr. Mike Reardon	Purchase Order:	SB0202-31H
Client Project ID: Ascon LF/SB0202-31H			

---

Two (2) Tedlar Bag Samples labeled: "PNL-F4-15-S" and "SF-BLK-S"

---

The samples were received at the laboratory under chain of custody on June 29, 2004. The samples were received intact. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time that they were received at the laboratory.

### Sulfur Analysis

The samples were analyzed for twenty sulfur compounds per modified SCAQMD Method 307-91 and ASTM D 5504-01 using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD). All compounds with the exception of hydrogen sulfide and carbonyl sulfide are quantitated against the initial calibration curve for methyl mercaptan.

The results of analyses are given on the attached data sheets. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

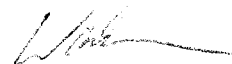
---

Reviewed and Approved:



Zheng Wang  
Analytical Chemist  
Air Quality Laboratory

Reviewed and Approved:



Wade Henton  
GC-VOA Team Leader  
Air Quality Laboratory

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F4-15-S  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401379  
CAS Sample ID: P2401379-001

**Test Code:** ASTM D 5504-01  
**Instrument ID:** HP5890 II/GC5/SCD  
**Analyst:** Zheng Wang  
**Sampling Media:** Tedlar Bag  
**Test Notes:**

Date Collected: 6/28/04  
Time Collected: 13:58  
Date Received: 6/29/04  
Date Analyzed: 6/29/04  
Time Analyzed: 11:43

Volume(s) Analyzed: 1.0 ml(s)

D.F.= 1.00

CAS #	Compound	Result μg/m³	MRL μg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	21.4	7.00	15.4	5.00	
463-58-1	Carbonyl Sulfide	360	12.0	146	5.00	
74-93-1	Methyl Mercaptan	ND	9.80	ND	5.00	
75-08-1	Ethyl Mercaptan	8.43	13.0	3.32	5.00	J
75-18-3	Dimethyl Sulfide	17.2	13.0	6.79	5.00	
75-15-0	Carbon Disulfide	73.6	7.80	23.6	2.50	
75-33-2	Isopropyl Mercaptan	ND	16.0	ND	5.00	
75-66-1	tert-Butyl Mercaptan	53.8	18.0	14.6	5.00	
107-03-9	n-Propyl Mercaptan	ND	16.0	ND	5.00	
624-89-5	Ethyl Methyl Sulfide	13.4	16.0	4.31	5.00	J
110-02-1	Thiophene	31.7	17.0	9.21	5.00	
513-44-0	Isobutyl Mercaptan	ND	18.0	ND	5.00	
352-93-2	Diethyl Sulfide	103	18.0	27.9	5.00	
109-79-5	n-Butyl Mercaptan	ND	18.0	ND	5.00	
624-92-0	Dimethyl Disulfide	ND	9.60	ND	2.50	
616-44-4	3-Methylthiophene	ND	20.0	ND	5.00	
110-01-0	Tetrahydrothiophene	48.1	18.0	13.4	5.00	
638-02-8	2,5-Dimethylthiophene	ND	23.0	ND	5.00	
872-55-9	2-Ethylthiophene	ND	23.0	ND	5.00	
110-81-6	Diethyl Disulfide	ND	12.0	ND	2.50	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The analyte was positively identified below the laboratory method reporting limit;  
the associated numerical value is considered estimated.

Verified By: KUH Date: 07/14/04

## COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **SF-BLK-S**  
 Client Project ID: **Ascon LF/SB0202-31H**

CAS Project ID: P2401379  
 CAS Sample ID: P2401379-002

Test Code: ASTM D 5504-01  
 Instrument ID: HP5890 II/GC5/SCD  
 Analyst: Zheng Wang  
 Sampling Media: Tedlar Bag  
 Test Notes:

Date Collected: 6/28/04  
 Time Collected: 14:06  
 Date Received: 6/29/04  
 Date Analyzed: 6/29/04  
 Time Analyzed: 12:04  
 Volume(s) Analyzed: 1.0 ml(s)

D.F. = 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	3.69	7.00	2.65	5.00	J
463-58-1	Carbonyl Sulfide	ND	12.0	ND	5.00	
74-93-1	Methyl Mercaptan	ND	9.80	ND	5.00	
75-08-1	Ethyl Mercaptan	ND	13.0	ND	5.00	
75-18-3	Dimethyl Sulfide	ND	13.0	ND	5.00	
75-15-0	Carbon Disulfide	18.2	7.80	5.84	2.50	
75-33-2	Isopropyl Mercaptan	ND	16.0	ND	5.00	
75-66-1	tert-Butyl Mercaptan	ND	18.0	ND	5.00	
107-03-9	n-Propyl Mercaptan	ND	16.0	ND	5.00	
624-89-5	Ethyl Methyl Sulfide	ND	16.0	ND	5.00	
110-02-1	Thiophene	ND	17.0	ND	5.00	
513-44-0	Isobutyl Mercaptan	ND	18.0	ND	5.00	
352-93-2	Diethyl Sulfide	ND	18.0	ND	5.00	
109-79-5	n-Butyl Mercaptan	ND	18.0	ND	5.00	
624-92-0	Dimethyl Disulfide	ND	9.60	ND	2.50	
616-44-4	3-Methylthiophene	ND	20.0	ND	5.00	
110-01-0	Tetrahydrothiophene	ND	18.0	ND	5.00	
638-02-8	2,5-Dimethylthiophene	ND	23.0	ND	5.00	
872-55-9	2-Ethylthiophene	ND	23.0	ND	5.00	
110-81-6	Diethyl Disulfide	ND	12.0	ND	2.50	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The analyte was positively identified below the laboratory method reporting limit;  
 the associated numerical value is considered estimated.

Verified By: KUH Date: 07/14/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401379  
 CAS Sample ID: P040629-MB

**Test Code:** ASTM D 5504-01  
**Instrument ID:** HP5890 II/GC5/SCD  
**Analyst:** Zheng Wang  
**Sampling Media:** Tedlar Bag  
**Test Notes:**

**Date Collected:** NA  
**Time Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 6/29/04  
**Time Analyzed:** 09:57  
**Volume(s) Analyzed:** 1.0 ml(s)

D.F.= 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.00	ND	5.00	
463-58-1	Carbonyl Sulfide	ND	12.0	ND	5.00	
74-93-1	Methyl Mercaptan	ND	9.80	ND	5.00	
75-08-1	Ethyl Mercaptan	ND	13.0	ND	5.00	
75-18-3	Dimethyl Sulfide	ND	13.0	ND	5.00	
75-15-0	Carbon Disulfide	ND	7.80	ND	2.50	
75-33-2	Isopropyl Mercaptan	ND	16.0	ND	5.00	
75-66-1	tert-Butyl Mercaptan	ND	18.0	ND	5.00	
107-03-9	n-Propyl Mercaptan	ND	16.0	ND	5.00	
624-89-5	Ethyl Methyl Sulfide	ND	16.0	ND	5.00	
110-02-1	Thiophene	ND	17.0	ND	5.00	
513-44-0	Isobutyl Mercaptan	ND	18.0	ND	5.00	
352-93-2	Diethyl Sulfide	ND	18.0	ND	5.00	
109-79-5	n-Butyl Mercaptan	ND	18.0	ND	5.00	
624-92-0	Dimethyl Disulfide	ND	9.60	ND	2.50	
616-44-4	3-Methylthiophene	ND	20.0	ND	5.00	
110-01-0	Tetrahydrothiophene	ND	18.0	ND	5.00	
638-02-8	2,5-Dimethylthiophene	ND	23.0	ND	5.00	
872-55-9	2-Ethylthiophene	ND	23.0	ND	5.00	
110-81-6	Diethyl Disulfide	ND	12.0	ND	2.50	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By:                      Date: 07/14/04

**Columbia Analytical Services, Inc.**  
**Sample Acceptance Check Form**

Client: GeoSyntec Consultants, Inc. Work order: P2401379  
 Project: Ascon LF/SB0202-31H  
 Sample(s) received on: 6/29/04 Date opened: 6/29/04 by: SM

**Note:** This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client or as required by the method/SOP.

		<b>Yes</b>	<b>No</b>	<b>N/A</b>
1	Were <b>custody seals</b> on outside of cooler/Box?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were custody seals on outside of sample container?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Were <b>sample containers</b> properly marked with client sample ID?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Did <b>sample containers</b> arrive in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Were <b>chain-of-custody</b> papers used and filled out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Did <b>sample container labels</b> and/or tags agree with custody papers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Was <b>sample volume</b> received adequate for analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Are samples within specified holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Was proper <b>temperature</b> (thermal preservation) of cooler at receipt adhered to?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Cooler Temperature <u>NA</u> °C			
	Blank Temperature <u>NA</u> °C			
9	Is pH (acid) <b>preservation</b> necessary, according to method/SOP or Client specified information?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Is there a client indication that the submitted samples are <b>pH</b> (acid) preserved?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were <b>VOA vials</b> checked for presence/absence of air bubbles?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	<b>Tubes:</b> Are the tubes capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Do they contain moisture?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	<b>Badges:</b> Are the badges properly capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Are dual bed badges separated and individually capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Lab Sample ID	Required pH	pH (as received, if required)	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2401379-001			NA	
P2401379-002			NA	

Explain any discrepancies: (include lab sample ID numbers): \_\_\_\_\_





## LABORATORY REPORT

Client:	GEOSYNTEC CONSULTANTS, INC.	Date of Report:	07/19/04
Address:	2100 Main Street, Suite 150	Date Received:	06/30/04
	Huntington Beach, CA 92648	CAS Project No:	P2401395
Contact:	Mr. Mike Reardon	Purchase Order:	SB0202-31H

Client Project ID: Ascon LF/SB0202-31H

Four (4) Tedlar Bag Samples labeled:

"PNL-F19-4-S"	"PNL-F19-10-S"	"PNL-F1-13-S"	"PNL-F1-13-SR"
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The samples were received at the laboratory under chain of custody on June 30, 2004. The samples were received intact. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time that they were received at the laboratory.

### Sulfur Analysis

The samples were analyzed for twenty sulfur compounds per modified SCAQMD Method 307-91 and ASTM D 5504-01 using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD). All compounds with the exception of hydrogen sulfide and carbonyl sulfide are quantitated against the initial calibration curve for methyl mercaptan.

The results of analyses are given on the attached data sheets. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Reviewed and Approved:



Zheng Wang  
Analytical Chemist  
Air Quality Laboratory

Reviewed and Approved:



Wade Henton  
GC-VOA Team Leader  
Air Quality Laboratory

Page  
1 of 9

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F19-4-S  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401395  
CAS Sample ID: P2401395-001

**Test Code:** ASTM D 5504-01  
**Instrument ID:** HP5890 II/GC5/SCD  
**Analyst:** Zheng Wang/Wade Henton  
**Sampling Media:** Tedlar Bag  
**Test Notes:**

**Date Collected:** 6/30/04  
**Time Collected:** 08:25  
**Date Received:** 6/30/04  
**Date Analyzed:** 6/30/04  
**Time Analyzed:** 20:08  
**Volume(s) Analyzed:** 1.0 ml(s)

D.F. = 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	2.91	7.00	2.09	5.00	J
463-58-1	Carbonyl Sulfide	18.7	12.0	7.60	5.00	
74-93-1	Methyl Mercaptan	ND	9.80	ND	5.00	
75-08-1	Ethyl Mercaptan	ND	13.0	ND	5.00	
75-18-3	Dimethyl Sulfide	ND	13.0	ND	5.00	
75-15-0	Carbon Disulfide	45.9	7.80	14.8	2.50	
75-33-2	Isopropyl Mercaptan	ND	16.0	ND	5.00	
75-66-1	tert-Butyl Mercaptan	ND	18.0	ND	5.00	
107-03-9	n-Propyl Mercaptan	ND	16.0	ND	5.00	
624-89-5	Ethyl Methyl Sulfide	ND	16.0	ND	5.00	
110-02-1	Thiophene	ND	17.0	ND	5.00	
513-44-0	Isobutyl Mercaptan	ND	18.0	ND	5.00	
352-93-2	Diethyl Sulfide	ND	18.0	ND	5.00	
109-79-5	n-Butyl Mercaptan	ND	18.0	ND	5.00	
624-92-0	Dimethyl Disulfide	ND	9.60	ND	2.50	
616-44-4	3-Methylthiophene	ND	20.0	ND	5.00	
110-01-0	Tetrahydrothiophene	ND	18.0	ND	5.00	
638-02-8	2,5-Dimethylthiophene	ND	23.0	ND	5.00	
872-55-9	2-Ethylthiophene	ND	23.0	ND	5.00	
110-81-6	Diethyl Disulfide	ND	12.0	ND	2.50	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The analyte was positively identified below the laboratory method reporting limit;  
the associated numerical value is considered estimated.

Verified By: FMH Date: 07/15/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F19-10-S  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401395  
 CAS Sample ID: P2401395-002

**Test Code:** ASTM D 5504-01  
**Instrument ID:** HP5890 II/GC5/SCD  
**Analyst:** Zheng Wang/Wade Henton  
**Sampling Media:** Tedlar Bag  
**Test Notes:**

**Date Collected:** 6/30/04  
**Time Collected:** 09:04  
**Date Received:** 6/30/04  
**Date Analyzed:** 6/30/04  
**Time Analyzed:** 20:26

**Volume(s) Analyzed:** 1.0 ml(s)

D.F.= 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	5.02	7.00	3.60	5.00	J
463-58-1	Carbonyl Sulfide	76.3	12.0	31.1	5.00	
74-93-1	Methyl Mercaptan	ND	9.80	ND	5.00	
75-08-1	Ethyl Mercaptan	ND	13.0	ND	5.00	
75-18-3	Dimethyl Sulfide	ND	13.0	ND	5.00	
75-15-0	Carbon Disulfide	27.3	7.80	8.78	2.50	
75-33-2	Isopropyl Mercaptan	ND	16.0	ND	5.00	
75-66-1	tert-Butyl Mercaptan	ND	18.0	ND	5.00	
107-03-9	n-Propyl Mercaptan	ND	16.0	ND	5.00	
624-89-5	Ethyl Methyl Sulfide	ND	16.0	ND	5.00	
110-02-1	Thiophene	ND	17.0	ND	5.00	
513-44-0	Isobutyl Mercaptan	ND	18.0	ND	5.00	
352-93-2	Diethyl Sulfide	ND	18.0	ND	5.00	
109-79-5	n-Butyl Mercaptan	ND	18.0	ND	5.00	
624-92-0	Dimethyl Disulfide	ND	9.60	ND	2.50	
616-44-4	3-Methylthiophene	ND	20.0	ND	5.00	
110-01-0	Tetrahydrothiophene	ND	18.0	ND	5.00	
638-02-8	2,5-Dimethylthiophene	ND	23.0	ND	5.00	
872-55-9	2-Ethylthiophene	ND	23.0	ND	5.00	
110-81-6	Diethyl Disulfide	ND	12.0	ND	2.50	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The analyte was positively identified below the laboratory method reporting limit;  
 the associated numerical value is considered estimated.

Verified By: Y. H. H. Date: 6/30/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F1-13-S  
**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401395  
**CAS Sample ID:** P2401395-003

**Test Code:** ASTM D 5504-01  
**Instrument ID:** Agilent 6890A/GC13/SCD  
**Analyst:** Zheng Wang/Wade Henton  
**Sampling Media:** Tedlar Bag  
**Test Notes:**

**Date Collected:** 6/30/04  
**Time Collected:** 11:10  
**Date Received:** 6/30/04  
**Date Analyzed:** 7/1/04  
**Time Analyzed:** 10:13  
**Volume(s) Analyzed:** 1.0 ml(s)

D.F.= 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	9.56	7.00	6.86	5.00	
463-58-1	Carbonyl Sulfide	342	12.0	139	5.00	
74-93-1	Methyl Mercaptan	ND	9.80	ND	5.00	
75-08-1	Ethyl Mercaptan	ND	13.0	ND	5.00	
75-18-3	Dimethyl Sulfide	23.7	13.0	9.32	5.00	
75-15-0	Carbon Disulfide	448	7.80	144	2.50	
75-33-2	Isopropyl Mercaptan	ND	16.0	ND	5.00	
75-66-1	tert-Butyl Mercaptan	43.0	18.0	11.7	5.00	
107-03-9	n-Propyl Mercaptan	ND	16.0	ND	5.00	
624-89-5	Ethyl Methyl Sulfide	ND	16.0	ND	5.00	
110-02-1	Thiophene	42.6	17.0	12.4	5.00	
513-44-0	Isobutyl Mercaptan	ND	18.0	ND	5.00	
352-93-2	Diethyl Sulfide	745	18.0	202	5.00	
109-79-5	n-Butyl Mercaptan	ND	18.0	ND	5.00	
624-92-0	Dimethyl Disulfide	ND	9.60	ND	2.50	
616-44-4	3-Methylthiophene	ND	20.0	ND	5.00	
110-01-0	Tetrahydrothiophene	273	18.0	75.8	5.00	
638-02-8	2,5-Dimethylthiophene	ND	23.0	ND	5.00	
872-55-9	2-Ethylthiophene	ND	23.0	ND	5.00	
110-81-6	Diethyl Disulfide	ND	12.0	ND	2.50	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: KH14 Date: 07/15/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F1-13-SR  
**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401395  
**CAS Sample ID:** P2401395-004

**Test Code:** ASTM D 5504-01  
**Instrument ID:** Agilent 6890A/GC13/SCD  
**Analyst:** Zheng Wang/Wade Henton  
**Sampling Media:** Tedlar Bag  
**Test Notes:**

**Date Collected:** 6/30/04  
**Time Collected:** 11:20  
**Date Received:** 6/30/04  
**Date Analyzed:** 7/1/04  
**Time Analyzed:** 10:36  
**Volume(s) Analyzed:** 1.0 ml(s)

D.F.= 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	14.2	7.00	10.2	5.00	
463-58-1	Carbonyl Sulfide	299	12.0	122	5.00	
74-93-1	Methyl Mercaptan	ND	9.80	ND	5.00	
75-08-1	Ethyl Mercaptan	ND	13.0	ND	5.00	
75-18-3	Dimethyl Sulfide	21.4	13.0	8.42	5.00	
75-15-0	Carbon Disulfide	403	7.80	130	2.50	
75-33-2	Isopropyl Mercaptan	ND	16.0	ND	5.00	
75-66-1	tert-Butyl Mercaptan	32.7	18.0	8.88	5.00	
107-03-9	n-Propyl Mercaptan	ND	16.0	ND	5.00	
624-89-5	Ethyl Methyl Sulfide	ND	16.0	ND	5.00	
110-02-1	Thiophene	35.7	17.0	10.4	5.00	
513-44-0	Isobutyl Mercaptan	ND	18.0	ND	5.00	
352-93-2	Diethyl Sulfide	646	18.0	175	5.00	
109-79-5	n-Butyl Mercaptan	ND	18.0	ND	5.00	
624-92-0	Dimethyl Disulfide	ND	9.60	ND	2.50	
616-44-4	3-Methylthiophene	ND	20.0	ND	5.00	
110-01-0	Tetrahydrothiophene	247	18.0	68.5	5.00	
638-02-8	2,5-Dimethylthiophene	ND	23.0	ND	5.00	
872-55-9	2-Ethylthiophene	ND	23.0	ND	5.00	
110-81-6	Diethyl Disulfide	ND	12.0	ND	2.50	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: KEH Date: 07/15/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401395  
CAS Sample ID: P040630-MB

**Test Code:** ASTM D 5504-01  
**Instrument ID:** HP5890 II/GC5/SCD  
**Analyst:** Zheng Wang/Wade Henton  
**Sampling Media:** Tedlar Bag  
**Test Notes:**

**Date Collected:** NA  
**Time Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 6/30/04  
**Time Analyzed:** 10:08  
**Volume(s) Analyzed:** 1.0 ml(s)

D.F. = 1.00

CAS #	Compound	Result  μg/m³	MRL  μg/m³	Result  ppbV	MRL  ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.00	ND	5.00	
463-58-1	Carbonyl Sulfide	ND	12.0	ND	5.00	
74-93-1	Methyl Mercaptan	ND	9.80	ND	5.00	
75-08-1	Ethyl Mercaptan	ND	13.0	ND	5.00	
75-18-3	Dimethyl Sulfide	ND	13.0	ND	5.00	
75-15-0	Carbon Disulfide	ND	7.80	ND	2.50	
75-33-2	Isopropyl Mercaptan	ND	16.0	ND	5.00	
75-66-1	tert-Butyl Mercaptan	ND	18.0	ND	5.00	
107-03-9	n-Propyl Mercaptan	ND	16.0	ND	5.00	
624-89-5	Ethyl Methyl Sulfide	ND	16.0	ND	5.00	
110-02-1	Thiophene	ND	17.0	ND	5.00	
513-44-0	Isobutyl Mercaptan	ND	18.0	ND	5.00	
352-93-2	Diethyl Sulfide	ND	18.0	ND	5.00	
109-79-5	n-Butyl Mercaptan	ND	18.0	ND	5.00	
624-92-0	Dimethyl Disulfide	ND	9.60	ND	2.50	
616-44-4	3-Methylthiophene	ND	20.0	ND	5.00	
110-01-0	Tetrahydrothiophene	ND	18.0	ND	5.00	
638-02-8	2,5-Dimethylthiophene	ND	23.0	ND	5.00	
872-55-9	2-Ethylthiophene	ND	23.0	ND	5.00	
110-81-6	Diethyl Disulfide	ND	12.0	ND	2.50	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: AWH Date: 07/15/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401395  
CAS Sample ID: P040701-MB

**Test Code:** ASTM D 5504-01  
**Instrument ID:** Agilent 6890A/GC13/SCD  
**Analyst:** Zheng Wang/Wade Henton  
**Sampling Media:** Tedlar Bag  
**Test Notes:**

**Date Collected:** NA  
**Time Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 7/01/04  
**Time Analyzed:** 09:50  
**Volume(s) Analyzed:** 1.0 ml(s)

D.F.= 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.00	ND	5.00	
463-58-1	Carbonyl Sulfide	ND	12.0	ND	5.00	
74-93-1	Methyl Mercaptan	ND	9.80	ND	5.00	
75-08-1	Ethyl Mercaptan	ND	13.0	ND	5.00	
75-18-3	Dimethyl Sulfide	ND	13.0	ND	5.00	
75-15-0	Carbon Disulfide	ND	7.80	ND	2.50	
75-33-2	Isopropyl Mercaptan	ND	16.0	ND	5.00	
75-66-1	tert-Butyl Mercaptan	ND	18.0	ND	5.00	
107-03-9	n-Propyl Mercaptan	ND	16.0	ND	5.00	
624-89-5	Ethyl Methyl Sulfide	ND	16.0	ND	5.00	
110-02-1	Thiophene	ND	17.0	ND	5.00	
513-44-0	Isobutyl Mercaptan	ND	18.0	ND	5.00	
352-93-2	Diethyl Sulfide	ND	18.0	ND	5.00	
109-79-5	n-Butyl Mercaptan	ND	18.0	ND	5.00	
624-92-0	Dimethyl Disulfide	ND	9.60	ND	2.50	
616-44-4	3-Methylthiophene	ND	20.0	ND	5.00	
110-01-0	Tetrahydrothiophene	ND	18.0	ND	5.00	
638-02-8	2,5-Dimethylthiophene	ND	23.0	ND	5.00	
872-55-9	2-Ethylthiophene	ND	23.0	ND	5.00	
110-81-6	Diethyl Disulfide	ND	12.0	ND	2.50	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: KWH Date: 07/01/04



**Columbia Analytical Services, Inc.**  
**Sample Acceptance Check Form**

Client: GeoSyntec Consultants, Inc. Work order: P2401395

Project: Ascon LF/SB0202-31H

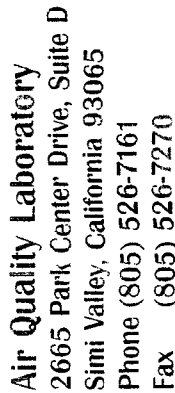
Sample(s) received on: 6/30/04 Date opened: 6/30/04 by: SM

**Note:** This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client or as required by the method/SOP.

		<b>Yes</b>	<b>No</b>	<b>N/A</b>
1	Were <b>custody seals</b> on outside of cooler/Box?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were custody seals on outside of sample container?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Were <b>sample containers</b> properly marked with client sample ID?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Did <b>sample containers</b> arrive in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Were <b>chain-of-custody</b> papers used and filled out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Did <b>sample container labels</b> and/or tags agree with custody papers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Was <b>sample volume</b> received adequate for analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Are samples within specified holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Was proper <b>temperature</b> (thermal preservation) of cooler at receipt adhered to?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Cooler Temperature <u>NA</u> °C			
	Blank Temperature <u>NA</u> °C			
9	Is pH (acid) <b>preservation</b> necessary, according to method/SOP or Client specified information?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Is there a client indication that the submitted samples are <b>pH</b> (acid) preserved?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were <b>VOA vials</b> checked for presence/absence of air bubbles?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	<b>Tubes:</b> Are the tubes capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Do they contain moisture?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	<b>Badges:</b> Are the badges properly capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Are dual bed badges separated and individually capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Lab Sample ID	Required pH	pH (as received, if required)	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2401395-001			NA	
P2401395-002			NA	
P2401395-003			NA	
P2401395-004			NA	

Explain any discrepancies: (include lab sample ID numbers): \_\_\_\_\_



# Chain of Custody Record Analytical Service Request

Client/Address		Phone		Fax		Project Name		Analysis		CAS Project No.	
GeoSyntec Consultants 2100 Main St. #150 Huntington Beach, CA 92648		(714) 969-0800		(714) 969-0820		Ascon LF				02401395	
Email: mveardon@geosyntec.com		Fax: (714) 969-0820				Project Number SB0202-31H					
Contact: Mike Reardon		Sample Signature: <i>[Signature]</i>				Sampling Location Huntington Beach					
Client Sample ID		Date Collected	Time Collected	Lab Sample No.	Type of Sample	Container ID (Serial #)	Flow Controller (Serial #)	Sample Volume (Liters)	Expected Turnaround Time 24 Hr 48Hr 3Day 4Day 5Day	Cooler / Blank Temp. _____	
PNL-F19-4-S	06-30-04	0825			DO-2040-48 FLOW			1	10	Comments (e.g., preservative or specific instructions)	
PNL-F19-10-S	"	0904			DHF			1	10		
PNL-F1-13-S	"	1110			DHF			1	10		
PNL-F1-13-SR	"	1120			DHF			1	10		
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Date:	Time:	Additional Comments			
<i>[Signature]</i>		06-30-04	11:44	<i>[Signature]</i>		06-30-04	11:44				
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Date:	Time:				
<i>[Signature]</i>		06-30-04	1240	<i>[Signature]</i>		06/30/04	1240				
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Date:	Time:				
<i>[Signature]</i>		06/30/04	1405	<i>[Signature]</i>		06/30/04	20:00				

## LABORATORY REPORT

Client:	GEOSYNTEC CONSULTANTS, INC.	Date of Report:	07/19/04
Address:	2100 Main Street, Suite 150	Date Received:	06/30/04
	Huntington Beach, CA 92648	CAS Project No:	P2401396
Contact:	Mr. Mike Reardon	Purchase Order:	Verbal
Client Project ID: Ascon LF/SB0202-31H			

Six (6) Stainless Steel Summa Canisters labeled:

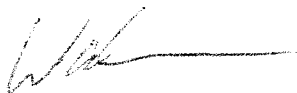
"PNL-F4-15-T"	"SF-BLK"	"PNL-F19-4-T"
"PNL-F19-10-T"	"PNL-F1-13-T"	"PNL-F1-13-TR"

The samples were received at the laboratory under chain of custody on June 30, 2004. The sample labeled "SF-BLK" was not received. Otherwise, the samples were received intact. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time that they were received at the laboratory.

### C1 through C6 Hydrocarbon Analysis

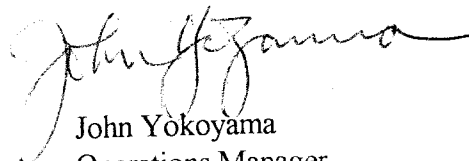
Five of the samples were analyzed per modified EPA Method TO-3 for C<sub>1</sub> through >C<sub>6</sub> hydrocarbons using a gas chromatograph equipped with a flame ionization detector (FID).

Reviewed and Approved:



Wade Henton  
GC-VOA Team Leader  
Air Quality Laboratory

Reviewed and Approved:



John Yokoyama  
Operations Manager  
Air Quality Laboratory

CAS Project No: P2401396

Volatile Organic Compound Analysis

The samples were also analyzed by combined gas chromatography/mass spectrometry (GC/MS) for selected volatile organic compounds and tentatively identified compounds. The analyses were performed according to the methodology outlined in EPA Method TO-15. The analyses were performed by gas chromatography/mass spectrometry, utilizing a direct cryogenic trapping technique. The analytical system used was comprised of a Hewlett Packard Model 5973 GC/MS/DS interfaced to a Tekmar AutoCan Elite whole air inlet system/cryogenic concentrator. A 100% Dimethylpolysiloxane capillary column (RT<sub>x</sub>-1, Restek Corporation, Bellefonte, PA) was used to achieve chromatographic separation.

The results of analyses are given on the attached data sheets. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F4-15-T  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID : P2401396  
CAS Sample ID : P2401396-001

**Test Code:** Modified EPA TO-3  
**Instrument ID:** HP5890II/GC8/FID  
**Analyst:** Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00009

**Date Collected:** 6/28/04  
**Date Received:** 6/30/04  
**Date Analyzed:** 7/7/04  
**Volume(s) Analyzed:** 1.0 ml

Pi 1 = 0.0      Pf 1 = 10.0

D.F. = 1.68

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	1,200	0.84	
C <sub>2</sub> as Ethane	ND	0.84	
C <sub>3</sub> as Propane	ND	0.84	
C <sub>4</sub> as n-Butane	ND	0.84	
C <sub>5</sub> as n-Pentane	ND	0.84	
C <sub>6</sub> as n-Hexane	ND	0.84	
C <sub>6</sub> + as n-Hexane	230	1.7	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG      Date: 7/15/04

**3**

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F19-4-T  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID : P2401396  
CAS Sample ID : P2401396-003

**Test Code:** Modified EPA TO-3  
**Instrument ID:** HP5890II/GC8/FID  
**Analyst:** Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00020

**Date Collected:** 6/30/04  
**Date Received:** 6/30/04  
**Date Analyzed:** 7/7/04  
**Volume(s) Analyzed:** 1.0 ml

Pi 1 = 0.2      Pf 1 = 10.2

D.F. = 1.67

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	4.4	0.84	
C <sub>2</sub> as Ethane	ND	0.84	
C <sub>3</sub> as Propane	ND	0.84	
C <sub>4</sub> as n-Butane	ND	0.84	
C <sub>5</sub> as n-Pentane	ND	0.84	
C <sub>6</sub> as n-Hexane	ND	0.84	
C <sub>6</sub> + as n-Hexane	3.3	1.7	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG      Date: 7/15/04

4

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F19-10-T  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID : P2401396  
CAS Sample ID : P2401396-004

**Test Code:** Modified EPA TO-3  
**Instrument ID:** HP5890II/GC8/FID  
**Analyst:** Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00017

**Date Collected:** 6/30/04  
**Date Received:** 6/30/04  
**Date Analyzed:** 7/7/04  
**Volume(s) Analyzed:** 1.0 ml

Pi 1 = 0.2      Pf 1 = 10.1

D.F. = 1.66

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	150	0.83	
C <sub>2</sub> as Ethane	ND	0.83	
C <sub>3</sub> as Propane	ND	0.83	
C <sub>4</sub> as n-Butane	ND	0.83	
C <sub>5</sub> as n-Pentane	ND	0.83	
C <sub>6</sub> as n-Hexane	ND	0.83	
C <sub>6</sub> + as n-Hexane	37	1.7	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/15/04

**5**

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F19-10-T  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID : P2401396  
CAS Sample ID : P2401396-004DUP

**Test Code:** Modified EPA TO-3  
**Instrument ID:** HP5890II/GC8/FID  
**Analyst:** Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00017

**Date Collected:** 6/30/04  
**Date Received:** 6/30/04  
**Date Analyzed:** 7/7/04  
**Volume(s) Analyzed:** 1.0 ml

Pi 1 = 0.2      Pf 1 = 10.1

D.F. = 1.66

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	150	0.83	
C <sub>2</sub> as Ethane	ND	0.83	
C <sub>3</sub> as Propane	ND	0.83	
C <sub>4</sub> as n-Butane	ND	0.83	
C <sub>5</sub> as n-Pentane	ND	0.83	
C <sub>6</sub> as n-Hexane	ND	0.83	
C <sub>6</sub> <sup>+</sup> as n-Hexane	40	1.7	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/15/04



# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F1-13-T  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID : P2401396  
CAS Sample ID : P2401396-005

**Test Code:** Modified EPA TO-3  
**Instrument ID:** HP5890II/GC8/FID  
**Analyst:** Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00010

**Date Collected:** 6/30/04  
**Date Received:** 6/30/04  
**Date Analyzed:** 7/7/04  
**Volume(s) Analyzed:** 1.0 ml

Pi 1 = 0.0

Pf 1 = 10.1

D.F. = 1.69

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	21	0.84	
C <sub>2</sub> as Ethane	ND	0.84	
C <sub>3</sub> as Propane	ND	0.84	
C <sub>4</sub> as n-Butane	ND	0.84	
C <sub>5</sub> as n-Pentane	ND	0.84	
C <sub>6</sub> as n-Hexane	ND	0.84	
C <sub>6</sub> + as n-Hexane	86	1.7	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/15/04

7

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F1-13-TR  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID : P2401396  
CAS Sample ID : P2401396-006

**Test Code:** Modified EPA TO-3  
**Instrument ID:** HP5890II/GC8/FID  
**Analyst:** Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00013

**Date Collected:** 6/30/04  
**Date Received:** 6/30/04  
**Date Analyzed:** 7/7/04  
**Volume(s) Analyzed:** 1.0 ml

Pi 1 = 0.0

Pf 1 = 10.0

D.F. = 1.68

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	7.8	0.84	
C <sub>2</sub> as Ethane	ND	0.84	
C <sub>3</sub> as Propane	ND	0.84	
C <sub>4</sub> as n-Butane	ND	0.84	
C <sub>5</sub> as n-Pentane	ND	0.84	
C <sub>6</sub> as n-Hexane	ND	0.84	
C <sub>6</sub> + as n-Hexane	41	1.7	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By:

RG

Date:

7/15/04

**8**

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 1

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID : P2401396  
 CAS Sample ID : P040707-MB

**Test Code:** Modified EPA TO-3  
**Instrument ID:** HP5890II/GC8/FID  
**Analyst:** Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 7/07/04  
**Volume(s) Analyzed:** 1.0 ml

D.F. = 1.00

Compound	Result ppmV	MRL ppmV	Data Qualifier
Methane	ND	0.50	
C <sub>2</sub> as Ethane	ND	0.50	
C <sub>3</sub> as Propane	ND	0.50	
C <sub>4</sub> as n-Butane	ND	0.50	
C <sub>5</sub> as n-Pentane	ND	0.50	
C <sub>6</sub> as n-Hexane	ND	0.50	
C <sub>6</sub> + as n-Hexane	ND	1.0	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/15/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F4-15-T  
**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401396  
**CAS Sample ID:** P2401396-001

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00009

**Date Collected:** 6/28/04  
**Date Received:** 6/30/04  
**Date(s) Analyzed:** 7/2/04 & 7/6/04  
**Volume(s) Analyzed:** 0.0010 Liter(s)  
 0.00030 Liter(s)

Pi 1 = 0.0      Pf 1 = 10.0

D.F. = 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	840	ND	410	
75-01-4	Vinyl Chloride	ND	840	ND	330	
106-99-0	1,3-Butadiene	ND	840	ND	380	
74-83-9	Bromomethane	ND	840	ND	220	
75-00-3	Chloroethane	ND	840	ND	320	
67-64-1	Acetone	ND	8,400	ND	3,500	
75-69-4	Trichlorofluoromethane	ND	840	ND	150	
107-13-1	Acrylonitrile	ND	840	ND	390	
75-35-4	1,1-Dichloroethene	ND	840	ND	210	
75-09-2	Methylene chloride	ND	840	ND	240	
76-13-1	Trichlorotrifluoroethane	ND	840	ND	110	
75-15-0	Carbon Disulfide	ND	840	ND	270	
156-60-5	trans-1,2-Dichloroethene	ND	840	ND	210	
75-34-3	1,1-Dichloroethane	ND	840	ND	210	
1634-04-4	Methyl tert-Butyl Ether	ND	840	ND	230	
108-05-4	Vinyl Acetate	ND	840	ND	240	
78-93-3	2-Butanone (MEK)	ND	840	ND	280	
156-59-2	cis-1,2-Dichloroethene	ND	840	ND	210	
67-66-3	Chloroform	ND	840	ND	170	
107-06-2	1,2-Dichloroethane	ND	840	ND	210	
71-55-6	1,1,1-Trichloroethane	ND	840	ND	150	
71-43-2	Benzene	15,000	840	4,600	260	
56-23-5	Carbon Tetrachloride	ND	840	ND	130	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/15/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F4-15-T  
**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401396  
**CAS Sample ID:** P2401396-001

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00009

**Date Collected:** 6/28/04  
**Date Received:** 6/30/04  
**Date(s) Analyzed:** 7/2/04 & 7/6/04  
**Volume(s) Analyzed:** 0.0010 Liter(s)  
 0.00030 Liter(s)

Pi 1 = 0.0

Pf 1 = 10.0

D.F. = 1.68

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	840	ND	180	
75-27-4	Bromodichloromethane	ND	840	ND	130	
79-01-6	Trichloroethene	ND	840	ND	160	
10061-01-5	cis-1,3-Dichloropropene	ND	840	ND	190	
108-10-1	4-Methyl-2-pentanone	ND	840	ND	210	
10061-02-6	trans-1,3-Dichloropropene	ND	840	ND	190	
79-00-5	1,1,2-Trichloroethane	ND	840	ND	150	
108-88-3	Toluene	11,000	840	2,800	220	
591-78-6	2-Hexanone	ND	840	ND	210	
124-48-1	Dibromochloromethane	ND	840	ND	99	
106-93-4	1,2-Dibromoethane	ND	840	ND	110	
127-18-4	Tetrachloroethene	ND	840	ND	120	
108-90-7	Chlorobenzene	ND	840	ND	180	
100-41-4	Ethylbenzene	250,000	840	58,000	190	
136777-61-2	<i>m,p</i> -Xylenes	ND	1,700	ND	390	
75-25-2	Bromoform	ND	840	ND	81	
100-42-5	Styrene	ND	840	ND	200	
95-47-6	<i>o</i> -Xylene	ND	840	ND	190	
79-34-5	1,1,2,2-Tetrachloroethane	ND	840	ND	120	
541-73-1	1,3-Dichlorobenzene	ND	840	ND	140	
106-46-7	1,4-Dichlorobenzene	ND	840	ND	140	
95-50-1	1,2-Dichlorobenzene	ND	840	ND	140	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC

Date: 7/15/04

Page No.:



# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **PNL-F19-4-T**  
 Client Project ID: **Ascon LF/SB0202-31H**

CAS Project ID: P2401396  
 CAS Sample ID: P2401396-003

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
 Analyst: Rusty Bravo/Wade Henton  
 Sampling Media: Summa Canister  
 Test Notes:  
 Container ID: ISC00020

Date Collected: 6/30/04  
 Date Received: 6/30/04  
 Date(s) Analyzed: 7/2/04  
 Volume(s) Analyzed: 0.20 Liter(s)

Pi 1 = 0.2      PF 1 = 10.2

D.F. = 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	4.2	ND	2.0	
75-01-4	Vinyl Chloride	ND	4.2	ND	1.6	
106-99-0	1,3-Butadiene	6.0	4.2	2.7	1.9	
74-83-9	Bromomethane	ND	4.2	ND	1.1	
75-00-3	Chloroethane	ND	4.2	ND	1.6	
67-64-1	Acetone	ND	42	ND	18	
75-69-4	Trichlorofluoromethane	ND	4.2	ND	0.74	
107-13-1	Acrylonitrile	ND	4.2	ND	1.9	
75-35-4	1,1-Dichloroethene	ND	4.2	ND	1.1	
75-09-2	Methylene chloride	ND	4.2	ND	1.2	
76-13-1	Trichlorotrifluoroethane	ND	4.2	ND	0.54	
75-15-0	Carbon Disulfide	7.3	4.2	2.4	1.3	
156-60-5	trans-1,2-Dichloroethene	ND	4.2	ND	1.1	
75-34-3	1,1-Dichloroethane	ND	4.2	ND	1.0	
1634-04-4	Methyl tert-Butyl Ether	ND	4.2	ND	1.2	
108-05-4	Vinyl Acetate	ND	4.2	ND	1.2	
78-93-3	2-Butanone (MEK)	4.6	4.2	1.6	1.4	
156-59-2	cis-1,2-Dichloroethene	ND	4.2	ND	1.1	
67-66-3	Chloroform	ND	4.2	ND	0.86	
107-06-2	1,2-Dichloroethane	ND	4.2	ND	1.0	
71-55-6	1,1,1-Trichloroethane	ND	4.2	ND	0.77	
71-43-2	Benzene	ND	4.2	ND	1.3	
56-23-5	Carbon Tetrachloride	ND	4.2	ND	0.66	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC Date: 7/15/04 **13**  
 Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F19-4-T  
**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401396  
**CAS Sample ID:** P2401396-003

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00020

**Date Collected:** 6/30/04  
**Date Received:** 6/30/04  
**Date(s) Analyzed:** 7/2/04  
**Volume(s) Analyzed:** 0.20 Liter(s)

Pi 1 = 0.2      Pf 1 = 10.2

D.F. = 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	4.2	ND	0.90	
75-27-4	Bromodichloromethane	ND	4.2	ND	0.62	
79-01-6	Trichloroethene	ND	4.2	ND	0.78	
10061-01-5	cis-1,3-Dichloropropene	ND	4.2	ND	0.92	
108-10-1	4-Methyl-2-pentanone	ND	4.2	ND	1.0	
10061-02-6	trans-1,3-Dichloropropene	ND	4.2	ND	0.92	
79-00-5	1,1,2-Trichloroethane	ND	4.2	ND	0.77	
108-88-3	Toluene	11	4.2	3.0	1.1	
591-78-6	2-Hexanone	ND	4.2	ND	1.0	
124-48-1	Dibromochloromethane	ND	4.2	ND	0.49	
106-93-4	1,2-Dibromoethane	ND	4.2	ND	0.54	
127-18-4	Tetrachloroethene	ND	4.2	ND	0.62	
108-90-7	Chlorobenzene	ND	4.2	ND	0.91	
100-41-4	Ethylbenzene	800	4.2	180	0.96	
136777-61-2	m,p-Xylenes	ND	8.4	ND	1.9	
75-25-2	Bromoform	ND	4.2	ND	0.40	
100-42-5	Styrene	5.1	4.2	1.2	0.98	
95-47-6	o-Xylene	ND	4.2	ND	0.96	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4.2	ND	0.61	
541-73-1	1,3-Dichlorobenzene	ND	4.2	ND	0.69	
106-46-7	1,4-Dichlorobenzene	ND	4.2	ND	0.69	
95-50-1	1,2-Dichlorobenzene	ND	4.2	ND	0.69	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/15/04

Page No.:



# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** PNL-F19-4-T

**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401396

CAS Sample ID: P2401396-003

### Tentatively Identified Compounds

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
 Analyst: Rusty Bravo/Wade Henton  
 Sampling Media: Summa Canister  
 Test Notes: T  
 Container ID: ISC00020

Date Collected: 6/30/04  
 Date Received: 6/30/04  
 Date Analyzed: 7/2/04  
 Volume(s) Analyzed: 0.20 Liter(s)

Pi 1 = 0.2

Pf 1 = 10.2

D.F. = 1.67

GC / MS Ret. Time	Compound Identification	Concentration µg/m <sup>3</sup>	Data Qualifier
4.93	Propene	50	
18.72	Hexamethylcyclotrisiloxane (Possible Artifact)	90	
22.14	Cumene	2,000	
22.98	n-Propylbenzene	40	
23.62	alpha-Methylstyrene	50	
24.43	Isobutylbenzene	100	
24.50	sec-Butylbenzene	300	
24.73	C <sub>9</sub> H <sub>10</sub> Aromatic Compound	300	
25.30	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	200	
25.46	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	400	
25.62	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	100	
26.58	C <sub>10</sub> H <sub>12</sub> Aromatic Compound	200	
27.92	Naphthalene	50	
28.20	C <sub>12</sub> H <sub>18</sub> Aromatic Compound	20	
30.51	Biphenyl	90	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RG

Date: 7/15/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **PNL-F19-4-T**  
 Client Project ID: **Ascon LF/SB0202-31H**

CAS Project ID: P2401396  
 CAS Sample ID: P2401396-003DUP

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
 Analyst: Rusty Bravo/Wade Henton  
 Sampling Media: Summa Canister  
 Test Notes:  
 Container ID: ISC00020

Date Collected: 6/30/04  
 Date Received: 6/30/04  
 Date(s) Analyzed: 7/2/04  
 Volume(s) Analyzed: 0.20 Liter(s)

Pi 1 = 0.2      Pf 1 = 10.2

D.F. = 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	4.2	ND	2.0	
75-01-4	Vinyl Chloride	ND	4.2	ND	1.6	
106-99-0	1,3-Butadiene	6.3	4.2	2.8	1.9	
74-83-9	Bromomethane	ND	4.2	ND	1.1	
75-00-3	Chloroethane	ND	4.2	ND	1.6	
67-64-1	Acetone	ND	42	ND	18	
75-69-4	Trichlorofluoromethane	ND	4.2	ND	0.74	
107-13-1	Acrylonitrile	ND	4.2	ND	1.9	
75-35-4	1,1-Dichloroethene	ND	4.2	ND	1.1	
75-09-2	Methylene chloride	ND	4.2	ND	1.2	
76-13-1	Trichlorotrifluoroethane	ND	4.2	ND	0.54	
75-15-0	Carbon Disulfide	7.0	4.2	2.3	1.3	
156-60-5	trans-1,2-Dichloroethene	ND	4.2	ND	1.1	
75-34-3	1,1-Dichloroethane	ND	4.2	ND	1.0	
1634-04-4	Methyl tert-Butyl Ether	ND	4.2	ND	1.2	
108-05-4	Vinyl Acetate	ND	4.2	ND	1.2	
78-93-3	2-Butanone (MEK)	ND	4.2	ND	1.4	
156-59-2	cis-1,2-Dichloroethene	ND	4.2	ND	1.1	
67-66-3	Chloroform	ND	4.2	ND	0.86	
107-06-2	1,2-Dichloroethane	ND	4.2	ND	1.0	
71-55-6	1,1,1-Trichloroethane	ND	4.2	ND	0.77	
71-43-2	Benzene	ND	4.2	ND	1.3	
56-23-5	Carbon Tetrachloride	ND	4.2	ND	0.66	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC      Date: 7/15/04

Page No.

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** PNL-F19-4-T

**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401396

**CAS Sample ID:** P2401396-003DUP

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3

**Analyst:** Rusty Bravo/Wade Henton

**Sampling Media:** Summa Canister

**Test Notes:**

**Container ID:** ISC00020

**Date Collected:** 6/30/04

**Date Received:** 6/30/04

**Date(s) Analyzed:** 7/2/04

**Volume(s) Analyzed:** 0.20 Liter(s)

Pi 1 = 0.2

Pf 1 = 10.2

D.F. = 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	4.2	ND	0.90	
75-27-4	Bromodichloromethane	ND	4.2	ND	0.62	
79-01-6	Trichloroethene	ND	4.2	ND	0.78	
10061-01-5	cis-1,3-Dichloropropene	ND	4.2	ND	0.92	
108-10-1	4-Methyl-2-pentanone	ND	4.2	ND	1.0	
10061-02-6	trans-1,3-Dichloropropene	ND	4.2	ND	0.92	
79-00-5	1,1,2-Trichloroethane	ND	4.2	ND	0.77	
108-88-3	Toluene	11	4.2	3.0	1.1	
591-78-6	2-Hexanone	ND	4.2	ND	1.0	
124-48-1	Dibromochloromethane	ND	4.2	ND	0.49	
106-93-4	1,2-Dibromoethane	ND	4.2	ND	0.54	
127-18-4	Tetrachloroethene	ND	4.2	ND	0.62	
108-90-7	Chlorobenzene	ND	4.2	ND	0.91	
100-41-4	Ethylbenzene	790	4.2	180	0.96	
136777-61-2	m,p -Xylenes	ND	8.4	ND	1.9	
75-25-2	Bromoform	ND	4.2	ND	0.40	
100-42-5	Styrene	4.9	4.2	1.2	0.98	
95-47-6	o-Xylene	ND	4.2	ND	0.96	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4.2	ND	0.61	
541-73-1	1,3-Dichlorobenzene	ND	4.2	ND	0.69	
106-46-7	1,4-Dichlorobenzene	ND	4.2	ND	0.69	
95-50-1	1,2-Dichlorobenzene	ND	4.2	ND	0.69	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/15/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** PNL-F19-4-T

**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401396

CAS Sample ID: P2401396-003DUP

### Tentatively Identified Compounds

Test Code: EPA TO-15  
Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
Analyst: Rusty Bravo/Wade Henton  
Sampling Media: Summa Canister  
Test Notes: T  
Container ID: ISC00020

Date Collected: 6/30/04  
Date Received: 6/30/04  
Date Analyzed: 7/2/04  
Volume(s) Analyzed: 0.20 Liter(s)

Pi 1 = 0.2

Pf 1 = 10.2

D.F. = 1.67

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
4.93	Propene	50	
18.73	Hexamethylcyclotrisiloxane (Possible Artifact)	90	
22.16	Cumene	2,000	
22.99	n-Propylbenzene	40	
23.62	alpha-Methylstyrene	50	
24.43	Isobutylbenzene	100	
24.51	sec-Butylbenzene	300	
24.74	C <sub>9</sub> H <sub>10</sub> Aromatic Compound	300	
25.31	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	200	
25.46	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	400	
25.62	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	100	
26.59	C <sub>10</sub> H <sub>12</sub> Aromatic Compound	200	
27.92	Naphthalene	50	
28.21	C <sub>12</sub> H <sub>18</sub> Aromatic Compound	50	
30.52	Biphenyl	100	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RG

Date: 7/15/04

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **PNL-F19-10-T**  
 Client Project ID: **Ascon LF/SB0202-31H**

CAS Project ID: P2401396  
 CAS Sample ID: P2401396-004

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
 Analyst: Rusty Bravo/Wade Henton  
 Sampling Media: Summa Canister  
 Test Notes:  
 Container ID: ISC00017

Date Collected: 6/30/04  
 Date Received: 6/30/04  
 Date(s) Analyzed: 7/6/04  
 Volume(s) Analyzed: 0.010 Liter(s)

Pi 1 = 0.2

Pf 1 = 10.1

D.F. = 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	83	ND	40	
75-01-4	Vinyl Chloride	ND	83	ND	32	
106-99-0	1,3-Butadiene	ND	83	ND	38	
74-83-9	Bromomethane	ND	83	ND	21	
75-00-3	Chloroethane	ND	83	ND	31	
67-64-1	Acetone	ND	830	ND	350	
75-69-4	Trichlorofluoromethane	ND	83	ND	15	
107-13-1	Acrylonitrile	ND	83	ND	38	
75-35-4	1,1-Dichloroethene	ND	83	ND	21	
75-09-2	Methylene chloride	ND	83	ND	24	
76-13-1	Trichlorotrifluoroethane	ND	83	ND	11	
75-15-0	Carbon Disulfide	ND	83	ND	27	
156-60-5	trans-1,2-Dichloroethene	ND	83	ND	21	
75-34-3	1,1-Dichloroethane	ND	83	ND	21	
1634-04-4	Methyl tert-Butyl Ether	ND	83	ND	23	
108-05-4	Vinyl Acetate	ND	83	ND	24	
78-93-3	2-Butanone (MEK)	ND	83	ND	28	
156-59-2	cis-1,2-Dichloroethene	ND	83	ND	21	
67-66-3	Chloroform	ND	83	ND	17	
107-06-2	1,2-Dichloroethane	ND	83	ND	21	
71-55-6	1,1,1-Trichloroethane	ND	83	ND	15	
71-43-2	Benzene	ND	83	ND	26	
56-23-5	Carbon Tetrachloride	ND	83	ND	13	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC Date: 7/15/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F19-10-T  
**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401396  
**CAS Sample ID:** P2401396-004

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00017

**Date Collected:** 6/30/04  
**Date Received:** 6/30/04  
**Date(s) Analyzed:** 7/6/04  
**Volume(s) Analyzed:** 0.010 Liter(s)

Pi 1 = 0.2

Pf 1 = 10.1

D.F. = 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	83	ND	18	
75-27-4	Bromodichloromethane	ND	83	ND	12	
79-01-6	Trichloroethene	ND	83	ND	15	
10061-01-5	cis-1,3-Dichloropropene	ND	83	ND	18	
108-10-1	4-Methyl-2-pentanone	ND	83	ND	20	
10061-02-6	trans-1,3-Dichloropropene	ND	83	ND	18	
79-00-5	1,1,2-Trichloroethane	ND	83	ND	15	
108-88-3	Toluene	ND	83	ND	22	
591-78-6	2-Hexanone	ND	83	ND	20	
124-48-1	Dibromochloromethane	ND	83	ND	9.7	
106-93-4	1,2-Dibromoethane	ND	83	ND	11	
127-18-4	Tetrachloroethene	ND	83	ND	12	
108-90-7	Chlorobenzene	ND	83	ND	18	
100-41-4	Ethylbenzene	3,300	83	750	19	
136777-61-2	m,p -Xylenes	ND	170	ND	38	
75-25-2	Bromoform	ND	83	ND	8.0	
100-42-5	Styrene	ND	83	ND	19	
95-47-6	o-Xylene	ND	83	ND	19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	83	ND	12	
541-73-1	1,3-Dichlorobenzene	ND	83	ND	14	
106-46-7	1,4-Dichlorobenzene	ND	83	ND	14	
95-50-1	1,2-Dichlorobenzene	ND	83	ND	14	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/15/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **PNL-F19-10-T**  
 Client Project ID: **Ascon LF/SB0202-31H**

CAS Project ID: P2401396  
 CAS Sample ID: P2401396-004

### Tentatively Identified Compounds

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
 Analyst: Rusty Bravo/Wade Henton  
 Sampling Media: Summa Canister  
 Test Notes: **T**  
 Container ID: ISC00017

Date Collected: 6/30/04  
 Date Received: 6/30/04  
 Date Analyzed: 7/6/04  
 Volume(s) Analyzed: 0.010 Liter(s)

Pi 1 = 0.2

Pf 1 = 10.1

D.F. = 1.66

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
22.14	Cumene	40,000	
22.97	n-Propylbenzene	800	
23.21	C <sub>9</sub> H <sub>12</sub> Aromatic Compound	500	
23.67	2-Ethyltoluene	200	
24.43	Isobutylbenzene	2,000	
24.50	sec-Butylbenzene	4,000	
24.74	C <sub>9</sub> H <sub>10</sub> Aromatic Compound	4,000	
25.12	C <sub>9</sub> H <sub>10</sub> Aromatic Compound	500	
25.30	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	10,000	
25.46	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	5,000	
25.62	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	2,000	
26.59	C <sub>10</sub> H <sub>12</sub> Aromatic Compound	900	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RL Date: 7/15/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **PNL-F1-13-T**  
 Client Project ID: **Ascon LE/SB0202-31H**

CAS Project ID: P2401396  
 CAS Sample ID: P2401396-005

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
 Analyst: Rusty Bravo/Wade Henton  
 Sampling Media: Summa Canister  
 Test Notes:  
 Container ID: ISC00010

Date Collected: 6/30/04  
 Date Received: 6/30/04  
 Date(s) Analyzed: 7/6/04  
 Volume(s) Analyzed: 0.0030 Liter(s)  
 0.0010 Liter(s)

Pi 1 = 0.0      Pf 1 = 10.1

D.F. = 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	280	ND	140	
75-01-4	Vinyl Chloride	ND	280	ND	110	
106-99-0	1,3-Butadiene	ND	280	ND	130	
74-83-9	Bromomethane	ND	280	ND	73	
75-00-3	Chloroethane	ND	280	ND	110	
67-64-1	Acetone	ND	2,800	ND	1,200	
75-69-4	Trichlorofluoromethane	ND	280	ND	50	
107-13-1	Acrylonitrile	ND	280	ND	130	
75-35-4	1,1-Dichloroethene	ND	280	ND	71	
75-09-2	Methylene chloride	ND	280	ND	81	
76-13-1	Trichlorotrifluoroethane	ND	280	ND	37	
75-15-0	Carbon Disulfide	ND	280	ND	90	
156-60-5	trans-1,2-Dichloroethene	ND	280	ND	71	
75-34-3	1,1-Dichloroethane	ND	280	ND	70	
1634-04-4	Methyl tert-Butyl Ether	ND	280	ND	78	
108-05-4	Vinyl Acetate	ND	280	ND	80	
78-93-3	2-Butanone (MEK)	ND	280	ND	96	
156-59-2	cis-1,2-Dichloroethene	ND	280	ND	71	
67-66-3	Chloroform	ND	280	ND	58	
107-06-2	1,2-Dichloroethane	ND	280	ND	70	
71-55-6	1,1,1-Trichloroethane	ND	280	ND	52	
71-43-2	Benzene	35,000	280	11,000	88	
56-23-5	Carbon Tetrachloride	ND	280	ND	45	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG      Date: 7/15/04

Page No.:



# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F1-13-T  
**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401396  
**CAS Sample ID:** P2401396-005

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00010

**Date Collected:** 6/30/04  
**Date Received:** 6/30/04  
**Date(s) Analyzed:** 7/6/04  
**Volume(s) Analyzed:** 0.0030 Liter(s)  
 0.0010 Liter(s)

Pi 1 = 0.0      Pf 1 = 10.1

D.F. = 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	280	ND	61	
75-27-4	Bromodichloromethane	ND	280	ND	42	
79-01-6	Trichloroethene	ND	280	ND	52	
10061-01-5	cis-1,3-Dichloropropene	ND	280	ND	62	
108-10-1	4-Methyl-2-pentanone	ND	280	ND	69	
10061-02-6	trans-1,3-Dichloropropene	ND	280	ND	62	
79-00-5	1,1,2-Trichloroethane	ND	280	ND	52	
108-88-3	Toluene	9,900	280	2,600	75	
591-78-6	2-Hexanone	ND	280	ND	69	
124-48-1	Dibromochloromethane	ND	280	ND	33	
106-93-4	1,2-Dibromoethane	ND	280	ND	37	
127-18-4	Tetrachloroethene	ND	280	ND	42	
108-90-7	Chlorobenzene	ND	280	ND	61	
100-41-4	Ethylbenzene	91,000	280	21,000	65	
136777-61-2	m,p -Xylenes	ND	560	ND	130	
75-25-2	Bromoform	ND	280	ND	27	
100-42-5	Styrene	ND	280	ND	66	
95-47-6	o-Xylene	ND	280	ND	65	
79-34-5	1,1,2,2-Tetrachloroethane	ND	280	ND	41	
541-73-1	1,3-Dichlorobenzene	ND	280	ND	47	
106-46-7	1,4-Dichlorobenzene	ND	280	ND	47	
95-50-1	1,2-Dichlorobenzene	ND	280	ND	47	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RL Date: 7/15/04

Page No.:

23

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F1-13-T  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401396  
CAS Sample ID: P2401396-005

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:** T  
**Container ID:** ISC00010

**Date Collected:** 6/30/04  
**Date Received:** 6/30/04  
**Date Analyzed:** 7/6/04  
**Volume(s) Analyzed:** 0.0030 Liter(s)  
0.0010 Liter(s)

Pi 1 = 0.0

Pf 1 = 10.1

D.F. = 1.69

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
14.02	n-Heptane	900	
22.12	Cumene	6,000	
22.98	n-Propylbenzene	2,000	
23.16	3-Ethyltoluene	1,000	
23.22	4-Ethyltoluene	600	
23.62	alpha-Methylstyrene	10,000	
24.42	Isobutylbenzene	3,000	
24.50	sec-Butylbenzene	10,000	
24.73	C <sub>9</sub> H <sub>10</sub> Aromatic Compound	20,000	
25.31	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	20,000	
25.46	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	9,000	
25.62	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	3,000	
26.58	C <sub>10</sub> H <sub>12</sub> Aromatic Compound	3,000	
27.91	Naphthalene	800	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: RG Date: 7/15/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F1-13-TR  
**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401396  
**CAS Sample ID:** P2401396-006

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00013

**Date Collected:** 6/30/04  
**Date Received:** 6/30/04  
**Date(s) Analyzed:** 7/6/04  
**Volume(s) Analyzed:** 0.0025 Liter(s)

Pi 1 = 0.0      Pf 1 = 10.0

D.F. = 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	340	ND	160	
75-01-4	Vinyl Chloride	ND	340	ND	130	
106-99-0	1,3-Butadiene	ND	340	ND	150	
74-83-9	Bromomethane	ND	340	ND	87	
75-00-3	Chloroethane	ND	340	ND	130	
67-64-1	Acetone	ND	3,400	ND	1,400	
75-69-4	Trichlorofluoromethane	ND	340	ND	60	
107-13-1	Acrylonitrile	ND	340	ND	150	
75-35-4	1,1-Dichloroethene	ND	340	ND	85	
75-09-2	Methylene chloride	ND	340	ND	97	
76-13-1	Trichlorotrifluoroethane	ND	340	ND	44	
75-15-0	Carbon Disulfide	ND	340	ND	110	
156-60-5	trans-1,2-Dichloroethene	ND	340	ND	85	
75-34-3	1,1-Dichloroethane	ND	340	ND	83	
1634-04-4	Methyl tert-Butyl Ether	ND	340	ND	93	
108-05-4	Vinyl Acetate	ND	340	ND	95	
78-93-3	2-Butanone (MEK)	ND	340	ND	110	
156-59-2	cis-1,2-Dichloroethene	ND	340	ND	85	
67-66-3	Chloroform	ND	340	ND	69	
107-06-2	1,2-Dichloroethane	ND	340	ND	83	
71-55-6	1,1,1-Trichloroethane	ND	340	ND	62	
71-43-2	Benzene	13,000	340	4,000	110	
56-23-5	Carbon Tetrachloride	ND	340	ND	53	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC      Date: 7/15/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F1-13-TR  
**Client Project ID:** Ascon LF/SB0202-31H

**CAS Project ID:** P2401396  
**CAS Sample ID:** P2401396-006

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** ISC00013

**Date Collected:** 6/30/04  
**Date Received:** 6/30/04  
**Date(s) Analyzed:** 7/6/04  
**Volume(s) Analyzed:** 0.0025 Liter(s)

Pi 1 = 0.0

Pf 1 = 10.0

D.F. = 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	340	ND	73	
75-27-4	Bromodichloromethane	ND	340	ND	50	
79-01-6	Trichloroethene	ND	340	ND	63	
10061-01-5	cis-1,3-Dichloropropene	ND	340	ND	74	
108-10-1	4-Methyl-2-pentanone	ND	340	ND	82	
10061-02-6	trans-1,3-Dichloropropene	ND	340	ND	74	
79-00-5	1,1,2-Trichloroethane	ND	340	ND	62	
108-88-3	Toluene	4,000	340	1,100	89	
591-78-6	2-Hexanone	ND	340	ND	82	
124-48-1	Dibromochloromethane	ND	340	ND	39	
106-93-4	1,2-Dibromoethane	ND	340	ND	44	
127-18-4	Tetrachloroethene	ND	340	ND	50	
108-90-7	Chlorobenzene	ND	340	ND	73	
100-41-4	Ethylbenzene	45,000	340	10,000	77	
136777-61-2	m,p-Xylenes	ND	670	ND	150	
75-25-2	Bromoform	ND	340	ND	33	
100-42-5	Styrene	ND	340	ND	79	
95-47-6	o-Xylene	ND	340	ND	77	
79-34-5	1,1,2,2-Tetrachloroethane	ND	340	ND	49	
541-73-1	1,3-Dichlorobenzene	ND	340	ND	56	
106-46-7	1,4-Dichlorobenzene	ND	340	ND	56	
95-50-1	1,2-Dichlorobenzene	ND	340	ND	56	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/15/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** PNL-F1-13-TR  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401396  
CAS Sample ID: P2401396-006

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:** T  
**Container ID:** ISC00013

**Date Collected:** 6/30/04  
**Date Received:** 6/30/04  
**Date Analyzed:** 7/6/04  
**Volume(s) Analyzed:** 0.0025 Liter(s)

Pi 1 = 0.0      Pf 1 = 10.0  
D.F. = 1.68

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
22.13	Cumene	4,000	
22.97	n-Propylbenzene	800	
23.62	alpha-Methylstyrene	6,000	
24.50	sec-Butyllbenzene	4,000	
24.74	C <sub>9</sub> H <sub>10</sub> Aromatic Compound	10,000	
25.30	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	10,000	
25.46	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	5,000	
25.62	C <sub>10</sub> H <sub>14</sub> Aromatic Compound	2,000	
26.59	C <sub>10</sub> H <sub>12</sub> Aromatic Compound	2,000	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: Ru Date: 7/15/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

Client: **GeoSyntec Consultants, Inc.**  
 Client Sample ID: **Method Blank**  
 Client Project ID: **Ascon LF/SB0202-31H**

CAS Project ID: P2401396  
 CAS Sample ID: P040702-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
 Analyst: Rusty Bravo/Wade Henton  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date(s) Analyzed: 7/2/04  
 Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.50	ND	0.24	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene chloride	ND	0.50	ND	0.14	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	0.50	ND	0.16	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	0.50	ND	0.14	
78-93-3	2-Butanone (MEK)	ND	0.50	ND	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
67-66-3	Chloroform	ND	0.50	ND	0.10	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC Date: 7/15/04

Page No.:

## COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

Client: GeoSyntec Consultants, Inc.  
 Client Sample ID: Method Blank  
 Client Project ID: Ascon LF/SB0202-31H

CAS Project ID: P2401396  
 CAS Sample ID: P040702-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3  
 Analyst: Rusty Bravo/Wade Henton  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date(s) Analyzed: 7/2/04  
 Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
136777-61-2	<i>m,p</i> -Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	<i>o</i> -Xylene	ND	0.50	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/15/04

Page No.

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401396  
CAS Sample ID: P040702-MB

### Tentatively Identified Compounds

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 7/2/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

GC / MS Ret. Time	Compound Identification	Concentration $\mu\text{g}/\text{m}^3$	Data Qualifier
	No Compounds Detected		



# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 1 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401396  
CAS Sample ID: P040706-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 7/6/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	0.50	ND	0.24	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene chloride	ND	0.50	ND	0.14	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	0.50	ND	0.16	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	0.50	ND	0.14	
78-93-3	2-Butanone (MEK)	ND	0.50	ND	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
67-66-3	Chloroform	ND	0.50	ND	0.10	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RL Date: 7/15/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 2 of 3

**Client:** GeoSyntec Consultants, Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401396  
CAS Sample ID: P040706-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3  
**Analyst:** Rusty Bravo/Wade Henton  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 7/6/04  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
136777-61-2	<i>m,p</i> -Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	<i>o</i> -Xylene	ND	0.50	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RG Date: 7/15/04

Page No.:

# COLUMBIA ANALYTICAL SERVICES, INC.

## RESULTS OF ANALYSIS

Page 3 of 3

**Client:** GeoSyntec Consultants, Inc.

**Client Sample ID:** Method Blank

**Client Project ID:** Ascon LF/SB0202-31H

CAS Project ID: P2401396

CAS Sample ID: P040706-MB

### Tentatively Identified Compounds

**Test Code:** EPA TO-15

**Instrument ID:** Tekmar AUTOCAN/HP5973/HP6890/MS3

**Analyst:** Rusty Bravo/Wade Henton

**Sampling Media:** Summa Canister

**Test Notes:**

Date Collected: NA

Date Received: NA

Date Analyzed: 7/6/04

Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

GC / MS Ret. Time	Compound Identification	Concentration µg/m³	Data Qualifier
	No Compounds Detected		

Verified By: RG Date: 7/15/04

Page No.:

**Columbia Analytical Services, Inc.**  
**Sample Acceptance Check Form**

Client: GeoSyntec Consultants, Inc. Work order: P2401396  
 Project: Ascon LF/SB0202-31H  
 Sample(s) received on: 6/30/04 Date opened: 6/30/04 by: SM

**Note:** This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client or as required by the method/SOP.

		<b>Yes</b>	<b>No</b>	<b>N/A</b>
1	Were <b>custody seals</b> on outside of cooler/Box?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were custody seals on outside of sample container?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Were <b>sample containers</b> properly marked with client sample ID?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Did <b>sample containers</b> arrive in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Were <b>chain-of-custody</b> papers used and filled out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Did <b>sample container labels</b> and/or tags agree with custody papers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Was <b>sample volume</b> received adequate for analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Are samples within specified holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Was proper <b>temperature</b> (thermal preservation) of cooler at receipt adhered to?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Cooler Temperature <u>NA</u> °C			
	Blank Temperature <u>NA</u> °C			
9	Is pH (acid) <b>preservation</b> necessary, according to method/SOP or Client specified information?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Is there a client indication that the submitted samples are <b>pH</b> (acid) preserved?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were <b>VOA vials</b> checked for presence/absence of air bubbles?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	<b>Tubes:</b> Are the tubes capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Do they contain moisture?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	<b>Badges:</b> Are the badges properly capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Are dual bed badges separated and individually capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Lab Sample ID	Required pH	pH (as received, if required)	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2401396-001			NA	
P2401396-002			NA	
P2401396-003			NA	
P2401396-004			NA	
P2401396-005			NA	
P2401396-006			NA	

Explain any discrepancies: (include lab sample ID numbers): \_\_\_\_\_

