ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: CH2M Hill
Project ID: Keystone

Service Request: P1701021

Date Received: 3/2/2017
Time Received: 09:28

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans	TO-15 - VOC SIM
17CY03-27	P1701021-001	Air	2/27/2017	10:14	SC00057	-2.10	3.51	X	
17CY03-28	P1701021-002	Air	2/27/2017	09:59	SSC00032	-2.18	3.54	X	
17CY03-86	P1701021-003	Air	2/27/2017	08:59	SSC00024	-2.51	3.53	X	
17CY03-95	P1701021-004	Air	2/27/2017	16:30	AS00141	-2.96	3.53		X
17CY03-36	P1701021-005	Air	2/27/2017	08:08	SC02194	-2.39	3.51	X	
17CY03-37	P1701021-006	Air	2/27/2017	07:56	SC01748	-1.88	3.52	X	
17CY03-85	P1701021-007	Air	2/27/2017	09:00	SC01489	-2.00	3.51	X	
17CY03-94	P1701021-008	Air	2/27/2017	08:12	SSC00347	-1.86	3.51	X	
17CY03-29	P1701021-009	Air	2/27/2017	16:56	SSC00127	-3.99	3.50		X
17CY03-38	P1701021-010	Air	2/27/2017	15:07	AC01252	0.03	3.51		X
17CY03-84	P1701021-011	Air	2/27/2017	15:31	AC02105	-1.20	3.53		X
17CY04-28	P1701021-012	Air	2/27/2017	15:31	AC01827	-5.73	3.58		X
17CY03-70	P1701021-013	Air	2/28/2017	08:51	SSC00019	-1.48	3.52	X	
17CY03-71	P1701021-014	Air	2/28/2017	09:08	SC02150	-2.31	3.52	X	
17CY03-87	P1701021-015	Air	2/27/2017	17:30	AC02190	-4.75	3.71		X
17CY04-13	P1701021-016	Air	2/27/2017	16:45	AS00984	-3.03	3.51		X
17CY04-01	P1701021-018	Air	2/28/2017	06:46	AS00827	-0.35	3.53		X
17CY04-30	P1701021-019	Air	2/28/2017	09:28	SC01662	-2.78	3.50	X	

P170|021

USEPA CLP COC (LAB COPY)
DateShipped: 2/28/2017
CarrierName: FedEx
AirbillNo: 6492 1133 8263

CHAIN OF CUSTODY RECORD

DAS#:
Cooler #: 25

No: 5-022717-201322-0070
Lab: ALS Environmental - Simi Valley
Lab Contact: Sue Anderson
Lab Phone: 805-577-2086

	Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
1	KC-CP-016-SS-01-022717	17CY03-27	Air/ CH2M	Grab	VOC/TO-15(3)	5-37777 (None) (1)	CP-016-01	02/27/2017 10:14	
2	KC-CP-016-SS-02-022717	17CY03-28	Air/ CH2M	Grab	VOC/TO-15(3)	5-37778 (None) (1)	CP-016-01	02/27/2017 09:59	
3	KC-CP-067-SS-02-022717	17CY03-86	Air/ CH2M	Grab	VOC/TO-15(3)	5-37836 (None) (1)	CP-067	02/27/2017 08:59	
4 *	KC-CP-019-IA-01-022717	17CY03-95	Air/ CH2M	Grab	VOC/TO-15SIM(21)	5-37845 (None) (1)	CP-019	02/27/2017 16:30	

Special Instructions: COC#25 Custody Seal Nos: 59118, 59119 * hold pending analysis *

Shipment for Case Complete? N
Samples Transferred From Chain of Custody #

Analysis Key: VOC/TO-15=VOCs by TO-15 (TAT 3 DAYS), VOC/TO-15SIM=VOCs by TO-15SIM (TAT 21 DAYS)

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	Kartli Ma CH2m	2/28/17 1230	ALS	3/2/17 0928	

P170102l

USEPA CLP COC (LAB COPY)

DateShipped: 2/28/2017
CarrierName: FedEx
AirbillNo: 6492 1133 8263

CHAIN OF CUSTODY RECORD

DAS#:
Cooler#: 26

No: 5-022717-203042-0071

Lab: ALS Environmental - Simi Valley
Lab Contact: Sue Anderson
Lab Phone: 805-577-2086

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
KC-CP-016-SS-07-022717	17CY03-36	Air/ CH2M	Grab	VOC/TO-15(3)	5-37786 (None) (1)	CP-016-04	02/27/2017 08:08	
KC-CP-016-SS-08-022717	17CY03-37	Air/ CH2M	Grab	VOC/TO-15(3)	5-37787 (None) (1)	CP-016-04	02/27/2017 07:56	
KC-CP-067-SS-01-022717	17CY03-85	Air/ CH2M	Grab	VOC/TO-15(3)	5-37835 (None) (1)	CP-067	02/27/2017 09:00	
KC-CP-019-SS-01-022717	17CY03-94	Air/ CH2M	Grab	VOC/TO-15(3)	5-37844 (None) (1)	CP-019	02/27/2017 08:12	

Special Instructions: COC#26 Custody Seal Nos: 59120, 59121

Shipment for Case Complete? N
Samples Transferred From Chain of Custody#

Analysis Key: VOC/TO-15=VOCs by TO-15 (TAT 3 DAYS)

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	Kartik Ma CH2M	2/28/17 1230	ALS	3/2/17 0928	

P1701021

USEPA CLP COC (LAB COPY)
DateShipped: 2/28/2017
CarrierName: FedEx
AirbillNo: 6492 1133 8252

CHAIN OF CUSTODY RECORD

DAS #:
Cooler #: 27

No: 5-022717-203944-0072
Lab: ALS Environmental - Simi Valley
Lab Contact: Sue Anderson
Lab Phone: 805-577-2086

	Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
9 *	KC-CP-016-IA-01-022717	17CY03-29	Air/ CH2M	Grab	VOC/TO-15SIM(21)	5-37779 (None) (1)	CP-016-01	02/27/2017 16:56	
10 *	KC-CP-016-IA-04-022717	17CY03-38	Air/ CH2M	Grab	VOC/TO-15SIM(3)	5-37788 (None) (1)	CP-016-04	02/27/2017 15:07	
11 *	KC-CP-002-IA-01-022717	17CY03-84	Air/ CH2M	Grab	VOC/TO-15SIM(21)	5-37834 (None) (1)	CP-002	02/27/2017 15:31	
12 *	KC-IA-FD-004-022717	17CY04-28	Air/ CH2M	Grab	VOC/TO-15SIM(21)	5-37877 (None) (1)	CP-002	02/27/2017 15:31	

Special Instructions: COC#27 Custody Seal Nos: 59122, 59123 *hold pending analysis*

Shipment for Case Complete? N
Samples Transferred From Chain of Custody #

Analysis Key: VOC/TO-15SIM=VOCs by TO-15SIM (TAT 21 DAYS)

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	Kristi M CH2M	2/28/17 1230	ALS	3/2/17 0928	

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **17CY03-27**
Client Project ID: **Keystone**

ALS Project ID: P1701021
ALS Sample ID: P1701021-001

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC00057

Date Collected: 2/27/17
Date Received: 3/2/17
Date Analyzed: 3/3/17 & 3/6/17
Volume(s) Analyzed: 1.00 Liter(s)
0.10 Liter(s)

Initial Pressure (psig): -2.10 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	0.73	0.25	**0.51**	0.15	0.050	
74-87-3	Chloromethane	ND	0.73	0.22	ND	0.35	0.11	**L**
75-01-4	Vinyl Chloride	ND	0.73	0.25	ND	0.28	0.096	
74-83-9	Bromomethane	ND	0.73	0.28	ND	0.19	0.071	
75-00-3	Chloroethane	ND	0.73	0.25	ND	0.27	0.093	
75-35-4	1,1-Dichloroethene	**8.5**	0.73	0.25	**2.1**	0.18	0.062	
75-09-2	Methylene Chloride	**1.6**	0.73	0.25	**0.45**	0.21	0.071	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**2.0**	0.73	0.25	**0.26**	0.095	0.032	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	0.28	ND	0.18	0.070	
75-34-3	1,1-Dichloroethane	ND	0.73	0.23	ND	0.18	0.057	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	0.23	ND	0.18	0.059	
67-66-3	Chloroform	**0.33**	0.73	0.25	**0.067**	0.15	0.050	**J**
107-06-2	1,2-Dichloroethane	ND	0.73	0.23	ND	0.18	0.057	
71-55-6	1,1,1-Trichloroethane	**530**	7.3	2.5	**97**	1.3	0.45	**D**
56-23-5	Carbon Tetrachloride	**4.3**	0.73	0.22	**0.69**	0.12	0.035	
78-87-5	1,2-Dichloropropane	ND	0.73	0.23	ND	0.16	0.050	
75-27-4	Bromodichloromethane	ND	0.73	0.22	ND	0.11	0.032	
79-01-6	Trichloroethene	**130**	0.73	0.20	**24**	0.13	0.038	
79-00-5	1,1,2-Trichloroethane	ND	0.73	0.23	ND	0.13	0.043	
124-48-1	Dibromochloromethane	ND	0.73	0.23	ND	0.085	0.027	
106-93-4	1,2-Dibromoethane	ND	0.73	0.23	ND	0.094	0.030	
127-18-4	Tetrachloroethene	**84**	0.73	0.20	**12**	0.11	0.030	
75-25-2	Bromoform	ND	0.73	0.22	ND	0.070	0.021	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	0.22	ND	0.11	0.032	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.73	0.14	ND	0.075	0.015	

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 result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **17CY03-27** ALS Project ID: P1701021
Client Project ID: **Keystone** ALS Sample ID: P1701021-001

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/17
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8	Date Received:	3/2/17
Analyst:	Wida Ang	Date Analyzed:	3/3/17 & 3/6/17
Sample Type:	6.0 L Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			0.10 Liter(s)
Container ID:	SC00057		

Initial Pressure (psig): -2.10 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.45

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Hexachloroethane	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **17CY03-28**
Client Project ID: **Keystone**

ALS Project ID: P1701021
ALS Sample ID: P1701021-002

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: SSC00032

Date Collected: 2/27/17
Date Received: 3/2/17
Date Analyzed: 3/3/17
Volume(s) Analyzed: 1.00 Liter(s)
0.10 Liter(s)

Initial Pressure (psig): -2.18 Final Pressure (psig): 3.54

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.73	0.25	**0.48**	0.15	0.050	
74-87-3	Chloromethane	ND	0.73	0.22	ND	0.35	0.11	**L**
75-01-4	Vinyl Chloride	ND	0.73	0.25	ND	0.29	0.097	
74-83-9	Bromomethane	ND	0.73	0.28	ND	0.19	0.071	
75-00-3	Chloroethane	ND	0.73	0.25	ND	0.28	0.094	
75-35-4	1,1-Dichloroethene	**10**	0.73	0.25	**2.6**	0.18	0.063	
75-09-2	Methylene Chloride	**7.0**	0.73	0.25	**2.0**	0.21	0.071	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**3.3**	0.73	0.25	**0.42**	0.095	0.032	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	0.28	ND	0.18	0.070	
75-34-3	1,1-Dichloroethane	ND	0.73	0.23	ND	0.18	0.058	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	0.23	ND	0.18	0.059	
67-66-3	Chloroform	**2.9**	0.73	0.25	**0.59**	0.15	0.051	
107-06-2	1,2-Dichloroethane	ND	0.73	0.23	ND	0.18	0.058	
71-55-6	1,1,1-Trichloroethane	**760**	7.3	2.5	**140**	1.3	0.46	**D**
56-23-5	Carbon Tetrachloride	**5.8**	0.73	0.22	**0.92**	0.12	0.035	
78-87-5	1,2-Dichloropropane	ND	0.73	0.23	ND	0.16	0.051	
75-27-4	Bromodichloromethane	ND	0.73	0.22	ND	0.11	0.033	
79-01-6	Trichloroethene	**180**	7.3	2.0	**33**	1.4	0.38	**D**
79-00-5	1,1,2-Trichloroethane	ND	0.73	0.23	ND	0.13	0.043	
124-48-1	Dibromochloromethane	ND	0.73	0.23	ND	0.086	0.027	
106-93-4	1,2-Dibromoethane	ND	0.73	0.23	ND	0.095	0.030	
127-18-4	Tetrachloroethene	**31**	0.73	0.20	**4.6**	0.11	0.030	
75-25-2	Bromoform	**0.28**	0.73	0.22	**0.027**	0.071	0.021	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	0.22	ND	0.11	0.032	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.73	0.14	ND	0.076	0.015	

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.
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D = The reported result is from a dilution.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **17CY03-28** ALS Project ID: P1701021
Client Project ID: **Keystone** ALS Sample ID: P1701021-002

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/17
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8	Date Received:	3/2/17
Analyst:	Wida Ang	Date Analyzed:	3/3/17
Sample Type:	6.0 L Silonite Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			0.10 Liter(s)
Container ID:	SSC00032		

Initial Pressure (psig): -2.18 Final Pressure (psig): 3.54

Canister Dilution Factor: 1.46

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Hexachloroethane	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **17CY03-36**
Client Project ID: **Keystone**

ALS Project ID: P1701021
ALS Sample ID: P1701021-005

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC02194

Date Collected: 2/27/17
Date Received: 3/2/17
Date Analyzed: 3/3/17
Volume(s) Analyzed: 0.020 Liter(s)

Initial Pressure (psig): -2.39 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	37	13	ND	7.5	2.5	
74-87-3	Chloromethane	ND	37	11	ND	18	5.4	**L**
75-01-4	Vinyl Chloride	ND	37	13	ND	14	4.9	
74-83-9	Bromomethane	ND	37	14	ND	9.5	3.6	
75-00-3	Chloroethane	ND	37	13	ND	14	4.8	
75-35-4	1,1-Dichloroethene	ND	37	13	ND	9.3	3.2	
75-09-2	Methylene Chloride	ND	37	13	ND	11	3.6	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	37	13	ND	4.8	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	37	14	ND	9.3	3.5	
75-34-3	1,1-Dichloroethane	ND	37	12	ND	9.1	2.9	
156-59-2	cis-1,2-Dichloroethene	ND	37	12	ND	9.3	3.0	
67-66-3	Chloroform	ND	37	13	ND	7.6	2.6	
107-06-2	1,2-Dichloroethane	ND	37	12	ND	9.1	2.9	
71-55-6	1,1,1-Trichloroethane	**1,700**	37	13	**310**	6.8	2.3	
56-23-5	Carbon Tetrachloride	ND	37	11	ND	5.9	1.8	
78-87-5	1,2-Dichloropropane	ND	37	12	ND	8.0	2.6	
75-27-4	Bromodichloromethane	ND	37	11	ND	5.5	1.7	
79-01-6	Trichloroethene	**2,900**	37	10	**540**	6.9	1.9	
79-00-5	1,1,2-Trichloroethane	ND	37	12	ND	6.8	2.2	
124-48-1	Dibromochloromethane	ND	37	12	ND	4.3	1.4	
106-93-4	1,2-Dibromoethane	ND	37	12	ND	4.8	1.5	
127-18-4	Tetrachloroethene	**7,100**	37	10	**1,000**	5.5	1.5	
75-25-2	Bromoform	ND	37	11	ND	3.6	1.1	
79-34-5	1,1,2,2-Tetrachloroethane	ND	37	11	ND	5.4	1.6	
96-12-8	1,2-Dibromo-3-chloropropane	ND	37	7.3	ND	3.8	0.76	

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.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **17CY03-36** ALS Project ID: P1701021
Client Project ID: **Keystone** ALS Sample ID: P1701021-005

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/17
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8	Date Received:	3/2/17
Analyst:	Wida Ang	Date Analyzed:	3/3/17
Sample Type:	6.0 L Summa Canister	Volume(s) Analyzed:	0.020 Liter(s)
Test Notes:			
Container ID:	SC02194		

Initial Pressure (psig): -2.39 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.48

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Hexachloroethane	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **17CY03-37** ALS Project ID: P1701021
Client Project ID: **Keystone** ALS Sample ID: P1701021-006

Test Code: EPA TO-15 Date Collected: 2/27/17
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 3/2/17
Analyst: Wida Ang Date Analyzed: 3/3/17
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: SC01748

Initial Pressure (psig): -1.88 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	470	160	ND	96	33	
74-87-3	Chloromethane	ND	470	140	ND	230	69	**L**
75-01-4	Vinyl Chloride	ND	470	160	ND	190	63	
74-83-9	Bromomethane	ND	470	180	ND	120	46	
75-00-3	Chloroethane	ND	470	160	ND	180	61	
75-35-4	1,1-Dichloroethene	ND	470	160	ND	120	41	
75-09-2	Methylene Chloride	**190**	470	160	**54**	140	46	**J**
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	470	160	ND	62	21	
156-60-5	trans-1,2-Dichloroethene	ND	470	180	ND	120	45	
75-34-3	1,1-Dichloroethane	ND	470	150	ND	120	37	
156-59-2	cis-1,2-Dichloroethene	ND	470	150	ND	120	38	
67-66-3	Chloroform	ND	470	160	ND	97	33	
107-06-2	1,2-Dichloroethane	ND	470	150	ND	120	37	
71-55-6	1,1,1-Trichloroethane	**1,000**	470	160	**190**	87	30	
56-23-5	Carbon Tetrachloride	ND	470	140	ND	75	23	
78-87-5	1,2-Dichloropropane	ND	470	150	ND	100	33	
75-27-4	Bromodichloromethane	ND	470	140	ND	71	21	
79-01-6	Trichloroethene	**5,400**	470	130	**1,000**	88	25	
79-00-5	1,1,2-Trichloroethane	ND	470	150	ND	87	28	
124-48-1	Dibromochloromethane	ND	470	150	ND	56	18	
106-93-4	1,2-Dibromoethane	ND	470	150	ND	62	20	
127-18-4	Tetrachloroethene	**67,000**	470	130	**9,900**	70	20	
75-25-2	Bromoform	ND	470	140	ND	46	14	
79-34-5	1,1,2,2-Tetrachloroethane	ND	470	140	ND	69	21	
96-12-8	1,2-Dibromo-3-chloropropane	ND	470	94	ND	49	9.7	

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 result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **17CY03-37** ALS Project ID: P1701021
Client Project ID: **Keystone** ALS Sample ID: P1701021-006

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/17
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8	Date Received:	3/2/17
Analyst:	Wida Ang	Date Analyzed:	3/3/17
Sample Type:	6.0 L Summa Canister	Volume(s) Analyzed:	0.0015 Liter(s)
Test Notes:			
Container ID:	SC01748		

Initial Pressure (psig): -1.88 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.42

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Hexachloroethane	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **17CY03-29** ALS Project ID: P1701021
Client Project ID: **Keystone** ALS Sample ID: P1701021-009

Test Code: EPA TO-15 SIM Date Collected: 2/27/17
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 3/2/17
Analyst: Cory Lewis Date Analyzed: 3/8/17
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.50 Liter(s)
Test Notes:
Container ID: SSC00127

Initial Pressure (psig): -3.99 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.5**	0.17	0.058	**0.70**	0.034	0.012	
74-87-3	Chloromethane	**0.99**	0.17	0.065	**0.48**	0.082	0.031	
75-01-4	Vinyl Chloride	ND	0.085	0.026	ND	0.033	0.010	
74-83-9	Bromomethane	**0.036**	0.085	0.032	**0.0092**	0.022	0.0081	**J**
75-00-3	Chloroethane	ND	0.085	0.029	ND	0.032	0.011	
75-35-4	1,1-Dichloroethene	**0.19**	0.085	0.029	**0.049**	0.021	0.0074	
75-09-2	Methylene Chloride	**17**	0.34	0.044	**4.9**	0.098	0.013	
76-13-1	Trichlorotrifluoroethane	**0.67**	0.085	0.030	**0.087**	0.011	0.0040	
156-60-5	trans-1,2-Dichloroethene	ND	0.085	0.025	ND	0.021	0.0063	
75-34-3	1,1-Dichloroethane	ND	0.085	0.021	ND	0.021	0.0051	
156-59-2	cis-1,2-Dichloroethene	ND	0.085	0.031	ND	0.021	0.0079	
67-66-3	Chloroform	**0.34**	0.34	0.061	**0.071**	0.070	0.013	
107-06-2	1,2-Dichloroethane	**0.13**	0.085	0.029	**0.032**	0.021	0.0071	
71-55-6	1,1,1-Trichloroethane	**3.3**	0.085	0.020	**0.61**	0.016	0.0037	
56-23-5	Carbon Tetrachloride	**0.64**	0.085	0.041	**0.10**	0.014	0.0065	
78-87-5	1,2-Dichloropropane	**0.057**	0.085	0.025	**0.012**	0.018	0.0054	**J**
75-27-4	Bromodichloromethane	ND	0.085	0.023	ND	0.013	0.0035	
79-01-6	Trichloroethene	**3.9**	0.085	0.029	**0.73**	0.016	0.0054	
79-00-5	1,1,2-Trichloroethane	ND	0.34	0.027	ND	0.062	0.0049	
124-48-1	Dibromochloromethane	ND	0.085	0.030	ND	0.010	0.0035	
106-93-4	1,2-Dibromoethane	ND	0.085	0.027	ND	0.011	0.0035	
127-18-4	Tetrachloroethene	**36**	0.085	0.028	**5.2**	0.013	0.0041	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.085	0.024	ND	0.012	0.0036	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.34	0.032	ND	0.035	0.0033	

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 result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **17CY03-38** ALS Project ID: P1701021
Client Project ID: **Keystone** ALS Sample ID: P1701021-010

Test Code: EPA TO-15 SIM Date Collected: 2/27/17
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 3/2/17
Analyst: Cory Lewis Date Analyzed: 3/8/17 & 3/10/17
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.50 Liter(s)
Test Notes: 0.10 Liter(s)
Container ID: AC01252

Initial Pressure (psig): 0.03 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.24

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.9**	0.12	0.042	**0.79**	0.025	0.0085	
74-87-3	Chloromethane	**0.91**	0.12	0.047	**0.44**	0.060	0.023	
75-01-4	Vinyl Chloride	ND	0.062	0.019	ND	0.024	0.0074	
74-83-9	Bromomethane	**0.041**	0.062	0.023	**0.011**	0.016	0.0059	**J**
75-00-3	Chloroethane	**0.031**	0.062	0.021	**0.012**	0.024	0.0080	**J**
75-35-4	1,1-Dichloroethene	ND	0.062	0.021	ND	0.016	0.0054	
75-09-2	Methylene Chloride	**1.7**	0.25	0.032	**0.50**	0.071	0.0093	
76-13-1	Trichlorotrifluoroethane	**0.66**	0.062	0.022	**0.086**	0.0081	0.0029	
156-60-5	trans-1,2-Dichloroethene	ND	0.062	0.018	ND	0.016	0.0046	
75-34-3	1,1-Dichloroethane	ND	0.062	0.015	ND	0.015	0.0037	
156-59-2	cis-1,2-Dichloroethene	ND	0.062	0.023	ND	0.016	0.0058	
67-66-3	Chloroform	**0.26**	0.25	0.045	**0.052**	0.051	0.0091	
107-06-2	1,2-Dichloroethane	**0.25**	0.062	0.021	**0.062**	0.015	0.0051	
71-55-6	1,1,1-Trichloroethane	**5.5**	0.062	0.015	**1.0**	0.011	0.0027	
56-23-5	Carbon Tetrachloride	**0.59**	0.062	0.030	**0.093**	0.0099	0.0047	
78-87-5	1,2-Dichloropropane	**0.14**	0.062	0.018	**0.030**	0.013	0.0039	
75-27-4	Bromodichloromethane	ND	0.062	0.017	ND	0.0093	0.0026	
79-01-6	Trichloroethene	**22**	0.062	0.021	**4.2**	0.012	0.0039	
79-00-5	1,1,2-Trichloroethane	ND	0.25	0.020	ND	0.045	0.0036	
124-48-1	Dibromochloromethane	ND	0.062	0.022	ND	0.0073	0.0026	
106-93-4	1,2-Dibromoethane	ND	0.062	0.020	ND	0.0081	0.0026	
127-18-4	Tetrachloroethene	**200**	0.31	0.10	**30**	0.046	0.015	**D**
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.062	0.018	ND	0.0090	0.0026	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.25	0.024	ND	0.026	0.0024	

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 result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.