Columbia Analytical Services™ 2655 Park Center Drive, Suite A | Simi Valley, CA 93065 | 805.526.7161 | 805.526.7270 fax | www.caslab.com

LABORATORY REPORT

June 24, 2010

Data Coordinator
Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

RE: 17131

Dear Data Coordinator:

Enclosed are the results of the samples submitted to our laboratory on June 5, 2010. For your reference, these analyses have been assigned our service request number P1006954.

All analyses were performed according to our laboratory NELAP approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 22 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 2115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA; Washington State Department of Ecology, ELAP Lab ID: C946. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Kate Aguilera
Project Manager

VOID

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Client: Environmental Health & Engineering, Inc. CAS Project No: P1001954
Project: 17131

CASE NARRATIVE

The samples were received intact under chain of custody on June 5, 2010 and were stored in accordance with the analytical method requirements. 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 of sample receipt.

Hydrogen Sulfide in Air (H_2S) Analysis

The samples were prepared in accordance with CAS AQL 110 [illegible]gen sulfide in air and analyzed by colorimetric method using a spectrophotometer.

The results of analyses are given in the attached laboratory report. [illegible] are intended to be considered in their entirety, and Columbia Analytical Services [illegible] (CAS) [illegible]not responsible for utilization of less than the complete report.

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Client: Environmental Health & Engineering, Inc.
Project: 17131

Service Request: P1001954

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
P1001954-001	110297	6/4/10	00:00
P1001954-002	110337	6/4/10	00:00
P1001954-003	110991	6/4/10	00:00
P1001954-004	110992	6/4/10	00:00
P1001954-005	110993	6/4/10	00:00
P1001954-006	110994	6/4/10	00:00
P1001954-007	110995	6/4/10	00:00
P1001954-008	110996	6/4/10	00:00
P1001954-009	111056	6/4/10	00:00
P1001954-010	111057	6/4/10	00:00
P1001954-011	111058	6/4/10	00:00
P1001954-012	111059	6/4/10	00:00
P1001954-013	111060	6/4/10	00:00
P1001954-014	111061	6/4/10	00:00
P1001954-015	111040	6/4/10	00:00
P1001954-016	111041	6/4/10	00:00
P1001954-017	111042	6/4/10	00:00
P1001954-018	111043	6/4/10	00:00
P1001954-019	111044	6/4/10	00:00
P1001954-020	111045	6/4/10	00:00
P1001954-021	110980	6/4/10	00:00
P1001954-022	110981	6/4/10	00:00
P1001954-023	110982	6/4/10	00:00
P1001954-024	110983	6/4/10	00:00
P1001954-025	110984	6/4/10	00:00
P1001954-026	110985	6/4/10	00:00
P1001954-027	111021	6/4/10	00:00
P1001954-028	111022	6/4/10	00:00
P1001954-029	111023	6/4/10	00:00
P1001954-030	111024	6/4/10	00:00
P1001954-031	111025	6/4/10	00:00
P1001954-032	111026	6/4/10	00:00
P1001954-033	111011	6/4/10	00:00
P1001954-034	111012	6/4/10	00:00
P1001954-035	111013	6/4/10	00:00
P1001954-036	111014	6/4/10	00:00
P1001954-037	111015	6/4/10	00:00
P1001954-038	111016	6/4/10	00:00

VOID

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Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 4 JUN 10

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

P100 1954

TO: COLUMBIA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 17131

The cost of this analysis will be covered by EH&E Purchase Order # 17131

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
110297		H_2S ANALYSIS	28D 16H 10M
110337			27D 21H 40M
110991			13D 17H 55M
110992			
110993			
110994			
110995			⊘
110996			⊘
111056			13D 20M
111057			
111058			
111059			
111060			⊘
111061			⊘
111040			13D 8H 30M
111041			

VOID

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☐ Electronic transfer - datacoordinator@eheinc.com

☐ Additional report recipient bbaker@eheinc.com

3 oz

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 6/4/10

Received by: _____ of (company name) CLAS Date: 6/5/10 1150

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 3

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WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 4 JUN 10

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

P1001954

TO: COLUMBIA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 17131

The cost of this analysis will be covered by EH&E Purchase Order # 17131

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
111042	AIR	H_2S ANALYSIS	13D 8H 30M
111043			⊥
111044			Ø
111045			Ø
110980			14D 23M
110981			⊥
110982			
110983			⊥
110984			Ø
110985			Ø
111021			14D 15H 20M
111022			⊥
111023			
111024			⊥
111025			Ø
111026	⊥	⊥	Ø

VOID

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☐ Electronic transfer - datacoordinator@eheinc.com 3°C

☒ Additional report recipient bbaker@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 6/4/10

Received by: _____ of (company name) CAS Date: 6/5/10 1150

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 4 JUN 10

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

P1001954

TO: COLUMBIA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 17131

The cost of this analysis will be covered by EH&E Purchase Order # 17131

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
111011	AIR	H_2S ANALYSIS	AD 16H
111012	↓	↓	↓
111013			
111014			
111015			∅
111016			∅

VOID

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☐ Electronic transfer - datacoordinator@eheinc.com

☐ Additional report recipient bbaker@eheinc.com

Each signatory please return one copy of this form to the above address

30C

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 6/4/10

Received by: _____ of (company name) CAS Date: 6/5/10 1150

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Environmental Health & Engineering, Inc. Work order: P1001954

Project: 17131

Sample(s) received on: 6/5/2010 Date opened: 6/5/2010 by: MZAMORA

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 and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☒	☐	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature _____ °C Blank Temperature 3 °C			
10	Was a **trip blank** received?	☐	☒	☐
	Was a **blank** tube received?	☒	☐	☐
11	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample containers?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
12	Do containers have appropriate **preservation** according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☒	☐	☐
	Do they contain moisture?	☐	☒	☐
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

VOID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1001954-001.01	Passive (Radiello H2S)					
P1001954-002.01	Passive (Radiello H2S)					
P1001954-003.01	Passive (Radiello H2S)					
P1001954-004.01	Passive (Radiello H2S)					
P1001954-005.01	Passive (Radiello H2S)					

Explain any discrepancies: (include lab sample ID numbers):
The times of sample collection were not indicated on the COC.

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12) RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Environmental Health & Engineering, Inc. Work order: P1001954

Project: 17131

Sample(s) received on: 6/5/2010 Date opened: 6/5/2010 by: MZAMORA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1001954-006.01	Passive (Radiello H2S)					
P1001954-007.01	Passive (Radiello H2S)					
P1001954-008.01	Passive (Radiello H2S)					
P1001954-009.01	Passive (Radiello H2S)					
P1001954-010.01	Passive (Radiello H2S)					
P1001954-011.01	Passive (Radiello H2S)					
P1001954-012.01	Passive (Radiello H2S)					
P1001954-013.01	Passive (Radiello H2S)					
P1001954-014.01	Passive (Radiello H2S)					
P1001954-015.01	Passive (Radiello H2S)					
P1001954-016.01	Passive (Radiello H2S)					
P1001954-017.01	Passive (Radiello H2S)					
P1001954-018.01	Passive (Radiello H2S)					
P1001954-019.01	Passive (Radiello H2S)					
P1001954-020.01	Passive (Radiello H2S)					
P1001954-021.01	Passive (Radiello H2S)					
P1001954-022.01	Passive (Radiello H2S)					
P1001954-023.01	Passive (Radiello H2S)					
P1001954-024.01	Passive (Radiello H2S)					
P1001954-025.01	Passive (Radiello H2S)					
P1001954-026.01	Passive (Radiello H2S)					
P1001954-027.01	Passive (Radiello H2S)					
P1001954-028.01	Passive (Radiello H2S)					
P1001954-029.01	Passive (Radiello H2S)					
P1001954-030.01	Passive (Radiello H2S)					
P1001954-031.01	Passive (Radiello H2S)					
P1001954-032.01	Passive (Radiello H2S)					
P1001954-033.01	Passive (Radiello H2S)					
P1001954-034.01	Passive (Radiello H2S)					
P1001954-035.01	Passive (Radiello H2S)					
P1001954-036.01	Passive (Radiello H2S)					
P1001954-037.01	Passive (Radiello H2S)					
P1001954-038.01	Passive (Radiello H2S)					

VOID

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

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12) RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Project ID: **17131**

CAS Project ID: P1001954

Hydrogen Sulfide

Test Code: CAS AQL 110
Instrument ID: P-UV-Vis-01
Analyst: Sue Anderson
Sampling Media: Radiello Tube(s)
Test Notes: **DE**

Date(s) Collected: 6/4/10
Date Received: 6/5/10
Date Extracted: 6/7/10
Date Analyzed: 6/7/10
Desorption Volume: 0.010 Liter(s)

Client Sample ID	CAS Sample ID	Sampling Time Minutes	Dilution Factor	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110297	P1001954-001	41290	1.0	**7,400**	**2.6**	[illegible]	**1.9**	0.096	
110337	P1001954-002	40180	1.0	**1,500**	**0.5[illegible]**	0.14	**0.39**	0.099	
110991	P1001954-003	19795	1.0	**2,800**	**[illegible]**	0.28	**1.5**	0.20	
110992	P1001954-004	19795	1.0	**2,200**	**[illegible]**	0.28	**1.1**	0.20	
110993	P1001954-005	19795	1.0	**1,800**	**1.[illegible]**	0.28	**0.96**	0.20	
110994	P1001954-006	19795	1.0	**650**	**0.47**	0.28	**0.34**	0.20	
110995	P1001954-007	NA	1.0	< 380	NA	NA	NA	NA	
110996	P1001954-008	NA	1.0	< 380	NA	[illegible]	NA	NA	
111056	P1001954-009	18740	1.0	**460**	**0.[illegible]**	[illegible]	**0.26**	0.21	
111057	P1001954-010	18740	1.0	[illegible]	**0.34**	0.30	**0.25**	0.21	
111058	P1001954-011	18740	1.0	**[illegible]00**	**0.39**	0.30	**0.28**	0.21	
111059	P1001954-012	18740	1.0	**[illegible]100**	**[illegible].83**	0.30	**0.60**	0.21	
111060	P1001954-013	NA	1.0	[illegible]380	NA	NA	NA	NA	
111061	P1001954-014	NA	[illegible]	[illegible]80	NA	NA	NA	NA	
111040	P1001954-015	19230	1.[illegible]	**1,[illegible]**	**0.79**	0.29	**0.57**	0.21	
111041	P1001954-016	19230	1.0	**1,40[illegible]**	**1.1**	0.29	**0.76**	0.21	
111042	P1001954-017	19230	1.0	**2,000**	**1.5**	0.29	**1.1**	0.21	
111043	P1001954-018	[illegible]230	1.0	**690**	**0.52**	0.29	**0.37**	0.21	
111044	P1001954-019	[illegible]	1.0	< 380	NA	NA	NA	NA	
111045	P1001954-020	NA	[illegible]	[illegible]380	NA	NA	NA	NA	
110980	P1001954-021	20183	1.0	**[illegible]00**	**1.5**	0.27	**1.1**	0.20	
110981	P1001954-022	20183	1.0	**2,000**	**1.4**	0.27	**1.0**	0.20	
110982	P1001954-023	20183	1.0	**2,500**	**1.8**	0.27	**1.3**	0.20	
110983	P1001954-024	20183	1.0	**2,300**	**1.6**	0.27	**1.2**	0.20	
110984	P1001954-025	NA	1.0	< 380	NA	NA	NA	NA	
110985	P1001954-026	NA	1.0	< 380	NA	NA	NA	NA	
111021	P1001954-027	21080	1.0	**2,200**	**1.5**	0.26	**1.1**	0.19	
111022	P1001954-028	21080	1.0	**2,400**	**1.7**	0.26	**1.2**	0.19	
111023	P1001954-029	21080	1.0	**3,500**	**2.4**	0.26	**1.7**	0.19	
111024	P1001954-030	21080	1.0	**9,800**	**6.7**	0.26	**4.8**	0.19	
111025	P1001954-031	NA	1.0	< 380	NA	NA	NA	NA	
111026	P1001954-032	NA	1.0	< 380	NA	NA	NA	NA	
111011	P1001954-033	21120	1.0	**850**	**0.58**	0.26	**0.42**	0.19	
111012	P1001954-034	21120	1.0	**990**	**0.68**	0.26	**0.49**	0.19	
111013	P1001954-035	21120	1.0	**710**	**0.48**	0.26	**0.35**	0.19	
111014	P1001954-036	21120	1.0	**2,700**	**1.9**	0.26	**1.3**	0.19	
111015	P1001954-037	NA	1.0	< 380	NA	NA	NA	NA	
111016	P1001954-038	NA	1.0	< 380	NA	NA	NA	NA	
Method Blank	P100607-MB	NA	1.0	< 380	NA	NA	NA	NA	
Method Blank	P100607-MB	NA	1.0	< 380	NA	NA	NA	NA	

VOID

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
NA = Not applicable.
DE = Results reported are corrected for desorption efficiency.

Verified By: _____ Date: 6/17/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **Duplicate Lab Control Sample**
Client Project ID: **17131**

CAS Project ID: P1001954
CAS Sample ID: P100607-LCS, P100607-DLCS

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary

Test Code: CAS AQL 110
Instrument ID: P-UV-Vis-01
Analyst: Sue Anderson
Sampling Media: Radiello Tube(s)
Test Notes:

Date Sampled: NA
Date Received: NA
Date Analyzed: 6/07/10
Volume(s) Analyzed: NA

Compound	Spike Amount LCS / DLCS mg/L	Result LCS mg/L	Result DLCS mg/L	% Recov LCS	% Recov DLCS	C Accepta Limit	Relative Percent Difference	RPD Limit	Data Qualifier
Hydrogen Sulfide	1.06	1.04	1.02	98	96	80-1	2	20	

VOID

Verified By: _____ Date: 6/17/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **Duplicate Lab Control Sample**
Client Project ID: **17131**

CAS Project ID: P1001954
CAS Sample ID: P100607-LCS, P100607-DLCS

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary

Test Code: CAS AQL 110
Instrument ID: P-UV-Vis-01
Analyst: Sue Anderson
Sampling Media: Radiello Tube(s)
Test Notes:

Date Sampled: NA
Date Received: NA
Date Analyzed: 6/07/10
Volume(s) Analyzed: NA

Compound	Spike Amount LCS / DLCS mg/L	Result LCS mg/L	Result DLCS mg/L	% Recov LCS	% Recov DLCS	C Accepta Limit	Relative Percent Difference	RPD Limit	Data Qualifier
Hydrogen Sulfide	1.06	1.07	1.08	101	102	80-1	1	20	

VOID

Verified By: _____ Date: 6/17/10

Columbia Analytical Services™

Hydrogen Sulfide (H_2S) in Air Bench Sheet

CAS AQL 110

Service Request#: 1954

Prep Run #: 113110

Run #: 203826

BATCH #2

page 1 of 3

	Ref #	Concentration ug/L of H_2S	Exp. Date
Sulfide Stock	524-04191005B	528000	10/19/10
Sulfide ICV/CCV	524-04191006B	590000	10/19/10
2N NaOH Solution	524-06071001	--	6/7/11

Reagents	Reference or Lot #	Exp. Date	Coloring Solution
Ferric Chloride	519-09300903	9/28/10	10 mL Ferric Cl + 50 mL Amino Sulfuric prepped prior to coloring step
Amino Sulfuric	524-04191601	10/19/10	
radiello Tube	QC 10051 samples client supplied	QC 03/2011	

DE = 0.915

Standardization	Ref#	Concentration	Exp. Date
A. Iodine Solution	519-08060904	0.02[illegible] N	11/30/10
B. $Na_2S_2O_3$ Solution	519-08120902A	0.0[illegible]0 N	10/31/10

I_2 25 mLs

$Na_2S_2O_3$ titration: 15.85 mls (stock) 14.40 mls (ICV/CCV)

$$\frac{\text{mg } H_2S}{\text{L}} = \frac{[(A_{Vol} \times Aconc) - (B_{Vol} \times B_{conc})] \times 16000 \times 1.069}{10 \text{ mls of Sulfide Solution}}$$

Calibration Curve:

10 mL aliquot of each Prep run	NA	[illegible]	0.2/100	0.05/100	0.2/100	0.4/100	0.5/100	Corr. Coeff
ug/L (ppb)	0	26.4	[illegible]	264	1056	2112	2640	0.99997086
Abs. @ 665 nm	0.000	0.014	0.054	0.138	0.570	1.140	1.410	
						DE CORRECTED	DE & TEMP CORRECTED	

MINS	TEMP °C	Sample ID	Extract Volume (L)	Dilution	Blank Subtract Abs.	Absorbance @ 665 nm	Corrected Abs.*	Result ug/L (ppb)	Result ng/sample	Result H_2S ppbV**	Result ug/m³***
		ICB2	—	—	—	[illegible]	[illegible]	130/135			
0.2/100		ICV2 1180 ug/L	—	—	—	0.622	0.622	160			
		MB1-2	0.010	—	—	0.001	0.00[illegible]	3.1[illegible]/135	2383		
		MB2-2		—	—	0.001	0[illegible]	3.16/135	2383		
		LCS2 1056 ug/L		—	0.001	0.558	557	1035[illegible]2	11353		
		DLCS2		—	0.001	0.550	549	10[illegible]92	11190		
41290	25°	1954 -1.01		—	0.001	0.362	0.[illegible]	[illegible]3.73	7363.17	1.86	2.59
40180		-2.01		—	0.001	0.675	0.674	139.14	1520.63	0.39	0.55
19795		-3.01		—	0.001	0.140	0.139	260.21	2843.85	1.50	2.09
		-4.01		—	0.001	0.106	0.105	196.88	2151.70	1.13	1.58
		-5.01		—	0.001	0.090	0.089	167.08	1825.98	0.96	1.34

98%

98% 97% } 1:07 RF

*Concentration after blank subtraction (AS APPLICABLE)

Comments: **H_2S in ppbV = ng H_2S / (0.096 ng/ppb min) x time in minutes; ***ug/m³ = ppbV H_2S x (34.09 MW of H2S / 24.46 gas constant)

TEMP CONVERSION FACTOR $= \left(\frac{K}{298}\right)^{3.8}$

Prepped By: [signature] Date: 6/7/10 @ 1300

Analyzed By: [signature] Date: 6/7/10 @ 1350

Reviewed By: [signature] Date: 6/9/10

12

Columbia Analytical Services™

Hydrogen Sulfide (H_2S) in Air Bench Sheet

CAS AQL 110

Service Request#: 1954 Prep Run #: 113110 Run #: 203826

BATCH # 2

8/6/11 0

page 2 of 3

	Ref #	Concentration ug/L of H_2S	Exp. Date
Sulfide Stock	524-04191005B	528000	10/19/10
Sulfide ICV/CCV	524-04191006B	590000	10/19/10
2N NaOH Solution	524-0607/001	--	6/7/11

Reagents	Reference or Lot #	Exp. Date	Coloring Solution
Ferric Chloride	519-09300903	9/28/10	10 mL Ferric Cl + 50 mL Amino Sulfuric prepped prior to coloring step
Amino Sulfuric	524-04191001	10/19/10	
radiello Tube	QC 10051 samples client supplied	QC 03/2011	

DE = 0.915

Standardization	Ref#	Concentration	Exp. Date
A. Iodine Solution	519-08060904	0.028 N	11/30/10
B. $Na_2S_2O_3$ Solution	519-0812090 2A	0.02 N	10/31/10

I_2 25 mLs

$Na_2S_2O_3$ titration: 15.85 mls (stock) 19.40 mls (ICV/CCV)

$$\frac{\text{mg } H_2S}{L} = \frac{[(A_{Vol} \times A_{conc}) - (B_{Vol} \times B_{conc})] \times 16000 \times 1.069}{10 \text{ mls of Sulfide Solution}}$$

Calibration Curve:

10 mL aliquot of each Prep run	NA	STOCK @ 0	0.2/100	0.05/100	0.2/100	0.4/100	0.5/100	Corr. Coeff
ug/L (ppb)	0	26.4	0	264	1056	2112	2640	0.99997086
Abs. @ 665 nm	0.000	0.014	0.054	138	0.570	1.140	1.410	
						DE CORRECTED	DE & TEMP CORRECTED	

Sample ID	Extract Volume (L)	Dilution	Blank Subtract Abs.	Absorbance @ 665 nm	Corrected Abs.	Result ug/L (ppb)	Result ng/sample	Result H_2S ppbV**	Result ug/m³***
1954-6.01	0.010	—	0.001	0.032	0.031	19.04	645.26	0.34	0.47
CCV1-2 1180 ug/L	—	—	—	0.654	0.634	1120.24			
CCB1-2	—	—	—	0.000	0.000	1.30/135			
1954-7.01	0.010	—	0.001	0.002	0.001	3.16/135	<383		
-8.01		—	0.001	0.002	0.001	3.16/135	<383		
-9.01		—	0.001	0.023	0.022	42.[illegible]	462.05	0.26	0.36
-10.01		—	0.001	0.022	0.021	40.41	441.69	0.25	0.34
-11.01		—	0.001	0.025	0.024	46.00	502.76	0.28	0.39
-12.01		—	0.001	0.053	0.052	98.16	1072.76	0.60	0.83
-13.01		—	0.001	0.003	0.002	5.02/135	<383		
-14.01		—	0.001	0.003	0.002	5.02/135	<383		

mins 795 TEMP °C 25°

25°

1740

100%

*Concentration after blank subtraction (AS APPLICABLE)

Comments: **H_2S in ppbV = ng H_2S / (0.096 ng/ppb min) x time in minutes; ***ug/m³ = ppbV H_2S x (34.09 MW of H2S / 24.46 gas constant)

Prepped By: [signature] Date: 6/7/10 @ 1300

Analyzed By: [signature] Date: 6/7/10 @ 1350

Reviewed By: [signature] Date: 6/9/10

VOID

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Columbia Analytical Services™

Hydrogen Sulfide (H_2S) in Air Bench Sheet
CAS AQL 110

Service Request#: 1954

Prep Run #: 113110 BATCH #2

Run #: 203826 page 3 of 3

	Ref #	Concentration ug/L of H_2S	Exp. Date
Sulfide Stock	524-04191005B	528000	10/19/10
Sulfide ICV/CCV	524-04191006B	590000	10/19/10
2N NaOH Solution	524-0607100	--	6/7/11

Reagents	Reference or Lot #	Exp. Date	Coloring Solution
Ferric Chloride	519-09300903	9/28/10	10 mL Ferric Cl + 50 mL Amino Sulfuric prepped prior to coloring step
Amino Sulfuric	524-04191001	10/19/10	
radiello Tube	QC 10057 samples client supplied	QC 03/2011	

DE = 0.915

Standardization	Ref#	Concentration	Exp. Date
A. Iodine Solution	519-08060904	0.0282	11/30/10
B. $Na_2S_2O_3$ Solution	519-08120902A	0.025 N	10/31/10

I_2 25 mLs

$Na_2S_2O_3$ titration: 15.85 mls (stock) 14.40 mls (ICV/CCV)

$$\frac{mg\ H_2S}{L} = \frac{[(A_{Vol} \times A_{conc}) - (B_{Vol} \times B_{conc})] \times 16000 \times 1.069}{10 \text{ mls of Sulfide Solution}}$$

Calibration Curve:

10 mL aliquot of each Prep run	NA	0.0/100	0.2/100	0.05/100	0.2/100	0.4/100	0.5/100	Corr. Coeff
ug/L (ppb)	0	0	105	264	1056	2112	2640	0.99997086
Abs. @ 665 nm	0.000	0.014	054	138	0.570	1.140	1.410	
						DE CORRECTED	DE & TEMP CORRECTED	

Sample ID	Extract Volume (L)	Dilution	Blank Subtract Abs.	Absorbance @ 665 nm	Corrected Abs	Result ug/L (ppb)	Result ng/sample	Result H_2S ppbV**	Result ug/m³***
AS 1330 25°C 1954-15.01	0.010	—	0.001	0.052	0.05	96.30	1052.41	0.57	0.79
↓ -16.01	↓	—	0.001	0.0	0.8	96	1398.48	0.76	1.06
CCV2 1180 ug/L	—	—	—	0.630	0.630	117			
CCB2	—	—	—	0.001	0.00	3.16 / 1.35			
1330 25°C 1954-17.01	0.010	—	0.001	0.100	0.1	185.3	2029.56	1.10	1.53
↓ -18.01	0.010	—	0.001	0.034	0.033	62.7	685.98	0.37	0.52
CCV3 1180 ug/L	—	—	—	0.640	0.64	3			
CCB3	—	—	—	0.000	0.000	1.30 / 1.35			

100%

101%

*Concentration after blank subtraction (AS APPLICABLE)

Comments: **H_2S in ppbV = ng H_2S / (0.096 ng/ppb min) x time in minutes; ***ug/m³ = ppbV H_2S x (34.09 MW of H2S / 24.46 gas constant)

Prepped By: [signature] Date: 6/7/10 @ 1300

Analyzed By: [signature] Date: 6/7/10 @ 1350

Reviewed By: [signature] Date: 6/9/10

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Columbia Analytical Services™

Hydrogen Sulfide (H_2S) in Air Bench Sheet

CAS AQL 110

Service Request#: 1954

Prep Run #: 113111

Run #: 203827

BATCH #3

page 1 of 3

	Ref #	Concentration ug/L of H_2S	Exp. Date
Sulfide Stock	S24-0419100SB	588000	10/19/10
Sulfide ICV/CCV	S24-0419100CB	590000	10/19/10
2N NaOH Solution	S24-0607100 1	--	6/7/11

Reagents	Reference or Lot #	Exp. Date	Coloring Solution
Ferric Chloride	S19-09300903	9/28/10	10 mL Ferric Cl + 50 mL Amino Sulfuric prepped prior to coloring step
Amino Sulfuric	S24-0419100 1	10/19/10	
radiello Tube	QC 10051 samples client supplied	QC 03/2011	

Standardization	Ref#	Concentration	Exp. Date
A. Iodine Solution	S19-08060904	0.028 N	11/30/10
B. $Na_2S_2O_3$ Solution	S19-08120902A	0.07 N	10/31/10

DE = 0.945

I_2 25 mLs

mg H_2S / L = $[(A_{Vol} \times Aconc) - (B_{Vol} \times B_{conc})] \times 16000 \times 1.069$ / 10 mls of Sulfide Solution

$Na_2S_2O_3$ titration: 15.85 mls (stock) / 14.40 mls (ICV/CCV)

Calibration Curve:

10 mL aliquot of each Prep run	NA	STOCK	0.2/100	0.05/100	0.2/100	0.4/100	0.5/100	Corr. Coeff
ug/L (ppb)	0	26.4	106	264	1056	2112	2640	0.99997086
Abs. @ 665 nm	0.000	0.014	0.054	0.138	0.570	1.140	1.410	
						DE CORRECTED		DE & TEMP CORRECTED

Sample ID	Extract Volume (L)	Dilution	Blank Subtract Abs.	Absorbance @ 665 nm	Corrected Abs.*	Result ug/L (ppb)	Result ng/sample	Result H_2S ppbV**	Result ug/m³***
ICB3	—	—	—	[illegible]	0.0[illegible]	<30/<35.			
ICV3 1180 ug/L	—	—	—	0.624	[illegible]	[illegible]			
MB1-3	0.010	—	—	0.001	0.00[illegible]	3.1[illegible] <35.	<383		
MB2-3		—	—	0.001	0.001	3.1[illegible] <35.	<383		
LCS3 1056 ug/L		—	0.001	0.574	[illegible]73	10[illegible]			
DLCS3		—	0.001	0.578	[illegible]77	10[illegible]6			
1954-19.01		—	0.001	0.002	0.0[illegible]	[illegible]6/<35	<383		
-20.01		—	0.001	0.001	0.000	1.30/<35	<383		
-21.01		—	0.001	0.105	0.104	195.02	2131.34	1.10	1.53
-22.01		—	0.001	0.098	0.097	181.98	1988.84	1.03	1.43
-23.01		—	0.001	0.124	0.123	230.41	2518.13	1.30	1.81

*Concentration after blank subtraction (AS APPLICABLE)

99 %

101 % } <RL
102 % }

Comments: **H_2S in ppbV = ng H_2S / (0.096 ng/ppb · min) x time in minutes; ***ug/m³ = ppbV H_2S x (34.09 MW of H2S / 24.46 gas constant)

TEMP CONVERSION FACTOR = $\left(\frac{K}{298}\right)^{3.8}$

Prepped By: [signature] Date: 6/7/10 @ 1330

Analyzed By: [signature] Date: 6/7/10 @ 1400

Reviewed By: [signature] Date: 6/9/10

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Columbia Analytical Services™

Hydrogen Sulfide (H_2S) in Air Bench Sheet

CAS AQL 110

Service Request#: 1954 Prep Run #: 113111 Run #: 203827

BATCH #3 page 2 of 3

	Ref #	Concentration ug/L of H_2S	Exp. Date
Sulfide Stock	524-0419100	5B 528000	10/19/10
Sulfide ICV/CCV	524-0419100	6B 590000	10/19/10
2N NaOH Solution	524-0607100	--	6/7/11

Reagents	Reference or Lot #	Exp. Date	Coloring Solution
Ferric Chloride	519-09300903	9/28/10	10 mL Ferric Cl + 50 mL Amino Sulfuric prepped prior to coloring step
Amino Sulfuric	524-0419001	10/19/10	
radiello Tube	QC 10051 samples client supplied	QC 03/2011	

Standardization	Ref#	Concentration	Exp. Date
A. Iodine Solution	519-08060904	0.02[illegible] N	11/30/10
B. $Na_2S_2O_3$ Solution	519-08120902A	0.0[illegible] N	10/31/10

DE = 0.915

I_2 25 mLs

mg H_2S / L = [(A_{Vol} x Aconc) - (B_{Vol} x B_{conc})] x 16000 x 1.069 / 10 mls of Sulfide Solution

$Na_2S_2O_3$ titration: 15.85 mls (stock) 14.40 mls (ICV/CCV)

Calibration Curve:

10 mL aliquot of each Prep run	NA	0.05/100	0.2/100	0.05/100	0.2/100	0.4/100	0.5/100	Corr. Coeff
ug/L (ppb)	0	26.4	6	264	1056	2110	2640	0.99997086
Abs. @ 665 nm	0.000	0.014	0.054	0.138	0.570	1.140	1.410	
						DE CORRECTED		DE & TEMP CORRECTED

Sample ID	Extract Volume (L)	Dilution	Blank Subtract Abs.	Absorbance @ 665 nm	Corrected Abs.*	Result ug/L (ppb)	Result ng/sample	Result H_2S ppbV**	Result ug/m³***
1954-24.01	0.010	—	0.001	[illegible]	[illegible]	209.92	2294.20	1.18	1.65
CCV1-3 1180 ug/L	—	—	—	0.620	[illegible]	[illegible]			
CCB1-3	—	—	—	0.000	[illegible]	<35			
1954-25.01	0.010	—	0.001	0.003	[illegible]	5.02/<35	<383		
-26.01		—	0.001	0.001	0.000	1.30/<35	<383		
-27.01		—	0.001	0.107	[illegible]	[illegible]	2172.06	1.07	1.50
-28.01		—	0.001	0.119	[illegible]	[illegible]	2416.35	1.19	1.66
-29.01		—	0.001	0.171	0.170	317.96	3474.93	1.72	2.39
-30.01		—	0.001	0.480	0.479	893.53	9765.33	4.83	6.73
-31.01		—	0.001	0.001	0.000	1.30/<35	<383		
-32.01		—	0.001	0.001	0.000	1.30/<35	<383		

mins °C TEMP
20183 25.2
0
0
21080
0
0

98%

*Concentration after blank subtraction (AS APPLICABLE)

Comments: **H_2S in ppbV = ng H_2S / (0.096 ng/ppb min) x time in minutes; ***ug/m³ = ppbV H_2S x (34.09 MW of H2S / 24.46 gas constant)

Prepped By: [signature] Date: 6/7/10 @ 1320

Analyzed By: [signature] Date: 6/7/10 @ 1400

Reviewed By: [signature] Date: 6/9/10

Columbia Analytical Services™

Hydrogen Sulfide (H_2S) in Air Bench Sheet

CAS AQL 110

Service Request#: 1954 Prep Run #: 113111 Run #: 203827

BATCH #3 page 3 of 3

	Ref #	Concentration ug/L of H_2S	Exp. Date
Sulfide Stock	S24-0419 1005B	528000	10/19/10
Sulfide ICV/CCV	S24-0419 1006B	590000	10/19/10
2N NaOH Solution	S24 0607 1001	--	6/7/11

Reagents	Reference or Lot #	Exp. Date	Coloring Solution
Ferric Chloride	519-09300903	9/28/10	10 mL Ferric Cl + 50 mL Amino Sulfuric prepped prior to coloring step
Amino Sulfuric	S24-0419 1001	10/19/10	
radiello Tube	QC 10051 samples client supplied	QC 03/2011	

Standardization	Ref#	Concentration	Exp. Date
A. Iodine Solution	S2 519-08060904	0.028 N	11/30/10
B. $Na_2S_2O_3$ Solution	519-08120902A	0.07 N	10/31/10

DE = 0.915

I_2 25 mLs

mg H_2S / L = [(A_{Vol} x Aconc) - (B_{Vol} x B_{conc})] x 16000 x 1.069 / 10 mls of Sulfide Solution

$Na_2S_2O_3$ titration: 15.85 mls (stock) 14.40 mls (ICV/CCV)

Calibration Curve:

10 mL aliquot of each Prep run	NA	0.05/100	0.2/100	0.05/100	0.2/100	0.4/100	0.5/100	Corr. Coeff
ug/L (ppb)	0	26.4	6	264	1056	2112	2640	0.99997086
Abs. @ 665 nm	0.000	0.014	0.054	.138	0.570	1.140	1.410	DE & TEMP CORRECTED
						DE CORRECTED		

MINS	°C TEMP	Sample ID	Extract Volume (L)	Dilution	Blank Subtract Abs.	Absorbance @ 665 nm	Corrected	Result ug/L (ppb)	Result ng/sample	Result H_2S ppbV**	Result ug/m^3***
1120	25°C	1954-33.01	0.010	—	0.001	[illegible]	0.[illegible]1	77.67	848.83	0.42	0.58
1120	↓	-34.01	0.010	—	0.001	0.049	.048	[illegible].71	991.34	0.49	0.68
		CCV2-2 1180 ug/L	—	—	—	0.636	0.62[illegible]	[illegible]86			
		CCB2-2	—	—	—	0.000	0[illegible]0	1.30/<35			
1120	25°C	1954-35.01	0.010	—	0.001	0.035	0.034	64[illegible]3	706.33	0.35	0.49
1120		-36.01		—	0.001	0.134	0.133	2[illegible].04	2721.71	1.34	1.87
0		-37.01		—	0.001	0.001	0.0[illegible]	[illegible]/<35	<383		
0	↓	-38.01	↓	—	0.001	0.001	0.000	1.30/<35	<383		
		CCV3-2 1180 ug/L	—	—	—	0.642	0.642	1197			
		CCB3-2	—	—	—	0.000	0.000	1.30/<35			

101 % 101 %

*Concentration after blank subtraction (AS APPLICABLE)

Comments: **H_2S in ppbV = ng H_2S / (0.096 ng/ppb · min) x time in minutes; ***ug/m^3 = ppbV H_2S x (34.09 MW of H2S / 24.46 gas constant)

Prepped By: [signature] Date: 6/7/10 @ 1320

Analyzed By: [signature] Date: 6/7/10 @ 1400

Reviewed By: [signature] Date: 6/9/10

17

8/6/09 SIG-08060904 0.0282N IODINE SOLN
Purchased BDH LOT 9141
EXP: 11/30/10

6/09 SIG-08060903 A→E ISE FILLING SOLN
PURCHASED
THERMO SCIENTIFIC LOT Code: NNW1
EXP: 8/6/10
* DID NOT LOG ON 8/6/09 Added 8/11/09

11/09 SIG-08110901 ICO2 EVENT
100ml SIG-04060901 (10x conc event; EXP: 4/6/10) ↑ 1L
W/DI. DEGASSED.
EXP: 8/25/09

11/09 SIG-08110902 14/2 fumUOS/Cu ICV/CCV Soln 2009
0.7456g KCl (EMD LOT# [illegible]; EXP: 12/7/2014)
↑ 1L W/DI H2O
EXP: 8/11/10

12/09 SIG-08120C01 A→[illegible] 5000 PM SO3 Stds
PURCHASED HACH (16, 10ml ampules)
LOT A9218
EXP: 8/[illegible]

12/09 SIG-08120902 A&B 0.0250N $Na_2S_2O_3$ Soln
PURCHASED
EMD LOT # 9098
EXP: 10/31/10

12/09 SIG-08120903 REFERENCE ELECTRODE FILLING SOLN
PURCHASED THERMO ORION 900061 (Received 8/7/09 w/ELECTRODE)
LOT CODE: MP1 P/N: 223228-A01
EXP: 8/7/10

13/09 SIG-08130901 MBTH Soln for O3-AIR
1.00g MBTH (ALDRICH LOT 54696EK; EXP: 8/7/14) ↑ 200ml W/DI.
PLUS ~~0.4~~ 1.0 ml conc H2SO4 (EMD: 470570; EXP: 9/13/10)
EXP: 8/14/09

VOID

9/30/09 SIG-09300902 1000 PPM SO_3
SW 0.1607g Na_2SO_3 (Mallinckrodt; H25469 EXP: 8/11/
EXP: 9/30/10 ↑ 100ml w/ DI

9/30/09 SIG-09300903 Ferric Chloride Soln (FOR H_2S Analys
SW 100.00g $FeCl_3 \cdot 6H_2O$ + 40ml DI H_2O
EXP: 9/30/10 (Mallinckrodt: 5029 A11595 EXP: 9/28/1

9/30/09 SIG-09300904 Sulfuric DILUTION SOLN (FOR
SW 40ml Conc H_2SO_4 (EMD 47050; EXP: 9/13/12)
EXP: 9/30/10

10/1/09 SIG-10010901 AMINO SOLUTION (FOR H_2S ANA
SW ADD 125ml Conc H_2SO_4 (EMD 7050: EXP: 9/13/12) TO 500ml D.I. 8/10/10
LET COOL. THEN ADD 3.[illegible] ~~4-AMINO-N,N-DIMETHYLANILINE~~ (N,N-Dimethyl-p-Phenylenedia
8/11/09 (~~SIGMA ALDRICH~~ [illegible] ANALYTICAL LOT 1363386 EXP: 8/7/1
TO COOLED SULFURIC MIXTURE AND DISSOLVE
ONCE DISSOLVED BRING UP TO 500ml W/ 1:1 H_2SO_4 cooled
Store in amber glass in dark.
EXP: 10/2/09

10/2/09 SIG-10020901 100ppm SO_3 Solution
SW 0.1591g (Na_2SO_3) (JT Baker H10627; EXP: 8/31/14) ↑ 100
W/ DI H_2O
EXP: 4/02/10
SW 10/2/09

10/2/09 SIG-10020902 1000 PPM SO_3 Solution
SW 0.1607g Na_2SO_3 (Mallinckrodt; H25469 EXP 8/11/14
↑ 100ml w/ DI H_2O
EXP: 4/02/10

VOID

4/16/10 S24-04161001 0.1 N H_2SO_4
5.6ml Conc H_2SO_4 (EMD 47050, EXP: 9/13/10)
↑ 2L w/ DI H_2O
EXP: 9/13/10

4/19/10 S24-04191001 Amine Soln
Add 12.5ml Conc H_2SO_4 (EMD 97050; EXP: 9/13/10) to 5ml DI H_2O. LET COOL
DISSOLVE 3.375g 4-AMINO-N,N-DIMETHYLANILINE (FLUKA ANALYTICAL; LOT 1363386; EXP: 8/7/14) IN COOLED SULFURIC SOLN AND DILUTE W/ 1:1 (H_2SO_4 : DI) (EMD 47050 EXP: 9/13/10) UP TO 500ml. STORE IN amber g/ASS
EXP: ~~5/17/10~~ 10/19/10 S24-04191001
4/19/10
changed to 07 due to mistake. easier to fix this one than all

4/19/10 S24-04191002 N NaOH
4.00g NaOH (EMD 47022713; EXP: 10/11/12)
↑ 2L w/ DI
4/19/10

4/19/10 S24-04191002 Saturated Na_2S for scrubber (H_2S)
WASHED SODIUM SULFIDE CRYSTALS (EMD 4820930 EXP: 8/11/14) IN VOA VIAL W/ ~20ml DI H_2O
EXP: 10/19/10

4/19/10 S24-04191003 Saturated Na_2S FOR STOCK (H_2S)
WASHED SODIUM SULFIDE CRYSTALS (JT BAKER 09598; EXP: 8/6/14) IN VOA VIAL W/ ~20ml DI H_2O
EXP: 10/19/10

VOID

4/19/10 S24-0419/004 0.1N H_2SO_4
5.6ml Conc H_2SO_4 (EMD 47050 EXP: 9/13/10
↑ 2L w/DI
EXP: 9/13/10

4/19/10 S24-04191005 STOCK Sulfide Soln (H_2S radiell
ADD 20 DROPS S24041910 03 (EXP: 10/19/10) to
500ml S19-0419100 27 (EXP: 4/19/11)
4/19/10
(*) Note: Standardize prior to each use to determine true Concentration
EXP: 10/19/10 'B' ADDED 20 more drops & stdized 5/

4/19/10 S24-0419/0[illegible] ICV/CCV Sulfide Soln (H_2S radie II
ADD 20 DROP[illegible] S24[illegible]19/002 (EXP: 10/19/10) to
500 ml [illegible] 041[illegible]100[illegible] (EXP: 4/19/11)
(*)
EXP: [illegible]0/19/10 'B' ADDED 20 more drops ritN STDIZED 5/24/10

4/19/10 S24-04191007 2N NaOH (see previous page)

4/26/10 S24-~~HC~~ 0426/001 ICV/CCV Cr 6+ T.V. = 0.579PPM
0.5ml (S19-04090904) (T.V. = 115.8PPM ; EXP: 12/2010) ↑
100 ml w/DI H_2O
EXP: 5/10/10

VOID

6/7/10 524-06071001 2N NaOH
Sa 4.00g NaOH (EMD 47022713), EXP 10/11/12
↑ 2L w/DI H_2O
EXP: 6/7/11

~~6/9/10 524-06091001 2N NaOH~~ 6/9/10
~~Sa 400g NaOH (EMD~~ Sa

6/9/10 524-06091001 0.1N H_2SO_4
Sa 5.6ml Conc H_2SO_4 (EMD 47050; EXP: 9/13
↑ 2L W/ DI H_2O
EXP: 9/13/10

6/11/10 524-06111001 0.1N H_2SO_4
Sa 5.6ml Conc H_2SO_4 (EMD 47050; EXP: 9
↑ 2L W/ DI H_2O
EXP: 9/13/10

6/14/10 524-06141001 100ppm NH_3
Sa 0.341g NH_4Cl (EMD 49198931; EXP: 10/19
↑ 100ml W/ 524-06111001 (EXP: 9/13/1
EXP: 9/13/10

6/14/10 524-06141002 0.1N H_2SO_4
Sa 5.6ml Conc H_2SO_4 (EMD 47050; EXP: 9/1
↑ 2L W/ DI H_2O
EXP: 9/13/10

VOID