ALS Group USA, Corp

Date: *03-Feb-14*

Client: WV Department of Environmental Protection
Project: CM-DAK-01-29-14-3
Sample ID: CM-DAK-01-29-14-3
Collection Date: 1/29/2014 02:00 PM

Work Order: 14011169
Lab ID: 14011169-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**			Prep: SW3510 / 1/31/14		Analyst: **JD**
4-Methyl-1-cyclohexanemethanol	**0.036**	J	**0.0079**	**0.050**	**mg/L**	1	1/31/2014 16:07
Surr: Nonane	*61.2*			*35-70*	*%REC*	1	1/31/2014 16:07

#1
UPPER CULVERT
(OUTSIDE OF CONTAINMENT)
EAST END
FREEDOM

Note: See Qualifiers page for a list of qualifiers and their definitions.

14011169

DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL ENFORCEMENT
Analysis Request Form

Sample no. CM-DAK-01-29-14-3 # of containers 2 Sampler (s) KEK

Sample Type: ☒ Water ☐ Sediment ☐ Influent ☐ Effluent ☐ Other Specified Method _____

GRAB: Date-Time 1-29-14 1400 COMP. start _____ _____ stop _____ _____

FIELD VALUES 1.: pH (meter) _____ pH (paper/kit) _____ Cond. _____ D.O. (probe) _____ Chlorine _____ Temp _____

Pre.	ANALYSIS	Pre.	ANALYSIS	Pre.	ANALYSIS	Tot	Dls*
3	Acidity (H)	3	Tot. Solids	5	Ca		
3	Acidity	3	Dis. Solids	5	Mg		
3	Alkalinity	3	Sus. Solids	5	K		
3	Bicarbonate	3	Vol. Sus. Solids	5	Na		
5	Hardness	3	% solids	5	Al		
3	Sulfate	3	MBAS	5	Sb		
9	Sulfide	4	Phenols	5	As		
3	Color	6	Cyanide, amenable	5	Ba		
3	Turbidity	6	Total Cyanide	5	Be		
2	Chloride	10	Free Cyanide	5	B		
3	BOD5	3	HexCr	5	Cd		
3	BOD5 carb	4	Oil-Grease	5	Cr		
4	COD	2	Fluoride	5	Cu		
4	TOC	4	Tot. Phos.	5	Fe		
7	Tot. coli	8	Ortho Phos.	5	Pb		
7	fecal coli.	4	TKN.	5	Mn		
3	Bioassay acute	4	NH3-N	5	Hg		
3	Bioassay screen	4	ORG-N	5	Mo		
12♣	624	3	NO3-N	5	Ni		
3♣	625	3	NO2-N	5	Se		
12♣	8260	4	NO2-NO3	5	Ag		
3♣	8270			5	Tl		
☒	8015			5	V		
	MC14M			5	Zn		

PRESERVATION

1. None - determine on site
2. None
3. Iced
4. H2S04 to pH <2, iced
5. HNO3 to pH <2
6. NaOH to pH > 12, iced (0.6 g ascorbic, acid used on samples with residual cholorine)
7. Sterile + .008% Na2S203, iced
8. Filter immediately, iced
9. 4 drops of 2N Zinc Acetate/100ml + NaOH to pH>9
10. NaOH to pH>12, store in dark, iced
11. Other (specify):
12. HC1 pH<2, iced

* filtered in field, Nitric added

♣sodium thiosulfate if chlorinated

REMARKS:

temp = 2.8°C

2 Day TAT

Relinquished by:	Date / Time	Received by:	Relinquished by:	Date / Time	Received by
[signature]	1-29-14 1745	[signature]			
Relinquished by:	Date / Time	Received by:	Relinquished by:	Date / Time	Received by
Relinquished by:	Date / Time	Received for Laboratory by:		Date / Time	

MAIL RESULTS TO: **WV Dept. of Environmental Protection**
Environmental Enforcement
ATTN:

Original - Inspector **Copy – Laboratory**
revised 7/12/07 jdp

RECD 1/31/14 1045 - 2.2°C AB

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **WVDEP-TEAYS** Date/Time Received: **29-Jan-14 17:45**

Work Order: **14011169** Received by: **RLK**

Checklist completed by Janet Smith (eSignature) 30-Jan-14 (Date) Reviewed by: Rebecca Kiser (eSignature) 31-Jan-14 (Date)

Matrices: Water
Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☑	No ☐	Not Present ☐
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☐	No ☑	
Temperature(s)/Thermometer(s):	2.8C	IR	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

ALS Environmental

03-Feb-2014

Douglas Kee
WV Department of Environmental Protection
P.O. Box 662
#18 Putnam Village
Teays, WV 25569

Re: **CM-DAK-01-29-14-3** Work Order: **14011169**

Dear Douglas,

ALS Environmental received 1 sample on 29-Jan-2014 05:45 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Rebecca Kiser

Electronically approved by: Rebecca Kiser

Rebecca Kiser
Project Manager

Certificate No: MN 532786

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 03-Feb-14

Client: WV Department of Environmental Protection
Project: CM-DAK-01-29-14-3
Work Order: **14011169**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
14011169-01	CM-DAK-01-29-14-3	Water		1/29/2014 14:00	1/29/2014 17:45	☐

ALS Group USA, Corp *Date: 03-Feb-14*

Client:	WV Department of Environmental Protection
Project:	CM-DAK-01-29-14-3
Work Order:	14011169

Case Narrative

Batch 55403, Method GCFID_8015_W_EXT, Sample GLCSDW1-55403: Surrogate recovery in the LCSD was below the lower control limit. However, the spike recovery was in control. No qualifications are necessary. Both the LCS recovery and the RPD between the LCS and LCSD were also in control.

ALS Group USA, Corp

Date: 03-Feb-14

Client: WV Department of Environmental Protection
Project: CM-DAK-01-29-14-3
WorkOrder: 14011169

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 03-Feb-14

Client: WV Department of Environmental Protection

Work Order: 14011169

Project: CM-DAK-01-29-14-3

QC BATCH REPORT

Batch ID: **55403** Instrument ID **GC11** Method: **SW8015M**

MBLK Sample ID: **GBLKW1-55403-55403** Units: **µg/L** Analysis Date: **1/31/2014 03:01 PM**

Client ID: Run ID: **GC11_140131A** SeqNo: **2630161** Prep Date: **1/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemethanol	U	50								
Surr: Nonane	*59.07*	0	*100*	0	*59.1*	*35-70*	0			

LCS Sample ID: **GLCSW1-55403-55403** Units: **µg/L** Analysis Date: **1/31/2014 03:15 PM**

Client ID: Run ID: **GC11_140131A** SeqNo: **2630163** Prep Date: **1/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemethanol	80.43	50	125	0	64.3	44-83	0			
Surr: Nonane	*35.1*	0	*100*	0	*35.1*	*35-70*	0			

LCSD Sample ID: **GLCSDW1-55403-55403** Units: **µg/L** Analysis Date: **1/31/2014 03:28 PM**

Client ID: Run ID: **GC11_140131A** SeqNo: **2630162** Prep Date: **1/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemethanol	71.67	50	125	0	57.3	44-83	80.43	11.5	25	
Surr: Nonane	*26.92*	0	*100*	0	*26.9*	*35-70*	35.1	*26.4*		*S*

The following samples were analyzed in this batch: 14011169-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL ENFORCEMENT
Analysis Request Form

Sample no. CM-DAK-01-29-14-3 # of containers 2 Sampler (s) KEK

Sample Type: ☒ Water ☐ Sediment ☐ Influent ☐ Effluent ☐ Other Specified Method _____

GRAB: Date-Time 1-29-14 1400 COMP. start _____ _____ stop _____ _____

FIELD VALUES 1.: pH (meter) _____ pH (paper/kit) _____ Cond. _____ D.O. (probe) _____ Chlorine _____ Temp _____

Pre.	ANALYSIS	Pre.	ANALYSIS	Pre.	ANALYSIS	Tot	Dls*
3	Acidity (H)	3	Tot. Solids	5	Ca		
3	Acidity	3	Dis. Solids	5	Mg		
3	Alkalinity	3	Sus. Solids	5	K		
3	Bicarbonate	3	Vol. Sus. Solids	5	Na		
5	Hardness	3	% solids	5	Al		
3	Sulfate	3	MBAS	5	Sb		
9	Sulfide	4	Phenols	5	As		
3	Color	6	Cyanide, amenable	5	Ba		
3	Turbidity	6	Total Cyanide	5	Be		
2	Chloride	10	Free Cyanide	5	B		
3	BOD5	3	HexCr	5	Cd		
3	BOD5 carb	4	Oil-Grease	5	Cr		
4	COD	2	Fluoride	5	Cu		
4	TOC	4	Tot. Phos.	5	Fe		
7	Tot. coli	8	Ortho Phos.	5	Pb		
7	fecal coli.	4	TKN.	5	Mn		
3	Bioassay acute	4	NH3-N	5	Hg		
3	Bioassay screen	4	ORG-N	5	Mo		
12♣	624	3	NO3-N	5	Ni		
3♣	625	3	NO2-N	5	Se		
12♣	8260	4	NO2-NO3	5	Ag		
3♣	8270			5	Tl		
☒	8015			5	V		
	MCHM			5	Zn		

PRESERVATION

1. None - determine on site
2. None
3. Iced
4. H2S04 to pH <2, iced
5. HNO3 to pH <2
6. NaOH to pH > 12, iced (0.6 g ascorbic, acid used on samples with residual cholorine)
7. Sterile + .008% Na2S203, iced
8. Filter immediately, iced
9. 4 drops of 2N Zinc Acetate/100ml + NaOH to pH>9
10. NaOH to pH>12, store in dark, iced
11. Other (specify):
12. HC1 pH<2, iced

* filtered in field, Nitric added

♣sodium thiosulfate if chlorinated

REMARKS:

Relinquished by:	Date 1-29-14 Time 1745	Received by:	Relinquished by:	Date Time	Received by
Relinquished by:	Date Time	Received by:	Relinquished by:	Date Time	Received by
Relinquished by:	Date Time	Received for Laboratory by:		Date Time	

MAIL RESULTS TO: **WV Dept. of Environmental Protection**
Environmental Enforcement
ATTN:

Original - Inspector **Copy – Laboratory**
revised 7/12/07 jdp