

ALS Group USA, Corp

Date: 31-Jan-14

Client: WV Department of Environmental Protection

Project: CM-DAK-01-29-14-4

Work Order: 14011170

Sample ID: CM-DAK-01-29-14-4

Lab ID: 14011170-01

Collection Date: 1/29/2014 03:00 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID			SW8015M		Prep: SW3510 / 1/31/14	Analyst: JD
4-Methyl-1-cyclohexanemethanol	0.074		0.050	mg/L	1	1/31/2014 04:20 PM
Surr: Nonane	60.6		35-70	%REC	1	1/31/2014 04:20 PM

F2

LOWER CULVERT DOWN
(OUTSIDE OF CONTAINMENT/WEST SIDE)

FREEDOM

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

ALS Group USA, Corp

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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:

14011170-01A

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

1401170

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 ENVIRONMENTAL ENFORCEMENT
 Analysis Request Form

Sample no. CM-DAK-01-29-14-4 # of containers 2 Sampler (s) KEE

Sample Type: Water Sediment Influent Effluent Other Specified Method _____

GRAB: Date-Time 1-29-14 1500 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*	PRESERVATION
3	Acidity (H)	3	Tot. Solids	5	Ca			
3	Acidity	3	Dis. Solids	5	Mg			2. None
3	Alkalinity	3	Sus. Solids	5	K			3. Iced
3	Bicarbonate	3	Vol. Sus. Solids	5	Na			4. H2SO4 to pH <2, iced
5	Hardness	3	% solids	5	Al			5. HNO3 to pH <2
3	Sulfate	3	MBAS	5	Sb			6. NaOH to pH > 12, iced (0.6 g ascorbic acid used on samples with residual chlorine)
9	Sulfide	4	Phenols	5	As			7. Sterile + .008% Na2S2O3, iced
3	Color	6	Cyanide, amenable	5	Ba			8. Filter immediately, iced
3	Turbidity	6	Total Cyanide	5	Be			9. 4 drops of 2N Zinc Acetate/100ml + NaOH to pH>9
2	Chloride	10	Free Cyanide	5	B			10. NaOH to pH>12, store in dark, iced
3	BOD5	3	HexCr	5	Cd			11. Other (specify):
3	BOD5 carb	4	Oil-Grease	5	Cr			12. HCl pH<2, iced
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			* filtered in field, Nitric added
12♣	624	3	NO3-N	5	Ni			♣sodium thiosulfate if chlorinated
3♣	625	3	NO2-N	5	Se			REMARKS:
12♣	8260	4	NO2-NO3	5	Ag			temp = 3.8°C
3♣	8270			5	Tl			2 DAY TAT
4	8015			5	V			
	MCHM			5	Zn			

Relinquished by: <u>SJCA</u>	Date <u>1-29-14</u> Time <u>1745</u>	Received by: <u>[Signature]</u>	Relinquished by:	Date	Received by
Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by
Relinquished by:	Date	Received for Laboratory by:		Date	

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 2.22 AOB

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: WVDEP-TEAYS

Date/Time Received: 29-Jan-14 17:45

Work Order: 14011170

Received by: RLK

Checklist completed by Janet Smith
eSignature

30-Jan-14
Date

Reviewed by: Rebecca Hicar
eSignature

31-Jan-14
Date

Matrices: Water

Carrier name: Client

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.8C</u> <u>IR</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



31-Jan-2014

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

Re: **CM-DAK-01-29-14-4**

Work Order: **14011170**

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,

A handwritten signature in black ink that reads "Rebecca Kiser".

Electronically approved by: Rebecca Kiser

Rebecca Kiser
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS: 3352 128th Avenue, Holland, Michigan 49424-9263 | PHONE: (616) 390-6070 | FAX: (616) 390-6185
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Environmental

www.alsglobal.com

RIGHT SOLUTIONS. RIGHT PARTNER.

Client: WV Department of Environmental Protection
Project: CM-DAK-01-29-14-4
Work Order: 14011170

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
14011170-01	CM-DAK-01-29-14-4	Water		1/29/2014 15:00	1/29/2014 17:45	<input type="checkbox"/>

Client: WV Department of Environmental Protection

Project: CM-DAK-01-29-14-4

Work Order: 14011170

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.

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**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	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

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

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ENVIRONMENTAL ENFORCEMENT
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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			
	Mclm			5	Zn			

Relinquished by: <i>[Signature]</i>	Date <u>1-29-14</u> Time <u>1745</u>	Received by: <i>[Signature]</i>	Relinquished by:	Date	Received by
Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by
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ATTN:

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