

ALS Group USA, Corp

Date: 12-Feb-14

Client: WV Department of Environmental Protection

Project: CM-DAK-02-07-14-1

Work Order: 1402348

Sample ID: CM-DAK-02-07-14-1

Lab ID: 1402348-01

Collection Date: 2/7/2014 12:20 PM

Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID							
			Method: SW8015M		Prep: SW3510 / 2/10/14		Analyst: JD
4-Methyl-1-cyclohexanemethanol	U		7.9	50	µg/L	1	2/11/2014 14:21
Surr: Nonane	31.1	S		35-70	%REC	1	2/11/2014 14:21

MW-5 (^{DAK}~~UPGRADIENT~~) (^{DOWN GRADIENT} BY STAIRS)
 NORTH
 FREEDOM

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



12-Feb-2014

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

Re: **CM-DAK-02-07-14-1**

Work Order: **1402348**

Dear Douglas,

ALS Environmental received 1 sample on 07-Feb-2014 04:18 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 7.

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

Sincerely,

A handwritten signature in cursive script that reads "Rebecca Kiser".

Electronically approved by: Joseph Ribar

Rebecca Kiser
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: WV Department of Environmental Protection
Project: CM-DAK-02-07-14-1
Work Order: 1402348

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>
1402348-01	CM-DAK-02-07-14-1	Water		2/7/2014 12:20	2/7/2014 16:18	<input type="checkbox"/>

Client: WV Department of Environmental Protection
Project: CM-DAK-02-07-14-1
WorkOrder: 1402348

**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

ALS Group USA, Corp

Date: 12-Feb-14

Client: WV Department of Environmental Protection
Work Order: 1402348
Project: CM-DAK-02-07-14-1

QC BATCH REPORT

Batch ID: 55631 Instrument ID GC11 Method: SW8015M

MBLK		Sample ID: GBLKW1-55631-55631			Units: µg/L		Analysis Date: 2/11/2014 12:50 PM			
Client ID:		Run ID: GC11_140211A			SeqNo: 2639831		Prep Date: 2/10/2014		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	0	0	0		0			
<i>Surr: Nonane</i>	55.52	0	100	0	55.5	35-70	0			

LCS		Sample ID: GLCSW1-55631-55631			Units: µg/L		Analysis Date: 2/11/2014 01:03 PM			
Client ID:		Run ID: GC11_140211A			SeqNo: 2639832		Prep Date: 2/10/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemethanol	89.84	50	125	0	71.9	44-83	0			
<i>Surr: Nonane</i>	47.98	0	100	0	48	35-70	0			

LCSD		Sample ID: GLCSDW1-55631-55631			Units: µg/L		Analysis Date: 2/11/2014 01:16 PM			
Client ID:		Run ID: GC11_140211A			SeqNo: 2639833		Prep Date: 2/10/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemethanol	92.61	50	125	0	74.1	44-83	89.84	3.04	25	
<i>Surr: Nonane</i>	51.58	0	100	0	51.6	35-70	47.98	7.23		

The following samples were analyzed in this batch:

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

Sample Receipt Checklist

Client Name: WVDEP-TEAYS

Date/Time Received: 07-Feb-14 16:18

Work Order: 1402348

Received by: JAS

Checklist completed by Janet Smith
eSignature

10-Feb-14
Date

Reviewed by: Rebecca Lear
eSignature

10-Feb-14
Date

Matrices:

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 type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" 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):	<input type="text"/>		
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text"/>		
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 checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

1402348 54

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 ENVIRONMENTAL ENFORCEMENT
 Analysis Request Form

Sample no. CM-DAK-72-87-14-1 # of containers 2 Sampler(s) KEE

Sample Type: Water Sediment Influent Effluent Other Specified Method _____

GRAB: Date-Time 2-7-14 1220 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			
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			
				5	Zn			

Relinquished by: <u>[Signature]</u>	Date <u>2-7-14</u> Time <u>1618</u>	Received by:	Relinquished by:	Date	Received by
Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by
Relinquished by:	Date	Received for Laboratory by: <u>[Signature]</u>		Date <u>2/7/14</u> Time <u>1618</u>	

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

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

Rec'd 2/6/14 11528 ac [Signature]

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL ENFORCEMENT
Analysis Request Form**

Sample no. C14-DAK-02-07-14-1 # of containers 2 Sampler (s) KEE

Sample Type: Water Sediment Influent Effluent Other Specified Method _____

GRAB: Date-Time 2-7-14 1220 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			1. None - determine on site
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			<i>* MethM</i>
3♣	8270			5	Tl			
<i>♣</i>	<i>8015</i>			5	V			
				5	Zn			

Relinquished by: <i>[Signature]</i>	Date <u>2-7-14</u> Time <u>1618</u>	Received by:	Relinquished by:	Date	Received by
Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by
Relinquished by:	Date	Received for Laboratory by: <i>[Signature]</i>		Date <u>2/7/14</u> Time <u>1618</u>	

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

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