

ALS Group USA, Corp

Date: 13-Feb-14

Client: WV Department of Environmental Protection
 Project: CM-DAK-02-08-14-1
 Sample ID: CM-DAK-02-08-14-1
 Collection Date: 2/8/2014 09:10 AM

Work Order: 1402400
 Lab ID: 1402400-01
 Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			Method:SW8015M		Prep: SW3510 / 2/11/14		Analyst: IT
DRO (C10-C28)	3.6		0.018	0.10	mg/L	1	2/13/2014 03:18
ORO (C28-C40)	0.12		0.049	0.10	mg/L	1	2/13/2014 03:18
Surr: 4-Terphenyl-d14	48.9			21-90	%REC	1	2/13/2014 03:18
ORGANIC COMPOUNDS BY GC-FID			Method:SW8015M		Prep: SW3510 / 2/11/14		Analyst: JD
4-Methyl-1-cyclohexanemethanol	U		0.0079	0.050	mg/L	1	2/11/2014 17:34
Surr: Nonane	41.3			35-70	%REC	1	2/11/2014 17:34

MW-4 (DOWN GRADIENT)
 FREEDOM

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

ALS Group USA, Corp

Date: 13-Feb-14

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 Work Order: 1402400
 Project: CM-DAK-02-08-14-1

QC BATCH REPORT

Batch ID: 55666 Instrument ID GC11 Method: SW8015M

MBLK		Sample ID: GBLKW1-55666-55666				Units: µg/L		Analysis Date: 2/11/2014 04:56 PM		
Client ID:		Run ID: GC11_140211B				SeqNo: 2640373		Prep Date: 2/11/2014		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			
Surr: Nonane	54.11	0	100	0	54.1	35-70	0			

LCS		Sample ID: GLCSW1-55666-55666				Units: µg/L		Analysis Date: 2/11/2014 05:08 PM		
Client ID:		Run ID: GC11_140211B				SeqNo: 2640374		Prep Date: 2/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemethanol	92.72	50	125	0	74.2	44-83	0			
Surr: Nonane	51	0	100	0	51	35-70	0			

LCSD		Sample ID: GLCSDW1-55666-55666				Units: µg/L		Analysis Date: 2/11/2014 05:21 PM		
Client ID:		Run ID: GC11_140211B				SeqNo: 2640375		Prep Date: 2/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemethanol	87.88	50	125	0	70.3	44-83	92.72	5.37	25	
Surr: Nonane	47.89	0	100	0	47.9	35-70	51	6.29		

The following samples were analyzed in this batch:

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

Client: WV Department of Environmental Protection
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QC BATCH REPORT

Batch ID: 55667 Instrument ID GC8 Method: SW8015M

MBLK		Sample ID: DBLKW1-55667-55667			Units: mg/L		Analysis Date: 2/13/2014 02:18 AM			
Client ID:		Run ID: GC8_140212A			SeqNo: 2641479		Prep Date: 2/11/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	0.10								
ORO (C28-C40)	U	0.10								
Surr: 4-Terphenyl-d14	0.0285	0	0.05	0	57	21-90	0			

LCS		Sample ID: DLCSW1-55667-55667			Units: mg/L		Analysis Date: 2/13/2014 02:48 AM			
Client ID:		Run ID: GC8_140212A			SeqNo: 2641482		Prep Date: 2/11/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	4.655	0.10	5	0	93.1	44-116	0			
ORO (C28-C40)	3.862	0.10	5	0	77.2	44-116	0			
Surr: 4-Terphenyl-d14	0.02569	0	0.05	0	51.4	21-90	0			

The following samples were analyzed in this batch:

1402400-01B

1402400 2.92

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 ENVIRONMENTAL ENFORCEMENT
 Analysis Request Form

Sample no. CM-DAE-02-08-14-1 # of containers 2 Sampler(s) KEE 2 DAY TAT

Sample Type: Water Sediment Influent Effluent Other Specified Method _____

GRAB: Date-Time 2-8-14 2910 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			* MCHM
3♣	8270			5	Tl			* OR IF POSSIBLE
*	8015	*K	TPH DRO DRO	5	V			
				5	Zn			

Relinquished by: <u>SJA</u>	Date <u>2-10-14</u> Time <u>1450</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>2/10/14</u> Time <u>1450</u>	

MAIL RESULTS TO:

WV Dept. of Environmental Protection
 Environmental Enforcement
 ATTN:

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

Recd 2/11/14 1100 4.0 °C



13-Feb-2014

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

Re: **CM-DAK-02-08-14-1**

Work Order: **1402400**

Dear Douglas,

ALS Environmental received 1 sample on 10-Feb-2014 02:50 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 9.

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
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-02-08-14-1
Work Order: 1402400

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>
1402400-01	CM-DAK-02-08-14-1	Water		2/8/2014 09:10	2/10/2014 14:50	<input type="checkbox"/>

ALS Group USA, Corp

Date: 13-Feb-14

Client: WV Department of Environmental Protection
Project: CM-DAK-02-08-14-1
Work Order: 1402400

Case Narrative

No VOC vials provided to analyze TPH (GRO).

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: WVDEP-TEAYS

Date/Time Received: 10-Feb-14 14:50

Work Order: 1402400

Received by: JAS

Checklist completed by Janet Smith
eSignature

10-Feb-14
Date

Reviewed by: Rebecca Kier
eSignature

12-Feb-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:

Client: WV Department of Environmental Protection
 Project: CM-DAK-02-08-14-1
 WorkOrder: 1402400

**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>
mg/L	Milligrams per Liter

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

Sample no. CM-DAK-02-08-14-1 # of containers 2 Sampler (s) KEE

Sample Type: Water Sediment Influent Effluent Other Specified Method _____

GRAB: Date-Time 2-8-14 0910 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			* MCHM
3♣	8270			5	Tl			* IF POSSIBLE
	8015		TPH	5	V			
			ORO GPO DPO	5	Zn			

Relinquished by: <i>[Signature]</i>	Date <u>2-10-14</u> Time <u>1450</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>2/10/14</u> Time <u>1450</u>		

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

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