

2040 Savage Rd
Charleston SC 29407

Chain of Custody/Analysis Request

COC/Lab Request #:
2013-778

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[illegible]

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 4164 EVENT NAME: Pajarito (General Surveillance Monitoring Group) MY2013 Q3 Sampling Event_Pajarito Canyon

SAMPLE ID: CAPA-13-29650 WORK ORDER:

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED (MM/DD/YYYY):		04/25/2013	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):		1241	MEDIA:	UA	↓
PRS ID:		OK	SAMPLE TECH CODE:	UA	DC
LOCATION ID: R-17 S1		↓	FIELD PREP:	UF	OK
LOCATION TYPE:		↓	FIELD QC TYPE:	FB	↓
PORT: P1A			SAMPLE USAGE:	QC	

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2	HCL	Y	NA
↓	WSP-8270C-SVOA	1 LITER AMBER GLASS	1	ICE	↓	↓

SAMPLE COMMENTS:

NA

LOCATION COMMENTS:

NA

FIELD PARAMETERS:

Dissolved Oxygen 1.2 mg/L Oxidation-Reduction Potential 1.2 MV pH 7.2 SU

Specific Conductance 1.2 S/cm Temperature 1.2 deg C Turbidity 1.2 NTU

COLLECTED BY (PRINT)

W. Shaw

RELINQUISHED BY (Printed Name) William Shaw (Signature)	Date/Time 4/25/2013 1615	RECEIVED BY (Printed Name) S. Sherwood (Signature) Sheri Sherwood	Date/Time 4/25/13 1615
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date 04/03/2013

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 4164 EVENT NAME: Pajarito (General Surveillance Monitoring Group) MY2013 Q3 Sampling Event_Pajarito Canyon

SAMPLE ID: CAPA-13-29651 WORK ORDER:

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED (MM/DD/YYYY):		04/25/2013	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):		1241	MEDIA:	UA	↓
PRS ID:		OK	SAMPLE TECH CODE:	UA	GSP
LOCATION ID: R-17 S1		↓	FIELD PREP:	UF	OK
LOCATION TYPE:		↓	FIELD QC TYPE:	FD	↓
PORT: P1A			SAMPLE USAGE:	QC	

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2	HCL	Y	NA
↓	WSP-8270C-SVOA	1 LITER AMBER GLASS	2	ICE	↓	↓
↓	WSP-8321A-NMED HEXP	1 LITER AMBER GLASS	2	ICE	↓	↓
↓	WSP-GrossA/B	1 LITER POLY	1	NONE	↓	↓
↓	WSP-HEXMOD	1 LITER AMBER GLASS	2	ICE	↓	↓
↓	WSP-LL-H-3	1 LITER POLY	1	NONE	↓	↓
↓	WSP-RAD	1 GAL POLY	1	HNO3	↓	↓
↓	WSP-TKN+TOC	500 ML AMBER GLASS	1	H2SO4	↓	↓

SAMPLE COMMENTS: NA

LOCATION COMMENTS: NA

FIELD PARAMETERS:

Dissolved Oxygen NA mg/L Oxidation-Reduction Potential NA mV pH NA SU

Specific Conductance NA uS/cm Temperature NA deg C Turbidity NA NTU

COLLECTED BY (PRINT) M. Shendo

RELINQUISHED BY (Printed Name) <u>M. Shendo</u> (Signature) <u>[Signature]</u>	Date/Time <u>4/25/2013</u> <u>1615</u>	RECEIVED BY (Printed Name) <u>S. Shendo</u> (Signature) <u>[Signature]</u>	Date/Time <u>4/25/13</u> <u>1615</u>
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date 04/03/2013

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 4164 EVENT NAME: Pajarito (General Surveillance Monitoring Group) MY2013 Q3 Sampling Event_Pajarito Canyon

SAMPLE ID: CAPA-13-29652 WORK ORDER:

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED (MM/DD/YYYY):		04/25/2013	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):		1241	MEDIA:	UA	↓
PRS ID:		OK	SAMPLE TECH CODE:	UA	GSP
LOCATION ID: R-17 S1		↓	FIELD PREP:	F	OK
LOCATION TYPE:		↓	FIELD QC TYPE:	FD	↓
PORT: PIA			SAMPLE USAGE:	QC	

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-CL04	250 ML POLY	1	ICE	Y	NA
↓	WSP-GENINORG	1 LITER POLY	1	ICE	↓	↓
↓	WSP-Met+B+SN+SR+U	1 LITER POLY	1	HNO3	↓	↓
	WSP-NH3+NO3/NO2+PO4	500 ML AMBER GLASS	1	H2SO4	↓	↓

SAMPLE COMMENTS: NA

LOCATION COMMENTS: NA

FIELD PARAMETERS:

Dissolved Oxygen NA mg/L Oxidation-Reduction Potential NA MV pH NA SU

Specific Conductance NA uS/cm Temperature NA deg C Turbidity NA NTU

COLLECTED BY (PRINT) W. Shaw

RELINQUISHED BY (Printed Name) <u>William Shaw</u> (Signature) <u>[Signature]</u>	Date/Time <u>4/25/2013</u> <u>1615</u>	RECEIVED BY (Printed Name) <u>Shen Shenwood</u> (Signature) <u>[Signature]</u>	Date/Time <u>4/25/13</u> <u>1615</u>
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date 04/03/2013

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 4164 EVENT NAME: Pajarito (General Surveillance Monitoring Group) MY2013 Q3 Sampling Event_Pajarito Canyon

SAMPLE ID: CAPA-13-29653 WORK ORDER:

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED (MM/DD/YYYY):		04/25/2013	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):		1540	MEDIA:	UA	N
PRS ID:		OK	SAMPLE TECH CODE:	UA	DC
LOCATION ID: R-17 S1		↓	FIELD PREP:	UF	OK
LOCATION TYPE: SUP		↓	FIELD QC TYPE: PEB		↓
PORT: P1A		↓	SAMPLE USAGE: QC		↓

PRIORITY	ORDER	CONTAINER	# PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2 HCL	Y	NA
↓	WSP-8270C-SVOA	1 LITER AMBER GLASS	2 ICE <i>vs 40x200s</i>	↓	↓
↓	WSP-8321A-NMED HEXP	1 LITER AMBER GLASS	2 ICE	↓	↓
↓	WSP-CL04	250 ML POLY	1 ICE	↓	↓
↓	WSP-GENINORG	1 LITER POLY	1 ICE	↓	↓
↓	WSP-GrossA/B	1 LITER POLY	1 NONE	↓	↓
↓	WSP-H-3	250 ML AMBER GLASS	1 ICE	↓	↓
↓	WSP-HEXMOD	1 LITER AMBER GLASS	2 ICE <i>vs 40x200s</i>	↓	↓
↓	WSP-LL-H-3	1 LITER POLY	1 NONE	↓	↓
↓	WSP-Met+B+SN+SR+U	1 LITER POLY	1 HNO3	↓	↓

Analyses continued on next page

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 4164

EVENT NAME:

Pajarito (General Surveillance
Monitoring Group) MY2013 Q3
Sampling Event_Pajarito Canyon

SAMPLE ID: CAPA-13-29653

WORK ORDER:

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-NH3+NO3/NO2+PO4	500 ML AMBER GLASS	1	H2SO4	Y	NA
↓	WSP-RAD	1 GAL POLY	1	HNO3	↓	↓
↓	WSP-TKN+TOC	500 ML AMBER GLASS	1	H2SO4	↓	↓

SAMPLE COMMENTS:

as 4/25/13
NA OF from TA-59 basement laboratory
18.2 mV-cm

LOCATION COMMENTS: NA

FIELD PARAMETERS:

Dissolved Oxygen NA mg/L
Specific Conductance NA uS/cmOxidation-Reduction Potential NA MV
Temperature NA deg CpH NA SU
Turbidity NA NTU

COLLECTED BY (PRINT)

RELINQUISHED BY (Printed Name) William Law (Signature) <u>W Law</u>	Date/Time 4/25/2013 1615	RECEIVED BY (Printed Name) Sherrin Sherwood (Signature) <u>Sherrin Sherwood</u>	Date/Time 4/25/13 1615
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date 04/03/2013

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 4164 EVENT NAME: Pajarito (General Surveillance Monitoring Group) MY2013 Q3 Sampling Event_Pajarito Canyon

SAMPLE ID: CAPA-13-29660 WORK ORDER:

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED (MM/DD/YYYY):		04/25/2013	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):		1241	MEDIA:	UA	↓
PRS ID:		OK	SAMPLE TECH CODE:	UA	DC
LOCATION ID: R-17 S1		↓	FIELD PREP:	UF	OK
LOCATION TYPE:		↓	FIELD QC TYPE:	FTB	↓
PORT: P1A			SAMPLE USAGE:	QC	

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2	HCL 45	Y	NA

SAMPLE COMMENTS: NA

LOCATION COMMENTS: NA

FIELD PARAMETERS:

Dissolved Oxygen NA mg/L Oxidation-Reduction Potential NA MV pH NA

Specific Conductance NA uS/cm Temperature NA deg C Turbidity NA NTU

COLLECTED BY (PRINT) W. Shaw

RELINQUISHED BY (Printed Name) <u>William Shaw</u> (Signature) <u>[Signature]</u>	Date/Time <u>4/25/13</u> <u>1615</u>	RECEIVED BY (Printed Name) <u>G. Sherwood</u> (Signature) <u>[Signature]</u>	Date/Time <u>4/25/13</u> <u>1615</u>
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date 04/03/2013

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 4164 EVENT NAME: Pajarito (General Surveillance Monitoring Group) MY2013 Q3 Sampling Event_Pajarito Canyon

SAMPLE ID: CAPA-13-29661 WORK ORDER:

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED (MM/DD/YYYY):		04/25/2013	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):		1418	MEDIA:	UA	↓
PRS ID:		OK	SAMPLE TECH CODE:	UA	DC
LOCATION ID: R-17 S2		↓	FIELD PREP:	UF	OK
LOCATION TYPE:		↓	FIELD QC TYPE:	FTB	↓
PORT: P2A			SAMPLE USAGE:	QC	

PRIORITY	ORDER	CONTAINER	# PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2 HCL 425/13	Y	NA

SAMPLE COMMENTS: NA

LOCATION COMMENTS: NA

FIELD PARAMETERS:

Dissolved Oxygen NA mg/L Oxidation-Reduction Potential NA MV pH NA SU

Specific Conductance NA uS/cm Temperature NA deg C Turbidity NA NTU

COLLECTED BY (PRINT) W. Shaw

RELINQUISHED BY (Printed Name) William Shaw (Signature) <u>[Signature]</u>	Date/Time 4/25/2013 1615	RECEIVED BY (Printed Name) S. Sherwood (Signature) <u>[Signature]</u>	Date/Time 4/25/2013 1415
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date 04/03/2013

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 4164 EVENT NAME: Pajarito (General Surveillance Monitoring Group) MY2013 Q3 Sampling Event_Pajarito Canyon

SAMPLE ID: CAPA-13-29667 WORK ORDER: NA

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED (MM/DD/YYYY):		04/25/2013	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):		1241	MEDIA:	UA	↓
PRS ID:		OK	SAMPLE TECH CODE:	UA	GSP
LOCATION ID: R-17 S1		↓	FIELD PREP:	UF	OK
LOCATION TYPE: MON		↓	FIELD QC TYPE: REG		↓
PORT: PIA			SAMPLE USAGE: INV		↓

PRIORITY	ORDER	CONTAINER	# PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2 HCL	Y	NA
↓	WSP-8270C-SVOA	1 LITER AMBER GLASS	2 ICE	↓	↓
↓	WSP-8321A-NMED HEXP	1 LITER AMBER GLASS	2 ICE	↓	↓
↓	WSP-GrossA/B	1 LITER POLY	1 NONE	↓	↓
↓	WSP-HEXMOD	1 LITER AMBER GLASS	2 ICE	↓	↓
↓	WSP-LL-H-3	1 LITER POLY	1 NONE	↓	↓
↓	WSP-RAD	1 GAL POLY	1 HNO3	↓	↓
↓	WSP-TKN+TOC	500 ML AMBER GLASS	1 H2SO4	↓	↓

SAMPLE COMMENTS:

Sampled within 50' of diesel generator

LOCATION COMMENTS: NA

FIELD PARAMETERS:

Dissolved Oxygen 7.39 mg/L Oxidation-Reduction Potential 140.2 MV pH 7.88 SU
 Specific Conductance 127 uS/cm Temperature 20.52 deg C Turbidity 127 NTU

COLLECTED BY (PRINT) W. Shaw

RELINQUISHED BY (Printed Name) <u>William Shaw</u> (Signature) <u>[Signature]</u>	Date/Time <u>4/25/2013</u> <u>1615</u>	RECEIVED BY (Printed Name) <u>S. Sherwood</u> (Signature) <u>[Signature]</u>	Date/Time <u>4/25/13</u> <u>1615</u>
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date 04/03/2013

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 4164 EVENT NAME: Pajarito (General Surveillance Monitoring Group) MY2013 Q3 Sampling Event_Pajarito Canyon

SAMPLE ID: CAPA-13-29668 WORK ORDER: NA

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED (MM/DD/YYYY):		04/25/2013	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):		1418	MEDIA:	UA	↓
PRS ID:		OK	SAMPLE TECH CODE:	UA	GSP
LOCATION ID: R-17 S2		↓	FIELD PREP:	UF	OK
LOCATION TYPE: MON		↓	FIELD QC TYPE: REG		↓
PORT: P2A			SAMPLE USAGE: INV		

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2	HCL	Y	NA
↓	WSP-8270C-SVOA	1 LITER AMBER GLASS	3	ICE	↓	↓
	WSP-8321A-NMED HEXP	1 LITER AMBER GLASS	3	ICE		
	WSP-GrossA/B	1 LITER POLY	1	NONE		
	WSP-HEXMOD	1 LITER AMBER GLASS	2	ICE		
	WSP-RAD	1 GAL POLY	1	HNO3		
✓	WSP-TKN+TOC	500 ML AMBER GLASS	1	H2SO4	↓	↓

SAMPLE COMMENTS: NA

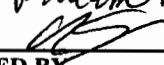
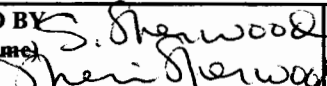
LOCATION COMMENTS: NA

FIELD PARAMETERS:

Dissolved Oxygen 6.61 mg/L Oxidation-Reduction Potential 126.8 MV pH 7.93 SU

Specific Conductance 117 uS/cm Temperature 20.94 deg C Turbidity 0.6 NTU

COLLECTED BY (PRINT) W. Shaw

RELINQUISHED BY (Printed Name) William Shaw (Signature) 	Date/Time 4/25/2013 1615	RECEIVED BY (Printed Name) S. Sherwood (Signature) 	Date/Time 4/25/2013 1615
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date 04/03/2013

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 4164 EVENT NAME: Pajarito (General Surveillance Monitoring Group) MY2013 Q3 Sampling Event_Pajarito Canyon

SAMPLE ID: CAPA-13-29678 WORK ORDER: NA

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED (MM/DD/YYYY):		04/25/2013	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):		1241	MEDIA:	UA	↓
PRS ID:		OK	SAMPLE TECH CODE:	UA	GSP
LOCATION ID: R-17 S1		↓	FIELD PREP:	F	OK
LOCATION TYPE: MON		↓	FIELD QC TYPE: REG		↓
PORT: P1A			SAMPLE USAGE: INV		↓

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-CL04	250 ML POLY	1	ICE	Y	NA
↓	WSP-GENINORG	1 LITER POLY	1	ICE	↓	↓
↓	WSP-Met+B+SN+SR+U	1 LITER POLY	1	HNO3	↓	↓
↓	WSP-NH3+NO3/NO2+PO4	500 ML AMBER GLASS	1	H2SO4	↓	↓

SAMPLE COMMENTS:

NA

LOCATION COMMENTS:

NA

FIELD PARAMETERS:

Dissolved Oxygen NA mg/L Oxidation-Reduction Potential NA MV pH NA SU

Specific Conductance NA uS/cm Temperature NA deg C Turbidity NA NTU

COLLECTED BY (PRINT) M. Shendo

RELINQUISHED BY (Printed Name) William Shaw (Signature) <u>[Signature]</u>	Date/Time 4/25/2013 (615)	RECEIVED BY (Printed Name) B. Sherwood (Signature) <u>[Signature]</u>	Date/Time 4/25/2013 (615)
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date 04/03/2013

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 4164 EVENT NAME: Pajarito (General Surveillance Monitoring Group) MY2013 Q3 Sampling Event_Pajarito Canyon

SAMPLE ID: CAPA-13-29679 WORK ORDER: NA

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED (MM/DD/YYYY):		04/25/2013	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):		1418	MEDIA:	UA	↓
PRS ID:		OK	SAMPLE TECH CODE:	UA	GSP
LOCATION ID: R-17 S2		↓	FIELD PREP:	F	OK
LOCATION TYPE: MON		↓	FIELD QC TYPE: REG		↓
PORT: P2A			SAMPLE USAGE: INV		

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-CL04	250 ML POLY	1	ICE	Y	NA
↓	WSP-GENINORG	1 LITER POLY	1	ICE	↓	↓
↓	WSP-Met+B+SN+SR+U	1 LITER POLY	1	HNO3	↓	↓
↓	WSP-NH3+NO3/NO2+PO4	500 ML AMBER GLASS	1	H2SO4	↓	↓

SAMPLE COMMENTS: NA

LOCATION COMMENTS: NA

FIELD PARAMETERS:

Dissolved Oxygen NA mg/L Oxidation-Reduction Potential NA MV pH NA SU
 Specific Conductance NA uS/cm Temperature NA deg C Turbidity NA NTU

COLLECTED BY (PRINT) M. Shendo

RELINQUISHED BY (Printed Name) William Shaw (Signature) <u>William Shaw</u>	Date/Time 4/25/13 1615	RECEIVED BY (Printed Name) Sheri Sherwood (Signature) <u>Sheri Sherwood</u>	Date/Time 4/25/13 1615
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date 04/03/2013

Data Validation Report

Chain Of Custody No. 2013-778-2

1. Distribution Of Samples In EDD.

	Analytical	Regular	Field	Trip	Field	Equipment
SDG	Method	Samples	Duplicates	Blanks	Blanks	Blanks
327085	EPA:353.2	1				

	Analytical	Analysis	Prep	Regular	Field	Trip	Field	Equipment	Method	Matrix	Matrix
SDG	Method	Lot ID	Lot ID	Samples	Duplicates	Blanks	Blanks	Blanks	Blanks	Spikes	Spike Dups
327085	EPA:353.2	1306378	1306378	1						1	

2. Distribution Of Analytes In EDD.

Analytical Method	Method Category	Field Sample ID	Lab Sample ID	Sample Purpose	Target Analytes	Surrogates	Spikes	TICS
EPA:353.2	GENERAL CHEMISTRY	CAPA-13-29679	1202887950	DUP	1	0	0	0
EPA:353.2	GENERAL CHEMISTRY	CAPA-13-29679	327085001	REG	1	0	0	0
EPA:353.2	GENERAL CHEMISTRY	LCS	1202887952	LCS	0	0	1	0
EPA:353.2	GENERAL CHEMISTRY	MB	1202887949	MB	1	0	0	0

3. Are any analytes missing?

No.

4. Were any holding times exceeded?

No.

5. Any contaminants in blanks?

No.

Any samples affected by the presence of contaminants in blanks?

No.

6. Any surrogate recoveries outside the control limits?

No.

7. Any MS/MSD recoveries or RPDs outside the control limits?

No.

8. Any LCS/LCSD or BS/BSD recoveries or RPDs outside the control limits?

No.

9. Any Field Duplicate RPDs outside the desired limits?

No.

10. Any Lab Duplicate RPDs outside the desired limits?

Analytical	Post-Digestion	Lab Control	Lab Control	Blank	Blank	Lab	Storage	Preparation	Reagent
Spikes	Spikes	Samples	Sample Dups	Spikes	Spike Dups	Duplicates	Blanks	Blanks	Blanks
		1				1			

No.

11. Any required reporting limits exceeded?

No.

12. Additional Validator's Comments.

None.

13. Display Flagged Data.

No.

Reason Code **Description**

NQ The analytical laboratory did not qualify the analyte as not detected and/or any other standard qualifire. The analyte is detected in the sample.

14. Useable Result Count.

Field	Location	Sample	Analytical	No. Unuseable	Total No. Of
Sample ID	ID	Purpose	Method	Records	Records
CAPA-13-29679	R-17 S2	REG	EPA:353.2	0	1

Data Validation Report

Chain Of Custody No. 2013-778-2

1. Distribution Of Samples In EDD.

	Analytical	Regular	Field	Trip	Field	Equipment
SDG	Method	Samples	Duplicates	Blanks	Blanks	Blanks
327085	EPA:353.2	1				

	Analytical	Analysis	Prep	Regular	Field	Trip	Field	Equipment	Method	Matrix	Matrix
SDG	Method	Lot ID	Lot ID	Samples	Duplicates	Blanks	Blanks	Blanks	Blanks	Spikes	Spike Dups
327085	EPA:353.2	1306378	1306378	1						1	

2. Distribution Of Analytes In EDD.

Analytical Method	Method Category	Field Sample ID	Lab Sample ID	Sample Purpose	Target Analytes	Surrogates	Spikes	TICS
EPA:353.2	GENERAL CHEMISTRY	CAPA-13-29679	1202887950	DUP	1	0	0	0
EPA:353.2	GENERAL CHEMISTRY	CAPA-13-29679	327085001	REG	1	0	0	0
EPA:353.2	GENERAL CHEMISTRY	LCS	1202887952	LCS	0	0	1	0
EPA:353.2	GENERAL CHEMISTRY	MB	1202887949	MB	1	0	0	0

3. Are any analytes missing?

No.

4. Were any holding times exceeded?

No.

5. Any contaminants in blanks?

No.

Any samples affected by the presence of contaminants in blanks?

No.

6. Any surrogate recoveries outside the control limits?

No.

7. Any MS/MSD recoveries or RPDs outside the control limits?

No.

8. Any LCS/LCSD or BS/BSD recoveries or RPDs outside the control limits?

No.

9. Any Field Duplicate RPDs outside the desired limits?

No.

10. Any Lab Duplicate RPDs outside the desired limits?

Analytical	Post-Digestion	Lab Control	Lab Control	Blank	Blank	Lab	Storage	Preparation	Reagent
Spikes	Spikes	Samples	Sample Dups	Spikes	Spike Dups	Duplicates	Blanks	Blanks	Blanks
		1				1			

No.

11. Any required reporting limits exceeded?

No.

12. Additional Validator's Coments.

None.

13. Display Flagged Data.

No.

Reason Code Description

NQ The analytical laboratory did not qualifiy the analyte as not detected and/or any other standard qualifire. The analyte is detected in the sample.

14. Useable Result Count.

Field	Location	Sample	Analytical	No. Unuseable	Total No. Of
Sample ID	ID	Purpose	Method	Records	Records
CAPA-13-29679	R-17 S2	REG	EPA:353.2	0	1



June 11, 2013

www.gel.com

Keith Greene
Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545

Re: LANL-WQH Water Samples
Work Order: 327085
SDG: 2013-778-2

Dear Keith Greene:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on April 27, 2013, and analyzed for General Chemistry. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4485.

Sincerely,

Hope Taylor for
Valerie Davis
Project Manager

Purchase Order: 63641-10
Chain of Custody: 2013-778
Enclosures



ARS International (63641-10)
LANL-WQH Water Samples
Work Order #: 327085
SDG: 2013-778-2

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Case Narrative

**Case Narrative for
ARS International (63641-10)
LANL-WQH Water Samples
Workorder #: 327085
SDG # : 2013-778-2**

June 11, 2013

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt The sample arrived at GEL Laboratories LLC, Charleston, South Carolina on April 27, 2013 for analysis. The sample was delivered with proper chain of custody documentation and signatures. The samples were screened according to GEL Standard Operating Procedure. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. Shipping container temperature was within specification (0 - 6C). Shipping container temperature was checked, documented, and within specifications. There are no additional comments concerning sample receipt.

Sample Identification The laboratory received the following sample:

<u>Laboratory ID</u>	<u>Client ID</u>
327085001	CAPA-13-29679

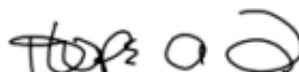
Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: General Chemistry.

I certify that this data report is in compliance with the terms and conditions of the subcontract and task order, both technically and for completeness, for other than the conditions detailed in the attached case narrative.



Hope Taylor for
Valerie Davis
Project Manager

List of current GEL Certifications as of 11 June 2013

State	Certification
Alaska	UST-110
Arkansas	88-0651
CLIA	42D0904046
California NELAP	01151CA
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC00012
DoD ELAP A2LA ISO 17025	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-12-00283, P330-12-00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA130005
Maryland	270
Massachusetts	M-SC012
Nevada	SC000122011-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68-00485
Plant Material Permit	PDEP-12-00260
South Carolina Chemistry	10120001
South Carolina Radiochemi	10120002
Tennessee	TN 02934
Texas NELAP	T104704235-13-8
Utah NELAP	SC000122013-8
Vermont	VT87156
Virginia NELAP	460202
Washington	C780-12
Wisconsin	999887790

Chain of Custody and Supporting Documentation

Chain of Custody/Analysis Request

324671

[illegible]

SAMPLE RECEIPT & REVIEW FORM

Client: <u>LANL</u>		SDG/AR/COC/Work Order: <u>2013-778</u>	
Received By: <u>MIC</u>		Date Received: <u>4-27-13</u>	
Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?			Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>0</u>
Classified Radioactive II or III by RSO?			If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?			
Package, COC, and/or Samples marked as beryllium or asbestos containing?			If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?			Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?			

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>			Preservation Method: Ice bags <u>Blue ice</u> Dry ice None Other (describe) *all temperatures are recorded in Celsius <u>4C 5C</u>
2a	Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>			Temperature Device Serial #: <u>41501132</u> Secondary Temperature Device Serial # (If Applicable):
3	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4	Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5	Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
7	Are Encore containers present?			<input checked="" type="checkbox"/>	If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	<input checked="" type="checkbox"/>			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
11	Number of containers received match number indicated on COC?			<input checked="" type="checkbox"/>	Sample ID's affected: <u>See Attached</u>
12	Are sample containers identifiable as GEL provided?			<input checked="" type="checkbox"/>	
13	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			
14	Carrier and tracking number.	<input checked="" type="checkbox"/>			Circle Applicable: FedEx Air FedEx Ground UPS Field Services Courier Other <u>5612 9852 9615 4C</u> <u>9637 4C</u> <u>9590 18C NO ICE</u> <u>9604 5C</u> <u>9626 4C</u>

Comments (Use Continuation Form if needed):

Client: LANL Received By: M. Kirskey Date Received: 042713 SDG/AR/COC/Work Order: 2013-778

ALL containers for Gross AIB were preserved prior to analysis

RN 2013-778

* CAPA-13-29667 lab received 2 container each for SDA and Hexp, chain indicates 3 each.

* CAPA-13-29651 lab received 2 containers each for SDA and Hexp, chain indicates 3 each

* CAPA-13-29650 lab received one container for SDA, chain indicates 3

* CAPA-13-29653 lab received 1 container each for SDA and Hexp, chain indicates 3. received one container for Hexmod, chain indicates two

* CAPA-13-29660 and 29661 lab received one container each for B260, chain indicates two

RN 2013-777

* CAPA-13-29548 and 29549 ~~each~~^{lab} received one container each for B260, chain indicates two

Subject:**From:** "Greene, Keith R" <kgreene@lanl.gov>**Date:** 6/6/2013 11:25 AM**To:** Valerie Davis <vsd@gel.com>**CC:** "Patel, Nita" <npatel@lanl.gov>, "Hardesty, William B" <wbh@lanl.gov>, "Rogers, David B" <slug@lanl.gov>

Val, for the re-analysis of 2013-778 Sample ID CAPA-13-29679 for no2/no3 we think that the field team mis-preserved the sample could you re-do the no2/no3 from the geniorg unpreserved bottle to verify. We know its way out of holding time.

Subject: FW: New Request: reanalysis, R-17 S2 ISSUE=378 PROJ=220
From: "Greene, Keith R" <kgreene@lanl.gov>
Date: 6/3/2013 12:46 PM
To: Valerie Davis <vsd@gel.com>
CC: "Patel, Nita" <npatel@lanl.gov>

From: ENV Data Systems [mailto:env_data_systems@lanl.gov]
Sent: Monday, June 03, 2013 10:41 AM
To: Greene, Keith R
Subject: New Request: reanalysis, R-17 S2 ISSUE=378 PROJ=220

When replying, type your text above this line.

Notification of Request Registration

Workspace: ENV Data Systems
Request: reanalysis, R-17 S2
Request Number: 378

Priority: 1 **Status:** Request
Date: 06/03/2013 **Time:** 10:41:48
Created By: 115164

[Click here to view Request in Browser](#)

Description:

Entered on 06/03/2013 at 10:41:48 MDT (GMT-0600) by 115164:
Please reanalyze CAPA-13-29679 Nitrate-Nitrite as Nitrogen (R-17 S2)

Also, please provide focused validation of existing result.

Need results by 6/15.

Current Assignees:

CC(s): (permanent) mding@lanl.gov

Request Information:

Request Type:: Focused Validation **Customer Priority::** Stop Work
System:: EIM/Intellus
Justification::
Need reanalysis and validation of nitrate result

Contact Information:

Z Number:	115164	Full Name:	David B. Rogers
E-mail:	slug@lanl.gov	Phone Number:	+1 505 667 0313
Organization:	ET-EI: ENVIRONMENTAL INVES TIGATIONS		

ORIGIN ID: SAFA (505) 665-9966
KEITH GREENE
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

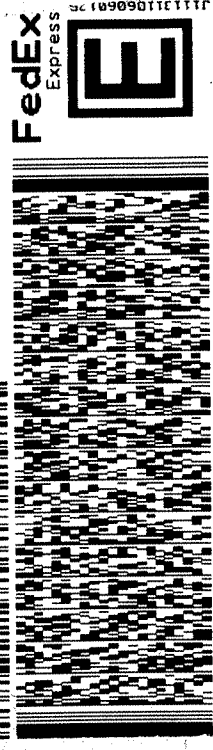
SHIP DATE: 26APR13
ACTWGT: 47.0 LB MAN
CRD: 0014176/CAFE2511

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: WE991158W100



SATURDAY 12:00P

PRIORITY OVERNIGHT

3 of 3

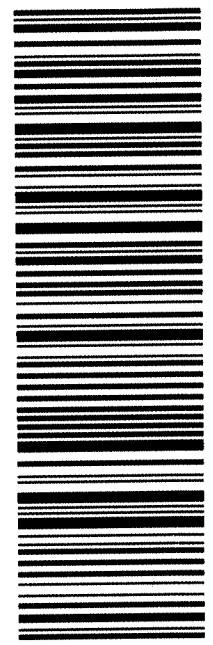
MPS# 5462 9832 9615

Mstr# 5462 9832 9590

X0 CHSA

29407

SC-US CHS



Form 156148-434 R1T2 08/10

500CT/64BE/18BC

4C

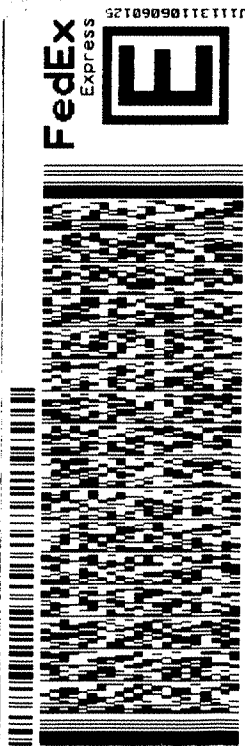
IN ID: SAFA (505) 665-9966
TH GREENE
LOS ALAMOS NATL LAB
TR00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 26APR13
ACTWGT: 42.0 LB MAN
CAD: 0014176/CAFE2511

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: MR1A015AGWF0



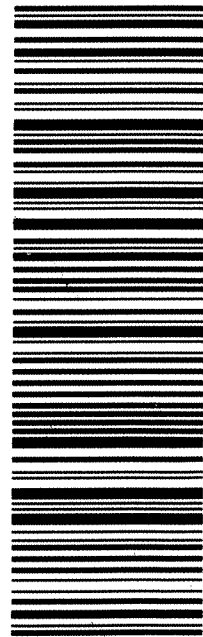
SATURDAY 12:00P
PRIORITY OVERNIGHT

MPS# 5462 9832 9637

Mstr# 5462 9832 9626

X0 CHSA

29407
SC-US CHS



Form 156149-434 RIT2 08/10 *

ORIGIN ID: SAFA (505) 665-9966
KEITH GREENE
LOS ALAMOS NATL LAB
TR00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 26APR13
ACTWGT: 52.0 LB MAN
CAD: 0014476/CAFE2511

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: WE991158W100



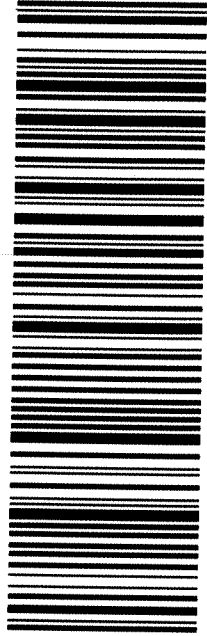
SATURDAY 12:00P
PRIORITY OVERNIGHT

1 of 3
TRK# 5462 9832 9590

MASTER

X0 CHSA

29407
SC-US CHS



Form 156149-434 RIT2 08/10 *

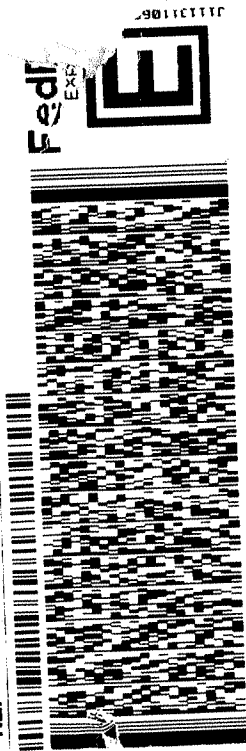
ORIGIN ID: SAFA (505) 665-9966
KEITH GREENE
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 26APR13
ACTWGT: 51.0 LB MAN
CAD: 0014176/CAFE2511

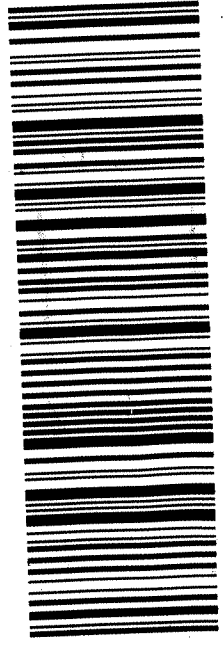
BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: WE991158W100



2 of 3
MPS# 5462 9832 9604
Mstr# 5462 9832 9590
X0 CHSA
29407
SC-US CHS
SATURDAY 12:00P
PRIORITY OVERNIGHT



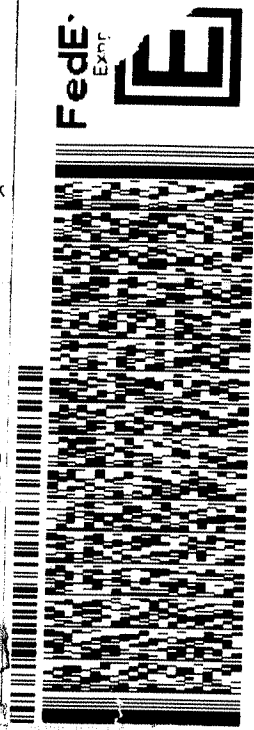
ORIGIN ID: SAFA (505) 665-9966
KEITH GREENE
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 26APR13
ACTWGT: 49.0 LB MAN
CAD: 0014176/CAFE2511

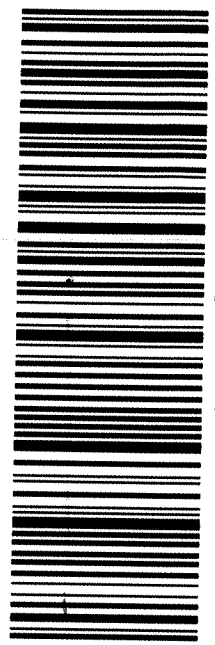
BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: MR1A015AGNF0



1 of 2
TRK# 5462 9832 9626
MASTER
X0 CHSA
29407
SC-US CHS
SATURDAY 12:00P
PRIORITY OVERNIGHT



Data Review Qualifier Flag Definition Sheet

Data Review Qualifier Definitions

Qualifier Explanation

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

B Metals-Either presence of analyte detected in the associated blank, or
MDL/IDL < sample value < PQL

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

d 5-day BOD-The 2:1 depletion requirement was not met for this sample

E Organics-Concentration of the target analyte exceeds the instrument calibration range

E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

H Analytical holding time was exceeded

h Preparation or preservation holding time was exceeded

J Value is estimated

N Metals-The Matrix spike sample recovery is not within specified control limits

N Organics-Presumptive evidence based on mass spectral library search to make a tentative
identification of the analyte (TIC). Quantitation is based on nearest internal standard
response factor

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration
by 4X or more

ND Analyte concentration is not detected above the reporting limit

UI Gamma Spectroscopy-Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

General Chem Analysis

Case Narrative

**General Chemistry Narrative
ARS International (ARSL)
SDG 2013-778-2**

Method/Analysis Information

Product:	Nitrate Nitrite by Cadmium Reduction		
Analytical Batch:	1306378	Method:	EPA 353.2 Nitrogen and Nitrate/Nitrite

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA 353.2:

Sample ID	Client ID
327085001	CAPA-13-29679
1202887949	Method Blank (MB)
1202887950	327085001(CAPA-13-29679) Sample Duplicate (DUP)
1202887951	327085001(CAPA-13-29679) Post Spike (PS)
1202887952	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-128 REV# 8.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information

The Nutrient analysis was performed on a Lachat QuickChem FIA+ 8500 Series.

Calibration Verification Information

All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

Continuing Calibration Blanks

All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

Calibration Verification Information (CCV)

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

Y Intercept Rule

The absolute value of the intercept is less than 3 times the MDL.

Quality Control (QC) Information**Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery

The LCS spike recovery met the acceptance limits.

Quality Control (QC) Designation

The following sample was selected for QC analysis: 327085001 (CAPA-13-29679).

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The MS/PS recovery for this sample set was within the required acceptance limits.

Duplicate Relative Percent Difference (RPD) Statement

The RPD between the sample and its duplicate met the acceptance limits.

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Holding Times

The following sample from this sample group was logged in for this analysis outside of the method specified holding time: 327085001 (CAPA-13-29679).

Sample Preservation/Integrity

All the samples from this sample group met the preservation and integrity requirements of the method.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-analysis

The samples in this SDG did not require re-analysis.

Miscellaneous Information**Data Exception (DER) Documentation**

The following DER was generated for this SDG: 1192826 327085001 (CAPA-13-29679).

Additional Comments

Additional comments were not required for this SDG.

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Certification Statement

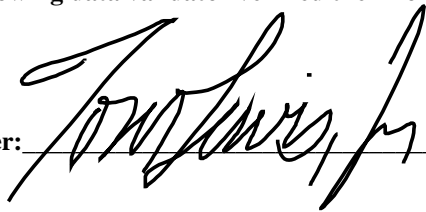
Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer:



Date:

10Jun13

Sample Data Summary

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report for

ARSL001 ARS International (63641-10)

Client SDG: 2013-778-2 GEL Work Order: 327085

The Qualifiers in this report are defined as follows:

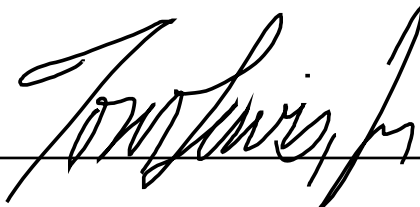
- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- H Analytical holding time was exceeded
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

A handwritten signature in black ink, appearing to read "Tom Davis", is written over a horizontal line.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: June 10, 2013

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545
Contact: Keith Greene
Project: LANL-WQH Water Samples

Client SDG: 2013-778-2

Client Sample ID: CAPA-13-29679
Sample ID: 327085001
Matrix: W
Collect Date: 25-APR-13 14:18
Receive Date: 27-APR-13
Collector: Client

Project: ESHL00210
Client ID: ARSL001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Nutrient Analysis											
EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"											
Nitrogen, Nitrate/Nitrite	H	0.316	0.017	0.050	mg/L	1	KLP1	06/07/13	1254	1306378	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 353.2	

Notes:

Quality Control Summary

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: June 10, 2013

Page 1 of 2

Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico

Contact: Keith Greene

Workorder: 327085

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Nutrient Analysis											
Batch	1306378										
QC1202887950	327085001	DUP									
Nitrogen, Nitrate/Nitrite		H	0.316	H	0.315	mg/L	0.317	(0%-20%)	KLP1	06/07/13	12:56
QC1202887952	LCS										
Nitrogen, Nitrate/Nitrite	1.00				0.967	mg/L		96.7	(90%-110%)	06/07/13	12:53
QC1202887949	MB										
Nitrogen, Nitrate/Nitrite			U		ND	mg/L				06/07/13	12:52
QC1202887951	327085001	PS									
Nitrogen, Nitrate/Nitrite	1.00	H	0.316	H	1.29	mg/L		97.4	(90%-110%)	06/07/13	12:57

Notes:

- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- H Analytical holding time was exceeded
- J Value is estimated
- N/A RPD or %Recovery limits do not apply.
- N1 See case narrative
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- R Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample
- h Preparation or preservation holding time was exceeded

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QC Summary

Workorder: 327085

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Miscellaneous

DATA EXCEPTION REPORT

Mo.Day Yr. 07-JUN-13	Division: Industrial	Quality Criteria: Specifications	Type: Process
Instrument Type: LACHAT Flow Injection Analyzer	Test / Method: EPA 353.2	Matrix Type: Liquid	Client Code: ESHL
Batch ID: 1306378	Sample Numbers: See below.		
Potentially affected work order(s)(SDG): 327085(2013-778-2) Application Issues: Sample Logged out of Holding			
Specification and Requirements Exception Description:		DER Disposition:	
1. Sample Logged out of Holding: 327085 001		1. Sample was logged out of holding; sample is a relog.	

Originator's Name:

Kristen Parson 07-JUN-13

Data Validator/Group Leader:

Julia Hamilton 10-JUN-13