

The order of this data package is as follows:

1. Chain-of-Custody/Lab Request
2. Copies of field COCs
3. Validation Report
4. Laboratory analysis

Comments:

[illegible]

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11552

EVENT NAME: Mortandad/Sandia (Cr Inv and MDA C)
MY2018 Q1

SAMPLE ID: CAMO-18-148059

WORK ORDER:

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
Date Collected (MM/DD/YYYY):	11/7/17	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	1133	↓	MEDIA:	OK	↓
PRS ID:	OK		SAMPLE TECH CODE:	GSP	
LOCATION ID:	R-33 S1		FIELD PREP:	F	
LOCATION TYPE:	OK		FIELD QC TYPE:	REG	
TOP DEPTH:	↓		SAMPLE USAGE:	INV	
BOTTOM DEPTH:	↓	↓	EXCAVATED:		YES / NO / <u>NA</u>

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-All Metals	1 LITER POLY	1	HNO3 ICE	Y	NA
↓	WSP-CR52/53	1 LITER POLY	1	ICE	↓	↓
↓	WSP- GENINORG+PerChlorat e	1 LITER POLY	1	ICE	↓	↓
↓	WSP-N15/O18- NO3	40 mL Glass	2	ICE	↓	↓
↓	WSP- NH3+NO3/NO2+PO4	500 ML AMBER GLASS	1	H2SO4	↓	↓

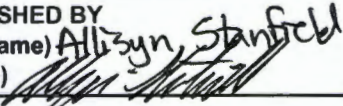
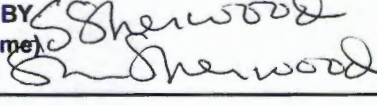
SAMPLE COMMENTS:

LOCATION COMMENTS:

FIELD PARAMETERS:

Sample Time	_____	HH:MM	Discharge Rate	_____	Dissolved Oxygen	_____
Groundwater Elevation	_____		Oxidation-Reduction Potential	_____	Period Purge Volume	_____
pH	_____		Purge Volume	_____	Specific Conductance	_____
Temperature	_____		Total Volume Pumped	_____	Turbidity	_____

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY**EVENT ID:** 11552**EVENT NAME:** Mortandad/Sandia (Cr Inv and MDA C)
MY2018 Q1**SAMPLE ID:** CAMO-18-148059**WORK ORDER:****COLLECTED BY (PRINT):** T. Bonham, K. Tow

RELINQUISHED BY (Printed Name) Allizyn Stanfield (Signature) 	Date/Time 11/7/17 1335	RECEIVED BY (Printed Name) S Sherwood (Signature) 	Date/Time 11/7/17 1335
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11552

EVENT NAME: Mortandad/Sandia (Cr Inv and MDA C)
MY2018 Q1

SAMPLE ID: CAMO-18-148060

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	11/7/17	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	1246		MEDIA:	OK	
PRS ID:	OK		SAMPLE TECH CODE:	GSP	
LOCATION ID:	R-33 S2		FIELD PREP:	F	
LOCATION TYPE:	OK		FIELD QC TYPE:	REG	
TOP DEPTH:	↓		SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	↓	↓	EXCAVATED:		YES / NO / <u>NA</u>

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-All Metals	1 LITER POLY	1	HNO3 ICE	Y	NA
↓	WSP-CR52/53	1 LITER POLY	1	ICE	↓	↓
	WSP- GENINORG+PerChlorate	1 LITER POLY	1	ICE	↓	↓
	WSP-N15/O18- NO3	40 mL Glass	2	ICE	↓	↓
↓	WSP- NH3+NO3/NO2+PO4	500 ML AMBER GLASS	1	H2SO4	↓	↓

SAMPLE COMMENTS:

LOCATION COMMENTS:

FIELD PARAMETERS:

Sample Time	_____	HH:MM	Discharge Rate	_____	Dissolved Oxygen	_____
Groundwater Elevation	_____		Oxidation-Reduction Potential	_____	Period Purge Volume	_____
pH	_____		Purge Volume	_____	Specific Conductance	_____
Temperature	_____		Total Volume Pumped	_____	Turbidity	_____

11/7/17

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY**EVENT ID:** 11552**EVENT NAME:** Mortandad/Sandia (Cr Inv and MDA C)
MY2018 Q1**SAMPLE ID:** CAMO-18-148060**WORK ORDER:****COLLECTED BY (PRINT):** T. Bonham, K. Tow

RELINQUISHED BY (Printed Name) Allibyn, Stanfield (Signature) <i>[Signature]</i>	Date/Time 11/7/17 1335	RECEIVED BY (Printed Name) Sherwood (Signature) <i>[Signature]</i>	Date/Time 11/7/17 1335
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

[illegible]

MS-D469, Building 494, Los Alamos, NM. 87545

Tuesday, January 30, 2018

Nitrate calibrated data

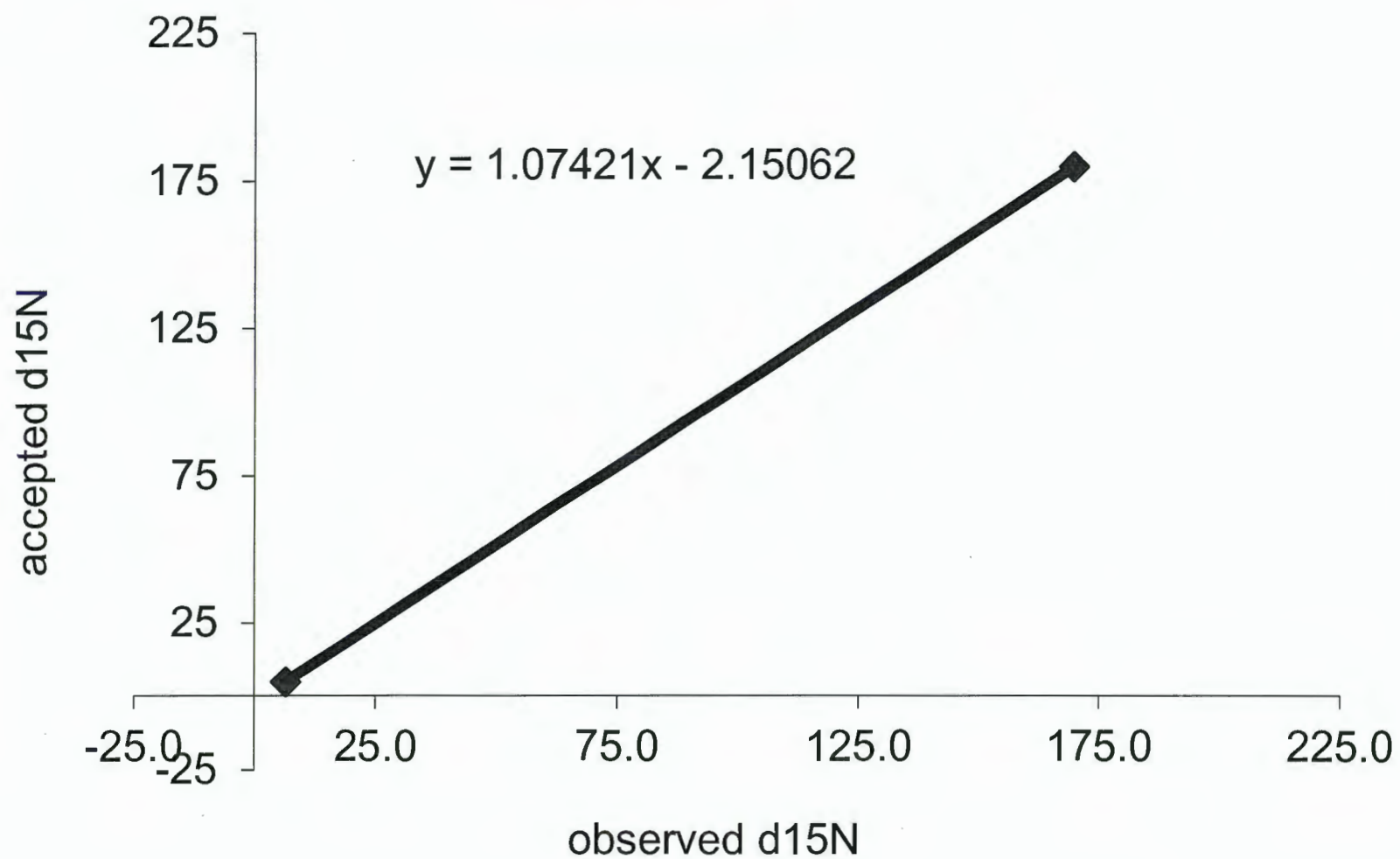
Date analyzed: 12/6/2017
 Operator: George Perkins
 Isoprime data file: Nitrate Bugs 12/6/2017

Generation of calibrat		$\delta^{15}\text{N}$ Value		$\delta^{18}\text{O}$	$\delta^{18}\text{O}$	$\delta^{17}\text{O}$
		actual	obs	actual	measured	actual
KNO ₃	USGS35	2.7		57.5		51.5
KNO ₃	USGS32	180.0	169.57	25.7		
KNO ₃	IAEA-NO3	4.7	6.38	25.6	22.89	
KNO ₃	USGS34	-1.8		-27.9	-27.76	38.95
slope						b-int.
$\delta^{18}\text{O} = 1.0563$						1.42
$\delta^{15}\text{N} = 1.07421$						-2.15
N-linearity		0.0000				
O-linearity		0.0000				

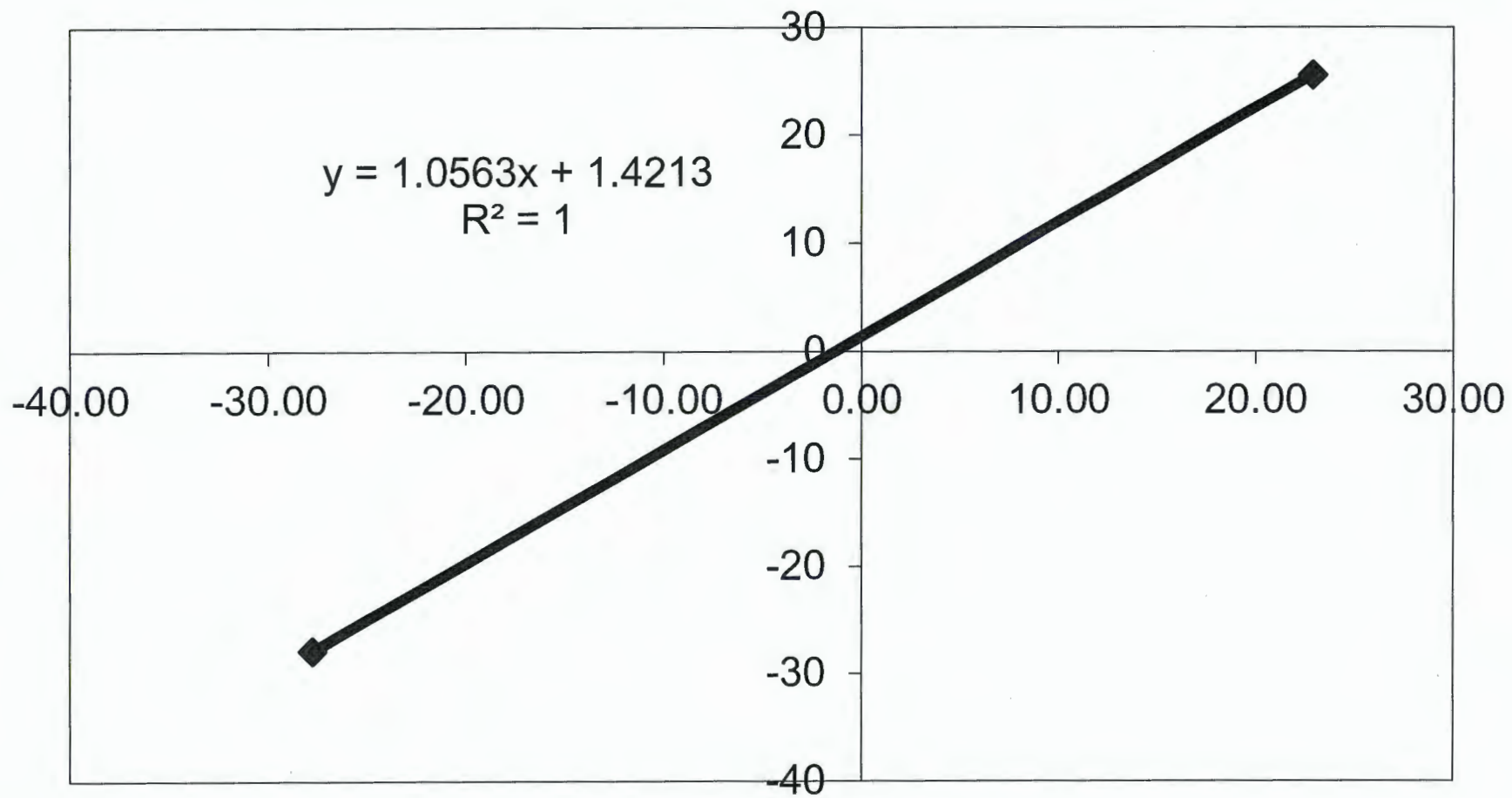
Sample #	Sample Name	RT	Pk Ht	Raw d15N	Raw d18O	Corr d15N	Corr d18O	corr. d15N	corr. d18O	Comment
Sample Number	Name	RT (Sec)	Height (nA)	15N	18O	#VALUE!	#VALUE!	#VALUE!	#VALUE!	
6	air-1 12-6-2017.raw	6/12/17 15:52	255.3	0.05	68.22	131.47				
7	IAEA-NO3-1 12-6-2017.raw	6/12/17 16:18	248.4	6.79	6.56	23.22	4.90	25.95	4.90	25.95
8	IAEA-NO3-2 12-6-2017.raw	6/12/17 16:44	247.0	7.74	6.34	22.95	4.66	25.67	4.66	25.67
9	USGS32-1 12-6-2017.raw	6/12/17 17:11	246.4	7.25	169.57	25.40	180.01	28.25	180.01	28.25
10	USGS34-1 12-6-2017.raw	6/12/17 17:38	250.8	4.88	-1.92	-28.62	-4.22	-28.81	-4.22	-28.81
11	NG-031 12-6-2017.raw	6/12/17 18:06	248.0	0.30	30.99	55.91	31.14	60.48	31.14	60.48
12	NG-042 12-6-2017.raw	6/12/17 18:33	249.5	0.16	44.26	76.92	45.39	82.68	45.39	82.68
13	NG-045 12-6-2017.raw	6/12/17 18:59	248.6	0.16	46.35	74.00	47.64	79.58	47.64	79.58
14	NG-065 12-6-2017.raw	6/12/17 19:26	248.6	0.12	59.12	84.51	61.36	90.69	61.36	90.69
15	NG-092 12-6-2017.raw	6/12/17 19:53	247.8	0.11	52.92	95.19	54.69	101.97	54.69	101.97
16	NG-099 12-6-2017.raw	6/12/17 20:19	243.9	0.44	25.33	49.39	25.06	53.60	25.06	53.60
17	IAEA-NO3-3 12-6-2017.raw	6/12/17 20:49	242.9	6.44	5.90	21.67	4.19	24.32	4.19	24.32
18	Blank 12-6-2017.raw	6/12/17 21:15	253.1	0.01	187.03	324.16	198.76	343.83	198.76	343.83
19	NG-101 12-6-2017.raw	6/12/17 21:42	244.1	1.21	16.81	32.60	15.91	35.85	15.91	35.85
20	NG-102 12-6-2017.raw	6/12/17 22:08	243.5	0.33	36.40	63.70	36.95	68.71	36.95	68.71
21	NG-104 12-6-2017.raw	6/12/17 22:35	246.1	0.09	57.66	113.10	59.79	120.89	59.79	120.89

22	NG-159 12-6-2017.raw	6/12/17 23:02	246.2	0.12	56.40	101.82	58.44	108.98	58.44	108.98	
23	NG-164 12-6-2017.raw	6/12/17 23:28	242.1	0.29	38.95	76.32	39.69	82.04	39.69	82.04	
24	NG-185 12-6-2017.raw	6/12/17 23:57	240.4	0.59	25.61	56.23	25.36	60.82	25.36	60.82	
25	IAEA-NO3-4 12-6-2017.raw	7/12/17 0:23	254.6	6.87	6.06	21.95	4.36	24.61	4.36	24.61	
26	NG-191 12-6-2017.raw	7/12/17 0:49	248.9	0.18	201.18	89.72	213.96	96.19	213.96	96.19	
27	CASA-18-148005 12-6-2017.raw	7/12/17 1:16	246.0	8.05	5.09	-5.74	3.32	-4.65	3.32	-4.65	
28	CASA-18-148006 12-6-2017.raw	7/12/17 1:43	245.9	10.98	5.28	-5.14	3.52	-4.01	3.52	-4.01	
29	CASA-18-147992 12-6-2017.raw	7/12/17 2:09	225.8	0.26	407.05	767.83	435.11	812.48	435.11	812.48	
30	CAMO-18-148059 12-6-2017.raw	7/12/17 2:36	244.6	8.48	5.89	-3.72	4.17	-2.51	4.17	-2.51	
31	Malink-2 12-6-2017.raw	7/12/17 3:02	245.0	7.79	3.50	14.71	1.61	16.96	1.61	16.96	
32	IAEA-NO3-5 12-6-2017.raw	7/12/17 3:31	243.9	6.54	6.54	23.44	4.88	26.18	4.88	26.18	
33	USGS32-2 12-6-2017.raw	7/12/17 3:57	244.4	7.69	169.56	25.87	179.99	28.75	179.99	28.75	
34	USGS34-2 12-6-2017.raw	7/12/17 4:24	243.5	6.89	-0.86	-26.90	-3.08	-26.99	-3.08	-26.99	
							4.60	25.34	4.60	25.34	

d15N calibration



d18O Calibration



DATA VALIDATION REPORT

Chain Of Custody No. 2018-786

1. Distribution Of Samples In EDD.

SDG	Analytical Method	Regular Samples	Field Duplicates	Trip Blanks	Field Blanks	Equipment Blanks
786	Generic:Nitrogen Isotope Ratio	1				
786	Generic:Oxygen Isotope Ratio	1				

SDG	Analytical Method	Analysis Lot ID	Prep Lot ID	Regular Samples	Field Duplicates	Trip Blanks	Field Blanks	Equipment Blanks	Method Blanks	Matrix Spikes	Matrix Spike Dups	Analytical Spikes	Post-Digestion Spikes	Lab Control Samples	Lab Control Sample Dups	Blank Spike	Blank Spike Dups	Lab Duplicates	Storage Blanks	Preparation Blanks	Reagent Blanks
786	Generic:Nitrogen Isotope Ratio	NA	NA	1																	
786	Generic:Oxygen Isotope Ratio	NA	NA	1																	

2. Distribution Of Analytes In EDD.

Analytical Method	Analytical Method Category	Field Sample ID	Lab Sample ID	Sample Purpose	Target Analytes	Surrogates	Spiked Compounds	TICS
Generic:Nitrogen Isotope Ratio	GENERAL CHEMISTRY	CAMO-18-148059	CAMO-18-148059	REG	1	0	0	0
Generic:Oxygen Isotope Ratio	GENERAL CHEMISTRY	CAMO-18-148059	CAMO-18-148059	REG	1	0	0	0

3. Are any analytes missing?

No.

4. Were any holding times exceeded?

No.

5. Any contaminants in blanks?

No.

DATA VALIDATION REPORT

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?

No.

11. Any required reporting limits exceeded?

No.

12. Additional Validator's Comments.

13. Display Flagged Data.

None.

<u>Reason Code</u>	<u>Description</u>
NQ	The analytical laboratory did not qualify the analyte as not detected and/or any other standard qualify. The analyte is detected in the sample.

14. Usable Result Count.

DATA VALIDATION REPORT

Field Sample ID	Location ID	Sample Purpose	Analytical Method	No. Unuseable Records	Total Records
CAMO-18-148059	R-33 S1	REG	Generic:Nitrogen Isotope	0	1
CAMO-18-148059	R-33 S1	REG	Generic:Oxygen Isotope	0	1