

APPENDIX E

Field Groundwater Sampling Forms

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG **TDW 37.0'**

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-U1	SAMPLE ID: MW-U1-20170228
DATE: 2/28/17	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 25 feet to 35 feet	STATIC DEPTH TO WATER (feet): 9.04	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
= (25 - 9.04) feet X 0.16 gallons/foot = 3.0 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME				
= 3.0 gallons + (0.16 gallons/foot X 25 feet) + 0 gallons = 7.0 gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~23'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~23'	PURGING INITIATED AT: 1545	PURGING ENDED AT: 1615	TOTAL VOLUME PURGED (gallons): 3.0
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1545	0.0	0.0	275	9.04	7.41	23.83	0.198	12.54	18.7	191	CLEAR (5)
1550	0.5	0.5	275	9.83	7.55	23.42	0.182	8.62	18.5	183	CLEAR (5)
1555	0.8	1.0	275	9.9	7.57	23.35	0.180	7.88	18.6	176	CLEAR (6)
1600	0.5	1.5	275	9.97	7.66	23.36	0.179	7.36	31.4	169	CLEAR (5)
1605	0.5	2.0	275	9.97	7.68	23.38	0.180	7.07	24.3	169	CLEAR (5)
1610	0.5	2.5	275	10.0	7.72	23.36	0.181	7.20	30.7	171	CLEAR (6)
1615	0.5	3.0	275	10.0	7.74	23.32	0.182	7.21	29.7	173	CLEAR (6)

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WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1620	SAMPLING ENDED AT: 1645
PUMP OR TUBING DEPTH IN WELL (feet): ~27.5'	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/>	FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> (replaced)	DUPLICATE: <input checked="" type="checkbox"/> N		

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228		APP
	1		1 L	---	---	---	SM 4500		APP
	1		0.25 L	HNO3	---	---	6020, 7470A		APP

REMARKS: **DUP 1-20170228 (1500)**

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D1	SAMPLE ID: MW-D1-2017 0228
DATE: 2/28/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 15 feet to 19 feet	STATIC DEPTH TO WATER (feet): 13.52	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (15 feet - 13.52 feet) X 0.16 gallons/foot = 0.232 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = 0.232 gallons + (0.16 gallons/foot X 15 feet) + 0.0006 gallons = 2.478 gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15	PURGING INITIATED AT: 1438	PURGING ENDED AT: 1508	TOTAL VOLUME PURGED (gallons): 3.0
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1438	0.0	0.0	260	13.52	6.92	24.16	0.176	9.61	26.2	156	CLEAR
1442	0.5	0.5	260	13.8	6.65	23.52	0.162	7.74	23.1	179	CLEAR
1448	0.5	1.0	260	13.95	6.67	23.06	0.155	6.43	5.0	188	CLEAR
1453	0.5	1.5	260	14.04	6.66	22.92	0.154	6.22	4.0	193	CLEAR
1458	0.5	2.0	260	14.07	6.67	22.97	0.153	6.65	5.0	197	CLEAR
1503	0.5	2.5	260	14.10	6.66	22.90	0.151	6.64	5.0	198	CLEAR
1508	0.5	3.0	260	14.13	6.67	22.89	0.152	6.62	5.0	196	CLEAR

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1510	SAMPLING ENDED AT: 1540
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>	DUPLICATE: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226, Ra228	APP	
	1		1 L	---	---	---	SM 4500	APP	
	1		0.25 L	HNO3	---	---	6020, 7470A	APP	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

page 1 of 2

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D2	SAMPLE ID: MW-D2-20170228
DATE: 2/28/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 11.78	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
= (feet - feet) X 0.16 gallons/foot = gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME				
= gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~15'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~18'	PURGING INITIATED AT: 1144	PURGING ENDED AT: 1342	TOTAL VOLUME PURGED (gallons): 9.5
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	MLM PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1147	0.0	0.0	260	11.78	7.01	22.93	0.592	7.46	224	134	CLEAR
1152	0.5	0.5	260	12.33	6.97	22.88	0.592	3.51	135	132	"
1200	0.5	1.0	260	12.8	6.92	22.98	0.587	2.69	75.8	128	"
1205	0.5	1.5	260	13.29	6.92	22.40	0.602	2.50	80.1	127	"
1212	0.5	2.0	260	13.42	6.83	22.29	0.604	3.15	107.0	135	"
1218	0.5	2.5	260	13.58	6.81	22.41	0.601	3.24	65.1	135	"
1224	0.5	3.0	260	13.62	6.76	22.86	0.620	4.84	173	148	"
1230	0.5	3.5	260	14.27	6.83	22.80	0.613	3.45	50.8	130	"
1236	0.5	4.0	260	14.58	6.84	21.63	0.614	3.81	39.4	133	"
1242	0.5	4.5	260	14.81	6.83	21.92	0.612	4.12	32.4	135	"
1248	0.5	5.0	260	14.99	6.85	22.04	0.611	3.72	35.1	139	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.02; 8" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1350	SAMPLING ENDED AT: 1425
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/>	FILTER SIZE: ___ μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> (replaced)	DUPLICATE: / Y <input checked="" type="checkbox"/> (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228	APP	
	1		1 L	---	---	---	SM 4500	APP	
	1		0.25 L	HNO3	---	---	6020, 7470A	APP	

REMARKS: MW-D2-MS/MSD

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

page 2 of 2

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D2	SAMPLE ID: MW-D2-20170228
DATE: 2/28/17	

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 11.78	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)				
= (feet - feet) X 0.16 gallons/foot = gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
= gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): $\approx 15'$	FINAL PUMP OR TUBING DEPTH IN WELL (feet): $\approx 18'$	PURGING INITIATED AT: 1144	PURGING ENDED AT: 1342	TOTAL VOLUME PURGED (gallons): 9.5
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) $\mu\text{mhos/cm}$ or $\mu\text{S/cm}$	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mv)	COLOR/ODOR (describe)
1253	0.5	5.5	260	15.14	6.85	22.12	0.614	3.52	32.2	133	CLEAR
1259	0.5	6.0	260	15.22	6.84	22.47	0.612	3.36	29.0	137	"
1305	0.5	6.5	260	15.22	6.83	22.79	0.610	3.00	28.6	135	"
1311	0.5	7.0	260	15.22	6.81	22.81	0.612	3.04	27.3	134	"
1317	0.5	7.5	260	15.4	6.87	22.95	0.607	2.89	26.6	129	"
1323	0.5	8.0	260	15.46	6.85	23.23	0.605	2.68	26.7	127	"
1330	0.5	8.5	260	15.52	6.80	23.53	0.616	2.83	31.1	128	"
1336	0.5	9.0	260	15.72	6.86	23.52	0.616	2.82	31.7	127	"
1342	0.5	9.5	260	15.83	6.85	23.57	0.614	2.96	31.9	127	"

HACH
(5)
(5)
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WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1350	SAMPLING ENDED AT: 1425
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTRATION EQUIPMENT TYPE: <input type="checkbox"/> N <input checked="" type="checkbox"/>
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>	DUPLICATE: ; Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228	APP	
	1		1 L	---	---	---	SM 4500	APP	
	1		0.25 L	HNO3	---	---	6020, 7470A	APP	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

page 1 of 2

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D3	SAMPLE ID: MW-D3 20170228
DATE: 2/28/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 5.35	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)				
= (feet - feet) X 0.16 gallons/foot = gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
= gallons + (gallons/foot X feet) + gallons = gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ≈ 15	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ≈ 15	PURGING INITIATED AT: 0955	PURGING ENDED AT: 1113	TOTAL VOLUME PURGED (gallons): 7.0

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	MLM PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (S/cm)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
0955	0	0	275	5.35	6.73	20.02	0.671	11.45	24.5	167	CLEAR
1001	0.5	0.5	275	7.37	6.82	20.76	0.630	8.69	21.9	158	CLEAR
1006	0.5	1.0	275	7.88	6.86	21.20	0.618	5.63	19.0	149	CLEAR
1013	0.5	1.5	275	8.27	6.88	21.48	0.615	3.50	16.6	139	CLEAR
1017	0.5	2.0	275	8.41	6.87	21.87	0.614	2.53	12.8	123	CLEAR
1022	0.5	2.5	275	8.51	6.86	21.98	0.613	2.07	12.3	103	CLEAR
1028	0.5	3.0	275	8.61	6.88	22.11	0.613	1.93	11.4	86	CLEAR
1034	0.5	3.5	275	8.63	6.87	22.18	0.614	1.81	11.6	69	CLEAR
1040	0.5	4.0	275	8.71	6.88	22.31	0.613	1.66	11.9	61	CLEAR
1045	0.5	4.5	275	8.74	6.89	22.39	0.609	1.61	10.8	53	CLEAR
1050	0.5	5.0	275	8.5	6.89	22.47	0.608	1.66	10.5	40	CLEAR

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec			SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>			SAMPLING INITIATED AT: 1120		SAMPLING ENDED AT: 1126	
PUMP OR TUBING DEPTH IN WELL (feet):			TUBING MATERIAL CODE: LDPE			FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		FILTER SIZE: _____ µm	
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>			TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>			DUPLICATE: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228		APP
	1		1 L	---	---	---	SM 4500		APP
	1		0.25 L	HNO3	---	---	6020, 7470A		APP

REMARKS:

MATERIAL CODES: AG = Amber Glass; GG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

page 2 of 2

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-03	SAMPLE ID: _____ DATE: _____

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)											
= (_____ feet - _____ feet) X 0.16 gallons/foot = _____ gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)											
= _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 0955	PURGING ENDED AT: 1113	TOTAL VOLUME PURGED (gallons): 7.0							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	MLM PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1055	0.5	5.5	275	8.78	6.89	22.50	0.608	1.56	10.2	32	CLEAR
1101	0.5	6.0	275	8.80	6.88	22.54	0.607	1.49	9.7	24	CLEAR
1106	0.5	6.5	275	8.80	6.89	22.59	0.607	1.40	9.9	16	CLEAR
1103	0.5	7.0	275	8.68	6.87	22.61	0.608	1.34	9.1	10	CLEAR
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88											
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec				SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>				SAMPLING INITIATED AT: 1120		SAMPLING ENDED AT: 1126		
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE: LDPE				FIELD-FILTERED: Y <input checked="" type="checkbox"/> N		FILTER SIZE: _____ μm		
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N				TUBING Y <input checked="" type="checkbox"/> N (replaced)				DUPLICATE: Y N				
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)				INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE		SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH						
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226, Ra228				APP	
	1		1 L	---	---	---	SM 4500				APP	
	1		0.25 L	HNO3	---	---	6020, 7470A				APP	
REMARKS:												
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)												
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)												

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW- U1	SAMPLE ID: MW- U1- 20170327
DATE: 03/27/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 2.5 feet to 3.5 feet	STATIC DEPTH TO WATER (feet): 10.74	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (37.15 feet - 10.74 feet) X 26.4 gallons/foot = 4.2 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ≈ 28'		FINAL PUMP OR TUBING DEPTH IN WELL (feet): ≈ 28'		PURGING INITIATED AT: 1330	PURGING ENDED AT: 1358	TOTAL VOLUME PURGED (gallons): 2.0					
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1330	0.0	0.0	270	10.74	7.61	21.9	178.4	6.41	4	213.1	
1337	0.5	0.5	270	11.25	7.76	21.9	176.6	5.88	3	211.4	
1344	0.5	1.0	270	11.3	7.76	21.9	173.3	6.06	3	210.3	
1351	0.5	1.5	270	11.3	7.78	22.1	171.6	6.16	3	210.3	
1358	0.5	2.0	270	11.3	7.78	22.1	170.5	5.98	3	210.5	

WELL CAPACITY (Gallons Per Foot): 0.76" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1410	SAMPLING ENDED AT: 1430
PUMP OR TUBING DEPTH IN WELL (feet): ≈ 28'	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>	DUPLICATE: / Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228		APP
	1		1 L	---	---	---	SM 4500		APP
	1		0.25 L	HNO3	---	---	6020, 7470A		APP

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D1	SAMPLE ID: MW-D1-20170327
DATE: 03/25/17	

PURGING DATA

WELL DIAMETER (inches): 4"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 13.88	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.6 feet - 13.88 feet) X 0.16 gallons/foot = 1.40 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~ 15'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~ 15'	PURGING INITIATED AT: 1215	PURGING ENDED AT: 1237	TOTAL VOLUME PURGED (gallons): 1.5							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	ml/min PURGE RATE (approx)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or 1S/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1215	0.0	0.0	270	13.88	6.58	20.5	156.7	3.38	4	238.9	
1222	0.5	0.5	270	14.08	6.56	20.6	148.8	3.25	4	233.0	
1229	0.5	1.0	270	14.18	6.56	20.3	147.6	3.27	3	233.1	
1237	0.5	1.5	270	14.2	6.55	20.2	146.9	3.26	2	233.7	
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88											
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec			SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>			SAMPLING INITIATED AT: 1245		SAMPLING ENDED AT: 1305		
PUMP OR TUBING DEPTH IN WELL (feet): ~ 15'			TUBING MATERIAL CODE: LDPE		FIELD-FILTERED: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>		FILTER SIZE: _____ μm			
FIELD DECONTAMINATION: PUMP Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			TUBING Y <input type="checkbox"/> N <input checked="" type="checkbox"/> (replaced)		DUPLICATE: / Y <input type="checkbox"/> N <input checked="" type="checkbox"/>					
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH				
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228			APP
	1		1 L	---	---	---	SM 4500			APP
	1		0.25 L	HNO3	---	---	6020, 7470A			APP
REMARKS:										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D2	SAMPLE ID: MW-D2-20170327
DATE: 3/27/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 12.28	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.4 feet - 12.28 feet) X 0.16 gallons/foot = 1.62 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ≈ 15'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ≈ 15'	PURGING INITIATED AT: 1110	PURGING ENDED AT: 1132	TOTAL VOLUME PURGED (gallons): 1.5							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or 15/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1110	0.0	0.0	265	12.28	6.85	19.7	548	9.21	5	187.0	
1117	0.5	0.5	265	12.83	6.83	19.4	542	6.60	6	197.9	
1125	0.5	1.0	270	13.34	6.82	19.4	547	7.65	1	205.7	
1132	0.5	1.5	270	13.58	6.83	19.5	547	7.82	2	205.4	
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.02; 8" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec			SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>			SAMPLING INITIATED AT: 1135		SAMPLING ENDED AT: 1155		
PUMP OR TUBING DEPTH IN WELL (feet): ≈ 15'			TUBING MATERIAL CODE: LDPE		FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		FILTER SIZE: _____ μm			
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>			DUPLICATE: / Y <input checked="" type="checkbox"/> N <input type="checkbox"/>							
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH				
	1		1.9 L	HNO3	---	---	9315, 9320, Ra228, Ra228		APP	
	1		1 L	---	---	---	SM 4500		APP	
	1		0.25 L	HNO3	---	---	6020, 7470A		APP	
REMARKS:										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D3	SAMPLE ID: MW-D3-20170327
DATE: 3/27/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 10 feet to 15 feet	STATIC DEPTH TO WATER (feet): 5.5	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.52 feet - 5.5 feet) X 0.16 gallons/foot = 2.75 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ≈ 15'		FINAL PUMP OR TUBING DEPTH IN WELL (feet): ≈ 15'		PURGING INITIATED AT: 0935	PURGING ENDED AT: 1023	TOTAL VOLUME PURGED (gallons): 3.5					
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	ml/min PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
0935	0.0	0.0	260	5.5	6.92	19.6	526	0.51	11	168.8	
0942	0.5	0.5	260	7.7	6.95	19.8	522	6.23	20	171.4	
0949	0.5	1.0	260	7.94	6.92	19.9	522	4.71	22	166.2	
0956	0.5	1.5	260	8.22	6.92	20.1	527	3.92	18	146.1	
1002	0.5	2.0	260	8.25	6.93	20.3	526	4.05	11	115.4	
1009	0.5	2.5	260	8.17	6.94	20.4	528	3.25	6	91.6	
1016	0.5	3.0	260	8.15	6.93	20.5	526	3.31	5	90.2	
1023	0.5	3.5	260	8.11	6.92	20.5	528	3.09	3	72.8	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1025	SAMPLING ENDED AT: 1058
PUMP OR TUBING DEPTH IN WELL (feet): ≈ 15'	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTRATION Equipment Type: _____ µm
FIELD DECONTAMINATION: PUMP Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	TUBING Y <input type="checkbox"/> N (replaced) <input checked="" type="checkbox"/>	DUPLICATE: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	9315, 9320, Rs226_Rs228		APP
	1		1 L	---	---	---	SM 4500		APP
	1		0.25 L	HNO3	---	---	6020, 7470A		APP

REMARKS: Dup 2-20170327 (1500)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

- NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commision	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D1	SAMPLE ID: MW-D1-20170424
DATE: 4/24/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 12.6 feet to 22.6 feet	STATIC DEPTH TO WATER (feet): 13.75	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.6 feet - 13.75 feet) X 0.16 gallons/foot = 1.42 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 16'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 16'	PURGING INITIATED AT: 1215	PURGING ENDED AT: 1248	TOTAL VOLUME PURGED (gallons): 2.0

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	ml/m PURGE RATE (gpm/SP)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	CONDUCTANCE (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1215	0.0	0.0	260ml	13.78	7.50	20.38	0.376	8.39	3.0	135	CLEAR
1223	0.5	0.5	260ml	13.88	6.75	20.18	0.177	2.95	2.0	160	CLEAR
1231	0.5	1.0	260ml	13.92	6.65	20.24	0.169	2.61	2.0	170	CLEAR
1239	0.5	1.5	260ml	14.02	6.61	20.34	0.167	2.53	1.0	178	CLEAR
1248	0.5	2.0	260ml	14.11	6.60	20.25	0.166	2.47	1.0	184	CLEAR

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec		SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>		SAMPLING INITIATED AT: 1255	SAMPLING ENDED AT: 1319
PUMP OR TUBING DEPTH IN WELL (feet): 16'		TUBING MATERIAL CODE: LDPE		FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: _____ µm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>		DUPLICATE: 1 (Y) <input checked="" type="checkbox"/> N <input type="checkbox"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	8315, 9320, Ra228_Ra228		APP
	1		1 L	---	---	---	SM 4500		APP
	1		0.25 L	HNO3	---	---	6020, 7470A		APP

REMARKS: 0800 DUP3-20170424

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

- NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D2	SAMPLE ID: MW-D2-20170424
DATE: 4/24/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 12 feet to 22 feet	STATIC DEPTH TO WATER (feet): 12.54	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.4 feet - 12.54 feet) X 0.16 gallons/foot = 1.58 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 16'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 16'	PURGING INITIATED AT: 0950	PURGING ENDED AT: 1028	TOTAL VOLUME PURGED (gallons): 2.0							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	ml/m PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
0950	0.0	0.0	260ml	12.86	7.10	19.03	0.610	2.46	5.0	-28	CLEAR
0958	0.5	0.5	260ml	12.87	6.96	19.04	0.599	1.54	3.0	-31	CLEAR
1007	0.5	1.0	260ml	13.63	6.83	19.07	0.593	0.70	2.0	-31	CLEAR
1015	0.5	1.5	260ml	13.83	6.79	19.06	0.598	0.66	5.0	-30	CLEAR
1028	0.5	2.0	260ml	14.0	6.77	19.08	0.603	0.64	2.0	-27	CLEAR
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec		SAMPLER(S) SIGNATURE(S): Stephen W. Randall		SAMPLING INITIATED AT: 1035	SAMPLING ENDED AT: 1050				
PUMP OR TUBING DEPTH IN WELL (feet): 16'	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/>	FILTRATION EQUIPMENT TYPE:	FILTER SIZE: _____ µm					
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> (replaced)	DUPLICATE: / Y <input checked="" type="checkbox"/>							
SAMPLE CONTAINER SPECIFICATION			SAMPLE PRESERVATION (including wet ice)						
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228		APP
	1		1 L	---	---	---	SM 4500		APP
	1		0.25 L	HNO3	---	---	6020, 7470A		APP
REMARKS:									
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)									
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)									

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commision	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D3-	SAMPLE ID: MW-D3-20170424
DATE: 4/24/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 12 feet to 22 feet	STATIC DEPTH TO WATER (feet): 5.44	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.52 feet - 5.44 feet) X 0.16 gallons/foot = 2.73 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 16'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 16'	PURGING INITIATED AT: 1100	PURGING ENDED AT: 1139	TOTAL VOLUME PURGED (gallons): 2.5							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	ML/M PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1100	0.0	0.0	260ml	6.65	7.19	20.03	0.571	2.53	10.0	83	CLEAR
1110	0.5	0.5	260ml	7.18	7.08	20.02	0.573	1.07	8.0	61	CLEAR
17 1122	0.5	1.0	260ml	7.71	7.04	20.13	0.572	0.57	5.0	21	CLEAR
1124	0.5	1.5	260ml	8.0	7.01	20.38	0.571	0.44	3.0	10	CLEAR
1131	0.5	2.0	260ml	8.3	7.02	20.50	0.568	0.46	2.0	9	CLEAR
1139	0.5	2.5	260ml	8.45	7.03	20.59	0.567	0.40	2.0	4	CLEAR

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.02; 8" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1145	SAMPLING ENDED AT: 1155
PUMP OR TUBING DEPTH IN WELL (feet): ~16'	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: _____ µm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>	DUPLICATE: / Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	----	---	9315, 9320, Ra228_Ra228		APP
	1		1 L	---	----	---	SM 4500		APP
	1		0.25 L	HNO3	----	---	6020, 7470A		APP

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

- NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission		SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796	
WELL NO: MW-11	SAMPLE ID: MW-11-20170424	DATE: 4/24/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 27 feet to 37 feet	STATIC DEPTH TO WATER (feet): 11.0	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (37.15 feet - 11.0 feet) X 0.16 gallons/foot = 4.2 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~32'		FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~32'		PURGING INITIATED AT: 1335	PURGING ENDED AT: 1426	TOTAL VOLUME PURGED (gallons): 3.5					
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	ml/m ⁶⁰ PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1335	0.0	0.0	260 ml	11.38	7.45	20.57	0.187	7.71	3.0	154	CLEAR
1343	0.5	0.5	260 ml	11.66	7.94	20.66	0.189	5.01	2.0	148	CLEAR
1350	0.5	1.0	260 ml	11.65	8.01	20.63	0.187	4.69	2.0	149	CLEAR
1357	0.5	1.5	260 ml	11.65	8.07	20.33	0.186	5.09	1.0	151	CLEAR
1404	0.5	2.0	260 ml	11.65	8.06	20.27	0.185	4.93	1.0	154	CLEAR
1411	0.5	2.5	260 ml	11.65	8.01	20.32	0.185	4.85	1.0	156	CLEAR
1419	0.5	3.0	260 ml	11.65	8.00	20.39	0.184	4.86	1.0	157	CLEAR
1426	0.5	3.5	260 ml	11.65	8.01	20.24	0.185	4.82	1.0	155	CLEAR

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1430	SAMPLING ENDED AT: 1450
PUMP OR TUBING DEPTH IN WELL (feet): ~32'	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/>	FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> (replaced)	DUPLICATE: / Y <input checked="" type="checkbox"/>		

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228	APP	
	1		1 L	---	---	---	SM 4500	APP	
	1		0.25 L	HNO3	---	---	6020, 7470A	APP	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

- NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commision	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D1	SAMPLE ID: MW-D1-20170522
DATE: 5/22/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 12.6 feet to 22.6 feet	STATIC DEPTH TO WATER (feet): 13.79	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.6 feet - 13.79 feet) X 0.16 gallons/foot = 1.409 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 1225	PURGING ENDED AT: 1304	TOTAL VOLUME PURGED (gallons): 2.5
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	mL/m PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or S/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1227	0.0	0.0	≈270	13.91	6.55	25.11	0.179	6.20	2	124	CLEAR
1235	0.5	0.5	≈270	13.98	6.44	24.87	0.178	4.39	1	124	NO ODOR
1243	0.5	1.0	≈260	14.02	6.42	24.93	0.178	3.61	1	124	
1250	0.5	1.5	≈260	14.02	6.40	24.88	0.177	3.28	1	125	
1257	0.5	2.0	≈270	14.04	6.40	24.91	0.177	3.19	1	126	
1304	0.5	2.5	≈270	14.04	6.39	25.01	0.176	3.02	2	126	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1310	SAMPLING ENDED AT: 1323
PUMP OR TUBING DEPTH IN WELL (feet): 17'	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Filtration Equipment Type: _____
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>	DUPLICATE: / Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228		APP
	1		1 L	---	---	---	SM 4500		APP
	1		0.25 L	HNO3	---	---	6020, 7470A		APP

REMARKS: WL 14.08 AFTER SAMPLING

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commision	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D2	SAMPLE ID: MW-D2-20170522
DATE: 5/22/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 12.4 feet to 22.4 feet	STATIC DEPTH TO WATER (feet): 13.13	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.4 feet - 13.13 feet) X 0.16 gallons/foot = 1.5 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 0938	PURGING ENDED AT: 1010	TOTAL VOLUME PURGED (gallons): 2.0
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	ML/M PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	MS/M (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
0940	0.0	0.0	≈ 270	13.13	6.86	25.92	0.546	4.54	8	64	CLEAR
0948	0.5	0.5	≈ 270	13.8	6.65	25.28	0.552	2.76	7	48	NO ODOR
0955	0.5	1.0	≈ 270	14.1	6.64	24.94	0.559	2.04	6	51	
1002	0.5	1.5	≈ 270	14.38	6.67	25.11	0.561	1.91	5	47	
1010	0.5	2.0	≈ 270	14.56	6.67	25.07	0.555	1.92	3	34	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.02; 8" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1015	SAMPLING ENDED AT: 1045
PUMP OR TUBING DEPTH IN WELL (feet): 17'	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/>	FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> (replaced)	DUPLICATE: / <input checked="" type="checkbox"/> N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226, Ra228	APP	
	1		1 L	---	---	---	SM 4500	APP	
	1		0.25 L	HNO3	---	---	6020, 7470A	APP	

REMARKS: 0800 - Dup 4 - 20170522 PH 6.67 WL 15.28 AFTER SAMPLING

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commision	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D3	SAMPLE ID: MW-D3-20170522
DATE: 5/22/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 12.6 feet to 22.52 feet	STATIC DEPTH TO WATER (feet): 5.65	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
= (22.52 feet - 5.65 feet) X 0.16 gallons/foot = 2.649 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME				
= gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 1100	PURGING ENDED AT: 1151	TOTAL VOLUME PURGED (gallons): 3.5
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	mL/m PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or (μS/cm)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1102	0.0	0.0	≈ 270	6.77	6.94	25.99	0.552	4.35	7	95	CLEAR
1109	0.5	0.5	≈ 270	7.5	6.91	25.86	0.550	3.01	8	94	NO ODOR
1116	0.5	1.0	≈ 270	7.88	6.89	25.50	0.549	2.20	9	90	
1123	0.5	1.5	≈ 270	8.04	6.87	25.34	0.549	1.76	2	78	
1130	0.5	2.0	≈ 270	8.15	6.87	26.87	0.548	1.74	1	59	
1137	0.5	2.5	≈ 270	8.24	6.88	25.92	0.545	1.46	1	48	
1144	0.5	3.0	≈ 270	8.25	6.87	26.89	0.546	1.43	1	40	
1151	0.5	3.5	≈ 270	8.29	6.88	26.72	0.545	1.41	1	39	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.02; 8" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): Stephen W. Randall	SAMPLING INITIATED AT: 1155	SAMPLING ENDED AT: 1212
PUMP OR TUBING DEPTH IN WELL (feet): 17	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>	DUPLICATE: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>		

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226, Ra228	APP	
	1		1 L	---	---	---	SM 4500	APP	
	1		0.25 L	HNO3	---	---	6020, 7470A	APP	

REMARKS: WL 8.18 AFTER SAMPLING

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

- NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commision	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-U1	SAMPLE ID: MW-U1-20170522
DATE: 5/22/17	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 27 feet to 37 feet	STATIC DEPTH TO WATER (feet): 12.43	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (37.15 feet - 12.43 feet) X 0.16 gallons/foot = 3.95 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ≈ 32'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ≈ 32'	PURGING INITIATED AT: 1344	PURGING ENDED AT: 1444	TOTAL VOLUME PURGED (gallons): 4.0							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	mL/m PURGE RATE (gpm/ft)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	ms/cm (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1346	0.0	0.0	≈ 270	12.85	7.55	27.69	0.179	9.00	2	113	CLEAR
1352	0.5	0.5	≈ 270	12.96	7.66	26.42	0.180	7.00	2	113	NO ODOR
1359	0.5	1.0	≈ 270	13.08	7.68	25.53	0.182	5.88	1	114	
1407	0.5	1.5	≈ 270	13.1	7.72	25.53	0.179	5.50	1	115	
1415	0.5	2.0	≈ 270	13.14	7.75	25.36	0.177	5.37	1	116	
1423	0.5	2.5	≈ 270	13.15	7.75	25.22	0.177	5.21	2	117	
1430	0.5	3.0	≈ 270	13.19	7.76	24.99	0.178	5.19	2	119	
1437	0.5	3.5	≈ 270	13.2	7.55	24.59	0.179	5.00	1	121	
1444	0.5	4.0	≈ 270	13.2	7.77	24.56	0.178	4.91	1	122	
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.66; 5" = 1.02; 6" = 1.47; 12" = 5.88											
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec			SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>			SAMPLING INITIATED AT: 1450		SAMPLING ENDED AT: 1506	
PUMP OR TUBING DEPTH IN WELL (feet): 32'			TUBING MATERIAL CODE: LDPE			FIELD-FILTERED: Y <input checked="" type="checkbox"/>		FILTER SIZE: _____ μm	
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> (replaced)			DUPLICATE: Y <input checked="" type="checkbox"/>						
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1		1.9 L	HNO3	---	---	9315, 9320, Ra226, Ra228		APP
	1		1 L	---	---	---	SM 4500		APP
	1		0.25 L	HNO3	---	---	6020, 7470A		APP
REMARKS: WL 13.2 AFTER SAMPLING									
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)									
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)									

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commision	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D1	SAMPLE ID: MW-D1-20170619
DATE: 6/19/17	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.6 feet to 22.6 feet	STATIC DEPTH TO WATER (feet): 11.75	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.6 feet - 11.75 feet) X 0.16 gallons/foot = 1.74 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 1205	PURGING ENDED AT: 1246	TOTAL VOLUME PURGED (gallons): 2.65

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1209	0	0	0.060	11.9	5.69	26.56	142	2.71	5	196	
1231	1.75	1.75	0.060	11.95	5.66	26.01	145	2.49	3	206	
1236	.30	2.05	0.060	11.94	5.69	26.19	144	2.48	2	208	
1241	.30	2.35	0.060	11.95	5.67	26.07	145	2.38	1	209	
1246	.30	2.65	0.060	11.95	5.68	26.18	145	2.37	1	210	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec		SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>		SAMPLING INITIATED AT: 1250	SAMPLING ENDED AT: 1318
PUMP OR TUBING DEPTH IN WELL (feet): 17'		TUBING MATERIAL CODE: LDPE		FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: _____ µm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>		DUPLICATE: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-D1-20170619	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228	APP	250
20170619	1	HDPE	1 L	---	---	---	SM 4500	APP	250
DUP5	1	HDPE	1.9 L	HNO3	---	---	SAME AS ABOVE	APP	250
20170619	1	HDPE	1.6	---	---	---	SM 4500	APP	250
0619	1	HDPE	0.25 L	HNO3	---	---	6020, 7470A	APP	250

REMARKS: **DUP 5 TIME ON COC - 0800**

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commision	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D2	SAMPLE ID: MW-D2-20170619
DATE: 6/19/17	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.4 feet to 22.4 feet	STATIC DEPTH TO WATER (feet): 11.65	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.4 feet - 11.65 feet) X 0.16 gallons/foot = 1.72 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 0920	PURGING ENDED AT: 1003	TOTAL VOLUME PURGED (gallons): 2.8							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
0923	0	0	0.070	11.65	7.48	23.56	683	2.68	9	116	
0948	1.75	1.75	0.070	13.02	5.74	22.76	622	0.72	3	152	
0953	.35	2.10	0.070	13.25	5.80	22.70	627	0.60	2	147	
0958	.35	2.45	0.070	13.45	5.85	22.81	629	0.59	2	144	
1003	.35	2.80	0.070	13.62	5.89	22.35	630	0.57	2	148	
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec				SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>				SAMPLING INITIATED AT: 1005		SAMPLING ENDED AT: 1021		
PUMP OR TUBING DEPTH IN WELL (feet): 17'				TUBING MATERIAL CODE: LDPE				FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		FILTER SIZE: _____ μm		
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>				DUPLICATE: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>								
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)				INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE		SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH						
MW-D2	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228		APP		250	
2017	1	HDPE	1 L	---	---	---	SM 4500		APP		250	
0619	1	HDPE	0.25 L	HNO3	---	---	6020, 7470A		APP		250	
REMARKS:												
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)												
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)												

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commision	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D3	SAMPLE ID: MW-D3-20170619
DATE: 6/19/17	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.6 feet to 22.52 feet	STATIC DEPTH TO WATER (feet): 5.24	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.52 feet - 5.24 feet) X 0.16 gallons/foot = 2.76 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 1031	PURGING ENDED AT: 1133	TOTAL VOLUME PURGED (gallons): 3.66							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1033	0	0	0.070	5.30	5.90	26.33	543	2.92	5	196	
1118	2.76	2.76	0.060	7.39	6.47	27.63	531	0.56	2	49	
1123	.30	3.06	0.060	7.43	6.48	27.72	529	0.46	2	48	
1128	.30	3.36	0.060	7.45	6.49	27.89	527	0.44	2	45	
1133	.30	3.66	0.060	7.47	6.49	28.09	525	0.38	2	43	
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec				SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>				SAMPLING INITIATED AT: 1135		SAMPLING ENDED AT: 1150			
PUMP OR TUBING DEPTH IN WELL (feet): 17'				TUBING MATERIAL CODE: LDPE				FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		FILTER SIZE: _____ μm			
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>				DUPLICATE: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>									
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)				INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE		SAMPLE PUMP FLOW RATE (mL per minute)	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH							
MW-D3-20170619	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228		APP		250		
							SM 4500		APP		250		
							6020, 7470A		APP		250		
REMARKS: 1110- AIR BUBBLES NOTED IN UPTAKE TUBING FROM WELL. REDUCED TO 230 mL/M (0.060) 6.3 ^{WL}													
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)													
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)													

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-01	SAMPLE ID: MW-01-2017 0717
DATE: 7/17/17	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.6 feet to 22.6 feet	STATIC DEPTH TO WATER (feet): 12.55	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.6 feet - 12.55 feet) X 0.16 gallons/foot = 1.6 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 1236	PURGING ENDED AT: 1313	TOTAL VOLUME PURGED (gallons): 23.0

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1240	∅	∅	0.070	12.6	6.45	27.70	104	3.60	3	136	
1253	1.6	1.6	0.070	12.83	6.17	26.92	105	4.83	1	140	
1258	0.35	1.95	0.070	12.88	6.22	26.14	105	2.92	1	199	
1303	0.35	2.30	0.070	12.93	6.20	26.06	105	2.87	1	217	
1308	0.35	2.65	0.070	13.01	6.21	26.08	105	2.86	2	223	
1313	0.35	3.00	0.070	13.04	6.21	26.07	105	2.87	1	225	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec			SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>			SAMPLING INITIATED AT: 1320	SAMPLING ENDED AT: 1345
PUMP OR TUBING DEPTH IN WELL (feet): 17'			TUBING MATERIAL CODE: LDPE		FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>			TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>		DUPLICATE: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>		

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-01-2017 0717	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228	APP	250
	1	HDPE	1 L	---	---	---	SM 4500	APP	250
	1	HDPE	0.25 L	HNO3	---	---	6020, 7470A	APP	250

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commision	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D2	SAMPLE ID: MW-D2-20170717 DATE: 7/17/17

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.4 feet to 22.4 feet	STATIC DEPTH TO WATER (feet): 12.39	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.4 feet - 12.39 feet) X 10.75 gallons/foot = 1.7 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 0941	PURGING ENDED AT: 1019	TOTAL VOLUME PURGED (gallons): ~2.75							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μ mhos/cm or μ S/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
0944	Ø	Ø	0.070	12.37	7.51	23.91	478	3.10	2	87	
1003	1.7	1.7	0.070	13.51	6.68	22.55	437	1.26	1	85	
1008	0.35	2.05	0.070	13.8	6.67	22.39	435	0.84	2	79	
1013	0.35	2.40	0.070	13.79	6.70	22.5	434	0.80	2	77	
1018	0.35	2.75	0.070	13.93	6.78	22.57	435	0.71	1	62	
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec				SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>			SAMPLING INITIATED AT: 1025		SAMPLING ENDED AT: 1045		
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE: LDPE			FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		FILTER SIZE: _____ μ m		
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>				TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>			DUPLICATE: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
MW-D2-20170717	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228		APP	250	
	1	HDPE	1 L	---	---	---	SM 4500		APP	250	
	1	HDPE	0.25 L	HNO3	---	---	6020, 7470A		APP	250	
REMARKS:											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D3	SAMPLE ID: MW-D3-20170717
DATE: 7/17/17	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.5 feet to 22.5 feet	STATIC DEPTH TO WATER (feet): 5.22	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.52 feet - 5.22 feet) X 0.16 gallons/foot = 2.76 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 1052	PURGING ENDED AT: 1155	TOTAL VOLUME PURGED (gallons): 24.0

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1055	0	0	0.070	6.6	6.79	25.35	414	1.74	3	86	
1140	2.76	2.76	0.070	7.82	6.99	24.35	418	0.59	2	22	
1145	0.35	3.11	0.070	7.91	6.99	24.39	418	0.53	2	18	
1150	0.35	3.46	0.070	8.36	7.01	24.35	415	0.48	2	14	
1155	0.35	3.81	0.070	8.43	7.02	24.27	416	0.45	2	16	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec		SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>		SAMPLING INITIATED AT: 1200	SAMPLING ENDED AT: 1230
PUMP OR TUBING DEPTH IN WELL (feet): 17'		TUBING MATERIAL CODE: LDPE		FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>		DUPLICATE: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-D3	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226, Ra228	APP	250
2017	1	HDPE	1 L	---	---	---	SM 4500	APP	250
0717	1	HDPE	0.25 L	HNO3	---	---	6020, 7470A	APP	250
DUP6	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226, Ra228	APP	250
2017	1	"	1 L	---	---	---	SM 4500	APP	250
0717	1	"	0.25 L	HNO3	---	---	6020, 7470A	APP	250

REMARKS: **6020(SA)**

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-01	SAMPLE ID: MW-01-20170717
DATE: 7/17/17	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 27.15 feet to 37.15 feet	STATIC DEPTH TO WATER (feet): 8.48	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (37.15 feet - 8.48 feet) X 0.16 gallons/foot = 4.6 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 32'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 32'	PURGING INITIATED AT: 1355	PURGING ENDED AT: 1525	TOTAL VOLUME PURGED (gallons): 6.75

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1358	0	0	0.070	8.48	7.74	23.40	127	7.39	3	155	
1450	4.6	4.6	0.070	9.41	7.72	24.12	124	6.22	1	159	
1455	0.35	4.95	0.070	9.47	7.78	23.03	127	6.93	2	167	
1500	0.35	5.3	0.070	9.5	5.21	23.61	126	9.21	1	171	

1507	0.35	5.65	0.070	9.80	5.93	23.80	131	9.76	1	191	
1512	0.35	6.0	0.070	9.68	6.37	23.33	129	9.23	1	207	
1517	0.35	6.35	0.070	9.62	6.78	23.22	127	9.06	1	209	
1522	0.35	6.7	0.070	9.48	6.83	23.46	126	8.80	1	219	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec		SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>		SAMPLING INITIATED AT: 1525	SAMPLING ENDED AT: 1545
PUMP OR TUBING DEPTH IN WELL (feet): 32'		TUBING MATERIAL CODE: LDPE		FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>		DUPLICATE: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-01	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228	APP	250
2017	1	HDPE	1 L	---	---	---	SM 4500	APP	250
0717	1	HDPE	0.25 L	HNO3	---	---	6020, 7470A	APP	250

REMARKS: * RECAL HORIBA

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; RFPF = Reverse Flow Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-01	SAMPLE ID: MW-01-20170814
DATE: 8/14/17	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.6 feet to 22.6 feet	STATIC DEPTH TO WATER (feet): 13.05	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.6 feet - 13.05 feet) X 9.55 gallons/foot = 1.52 gallons 1.5											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 1210	PURGING ENDED AT: 1247	TOTAL VOLUME PURGED (gallons): ≈ 2.6 gals							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1212	0.0	0.0	0.07	13.1	7.22	28.5	150	2.96	3	83	
1232	1.5	1.5	0.07	13.27	6.40	27.22	150	1.88	2	103	
1237	0.35	1.85	0.07	13.3	6.37	27.35	150	1.83	1	102	
1242	0.35	2.2	0.07	13.3	6.41	27.37	149	1.79	1	100	
1247	0.35	2.55	0.07	13.31	6.36	27.35	149	1.80	1	102	
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec				SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>				SAMPLING INITIATED AT: 1250		SAMPLING ENDED AT: 1305	
PUMP OR TUBING DEPTH IN WELL (feet): 17'				TUBING MATERIAL CODE: LDPE				FIELD-FILTERED: Y <input checked="" type="checkbox"/> N		FILTER SIZE: _____ μm	
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N				TUBING Y <input checked="" type="checkbox"/> N (replaced)				DUPLICATE: Y <input checked="" type="checkbox"/> N			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)				INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
MW-01-	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228		APP	250	
2017	1	HDPE	1 L	---	---	---	SM 4500		APP	250	
0814	1	HDPE	0.25 L	HNO3	---	---	6020, 7470A		APP	250	
REMARKS:											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D2	SAMPLE ID: MW-D2-20170814
DATE: 8/14/17	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.4 feet to 22.4 feet	STATIC DEPTH TO WATER (feet): 12.88	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.4 feet - 12.88 feet) X 0.16 gallons/foot = 1.52 gallons 1.5 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 0942	PURGING ENDED AT: 1023	TOTAL VOLUME PURGED (gallons): 2.9gal
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
0943	0.0	0.0	0.07	12.91	8.06	25.32	590	4.95	12.0	102	
1003	1.5	1.5	0.07	14.1	6.67	23.85	551	2.13	3	113	
1008	0.35	1.85	0.07	14.25	6.68	23.80	553	1.58	1	109	
1013	0.35	2.2	0.07	14.47	6.75	23.76	555	1.43	1	104	
1018	0.35	2.55	0.07	14.65	6.77	23.57	555	1.31	1	102	
1023	0.35	2.90	0.07	14.79	6.81	23.62	556	1.25	1	101	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1030	SAMPLING ENDED AT: 1045
PUMP OR TUBING DEPTH IN WELL (feet): 17'	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>	DUPLICATE: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-02	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228	APP	250
2017	1	HDPE	1 L	---	---	---	SM 4500	APP	250
0814	1	HDPE	0.25 L	HNO3	---	---	6020, 7470A	APP	250

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-D3	SAMPLE ID: MW-D3-20170814
DATE: 8/14/17	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.5 feet to 22.5 feet	STATIC DEPTH TO WATER (feet): 5.15	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.5 feet - 5.15 feet) X 0.16 gallons/foot = 2.77 gallons (2.75)				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 1050	PURGING ENDED AT: 1141	TOTAL VOLUME PURGED (gallons): ~4.0 gals
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1051	0.0	0.0	0.07	5.9	6.86	26.28	498	2.21	3	105	
1126	2.75	2.75	0.07	8.0	7.03	25.24	524	0.46	1	36	
1131	0.35	3.12	0.07	8.03	7.02	25.17	523	0.43	1	33	
1136	0.35	3.47	0.07	8.07	7.01	25.19	523	0.42	1	31	
1141	0.35	3.82	0.07	8.02	7.00	25.45	523	0.39	1	29	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1145	SAMPLING ENDED AT: 1158
PUMP OR TUBING DEPTH IN WELL (feet): 17'	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: _____ µm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>	DUPLICATE: Y <input type="checkbox"/> N <input type="checkbox"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-03	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228	APP	250
2017	1	HDPE	1 L	---	---	---	SM 4500	APP	250
0814	1	HDPE	0.25 L	HNO3	---	---	6020, 7470A	APP	250

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commission	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-41	SAMPLE ID: MW-41-2017 0814
DATE: 8/14/17	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 27 feet to 37 feet	STATIC DEPTH TO WATER (feet): 10.4	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (37.1 feet - 10.4 feet) X 0.16 gallons/foot = 4.27 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 1328	PURGING ENDED AT: 1443	TOTAL VOLUME PURGED (gallons): 4.25
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1330	0.0	0.0	0.07	10.97	7.45	29.61	154	7.63	3	68	
1428	4.25	4.25	0.07	11.12	7.83	27.84	152	6.60	1	69	
1433	0.35	4.60	0.07	11.13	7.83	27.66	153	6.55	1	72	
1438	0.35	4.95	0.07	11.14	7.82	27.65	153	6.50	1	70	
1443	0.35	5.30	0.07	11.15	7.88	27.71	151	6.62	1	76	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): Stephen W. Randall	SAMPLING INITIATED AT: 1525	SAMPLING ENDED AT: 1600
PUMP OR TUBING DEPTH IN WELL (feet): 17'	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-41-	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226, Ra228	APP	250
2017	1	HDPE	1 L	---	---	---	SM 4500	APP	250
0814	1	HDPE	0.25 L	HNO3	---	---	6020, 7470A	APP	250
04P7	1	HDPE	1.9L	HNO3	---	---	9315, 9320, Ra226, Ra228	APP	250
2017	1	HDPE	1L	---	---	---	SM 4500	APP	250
0814	1	HDPE	0.25L	HNO3	---	---	6020, 7470A	APP	250

REMARKS: DELAY BETWEEN PURGE AND SAMPLING WAS DUE TO LIGHTNING AND RAIN. PARAMETERS HAD STABILIZED. CONTINUED PURGE @ 0.07 GPM UNTIL SAMPLED.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
 SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

- NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Crisp County Power Commision	SITE LOCATION: 961 Power Dam Rd Warwick, GA 31796
WELL NO: MW-03	SAMPLE ID: MW-03-2017 0913
DATE: 9/13/17	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.5 feet to 22.5 feet	STATIC DEPTH TO WATER (feet): 5.33	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (22.5 feet - 5.33 feet) X 0.16 gallons/foot = 2.75 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17'	PURGING INITIATED AT: 1115	PURGING ENDED AT: 1209	TOTAL VOLUME PURGED (gallons): 3.8 gal
---	---	-----------------------------------	-------------------------------	---

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR (describe)
1117	0.0	0.0	0.0	5.7	6.54	24.81	113	1.54	3	93	
1154	2.75	2.75	0.07	7.95	6.56	24.77	459	0.0	1	33	
1159	0.35	3.10	0.07	7.98	6.56	24.67	458	0.0	1	33	
1204	0.35	3.45	0.07	7.87	6.56	25.02	457	0.0	1	34	
1209	0.35	3.80	0.07	7.85	6.56	24.92	456	0.0	1	34	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Stephen Randall/Geosyntec	SAMPLER(S) SIGNATURE(S): <i>Stephen W. Randall</i>	SAMPLING INITIATED AT: 1215	SAMPLING ENDED AT: 1232
PUMP OR TUBING DEPTH IN WELL (feet): 17'	TUBING MATERIAL CODE: LDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/>	FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>	DUPLICATE: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-03	1	HDPE	1.9 L	HNO3	---	---	9315, 9320, Ra226_Ra228	APP	250
2017	1	HDPE	1 L	---	---	---	SM 4500	APP	250
0913	1	HDPE	0.25 L	HNO3	---	---	6020, 7470A	APP	250

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

APPENDIX F

Laboratory Analytical Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-134634-1

Client Project/Site: CCR App.III/IV GW Monitoring

Revision: 1

For:

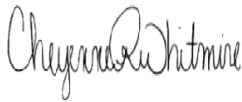
Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

6/1/2017 11:41:59 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

LINKS

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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11

12

13

14



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	6
Sample Summary	7
Client Sample Results	8
Definitions	13
Chronicle	14
QC Association	16
QC Sample Results	19
Chain of Custody	26
Receipt Checklists	27
Certification Summary	28

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Job ID: 400-134634-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-134634-1

Metals

Method(s) 6020: The continuing calibration verification (CCV) associated with batch 345106 recovered above the upper control limit for Antimony and Lead. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MW-D3-20170228 (400-134634-1), DUP1-20170228 (400-134634-3) and MW-D1-20170228 (400-134634-4).

Method(s) 6020: The continuing calibration verification (CCV) associated with batch 345106 recovered above the upper control limit for Antimony. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: MW-D2-20170228 (400-134634-2) and MW-U1-20170228 (400-134634-5).

Method(s) 6020: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 344597 and analytical batch 345106 recovered outside control limits for the following analytes: Antimony. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-D2-20170228 (400-134634-2), MW-D2-MS-20170228 (400-134634-2[MS]) and MW-D2-MSD-20170228 (400-134634-2[MSD]). Elevated reporting limits (RLs) are provided.

Method(s) 7470A: The method blank for prep batch 344229 contained Mercury above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

General Chemistry

Method(s) SM 4500 Cl- E: The matrix spike duplicate (MSD) recovery for analytical batch 344805 was outside control limits. Non-homogeneity is suspected because the associated matrix spike and laboratory control sample (LCS) recoveries were within acceptance limits.

Detection Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Client Sample ID: MW-D3-20170228

Lab Sample ID: 400-134634-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0015		0.0013	0.00046	mg/L	5		6020	Total
Barium	0.22		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.24		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	110		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0029		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Cobalt	0.0011	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Molybdenum	0.0088	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.0028		0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00013	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Mercury	0.00011	J B	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	330		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	3.9		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.13		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	27		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.87				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D2-20170228

Lab Sample ID: 400-134634-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.087		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.13		0.050	0.021	mg/L	5		6020	Total Recoverable
Chromium	0.0038		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Cobalt	0.00047	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Molybdenum	0.0012	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Thallium	0.00011	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	160		1.3	0.63	mg/L	25		6020	Total Recoverable
Lead - RA	0.00050	J	0.0013	0.00035	mg/L	5		6020	Total Recoverable
Mercury	0.00018	J B	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	360		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.7	F1 F2	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	19		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.85				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP1-20170228

Lab Sample ID: 400-134634-3

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Client Sample ID: DUP1-20170228 (Continued)

Lab Sample ID: 400-134634-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0044		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	34		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0044		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Cobalt	0.00047	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Molybdenum	0.0014	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00080	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Mercury	0.00010	J B	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	100		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	2.3		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2.8	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.74				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D1-20170228

Lab Sample ID: 400-134634-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.011		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.065		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	20		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0034		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Mercury	0.000077	J B	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	76		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	2.9		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	10		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.67				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-U1-20170228

Lab Sample ID: 400-134634-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0034		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	34		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0051		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Mercury	0.000099	J B	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	80		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	2.2		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2.8	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.74				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-134634-1	MW-D3-20170228	Water	02/28/17 11:20	03/02/17 09:06
400-134634-2	MW-D2-20170228	Water	02/28/17 13:50	03/02/17 09:06
400-134634-3	DUP1-20170228	Water	02/28/17 15:00	03/02/17 09:06
400-134634-4	MW-D1-20170228	Water	02/28/17 15:10	03/02/17 09:06
400-134634-5	MW-U1-20170228	Water	02/28/17 16:20	03/02/17 09:06

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- 2
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- 11
- 12
- 13
- 14

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Client Sample ID: MW-D3-20170228

Lab Sample ID: 400-134634-1

Date Collected: 02/28/17 11:20

Matrix: Water

Date Received: 03/02/17 09:06

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^ *	0.0025	0.0010	mg/L		03/06/17 10:55	03/08/17 14:07	5
Arsenic	0.0015		0.0013	0.00046	mg/L		03/06/17 10:55	03/08/17 14:07	5
Barium	0.22		0.0025	0.00049	mg/L		03/06/17 10:55	03/08/17 14:07	5
Beryllium	ND		0.0020	0.00034	mg/L		03/06/17 10:55	03/08/17 14:07	5
Boron	0.24		0.050	0.021	mg/L		03/06/17 10:55	03/08/17 14:07	5
Cadmium	ND		0.0010	0.00034	mg/L		03/06/17 10:55	03/08/17 14:07	5
Calcium	110		0.25	0.13	mg/L		03/06/17 10:55	03/08/17 14:07	5
Chromium	0.0029		0.0025	0.0011	mg/L		03/06/17 10:55	03/08/17 14:07	5
Cobalt	0.0011	J	0.0025	0.00040	mg/L		03/06/17 10:55	03/08/17 14:07	5
Lead	ND	^	0.0013	0.00035	mg/L		03/06/17 10:55	03/08/17 14:07	5
Lithium	ND		0.0025	0.0032	mg/L		03/06/17 10:55	03/08/17 14:07	5
Molybdenum	0.0088	J	0.010	0.00085	mg/L		03/06/17 10:55	03/08/17 14:07	5
Selenium	0.0028		0.0013	0.00024	mg/L		03/06/17 10:55	03/08/17 14:07	5
Thallium	0.00013	J	0.00050	0.000085	mg/L		03/06/17 10:55	03/08/17 14:07	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00011	J B	0.00020	0.000070	mg/L		03/04/17 14:25	03/06/17 11:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	330		5.0	3.4	mg/L			03/05/17 12:58	1
Chloride	3.9		2.0	0.60	mg/L			03/07/17 09:07	1
Fluoride	0.13		0.10	0.032	mg/L			03/08/17 16:34	1
Sulfate	27		5.0	1.4	mg/L			03/21/17 09:28	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.87				SU			02/28/17 10:20	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Client Sample ID: MW-D2-20170228

Lab Sample ID: 400-134634-2

Date Collected: 02/28/17 13:50

Matrix: Water

Date Received: 03/02/17 09:06

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	F1 ^ *	0.0025	0.0010	mg/L		03/06/17 10:55	03/08/17 14:11	5
Arsenic	ND		0.0013	0.00046	mg/L		03/06/17 10:55	03/08/17 14:11	5
Barium	0.087		0.0025	0.00049	mg/L		03/06/17 10:55	03/08/17 14:11	5
Beryllium	ND		0.0020	0.00034	mg/L		03/06/17 10:55	03/08/17 14:11	5
Boron	0.13		0.050	0.021	mg/L		03/06/17 10:55	03/08/17 14:11	5
Cadmium	ND		0.0010	0.00034	mg/L		03/06/17 10:55	03/08/17 14:11	5
Chromium	0.0038		0.0025	0.0011	mg/L		03/06/17 10:55	03/08/17 14:11	5
Cobalt	0.00047	J	0.0025	0.00040	mg/L		03/06/17 10:55	03/08/17 14:11	5
Lithium	ND		0.0025	0.0032	mg/L		03/06/17 10:55	03/08/17 14:11	5
Molybdenum	0.0012	J	0.010	0.00085	mg/L		03/06/17 10:55	03/08/17 14:11	5
Selenium	ND		0.0013	0.00024	mg/L		03/06/17 10:55	03/08/17 14:11	5
Thallium	0.00011	J	0.00050	0.000085	mg/L		03/06/17 10:55	03/08/17 14:11	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	160		1.3	0.63	mg/L		03/06/17 10:55	03/09/17 13:48	25

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00050	J	0.0013	0.00035	mg/L		03/06/17 10:55	03/09/17 13:30	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00018	J B	0.00020	0.000070	mg/L		03/04/17 14:25	03/06/17 11:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	360		5.0	3.4	mg/L			03/05/17 12:58	1
Chloride	5.7	F1 F2	2.0	0.60	mg/L			03/07/17 09:08	1
Fluoride	0.060	J	0.10	0.032	mg/L			03/08/17 16:24	1
Sulfate	19		5.0	1.4	mg/L			03/21/17 09:28	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.85				SU			02/28/17 12:50	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Client Sample ID: DUP1-20170228

Lab Sample ID: 400-134634-3

Date Collected: 02/28/17 15:00

Matrix: Water

Date Received: 03/02/17 09:06

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^ *	0.0025	0.0010	mg/L		03/06/17 10:55	03/08/17 14:52	5
Arsenic	ND		0.0013	0.00046	mg/L		03/06/17 10:55	03/08/17 14:52	5
Barium	0.0044		0.0025	0.00049	mg/L		03/06/17 10:55	03/08/17 14:52	5
Beryllium	ND		0.0020	0.00034	mg/L		03/06/17 10:55	03/08/17 14:52	5
Boron	ND		0.050	0.021	mg/L		03/06/17 10:55	03/08/17 14:52	5
Cadmium	ND		0.0010	0.00034	mg/L		03/06/17 10:55	03/08/17 14:52	5
Calcium	34		0.25	0.13	mg/L		03/06/17 10:55	03/08/17 14:52	5
Chromium	0.0044		0.0025	0.0011	mg/L		03/06/17 10:55	03/08/17 14:52	5
Cobalt	0.00047	J	0.0025	0.00040	mg/L		03/06/17 10:55	03/08/17 14:52	5
Lead	ND	^	0.0013	0.00035	mg/L		03/06/17 10:55	03/08/17 14:52	5
Lithium	ND		0.0025	0.0032	mg/L		03/06/17 10:55	03/08/17 14:52	5
Molybdenum	0.0014	J	0.010	0.00085	mg/L		03/06/17 10:55	03/08/17 14:52	5
Selenium	0.00080	J	0.0013	0.00024	mg/L		03/06/17 10:55	03/08/17 14:52	5
Thallium	ND		0.00050	0.000085	mg/L		03/06/17 10:55	03/08/17 14:52	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00010	J B	0.00020	0.000070	mg/L		03/04/17 14:25	03/06/17 11:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	100		5.0	3.4	mg/L			03/05/17 12:58	1
Chloride	2.3		2.0	0.60	mg/L			03/07/17 09:08	1
Fluoride	0.060	J	0.10	0.032	mg/L			03/08/17 16:36	1
Sulfate	2.8	J	5.0	1.4	mg/L			03/21/17 09:28	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.74				SU			02/28/17 14:00	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Client Sample ID: MW-D1-20170228

Lab Sample ID: 400-134634-4

Date Collected: 02/28/17 15:10

Matrix: Water

Date Received: 03/02/17 09:06

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^ *	0.0025	0.0010	mg/L		03/06/17 10:55	03/08/17 14:57	5
Arsenic	ND		0.0013	0.00046	mg/L		03/06/17 10:55	03/08/17 14:57	5
Barium	0.011		0.0025	0.00049	mg/L		03/06/17 10:55	03/08/17 14:57	5
Beryllium	ND		0.0020	0.00034	mg/L		03/06/17 10:55	03/08/17 14:57	5
Boron	0.065		0.050	0.021	mg/L		03/06/17 10:55	03/08/17 14:57	5
Cadmium	ND		0.0010	0.00034	mg/L		03/06/17 10:55	03/08/17 14:57	5
Calcium	20		0.25	0.13	mg/L		03/06/17 10:55	03/08/17 14:57	5
Chromium	0.0034		0.0025	0.0011	mg/L		03/06/17 10:55	03/08/17 14:57	5
Cobalt	ND		0.0025	0.00040	mg/L		03/06/17 10:55	03/08/17 14:57	5
Lead	ND	^	0.0013	0.00035	mg/L		03/06/17 10:55	03/08/17 14:57	5
Lithium	ND		0.0025	0.0032	mg/L		03/06/17 10:55	03/08/17 14:57	5
Molybdenum	ND		0.010	0.00085	mg/L		03/06/17 10:55	03/08/17 14:57	5
Selenium	ND		0.0013	0.00024	mg/L		03/06/17 10:55	03/08/17 14:57	5
Thallium	ND		0.00050	0.000085	mg/L		03/06/17 10:55	03/08/17 14:57	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000077	J B	0.00020	0.000070	mg/L		03/04/17 14:25	03/06/17 11:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	76		5.0	3.4	mg/L			03/05/17 12:58	1
Chloride	2.9		2.0	0.60	mg/L			03/07/17 09:08	1
Fluoride	0.060	J	0.10	0.032	mg/L			03/08/17 16:38	1
Sulfate	10		5.0	1.4	mg/L			03/21/17 09:28	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.67				SU			02/28/17 14:10	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Client Sample ID: MW-U1-20170228

Lab Sample ID: 400-134634-5

Date Collected: 02/28/17 16:20

Matrix: Water

Date Received: 03/02/17 09:06

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^ *	0.0025	0.0010	mg/L		03/06/17 10:55	03/08/17 15:01	5
Arsenic	ND		0.0013	0.00046	mg/L		03/06/17 10:55	03/08/17 15:01	5
Barium	0.0034		0.0025	0.00049	mg/L		03/06/17 10:55	03/08/17 15:01	5
Beryllium	ND		0.0020	0.00034	mg/L		03/06/17 10:55	03/08/17 15:01	5
Boron	ND		0.050	0.021	mg/L		03/06/17 10:55	03/08/17 15:01	5
Cadmium	ND		0.0010	0.00034	mg/L		03/06/17 10:55	03/08/17 15:01	5
Calcium	34		0.25	0.13	mg/L		03/06/17 10:55	03/08/17 15:01	5
Chromium	0.0051		0.0025	0.0011	mg/L		03/06/17 10:55	03/08/17 15:01	5
Cobalt	ND		0.0025	0.00040	mg/L		03/06/17 10:55	03/08/17 15:01	5
Lithium	ND		0.0025	0.0032	mg/L		03/06/17 10:55	03/08/17 15:01	5
Molybdenum	ND		0.010	0.00085	mg/L		03/06/17 10:55	03/08/17 15:01	5
Selenium	ND		0.0013	0.00024	mg/L		03/06/17 10:55	03/08/17 15:01	5
Thallium	ND		0.00050	0.000085	mg/L		03/06/17 10:55	03/08/17 15:01	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0013	0.00035	mg/L		03/06/17 10:55	03/09/17 13:43	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000099	J B	0.00020	0.000070	mg/L		03/04/17 14:25	03/06/17 11:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	80		5.0	3.4	mg/L			03/05/17 12:58	1
Chloride	2.2		2.0	0.60	mg/L			03/07/17 09:08	1
Fluoride	0.060	J	0.10	0.032	mg/L			03/08/17 16:40	1
Sulfate	2.8	J	5.0	1.4	mg/L			03/21/17 09:28	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.74				SU			02/28/17 15:20	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Client Sample ID: MW-D3-20170228

Lab Sample ID: 400-134634-1

Date Collected: 02/28/17 11:20

Matrix: Water

Date Received: 03/02/17 09:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			344597	03/06/17 10:55	RJB	TAL PEN
Total Recoverable	Analysis	6020		5	345106	03/08/17 14:07	DRE	TAL PEN
Total/NA	Prep	7470A			344229	03/04/17 14:25	DN1	TAL PEN
Total/NA	Analysis	7470A		1	344641	03/06/17 11:46	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	344546	03/05/17 12:58	RRC	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	344805	03/07/17 09:07	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	345073	03/08/17 16:34	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	346564	03/21/17 09:28	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	346615	02/28/17 10:20	BWS	TAL PEN

Client Sample ID: MW-D2-20170228

Lab Sample ID: 400-134634-2

Date Collected: 02/28/17 13:50

Matrix: Water

Date Received: 03/02/17 09:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			344597	03/06/17 10:55	RJB	TAL PEN
Total Recoverable	Analysis	6020		5	345106	03/08/17 14:11	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		344597	03/06/17 10:55	RJB	TAL PEN
Total Recoverable	Analysis	6020	RA	5	345240	03/09/17 13:30	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		344597	03/06/17 10:55	RJB	TAL PEN
Total Recoverable	Analysis	6020	DL	25	345240	03/09/17 13:48	DRE	TAL PEN
Total/NA	Prep	7470A			344229	03/04/17 14:25	DN1	TAL PEN
Total/NA	Analysis	7470A		1	344641	03/06/17 11:47	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	344546	03/05/17 12:58	RRC	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	344805	03/07/17 09:08	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	345073	03/08/17 16:24	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	346564	03/21/17 09:28	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	346615	02/28/17 12:50	BWS	TAL PEN

Client Sample ID: DUP1-20170228

Lab Sample ID: 400-134634-3

Date Collected: 02/28/17 15:00

Matrix: Water

Date Received: 03/02/17 09:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			344597	03/06/17 10:55	RJB	TAL PEN
Total Recoverable	Analysis	6020		5	345106	03/08/17 14:52	DRE	TAL PEN
Total/NA	Prep	7470A			344229	03/04/17 14:25	DN1	TAL PEN
Total/NA	Analysis	7470A		1	344641	03/06/17 11:51	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	344546	03/05/17 12:58	RRC	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	344805	03/07/17 09:08	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	345073	03/08/17 16:36	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	346564	03/21/17 09:28	BJB	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Field Sampling		1	346615	02/28/17 14:00	BWS	TAL PEN

Client Sample ID: MW-D1-20170228

Lab Sample ID: 400-134634-4

Date Collected: 02/28/17 15:10

Matrix: Water

Date Received: 03/02/17 09:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			344597	03/06/17 10:55	RJB	TAL PEN
Total Recoverable	Analysis	6020		5	345106	03/08/17 14:57	DRE	TAL PEN
Total/NA	Prep	7470A			344229	03/04/17 14:25	DN1	TAL PEN
Total/NA	Analysis	7470A		1	344641	03/06/17 11:53	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	344546	03/05/17 12:58	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	344805	03/07/17 09:08	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	345073	03/08/17 16:38	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	346564	03/21/17 09:28	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	346615	02/28/17 14:10	BWS	TAL PEN

Client Sample ID: MW-U1-20170228

Lab Sample ID: 400-134634-5

Date Collected: 02/28/17 16:20

Matrix: Water

Date Received: 03/02/17 09:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			344597	03/06/17 10:55	RJB	TAL PEN
Total Recoverable	Analysis	6020		5	345106	03/08/17 15:01	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		344597	03/06/17 10:55	RJB	TAL PEN
Total Recoverable	Analysis	6020	RA	5	345240	03/09/17 13:43	DRE	TAL PEN
Total/NA	Prep	7470A			344229	03/04/17 14:25	DN1	TAL PEN
Total/NA	Analysis	7470A		1	344641	03/06/17 11:54	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	344546	03/05/17 12:58	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	344805	03/07/17 09:08	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	345073	03/08/17 16:40	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	346564	03/21/17 09:28	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	346615	02/28/17 15:20	BWS	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Metals

Prep Batch: 344229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-1	MW-D3-20170228	Total/NA	Water	7470A	
400-134634-2	MW-D2-20170228	Total/NA	Water	7470A	
400-134634-3	DUP1-20170228	Total/NA	Water	7470A	
400-134634-4	MW-D1-20170228	Total/NA	Water	7470A	
400-134634-5	MW-U1-20170228	Total/NA	Water	7470A	
MB 400-344229/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-344229/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-134634-2 MS	MW-D2-MS-20170228	Total/NA	Water	7470A	
400-134634-2 MSD	MW-D2-MSD-20170228	Total/NA	Water	7470A	

Prep Batch: 344597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-1	MW-D3-20170228	Total Recoverable	Water	3005A	
400-134634-2 - DL	MW-D2-20170228	Total Recoverable	Water	3005A	
400-134634-2 - RA	MW-D2-20170228	Total Recoverable	Water	3005A	
400-134634-2	MW-D2-20170228	Total Recoverable	Water	3005A	
400-134634-3	DUP1-20170228	Total Recoverable	Water	3005A	
400-134634-4	MW-D1-20170228	Total Recoverable	Water	3005A	
400-134634-5 - RA	MW-U1-20170228	Total Recoverable	Water	3005A	
400-134634-5	MW-U1-20170228	Total Recoverable	Water	3005A	
MB 400-344597/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
MB 400-344597/1-A ^5 - RA	Method Blank	Total Recoverable	Water	3005A	
LCS 400-344597/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 400-344597/2-A - RA	Lab Control Sample	Total Recoverable	Water	3005A	
400-134634-2 MS - RA	MW-D2-MS-20170228	Total Recoverable	Water	3005A	
400-134634-2 MS	MW-D2-MS-20170228	Total Recoverable	Water	3005A	
400-134634-2 MS - RA2	MW-D2-MS-20170228	Total Recoverable	Water	3005A	
400-134634-2 MS - DL	MW-D2-MS-20170228	Total Recoverable	Water	3005A	
400-134634-2 MSD	MW-D2-MSD-20170228	Total Recoverable	Water	3005A	
400-134634-2 MSD - RA	MW-D2-MSD-20170228	Total Recoverable	Water	3005A	
400-134634-2 MSD - DL	MW-D2-MSD-20170228	Total Recoverable	Water	3005A	
400-134634-2 MSD - RA2	MW-D2-MSD-20170228	Total Recoverable	Water	3005A	

Analysis Batch: 344641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-1	MW-D3-20170228	Total/NA	Water	7470A	344229
400-134634-2	MW-D2-20170228	Total/NA	Water	7470A	344229
400-134634-3	DUP1-20170228	Total/NA	Water	7470A	344229
400-134634-4	MW-D1-20170228	Total/NA	Water	7470A	344229
400-134634-5	MW-U1-20170228	Total/NA	Water	7470A	344229
MB 400-344229/14-A	Method Blank	Total/NA	Water	7470A	344229
LCS 400-344229/15-A	Lab Control Sample	Total/NA	Water	7470A	344229
400-134634-2 MS	MW-D2-MS-20170228	Total/NA	Water	7470A	344229
400-134634-2 MSD	MW-D2-MSD-20170228	Total/NA	Water	7470A	344229

Analysis Batch: 345106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-1	MW-D3-20170228	Total Recoverable	Water	6020	344597
400-134634-2	MW-D2-20170228	Total Recoverable	Water	6020	344597
400-134634-3	DUP1-20170228	Total Recoverable	Water	6020	344597
400-134634-4	MW-D1-20170228	Total Recoverable	Water	6020	344597

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Metals (Continued)

Analysis Batch: 345106 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-5	MW-U1-20170228	Total Recoverable	Water	6020	344597
MB 400-344597/1-A ^5	Method Blank	Total Recoverable	Water	6020	344597
LCS 400-344597/2-A	Lab Control Sample	Total Recoverable	Water	6020	344597
400-134634-2 MS	MW-D2-MS-20170228	Total Recoverable	Water	6020	344597
400-134634-2 MSD	MW-D2-MSD-20170228	Total Recoverable	Water	6020	344597

Analysis Batch: 345240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-2 - RA	MW-D2-20170228	Total Recoverable	Water	6020	344597
400-134634-2 - DL	MW-D2-20170228	Total Recoverable	Water	6020	344597
400-134634-5 - RA	MW-U1-20170228	Total Recoverable	Water	6020	344597
MB 400-344597/1-A ^5 - RA	Method Blank	Total Recoverable	Water	6020	344597
LCS 400-344597/2-A - RA	Lab Control Sample	Total Recoverable	Water	6020	344597
400-134634-2 MS - RA	MW-D2-MS-20170228	Total Recoverable	Water	6020	344597
400-134634-2 MS - DL	MW-D2-MS-20170228	Total Recoverable	Water	6020	344597
400-134634-2 MSD - RA	MW-D2-MSD-20170228	Total Recoverable	Water	6020	344597
400-134634-2 MSD - DL	MW-D2-MSD-20170228	Total Recoverable	Water	6020	344597

Analysis Batch: 345334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-344597/2-A	Lab Control Sample	Total Recoverable	Water	6020	344597
400-134634-2 MS - RA2	MW-D2-MS-20170228	Total Recoverable	Water	6020	344597
400-134634-2 MSD - RA2	MW-D2-MSD-20170228	Total Recoverable	Water	6020	344597

General Chemistry

Analysis Batch: 344546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-1	MW-D3-20170228	Total/NA	Water	SM 2540C	
400-134634-2	MW-D2-20170228	Total/NA	Water	SM 2540C	
400-134634-3	DUP1-20170228	Total/NA	Water	SM 2540C	
400-134634-4	MW-D1-20170228	Total/NA	Water	SM 2540C	
400-134634-5	MW-U1-20170228	Total/NA	Water	SM 2540C	
MB 400-344546/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-344546/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-134634-1 DU	MW-D3-20170228	Total/NA	Water	SM 2540C	
400-134634-5 DU	MW-U1-20170228	Total/NA	Water	SM 2540C	

Analysis Batch: 344805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-1	MW-D3-20170228	Total/NA	Water	SM 4500 CI- E	
400-134634-2	MW-D2-20170228	Total/NA	Water	SM 4500 CI- E	
400-134634-3	DUP1-20170228	Total/NA	Water	SM 4500 CI- E	
400-134634-4	MW-D1-20170228	Total/NA	Water	SM 4500 CI- E	
400-134634-5	MW-U1-20170228	Total/NA	Water	SM 4500 CI- E	
MB 400-344805/6	Method Blank	Total/NA	Water	SM 4500 CI- E	
LCS 400-344805/7	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
MRL 400-344805/3	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
400-134634-2 MS	MW-D2-MS-20170228	Total/NA	Water	SM 4500 CI- E	
400-134634-2 MSD	MW-D2-MSD-20170228	Total/NA	Water	SM 4500 CI- E	

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

General Chemistry (Continued)

Analysis Batch: 345073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-1	MW-D3-20170228	Total/NA	Water	SM 4500 F C	
400-134634-2	MW-D2-20170228	Total/NA	Water	SM 4500 F C	
400-134634-3	DUP1-20170228	Total/NA	Water	SM 4500 F C	
400-134634-4	MW-D1-20170228	Total/NA	Water	SM 4500 F C	
400-134634-5	MW-U1-20170228	Total/NA	Water	SM 4500 F C	
MB 400-345073/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-345073/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-134634-2 MS	MW-D2-MS-20170228	Total/NA	Water	SM 4500 F C	
400-134634-2 MSD	MW-D2-MSD-20170228	Total/NA	Water	SM 4500 F C	
400-134725-A-4 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 346564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-1	MW-D3-20170228	Total/NA	Water	SM 4500 SO4 E	
400-134634-2	MW-D2-20170228	Total/NA	Water	SM 4500 SO4 E	
400-134634-3	DUP1-20170228	Total/NA	Water	SM 4500 SO4 E	
400-134634-4	MW-D1-20170228	Total/NA	Water	SM 4500 SO4 E	
400-134634-5	MW-U1-20170228	Total/NA	Water	SM 4500 SO4 E	
MB 400-346564/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-346564/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-346564/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-134634-2 MS	MW-D2-MS-20170228	Total/NA	Water	SM 4500 SO4 E	
400-134634-2 MSD	MW-D2-MSD-20170228	Total/NA	Water	SM 4500 SO4 E	

Field Service / Mobile Lab

Analysis Batch: 346615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-1	MW-D3-20170228	Total/NA	Water	Field Sampling	
400-134634-2	MW-D2-20170228	Total/NA	Water	Field Sampling	
400-134634-3	DUP1-20170228	Total/NA	Water	Field Sampling	
400-134634-4	MW-D1-20170228	Total/NA	Water	Field Sampling	
400-134634-5	MW-U1-20170228	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-344597/1-A ^5
Matrix: Water
Analysis Batch: 345106

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	0.0025	0.0010	mg/L		03/06/17 10:55	03/08/17 13:58	5
Arsenic	ND		0.0013	0.00046	mg/L		03/06/17 10:55	03/08/17 13:58	5
Barium	ND		0.0025	0.00049	mg/L		03/06/17 10:55	03/08/17 13:58	5
Beryllium	ND		0.0020	0.00034	mg/L		03/06/17 10:55	03/08/17 13:58	5
Boron	ND		0.050	0.021	mg/L		03/06/17 10:55	03/08/17 13:58	5
Cadmium	ND		0.0010	0.00034	mg/L		03/06/17 10:55	03/08/17 13:58	5
Calcium	ND		0.25	0.13	mg/L		03/06/17 10:55	03/08/17 13:58	5
Chromium	ND		0.0025	0.0011	mg/L		03/06/17 10:55	03/08/17 13:58	5
Cobalt	ND		0.0025	0.00040	mg/L		03/06/17 10:55	03/08/17 13:58	5
Lead	ND	^	0.0013	0.00035	mg/L		03/06/17 10:55	03/08/17 13:58	5
Lithium	ND		0.0025	0.0032	mg/L		03/06/17 10:55	03/08/17 13:58	5
Molybdenum	ND		0.010	0.00085	mg/L		03/06/17 10:55	03/08/17 13:58	5
Selenium	ND		0.0013	0.00024	mg/L		03/06/17 10:55	03/08/17 13:58	5
Thallium	ND		0.00050	0.000085	mg/L		03/06/17 10:55	03/08/17 13:58	5

Lab Sample ID: LCS 400-344597/2-A
Matrix: Water
Analysis Batch: 345106

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.106	* ^	mg/L		212	80 - 120
Arsenic	0.0500	0.0528		mg/L		106	80 - 120
Barium	0.0500	0.0533		mg/L		107	80 - 120
Beryllium	0.0500	0.0514		mg/L		103	80 - 120
Boron	0.100	0.0993		mg/L		99	80 - 120
Cadmium	0.0500	0.0527		mg/L		105	80 - 120
Calcium	5.00	4.99		mg/L		100	80 - 120
Chromium	0.0500	0.0466		mg/L		93	80 - 120
Cobalt	0.0500	0.0548		mg/L		110	80 - 120
Lead	0.0500	0.0591	^	mg/L		118	80 - 120
Lithium	0.0500	0.0529		mg/L		106	80 - 120
Molybdenum	0.100	0.106		mg/L		106	80 - 120
Selenium	0.0500	0.0516		mg/L		103	80 - 120
Thallium	0.0100	0.0107		mg/L		107	80 - 120

Lab Sample ID: LCS 400-344597/2-A
Matrix: Water
Analysis Batch: 345334

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0572		mg/L		114	80 - 120

Lab Sample ID: 400-134634-2 MS
Matrix: Water
Analysis Batch: 345106

Client Sample ID: MW-D2-MS-20170228
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.0500	0.0545		mg/L		109	75 - 125
Barium	0.087		0.0500	0.141		mg/L		110	75 - 125

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 400-134634-2 MS
Matrix: Water
Analysis Batch: 345106

Client Sample ID: MW-D2-MS-20170228
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Beryllium	ND		0.0500	0.0529		mg/L		106	75 - 125	
Boron	0.13		0.100	0.241		mg/L		109	75 - 125	
Cadmium	ND		0.0500	0.0544		mg/L		109	75 - 125	
Chromium	0.0038		0.0500	0.0554		mg/L		103	75 - 125	
Cobalt	0.00047	J	0.0500	0.0599		mg/L		119	75 - 125	
Lithium	ND		0.0500	0.0525		mg/L		105	75 - 125	
Molybdenum	0.0012	J	0.100	0.114		mg/L		112	75 - 125	
Selenium	ND		0.0500	0.0567		mg/L		113	75 - 125	
Thallium	0.00011	J	0.0100	0.0109		mg/L		107	75 - 125	

Lab Sample ID: 400-134634-2 MSD
Matrix: Water
Analysis Batch: 345106

Client Sample ID: MW-D2-MSD-20170228
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Arsenic	ND		0.0500	0.0535		mg/L		107	75 - 125	2	20	
Barium	0.087		0.0500	0.140		mg/L		107	75 - 125	1	20	
Beryllium	ND		0.0500	0.0522		mg/L		104	75 - 125	1	20	
Boron	0.13		0.100	0.232		mg/L		100	75 - 125	4	20	
Cadmium	ND		0.0500	0.0529		mg/L		106	75 - 125	3	20	
Chromium	0.0038		0.0500	0.0529		mg/L		98	75 - 125	4	20	
Cobalt	0.00047	J	0.0500	0.0582		mg/L		115	75 - 125	3	20	
Lithium	ND		0.0500	0.0530		mg/L		106	75 - 125	1	20	
Molybdenum	0.0012	J	0.100	0.102		mg/L		100	75 - 125	11	20	
Selenium	ND		0.0500	0.0508		mg/L		102	75 - 125	11	20	
Thallium	0.00011	J	0.0100	0.0108		mg/L		107	75 - 125	1	20	

Method: 6020 - Metals (ICP/MS) - DL

Lab Sample ID: 400-134634-2 MS
Matrix: Water
Analysis Batch: 345240

Client Sample ID: MW-D2-MS-20170228
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Calcium - DL	160		5.00	161	4	mg/L		66	75 - 125	

Lab Sample ID: 400-134634-2 MSD
Matrix: Water
Analysis Batch: 345240

Client Sample ID: MW-D2-MSD-20170228
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Calcium - DL	160		5.00	162	4	mg/L		96	75 - 125	1	20	

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Method: 6020 - Metals (ICP/MS) - RA

Lab Sample ID: MB 400-344597/1-A ^5
Matrix: Water
Analysis Batch: 345240

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium - RA	ND		0.25	0.13	mg/L		03/06/17 10:55	03/09/17 13:21	5
Lead - RA	ND		0.0013	0.00035	mg/L		03/06/17 10:55	03/09/17 13:21	5

Lab Sample ID: LCS 400-344597/2-A
Matrix: Water
Analysis Batch: 345240

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium - RA	5.00	5.66		mg/L		113	80 - 120
Lead - RA	0.0500	0.0550		mg/L		110	80 - 120

Lab Sample ID: 400-134634-2 MS
Matrix: Water
Analysis Batch: 345240

Client Sample ID: MW-D2-MS-20170228
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead - RA	0.00050	J	0.0500	0.0510		mg/L		101	75 - 125

Lab Sample ID: 400-134634-2 MSD
Matrix: Water
Analysis Batch: 345240

Client Sample ID: MW-D2-MSD-20170228
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead - RA	0.00050	J	0.0500	0.0502		mg/L		99	75 - 125	2	20

Method: 6020 - Metals (ICP/MS) - RA2

Lab Sample ID: 400-134634-2 MS
Matrix: Water
Analysis Batch: 345334

Client Sample ID: MW-D2-MS-20170228
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony - RA2	ND		0.0500	0.0554		mg/L		111	75 - 125

Lab Sample ID: 400-134634-2 MSD
Matrix: Water
Analysis Batch: 345334

Client Sample ID: MW-D2-MSD-20170228
Prep Type: Total Recoverable
Prep Batch: 344597

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Antimony - RA2	ND		0.0500	0.0561		mg/L		112	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-344229/14-A
Matrix: Water
Analysis Batch: 344641

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 344229

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000140	J	0.00020	0.000070	mg/L		03/04/17 14:25	03/06/17 10:27	1

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Lab Sample ID: LCS 400-344229/15-A
Matrix: Water
Analysis Batch: 344641

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 344229
 %Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00101	0.00101		mg/L		101	80 - 120

Lab Sample ID: 400-134634-2 MS
Matrix: Water
Analysis Batch: 344641

Client Sample ID: MW-D2-MS-20170228
Prep Type: Total/NA
Prep Batch: 344229
 %Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00018	J B	0.00201	0.00207		mg/L		94	80 - 120

Lab Sample ID: 400-134634-2 MSD
Matrix: Water
Analysis Batch: 344641

Client Sample ID: MW-D2-MSD-20170228
Prep Type: Total/NA
Prep Batch: 344229
 %Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.00018	J B	0.00201	0.00206		mg/L		93	80 - 120	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 400-344546/1
Matrix: Water
Analysis Batch: 344546

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		5.0	3.4	mg/L			03/05/17 12:58	1

Lab Sample ID: LCS 400-344546/2
Matrix: Water
Analysis Batch: 344546

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	293	276		mg/L		94	78 - 122

Lab Sample ID: 400-134634-1 DU
Matrix: Water
Analysis Batch: 344546

Client Sample ID: MW-D3-20170228
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	330		328		mg/L		0.6	5

Lab Sample ID: 400-134634-5 DU
Matrix: Water
Analysis Batch: 344546

Client Sample ID: MW-U1-20170228
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	80		80.0		mg/L		0	5

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-344805/6
Matrix: Water
Analysis Batch: 344805

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	0.60	mg/L			03/07/17 08:32	1

Lab Sample ID: LCS 400-344805/7
Matrix: Water
Analysis Batch: 344805

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.3		mg/L		104	90 - 110

Lab Sample ID: MRL 400-344805/3
Matrix: Water
Analysis Batch: 344805

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	2.01		mg/L		101	50 - 150

Lab Sample ID: 400-134634-2 MS
Matrix: Water
Analysis Batch: 344805

Client Sample ID: MW-D2-MS-20170228
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.7	F1 F2	10.0	16.3		mg/L		106	73 - 120

Lab Sample ID: 400-134634-2 MSD
Matrix: Water
Analysis Batch: 344805

Client Sample ID: MW-D2-MSD-20170228
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.7	F1 F2	10.0	38.2	F1 F2	mg/L		325	73 - 120	81	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-345073/3
Matrix: Water
Analysis Batch: 345073

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.032	mg/L			03/08/17 16:16	1

Lab Sample ID: LCS 400-345073/4
Matrix: Water
Analysis Batch: 345073

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.22		mg/L		106	90 - 110

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-134634-2 MS
Matrix: Water
Analysis Batch: 345073

Client Sample ID: MW-D2-MS-20170228
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.060	J	1.00	1.12		mg/L		106	75 - 125

Lab Sample ID: 400-134634-2 MSD
Matrix: Water
Analysis Batch: 345073

Client Sample ID: MW-D2-MSD-20170228
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.060	J	1.00	1.12		mg/L		106	75 - 125	0	4

Lab Sample ID: 400-134725-A-4 DU
Matrix: Water
Analysis Batch: 345073

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	ND		ND		mg/L		NC	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-346564/6
Matrix: Water
Analysis Batch: 346564

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.4	mg/L			03/21/17 08:31	1

Lab Sample ID: LCS 400-346564/7
Matrix: Water
Analysis Batch: 346564

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.3		mg/L		95	90 - 110

Lab Sample ID: MRL 400-346564/3
Matrix: Water
Analysis Batch: 346564

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.65	J	mg/L		93	50 - 150

Lab Sample ID: 400-134634-2 MS
Matrix: Water
Analysis Batch: 346564

Client Sample ID: MW-D2-MS-20170228
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	19		10.0	30.8		mg/L		116	77 - 128

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: 400-134634-2 MSD
 Matrix: Water
 Analysis Batch: 346564

Client Sample ID: MW-D2-MSD-20170228
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	19		10.0	30.9		mg/L		118	77 - 128	0	5

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Chain of Custody Record

Client Information		Lab PM:		Carrier Trace No(s):				
Geosyntec Consultants, Inc. 1255 Roberts Blvd, NW Suite 200 City: Kenesaw State: GA, Zip: 30144 Phone: 678-202-9583 (Tel) Email: igasser@geosyntec.com Project Name: CCR App. III/IV GW Monitoring Site:		Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com		400-63389-26250.1				
Due Date Requested:		Analysis Requester:		COC No. 400-63389-26250.1				
TAT Requested (days): Standard		400-134634 COC		Page: Page 1 of 1				
PO #:		400-134634 COC		Job #: 134634				
WO #:		400-134634 COC		Total Number of Containers				
Project #:		40007960		Preservation Codes:				
SSOW#:		40007960		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 L - EDA Z - other (specify)				
Sample Identification	Sample Date	Sample Time	Sample Type (C-comp, G-grab)	Preservation Code	Field Filtered Sample (Yes or No)	Performance/MSD (Yes or No)	Analysis Requester	Special Instructions/Note:
MW-D3-20170228	2/28/17	1120	G	Water	N	5020-Sb,As,Be,B,Cd,Ca,Cr,Cu,Pb,Li,Mo,Se,Te, Tl,7470A-4500 F C-Fluoride,2840C -Total Dissolved Solids	PH-6.87	
MW-D2-20170228	2/28/17	1350	G	Water	N	5020-Sb,As,Be,B,Cd,Ca,Cr,Cu,Pb,Li,Mo,Se,Te, Tl,7470A-4500 F C-Fluoride,2840C -Total Dissolved Solids	PH-6.85	
MW-D2-MS-20170228	2/28/17	1350	G	Water	N	5020-Sb,As,Be,B,Cd,Ca,Cr,Cu,Pb,Li,Mo,Se,Te, Tl,7470A-4500 F C-Fluoride,2840C -Total Dissolved Solids	PH-6.85	
MW-D2-MSD-20170228	2/28/17	1350	G	Water	N	5020-Sb,As,Be,B,Cd,Ca,Cr,Cu,Pb,Li,Mo,Se,Te, Tl,7470A-4500 F C-Fluoride,2840C -Total Dissolved Solids	PH-6.85	
DUP 1-20170228	2/28/17	1500	G	Water	N	5020-Sb,As,Be,B,Cd,Ca,Cr,Cu,Pb,Li,Mo,Se,Te, Tl,7470A-4500 F C-Fluoride,2840C -Total Dissolved Solids	PH-7.74	
MW-D1-20170228	2/28/17	1510	G	Water	N	5020-Sb,As,Be,B,Cd,Ca,Cr,Cu,Pb,Li,Mo,Se,Te, Tl,7470A-4500 F C-Fluoride,2840C -Total Dissolved Solids	PH-6.67	
MW-U1-20170228	2/28/17	1620	G	Water	N	5020-Sb,As,Be,B,Cd,Ca,Cr,Cu,Pb,Li,Mo,Se,Te, Tl,7470A-4500 F C-Fluoride,2840C -Total Dissolved Solids	PH-7.74	
LAST ITEM								
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological								
Deliverable Requested: I, II, III, IV, Other (specify) _____ Empty Kit Relinquished by: _____ Date: _____ Relinquished by: <u>W. Randoe</u> Date/Time: <u>3/1/2017 1730</u> Relinquished by: _____ Date/Time: _____ Relinquished by: _____ Date/Time: _____ Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: <u>NO, 5.7°C 3/1/17</u>								



Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-134634-1

Login Number: 134634

List Number: 1

Creator: Franklin, Justin H

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.0°C, 5.7°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-1

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	06-30-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17 *
West Virginia DEP	State Program	3	136	06-30-17

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-134634-2

Client Project/Site: CCR App.III/IV GW Monitoring

For:

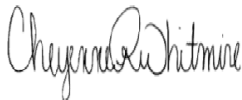
Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

3/30/2017 1:41:18 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12



Table of Contents

Cover Page	1
Table of Contents	2
Method Summary	3
Sample Summary	4
Client Sample Results	5
Definitions	10
Chronicle	11
QC Association	13
QC Sample Results	14
Chain of Custody	16
Receipt Checklists	17
Certification Summary	18

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-134634-1	MW-D3-20170228	Water	02/28/17 11:20	03/02/17 09:06
400-134634-2	MW-D2-20170228	Water	02/28/17 13:50	03/02/17 09:06
400-134634-3	DUP1-20170228	Water	02/28/17 15:00	03/02/17 09:06
400-134634-4	MW-D1-20170228	Water	02/28/17 15:10	03/02/17 09:06
400-134634-5	MW-U1-20170228	Water	02/28/17 16:20	03/02/17 09:06

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Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Client Sample ID: MW-D3-20170228

Lab Sample ID: 400-134634-1

Date Collected: 02/28/17 11:20

Matrix: Water

Date Received: 03/02/17 09:06

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.331		0.119	0.123	1.00	0.117	pCi/L	03/06/17 10:59	03/28/17 05:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					03/06/17 10:59	03/28/17 05:58	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.191	U	0.212	0.212	1.00	0.347	pCi/L	03/06/17 13:06	03/20/17 15:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					03/06/17 13:06	03/20/17 15:56	1
Y Carrier	87.5		40 - 110					03/06/17 13:06	03/20/17 15:56	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.522		0.243	0.245	5.00	0.347	pCi/L		03/30/17 10:03	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Client Sample ID: MW-D2-20170228

Lab Sample ID: 400-134634-2

Date Collected: 02/28/17 13:50

Matrix: Water

Date Received: 03/02/17 09:06

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.230		0.104	0.106	1.00	0.115	pCi/L	03/06/17 10:59	03/28/17 05:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					03/06/17 10:59	03/28/17 05:58	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.276	U	0.243	0.244	1.00	0.389	pCi/L	03/06/17 13:06	03/20/17 15:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					03/06/17 13:06	03/20/17 15:58	1
Y Carrier	87.5		40 - 110					03/06/17 13:06	03/20/17 15:58	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.506		0.264	0.266	5.00	0.389	pCi/L		03/30/17 10:03	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Client Sample ID: DUP1-20170228

Lab Sample ID: 400-134634-3

Date Collected: 02/28/17 15:00

Matrix: Water

Date Received: 03/02/17 09:06

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0191	U	0.0646	0.0646	1.00	0.123	pCi/L	03/06/17 10:59	03/28/17 08:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					03/06/17 10:59	03/28/17 08:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0515	U	0.230	0.230	1.00	0.417	pCi/L	03/06/17 13:06	03/20/17 15:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					03/06/17 13:06	03/20/17 15:58	1
Y Carrier	89.3		40 - 110					03/06/17 13:06	03/20/17 15:58	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0324	U	0.239	0.239	5.00	0.417	pCi/L		03/30/17 10:03	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Client Sample ID: MW-D1-20170228

Lab Sample ID: 400-134634-4

Date Collected: 02/28/17 15:10

Matrix: Water

Date Received: 03/02/17 09:06

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.273		0.108	0.111	1.00	0.111	pCi/L	03/06/17 10:59	03/28/17 08:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					03/06/17 10:59	03/28/17 08:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.148	U	0.245	0.245	1.00	0.413	pCi/L	03/06/17 13:06	03/20/17 15:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					03/06/17 13:06	03/20/17 15:58	1
Y Carrier	90.5		40 - 110					03/06/17 13:06	03/20/17 15:58	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.421		0.268	0.269	5.00	0.413	pCi/L		03/30/17 10:03	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Client Sample ID: MW-U1-20170228

Lab Sample ID: 400-134634-5

Date Collected: 02/28/17 16:20

Matrix: Water

Date Received: 03/02/17 09:06

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0257	U	0.0757	0.0758	1.00	0.140	pCi/L	03/06/17 10:59	03/28/17 08:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					03/06/17 10:59	03/28/17 08:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0912	U	0.214	0.214	1.00	0.367	pCi/L	03/06/17 13:06	03/20/17 15:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					03/06/17 13:06	03/20/17 15:58	1
Y Carrier	91.6		40 - 110					03/06/17 13:06	03/20/17 15:58	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.117	U	0.227	0.227	5.00	0.367	pCi/L		03/30/17 10:03	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Client Sample ID: MW-D3-20170228

Lab Sample ID: 400-134634-1

Date Collected: 02/28/17 11:20

Matrix: Water

Date Received: 03/02/17 09:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			296144	03/06/17 10:59	MBC	TAL SL
Total/NA	Analysis	9315		1	300406	03/28/17 05:58	ALD	TAL SL
Total/NA	Prep	PrecSep_0			296161	03/06/17 13:06	MBC	TAL SL
Total/NA	Analysis	9320		1	298257	03/20/17 15:56	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	300758	03/30/17 10:03	RTM	TAL SL

Client Sample ID: MW-D2-20170228

Lab Sample ID: 400-134634-2

Date Collected: 02/28/17 13:50

Matrix: Water

Date Received: 03/02/17 09:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			296144	03/06/17 10:59	MBC	TAL SL
Total/NA	Analysis	9315		1	300406	03/28/17 05:58	ALD	TAL SL
Total/NA	Prep	PrecSep_0			296161	03/06/17 13:06	MBC	TAL SL
Total/NA	Analysis	9320		1	298258	03/20/17 15:58	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	300758	03/30/17 10:03	RTM	TAL SL

Client Sample ID: DUP1-20170228

Lab Sample ID: 400-134634-3

Date Collected: 02/28/17 15:00

Matrix: Water

Date Received: 03/02/17 09:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			296144	03/06/17 10:59	MBC	TAL SL
Total/NA	Analysis	9315		1	300406	03/28/17 08:10	ALD	TAL SL
Total/NA	Prep	PrecSep_0			296161	03/06/17 13:06	MBC	TAL SL
Total/NA	Analysis	9320		1	298258	03/20/17 15:58	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	300758	03/30/17 10:03	RTM	TAL SL

Client Sample ID: MW-D1-20170228

Lab Sample ID: 400-134634-4

Date Collected: 02/28/17 15:10

Matrix: Water

Date Received: 03/02/17 09:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			296144	03/06/17 10:59	MBC	TAL SL
Total/NA	Analysis	9315		1	300406	03/28/17 08:10	ALD	TAL SL
Total/NA	Prep	PrecSep_0			296161	03/06/17 13:06	MBC	TAL SL
Total/NA	Analysis	9320		1	298258	03/20/17 15:58	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	300758	03/30/17 10:03	RTM	TAL SL

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Client Sample ID: MW-U1-20170228

Lab Sample ID: 400-134634-5

Date Collected: 02/28/17 16:20

Matrix: Water

Date Received: 03/02/17 09:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			296144	03/06/17 10:59	MBC	TAL SL
Total/NA	Analysis	9315		1	300406	03/28/17 08:10	ALD	TAL SL
Total/NA	Prep	PrecSep_0			296161	03/06/17 13:06	MBC	TAL SL
Total/NA	Analysis	9320		1	298258	03/20/17 15:58	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	300758	03/30/17 10:03	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Rad

Prep Batch: 296144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-1	MW-D3-20170228	Total/NA	Water	PrecSep-21	
400-134634-2	MW-D2-20170228	Total/NA	Water	PrecSep-21	
400-134634-3	DUP1-20170228	Total/NA	Water	PrecSep-21	
400-134634-4	MW-D1-20170228	Total/NA	Water	PrecSep-21	
400-134634-5	MW-U1-20170228	Total/NA	Water	PrecSep-21	
MB 160-296144/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-296144/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-134634-2 MS	MW-D2-MS-20170228	Total/NA	Water	PrecSep-21	
400-134634-2 MSD	MW-D2-MSD-20170228	Total/NA	Water	PrecSep-21	

Prep Batch: 296161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-134634-1	MW-D3-20170228	Total/NA	Water	PrecSep_0	
400-134634-2	MW-D2-20170228	Total/NA	Water	PrecSep_0	
400-134634-3	DUP1-20170228	Total/NA	Water	PrecSep_0	
400-134634-4	MW-D1-20170228	Total/NA	Water	PrecSep_0	
400-134634-5	MW-U1-20170228	Total/NA	Water	PrecSep_0	
MB 160-296161/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-296161/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-134634-2 MS	MW-D2-MS-20170228	Total/NA	Water	PrecSep_0	
400-134634-2 MSD	MW-D2-MSD-20170228	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-296144/1-A
Matrix: Water
Analysis Batch: 300406

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 296144

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.02067	U	0.0596	0.0596	1.00	0.112	pCi/L	03/06/17 10:59	03/28/17 05:57	1
Carrier	MB MB		Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	%Yield	Qualifier	Limits					03/06/17 10:59	03/28/17 05:57	1
	97.1		40 - 110							

Lab Sample ID: LCS 160-296144/2-A
Matrix: Water
Analysis Batch: 300406

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 296144

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.4	11.60		1.21	1.00	0.117	pCi/L	102	68 - 137
Carrier	LCS LCS		Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier	Limits					03/06/17 10:59	03/28/17 05:57
	99.1		40 - 110						

Lab Sample ID: 400-134634-2 MS
Matrix: Water
Analysis Batch: 300406

Client Sample ID: MW-D2-MS-20170228
Prep Type: Total/NA
Prep Batch: 296144

Analyte	Sample Sample		Spike Added	MS	MS	Total	RL	MDC	Unit	%Rec	%Rec. Limits
	Result	Qual		Result	Qual	Uncert. (2σ+/-)					
Radium-226	0.230		11.4	12.42		1.31	1.00	0.145	pCi/L	107	75 - 138
Carrier	MS MS		Limits		Prepared	Analyzed	Dil Fac				
Ba Carrier	%Yield	Qualifier	Limits					03/06/17 10:59	03/28/17 05:57	1	
	85.3		40 - 110								

Lab Sample ID: 400-134634-2 MSD
Matrix: Water
Analysis Batch: 300406

Client Sample ID: MW-D2-MSD-20170228
Prep Type: Total/NA
Prep Batch: 296144

Analyte	Sample Sample		Spike Added	MSD	MSD	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
	Result	Qual		Result	Qual	Uncert. (2σ+/-)							
Radium-226	0.230		11.4	11.01		1.16	1.00	0.116	pCi/L	95	75 - 138	0.57	1
Carrier	MSD MSD		Limits		Prepared	Analyzed	Dil Fac						
Ba Carrier	%Yield	Qualifier	Limits					03/06/17 10:59	03/28/17 05:57	1			
	92.6		40 - 110										

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-296161/1-A
Matrix: Water
Analysis Batch: 298257

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 296161

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.5422		0.282	0.287	1.00	0.423	pCi/L	03/06/17 13:06	03/20/17 15:55	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					03/06/17 13:06	03/20/17 15:55	1
Y Carrier	82.2		40 - 110					03/06/17 13:06	03/20/17 15:55	1

Lab Sample ID: LCS 160-296161/2-A
Matrix: Water
Analysis Batch: 298257

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 296161

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	13.7	14.70		1.56	1.00	0.369	pCi/L	107	56 - 140
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	99.1		40 - 110						
Y Carrier	87.9		40 - 110						

Lab Sample ID: 400-134634-2 MS
Matrix: Water
Analysis Batch: 298258

Client Sample ID: MW-D2-MS-20170228
Prep Type: Total/NA
Prep Batch: 296161


Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	0.276	U	13.7	15.38		1.65	1.00	0.393	pCi/L	112	45 - 150
Carrier	MS %Yield	MS Qualifier	Limits								
Ba Carrier	85.3		40 - 110								
Y Carrier	89.3		40 - 110								

Lab Sample ID: 400-134634-2 MSD
Matrix: Water
Analysis Batch: 298258

Client Sample ID: MW-D2-MSD-20170228
Prep Type: Total/NA
Prep Batch: 296161

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	0.276	U	13.7	14.17		1.54	1.00	0.443	pCi/L	103	45 - 150	0.38	1
Carrier	MSD %Yield	MSD Qualifier	Limits										
Ba Carrier	92.6		40 - 110										
Y Carrier	84.1		40 - 110										

Chain of Custody Record

Client Information Client Contact: Jeremy Gasser Company: Geosyntec Consultants, Inc. Address: 1255 Roberts Blvd, NW Suite 200 City: Kennesaw State: GA , Zip: 30144 Phone: 678-202-9583(Tel) Email: igasser@geosyntec.com Project Name: CCR App. III/IV GW Monitoring Site:		Lab PM: Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com		Carrier Trace No(s):  400-134634 COC		COC No: 400-63389-26250.1 Page: 1 of 1 Job #: 134034	
Due Date Requested: TAT Requested (days): Standard		Analysis Requester:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		Special Instructions/Note:	
Sample ID: MW-D3-20170228 MW-D2-20170228 MW-D2-MS-20170228 MW-D2-MSD-20170228 Dup 1 - 20170228 MW-D1-20170228 MW-U1-20170228		Sample Date: 2/28/17 2/28/17 2/28/17 2/28/17 2/28/17 2/28/17		Sample Time: 1120 1350 1350 1350 1500 1510 1620		Sample Type (C=Comp, G=grab): G G G G G G G	
Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air): Water Water Water Water Water Water Water		Field Filtered Sample (Yes or No): N N N N N N N		Performance (MSD/Yes or No): N N N N N N N		Special Instructions/Note: PH-6.87 PH-6.85 PH-6.85 PH-6.85 PH-7.74 PH-6.67 PH-7.74 LAST ITEM	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements:		Total Number of Containers:	
Empty Kit Relinquished by: Jeremy Gasser Date/Time: 3/1/2017 1730		Relinquished by: w. Randae Date/Time: 3/1/2017 0900		Relinquished by: Shelley Johnson Date/Time: 3/1/17 0900		Relinquished by: _____ Date/Time: _____	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 10.5, 5.7 °C 39.7		Method of Shipment:	

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-134634-2

Login Number: 134634

List Source: TestAmerica Pensacola

List Number: 1

Creator: Franklin, Justin H

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.0°C, 5.7°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Laboratory: TestAmerica Pensacola

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP Secondary AB	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	05-06-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17
West Virginia DEP	State Program	3	136	06-30-17

Laboratory: TestAmerica St. Louis

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-17
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-17 *
Florida	NELAP	4	E87689	06-30-17
Illinois	NELAP	5	200023	11-30-17
Iowa	State Program	7	373	02-01-18
Kansas	NELAP	7	E-10236	10-31-17
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-17
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-17
Missouri	State Program	7	780	06-30-17
Nevada	State Program	9	MO000542017-1	07-31-17
New Jersey	NELAP	2	MO002	06-30-17 *
New York	NELAP	2	11616	03-31-17 *

* Certification renewal pending - certification considered valid.

TestAmerica Pensacola

Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-134634-2

Laboratory: TestAmerica St. Louis (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Dakota	State Program	8	R207	06-30-17
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17
Pennsylvania	NELAP	3	68-00540	02-28-18
South Carolina	State Program	4	85002001	06-30-17
Texas	NELAP	6	T104704193-16-10	07-31-17
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-17
Virginia	NELAP	3	460230	06-14-17
Washington	State Program	10	C592	08-30-17
West Virginia DEP	State Program	3	381	08-31-17 *

* Certification renewal pending - certification considered valid.

TestAmerica Pensacola

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-135739-1

Client Project/Site: CCR App.III/IV GW Monitoring

Revision: 1

For:

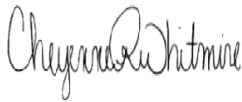
Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

6/1/2017 11:46:18 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12

13

14



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	6
Sample Summary	7
Client Sample Results	8
Definitions	13
Chronicle	14
QC Association	16
QC Sample Results	19
Chain of Custody	25
Receipt Checklists	26
Certification Summary	27

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Job ID: 400-135739-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-135739-1

Metals

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 348567 and analytical batch 348836 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 6020: The native sample and post digestion spike (PDS) associated with preparation batch 348567 and analytical batch 348836 were performed at the same dilution. Due to the additional level of analyte present in the post digestion spike, the concentration Molybdenum in the PDS was above the instrument calibration range. The data has been reported and qualified.

Method(s) 6020: The continuing calibration blank (CCB) for analytical batch 348836 contained Boron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

General Chemistry

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 349656 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Detection Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Client Sample ID: MW-D3-20170327

Lab Sample ID: 400-135739-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.23		0.0025	0.00049	mg/L	5		6020	Total
Boron	0.24		0.050	0.021	mg/L	5		6020	Recoverable Total
Calcium	110		0.25	0.13	mg/L	5		6020	Recoverable Total
Cobalt	0.00079	J	0.0025	0.00040	mg/L	5		6020	Recoverable Total
Molybdenum	0.0023	J	0.010	0.00085	mg/L	5		6020	Recoverable Total
Thallium	0.00011	J	0.00050	0.000085	mg/L	5		6020	Recoverable Total
Total Dissolved Solids	360		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	3.8		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.11		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	27		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.92				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D2-20170327

Lab Sample ID: 400-135739-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.11		0.0025	0.00049	mg/L	5		6020	Total
Boron	0.12		0.050	0.021	mg/L	5		6020	Recoverable Total
Calcium	120		0.25	0.13	mg/L	5		6020	Recoverable Total
Mercury	0.00011	J	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	390		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.4		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.050	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	23		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.83				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D1-20170327

Lab Sample ID: 400-135739-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0099		0.0025	0.00049	mg/L	5		6020	Total
Calcium	22		0.25	0.13	mg/L	5		6020	Recoverable Total
Boron - RA	0.066		0.050	0.021	mg/L	5		6020	Recoverable Total
Total Dissolved Solids	110		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	3.4		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.050	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	10		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.55				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-U1-20170327

Lab Sample ID: 400-135739-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0026		0.0025	0.00049	mg/L	5		6020	Total
									Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Client Sample ID: MW-U1-20170327 (Continued)

Lab Sample ID: 400-135739-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	32		0.25	0.13	mg/L	5		6020	Total
Chromium	0.0017	J	0.0025	0.0011	mg/L	5		6020	Recoverable Total
Total Dissolved Solids	120		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	2.1		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.040	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2.4	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.78				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP2-20170327

Lab Sample ID: 400-135739-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.0085		0.0025	0.0010	mg/L	5		6020	Total
Barium	0.22		0.0025	0.00049	mg/L	5		6020	Recoverable Total
Calcium	110		0.25	0.13	mg/L	5		6020	Recoverable Total
Cobalt	0.00080	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Molybdenum	0.0020	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Thallium	0.00012	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Boron - RA	0.23		0.050	0.021	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	380		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	4.1		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.12		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	27		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.92				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-135739-1	MW-D3-20170327	Water	03/27/17 10:25	03/29/17 08:58
400-135739-2	MW-D2-20170327	Water	03/27/17 11:35	03/29/17 08:58
400-135739-3	MW-D1-20170327	Water	03/27/17 12:45	03/29/17 08:58
400-135739-4	MW-U1-20170327	Water	03/27/17 14:10	03/29/17 08:58
400-135739-5	DUP2-20170327	Water	03/27/17 15:00	03/29/17 08:58

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Client Sample ID: MW-D3-20170327

Lab Sample ID: 400-135739-1

Date Collected: 03/27/17 10:25

Matrix: Water

Date Received: 03/29/17 08:58

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		04/05/17 13:24	04/06/17 21:03	5
Arsenic	ND		0.0013	0.00046	mg/L		04/05/17 13:24	04/06/17 21:03	5
Barium	0.23		0.0025	0.00049	mg/L		04/05/17 13:24	04/06/17 21:03	5
Beryllium	ND		0.0020	0.00034	mg/L		04/05/17 13:24	04/06/17 21:03	5
Boron	0.24		0.050	0.021	mg/L		04/05/17 13:24	04/06/17 21:03	5
Cadmium	ND		0.0010	0.00034	mg/L		04/05/17 13:24	04/06/17 21:03	5
Calcium	110		0.25	0.13	mg/L		04/05/17 13:24	04/06/17 21:03	5
Chromium	ND		0.0025	0.0011	mg/L		04/05/17 13:24	04/06/17 21:03	5
Cobalt	0.00079	J	0.0025	0.00040	mg/L		04/05/17 13:24	04/06/17 21:03	5
Lead	ND		0.0013	0.00035	mg/L		04/05/17 13:24	04/06/17 21:03	5
Lithium	ND		0.0025	0.0032	mg/L		04/05/17 13:24	04/06/17 21:03	5
Molybdenum	0.0023	J	0.010	0.00085	mg/L		04/05/17 13:24	04/06/17 21:03	5
Selenium	ND		0.0013	0.00024	mg/L		04/05/17 13:24	04/06/17 21:03	5
Thallium	0.00011	J	0.00050	0.000085	mg/L		04/05/17 13:24	04/06/17 21:03	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		04/01/17 13:01	04/03/17 12:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	360		5.0	3.4	mg/L			03/30/17 16:14	1
Chloride	3.8		2.0	0.60	mg/L			04/06/17 17:39	1
Fluoride	0.11		0.10	0.032	mg/L			04/07/17 15:28	1
Sulfate	27		5.0	1.4	mg/L			04/13/17 14:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.92				SU			03/27/17 09:25	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Client Sample ID: MW-D2-20170327

Lab Sample ID: 400-135739-2

Date Collected: 03/27/17 11:35

Matrix: Water

Date Received: 03/29/17 08:58

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		04/05/17 13:24	04/06/17 21:07	5
Arsenic	ND		0.0013	0.00046	mg/L		04/05/17 13:24	04/06/17 21:07	5
Barium	0.11		0.0025	0.00049	mg/L		04/05/17 13:24	04/06/17 21:07	5
Beryllium	ND		0.0020	0.00034	mg/L		04/05/17 13:24	04/06/17 21:07	5
Boron	0.12		0.050	0.021	mg/L		04/05/17 13:24	04/06/17 21:07	5
Cadmium	ND		0.0010	0.00034	mg/L		04/05/17 13:24	04/06/17 21:07	5
Calcium	120		0.25	0.13	mg/L		04/05/17 13:24	04/06/17 21:07	5
Chromium	ND		0.0025	0.0011	mg/L		04/05/17 13:24	04/06/17 21:07	5
Cobalt	ND		0.0025	0.00040	mg/L		04/05/17 13:24	04/06/17 21:07	5
Lead	ND		0.0013	0.00035	mg/L		04/05/17 13:24	04/06/17 21:07	5
Lithium	ND		0.0025	0.0032	mg/L		04/05/17 13:24	04/06/17 21:07	5
Molybdenum	ND		0.010	0.00085	mg/L		04/05/17 13:24	04/06/17 21:07	5
Selenium	ND		0.0013	0.00024	mg/L		04/05/17 13:24	04/06/17 21:07	5
Thallium	ND		0.00050	0.000085	mg/L		04/05/17 13:24	04/06/17 21:07	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00011	J	0.00020	0.000070	mg/L		04/01/17 13:01	04/03/17 12:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		5.0	3.4	mg/L			03/30/17 16:14	1
Chloride	5.4		2.0	0.60	mg/L			04/06/17 17:39	1
Fluoride	0.050	J	0.10	0.032	mg/L			04/07/17 15:30	1
Sulfate	23		5.0	1.4	mg/L			04/13/17 14:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.83				SU			03/27/17 10:35	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Client Sample ID: MW-D1-20170327

Lab Sample ID: 400-135739-3

Date Collected: 03/27/17 12:45

Matrix: Water

Date Received: 03/29/17 08:58

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		04/05/17 13:24	04/06/17 21:30	5
Arsenic	ND		0.0013	0.00046	mg/L		04/05/17 13:24	04/06/17 21:30	5
Barium	0.0099		0.0025	0.00049	mg/L		04/05/17 13:24	04/06/17 21:30	5
Beryllium	ND		0.0020	0.00034	mg/L		04/05/17 13:24	04/06/17 21:30	5
Cadmium	ND		0.0010	0.00034	mg/L		04/05/17 13:24	04/06/17 21:30	5
Calcium	22		0.25	0.13	mg/L		04/05/17 13:24	04/06/17 21:30	5
Chromium	ND		0.0025	0.0011	mg/L		04/05/17 13:24	04/06/17 21:30	5
Cobalt	ND		0.0025	0.00040	mg/L		04/05/17 13:24	04/06/17 21:30	5
Lead	ND		0.0013	0.00035	mg/L		04/05/17 13:24	04/06/17 21:30	5
Lithium	ND		0.0025	0.0032	mg/L		04/05/17 13:24	04/06/17 21:30	5
Molybdenum	ND		0.010	0.00085	mg/L		04/05/17 13:24	04/06/17 21:30	5
Selenium	ND		0.0013	0.00024	mg/L		04/05/17 13:24	04/06/17 21:30	5
Thallium	ND		0.00050	0.000085	mg/L		04/05/17 13:24	04/06/17 21:30	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.066		0.050	0.021	mg/L		04/05/17 13:24	04/07/17 13:30	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		04/01/17 13:01	04/03/17 12:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	110		5.0	3.4	mg/L			03/30/17 16:14	1
Chloride	3.4		2.0	0.60	mg/L			04/06/17 17:39	1
Fluoride	0.050	J	0.10	0.032	mg/L			04/07/17 15:32	1
Sulfate	10		5.0	1.4	mg/L			04/13/17 14:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.55				SU			03/27/17 11:45	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Client Sample ID: MW-U1-20170327

Lab Sample ID: 400-135739-4

Date Collected: 03/27/17 14:10

Matrix: Water

Date Received: 03/29/17 08:58

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		04/05/17 13:24	04/06/17 21:34	5
Arsenic	ND		0.0013	0.00046	mg/L		04/05/17 13:24	04/06/17 21:34	5
Barium	0.0026		0.0025	0.00049	mg/L		04/05/17 13:24	04/06/17 21:34	5
Beryllium	ND		0.0020	0.00034	mg/L		04/05/17 13:24	04/06/17 21:34	5
Boron	ND		0.050	0.021	mg/L		04/05/17 13:24	04/06/17 21:34	5
Cadmium	ND		0.0010	0.00034	mg/L		04/05/17 13:24	04/06/17 21:34	5
Calcium	32		0.25	0.13	mg/L		04/05/17 13:24	04/06/17 21:34	5
Chromium	0.0017	J	0.0025	0.0011	mg/L		04/05/17 13:24	04/06/17 21:34	5
Cobalt	ND		0.0025	0.00040	mg/L		04/05/17 13:24	04/06/17 21:34	5
Lead	ND		0.0013	0.00035	mg/L		04/05/17 13:24	04/06/17 21:34	5
Lithium	ND		0.0025	0.0032	mg/L		04/05/17 13:24	04/06/17 21:34	5
Molybdenum	ND		0.010	0.00085	mg/L		04/05/17 13:24	04/06/17 21:34	5
Selenium	ND		0.0013	0.00024	mg/L		04/05/17 13:24	04/06/17 21:34	5
Thallium	ND		0.00050	0.000085	mg/L		04/05/17 13:24	04/06/17 21:34	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		04/01/17 13:01	04/03/17 13:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	120		5.0	3.4	mg/L			03/30/17 16:14	1
Chloride	2.1		2.0	0.60	mg/L			04/06/17 17:39	1
Fluoride	0.040	J	0.10	0.032	mg/L			04/07/17 13:33	1
Sulfate	2.4	J	5.0	1.4	mg/L			04/13/17 14:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.78				SU			03/27/17 13:10	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Client Sample ID: DUP2-20170327

Lab Sample ID: 400-135739-5

Date Collected: 03/27/17 15:00

Matrix: Water

Date Received: 03/29/17 08:58

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0085		0.0025	0.0010	mg/L		04/05/17 13:24	04/06/17 21:39	5
Arsenic	ND		0.0013	0.00046	mg/L		04/05/17 13:24	04/06/17 21:39	5
Barium	0.22		0.0025	0.00049	mg/L		04/05/17 13:24	04/06/17 21:39	5
Beryllium	ND		0.0020	0.00034	mg/L		04/05/17 13:24	04/06/17 21:39	5
Cadmium	ND		0.0010	0.00034	mg/L		04/05/17 13:24	04/06/17 21:39	5
Calcium	110		0.25	0.13	mg/L		04/05/17 13:24	04/06/17 21:39	5
Chromium	ND		0.0025	0.0011	mg/L		04/05/17 13:24	04/06/17 21:39	5
Cobalt	0.00080	J	0.0025	0.00040	mg/L		04/05/17 13:24	04/06/17 21:39	5
Lead	ND		0.0013	0.00035	mg/L		04/05/17 13:24	04/06/17 21:39	5
Lithium	ND		0.0025	0.0032	mg/L		04/05/17 13:24	04/06/17 21:39	5
Molybdenum	0.0020	J	0.010	0.00085	mg/L		04/05/17 13:24	04/06/17 21:39	5
Selenium	ND		0.0013	0.00024	mg/L		04/05/17 13:24	04/06/17 21:39	5
Thallium	0.00012	J	0.00050	0.000085	mg/L		04/05/17 13:24	04/06/17 21:39	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.23		0.050	0.021	mg/L		04/05/17 13:24	04/07/17 13:34	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		04/01/17 13:01	04/03/17 13:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	380		5.0	3.4	mg/L			03/30/17 16:14	1
Chloride	4.1		2.0	0.60	mg/L			04/06/17 17:39	1
Fluoride	0.12		0.10	0.032	mg/L			04/10/17 15:40	1
Sulfate	27		5.0	1.4	mg/L			04/13/17 14:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.92				SU			03/27/17 14:00	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Client Sample ID: MW-D3-20170327

Lab Sample ID: 400-135739-1

Date Collected: 03/27/17 10:25

Matrix: Water

Date Received: 03/29/17 08:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			348567	04/05/17 13:24	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	348836	04/06/17 21:03	DRE	TAL PEN
Total/NA	Prep	7470A			347747	04/01/17 13:01	DN1	TAL PEN
Total/NA	Analysis	7470A		1	348263	04/03/17 12:24	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	347801	03/30/17 16:14	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	348793	04/06/17 17:39	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348938	04/07/17 15:28	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	349656	04/13/17 14:49	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	348477	03/27/17 09:25	BWS	TAL PEN

Client Sample ID: MW-D2-20170327

Lab Sample ID: 400-135739-2

Date Collected: 03/27/17 11:35

Matrix: Water

Date Received: 03/29/17 08:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			348567	04/05/17 13:24	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	348836	04/06/17 21:07	DRE	TAL PEN
Total/NA	Prep	7470A			347747	04/01/17 13:01	DN1	TAL PEN
Total/NA	Analysis	7470A		1	348263	04/03/17 12:25	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	347801	03/30/17 16:14	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	348793	04/06/17 17:39	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348938	04/07/17 15:30	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	349656	04/13/17 14:49	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	348477	03/27/17 10:35	BWS	TAL PEN

Client Sample ID: MW-D1-20170327

Lab Sample ID: 400-135739-3

Date Collected: 03/27/17 12:45

Matrix: Water

Date Received: 03/29/17 08:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			348567	04/05/17 13:24	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	348836	04/06/17 21:30	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		348567	04/05/17 13:24	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	349072	04/07/17 13:30	DRE	TAL PEN
Total/NA	Prep	7470A			347747	04/01/17 13:01	DN1	TAL PEN
Total/NA	Analysis	7470A		1	348263	04/03/17 12:26	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	347801	03/30/17 16:14	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	348793	04/06/17 17:39	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348938	04/07/17 15:32	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	349656	04/13/17 14:49	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	348477	03/27/17 11:45	BWS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Client Sample ID: MW-U1-20170327

Lab Sample ID: 400-135739-4

Date Collected: 03/27/17 14:10

Matrix: Water

Date Received: 03/29/17 08:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			348567	04/05/17 13:24	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	348836	04/06/17 21:34	DRE	TAL PEN
Total/NA	Prep	7470A			347747	04/01/17 13:01	DN1	TAL PEN
Total/NA	Analysis	7470A		1	348263	04/03/17 13:02	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	347801	03/30/17 16:14	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	348793	04/06/17 17:39	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348938	04/07/17 13:33	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	349656	04/13/17 14:49	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	348477	03/27/17 13:10	BWS	TAL PEN

Client Sample ID: DUP2-20170327

Lab Sample ID: 400-135739-5

Date Collected: 03/27/17 15:00

Matrix: Water

Date Received: 03/29/17 08:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			348567	04/05/17 13:24	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	348836	04/06/17 21:39	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		348567	04/05/17 13:24	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	349072	04/07/17 13:34	DRE	TAL PEN
Total/NA	Prep	7470A			347747	04/01/17 13:01	DN1	TAL PEN
Total/NA	Analysis	7470A		1	348263	04/03/17 13:04	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	347801	03/30/17 16:14	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	348793	04/06/17 17:39	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	349178	04/10/17 15:40	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	349656	04/13/17 14:49	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	348477	03/27/17 14:00	BWS	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Metals

Prep Batch: 347747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-1	MW-D3-20170327	Total/NA	Water	7470A	
400-135739-2	MW-D2-20170327	Total/NA	Water	7470A	
400-135739-3	MW-D1-20170327	Total/NA	Water	7470A	
400-135739-4	MW-U1-20170327	Total/NA	Water	7470A	
400-135739-5	DUP2-20170327	Total/NA	Water	7470A	
MB 400-347747/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-347747/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-135669-C-21-B MS	Matrix Spike	Total/NA	Water	7470A	
400-135669-C-21-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 348263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-1	MW-D3-20170327	Total/NA	Water	7470A	347747
400-135739-2	MW-D2-20170327	Total/NA	Water	7470A	347747
400-135739-3	MW-D1-20170327	Total/NA	Water	7470A	347747
400-135739-4	MW-U1-20170327	Total/NA	Water	7470A	347747
400-135739-5	DUP2-20170327	Total/NA	Water	7470A	347747
MB 400-347747/14-A	Method Blank	Total/NA	Water	7470A	347747
LCS 400-347747/15-A	Lab Control Sample	Total/NA	Water	7470A	347747
400-135669-C-21-B MS	Matrix Spike	Total/NA	Water	7470A	347747
400-135669-C-21-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	347747

Prep Batch: 348567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-1	MW-D3-20170327	Total Recoverable	Water	3005A	
400-135739-2	MW-D2-20170327	Total Recoverable	Water	3005A	
400-135739-3	MW-D1-20170327	Total Recoverable	Water	3005A	
400-135739-3 - RA	MW-D1-20170327	Total Recoverable	Water	3005A	
400-135739-4	MW-U1-20170327	Total Recoverable	Water	3005A	
400-135739-5 - RA	DUP2-20170327	Total Recoverable	Water	3005A	
400-135739-5	DUP2-20170327	Total Recoverable	Water	3005A	
MB 400-348567/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-348567/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-135835-T-1-C MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-135835-T-1-D MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 348817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-348567/1-A ^5	Method Blank	Total Recoverable	Water	6020	348567
LCS 400-348567/2-A	Lab Control Sample	Total Recoverable	Water	6020	348567

Analysis Batch: 348836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-1	MW-D3-20170327	Total Recoverable	Water	6020	348567
400-135739-2	MW-D2-20170327	Total Recoverable	Water	6020	348567
400-135739-3	MW-D1-20170327	Total Recoverable	Water	6020	348567
400-135739-4	MW-U1-20170327	Total Recoverable	Water	6020	348567
400-135739-5	DUP2-20170327	Total Recoverable	Water	6020	348567
MB 400-348567/1-A ^5	Method Blank	Total Recoverable	Water	6020	348567
LCS 400-348567/2-A	Lab Control Sample	Total Recoverable	Water	6020	348567
400-135835-T-1-C MS ^5	Matrix Spike	Total Recoverable	Water	6020	348567

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Metals (Continued)

Analysis Batch: 348836 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135835-T-1-D MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	348567

Analysis Batch: 349072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-3 - RA	MW-D1-20170327	Total Recoverable	Water	6020	348567
400-135739-5 - RA	DUP2-20170327	Total Recoverable	Water	6020	348567

General Chemistry

Analysis Batch: 347801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-1	MW-D3-20170327	Total/NA	Water	SM 2540C	
400-135739-2	MW-D2-20170327	Total/NA	Water	SM 2540C	
400-135739-3	MW-D1-20170327	Total/NA	Water	SM 2540C	
400-135739-4	MW-U1-20170327	Total/NA	Water	SM 2540C	
400-135739-5	DUP2-20170327	Total/NA	Water	SM 2540C	
MB 400-347801/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-347801/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-135698-A-10 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 348793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-1	MW-D3-20170327	Total/NA	Water	SM 4500 Cl- E	
400-135739-2	MW-D2-20170327	Total/NA	Water	SM 4500 Cl- E	
400-135739-3	MW-D1-20170327	Total/NA	Water	SM 4500 Cl- E	
400-135739-4	MW-U1-20170327	Total/NA	Water	SM 4500 Cl- E	
400-135739-5	DUP2-20170327	Total/NA	Water	SM 4500 Cl- E	
MB 400-348793/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-348793/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-348793/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-135900-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-135900-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 348938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-1	MW-D3-20170327	Total/NA	Water	SM 4500 F C	
400-135739-2	MW-D2-20170327	Total/NA	Water	SM 4500 F C	
400-135739-3	MW-D1-20170327	Total/NA	Water	SM 4500 F C	
400-135739-4	MW-U1-20170327	Total/NA	Water	SM 4500 F C	
MB 400-348938/6	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-348938/7	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-135675-A-17 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-135675-A-17 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-135675-A-21 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-135675-A-21 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 349178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-5	DUP2-20170327	Total/NA	Water	SM 4500 F C	
MB 400-349178/3	Method Blank	Total/NA	Water	SM 4500 F C	

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

General Chemistry (Continued)

Analysis Batch: 349178 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-349178/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-135739-5 MS	DUP2-20170327	Total/NA	Water	SM 4500 F C	
400-135739-5 MSD	DUP2-20170327	Total/NA	Water	SM 4500 F C	
400-135838-A-8 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 349656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-1	MW-D3-20170327	Total/NA	Water	SM 4500 SO4 E	
400-135739-2	MW-D2-20170327	Total/NA	Water	SM 4500 SO4 E	
400-135739-3	MW-D1-20170327	Total/NA	Water	SM 4500 SO4 E	
400-135739-4	MW-U1-20170327	Total/NA	Water	SM 4500 SO4 E	
400-135739-5	DUP2-20170327	Total/NA	Water	SM 4500 SO4 E	
MB 400-349656/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-349656/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-349656/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-135678-A-14 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-135678-A-14 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Field Service / Mobile Lab

Analysis Batch: 348477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-1	MW-D3-20170327	Total/NA	Water	Field Sampling	
400-135739-2	MW-D2-20170327	Total/NA	Water	Field Sampling	
400-135739-3	MW-D1-20170327	Total/NA	Water	Field Sampling	
400-135739-4	MW-U1-20170327	Total/NA	Water	Field Sampling	
400-135739-5	DUP2-20170327	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-348567/1-A ^5
Matrix: Water
Analysis Batch: 348817

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 348567

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		04/05/17 13:24	04/06/17 20:00	5
Antimony	ND		0.0025	0.0010	mg/L		04/05/17 13:24	04/06/17 20:00	5
Arsenic	ND		0.0013	0.00046	mg/L		04/05/17 13:24	04/06/17 20:00	5
Arsenic	ND		0.0013	0.00046	mg/L		04/05/17 13:24	04/06/17 20:00	5
Barium	ND		0.0025	0.00049	mg/L		04/05/17 13:24	04/06/17 20:00	5
Barium	ND		0.0025	0.00049	mg/L		04/05/17 13:24	04/06/17 20:00	5
Beryllium	ND		0.0020	0.00034	mg/L		04/05/17 13:24	04/06/17 20:00	5
Beryllium	ND		0.0020	0.00034	mg/L		04/05/17 13:24	04/06/17 20:00	5
Boron	ND		0.050	0.021	mg/L		04/05/17 13:24	04/06/17 20:00	5
Boron	ND		0.050	0.021	mg/L		04/05/17 13:24	04/06/17 20:00	5
Cadmium	ND		0.0010	0.00034	mg/L		04/05/17 13:24	04/06/17 20:00	5
Cadmium	ND		0.0010	0.00034	mg/L		04/05/17 13:24	04/06/17 20:00	5
Calcium	ND		0.25	0.13	mg/L		04/05/17 13:24	04/06/17 20:00	5
Calcium	ND		0.25	0.13	mg/L		04/05/17 13:24	04/06/17 20:00	5
Chromium	ND		0.0025	0.0011	mg/L		04/05/17 13:24	04/06/17 20:00	5
Chromium	ND		0.0025	0.0011	mg/L		04/05/17 13:24	04/06/17 20:00	5
Cobalt	ND		0.0025	0.00040	mg/L		04/05/17 13:24	04/06/17 20:00	5
Cobalt	ND		0.0025	0.00040	mg/L		04/05/17 13:24	04/06/17 20:00	5
Lead	ND		0.0013	0.00035	mg/L		04/05/17 13:24	04/06/17 20:00	5
Lead	ND		0.0013	0.00035	mg/L		04/05/17 13:24	04/06/17 20:00	5
Lithium	ND		0.0025	0.0032	mg/L		04/05/17 13:24	04/06/17 20:00	5
Lithium	ND		0.0025	0.0032	mg/L		04/05/17 13:24	04/06/17 20:00	5
Molybdenum	ND		0.010	0.00085	mg/L		04/05/17 13:24	04/06/17 20:00	5
Molybdenum	ND		0.010	0.00085	mg/L		04/05/17 13:24	04/06/17 20:00	5
Selenium	ND		0.0013	0.00024	mg/L		04/05/17 13:24	04/06/17 20:00	5
Selenium	ND		0.0013	0.00024	mg/L		04/05/17 13:24	04/06/17 20:00	5
Thallium	ND		0.00050	0.000085	mg/L		04/05/17 13:24	04/06/17 20:00	5
Thallium	ND		0.00050	0.000085	mg/L		04/05/17 13:24	04/06/17 20:00	5

Lab Sample ID: LCS 400-348567/2-A
Matrix: Water
Analysis Batch: 348817

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 348567

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0542		mg/L		108	80 - 120
Antimony	0.0500	0.0542		mg/L		108	80 - 120
Arsenic	0.0500	0.0492		mg/L		98	80 - 120
Arsenic	0.0500	0.0492		mg/L		98	80 - 120
Barium	0.0500	0.0476		mg/L		95	80 - 120
Barium	0.0500	0.0476		mg/L		95	80 - 120
Beryllium	0.0500	0.0479		mg/L		96	80 - 120
Beryllium	0.0500	0.0479		mg/L		96	80 - 120
Boron	0.100	0.0969		mg/L		97	80 - 120
Boron	0.100	0.0969		mg/L		97	80 - 120
Cadmium	0.0500	0.0504		mg/L		101	80 - 120
Cadmium	0.0500	0.0504		mg/L		101	80 - 120
Calcium	5.00	4.62		mg/L		92	80 - 120
Calcium	5.00	4.62		mg/L		92	80 - 120

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 400-348567/2-A
Matrix: Water
Analysis Batch: 348817

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 348567

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.0500	0.0479		mg/L		96	80 - 120
Chromium	0.0500	0.0479		mg/L		96	80 - 120
Cobalt	0.0500	0.0499		mg/L		100	80 - 120
Cobalt	0.0500	0.0499		mg/L		100	80 - 120
Lead	0.0500	0.0531		mg/L		106	80 - 120
Lead	0.0500	0.0507		mg/L		101	80 - 120
Lithium	0.0500	0.0484		mg/L		97	80 - 120
Lithium	0.0500	0.0484		mg/L		97	80 - 120
Molybdenum	0.100	0.101		mg/L		101	80 - 120
Molybdenum	0.100	0.101		mg/L		101	80 - 120
Selenium	0.0500	0.0494		mg/L		99	80 - 120
Selenium	0.0500	0.0494		mg/L		99	80 - 120
Thallium	0.0100	0.0107		mg/L		107	80 - 120
Thallium	0.0100	0.0107		mg/L		107	80 - 120

Lab Sample ID: 400-135835-T-1-C MS ^5
Matrix: Water
Analysis Batch: 348836

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 348567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	ND		0.0500	0.0574		mg/L		115	75 - 125
Arsenic	0.00071	J	0.0500	0.0512		mg/L		101	75 - 125
Barium	0.037		0.0500	0.0862		mg/L		99	75 - 125
Beryllium	ND		0.0500	0.0523		mg/L		105	75 - 125
Boron	ND	F1 F2	0.100	0.140	F1	mg/L		140	75 - 125
Cadmium	ND		0.0500	0.0509		mg/L		102	75 - 125
Calcium	1.9		5.00	6.67		mg/L		96	75 - 125
Chromium	ND		0.0500	0.0542		mg/L		108	75 - 125
Cobalt	0.0017	J	0.0500	0.0528		mg/L		102	75 - 125
Lead	0.00085	J	0.0500	0.0528		mg/L		104	75 - 125
Lithium	ND		0.0500	0.0516		mg/L		103	75 - 125
Molybdenum	0.0039	J	0.100	0.109		mg/L		105	75 - 125
Selenium	0.0023		0.0500	0.0555		mg/L		106	75 - 125
Thallium	ND		0.0100	0.0109		mg/L		109	75 - 125

Lab Sample ID: 400-135835-T-1-D MSD ^5
Matrix: Water
Analysis Batch: 348836

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 348567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	ND		0.0500	0.0558		mg/L		112	75 - 125	3	20
Arsenic	0.00071	J	0.0500	0.0504		mg/L		99	75 - 125	2	20
Barium	0.037		0.0500	0.0866		mg/L		100	75 - 125	0	20
Beryllium	ND		0.0500	0.0511		mg/L		102	75 - 125	2	20
Boron	ND	F1 F2	0.100	0.112	F2	mg/L		112	75 - 125	22	20
Cadmium	ND		0.0500	0.0521		mg/L		104	75 - 125	2	20
Calcium	1.9		5.00	6.41		mg/L		91	75 - 125	4	20
Chromium	ND		0.0500	0.0526		mg/L		105	75 - 125	3	20
Cobalt	0.0017	J	0.0500	0.0532		mg/L		103	75 - 125	1	20

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 400-135835-T-1-D MSD ^5
Matrix: Water
Analysis Batch: 348836

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 348567

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Lead	0.00085	J	0.0500	0.0523		mg/L		103	75 - 125	1	20
Lithium	ND		0.0500	0.0491		mg/L		98	75 - 125	5	20
Molybdenum	0.0039	J	0.100	0.104		mg/L		100	75 - 125	4	20
Selenium	0.0023		0.0500	0.0520		mg/L		99	75 - 125	7	20
Thallium	ND		0.0100	0.0108		mg/L		108	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-347747/14-A
Matrix: Water
Analysis Batch: 348263

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 347747

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020	0.000070	mg/L		04/01/17 13:01	04/03/17 11:56	1

Lab Sample ID: LCS 400-347747/15-A
Matrix: Water
Analysis Batch: 348263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 347747

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits
		Added	Result				
Mercury	0.00101	0.000991		mg/L		98	80 - 120

Lab Sample ID: 400-135669-C-21-B MS
Matrix: Water
Analysis Batch: 348263

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 347747

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Mercury	ND		0.00201	0.00185		mg/L		92	80 - 120	

Lab Sample ID: 400-135669-C-21-C MSD
Matrix: Water
Analysis Batch: 348263

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 347747

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Mercury	ND		0.00201	0.00187		mg/L		93	80 - 120	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 400-347801/1
Matrix: Water
Analysis Batch: 347801

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Dissolved Solids	ND		5.0	3.4	mg/L			03/30/17 16:14	1

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 400-347801/2
Matrix: Water
Analysis Batch: 347801

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	268		mg/L		91	78 - 122

Lab Sample ID: 400-135698-A-10 DU
Matrix: Water
Analysis Batch: 347801

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	570		580		mg/L		1	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-348793/6
Matrix: Water
Analysis Batch: 348793

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	0.60	mg/L			04/06/17 17:03	1

Lab Sample ID: LCS 400-348793/7
Matrix: Water
Analysis Batch: 348793

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.9		mg/L		106	90 - 110

Lab Sample ID: MRL 400-348793/3
Matrix: Water
Analysis Batch: 348793

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.48	J	mg/L		74	50 - 150

Lab Sample ID: 400-135900-A-4 MS
Matrix: Water
Analysis Batch: 348793

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	48		10.0	56.1	4	mg/L		78	73 - 120

Lab Sample ID: 400-135900-A-4 MSD
Matrix: Water
Analysis Batch: 348793

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	48		10.0	55.6	4	mg/L		74	73 - 120	1	8

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-348938/6
Matrix: Water
Analysis Batch: 348938

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.032	mg/L			04/07/17 12:03	1

Lab Sample ID: LCS 400-348938/7
Matrix: Water
Analysis Batch: 348938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.05		mg/L		101	90 - 110

Lab Sample ID: 400-135675-A-17 MS
Matrix: Water
Analysis Batch: 348938

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.050	J	1.00	1.08		mg/L		103	75 - 125

Lab Sample ID: 400-135675-A-17 MSD
Matrix: Water
Analysis Batch: 348938

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.050	J	1.00	1.08		mg/L		103	75 - 125	0	4

Lab Sample ID: MB 400-349178/3
Matrix: Water
Analysis Batch: 349178

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.032	mg/L			04/10/17 15:32	1

Lab Sample ID: LCS 400-349178/4
Matrix: Water
Analysis Batch: 349178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.90		mg/L		98	90 - 110

Lab Sample ID: 400-135739-5 MS
Matrix: Water
Analysis Batch: 349178

Client Sample ID: DUP2-20170327
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.12		1.00	1.14		mg/L		102	75 - 125

Lab Sample ID: 400-135739-5 MSD
Matrix: Water
Analysis Batch: 349178

Client Sample ID: DUP2-20170327
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.12		1.00	1.14		mg/L		102	75 - 125	0	4

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Lab Sample ID: 400-135838-A-8 DU
Matrix: Water
Analysis Batch: 349178

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.090	J	0.0900	J	mg/L		0	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-349656/6
Matrix: Water
Analysis Batch: 349656

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.4	mg/L			04/13/17 14:44	1

Lab Sample ID: LCS 400-349656/7
Matrix: Water
Analysis Batch: 349656

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.4		mg/L		103	90 - 110

Lab Sample ID: MRL 400-349656/3
Matrix: Water
Analysis Batch: 349656

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.26		mg/L		105	50 - 150

Lab Sample ID: 400-135678-A-14 MS
Matrix: Water
Analysis Batch: 349656

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	2900	F1	850	2760	F1	mg/L		-16	77 - 128


Lab Sample ID: 400-135678-A-14 MSD
Matrix: Water
Analysis Batch: 349656

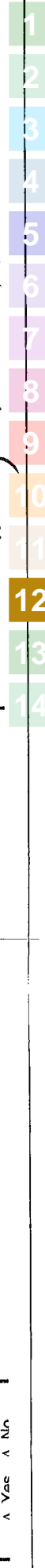
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	2900	F1	850	2900	F1	mg/L		-0.5	77 - 128	5	5

Chain of Custody Record

TestAmerica Pensacola
3355 McLeMORE Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Client Information Geosyntec Consultants, Inc. 1255 Roberts Blvd, NW Suite 200 Kennesaw, GA, 30144 Phone: 678-202-9583(Tel) Email: jgasser@geosyntec.com Project Name: CCR App. III/IV GW Monitoring Site:		Lab PM: Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com Carrier Tracking No(s): COC No: 400-63389-26250.1 Page: Page 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): Standard PO #: WO #: Project #: 40007960 SOW#:		Analysis Requested  400-135739 COC	
Sample Information Sample ID: MW-D3-20170327 MW-D2-20170327 MW-D1-20170327 MW-U1-20170327 Dup 2-20170327		Sample Date: 3/27/17 3/27/17 3/27/17 3/27/17 3/27/17	
Sample Type (C=comp, G=grab): G G G G G		Preservation Code: Water Water Water Water Water	
Matrix (W=water, S=solid, O=soil, BT=tissue, A=air)		Field Filtered Sample (Yes or No): N N N N N	
Perform (MS/MP) (Yes/No): 915 Ra226, 9320 Ra228, Ra228Ra228, GPC SM4500 Cl, E-Chloride, SM4500 SO4-Sulfate, F 4500 F, C-Fluoride, 2540C -Total Dissolved Solids 6020-Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A-Hg		Special Instructions/Note: PH: 6.92 PH: 6.83 PH: 6.55 PH: 7.78 PH: 6.92	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: <i>Stephen W. Randall</i> Date/Time: 3/28/17 1640 Company:		Relinquished by: <i>Mohammed P. Chereh</i> Date/Time: 03/29/17 0558 Company:	
Relinquished by:		Relinquished by:	
Relinquished by:		Relinquished by:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C: <i>3.6°C</i> Other: <i>IR7</i>	



Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-135739-1

Login Number: 135739

List Source: TestAmerica Pensacola

List Number: 1

Creator: Siddoway, Benjamin

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.1°C, 3.6°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-1

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	06-30-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17 *
West Virginia DEP	State Program	3	136	06-30-17

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-135739-2

Client Project/Site: CCR App.III/IV GW Monitoring

For:


Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

4/28/2017 2:45:24 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12



Table of Contents

Cover Page	1
Table of Contents	2
Method Summary	3
Sample Summary	4
Client Sample Results	5
Definitions	10
Chronicle	11
QC Association	13
QC Sample Results	14
Chain of Custody	17
Receipt Checklists	18
Certification Summary	19

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-135739-1	MW-D3-20170327	Water	03/27/17 10:25	03/29/17 08:58
400-135739-2	MW-D2-20170327	Water	03/27/17 11:35	03/29/17 08:58
400-135739-3	MW-D1-20170327	Water	03/27/17 12:45	03/29/17 08:58
400-135739-4	MW-U1-20170327	Water	03/27/17 14:10	03/29/17 08:58
400-135739-5	DUP2-20170327	Water	03/27/17 15:00	03/29/17 08:58

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Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Client Sample ID: MW-D3-20170327

Lab Sample ID: 400-135739-1

Date Collected: 03/27/17 10:25

Matrix: Water

Date Received: 03/29/17 08:58

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.272		0.107	0.110	1.00	0.114	pCi/L	04/03/17 09:52	04/25/17 06:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					04/03/17 09:52	04/25/17 06:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.285	U	0.223	0.225	1.00	0.351	pCi/L	04/03/17 10:11	04/17/17 11:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					04/03/17 10:11	04/17/17 11:14	1
Y Carrier	82.2		40 - 110					04/03/17 10:11	04/17/17 11:14	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.557		0.248	0.250	5.00	0.351	pCi/L		04/26/17 11:17	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Client Sample ID: MW-D2-20170327

Lab Sample ID: 400-135739-2

Date Collected: 03/27/17 11:35

Matrix: Water

Date Received: 03/29/17 08:58

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.438		0.128	0.134	1.00	0.112	pCi/L	04/03/17 09:52	04/25/17 06:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					04/03/17 09:52	04/25/17 06:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.842		0.291	0.301	1.00	0.389	pCi/L	04/03/17 10:11	04/17/17 11:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					04/03/17 10:11	04/17/17 11:14	1
Y Carrier	81.9		40 - 110					04/03/17 10:11	04/17/17 11:14	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.28		0.318	0.329	5.00	0.389	pCi/L		04/26/17 11:17	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Client Sample ID: MW-D1-20170327

Lab Sample ID: 400-135739-3

Date Collected: 03/27/17 12:45

Matrix: Water

Date Received: 03/29/17 08:58

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.119		0.0813	0.0820	1.00	0.112	pCi/L	04/03/17 09:52	04/25/17 06:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					04/03/17 09:52	04/25/17 06:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.537		0.325	0.329	1.00	0.503	pCi/L	04/03/17 10:11	04/17/17 11:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					04/03/17 10:11	04/17/17 11:14	1
Y Carrier	78.5		40 - 110					04/03/17 10:11	04/17/17 11:14	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.655		0.335	0.339	5.00	0.503	pCi/L		04/26/17 11:17	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Client Sample ID: MW-U1-20170327

Lab Sample ID: 400-135739-4

Date Collected: 03/27/17 14:10

Matrix: Water

Date Received: 03/29/17 08:58

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00488	U	0.0538	0.0538	1.00	0.110	pCi/L	04/03/17 09:52	04/25/17 06:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.7		40 - 110					04/03/17 09:52	04/25/17 06:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0247	U	0.232	0.232	1.00	0.423	pCi/L	04/03/17 10:11	04/17/17 11:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.7		40 - 110					04/03/17 10:11	04/17/17 11:14	1
Y Carrier	79.6		40 - 110					04/03/17 10:11	04/17/17 11:14	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0198	U	0.238	0.238	5.00	0.423	pCi/L		04/26/17 11:17	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Client Sample ID: DUP2-20170327

Lab Sample ID: 400-135739-5

Date Collected: 03/27/17 15:00

Matrix: Water

Date Received: 03/29/17 08:58

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.278		0.107	0.110	1.00	0.106	pCi/L	04/03/17 09:52	04/25/17 06:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.3		40 - 110					04/03/17 09:52	04/25/17 06:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.288	U	0.249	0.251	1.00	0.397	pCi/L	04/03/17 10:11	04/17/17 11:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.3		40 - 110					04/03/17 10:11	04/17/17 11:15	1
Y Carrier	78.9		40 - 110					04/03/17 10:11	04/17/17 11:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.567		0.271	0.273	5.00	0.397	pCi/L		04/26/17 11:17	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Client Sample ID: MW-D3-20170327

Lab Sample ID: 400-135739-1

Date Collected: 03/27/17 10:25

Matrix: Water

Date Received: 03/29/17 08:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301134	04/03/17 09:52	LDE	TAL SL
Total/NA	Analysis	9315		1	305224	04/25/17 06:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			301137	04/03/17 10:11	LDE	TAL SL
Total/NA	Analysis	9320		1	303660	04/17/17 11:14	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Client Sample ID: MW-D2-20170327

Lab Sample ID: 400-135739-2

Date Collected: 03/27/17 11:35

Matrix: Water

Date Received: 03/29/17 08:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301134	04/03/17 09:52	LDE	TAL SL
Total/NA	Analysis	9315		1	305224	04/25/17 06:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			301137	04/03/17 10:11	LDE	TAL SL
Total/NA	Analysis	9320		1	303660	04/17/17 11:14	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Client Sample ID: MW-D1-20170327

Lab Sample ID: 400-135739-3

Date Collected: 03/27/17 12:45

Matrix: Water

Date Received: 03/29/17 08:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301134	04/03/17 09:52	LDE	TAL SL
Total/NA	Analysis	9315		1	305224	04/25/17 06:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			301137	04/03/17 10:11	LDE	TAL SL
Total/NA	Analysis	9320		1	303660	04/17/17 11:14	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Client Sample ID: MW-U1-20170327

Lab Sample ID: 400-135739-4

Date Collected: 03/27/17 14:10

Matrix: Water

Date Received: 03/29/17 08:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301134	04/03/17 09:52	LDE	TAL SL
Total/NA	Analysis	9315		1	305224	04/25/17 06:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			301137	04/03/17 10:11	LDE	TAL SL
Total/NA	Analysis	9320		1	303660	04/17/17 11:14	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Client Sample ID: DUP2-20170327

Lab Sample ID: 400-135739-5

Date Collected: 03/27/17 15:00

Matrix: Water

Date Received: 03/29/17 08:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301134	04/03/17 09:52	LDE	TAL SL
Total/NA	Analysis	9315		1	305224	04/25/17 06:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			301137	04/03/17 10:11	LDE	TAL SL
Total/NA	Analysis	9320		1	303660	04/17/17 11:15	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Association Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Rad

Prep Batch: 301134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-1	MW-D3-20170327	Total/NA	Water	PrecSep-21	
400-135739-2	MW-D2-20170327	Total/NA	Water	PrecSep-21	
400-135739-3	MW-D1-20170327	Total/NA	Water	PrecSep-21	
400-135739-4	MW-U1-20170327	Total/NA	Water	PrecSep-21	
400-135739-5	DUP2-20170327	Total/NA	Water	PrecSep-21	
MB 160-301134/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-301134/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
240-77417-A-3-A MS	Matrix Spike	Total/NA	Water	PrecSep-21	
240-77417-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 301137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135739-1	MW-D3-20170327	Total/NA	Water	PrecSep_0	
400-135739-2	MW-D2-20170327	Total/NA	Water	PrecSep_0	
400-135739-3	MW-D1-20170327	Total/NA	Water	PrecSep_0	
400-135739-4	MW-U1-20170327	Total/NA	Water	PrecSep_0	
400-135739-5	DUP2-20170327	Total/NA	Water	PrecSep_0	
MB 160-301137/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-301137/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
240-77417-A-3-C MS	Matrix Spike	Total/NA	Water	PrecSep_0	
240-77417-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-301134/1-A
Matrix: Water
Analysis Batch: 305224

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 301134

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.01718	U	0.0537	0.0537	1.00	0.102	pCi/L	04/03/17 09:52	04/25/17 06:26	1
Carrier	MB MB		Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	%Yield	Qualifier	Limits					04/03/17 09:52	04/25/17 06:26	1
	96.8		40 - 110							

Lab Sample ID: LCS 160-301134/2-A
Matrix: Water
Analysis Batch: 305224

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 301134

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.4	9.800		1.03	1.00	0.0948	pCi/L	86	68 - 137
Carrier	LCS LCS		Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier	Limits					04/03/17 09:52	04/25/17 06:26
	102		40 - 110						

Lab Sample ID: 240-77417-A-3-A MS
Matrix: Water
Analysis Batch: 305224

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 301134

Analyte	Sample	Sample	Spike Added	MS	MS	Total	RL	MDC	Unit	%Rec	%Rec. Limits
	Result	Qual		Result	Qual	Uncert. (2σ+/-)					
Radium-226	0.0827	U	11.4	10.26		1.08	1.00	0.119	pCi/L	90	75 - 138
Carrier	MS MS		Limits		Prepared	Analyzed	Dil Fac				
Ba Carrier	%Yield	Qualifier	Limits					04/03/17 09:52	04/25/17 06:26	1	
	95.6		40 - 110								

Lab Sample ID: 240-77417-A-3-B MSD
Matrix: Water
Analysis Batch: 305224

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 301134

Analyte	Sample	Sample	Spike Added	MSD	MSD	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
	Result	Qual		Result	Qual	Uncert. (2σ+/-)							
Radium-226	0.0827	U	11.4	10.81		1.14	1.00	0.108	pCi/L	94	75 - 138	0.25	1
Carrier	MSD MSD		Limits		Prepared	Analyzed	Dil Fac						
Ba Carrier	%Yield	Qualifier	Limits					04/03/17 09:52	04/25/17 06:26	1			
	89.7		40 - 110										

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-301137/1-A
Matrix: Water
Analysis Batch: 303662

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 301137

Analyte	MB MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Radium-228	-0.08259	U	0.195	0.195	1.00	0.369	pCi/L	04/03/17 10:11	04/17/17 11:10	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	96.8		40 - 110			04/03/17 10:11	04/17/17 11:10	1		
Y Carrier	81.1		40 - 110			04/03/17 10:11	04/17/17 11:10	1		

Lab Sample ID: LCS 160-301137/2-A
Matrix: Water
Analysis Batch: 303662

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 301137

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Carrier	LCS LCS		Limits			Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier							
Ba Carrier	102		40 - 110						
Y Carrier	84.1		40 - 110						

Lab Sample ID: 240-77417-A-3-C MS
Matrix: Water
Analysis Batch: 303662

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 301137

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Carrier	MS MS		Limits			Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier									
Ba Carrier	95.6		40 - 110								
Y Carrier	80.0		40 - 110								

Lab Sample ID: 240-77417-A-3-D MSD
Matrix: Water
Analysis Batch: 303662

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 301137

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Carrier	MSD MSD		Limits			Prepared	Analyzed	Dil Fac					
	%Yield	Qualifier											
Ba Carrier	89.7		40 - 110										
Y Carrier	80.0		40 - 110										

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228


Lab Sample ID: 400-135680-A-2 DU
 Matrix: Water
 Analysis Batch: 305685

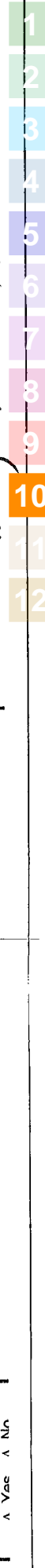
Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Combined Radium 226 + 228	-0.0158	U	0.6334		0.370	5.00	0.543	pCi/L	0.83	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

Chain of Custody Record

Client Information Client Contact: Jeremy Gasser Company: Geosyntec Consultants, Inc. Address: 1255 Roberts Blvd, NW Suite 200 City: Kennesaw State: GA, Zip: 30144 Phone: 678-202-9583(Tel) Email: jgasser@geosyntec.com Project Name: CCR App. III/IV GW Monitoring Site:		Lab PM: Whitmire, Cheyenne R Carrier Tracking No(s): Lab No: 400-63389-26250.1 Page: Page 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): Standard PO #: WO #: Project #: 40007960 SOW#:		Analysis Requested  400-135739 COC	
Sample Identification Sample ID: MW-D3-20170327 MW-D2-20170327 MW-D1-20170327 MW-U1-20170327 Dup 2-20170327		Total Number of Containers:	
Sample Date 3/27/17 3/27/17 3/27/17 3/27/17 3/27/17	Sample Time 1025 1135 1245 1410 1500	Sample Type G G G G G	Preservation Code: Water Water Water Water Water
Matrix (W=Water, S=Solid, O=Oil, BT=Tissue, A=Air)		Field Filtered Sample (Yes or No)	
Perform (MS/MP) (Yes or No)		Special Instructions/Note: PH: 6.92 PH: 6.83 PH: 6.55 PH: 7.78 PH: 6.92	
9315 Ra226, 9320 Ra226Ra228a228, GFCP SM4500 Cl, E-Chloride, SM4500 SO4-Sulfate, F 4500 F, C-Fluoride, 2540C -Total Dissolved Solids 6020-Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A-Hg		Special Instructions/Note: PH: 6.92 PH: 6.83 PH: 6.55 PH: 7.78 PH: 6.92	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Empty Kit Relinquished by: _____ Date: _____ Relinquished by: <i>Stephen W. Randall</i> Date: <i>3/28/17</i> 1640 Relinquished by: _____ Date/Time: _____ Relinquished by: _____ Date/Time: _____ Custody Seals Intact: <input checked="" type="checkbox"/> Custody Seal No.: _____ Cooler Temperature(s) °C/and Other (Remarks): <i>3.6°C IR7</i>			



Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-135739-2

Login Number: 135739

List Source: TestAmerica Pensacola

List Number: 1

Creator: Siddoway, Benjamin

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.1°C, 3.6°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP Secondary AB	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	05-06-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17
West Virginia DEP	State Program	3	136	06-30-17

Laboratory: TestAmerica St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-17 *
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-17 *
Florida	NELAP	4	E87689	06-30-17 *
Illinois	NELAP	5	200023	11-30-17
Iowa	State Program	7	373	02-01-18
Kansas	NELAP	7	E-10236	10-31-17
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-17 *
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-17
Missouri	State Program	7	780	06-30-17 *
Nevada	State Program	9	MO000542017-1	07-31-17
New Jersey	NELAP	2	MO002	06-30-17 *
New York	NELAP	2	11616	03-31-17 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-135739-2

Laboratory: TestAmerica St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
North Dakota	State Program	8	R207	06-30-17
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17
Pennsylvania	NELAP	3	68-00540	02-28-18
South Carolina	State Program	4	85002001	06-30-17
Texas	NELAP	6	T104704193-16-10	07-31-17
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-17
Virginia	NELAP	3	460230	06-14-17 *
Washington	State Program	10	C592	08-30-17
West Virginia DEP	State Program	3	381	08-31-17 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Pensacola

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-137046-1

Client Project/Site: CCR App.III/IV GW Monitoring

For:

Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

5/15/2017 4:31:10 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12

13

14



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	6
Sample Summary	7
Client Sample Results	8
Definitions	13
Chronicle	14
QC Association	16
QC Sample Results	19
Chain of Custody	26
Receipt Checklists	27
Certification Summary	28

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Job ID: 400-137046-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-137046-1

Metals

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-D2-20170424 (400-137046-2) and MW-D3-20170424 (400-137046-3). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 352403 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Client Sample ID: DUP3-20170424

Lab Sample ID: 400-137046-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00083	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.011		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.079		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	24		0.25	0.13	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	92		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	4.6		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.070	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	12		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.60				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D2-20170424

Lab Sample ID: 400-137046-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00083	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.15		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.14		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium - DL	140		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	390		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.6		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.070	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	21	F1	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.10				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D3-20170424

Lab Sample ID: 400-137046-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00052	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.20		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.23		0.050	0.021	mg/L	5		6020	Total Recoverable
Cobalt	0.0010	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Molybdenum	0.0018	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Thallium	0.000095	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	120		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	330		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	3.8		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.12		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	26		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.03				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Client Sample ID: MW-D1-20170424

Lab Sample ID: 400-137046-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.011		0.0025	0.00049	mg/L	5		6020	Total
Boron	0.079		0.050	0.021	mg/L	5		6020	Recoverable Total
Calcium	24		0.25	0.13	mg/L	5		6020	Recoverable Total
Total Dissolved Solids	62		5.0	3.4	mg/L	1		SM 2540C	Recoverable Total/NA
Chloride	4.2		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.070	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	12		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.50				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-U1-20170424

Lab Sample ID: 400-137046-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0022	J	0.0025	0.00049	mg/L	5		6020	Total
Calcium	40		0.25	0.13	mg/L	5		6020	Recoverable Total
Chromium	0.0014	J	0.0025	0.0011	mg/L	5		6020	Recoverable Total
Total Dissolved Solids	44		5.0	3.4	mg/L	1		SM 2540C	Recoverable Total/NA
Chloride	1.8	J	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1.4	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.45				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-137046-1	DUP3-20170424	Water	04/24/17 08:00	04/26/17 09:03
400-137046-2	MW-D2-20170424	Water	04/24/17 10:35	04/26/17 09:03
400-137046-3	MW-D3-20170424	Water	04/24/17 11:45	04/26/17 09:03
400-137046-4	MW-D1-20170424	Water	04/24/17 12:55	04/26/17 09:03
400-137046-5	MW-U1-20170424	Water	04/24/17 14:30	04/26/17 09:03

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Client Sample ID: DUP3-20170424

Lab Sample ID: 400-137046-1

Date Collected: 04/24/17 08:00

Matrix: Water

Date Received: 04/26/17 09:03

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		05/04/17 18:30	05/08/17 18:28	5
Arsenic	0.00083	J	0.0013	0.00046	mg/L		05/04/17 18:30	05/08/17 18:28	5
Barium	0.011		0.0025	0.00049	mg/L		05/04/17 18:30	05/08/17 18:28	5
Beryllium	ND		0.0020	0.00034	mg/L		05/04/17 18:30	05/08/17 18:28	5
Boron	0.079		0.050	0.021	mg/L		05/04/17 18:30	05/08/17 18:28	5
Cadmium	ND		0.0010	0.00034	mg/L		05/04/17 18:30	05/08/17 18:28	5
Calcium	24		0.25	0.13	mg/L		05/04/17 18:30	05/08/17 18:28	5
Chromium	ND		0.0025	0.0011	mg/L		05/04/17 18:30	05/08/17 18:28	5
Cobalt	ND		0.0025	0.00040	mg/L		05/04/17 18:30	05/08/17 18:28	5
Lead	ND		0.0013	0.00035	mg/L		05/04/17 18:30	05/08/17 18:28	5
Lithium	ND		0.0025	0.0032	mg/L		05/04/17 18:30	05/08/17 18:28	5
Molybdenum	ND		0.010	0.00085	mg/L		05/04/17 18:30	05/08/17 18:28	5
Selenium	ND		0.0013	0.00024	mg/L		05/04/17 18:30	05/08/17 18:28	5
Thallium	ND		0.00050	0.000085	mg/L		05/04/17 18:30	05/08/17 18:28	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		05/03/17 13:02	05/05/17 13:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	92		5.0	3.4	mg/L			04/29/17 14:20	1
Chloride	4.6		2.0	0.60	mg/L			05/04/17 15:31	1
Fluoride	0.070	J	0.10	0.032	mg/L			05/03/17 15:51	1
Sulfate	12		5.0	1.4	mg/L			05/04/17 15:23	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.60				SU			04/24/17 07:00	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Client Sample ID: MW-D2-20170424

Lab Sample ID: 400-137046-2

Date Collected: 04/24/17 10:35

Matrix: Water

Date Received: 04/26/17 09:03

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		05/04/17 18:30	05/08/17 18:35	5
Arsenic	0.00083	J	0.0013	0.00046	mg/L		05/04/17 18:30	05/08/17 18:35	5
Barium	0.15		0.0025	0.00049	mg/L		05/04/17 18:30	05/08/17 18:35	5
Beryllium	ND		0.0020	0.00034	mg/L		05/04/17 18:30	05/08/17 18:35	5
Boron	0.14		0.050	0.021	mg/L		05/04/17 18:30	05/08/17 18:35	5
Cadmium	ND		0.0010	0.00034	mg/L		05/04/17 18:30	05/08/17 18:35	5
Chromium	ND		0.0025	0.0011	mg/L		05/04/17 18:30	05/08/17 18:35	5
Cobalt	ND		0.0025	0.00040	mg/L		05/04/17 18:30	05/08/17 18:35	5
Lead	ND		0.0013	0.00035	mg/L		05/04/17 18:30	05/08/17 18:35	5
Lithium	ND		0.0025	0.0032	mg/L		05/04/17 18:30	05/08/17 18:35	5
Molybdenum	ND		0.010	0.00085	mg/L		05/04/17 18:30	05/08/17 18:35	5
Selenium	ND		0.0013	0.00024	mg/L		05/04/17 18:30	05/08/17 18:35	5
Thallium	ND		0.00050	0.000085	mg/L		05/04/17 18:30	05/08/17 18:35	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140		0.50	0.25	mg/L		05/04/17 18:30	05/08/17 19:38	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		05/03/17 13:02	05/05/17 13:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		5.0	3.4	mg/L			04/29/17 14:20	1
Chloride	5.6		2.0	0.60	mg/L			05/04/17 15:31	1
Fluoride	0.070	J	0.10	0.032	mg/L			05/03/17 15:49	1
Sulfate	21	F1	5.0	1.4	mg/L			05/04/17 15:23	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.10				SU			04/24/17 09:35	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Client Sample ID: MW-D3-20170424

Lab Sample ID: 400-137046-3

Date Collected: 04/24/17 11:45

Matrix: Water

Date Received: 04/26/17 09:03

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		05/04/17 18:30	05/08/17 18:57	5
Arsenic	0.00052	J	0.0013	0.00046	mg/L		05/04/17 18:30	05/08/17 18:57	5
Barium	0.20		0.0025	0.00049	mg/L		05/04/17 18:30	05/08/17 18:57	5
Beryllium	ND		0.0020	0.00034	mg/L		05/04/17 18:30	05/08/17 18:57	5
Boron	0.23		0.050	0.021	mg/L		05/04/17 18:30	05/08/17 18:57	5
Cadmium	ND		0.0010	0.00034	mg/L		05/04/17 18:30	05/08/17 18:57	5
Chromium	ND		0.0025	0.0011	mg/L		05/04/17 18:30	05/08/17 18:57	5
Cobalt	0.0010	J	0.0025	0.00040	mg/L		05/04/17 18:30	05/08/17 18:57	5
Lead	ND		0.0013	0.00035	mg/L		05/04/17 18:30	05/08/17 18:57	5
Lithium	ND		0.0025	0.0032	mg/L		05/04/17 18:30	05/08/17 18:57	5
Molybdenum	0.0018	J	0.010	0.00085	mg/L		05/04/17 18:30	05/08/17 18:57	5
Selenium	ND		0.0013	0.00024	mg/L		05/04/17 18:30	05/08/17 18:57	5
Thallium	0.000095	J	0.00050	0.000085	mg/L		05/04/17 18:30	05/08/17 18:57	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120		0.50	0.25	mg/L		05/04/17 18:30	05/08/17 20:01	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		05/03/17 13:02	05/05/17 13:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	330		5.0	3.4	mg/L			04/29/17 14:20	1
Chloride	3.8		2.0	0.60	mg/L			05/04/17 15:31	1
Fluoride	0.12		0.10	0.032	mg/L			05/03/17 15:53	1
Sulfate	26		5.0	1.4	mg/L			05/04/17 15:23	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.03				SU			04/24/17 10:45	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Client Sample ID: MW-D1-20170424

Lab Sample ID: 400-137046-4

Date Collected: 04/24/17 12:55

Matrix: Water

Date Received: 04/26/17 09:03

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		05/04/17 18:30	05/08/17 19:02	5
Arsenic	ND		0.0013	0.00046	mg/L		05/04/17 18:30	05/08/17 19:02	5
Barium	0.011		0.0025	0.00049	mg/L		05/04/17 18:30	05/08/17 19:02	5
Beryllium	ND		0.0020	0.00034	mg/L		05/04/17 18:30	05/08/17 19:02	5
Boron	0.079		0.050	0.021	mg/L		05/04/17 18:30	05/08/17 19:02	5
Cadmium	ND		0.0010	0.00034	mg/L		05/04/17 18:30	05/08/17 19:02	5
Calcium	24		0.25	0.13	mg/L		05/04/17 18:30	05/08/17 19:02	5
Chromium	ND		0.0025	0.0011	mg/L		05/04/17 18:30	05/08/17 19:02	5
Cobalt	ND		0.0025	0.00040	mg/L		05/04/17 18:30	05/08/17 19:02	5
Lead	ND		0.0013	0.00035	mg/L		05/04/17 18:30	05/08/17 19:02	5
Lithium	ND		0.0025	0.0032	mg/L		05/04/17 18:30	05/08/17 19:02	5
Molybdenum	ND		0.010	0.00085	mg/L		05/04/17 18:30	05/08/17 19:02	5
Selenium	ND		0.0013	0.00024	mg/L		05/04/17 18:30	05/08/17 19:02	5
Thallium	ND		0.00050	0.000085	mg/L		05/04/17 18:30	05/08/17 19:02	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		05/03/17 13:02	05/05/17 13:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	62		5.0	3.4	mg/L			04/29/17 14:20	1
Chloride	4.2		2.0	0.60	mg/L			05/04/17 17:03	1
Fluoride	0.070	J	0.10	0.032	mg/L			05/03/17 15:55	1
Sulfate	12		5.0	1.4	mg/L			05/04/17 17:09	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.50				SU			04/24/17 11:55	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Client Sample ID: MW-U1-20170424

Lab Sample ID: 400-137046-5

Date Collected: 04/24/17 14:30

Matrix: Water

Date Received: 04/26/17 09:03

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		05/04/17 18:30	05/08/17 19:06	5
Arsenic	ND		0.0013	0.00046	mg/L		05/04/17 18:30	05/08/17 19:06	5
Barium	0.0022	J	0.0025	0.00049	mg/L		05/04/17 18:30	05/08/17 19:06	5
Beryllium	ND		0.0020	0.00034	mg/L		05/04/17 18:30	05/08/17 19:06	5
Boron	ND		0.050	0.021	mg/L		05/04/17 18:30	05/08/17 19:06	5
Cadmium	ND		0.0010	0.00034	mg/L		05/04/17 18:30	05/08/17 19:06	5
Calcium	40		0.25	0.13	mg/L		05/04/17 18:30	05/08/17 19:06	5
Chromium	0.0014	J	0.0025	0.0011	mg/L		05/04/17 18:30	05/08/17 19:06	5
Cobalt	ND		0.0025	0.00040	mg/L		05/04/17 18:30	05/08/17 19:06	5
Lead	ND		0.0013	0.00035	mg/L		05/04/17 18:30	05/08/17 19:06	5
Lithium	ND		0.0025	0.0032	mg/L		05/04/17 18:30	05/08/17 19:06	5
Molybdenum	ND		0.010	0.00085	mg/L		05/04/17 18:30	05/08/17 19:06	5
Selenium	ND		0.0013	0.00024	mg/L		05/04/17 18:30	05/08/17 19:06	5
Thallium	ND		0.00050	0.000085	mg/L		05/04/17 18:30	05/08/17 19:06	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		05/03/17 13:02	05/05/17 14:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	44		5.0	3.4	mg/L			04/29/17 14:20	1
Chloride	1.8	J	2.0	0.60	mg/L			05/04/17 17:03	1
Fluoride	0.060	J	0.10	0.032	mg/L			05/03/17 15:57	1
Sulfate	1.4	J	5.0	1.4	mg/L			05/04/17 17:09	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.45				SU			04/24/17 13:30	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Client Sample ID: DUP3-20170424

Lab Sample ID: 400-137046-1

Date Collected: 04/24/17 08:00

Matrix: Water

Date Received: 04/26/17 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			352434	05/04/17 18:30	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	352869	05/08/17 18:28	DRE	TAL PEN
Total/NA	Prep	7470A			352150	05/03/17 13:02	JAP	TAL PEN
Total/NA	Analysis	7470A		1	352555	05/05/17 13:54	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	351821	04/29/17 14:20	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	352404	05/04/17 15:31	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	352226	05/03/17 15:51	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	352403	05/04/17 15:23	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	351509	04/24/17 07:00	BWS	TAL PEN

Client Sample ID: MW-D2-20170424

Lab Sample ID: 400-137046-2

Date Collected: 04/24/17 10:35

Matrix: Water

Date Received: 04/26/17 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			352434	05/04/17 18:30	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	352869	05/08/17 18:35	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		352434	05/04/17 18:30	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	10	352869	05/08/17 19:38	DRE	TAL PEN
Total/NA	Prep	7470A			352150	05/03/17 13:02	JAP	TAL PEN
Total/NA	Analysis	7470A		1	352555	05/05/17 13:56	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	351821	04/29/17 14:20	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	352404	05/04/17 15:31	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	352226	05/03/17 15:49	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	352403	05/04/17 15:23	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	351509	04/24/17 09:35	BWS	TAL PEN

Client Sample ID: MW-D3-20170424

Lab Sample ID: 400-137046-3

Date Collected: 04/24/17 11:45

Matrix: Water

Date Received: 04/26/17 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			352434	05/04/17 18:30	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	352869	05/08/17 18:57	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		352434	05/04/17 18:30	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	10	352869	05/08/17 20:01	DRE	TAL PEN
Total/NA	Prep	7470A			352150	05/03/17 13:02	JAP	TAL PEN
Total/NA	Analysis	7470A		1	352555	05/05/17 13:58	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	351821	04/29/17 14:20	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	352404	05/04/17 15:31	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	352226	05/03/17 15:53	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	352403	05/04/17 15:23	BJB	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Field Sampling		1	351509	04/24/17 10:45	BWS	TAL PEN

Client Sample ID: MW-D1-20170424

Lab Sample ID: 400-137046-4

Date Collected: 04/24/17 12:55

Matrix: Water

Date Received: 04/26/17 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			352434	05/04/17 18:30	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	352869	05/08/17 19:02	DRE	TAL PEN
Total/NA	Prep	7470A			352150	05/03/17 13:02	JAP	TAL PEN
Total/NA	Analysis	7470A		1	352555	05/05/17 13:59	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	351821	04/29/17 14:20	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	352426	05/04/17 17:03	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	352226	05/03/17 15:55	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	352431	05/04/17 17:09	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	351509	04/24/17 11:55	BWS	TAL PEN

Client Sample ID: MW-U1-20170424

Lab Sample ID: 400-137046-5

Date Collected: 04/24/17 14:30

Matrix: Water

Date Received: 04/26/17 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			352434	05/04/17 18:30	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	352869	05/08/17 19:06	DRE	TAL PEN
Total/NA	Prep	7470A			352150	05/03/17 13:02	JAP	TAL PEN
Total/NA	Analysis	7470A		1	352555	05/05/17 14:01	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	351821	04/29/17 14:20	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	352426	05/04/17 17:03	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	352226	05/03/17 15:57	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	352431	05/04/17 17:09	BJB	TAL PEN
Total/NA	Analysis	Field Sampling		1	351509	04/24/17 13:30	BWS	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Metals

Prep Batch: 352150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-1	DUP3-20170424	Total/NA	Water	7470A	
400-137046-2	MW-D2-20170424	Total/NA	Water	7470A	
400-137046-3	MW-D3-20170424	Total/NA	Water	7470A	
400-137046-4	MW-D1-20170424	Total/NA	Water	7470A	
400-137046-5	MW-U1-20170424	Total/NA	Water	7470A	
MB 400-352150/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-352150/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-137027-C-1-B MS	Matrix Spike	Total/NA	Water	7470A	
400-137027-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Prep Batch: 352434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-1	DUP3-20170424	Total Recoverable	Water	3005A	
400-137046-2 - DL	MW-D2-20170424	Total Recoverable	Water	3005A	
400-137046-2	MW-D2-20170424	Total Recoverable	Water	3005A	
400-137046-3 - DL	MW-D3-20170424	Total Recoverable	Water	3005A	
400-137046-3	MW-D3-20170424	Total Recoverable	Water	3005A	
400-137046-4	MW-D1-20170424	Total Recoverable	Water	3005A	
400-137046-5	MW-U1-20170424	Total Recoverable	Water	3005A	
MB 400-352434/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-352434/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-137044-A-3-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-137044-A-3-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 352555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-1	DUP3-20170424	Total/NA	Water	7470A	352150
400-137046-2	MW-D2-20170424	Total/NA	Water	7470A	352150
400-137046-3	MW-D3-20170424	Total/NA	Water	7470A	352150
400-137046-4	MW-D1-20170424	Total/NA	Water	7470A	352150
400-137046-5	MW-U1-20170424	Total/NA	Water	7470A	352150
MB 400-352150/14-A	Method Blank	Total/NA	Water	7470A	352150
LCS 400-352150/15-A	Lab Control Sample	Total/NA	Water	7470A	352150
400-137027-C-1-B MS	Matrix Spike	Total/NA	Water	7470A	352150
400-137027-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	352150

Analysis Batch: 352869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-1	DUP3-20170424	Total Recoverable	Water	6020	352434
400-137046-2	MW-D2-20170424	Total Recoverable	Water	6020	352434
400-137046-2 - DL	MW-D2-20170424	Total Recoverable	Water	6020	352434
400-137046-3	MW-D3-20170424	Total Recoverable	Water	6020	352434
400-137046-3 - DL	MW-D3-20170424	Total Recoverable	Water	6020	352434
400-137046-4	MW-D1-20170424	Total Recoverable	Water	6020	352434
400-137046-5	MW-U1-20170424	Total Recoverable	Water	6020	352434
MB 400-352434/1-A ^5	Method Blank	Total Recoverable	Water	6020	352434
LCS 400-352434/2-A	Lab Control Sample	Total Recoverable	Water	6020	352434
400-137044-A-3-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	352434
400-137044-A-3-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	352434

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

General Chemistry

Analysis Batch: 351821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-1	DUP3-20170424	Total/NA	Water	SM 2540C	
400-137046-2	MW-D2-20170424	Total/NA	Water	SM 2540C	
400-137046-3	MW-D3-20170424	Total/NA	Water	SM 2540C	
400-137046-4	MW-D1-20170424	Total/NA	Water	SM 2540C	
400-137046-5	MW-U1-20170424	Total/NA	Water	SM 2540C	
MB 400-351821/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-351821/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-137046-4 DU	MW-D1-20170424	Total/NA	Water	SM 2540C	

Analysis Batch: 352226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-1	DUP3-20170424	Total/NA	Water	SM 4500 F C	
400-137046-2	MW-D2-20170424	Total/NA	Water	SM 4500 F C	
400-137046-3	MW-D3-20170424	Total/NA	Water	SM 4500 F C	
400-137046-4	MW-D1-20170424	Total/NA	Water	SM 4500 F C	
400-137046-5	MW-U1-20170424	Total/NA	Water	SM 4500 F C	
MB 400-352226/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-352226/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-137172-A-9 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-137172-A-9 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-137172-A-3 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 352403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-1	DUP3-20170424	Total/NA	Water	SM 4500 SO4 E	
400-137046-2	MW-D2-20170424	Total/NA	Water	SM 4500 SO4 E	
400-137046-3	MW-D3-20170424	Total/NA	Water	SM 4500 SO4 E	
MB 400-352403/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-352403/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-352403/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-137046-2 MS	MW-D2-20170424	Total/NA	Water	SM 4500 SO4 E	
400-137046-2 MSD	MW-D2-20170424	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 352404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-1	DUP3-20170424	Total/NA	Water	SM 4500 Cl- E	
400-137046-2	MW-D2-20170424	Total/NA	Water	SM 4500 Cl- E	
400-137046-3	MW-D3-20170424	Total/NA	Water	SM 4500 Cl- E	
MB 400-352404/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-352404/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-352404/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-137046-2 MS	MW-D2-20170424	Total/NA	Water	SM 4500 Cl- E	
400-137046-2 MSD	MW-D2-20170424	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 352426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-4	MW-D1-20170424	Total/NA	Water	SM 4500 Cl- E	
400-137046-5	MW-U1-20170424	Total/NA	Water	SM 4500 Cl- E	
MB 400-352426/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-352426/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-352426/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

General Chemistry (Continued)

Analysis Batch: 352426 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-4 MS	MW-D1-20170424	Total/NA	Water	SM 4500 Cl- E	
400-137046-4 MSD	MW-D1-20170424	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 352431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-4	MW-D1-20170424	Total/NA	Water	SM 4500 SO4 E	
400-137046-5	MW-U1-20170424	Total/NA	Water	SM 4500 SO4 E	
MB 400-352431/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-352431/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-352431/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-137046-4 MS	MW-D1-20170424	Total/NA	Water	SM 4500 SO4 E	
400-137046-4 MSD	MW-D1-20170424	Total/NA	Water	SM 4500 SO4 E	

Field Service / Mobile Lab

Analysis Batch: 351509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-1	DUP3-20170424	Total/NA	Water	Field Sampling	
400-137046-2	MW-D2-20170424	Total/NA	Water	Field Sampling	
400-137046-3	MW-D3-20170424	Total/NA	Water	Field Sampling	
400-137046-4	MW-D1-20170424	Total/NA	Water	Field Sampling	
400-137046-5	MW-U1-20170424	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-352434/1-A ^5
Matrix: Water
Analysis Batch: 352869

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 352434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		05/04/17 18:30	05/08/17 17:09	5
Arsenic	ND		0.0013	0.00046	mg/L		05/04/17 18:30	05/08/17 17:09	5
Barium	ND		0.0025	0.00049	mg/L		05/04/17 18:30	05/08/17 17:09	5
Beryllium	ND		0.0020	0.00034	mg/L		05/04/17 18:30	05/08/17 17:09	5
Boron	ND		0.050	0.021	mg/L		05/04/17 18:30	05/08/17 17:09	5
Cadmium	ND		0.0010	0.00034	mg/L		05/04/17 18:30	05/08/17 17:09	5
Calcium	ND		0.25	0.13	mg/L		05/04/17 18:30	05/08/17 17:09	5
Chromium	ND		0.0025	0.0011	mg/L		05/04/17 18:30	05/08/17 17:09	5
Cobalt	ND		0.0025	0.00040	mg/L		05/04/17 18:30	05/08/17 17:09	5
Lead	ND		0.0013	0.00035	mg/L		05/04/17 18:30	05/08/17 17:09	5
Lithium	ND		0.0025	0.0032	mg/L		05/04/17 18:30	05/08/17 17:09	5
Molybdenum	ND		0.010	0.00085	mg/L		05/04/17 18:30	05/08/17 17:09	5
Selenium	ND		0.0013	0.00024	mg/L		05/04/17 18:30	05/08/17 17:09	5
Thallium	ND		0.00050	0.000085	mg/L		05/04/17 18:30	05/08/17 17:09	5

Lab Sample ID: LCS 400-352434/2-A
Matrix: Water
Analysis Batch: 352869

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 352434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0521		mg/L		104	80 - 120
Arsenic	0.0500	0.0517		mg/L		103	80 - 120
Barium	0.0500	0.0488		mg/L		98	80 - 120
Beryllium	0.0500	0.0509		mg/L		102	80 - 120
Boron	0.100	0.104		mg/L		104	80 - 120
Cadmium	0.0500	0.0496		mg/L		99	80 - 120
Calcium	5.00	5.00		mg/L		100	80 - 120
Chromium	0.0500	0.0485		mg/L		97	80 - 120
Cobalt	0.0500	0.0538		mg/L		108	80 - 120
Lead	0.0500	0.0499		mg/L		100	80 - 120
Lithium	0.0500	0.0506		mg/L		101	80 - 120
Molybdenum	0.100	0.0953		mg/L		95	80 - 120
Selenium	0.0500	0.0512		mg/L		102	80 - 120
Thallium	0.0100	0.00922		mg/L		92	80 - 120

Lab Sample ID: 400-137044-A-3-B MS ^5
Matrix: Water
Analysis Batch: 352869

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 352434

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.0500	0.0540		mg/L		108	75 - 125
Arsenic	0.026		0.0500	0.0764		mg/L		101	75 - 125
Barium	0.43		0.0500	0.484	4	mg/L		108	75 - 125
Beryllium	ND		0.0500	0.0485		mg/L		97	75 - 125
Boron	0.032	J	0.100	0.134		mg/L		103	75 - 125
Cadmium	ND		0.0500	0.0493		mg/L		99	75 - 125
Calcium	180	E	5.00	181	E 4	mg/L		98	75 - 125
Chromium	ND		0.0500	0.0490		mg/L		98	75 - 125

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 400-137044-A-3-B MS ^5
Matrix: Water
Analysis Batch: 352869

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 352434

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Cobalt	ND		0.0500	0.0495		mg/L		99		75 - 125
Lead	ND		0.0500	0.0490		mg/L		98		75 - 125
Lithium	0.013		0.0500	0.0533		mg/L		80		75 - 125
Molybdenum	0.010		0.100	0.106		mg/L		95		75 - 125
Selenium	0.0091		0.0500	0.0591		mg/L		100		75 - 125
Thallium	ND		0.0100	0.00939		mg/L		94		75 - 125

Lab Sample ID: 400-137044-A-3-C MSD ^5
Matrix: Water
Analysis Batch: 352869

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 352434

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Antimony	ND		0.0500	0.0503		mg/L		101		75 - 125	7	20
Arsenic	0.026		0.0500	0.0750		mg/L		98		75 - 125	2	20
Barium	0.43		0.0500	0.467	4	mg/L		75		75 - 125	3	20
Beryllium	ND		0.0500	0.0486		mg/L		97		75 - 125	0	20
Boron	0.032	J	0.100	0.126		mg/L		95		75 - 125	6	20
Cadmium	ND		0.0500	0.0478		mg/L		96		75 - 125	3	20
Calcium	180	E	5.00	177	E 4	mg/L		36		75 - 125	2	20
Chromium	ND		0.0500	0.0483		mg/L		97		75 - 125	1	20
Cobalt	ND		0.0500	0.0483		mg/L		97		75 - 125	2	20
Lead	ND		0.0500	0.0470		mg/L		94		75 - 125	4	20
Lithium	0.013		0.0500	0.0540		mg/L		81		75 - 125	1	20
Molybdenum	0.010		0.100	0.0958		mg/L		86		75 - 125	10	20
Selenium	0.0091		0.0500	0.0545		mg/L		91		75 - 125	8	20
Thallium	ND		0.0100	0.00894		mg/L		89		75 - 125	5	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-352150/14-A
Matrix: Water
Analysis Batch: 352555

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 352150

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier								
Mercury	ND		0.00020	0.000070	mg/L		05/03/17 11:10	05/05/17 12:55		1

Lab Sample ID: LCS 400-352150/15-A
Matrix: Water
Analysis Batch: 352555

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 352150

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
		Added	Result					
Mercury	0.00101	0.000928		mg/L		92		80 - 120

Lab Sample ID: 400-137027-C-1-B MS
Matrix: Water
Analysis Batch: 352555

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 352150

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Mercury	ND		0.00201	0.00202		mg/L		100		80 - 120

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Lab Sample ID: 400-137027-C-1-C MSD
Matrix: Water
Analysis Batch: 352555

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 352150
%Rec. RPD

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	ND		0.00201	0.00201		mg/L		100	80 - 120	0	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 400-351821/1
Matrix: Water
Analysis Batch: 351821

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		5.0	3.4	mg/L			04/29/17 14:20	1

Lab Sample ID: LCS 400-351821/2
Matrix: Water
Analysis Batch: 351821

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	254		mg/L		87	78 - 122

Lab Sample ID: 400-137046-4 DU
Matrix: Water
Analysis Batch: 351821

Client Sample ID: MW-D1-20170424
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	62		62.0		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-352404/6
Matrix: Water
Analysis Batch: 352404

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	0.60	mg/L			05/04/17 14:24	1

Lab Sample ID: LCS 400-352404/7
Matrix: Water
Analysis Batch: 352404

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	32.1		mg/L		107	90 - 110

Lab Sample ID: MRL 400-352404/3
Matrix: Water
Analysis Batch: 352404

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.81	J	mg/L		90	50 - 150

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: 400-137046-2 MS
Matrix: Water
Analysis Batch: 352404

Client Sample ID: MW-D2-20170424
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.6		10.0	15.2		mg/L		95	73 - 120

Lab Sample ID: 400-137046-2 MSD
Matrix: Water
Analysis Batch: 352404

Client Sample ID: MW-D2-20170424
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.6		10.0	15.0		mg/L		94	73 - 120	1	8

Lab Sample ID: MB 400-352426/6
Matrix: Water
Analysis Batch: 352426

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	0.60	mg/L			05/04/17 16:37	1

Lab Sample ID: LCS 400-352426/7
Matrix: Water
Analysis Batch: 352426

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	32.7		mg/L		109	90 - 110

Lab Sample ID: MRL 400-352426/3
Matrix: Water
Analysis Batch: 352426

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.70	J	mg/L		85	50 - 150

Lab Sample ID: 400-137046-4 MS
Matrix: Water
Analysis Batch: 352426

Client Sample ID: MW-D1-20170424
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	4.2		10.0	12.1		mg/L		78	73 - 120

Lab Sample ID: 400-137046-4 MSD
Matrix: Water
Analysis Batch: 352426

Client Sample ID: MW-D1-20170424
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4.2		10.0	11.9		mg/L		77	73 - 120	1	8

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-352226/3
Matrix: Water
Analysis Batch: 352226

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.032	mg/L			05/03/17 15:34	1

Lab Sample ID: LCS 400-352226/4
Matrix: Water
Analysis Batch: 352226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.94		mg/L		99	90 - 110

Lab Sample ID: 400-137172-A-9 MS
Matrix: Water
Analysis Batch: 352226

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.090	J	1.00	1.06		mg/L		97	75 - 125

Lab Sample ID: 400-137172-A-9 MSD
Matrix: Water
Analysis Batch: 352226

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.090	J	1.00	1.04		mg/L		95	75 - 125	2	4

Lab Sample ID: 400-137172-A-3 DU
Matrix: Water
Analysis Batch: 352226

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.72		0.720		mg/L		0	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-352403/6
Matrix: Water
Analysis Batch: 352403

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.4	mg/L			05/04/17 14:26	1

Lab Sample ID: LCS 400-352403/7
Matrix: Water
Analysis Batch: 352403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.7		mg/L		98	90 - 110

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MRL 400-352403/3
Matrix: Water
Analysis Batch: 352403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.60	J	mg/L		92	50 - 150

Lab Sample ID: 400-137046-2 MS
Matrix: Water
Analysis Batch: 352403

Client Sample ID: MW-D2-20170424
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	21	F1	10.0	26.4	F1	mg/L		58	77 - 128

Lab Sample ID: 400-137046-2 MSD
Matrix: Water
Analysis Batch: 352403

Client Sample ID: MW-D2-20170424
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	21	F1	10.0	26.4	F1	mg/L		57	77 - 128	0	5

Lab Sample ID: MB 400-352431/6
Matrix: Water
Analysis Batch: 352431

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.4	mg/L			05/04/17 16:21	1

Lab Sample ID: LCS 400-352431/7
Matrix: Water
Analysis Batch: 352431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.3		mg/L		102	90 - 110

Lab Sample ID: MRL 400-352431/3
Matrix: Water
Analysis Batch: 352431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.81	J	mg/L		96	50 - 150

Lab Sample ID: 400-137046-4 MS
Matrix: Water
Analysis Batch: 352431

Client Sample ID: MW-D1-20170424
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	12		10.0	20.3		mg/L		80	77 - 128

Lab Sample ID: 400-137046-4 MSD
Matrix: Water
Analysis Batch: 352431

Client Sample ID: MW-D1-20170424
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	12		10.0	20.1		mg/L		78	77 - 128	1	5

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

- 1
- 2
- 3
- 4
- 5
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- 10
- 11
- 12
- 13
- 14

Client Information
 Client Contact: **STEPHEN W. RANDALL**
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 Company: Geosyntec Consultants, Inc.
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 Project Name: CCR App.III/IV GW Monitoring
 Site:
 Lab PM: Whitmire, Cheyenne R
 E-Mail: cheyenne.whitmire@testamericainc.com

Carrier Tracking No(s): 400-63389-26250.1
 Page: Page 1 of 1
 Job #: 400-137046

Analysis Requested

400-137046 COC

QR Code

400-137046 COC

6020-Sb,As,Ba,Be,Bi,Cd,Ca,Cr,Co,Pb,Li,Mo,Se,Te,Tl,7470A-Hg
 4500 F-C-Fluoride,2540C-Total Dissolved Solids
 SM4500 Cl-E-Chloride,SM4500 SO4-Sulfate,E
 9315_Ra226,9320_Ra228,Ra228Ra228_GFPc

Form MS/MSD (Yes or No) D N D
 Field Filtered Sample (Yes or No) N N D I I
 Perform MS/MSD (Yes or No) N N D I I
 SM4500 Cl-E-Chloride, SM4500 SO4-Sulfate, E
 4500 F-C-Fluoride, 2540C-Total Dissolved Solids
 6020-Sb,As,Ba,Be,Bi,Cd,Ca,Cr,Co,Pb,Li,Mo,Se,Te,Tl,7470A-Hg

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:	Field Filtered Sample (Yes or No)	Form MS/MSD (Yes or No)	Analysis Requested	Total Number of Containers	Special Instructions/Note:
DUP3-20170424	4/24/17	0800	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			PH: 6.60
MW-D2-20170424	4/24/17	1035	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			PH: 7.10
MW-D3-20170424	4/24/17	1145	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			PH: 7.03
MW-D1-20170424	4/24/17	1255	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			PH: 7.50
MW-U1-20170424	4/24/17	1430	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			PH: 7.45
				Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
				Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

Possible Hazard Identification
 Non-Hazard
 Flammable
 Skin Irritant
 Poison B
 Unknown
 Radiological

Deliverable Requested: I
 II
 III, IV, Other (specify)

Empty Kit Relinquished by:
 Date:
 Time:
 Method of Shipment:
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client
 Disposal By Lab
 Archive For _____ Months

Relinquished by: *Stephen W. Randall*
 Date/Time: 4/25/17 1650
 Company: **GEOSYNTEC**
Relinquished by: *[Signature]*
 Date/Time:
 Company:
Relinquished by: *[Signature]*
 Date/Time:
 Company:

Custody Seals Intact: Yes No
 Cooler Temperature(s) °C and Other Remarks: 3.90, 20.70C I 17



Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-137046-1

Login Number: 137046

List Source: TestAmerica Pensacola

List Number: 1

Creator: Siddoway, Benjamin

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.7°C, 20.7°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-1

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP Secondary AB	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	06-30-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17
West Virginia DEP	State Program	3	136	06-30-17

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-137046-2

Client Project/Site: CCR App.III/IV GW Monitoring

For:

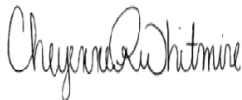
Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

5/30/2017 2:59:53 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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13



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Method Summary	4
Sample Summary	5
Client Sample Results	6
Definitions	11
Chronicle	12
QC Association	14
QC Sample Results	15
Chain of Custody	17
Receipt Checklists	18
Certification Summary	19

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Job ID: 400-137046-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-137046-2

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-306173. Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

DUP3-20170424 (400-137046-1), MW-D2-20170424 (400-137046-2), MW-D3-20170424 (400-137046-3), MW-D1-20170424 (400-137046-4) and MW-U1-20170424 (400-137046-5)

Method(s) PrecSep-21: Radium 226 Prep Batch 160-306174. Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

DUP3-20170424 (400-137046-1), MW-D2-20170424 (400-137046-2), MW-D3-20170424 (400-137046-3), MW-D1-20170424 (400-137046-4) and MW-U1-20170424 (400-137046-5)



Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-137046-1	DUP3-20170424	Water	04/24/17 08:00	04/26/17 09:03
400-137046-2	MW-D2-20170424	Water	04/24/17 10:35	04/26/17 09:03
400-137046-3	MW-D3-20170424	Water	04/24/17 11:45	04/26/17 09:03
400-137046-4	MW-D1-20170424	Water	04/24/17 12:55	04/26/17 09:03
400-137046-5	MW-U1-20170424	Water	04/24/17 14:30	04/26/17 09:03

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- 2
- 3
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- 10
- 11
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Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Client Sample ID: DUP3-20170424

Lab Sample ID: 400-137046-1

Date Collected: 04/24/17 08:00

Matrix: Water

Date Received: 04/26/17 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0666	U	0.0697	0.0700	1.00	0.111	pCi/L	04/28/17 11:14	05/23/17 08:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					04/28/17 11:14	05/23/17 08:54	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.388		0.223	0.226	1.00	0.330	pCi/L	04/28/17 10:55	05/12/17 11:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					04/28/17 10:55	05/12/17 11:10	1
Y Carrier	85.2		40 - 110					04/28/17 10:55	05/12/17 11:10	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.455		0.234	0.237	5.00	0.330	pCi/L		05/30/17 10:35	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Client Sample ID: MW-D2-20170424

Lab Sample ID: 400-137046-2

Date Collected: 04/24/17 10:35

Matrix: Water

Date Received: 04/26/17 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.295		0.103	0.106	1.00	0.0984	pCi/L	04/28/17 11:14	05/23/17 08:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					04/28/17 11:14	05/23/17 08:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.461		0.235	0.239	1.00	0.343	pCi/L	04/28/17 10:55	05/12/17 11:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					04/28/17 10:55	05/12/17 11:10	1
Y Carrier	87.9		40 - 110					04/28/17 10:55	05/12/17 11:10	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.756		0.256	0.261	5.00	0.343	pCi/L		05/30/17 10:35	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Client Sample ID: MW-D3-20170424

Lab Sample ID: 400-137046-3

Date Collected: 04/24/17 11:45

Matrix: Water

Date Received: 04/26/17 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.259		0.0984	0.101	1.00	0.0994	pCi/L	04/28/17 11:14	05/23/17 08:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.4		40 - 110					04/28/17 11:14	05/23/17 08:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.313	U	0.241	0.242	1.00	0.379	pCi/L	04/28/17 10:55	05/12/17 11:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.4		40 - 110					04/28/17 10:55	05/12/17 11:10	1
Y Carrier	84.9		40 - 110					04/28/17 10:55	05/12/17 11:10	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.572		0.260	0.262	5.00	0.379	pCi/L		05/30/17 10:35	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Client Sample ID: MW-D1-20170424

Lab Sample ID: 400-137046-4

Date Collected: 04/24/17 12:55

Matrix: Water

Date Received: 04/26/17 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0515	U	0.0590	0.0592	1.00	0.0953	pCi/L	04/28/17 11:14	05/23/17 08:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					04/28/17 11:14	05/23/17 08:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.160	U	0.202	0.203	1.00	0.335	pCi/L	04/28/17 10:55	05/12/17 11:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					04/28/17 10:55	05/12/17 11:10	1
Y Carrier	87.1		40 - 110					04/28/17 10:55	05/12/17 11:10	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.212	U	0.210	0.211	5.00	0.335	pCi/L		05/30/17 10:35	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Client Sample ID: MW-U1-20170424

Lab Sample ID: 400-137046-5

Date Collected: 04/24/17 14:30

Matrix: Water

Date Received: 04/26/17 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0285	U	0.0577	0.0578	1.00	0.104	pCi/L	04/28/17 11:14	05/23/17 08:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					04/28/17 11:14	05/23/17 08:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.162	U	0.220	0.220	1.00	0.367	pCi/L	04/28/17 11:04	05/12/17 11:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					04/28/17 11:04	05/12/17 11:10	1
Y Carrier	78.9		40 - 110					04/28/17 11:04	05/12/17 11:10	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.190	U	0.227	0.228	5.00	0.367	pCi/L		05/30/17 10:35	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Client Sample ID: DUP3-20170424

Lab Sample ID: 400-137046-1

Date Collected: 04/24/17 08:00

Matrix: Water

Date Received: 04/26/17 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306174	04/28/17 11:14	LDE	TAL SL
Total/NA	Analysis	9315		1	309863	05/23/17 08:54	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306173	04/28/17 10:55	LDE	TAL SL
Total/NA	Analysis	9320		1	308397	05/12/17 11:10	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	311124	05/30/17 10:35	RTM	TAL SL

Client Sample ID: MW-D2-20170424

Lab Sample ID: 400-137046-2

Date Collected: 04/24/17 10:35

Matrix: Water

Date Received: 04/26/17 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306174	04/28/17 11:14	LDE	TAL SL
Total/NA	Analysis	9315		1	309863	05/23/17 08:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306173	04/28/17 10:55	LDE	TAL SL
Total/NA	Analysis	9320		1	308397	05/12/17 11:10	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	311124	05/30/17 10:35	RTM	TAL SL

Client Sample ID: MW-D3-20170424

Lab Sample ID: 400-137046-3

Date Collected: 04/24/17 11:45

Matrix: Water

Date Received: 04/26/17 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306174	04/28/17 11:14	LDE	TAL SL
Total/NA	Analysis	9315		1	309863	05/23/17 08:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306173	04/28/17 10:55	LDE	TAL SL
Total/NA	Analysis	9320		1	308397	05/12/17 11:10	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	311124	05/30/17 10:35	RTM	TAL SL

Client Sample ID: MW-D1-20170424

Lab Sample ID: 400-137046-4

Date Collected: 04/24/17 12:55

Matrix: Water

Date Received: 04/26/17 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306174	04/28/17 11:14	LDE	TAL SL
Total/NA	Analysis	9315		1	309863	05/23/17 08:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306173	04/28/17 10:55	LDE	TAL SL
Total/NA	Analysis	9320		1	308397	05/12/17 11:10	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	311124	05/30/17 10:35	RTM	TAL SL

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Client Sample ID: MW-U1-20170424

Lab Sample ID: 400-137046-5

Date Collected: 04/24/17 14:30

Matrix: Water

Date Received: 04/26/17 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306174	04/28/17 11:14	LDE	TAL SL
Total/NA	Analysis	9315		1	309863	05/23/17 08:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306173	04/28/17 11:04	LDE	TAL SL
Total/NA	Analysis	9320		1	308397	05/12/17 11:10	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	311124	05/30/17 10:35	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Rad

Prep Batch: 306173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-1	DUP3-20170424	Total/NA	Water	PrecSep_0	
400-137046-2	MW-D2-20170424	Total/NA	Water	PrecSep_0	
400-137046-3	MW-D3-20170424	Total/NA	Water	PrecSep_0	
400-137046-4	MW-D1-20170424	Total/NA	Water	PrecSep_0	
400-137046-5	MW-U1-20170424	Total/NA	Water	PrecSep_0	
MB 160-306173/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-306173/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-306173/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 306174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-137046-1	DUP3-20170424	Total/NA	Water	PrecSep-21	
400-137046-2	MW-D2-20170424	Total/NA	Water	PrecSep-21	
400-137046-3	MW-D3-20170424	Total/NA	Water	PrecSep-21	
400-137046-4	MW-D1-20170424	Total/NA	Water	PrecSep-21	
400-137046-5	MW-U1-20170424	Total/NA	Water	PrecSep-21	
MB 160-306174/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-306174/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-306174/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
160-22067-B-1-B DU	Duplicate	Total/NA	Water	PrecSep-21	

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-306174/1-A
Matrix: Water
Analysis Batch: 309863

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 306174

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.006452	U	0.0519	0.0519	1.00	0.104	pCi/L	04/28/17 11:14	05/23/17 08:53	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		40 - 110					04/28/17 11:14	05/23/17 08:53	1

Lab Sample ID: LCS 160-306174/2-A
Matrix: Water
Analysis Batch: 309863

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 306174

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.4	9.615		1.01	1.00	0.0848	pCi/L	85	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	89.1		40 - 110						

Lab Sample ID: LCSD 160-306174/3-A
Matrix: Water
Analysis Batch: 309863

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 306174

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	11.4	9.861		1.04	1.00	0.0938	pCi/L	87	68 - 137	0.12	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba Carrier	89.4		40 - 110								

Lab Sample ID: 160-22067-B-1-B DU
Matrix: Water
Analysis Batch: 309863

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 306174

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.245		0.3797		0.128	1.00	0.116	pCi/L	0.56	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	83.5		40 - 110							

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-306173/1-A
Matrix: Water
Analysis Batch: 308397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 306173

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	-0.09896	U	0.202	0.203	1.00	0.379	pCi/L	04/28/17 10:55	05/12/17 11:09	1
Carrier	MB MB		Limits		Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier								
Ba Carrier	90.9		40 - 110		04/28/17 10:55	05/12/17 11:09	1			
Y Carrier	88.6		40 - 110		04/28/17 10:55	05/12/17 11:09	1			

Lab Sample ID: LCS 160-306173/2-A
Matrix: Water
Analysis Batch: 308397

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 306173

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-228	13.5	16.26		1.73	1.00	0.401	pCi/L	121	56 - 140
Carrier	LCS LCS		Limits		Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier							
Ba Carrier	89.1		40 - 110						
Y Carrier	84.1		40 - 110						

Lab Sample ID: LCSD 160-306173/3-A
Matrix: Water
Analysis Batch: 308397

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 306173

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER
				Uncert. (2σ+/-)							Limit
Radium-228	13.5	17.21		1.83	1.00	0.446	pCi/L	128	56 - 140	0.27	1
Carrier	LCSD LCSD		Limits		Prepared	Analyzed	Dil Fac				
	%Yield	Qualifier									
Ba Carrier	89.4		40 - 110								
Y Carrier	81.5		40 - 110								

Chain of Custody Record

Client Information		Lab PM: Whitmire, Cheyenne R		Carrier Tracking No(s):	
Client Contact: Jeremy Gasser		E-Mail: cheyenne.whitmire@testamericainc.com		COC No: 400-63389-26250.1	
Company: Geosyntec Consultants, Inc.		Due Date Requested:		Page: 1 of 1	
Address: 1255 Roberts Blvd, NW Suite 200		TAT Requested (days): Standard		Job #: 400-137046	
City: Kennesaw		PO #:		Preservation Codes:	
State, Zip: GA, 30144		WO #:		A - HCL M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - EDA Z - other (specify)	
Phone: 678-202-9583(Tel)		Project #:		Other:	
Email: jgasser@geosyntec.com		SSOW#:			
Project Name: CCR App.III/IV GW Monitoring					
Site:					

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Analysis Requested	Total Number of Containers	Special Instructions/Note:
					D	N	D	N			
DUP3-20170424	4/24/17	0800	G	Water	N	N	0	1			PH: 6.60
MW-02-20170424	4/24/17	1035	G	Water	N	N	0	1			PH: 7.10
MW-03-20170424	4/24/17	1145	G	Water	N	N	0	1			PH: 7.03
MW-01-20170424	4/24/17	1255	G	Water	N	N	0	1			PH: 7.50
MW-01-20170424	4/24/17	1430	G	Water	N	N	0	1			PH: 7.45
<i>LAST ITEM</i>											

Possible Hazard Identification			Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		
<input checked="" type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input type="checkbox"/> Radiological
Deliverable Requested: <input checked="" type="checkbox"/> III, <input type="checkbox"/> IV, Other (specify)			Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months		
Empty Kit Relinquished by:			Special Instructions/QC Requirements:		
Relinquished by: <i>Stephen W. Randall</i>			Method of Shipment:		
Relinquished by: <i>Stephen W. Randall</i>			Date:		
Relinquished by: <i>Stephen W. Randall</i>			Date/Time: 4/25/17 1650		
Relinquished by: <i>Stephen W. Randall</i>			Company: Geosyntec		
Relinquished by: <i>Stephen W. Randall</i>			Date/Time: 4/25/17 0903		
Relinquished by: <i>Stephen W. Randall</i>			Company: Geosyntec		
Relinquished by: <i>Stephen W. Randall</i>			Date/Time: 4/25/17 0903		
Relinquished by: <i>Stephen W. Randall</i>			Company: Geosyntec		

Custody Seals Intact: <input type="checkbox"/> A Yes <input type="checkbox"/> A No		Custody Seal No.:	
Cooler Temperature(s) °C and Other Remarks: 3.9°C, 20.7°C, 17.1°C			



Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-137046-2

Login Number: 137046

List Source: TestAmerica Pensacola

List Number: 1

Creator: Siddoway, Benjamin

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.7°C, 20.7°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	06-30-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17 *
West Virginia DEP	State Program	3	136	06-30-17

Laboratory: TestAmerica St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-17 *
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-17 *
Illinois	NELAP	5	200023	11-30-17
Iowa	State Program	7	373	02-01-18
Kansas	NELAP	7	E-10236	10-31-17
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-17 *
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-17
Missouri	State Program	7	780	06-30-17 *
Nevada	State Program	9	MO000542017-1	07-31-17
New Jersey	NELAP	2	MO002	06-30-17 *
New York	NELAP	2	11616	03-31-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Pensacola

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-137046-2

Laboratory: TestAmerica St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
North Dakota	State Program	8	R207	06-30-17
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17
Pennsylvania	NELAP	3	68-00540	02-21-18
South Carolina	State Program	4	85002001	06-30-17 *
Texas	NELAP	6	T104704193-16-10	07-31-17
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-17
Virginia	NELAP	3	460230	06-14-17 *
Washington	State Program	10	C592	08-30-17
West Virginia DEP	State Program	3	381	08-31-17 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Pensacola

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-138383-1

Client Project/Site: CCR App.III/IV GW Monitoring

For:

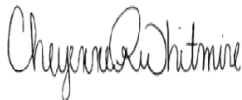
Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

6/8/2017 4:30:38 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12

13

14



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	6
Sample Summary	7
Client Sample Results	8
Definitions	13
Chronicle	14
QC Association	16
QC Sample Results	19
Chain of Custody	24
Receipt Checklists	25
Certification Summary	26

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Job ID: 400-138383-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-138383-1

Metals

Method(s) 6020: The post digestion spike % recovery for Calcium associated with batch 355886 was outside of control limits. The native concentration is >4X the spike added. The serial dilution (SD) meets acceptance criteria.

Method(s) 6020: Due to the high concentration of Calcium the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 355592 and analytical batch 355886 could not be evaluated for accuracy. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: DUP4-20170522 (400-138383-1), MW-D2-20170522 (400-138383-2) and MW-D3-20170522 (400-138383-3). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 F C: The sample duplicate RPD associated with batch 355961 exceeds limit, and or both samples results are less than 5 times RL. The data are considered valid because the absolute difference is less than RL: (400-138383-B-2 DU).

Method(s) SM 4500 SO4 E: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 355483 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of <AffectedAnalytes> in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Detection Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Client Sample ID: DUP4-20170522

Lab Sample ID: 400-138383-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00083	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.12		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.15		0.050	0.021	mg/L	5		6020	Total Recoverable
Molybdenum	0.0043	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.0023		0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00012	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	140		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	360		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.9		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.050	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	22		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.67				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D2-20170522

Lab Sample ID: 400-138383-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00048	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.12		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.15		0.050	0.021	mg/L	5		6020	Total Recoverable
Molybdenum	0.0025	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.0010	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00011	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	140		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	390		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	6.0		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	21		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.86				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D3-20170522

Lab Sample ID: 400-138383-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00092	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.21		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.25		0.050	0.021	mg/L	5		6020	Total Recoverable
Cobalt	0.0012	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Client Sample ID: MW-D3-20170522 (Continued)

Lab Sample ID: 400-138383-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	0.0031	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00037	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00011	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	130		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	370		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	4.6		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.11		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	28		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.88				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D1-20170522

Lab Sample ID: 400-138383-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.013		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.10		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	26		0.25	0.13	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	100		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.9		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.070	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	17		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.39				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-U1-20170522

Lab Sample ID: 400-138383-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0020	J	0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	36		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0014	J	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lead	0.00065	J	0.0013	0.00035	mg/L	5		6020	Total Recoverable
Selenium	0.00076	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	100		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	2.6		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1.5	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.77				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-138383-1	DUP4-20170522	Water	05/22/17 08:00	05/24/17 09:59
400-138383-2	MW-D2-20170522	Water	05/22/17 10:15	05/24/17 09:59
400-138383-3	MW-D3-20170522	Water	05/22/17 11:55	05/24/17 09:59
400-138383-4	MW-D1-20170522	Water	05/22/17 13:10	05/24/17 09:59
400-138383-5	MW-U1-20170522	Water	05/22/17 14:50	05/24/17 09:59

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Client Sample ID: DUP4-20170522

Lab Sample ID: 400-138383-1

Date Collected: 05/22/17 08:00

Matrix: Water

Date Received: 05/24/17 09:59

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		06/01/17 13:54	06/02/17 14:23	5
Arsenic	0.00083	J	0.0013	0.00046	mg/L		06/01/17 13:54	06/02/17 14:23	5
Barium	0.12		0.0025	0.00049	mg/L		06/01/17 13:54	06/02/17 14:23	5
Beryllium	ND		0.0020	0.00034	mg/L		06/01/17 13:54	06/02/17 14:23	5
Boron	0.15		0.050	0.021	mg/L		06/01/17 13:54	06/02/17 14:23	5
Cadmium	ND		0.0010	0.00034	mg/L		06/01/17 13:54	06/02/17 14:23	5
Chromium	ND		0.0025	0.0011	mg/L		06/01/17 13:54	06/02/17 14:23	5
Cobalt	ND		0.0025	0.00040	mg/L		06/01/17 13:54	06/02/17 14:23	5
Lead	ND		0.0013	0.00035	mg/L		06/01/17 13:54	06/02/17 14:23	5
Lithium	ND		0.0025	0.0032	mg/L		06/01/17 13:54	06/02/17 14:23	5
Molybdenum	0.0043	J	0.010	0.00085	mg/L		06/01/17 13:54	06/02/17 14:23	5
Selenium	0.0023		0.0013	0.00024	mg/L		06/01/17 13:54	06/02/17 14:23	5
Thallium	0.00012	J	0.00050	0.000085	mg/L		06/01/17 13:54	06/02/17 14:23	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140		0.50	0.25	mg/L		06/01/17 13:54	06/05/17 16:21	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		05/31/17 09:35	06/05/17 09:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	360		5.0	3.4	mg/L			05/26/17 16:31	1
Chloride	5.9		2.0	0.60	mg/L			05/30/17 11:11	1
Fluoride	0.050	J	0.10	0.032	mg/L			06/05/17 17:32	1
Sulfate	22		5.0	1.4	mg/L			05/31/17 08:30	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.67				SU			05/22/17 07:00	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Client Sample ID: MW-D2-20170522

Lab Sample ID: 400-138383-2

Date Collected: 05/22/17 10:15

Matrix: Water

Date Received: 05/24/17 09:59

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		06/01/17 13:54	06/02/17 14:46	5
Arsenic	0.00048	J	0.0013	0.00046	mg/L		06/01/17 13:54	06/02/17 14:46	5
Barium	0.12		0.0025	0.00049	mg/L		06/01/17 13:54	06/02/17 14:46	5
Beryllium	ND		0.0020	0.00034	mg/L		06/01/17 13:54	06/02/17 14:46	5
Boron	0.15		0.050	0.021	mg/L		06/01/17 13:54	06/02/17 14:46	5
Cadmium	ND		0.0010	0.00034	mg/L		06/01/17 13:54	06/02/17 14:46	5
Chromium	ND		0.0025	0.0011	mg/L		06/01/17 13:54	06/02/17 14:46	5
Cobalt	ND		0.0025	0.00040	mg/L		06/01/17 13:54	06/02/17 14:46	5
Lead	ND		0.0013	0.00035	mg/L		06/01/17 13:54	06/02/17 14:46	5
Lithium	ND		0.0025	0.0032	mg/L		06/01/17 13:54	06/02/17 14:46	5
Molybdenum	0.0025	J	0.010	0.00085	mg/L		06/01/17 13:54	06/02/17 14:46	5
Selenium	0.0010	J	0.0013	0.00024	mg/L		06/01/17 13:54	06/02/17 14:46	5
Thallium	0.00011	J	0.00050	0.000085	mg/L		06/01/17 13:54	06/02/17 14:46	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140		0.50	0.25	mg/L		06/01/17 13:54	06/05/17 16:25	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		05/31/17 09:35	06/05/17 09:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		5.0	3.4	mg/L			05/26/17 16:31	1
Chloride	6.0		2.0	0.60	mg/L			05/30/17 11:11	1
Fluoride	0.060	J	0.10	0.032	mg/L			06/05/17 17:23	1
Sulfate	21		5.0	1.4	mg/L			05/31/17 08:30	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.86				SU			05/22/17 09:15	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Client Sample ID: MW-D3-20170522

Lab Sample ID: 400-138383-3

Date Collected: 05/22/17 11:55

Matrix: Water

Date Received: 05/24/17 09:59

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		06/01/17 13:54	06/02/17 14:51	5
Arsenic	0.00092	J	0.0013	0.00046	mg/L		06/01/17 13:54	06/02/17 14:51	5
Barium	0.21		0.0025	0.00049	mg/L		06/01/17 13:54	06/02/17 14:51	5
Beryllium	ND		0.0020	0.00034	mg/L		06/01/17 13:54	06/02/17 14:51	5
Boron	0.25		0.050	0.021	mg/L		06/01/17 13:54	06/02/17 14:51	5
Cadmium	ND		0.0010	0.00034	mg/L		06/01/17 13:54	06/02/17 14:51	5
Chromium	ND		0.0025	0.0011	mg/L		06/01/17 13:54	06/02/17 14:51	5
Cobalt	0.0012	J	0.0025	0.00040	mg/L		06/01/17 13:54	06/02/17 14:51	5
Lead	ND		0.0013	0.00035	mg/L		06/01/17 13:54	06/02/17 14:51	5
Lithium	ND		0.0025	0.0032	mg/L		06/01/17 13:54	06/02/17 14:51	5
Molybdenum	0.0031	J	0.010	0.00085	mg/L		06/01/17 13:54	06/02/17 14:51	5
Selenium	0.00037	J	0.0013	0.00024	mg/L		06/01/17 13:54	06/02/17 14:51	5
Thallium	0.00011	J	0.00050	0.000085	mg/L		06/01/17 13:54	06/02/17 14:51	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130		0.50	0.25	mg/L		06/01/17 13:54	06/05/17 16:30	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		05/31/17 09:35	06/05/17 09:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	370		5.0	3.4	mg/L			05/26/17 16:31	1
Chloride	4.6		2.0	0.60	mg/L			05/30/17 11:11	1
Fluoride	0.11		0.10	0.032	mg/L			06/05/17 17:35	1
Sulfate	28		5.0	1.4	mg/L			05/31/17 08:55	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.88				SU			05/22/17 10:55	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Client Sample ID: MW-D1-20170522

Lab Sample ID: 400-138383-4

Date Collected: 05/22/17 13:10

Matrix: Water

Date Received: 05/24/17 09:59

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		06/01/17 13:54	06/02/17 14:55	5
Arsenic	ND		0.0013	0.00046	mg/L		06/01/17 13:54	06/02/17 14:55	5
Barium	0.013		0.0025	0.00049	mg/L		06/01/17 13:54	06/02/17 14:55	5
Beryllium	ND		0.0020	0.00034	mg/L		06/01/17 13:54	06/02/17 14:55	5
Boron	0.10		0.050	0.021	mg/L		06/01/17 13:54	06/02/17 14:55	5
Cadmium	ND		0.0010	0.00034	mg/L		06/01/17 13:54	06/02/17 14:55	5
Calcium	26		0.25	0.13	mg/L		06/01/17 13:54	06/02/17 14:55	5
Chromium	ND		0.0025	0.0011	mg/L		06/01/17 13:54	06/02/17 14:55	5
Cobalt	ND		0.0025	0.00040	mg/L		06/01/17 13:54	06/02/17 14:55	5
Lead	ND		0.0013	0.00035	mg/L		06/01/17 13:54	06/02/17 14:55	5
Lithium	ND		0.0025	0.0032	mg/L		06/01/17 13:54	06/02/17 14:55	5
Molybdenum	ND		0.010	0.00085	mg/L		06/01/17 13:54	06/02/17 14:55	5
Selenium	ND		0.0013	0.00024	mg/L		06/01/17 13:54	06/02/17 14:55	5
Thallium	ND		0.00050	0.000085	mg/L		06/01/17 13:54	06/02/17 14:55	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		05/31/17 09:35	06/05/17 09:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	100		5.0	3.4	mg/L			05/26/17 16:31	1
Chloride	5.9		2.0	0.60	mg/L			05/30/17 11:11	1
Fluoride	0.070	J	0.10	0.032	mg/L			06/05/17 17:37	1
Sulfate	17		5.0	1.4	mg/L			05/31/17 08:55	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.39				SU			05/22/17 12:10	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Client Sample ID: MW-U1-20170522

Lab Sample ID: 400-138383-5

Date Collected: 05/22/17 14:50

Matrix: Water

Date Received: 05/24/17 09:59

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		06/01/17 13:54	06/02/17 15:18	5
Arsenic	ND		0.0013	0.00046	mg/L		06/01/17 13:54	06/02/17 15:18	5
Barium	0.0020	J	0.0025	0.00049	mg/L		06/01/17 13:54	06/02/17 15:18	5
Beryllium	ND		0.0020	0.00034	mg/L		06/01/17 13:54	06/02/17 15:18	5
Boron	ND		0.050	0.021	mg/L		06/01/17 13:54	06/02/17 15:18	5
Cadmium	ND		0.0010	0.00034	mg/L		06/01/17 13:54	06/02/17 15:18	5
Calcium	36		0.25	0.13	mg/L		06/01/17 13:54	06/02/17 15:18	5
Chromium	0.0014	J	0.0025	0.0011	mg/L		06/01/17 13:54	06/02/17 15:18	5
Cobalt	ND		0.0025	0.00040	mg/L		06/01/17 13:54	06/02/17 15:18	5
Lead	0.00065	J	0.0013	0.00035	mg/L		06/01/17 13:54	06/02/17 15:18	5
Lithium	ND		0.0025	0.0032	mg/L		06/01/17 13:54	06/02/17 15:18	5
Molybdenum	ND		0.010	0.00085	mg/L		06/01/17 13:54	06/02/17 15:18	5
Selenium	0.00076	J	0.0013	0.00024	mg/L		06/01/17 13:54	06/02/17 15:18	5
Thallium	ND		0.00050	0.000085	mg/L		06/01/17 13:54	06/02/17 15:18	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		05/31/17 09:35	06/05/17 09:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	100		5.0	3.4	mg/L			05/26/17 16:31	1
Chloride	2.6		2.0	0.60	mg/L			05/30/17 11:11	1
Fluoride	0.060	J	0.10	0.032	mg/L			06/05/17 17:39	1
Sulfate	1.5	J	5.0	1.4	mg/L			05/31/17 08:55	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.77				SU			05/22/17 13:50	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Client Sample ID: DUP4-20170522

Date Collected: 05/22/17 08:00

Date Received: 05/24/17 09:59

Lab Sample ID: 400-138383-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			355592	06/01/17 13:54	JAP	TAL PEN
Total Recoverable	Analysis	6020		5	355886	06/02/17 14:23	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		355592	06/01/17 13:54	JAP	TAL PEN
Total Recoverable	Analysis	6020	DL	10	356002	06/05/17 16:21	DRE	TAL PEN
Total/NA	Prep	7470A			355398	05/31/17 09:35	JAP	TAL PEN
Total/NA	Analysis	7470A		1	355918	06/05/17 09:35	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	355086	05/26/17 16:31	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	355367	05/30/17 11:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	355961	06/05/17 17:32	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	355483	05/31/17 08:30	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	355638	05/22/17 07:00	BWS	TAL PEN

Client Sample ID: MW-D2-20170522

Date Collected: 05/22/17 10:15

Date Received: 05/24/17 09:59

Lab Sample ID: 400-138383-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			355592	06/01/17 13:54	JAP	TAL PEN
Total Recoverable	Analysis	6020		5	355886	06/02/17 14:46	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		355592	06/01/17 13:54	JAP	TAL PEN
Total Recoverable	Analysis	6020	DL	10	356002	06/05/17 16:25	DRE	TAL PEN
Total/NA	Prep	7470A			355398	05/31/17 09:35	JAP	TAL PEN
Total/NA	Analysis	7470A		1	355918	06/05/17 09:37	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	355086	05/26/17 16:31	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	355367	05/30/17 11:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	355961	06/05/17 17:23	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	355483	05/31/17 08:30	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	355638	05/22/17 09:15	BWS	TAL PEN

Client Sample ID: MW-D3-20170522

Date Collected: 05/22/17 11:55

Date Received: 05/24/17 09:59

Lab Sample ID: 400-138383-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			355592	06/01/17 13:54	JAP	TAL PEN
Total Recoverable	Analysis	6020		5	355886	06/02/17 14:51	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		355592	06/01/17 13:54	JAP	TAL PEN
Total Recoverable	Analysis	6020	DL	10	356002	06/05/17 16:30	DRE	TAL PEN
Total/NA	Prep	7470A			355398	05/31/17 09:35	JAP	TAL PEN
Total/NA	Analysis	7470A		1	355918	06/05/17 09:39	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	355086	05/26/17 16:31	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	355367	05/30/17 11:11	RRC	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Client Sample ID: MW-D3-20170522

Lab Sample ID: 400-138383-3

Date Collected: 05/22/17 11:55

Matrix: Water

Date Received: 05/24/17 09:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	355961	06/05/17 17:35	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	355483	05/31/17 08:55	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	355638	05/22/17 10:55	BWS	TAL PEN

Client Sample ID: MW-D1-20170522

Lab Sample ID: 400-138383-4

Date Collected: 05/22/17 13:10

Matrix: Water

Date Received: 05/24/17 09:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			355592	06/01/17 13:54	JAP	TAL PEN
Total Recoverable	Analysis	6020		5	355886	06/02/17 14:55	DRE	TAL PEN
Total/NA	Prep	7470A			355398	05/31/17 09:35	JAP	TAL PEN
Total/NA	Analysis	7470A		1	355918	06/05/17 09:41	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	355086	05/26/17 16:31	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	355367	05/30/17 11:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	355961	06/05/17 17:37	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	355483	05/31/17 08:55	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	355638	05/22/17 12:10	BWS	TAL PEN

Client Sample ID: MW-U1-20170522

Lab Sample ID: 400-138383-5

Date Collected: 05/22/17 14:50

Matrix: Water

Date Received: 05/24/17 09:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			355592	06/01/17 13:54	JAP	TAL PEN
Total Recoverable	Analysis	6020		5	355886	06/02/17 15:18	DRE	TAL PEN
Total/NA	Prep	7470A			355398	05/31/17 09:35	JAP	TAL PEN
Total/NA	Analysis	7470A		1	355918	06/05/17 09:42	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	355086	05/26/17 16:31	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	355367	05/30/17 11:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	355961	06/05/17 17:39	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	355483	05/31/17 08:55	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	355638	05/22/17 13:50	BWS	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Metals

Prep Batch: 355398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138383-1	DUP4-20170522	Total/NA	Water	7470A	
400-138383-2	MW-D2-20170522	Total/NA	Water	7470A	
400-138383-3	MW-D3-20170522	Total/NA	Water	7470A	
400-138383-4	MW-D1-20170522	Total/NA	Water	7470A	
400-138383-5	MW-U1-20170522	Total/NA	Water	7470A	
MB 400-355398/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-355398/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-138310-B-2-C MS	Matrix Spike	Total/NA	Water	7470A	
400-138310-B-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Prep Batch: 355592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138383-1	DUP4-20170522	Total Recoverable	Water	3005A	
400-138383-1 - DL	DUP4-20170522	Total Recoverable	Water	3005A	
400-138383-2 - DL	MW-D2-20170522	Total Recoverable	Water	3005A	
400-138383-2	MW-D2-20170522	Total Recoverable	Water	3005A	
400-138383-3 - DL	MW-D3-20170522	Total Recoverable	Water	3005A	
400-138383-3	MW-D3-20170522	Total Recoverable	Water	3005A	
400-138383-4	MW-D1-20170522	Total Recoverable	Water	3005A	
400-138383-5	MW-U1-20170522	Total Recoverable	Water	3005A	
MB 400-355592/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-355592/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-138383-1 MS	DUP4-20170522	Total Recoverable	Water	3005A	
400-138383-1 MSD	DUP4-20170522	Total Recoverable	Water	3005A	

Analysis Batch: 355886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138383-1	DUP4-20170522	Total Recoverable	Water	6020	355592
400-138383-2	MW-D2-20170522	Total Recoverable	Water	6020	355592
400-138383-3	MW-D3-20170522	Total Recoverable	Water	6020	355592
400-138383-4	MW-D1-20170522	Total Recoverable	Water	6020	355592
400-138383-5	MW-U1-20170522	Total Recoverable	Water	6020	355592
MB 400-355592/1-A ^5	Method Blank	Total Recoverable	Water	6020	355592
LCS 400-355592/2-A	Lab Control Sample	Total Recoverable	Water	6020	355592
400-138383-1 MS	DUP4-20170522	Total Recoverable	Water	6020	355592
400-138383-1 MSD	DUP4-20170522	Total Recoverable	Water	6020	355592

Analysis Batch: 355918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138383-1	DUP4-20170522	Total/NA	Water	7470A	355398
400-138383-2	MW-D2-20170522	Total/NA	Water	7470A	355398
400-138383-3	MW-D3-20170522	Total/NA	Water	7470A	355398
400-138383-4	MW-D1-20170522	Total/NA	Water	7470A	355398
400-138383-5	MW-U1-20170522	Total/NA	Water	7470A	355398
MB 400-355398/14-A	Method Blank	Total/NA	Water	7470A	355398
LCS 400-355398/15-A	Lab Control Sample	Total/NA	Water	7470A	355398
400-138310-B-2-C MS	Matrix Spike	Total/NA	Water	7470A	355398
400-138310-B-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	355398

QC Association Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Metals (Continued)

Analysis Batch: 356002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138383-1 - DL	DUP4-20170522	Total Recoverable	Water	6020	355592
400-138383-2 - DL	MW-D2-20170522	Total Recoverable	Water	6020	355592
400-138383-3 - DL	MW-D3-20170522	Total Recoverable	Water	6020	355592

General Chemistry

Analysis Batch: 355086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138383-1	DUP4-20170522	Total/NA	Water	SM 2540C	
400-138383-2	MW-D2-20170522	Total/NA	Water	SM 2540C	
400-138383-3	MW-D3-20170522	Total/NA	Water	SM 2540C	
400-138383-4	MW-D1-20170522	Total/NA	Water	SM 2540C	
400-138383-5	MW-U1-20170522	Total/NA	Water	SM 2540C	
MB 400-355086/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-355086/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-138310-A-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 355367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138383-1	DUP4-20170522	Total/NA	Water	SM 4500 Cl- E	
400-138383-2	MW-D2-20170522	Total/NA	Water	SM 4500 Cl- E	
400-138383-3	MW-D3-20170522	Total/NA	Water	SM 4500 Cl- E	
400-138383-4	MW-D1-20170522	Total/NA	Water	SM 4500 Cl- E	
400-138383-5	MW-U1-20170522	Total/NA	Water	SM 4500 Cl- E	
MB 400-355367/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-355367/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-355367/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-138410-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-138410-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 355483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138383-1	DUP4-20170522	Total/NA	Water	SM 4500 SO4 E	
400-138383-2	MW-D2-20170522	Total/NA	Water	SM 4500 SO4 E	
400-138383-3	MW-D3-20170522	Total/NA	Water	SM 4500 SO4 E	
400-138383-4	MW-D1-20170522	Total/NA	Water	SM 4500 SO4 E	
400-138383-5	MW-U1-20170522	Total/NA	Water	SM 4500 SO4 E	
MB 400-355483/15	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-355483/16	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-355483/12	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-138383-3 MS	MW-D3-20170522	Total/NA	Water	SM 4500 SO4 E	
400-138383-3 MSD	MW-D3-20170522	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 355961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138383-1	DUP4-20170522	Total/NA	Water	SM 4500 F C	
400-138383-2	MW-D2-20170522	Total/NA	Water	SM 4500 F C	
400-138383-3	MW-D3-20170522	Total/NA	Water	SM 4500 F C	
400-138383-4	MW-D1-20170522	Total/NA	Water	SM 4500 F C	
400-138383-5	MW-U1-20170522	Total/NA	Water	SM 4500 F C	

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

General Chemistry (Continued)

Analysis Batch: 355961 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-355961/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-355961/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-138310-A-5 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-138310-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-138383-2 DU	MW-D2-20170522	Total/NA	Water	SM 4500 F C	

Field Service / Mobile Lab

Analysis Batch: 355638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138383-1	DUP4-20170522	Total/NA	Water	Field Sampling	
400-138383-2	MW-D2-20170522	Total/NA	Water	Field Sampling	
400-138383-3	MW-D3-20170522	Total/NA	Water	Field Sampling	
400-138383-4	MW-D1-20170522	Total/NA	Water	Field Sampling	
400-138383-5	MW-U1-20170522	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-355592/1-A ^5
Matrix: Water
Analysis Batch: 355886

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 355592

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		06/01/17 13:53	06/02/17 14:14	5
Arsenic	ND		0.0013	0.00046	mg/L		06/01/17 13:53	06/02/17 14:14	5
Barium	ND		0.0025	0.00049	mg/L		06/01/17 13:53	06/02/17 14:14	5
Beryllium	ND		0.0020	0.00034	mg/L		06/01/17 13:53	06/02/17 14:14	5
Boron	ND		0.050	0.021	mg/L		06/01/17 13:53	06/02/17 14:14	5
Cadmium	ND		0.0010	0.00034	mg/L		06/01/17 13:53	06/02/17 14:14	5
Calcium	ND		0.25	0.13	mg/L		06/01/17 13:53	06/02/17 14:14	5
Chromium	ND		0.0025	0.0011	mg/L		06/01/17 13:53	06/02/17 14:14	5
Cobalt	ND		0.0025	0.00040	mg/L		06/01/17 13:53	06/02/17 14:14	5
Lead	ND		0.0013	0.00035	mg/L		06/01/17 13:53	06/02/17 14:14	5
Lithium	ND		0.0025	0.0032	mg/L		06/01/17 13:53	06/02/17 14:14	5
Molybdenum	ND		0.010	0.00085	mg/L		06/01/17 13:53	06/02/17 14:14	5
Selenium	ND		0.0013	0.00024	mg/L		06/01/17 13:53	06/02/17 14:14	5
Thallium	ND		0.00050	0.000085	mg/L		06/01/17 13:53	06/02/17 14:14	5

Lab Sample ID: LCS 400-355592/2-A
Matrix: Water
Analysis Batch: 355886

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 355592

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0546		mg/L		109	80 - 120
Arsenic	0.0500	0.0518		mg/L		104	80 - 120
Barium	0.0500	0.0519		mg/L		104	80 - 120
Beryllium	0.0500	0.0516		mg/L		103	80 - 120
Boron	0.100	0.106		mg/L		106	80 - 120
Cadmium	0.0500	0.0518		mg/L		104	80 - 120
Calcium	5.00	5.10		mg/L		102	80 - 120
Chromium	0.0500	0.0478		mg/L		96	80 - 120
Cobalt	0.0500	0.0477		mg/L		95	80 - 120
Lead	0.0500	0.0475		mg/L		95	80 - 120
Lithium	0.0500	0.0547		mg/L		109	80 - 120
Molybdenum	0.100	0.101		mg/L		101	80 - 120
Selenium	0.0500	0.0518		mg/L		104	80 - 120
Thallium	0.0100	0.0105		mg/L		105	80 - 120

Lab Sample ID: 400-138383-1 MS
Matrix: Water
Analysis Batch: 355886

Client Sample ID: DUP4-20170522
Prep Type: Total Recoverable
Prep Batch: 355592

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.0500	0.0577		mg/L		115	75 - 125
Arsenic	0.00083	J	0.0500	0.0547		mg/L		108	75 - 125
Barium	0.12		0.0500	0.178		mg/L		107	75 - 125
Beryllium	ND		0.0500	0.0520		mg/L		104	75 - 125
Boron	0.15		0.100	0.260		mg/L		105	75 - 125
Cadmium	ND		0.0500	0.0512		mg/L		102	75 - 125
Calcium	140	E	5.00	152	E 4	mg/L		195	75 - 125
Chromium	ND		0.0500	0.0491		mg/L		98	75 - 125

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 400-138383-1 MS

Matrix: Water

Analysis Batch: 355886

Client Sample ID: DUP4-20170522

Prep Type: Total Recoverable

Prep Batch: 355592

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.	
	Result	Qualifier		Result	Qualifier				Limits	RPD
Cobalt	ND		0.0500	0.0492		mg/L		98	75 - 125	
Lead	ND		0.0500	0.0470		mg/L		94	75 - 125	
Lithium	ND		0.0500	0.0488		mg/L		98	75 - 125	
Molybdenum	0.0043	J	0.100	0.107		mg/L		103	75 - 125	
Selenium	0.0023		0.0500	0.0544		mg/L		104	75 - 125	
Thallium	0.00012	J	0.0100	0.0105		mg/L		104	75 - 125	

Lab Sample ID: 400-138383-1 MSD

Matrix: Water

Analysis Batch: 355886

Client Sample ID: DUP4-20170522

Prep Type: Total Recoverable

Prep Batch: 355592

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Antimony	ND		0.0500	0.0568		mg/L		114	75 - 125	2	20	
Arsenic	0.00083	J	0.0500	0.0547		mg/L		108	75 - 125	0	20	
Barium	0.12		0.0500	0.181		mg/L		114	75 - 125	2	20	
Beryllium	ND		0.0500	0.0532		mg/L		106	75 - 125	2	20	
Boron	0.15		0.100	0.259		mg/L		105	75 - 125	0	20	
Cadmium	ND		0.0500	0.0530		mg/L		106	75 - 125	4	20	
Calcium	140	E	5.00	151	E 4	mg/L		164	75 - 125	1	20	
Chromium	ND		0.0500	0.0496		mg/L		99	75 - 125	1	20	
Cobalt	ND		0.0500	0.0494		mg/L		99	75 - 125	0	20	
Lead	ND		0.0500	0.0488		mg/L		98	75 - 125	4	20	
Lithium	ND		0.0500	0.0512		mg/L		102	75 - 125	5	20	
Molybdenum	0.0043	J	0.100	0.108		mg/L		104	75 - 125	1	20	
Selenium	0.0023		0.0500	0.0534		mg/L		102	75 - 125	2	20	
Thallium	0.00012	J	0.0100	0.0107		mg/L		106	75 - 125	2	20	

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-355398/14-A

Matrix: Water

Analysis Batch: 355918

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 355398

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020	0.000070	mg/L		05/31/17 09:34	06/05/17 09:32	1

Lab Sample ID: LCS 400-355398/15-A

Matrix: Water

Analysis Batch: 355918

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 355398

Analyte	Spike	LCS		Unit	D	%Rec	%Rec.	
		Added	Result				Qualifier	Limits
Mercury	0.00101	0.000965		mg/L		96	80 - 120	

Lab Sample ID: 400-138310-B-2-C MS

Matrix: Water

Analysis Batch: 355918

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 355398

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.	
	Result	Qualifier		Result	Qualifier				Limits	RPD
Mercury	ND		0.00201	0.00197		mg/L		98	80 - 120	

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Lab Sample ID: 400-138310-B-2-D MSD
Matrix: Water
Analysis Batch: 355918

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 355398

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00201	0.00198		mg/L		99	80 - 120	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 400-355086/1
Matrix: Water
Analysis Batch: 355086

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		5.0	3.4	mg/L			05/26/17 16:31	1

Lab Sample ID: LCS 400-355086/2
Matrix: Water
Analysis Batch: 355086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	278		mg/L		95	78 - 122

Lab Sample ID: 400-138310-A-4 DU
Matrix: Water
Analysis Batch: 355086

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	48		48.0		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-355367/6
Matrix: Water
Analysis Batch: 355367

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	0.60	mg/L			05/30/17 10:13	1

Lab Sample ID: LCS 400-355367/7
Matrix: Water
Analysis Batch: 355367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.3		mg/L		104	90 - 110

Lab Sample ID: MRL 400-355367/3
Matrix: Water
Analysis Batch: 355367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	2.16		mg/L		108	50 - 150

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: 400-138410-A-1 MS
Matrix: Water
Analysis Batch: 355367

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	14		10.0	24.3		mg/L		104	73 - 120

Lab Sample ID: 400-138410-A-1 MSD
Matrix: Water
Analysis Batch: 355367

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	14		10.0	24.2		mg/L		104	73 - 120	0	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-355961/3
Matrix: Water
Analysis Batch: 355961

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.032	mg/L			06/05/17 16:44	1

Lab Sample ID: LCS 400-355961/4
Matrix: Water
Analysis Batch: 355961

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.94		mg/L		99	90 - 110

Lab Sample ID: 400-138310-A-5 MS
Matrix: Water
Analysis Batch: 355961

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND		1.00	0.950		mg/L		95	75 - 125

Lab Sample ID: 400-138310-A-5 MSD
Matrix: Water
Analysis Batch: 355961

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		1.00	0.950		mg/L		95	75 - 125	0	4

Lab Sample ID: 400-138383-2 DU
Matrix: Water
Analysis Batch: 355961

Client Sample ID: MW-D2-20170522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.060	J	0.0500	J F5	mg/L		18	4

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-355483/15
Matrix: Water
Analysis Batch: 355483

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.4	mg/L			05/31/17 07:52	1

Lab Sample ID: LCS 400-355483/16
Matrix: Water
Analysis Batch: 355483

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.9		mg/L		99	90 - 110

Lab Sample ID: MRL 400-355483/12
Matrix: Water
Analysis Batch: 355483

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.55	J	mg/L		91	50 - 150

Lab Sample ID: 400-138383-3 MS
Matrix: Water
Analysis Batch: 355483

Client Sample ID: MW-D3-20170522
Prep Type: Total/NA


Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	28		10.0	37.1		mg/L		95	77 - 128

Lab Sample ID: 400-138383-3 MSD
Matrix: Water
Analysis Batch: 355483

Client Sample ID: MW-D3-20170522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	28		10.0	35.3		mg/L		77	77 - 128	5	5

Chain of Custody Record

Client Information Client Contact: Jeremy Gasser Company: Geosyntec Consultants, Inc. Address: 1255 Roberts Blvd, NW Suite 200 City: Kennesaw State, Zip: GA, 30144 Phone: 678-202-9583(Tel) Email: igasser@geosyntec.com Project Name: CCR App. III/IV GW Monitoring Site:		Sampler: STEPHEN W. RANDALL Lab PM: Whitmore, Cheyenne R Phone: 478-328-6181 E-Mail: cheyenne.whitmore@testamericainc.com		Carrier Tracking No(s): COC No: 400-63389-26250.1 Page: 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): Standard PO #: WO #: Project #: 40007960 SSOW#:		Analysis Requested  400-138383 COC			
Sample Identification Sample ID: DUP4-20170522 Location: MW-DZ-20170522 Date: 5/22/17 Time: 0800 Sample Type: G Preservation Code: Water		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Y Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Y SM4500 Cl-E-Chloride, SM4500 SO4-Sulfate, 4500 F-C-Fluoride, 2540C-Total Dissolved Solids, 6020-Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Ti, 7470A-Hg		Total Number of Containers: 3 Special Instructions/Note: PH: 6.67 PH: 6.86 PH: 6.88 PH: 6.39 PH: 7.77	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: <input checked="" type="checkbox"/> III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months			
Empty Kit Relinquished by: Date/Time: 5/23/17 1730 Company: Geosyntec		Method of Shipment: Date/Time: 5/24/17 9:59 Company:			
Relinquished by: Date/Time: 5/23/17 1730 Company: Geosyntec		Relinquished by: Date/Time: 5/24/17 9:59 Company:			
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.: 5821 27.2°C 1R2			

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-138383-1

Login Number: 138383

List Number: 1

Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	1 cooler no ice
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.8°C, 27.2°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-1

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	06-30-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-17

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-138383-2

Client Project/Site: CCR App.III/IV GW Monitoring

For:

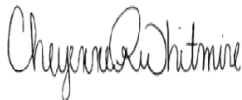
Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

6/26/2017 6:29:17 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Method Summary	4
Sample Summary	5
Client Sample Results	6
Definitions	11
Chronicle	12
QC Association	14
QC Sample Results	15
Chain of Custody	17
Receipt Checklists	18
Certification Summary	19

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Job ID: 400-138383-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-138383-2

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-311552. Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision. DUP4-20170522 (400-138383-1), MW-D2-20170522 (400-138383-2), MW-D3-20170522 (400-138383-3), MW-D1-20170522 (400-138383-4) and MW-U1-20170522 (400-138383-5)

Method(s) PrecSep-21: Radium 226 Prep Batch 160-311387. Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision. DUP4-20170522 (400-138383-1), MW-D2-20170522 (400-138383-2), MW-D3-20170522 (400-138383-3), MW-D1-20170522 (400-138383-4) and MW-U1-20170522 (400-138383-5)



Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-138383-1	DUP4-20170522	Water	05/22/17 08:00	05/24/17 09:59
400-138383-2	MW-D2-20170522	Water	05/22/17 10:15	05/24/17 09:59
400-138383-3	MW-D3-20170522	Water	05/22/17 11:55	05/24/17 09:59
400-138383-4	MW-D1-20170522	Water	05/22/17 13:10	05/24/17 09:59
400-138383-5	MW-U1-20170522	Water	05/22/17 14:50	05/24/17 09:59

- 1
- 2
- 3
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- 10
- 11
- 12
- 13

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Client Sample ID: DUP4-20170522

Lab Sample ID: 400-138383-1

Date Collected: 05/22/17 08:00

Matrix: Water

Date Received: 05/24/17 09:59

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.274		0.107	0.110	1.00	0.106	pCi/L	05/31/17 15:05	06/23/17 06:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					05/31/17 15:05	06/23/17 06:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.635		0.290	0.295	1.00	0.424	pCi/L	06/01/17 12:35	06/15/17 11:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					06/01/17 12:35	06/15/17 11:10	1
Y Carrier	85.2		40 - 110					06/01/17 12:35	06/15/17 11:10	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.909		0.309	0.315	5.00	0.424	pCi/L		06/23/17 12:52	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Client Sample ID: MW-D2-20170522

Lab Sample ID: 400-138383-2

Date Collected: 05/22/17 10:15

Matrix: Water

Date Received: 05/24/17 09:59

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.155		0.0824	0.0836	1.00	0.0933	pCi/L	05/31/17 15:05	06/23/17 06:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					05/31/17 15:05	06/23/17 06:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.178	U	0.214	0.215	1.00	0.354	pCi/L	06/01/17 12:35	06/15/17 11:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					06/01/17 12:35	06/15/17 11:10	1
Y Carrier	87.9		40 - 110					06/01/17 12:35	06/15/17 11:10	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.333	U	0.230	0.231	5.00	0.354	pCi/L		06/23/17 12:52	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Client Sample ID: MW-D3-20170522

Lab Sample ID: 400-138383-3

Date Collected: 05/22/17 11:55

Matrix: Water

Date Received: 05/24/17 09:59

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.210		0.102	0.104	1.00	0.126	pCi/L	05/31/17 15:05	06/23/17 06:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					05/31/17 15:05	06/23/17 06:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.248	U	0.209	0.211	1.00	0.334	pCi/L	06/01/17 12:35	06/15/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					06/01/17 12:35	06/15/17 11:11	1
Y Carrier	90.8		40 - 110					06/01/17 12:35	06/15/17 11:11	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.457		0.233	0.235	5.00	0.334	pCi/L		06/23/17 12:52	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Client Sample ID: MW-D1-20170522

Lab Sample ID: 400-138383-4

Date Collected: 05/22/17 13:10

Matrix: Water

Date Received: 05/24/17 09:59

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0915	U	0.0745	0.0750	1.00	0.108	pCi/L	05/31/17 15:05	06/23/17 06:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					05/31/17 15:05	06/23/17 06:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0942	U	0.227	0.227	1.00	0.390	pCi/L	06/01/17 12:35	06/15/17 11:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					06/01/17 12:35	06/15/17 11:12	1
Y Carrier	83.7		40 - 110					06/01/17 12:35	06/15/17 11:12	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.186	U	0.239	0.239	5.00	0.390	pCi/L		06/23/17 12:52	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Client Sample ID: MW-U1-20170522

Lab Sample ID: 400-138383-5

Date Collected: 05/22/17 14:50

Matrix: Water

Date Received: 05/24/17 09:59

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0230	U	0.0498	0.0498	1.00	0.0932	pCi/L	05/31/17 15:05	06/23/17 06:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.6		40 - 110					05/31/17 15:05	06/23/17 06:31	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.110	U	0.224	0.225	1.00	0.384	pCi/L	06/01/17 12:35	06/15/17 11:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.6		40 - 110					06/01/17 12:35	06/15/17 11:12	1
Y Carrier	86.7		40 - 110					06/01/17 12:35	06/15/17 11:12	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.133	U	0.230	0.230	5.00	0.384	pCi/L		06/23/17 12:52	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Client Sample ID: DUP4-20170522

Lab Sample ID: 400-138383-1

Date Collected: 05/22/17 08:00

Matrix: Water

Date Received: 05/24/17 09:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			311387	05/31/17 15:05	MBC	TAL SL
Total/NA	Analysis	9315		1	314991	06/23/17 06:30	ALD	TAL SL
Total/NA	Prep	PrecSep_0			311552	06/01/17 12:35	LDE	TAL SL
Total/NA	Analysis	9320		1	313460	06/15/17 11:10	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	315031	06/23/17 12:52	RTM	TAL SL

Client Sample ID: MW-D2-20170522

Lab Sample ID: 400-138383-2

Date Collected: 05/22/17 10:15

Matrix: Water

Date Received: 05/24/17 09:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			311387	05/31/17 15:05	MBC	TAL SL
Total/NA	Analysis	9315		1	314991	06/23/17 06:30	ALD	TAL SL
Total/NA	Prep	PrecSep_0			311552	06/01/17 12:35	LDE	TAL SL
Total/NA	Analysis	9320		1	313460	06/15/17 11:10	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	315031	06/23/17 12:52	RTM	TAL SL

Client Sample ID: MW-D3-20170522

Lab Sample ID: 400-138383-3

Date Collected: 05/22/17 11:55

Matrix: Water

Date Received: 05/24/17 09:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			311387	05/31/17 15:05	MBC	TAL SL
Total/NA	Analysis	9315		1	314991	06/23/17 06:30	ALD	TAL SL
Total/NA	Prep	PrecSep_0			311552	06/01/17 12:35	LDE	TAL SL
Total/NA	Analysis	9320		1	313461	06/15/17 11:11	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	315031	06/23/17 12:52	RTM	TAL SL

Client Sample ID: MW-D1-20170522

Lab Sample ID: 400-138383-4

Date Collected: 05/22/17 13:10

Matrix: Water

Date Received: 05/24/17 09:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			311387	05/31/17 15:05	MBC	TAL SL
Total/NA	Analysis	9315		1	314991	06/23/17 06:30	ALD	TAL SL
Total/NA	Prep	PrecSep_0			311552	06/01/17 12:35	LDE	TAL SL
Total/NA	Analysis	9320		1	313461	06/15/17 11:12	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	315031	06/23/17 12:52	RTM	TAL SL

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Client Sample ID: MW-U1-20170522

Lab Sample ID: 400-138383-5

Date Collected: 05/22/17 14:50

Matrix: Water

Date Received: 05/24/17 09:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			311387	05/31/17 15:05	MBC	TAL SL
Total/NA	Analysis	9315		1	314987	06/23/17 06:31	ALD	TAL SL
Total/NA	Prep	PrecSep_0			311552	06/01/17 12:35	LDE	TAL SL
Total/NA	Analysis	9320		1	313461	06/15/17 11:12	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	315031	06/23/17 12:52	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Rad

Prep Batch: 311387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138383-1	DUP4-20170522	Total/NA	Water	PrecSep-21	
400-138383-2	MW-D2-20170522	Total/NA	Water	PrecSep-21	
400-138383-3	MW-D3-20170522	Total/NA	Water	PrecSep-21	
400-138383-4	MW-D1-20170522	Total/NA	Water	PrecSep-21	
400-138383-5	MW-U1-20170522	Total/NA	Water	PrecSep-21	
MB 160-311387/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-311387/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-311387/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 311552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138383-1	DUP4-20170522	Total/NA	Water	PrecSep_0	
400-138383-2	MW-D2-20170522	Total/NA	Water	PrecSep_0	
400-138383-3	MW-D3-20170522	Total/NA	Water	PrecSep_0	
400-138383-4	MW-D1-20170522	Total/NA	Water	PrecSep_0	
400-138383-5	MW-U1-20170522	Total/NA	Water	PrecSep_0	
MB 160-311552/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-311552/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-311552/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-311387/1-A
Matrix: Water
Analysis Batch: 314985

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311387

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	-0.01105	U	0.0467	0.0467	1.00	0.104	pCi/L	05/31/17 15:05	06/23/17 06:22	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier		Prepared	Analyzed					
Ba Carrier	96.8		40 - 110	05/31/17 15:05	06/23/17 06:22	1				

Lab Sample ID: LCS 160-311387/2-A
Matrix: Water
Analysis Batch: 314985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311387

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.4	9.378		0.992	1.00	0.0821	pCi/L	83	68 - 137
Carrier	LCS LCS		Limits			Prepared	Analyzed	Dil Fac	
Ba Carrier	%Yield	Qualifier		Prepared	Analyzed				
Ba Carrier	98.5		40 - 110	05/31/17 15:05	06/23/17 06:22	1			

Lab Sample ID: LCSD 160-311387/3-A
Matrix: Water
Analysis Batch: 314985

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311387

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
				Uncert. (2σ+/-)							
Radium-226	11.4	9.817		1.03	1.00	0.0988	pCi/L	86	68 - 137	0.22	1
Carrier	LCSD LCSD		Limits			Prepared	Analyzed	Dil Fac			
Ba Carrier	%Yield	Qualifier		Prepared	Analyzed						
Ba Carrier	100		40 - 110	06/01/17 12:35	06/15/17 11:09	1					

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-311552/1-A
Matrix: Water
Analysis Batch: 313460

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311552

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.2348	U	0.233	0.234	1.00	0.379	pCi/L	06/01/17 12:35	06/15/17 11:09	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier		Prepared	Analyzed					
Ba Carrier	96.8		40 - 110	06/01/17 12:35	06/15/17 11:09	1				
Y Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
Y Carrier	%Yield	Qualifier		Prepared	Analyzed					
Y Carrier	82.2		40 - 110	06/01/17 12:35	06/15/17 11:09	1				

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-311552/2-A
Matrix: Water
Analysis Batch: 313460

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311552

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	13.3	13.52		1.45	1.00	0.338	pCi/L	102	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	98.5		40 - 110
Y Carrier	90.1		40 - 110


Lab Sample ID: LCSD 160-311552/3-A
Matrix: Water
Analysis Batch: 313460

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311552

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	13.3	14.25		1.51	1.00	0.340	pCi/L	107	56 - 140	0.25	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	100		40 - 110
Y Carrier	91.2		40 - 110

Chain of Custody Record

Client Information Client Contact: Jeremy Gasser Company: Geosyntec Consultants, Inc. Address: 1255 Roberts Blvd, NW Suite 200 City: Kennesaw State, Zip: GA, 30144 Phone: 678-202-9583(Tel) Email: igasser@geosyntec.com Project Name: CCR App. III/IV GW Monitoring Site:		Sampler: STEPHEN W. RANDALL Phone: 478-328-6181 Lab PM: Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com		Carrier Tracking No(s): COC No: 400-63389-26250.1 Page: Page 1 of 1 Job #:				
Due Date Requested: TAT Requested (days): Standard PO #: WO #: Project #: 40007960 SSOW#:		Analysis Requested  400-138383 COC						
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of Containers	Special Instructions/Note:
DUP4-20170522	5/22/17	0800	G	N	N	SM4500 Cl-E-Chloride, SM4500 SO4-Sulfate, 4500 F-C-Fluoride, 2540C-Total Dissolved Solids	3	PH: 6.67
MW-DZ-20170522	5/22/17	1015	G	N	N	SM4500 Cl-E-Chloride, SM4500 SO4-Sulfate, 4500 F-C-Fluoride, 2540C-Total Dissolved Solids	3	PH: 6.86
MW-D3-20170522	5/22/17	1155	G	N	N	SM4500 Cl-E-Chloride, SM4500 SO4-Sulfate, 4500 F-C-Fluoride, 2540C-Total Dissolved Solids	3	PH: 6.88
MW-D1-20170522	5/22/17	1310	G	N	N	SM4500 Cl-E-Chloride, SM4500 SO4-Sulfate, 4500 F-C-Fluoride, 2540C-Total Dissolved Solids	3	PH: 6.39
MW-U1-20170522	5/22/17	1450	G	N	N	SM4500 Cl-E-Chloride, SM4500 SO4-Sulfate, 4500 F-C-Fluoride, 2540C-Total Dissolved Solids	3	PH: 7.77
Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Other:								
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: <input checked="" type="checkbox"/> III, IV, Other (specify)								
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:								
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Relinquished by: Stephen W. Randall Date/Time: 5/23/17 1730 Company: Geosyntec Relinquished by: _____ Date/Time: _____ Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____								
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: 5.8°C / 27.2°C / 18.2								

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13

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-138383-2

Login Number: 138383

List Number: 1

Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	1 cooler no ice
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.8°C, 27.2°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	06-30-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-17

Laboratory: TestAmerica St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-17 *
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-18
Illinois	NELAP	5	200023	11-30-17
Iowa	State Program	7	373	02-01-18
Kansas	NELAP	7	E-10236	10-31-17
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-17 *
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-17
Missouri	State Program	7	780	06-30-17 *
Nevada	State Program	9	MO000542017-1	07-31-17 *
New Jersey	NELAP	2	MO002	06-30-17 *
New York	NELAP	2	11616	03-31-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-138383-2

Laboratory: TestAmerica St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
North Dakota	State Program	8	R207	06-30-17 *
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17
Pennsylvania	NELAP	3	68-00540	02-21-18
South Carolina	State Program	4	85002001	06-30-17 *
Texas	NELAP	6	T104704193-16-10	07-31-17 *
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-17 *
Virginia	NELAP	3	460230	06-14-18
Washington	State Program	10	C592	08-30-17
West Virginia DEP	State Program	3	381	08-31-17 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Pensacola

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-139647-1

Client Project/Site: CCR App.III/IV GW Monitoring

For:

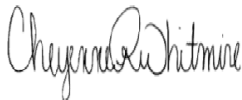
Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

7/14/2017 6:03:01 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12

13

14



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	6
Sample Summary	7
Client Sample Results	8
Definitions	13
Chronicle	14
QC Association	16
QC Sample Results	19
Chain of Custody	25
Receipt Checklists	26
Certification Summary	27

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Job ID: 400-139647-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-139647-1

Metals

Method(s) 6020: The method blank for preparation batch 358983 and analytical batch 359103 contained Selenium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-D2-20170619 (400-139647-2) and MW-D3-20170619 (400-139647-3). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 Cl- E: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 359411 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Chloride in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

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- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
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- 11
- 12
- 13
- 14

Detection Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Client Sample ID: DUP5-20170619

Lab Sample ID: 400-139647-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.0011	J	0.0025	0.0010	mg/L	5		6020	Total
Arsenic	0.00056	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.012		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.092		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	22		0.25	0.13	mg/L	5		6020	Total Recoverable
Molybdenum	0.0044	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	66		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	3.7		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.070	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	10		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	5.69				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D2-20170619

Lab Sample ID: 400-139647-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.11		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.14		0.050	0.021	mg/L	5		6020	Total Recoverable
Molybdenum	0.0016	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00059	J B	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00011	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	140		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	380		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.0		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	18		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.22				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D3-20170619

Lab Sample ID: 400-139647-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00097	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.21		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.24		0.050	0.021	mg/L	5		6020	Total Recoverable
Cobalt	0.0015	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Molybdenum	0.0043	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.0010	J B	0.0013	0.00024	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Client Sample ID: MW-D3-20170619 (Continued)

Lab Sample ID: 400-139647-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Thallium	0.00012	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	120		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	330		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	4.0		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.12		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	25		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.47				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D1-20170619

Lab Sample ID: 400-139647-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.012		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.091		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	22		0.25	0.13	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	62		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	3.7		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.080	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	10		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	5.66				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-U1-20170619

Lab Sample ID: 400-139647-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0021	J	0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	38		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0014	J	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00062	J B	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	92		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	1.9	J	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1.8	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	5.07				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-139647-1	DUP5-20170619	Water	06/19/17 08:00	06/21/17 09:09
400-139647-2	MW-D2-20170619	Water	06/19/17 10:05	06/21/17 09:09
400-139647-3	MW-D3-20170619	Water	06/19/17 11:35	06/21/17 09:09
400-139647-4	MW-D1-20170619	Water	06/19/17 12:50	06/21/17 09:09
400-139647-5	MW-U1-20170619	Water	06/19/17 14:40	06/21/17 09:09

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Client Sample ID: DUP5-20170619

Lab Sample ID: 400-139647-1

Date Collected: 06/19/17 08:00

Matrix: Water

Date Received: 06/21/17 09:09

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0011	J	0.0025	0.0010	mg/L		06/30/17 10:57	06/30/17 20:41	5
Arsenic	0.00056	J	0.0013	0.00046	mg/L		06/30/17 10:57	06/30/17 20:41	5
Barium	0.012		0.0025	0.00049	mg/L		06/30/17 10:57	06/30/17 20:41	5
Beryllium	ND		0.0020	0.00034	mg/L		06/30/17 10:57	06/30/17 20:41	5
Boron	0.092		0.050	0.021	mg/L		06/30/17 10:57	06/30/17 20:41	5
Cadmium	ND		0.0010	0.00034	mg/L		06/30/17 10:57	06/30/17 20:41	5
Calcium	22		0.25	0.13	mg/L		06/30/17 10:57	06/30/17 20:41	5
Chromium	ND		0.0025	0.0011	mg/L		06/30/17 10:57	06/30/17 20:41	5
Cobalt	ND		0.0025	0.00040	mg/L		06/30/17 10:57	06/30/17 20:41	5
Lead	ND		0.0013	0.00035	mg/L		06/30/17 10:57	06/30/17 20:41	5
Lithium	ND		0.0025	0.0032	mg/L		06/30/17 10:57	06/30/17 20:41	5
Molybdenum	0.0044	J	0.010	0.00085	mg/L		06/30/17 10:57	06/30/17 20:41	5
Thallium	ND		0.00050	0.000085	mg/L		06/30/17 10:57	06/30/17 20:41	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.0013	0.00024	mg/L		06/30/17 10:57	07/03/17 12:38	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		06/28/17 09:54	06/29/17 13:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	66		5.0	3.4	mg/L			06/24/17 12:50	1
Chloride	3.7		2.0	0.60	mg/L			07/01/17 11:18	1
Fluoride	0.070	J	0.10	0.032	mg/L			07/06/17 15:06	1
Sulfate	10		5.0	1.4	mg/L			07/01/17 12:59	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.69				SU			06/19/17 07:00	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Client Sample ID: MW-D2-20170619

Lab Sample ID: 400-139647-2

Date Collected: 06/19/17 10:05

Matrix: Water

Date Received: 06/21/17 09:09

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		06/30/17 10:57	06/30/17 20:46	5
Arsenic	ND		0.0013	0.00046	mg/L		06/30/17 10:57	06/30/17 20:46	5
Barium	0.11		0.0025	0.00049	mg/L		06/30/17 10:57	06/30/17 20:46	5
Beryllium	ND		0.0020	0.00034	mg/L		06/30/17 10:57	06/30/17 20:46	5
Boron	0.14		0.050	0.021	mg/L		06/30/17 10:57	06/30/17 20:46	5
Cadmium	ND		0.0010	0.00034	mg/L		06/30/17 10:57	06/30/17 20:46	5
Chromium	ND		0.0025	0.0011	mg/L		06/30/17 10:57	06/30/17 20:46	5
Cobalt	ND		0.0025	0.00040	mg/L		06/30/17 10:57	06/30/17 20:46	5
Lead	ND		0.0013	0.00035	mg/L		06/30/17 10:57	06/30/17 20:46	5
Lithium	ND		0.0025	0.0032	mg/L		06/30/17 10:57	06/30/17 20:46	5
Molybdenum	0.0016	J	0.010	0.00085	mg/L		06/30/17 10:57	06/30/17 20:46	5
Selenium	0.00059	J B	0.0013	0.00024	mg/L		06/30/17 10:57	06/30/17 20:46	5
Thallium	0.00011	J	0.00050	0.000085	mg/L		06/30/17 10:57	06/30/17 20:46	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140		0.50	0.25	mg/L		06/30/17 10:57	07/03/17 12:47	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		06/28/17 09:54	06/29/17 13:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	380		5.0	3.4	mg/L			06/24/17 12:50	1
Chloride	5.0		2.0	0.60	mg/L			07/01/17 11:18	1
Fluoride	0.060	J	0.10	0.032	mg/L			07/06/17 15:09	1
Sulfate	18		5.0	1.4	mg/L			07/01/17 12:59	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.22				SU			06/19/17 09:05	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Client Sample ID: MW-D3-20170619

Lab Sample ID: 400-139647-3

Date Collected: 06/19/17 11:35

Matrix: Water

Date Received: 06/21/17 09:09

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		06/30/17 10:57	06/30/17 21:08	5
Arsenic	0.00097	J	0.0013	0.00046	mg/L		06/30/17 10:57	06/30/17 21:08	5
Barium	0.21		0.0025	0.00049	mg/L		06/30/17 10:57	06/30/17 21:08	5
Beryllium	ND		0.0020	0.00034	mg/L		06/30/17 10:57	06/30/17 21:08	5
Boron	0.24		0.050	0.021	mg/L		06/30/17 10:57	06/30/17 21:08	5
Cadmium	ND		0.0010	0.00034	mg/L		06/30/17 10:57	06/30/17 21:08	5
Chromium	ND		0.0025	0.0011	mg/L		06/30/17 10:57	06/30/17 21:08	5
Cobalt	0.0015	J	0.0025	0.00040	mg/L		06/30/17 10:57	06/30/17 21:08	5
Lead	ND		0.0013	0.00035	mg/L		06/30/17 10:57	06/30/17 21:08	5
Lithium	ND		0.0025	0.0032	mg/L		06/30/17 10:57	06/30/17 21:08	5
Molybdenum	0.0043	J	0.010	0.00085	mg/L		06/30/17 10:57	06/30/17 21:08	5
Selenium	0.0010	J B	0.0013	0.00024	mg/L		06/30/17 10:57	06/30/17 21:08	5
Thallium	0.00012	J	0.00050	0.000085	mg/L		06/30/17 10:57	06/30/17 21:08	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120		0.50	0.25	mg/L		06/30/17 10:57	07/03/17 12:51	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		06/28/17 09:54	06/29/17 13:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	330		5.0	3.4	mg/L			06/24/17 12:50	1
Chloride	4.0		2.0	0.60	mg/L			07/01/17 11:18	1
Fluoride	0.12		0.10	0.032	mg/L			07/06/17 15:10	1
Sulfate	25		5.0	1.4	mg/L			07/01/17 12:59	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.47				SU			06/19/17 10:35	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Client Sample ID: MW-D1-20170619

Lab Sample ID: 400-139647-4

Date Collected: 06/19/17 12:50

Matrix: Water

Date Received: 06/21/17 09:09

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		06/30/17 10:57	06/30/17 21:13	5
Arsenic	ND		0.0013	0.00046	mg/L		06/30/17 10:57	06/30/17 21:13	5
Barium	0.012		0.0025	0.00049	mg/L		06/30/17 10:57	06/30/17 21:13	5
Beryllium	ND		0.0020	0.00034	mg/L		06/30/17 10:57	06/30/17 21:13	5
Boron	0.091		0.050	0.021	mg/L		06/30/17 10:57	06/30/17 21:13	5
Cadmium	ND		0.0010	0.00034	mg/L		06/30/17 10:57	06/30/17 21:13	5
Calcium	22		0.25	0.13	mg/L		06/30/17 10:57	06/30/17 21:13	5
Chromium	ND		0.0025	0.0011	mg/L		06/30/17 10:57	06/30/17 21:13	5
Cobalt	ND		0.0025	0.00040	mg/L		06/30/17 10:57	06/30/17 21:13	5
Lead	ND		0.0013	0.00035	mg/L		06/30/17 10:57	06/30/17 21:13	5
Lithium	ND		0.0025	0.0032	mg/L		06/30/17 10:57	06/30/17 21:13	5
Molybdenum	ND		0.010	0.00085	mg/L		06/30/17 10:57	06/30/17 21:13	5
Thallium	ND		0.00050	0.000085	mg/L		06/30/17 10:57	06/30/17 21:13	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.0013	0.00024	mg/L		06/30/17 10:57	07/03/17 12:43	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		06/28/17 09:54	06/29/17 13:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	62		5.0	3.4	mg/L			06/24/17 12:50	1
Chloride	3.7		2.0	0.60	mg/L			07/05/17 11:27	1
Fluoride	0.080	J	0.10	0.032	mg/L			07/06/17 15:12	1
Sulfate	10		5.0	1.4	mg/L			07/01/17 12:59	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.66				SU			06/19/17 11:50	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Client Sample ID: MW-U1-20170619

Lab Sample ID: 400-139647-5

Date Collected: 06/19/17 14:40

Matrix: Water

Date Received: 06/21/17 09:09

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		06/30/17 10:57	06/30/17 21:35	5
Arsenic	ND		0.0013	0.00046	mg/L		06/30/17 10:57	06/30/17 21:35	5
Barium	0.0021	J	0.0025	0.00049	mg/L		06/30/17 10:57	06/30/17 21:35	5
Beryllium	ND		0.0020	0.00034	mg/L		06/30/17 10:57	06/30/17 21:35	5
Boron	ND		0.050	0.021	mg/L		06/30/17 10:57	06/30/17 21:35	5
Cadmium	ND		0.0010	0.00034	mg/L		06/30/17 10:57	06/30/17 21:35	5
Calcium	38		0.25	0.13	mg/L		06/30/17 10:57	06/30/17 21:35	5
Chromium	0.0014	J	0.0025	0.0011	mg/L		06/30/17 10:57	06/30/17 21:35	5
Cobalt	ND		0.0025	0.00040	mg/L		06/30/17 10:57	06/30/17 21:35	5
Lead	ND		0.0013	0.00035	mg/L		06/30/17 10:57	06/30/17 21:35	5
Lithium	ND		0.0025	0.0032	mg/L		06/30/17 10:57	06/30/17 21:35	5
Molybdenum	ND		0.010	0.00085	mg/L		06/30/17 10:57	06/30/17 21:35	5
Selenium	0.00062	J B	0.0013	0.00024	mg/L		06/30/17 10:57	06/30/17 21:35	5
Thallium	ND		0.00050	0.000085	mg/L		06/30/17 10:57	06/30/17 21:35	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		06/28/17 09:54	06/29/17 13:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	92		5.0	3.4	mg/L			06/24/17 12:50	1
Chloride	1.9	J	2.0	0.60	mg/L			07/05/17 11:27	1
Fluoride	0.060	J	0.10	0.032	mg/L			07/06/17 15:15	1
Sulfate	1.8	J	5.0	1.4	mg/L			07/01/17 12:59	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.07				SU			06/19/17 13:40	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Client Sample ID: DUP5-20170619

Lab Sample ID: 400-139647-1

Date Collected: 06/19/17 08:00

Matrix: Water

Date Received: 06/21/17 09:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			358983	06/30/17 10:57	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	359103	06/30/17 20:41	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		358983	06/30/17 10:57	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	359310	07/03/17 12:38	DRE	TAL PEN
Total/NA	Prep	7470A			358656	06/28/17 09:54	JAP	TAL PEN
Total/NA	Analysis	7470A		1	358907	06/29/17 13:37	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	358221	06/24/17 12:50	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	359126	07/01/17 11:18	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	359578	07/06/17 15:06	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	359136	07/01/17 12:59	JLB	TAL PEN
Total/NA	Analysis	Field Sampling		1	357891	06/19/17 07:00	AW	TAL PEN

Client Sample ID: MW-D2-20170619

Lab Sample ID: 400-139647-2

Date Collected: 06/19/17 10:05

Matrix: Water

Date Received: 06/21/17 09:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			358983	06/30/17 10:57	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	359103	06/30/17 20:46	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		358983	06/30/17 10:57	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	10	359310	07/03/17 12:47	DRE	TAL PEN
Total/NA	Prep	7470A			358656	06/28/17 09:54	JAP	TAL PEN
Total/NA	Analysis	7470A		1	358907	06/29/17 13:44	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	358221	06/24/17 12:50	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	359126	07/01/17 11:18	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	359578	07/06/17 15:09	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	359136	07/01/17 12:59	JLB	TAL PEN
Total/NA	Analysis	Field Sampling		1	357891	06/19/17 09:05	AW	TAL PEN

Client Sample ID: MW-D3-20170619

Lab Sample ID: 400-139647-3

Date Collected: 06/19/17 11:35

Matrix: Water

Date Received: 06/21/17 09:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			358983	06/30/17 10:57	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	359103	06/30/17 21:08	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		358983	06/30/17 10:57	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	10	359310	07/03/17 12:51	DRE	TAL PEN
Total/NA	Prep	7470A			358656	06/28/17 09:54	JAP	TAL PEN
Total/NA	Analysis	7470A		1	358907	06/29/17 13:53	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	358221	06/24/17 12:50	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	359126	07/01/17 11:18	JLB	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Client Sample ID: MW-D3-20170619

Lab Sample ID: 400-139647-3

Date Collected: 06/19/17 11:35

Matrix: Water

Date Received: 06/21/17 09:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	359578	07/06/17 15:10	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	359136	07/01/17 12:59	JLB	TAL PEN
Total/NA	Analysis	Field Sampling		1	357891	06/19/17 10:35	AW	TAL PEN

Client Sample ID: MW-D1-20170619

Lab Sample ID: 400-139647-4

Date Collected: 06/19/17 12:50

Matrix: Water

Date Received: 06/21/17 09:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			358983	06/30/17 10:57	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	359103	06/30/17 21:13	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		358983	06/30/17 10:57	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	359310	07/03/17 12:43	DRE	TAL PEN
Total/NA	Prep	7470A			358656	06/28/17 09:54	JAP	TAL PEN
Total/NA	Analysis	7470A		1	358907	06/29/17 13:55	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	358221	06/24/17 12:50	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	359411	07/05/17 11:27	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	359578	07/06/17 15:12	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	359136	07/01/17 12:59	JLB	TAL PEN
Total/NA	Analysis	Field Sampling		1	357891	06/19/17 11:50	AW	TAL PEN

Client Sample ID: MW-U1-20170619

Lab Sample ID: 400-139647-5

Date Collected: 06/19/17 14:40

Matrix: Water

Date Received: 06/21/17 09:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			358983	06/30/17 10:57	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	359103	06/30/17 21:35	DRE	TAL PEN
Total/NA	Prep	7470A			358656	06/28/17 09:54	JAP	TAL PEN
Total/NA	Analysis	7470A		1	358907	06/29/17 13:57	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	358221	06/24/17 12:50	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	359411	07/05/17 11:27	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	359578	07/06/17 15:15	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	359136	07/01/17 12:59	JLB	TAL PEN
Total/NA	Analysis	Field Sampling		1	357891	06/19/17 13:40	AW	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Metals

Prep Batch: 358656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-1	DUP5-20170619	Total/NA	Water	7470A	
400-139647-2	MW-D2-20170619	Total/NA	Water	7470A	
400-139647-3	MW-D3-20170619	Total/NA	Water	7470A	
400-139647-4	MW-D1-20170619	Total/NA	Water	7470A	
400-139647-5	MW-U1-20170619	Total/NA	Water	7470A	
MB 400-358656/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-358656/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-139647-1 MS	DUP5-20170619	Total/NA	Water	7470A	
400-139647-1 MSD	DUP5-20170619	Total/NA	Water	7470A	

Analysis Batch: 358907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-1	DUP5-20170619	Total/NA	Water	7470A	358656
400-139647-2	MW-D2-20170619	Total/NA	Water	7470A	358656
400-139647-3	MW-D3-20170619	Total/NA	Water	7470A	358656
400-139647-4	MW-D1-20170619	Total/NA	Water	7470A	358656
400-139647-5	MW-U1-20170619	Total/NA	Water	7470A	358656
MB 400-358656/14-A	Method Blank	Total/NA	Water	7470A	358656
LCS 400-358656/15-A	Lab Control Sample	Total/NA	Water	7470A	358656
400-139647-1 MS	DUP5-20170619	Total/NA	Water	7470A	358656
400-139647-1 MSD	DUP5-20170619	Total/NA	Water	7470A	358656

Prep Batch: 358983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-1	DUP5-20170619	Total Recoverable	Water	3005A	
400-139647-1 - RA	DUP5-20170619	Total Recoverable	Water	3005A	
400-139647-2 - DL	MW-D2-20170619	Total Recoverable	Water	3005A	
400-139647-2	MW-D2-20170619	Total Recoverable	Water	3005A	
400-139647-3	MW-D3-20170619	Total Recoverable	Water	3005A	
400-139647-3 - DL	MW-D3-20170619	Total Recoverable	Water	3005A	
400-139647-4	MW-D1-20170619	Total Recoverable	Water	3005A	
400-139647-4 - RA	MW-D1-20170619	Total Recoverable	Water	3005A	
400-139647-5	MW-U1-20170619	Total Recoverable	Water	3005A	
MB 400-358983/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-358983/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-139647-2 MS	MW-D2-20170619	Total Recoverable	Water	3005A	
400-139647-2 MSD	MW-D2-20170619	Total Recoverable	Water	3005A	

Analysis Batch: 359103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-1	DUP5-20170619	Total Recoverable	Water	6020	358983
400-139647-2	MW-D2-20170619	Total Recoverable	Water	6020	358983
400-139647-3	MW-D3-20170619	Total Recoverable	Water	6020	358983
400-139647-4	MW-D1-20170619	Total Recoverable	Water	6020	358983
400-139647-5	MW-U1-20170619	Total Recoverable	Water	6020	358983
MB 400-358983/1-A ^5	Method Blank	Total Recoverable	Water	6020	358983
LCS 400-358983/2-A	Lab Control Sample	Total Recoverable	Water	6020	358983
400-139647-2 MS	MW-D2-20170619	Total Recoverable	Water	6020	358983
400-139647-2 MSD	MW-D2-20170619	Total Recoverable	Water	6020	358983

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Metals (Continued)

Analysis Batch: 359310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-1 - RA	DUP5-20170619	Total Recoverable	Water	6020	358983
400-139647-2 - DL	MW-D2-20170619	Total Recoverable	Water	6020	358983
400-139647-3 - DL	MW-D3-20170619	Total Recoverable	Water	6020	358983
400-139647-4 - RA	MW-D1-20170619	Total Recoverable	Water	6020	358983

General Chemistry

Analysis Batch: 358221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-1	DUP5-20170619	Total/NA	Water	SM 2540C	
400-139647-2	MW-D2-20170619	Total/NA	Water	SM 2540C	
400-139647-3	MW-D3-20170619	Total/NA	Water	SM 2540C	
400-139647-4	MW-D1-20170619	Total/NA	Water	SM 2540C	
400-139647-5	MW-U1-20170619	Total/NA	Water	SM 2540C	
MB 400-358221/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-358221/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-139647-5 DU	MW-U1-20170619	Total/NA	Water	SM 2540C	

Analysis Batch: 359126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-1	DUP5-20170619	Total/NA	Water	SM 4500 Cl- E	
400-139647-2	MW-D2-20170619	Total/NA	Water	SM 4500 Cl- E	
400-139647-3	MW-D3-20170619	Total/NA	Water	SM 4500 Cl- E	
MB 400-359126/15	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-359126/16	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-359126/12	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-139728-F-2 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-139728-F-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 359136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-1	DUP5-20170619	Total/NA	Water	SM 4500 SO4 E	
400-139647-2	MW-D2-20170619	Total/NA	Water	SM 4500 SO4 E	
400-139647-3	MW-D3-20170619	Total/NA	Water	SM 4500 SO4 E	
400-139647-4	MW-D1-20170619	Total/NA	Water	SM 4500 SO4 E	
400-139647-5	MW-U1-20170619	Total/NA	Water	SM 4500 SO4 E	
MB 400-359136/17	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-359136/18	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-359136/14	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-139647-2 MS	MW-D2-20170619	Total/NA	Water	SM 4500 SO4 E	
400-139647-2 MSD	MW-D2-20170619	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 359411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-4	MW-D1-20170619	Total/NA	Water	SM 4500 Cl- E	
400-139647-5	MW-U1-20170619	Total/NA	Water	SM 4500 Cl- E	
MB 400-359411/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-359411/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-359411/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-139515-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

General Chemistry (Continued)

Analysis Batch: 359411 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139515-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 359578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-1	DUP5-20170619	Total/NA	Water	SM 4500 F C	
400-139647-2	MW-D2-20170619	Total/NA	Water	SM 4500 F C	
400-139647-3	MW-D3-20170619	Total/NA	Water	SM 4500 F C	
400-139647-4	MW-D1-20170619	Total/NA	Water	SM 4500 F C	
400-139647-5	MW-U1-20170619	Total/NA	Water	SM 4500 F C	
MB 400-359578/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-359578/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-139470-A-29 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-139470-A-29 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-139817-A-1 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Field Service / Mobile Lab

Analysis Batch: 357891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-1	DUP5-20170619	Total/NA	Water	Field Sampling	
400-139647-2	MW-D2-20170619	Total/NA	Water	Field Sampling	
400-139647-3	MW-D3-20170619	Total/NA	Water	Field Sampling	
400-139647-4	MW-D1-20170619	Total/NA	Water	Field Sampling	
400-139647-5	MW-U1-20170619	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-358983/1-A ^5
Matrix: Water
Analysis Batch: 359103

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 358983

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		06/30/17 10:57	06/30/17 20:32	5
Arsenic	ND		0.0013	0.00046	mg/L		06/30/17 10:57	06/30/17 20:32	5
Barium	ND		0.0025	0.00049	mg/L		06/30/17 10:57	06/30/17 20:32	5
Beryllium	ND		0.0020	0.00034	mg/L		06/30/17 10:57	06/30/17 20:32	5
Boron	ND		0.050	0.021	mg/L		06/30/17 10:57	06/30/17 20:32	5
Cadmium	ND		0.0010	0.00034	mg/L		06/30/17 10:57	06/30/17 20:32	5
Calcium	ND		0.25	0.13	mg/L		06/30/17 10:57	06/30/17 20:32	5
Chromium	ND		0.0025	0.0011	mg/L		06/30/17 10:57	06/30/17 20:32	5
Cobalt	ND		0.0025	0.00040	mg/L		06/30/17 10:57	06/30/17 20:32	5
Lead	ND		0.0013	0.00035	mg/L		06/30/17 10:57	06/30/17 20:32	5
Lithium	ND		0.0025	0.0032	mg/L		06/30/17 10:57	06/30/17 20:32	5
Molybdenum	ND		0.010	0.00085	mg/L		06/30/17 10:57	06/30/17 20:32	5
Selenium	0.000285	J	0.0013	0.00024	mg/L		06/30/17 10:57	06/30/17 20:32	5
Thallium	ND		0.00050	0.000085	mg/L		06/30/17 10:57	06/30/17 20:32	5

Lab Sample ID: LCS 400-358983/2-A
Matrix: Water
Analysis Batch: 359103

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 358983

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.0500	0.0588		mg/L		118	80 - 120
Arsenic	0.0500	0.0518		mg/L		104	80 - 120
Barium	0.0500	0.0523		mg/L		105	80 - 120
Beryllium	0.0500	0.0521		mg/L		104	80 - 120
Boron	0.100	0.101		mg/L		101	80 - 120
Cadmium	0.0500	0.0512		mg/L		102	80 - 120
Calcium	5.00	5.19		mg/L		104	80 - 120
Chromium	0.0500	0.0536		mg/L		107	80 - 120
Cobalt	0.0500	0.0547		mg/L		109	80 - 120
Lead	0.0500	0.0512		mg/L		102	80 - 120
Lithium	0.0500	0.0484		mg/L		97	80 - 120
Molybdenum	0.100	0.108		mg/L		108	80 - 120
Selenium	0.0500	0.0509		mg/L		102	80 - 120
Thallium	0.0100	0.0102		mg/L		102	80 - 120

Lab Sample ID: 400-139647-2 MS
Matrix: Water
Analysis Batch: 359103

Client Sample ID: MW-D2-20170619
Prep Type: Total Recoverable
Prep Batch: 358983

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	ND		0.0500	0.0610		mg/L		122	75 - 125
Arsenic	ND		0.0500	0.0522		mg/L		104	75 - 125
Barium	0.11		0.0500	0.162		mg/L		97	75 - 125
Beryllium	ND		0.0500	0.0522		mg/L		104	75 - 125
Boron	0.14		0.100	0.245		mg/L		107	75 - 125
Cadmium	ND		0.0500	0.0509		mg/L		102	75 - 125
Calcium	130	E	5.00	135	E 4	mg/L		56	75 - 125
Chromium	ND		0.0500	0.0536		mg/L		107	75 - 125

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 400-139647-2 MS
Matrix: Water
Analysis Batch: 359103

Client Sample ID: MW-D2-20170619
Prep Type: Total Recoverable
Prep Batch: 358983

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	ND		0.0500	0.0538		mg/L		108	75 - 125
Lead	ND		0.0500	0.0510		mg/L		102	75 - 125
Lithium	ND		0.0500	0.0469		mg/L		94	75 - 125
Molybdenum	0.0016	J	0.100	0.112		mg/L		110	75 - 125
Selenium	0.00059	J B	0.0500	0.0536		mg/L		106	75 - 125
Thallium	0.00011	J	0.0100	0.0104		mg/L		103	75 - 125

Lab Sample ID: 400-139647-2 MSD
Matrix: Water
Analysis Batch: 359103

Client Sample ID: MW-D2-20170619
Prep Type: Total Recoverable
Prep Batch: 358983

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Antimony	ND		0.0500	0.0600		mg/L		120	75 - 125	2	20
Arsenic	ND		0.0500	0.0511		mg/L		102	75 - 125	2	20
Barium	0.11		0.0500	0.162		mg/L		96	75 - 125	0	20
Beryllium	ND		0.0500	0.0539		mg/L		108	75 - 125	3	20
Boron	0.14		0.100	0.251		mg/L		112	75 - 125	2	20
Cadmium	ND		0.0500	0.0522		mg/L		104	75 - 125	3	20
Calcium	130	E	5.00	134	E 4	mg/L		45	75 - 125	0	20
Chromium	ND		0.0500	0.0534		mg/L		107	75 - 125	0	20
Cobalt	ND		0.0500	0.0540		mg/L		108	75 - 125	0	20
Lead	ND		0.0500	0.0514		mg/L		103	75 - 125	1	20
Lithium	ND		0.0500	0.0500		mg/L		100	75 - 125	6	20
Molybdenum	0.0016	J	0.100	0.112		mg/L		110	75 - 125	0	20
Selenium	0.00059	J B	0.0500	0.0540		mg/L		107	75 - 125	1	20
Thallium	0.00011	J	0.0100	0.0103		mg/L		102	75 - 125	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-358656/14-A
Matrix: Water
Analysis Batch: 358907

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358656

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		06/28/17 09:49	06/29/17 13:33	1

Lab Sample ID: LCS 400-358656/15-A
Matrix: Water
Analysis Batch: 358907

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358656

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.000986		mg/L		98	80 - 120

Lab Sample ID: 400-139647-1 MS
Matrix: Water
Analysis Batch: 358907

Client Sample ID: DUP5-20170619
Prep Type: Total/NA
Prep Batch: 358656

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00201	0.00198		mg/L		98	80 - 120

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Lab Sample ID: 400-139647-1 MSD
Matrix: Water
Analysis Batch: 358907

Client Sample ID: DUP5-20170619
Prep Type: Total/NA
Prep Batch: 358656

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00201	0.00199		mg/L		99	80 - 120	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 400-358221/1
Matrix: Water
Analysis Batch: 358221

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		5.0	3.4	mg/L			06/24/17 12:50	1

Lab Sample ID: LCS 400-358221/2
Matrix: Water
Analysis Batch: 358221

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	286		mg/L		98	78 - 122

Lab Sample ID: 400-139647-5 DU
Matrix: Water
Analysis Batch: 358221

Client Sample ID: MW-U1-20170619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	92		92.0		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-359126/15
Matrix: Water
Analysis Batch: 359126

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	0.60	mg/L			07/01/17 10:36	1

Lab Sample ID: LCS 400-359126/16
Matrix: Water
Analysis Batch: 359126

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.2		mg/L		104	90 - 110

Lab Sample ID: MRL 400-359126/12
Matrix: Water
Analysis Batch: 359126

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.71	J	mg/L		86	50 - 150

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: 400-139728-F-2 MS
Matrix: Water
Analysis Batch: 359126

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	39		10.0	47.1		mg/L		86	73 - 120

Lab Sample ID: 400-139728-F-2 MSD
Matrix: Water
Analysis Batch: 359126

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	39		10.0	47.1		mg/L		85	73 - 120	0	8

Lab Sample ID: MB 400-359411/6
Matrix: Water
Analysis Batch: 359411

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	0.60	mg/L			07/05/17 11:11	1

Lab Sample ID: LCS 400-359411/7
Matrix: Water
Analysis Batch: 359411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	30.2		mg/L		101	90 - 110

Lab Sample ID: MRL 400-359411/3
Matrix: Water
Analysis Batch: 359411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.99	J	mg/L		100	50 - 150

Lab Sample ID: 400-139515-A-4 MS
Matrix: Water
Analysis Batch: 359411

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	44		10.0	52.1	4	mg/L		77	73 - 120

Lab Sample ID: 400-139515-A-4 MSD
Matrix: Water
Analysis Batch: 359411

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	44		10.0	51.9	4	mg/L		74	73 - 120	0	8

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-359578/3
Matrix: Water
Analysis Batch: 359578

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.032	mg/L			07/06/17 14:46	1

Lab Sample ID: LCS 400-359578/4
Matrix: Water
Analysis Batch: 359578

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.18		mg/L		105	90 - 110

Lab Sample ID: 400-139470-A-29 MS
Matrix: Water
Analysis Batch: 359578

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.63		1.00	1.74		mg/L		111	75 - 125

Lab Sample ID: 400-139470-A-29 MSD
Matrix: Water
Analysis Batch: 359578

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.63		1.00	1.74		mg/L		111	75 - 125	0	4

Lab Sample ID: 400-139817-A-1 DU
Matrix: Water
Analysis Batch: 359578

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	ND		ND		mg/L		NC	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-359136/17
Matrix: Water
Analysis Batch: 359136

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.4	mg/L			07/01/17 12:42	1

Lab Sample ID: LCS 400-359136/18
Matrix: Water
Analysis Batch: 359136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.1		mg/L		101	90 - 110

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MRL 400-359136/14
Matrix: Water
Analysis Batch: 359136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.15	J	mg/L		83	50 - 150

Lab Sample ID: 400-139647-2 MS
Matrix: Water
Analysis Batch: 359136

Client Sample ID: MW-D2-20170619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	18		10.0	29.0		mg/L		110	77 - 128

Lab Sample ID: 400-139647-2 MSD
Matrix: Water
Analysis Batch: 359136

Client Sample ID: MW-D2-20170619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	18		10.0	29.0		mg/L		110	77 - 128	0	5



TestAmerica Pensacola
 3355 McLeamore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
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Client Information		Sampler:		Lab PM:		Carrier Tracking No(s):	
Company: Geosyntec Consultants, Inc.		Address: 1255 Roberts Blvd, NW Suite 200 City: Kennesaw State, Zip: GA, 30144 Phone: 678-202-9583 (Tel) Email: jgasser@geosyntec.com		STEPHEN W. RANDALL Phone: 478-328-6181 E-Mail: cheyenne.whitmire@testamericainc.com		400-63389-26250.1	
Project Name: CCR App.III/IV GW Monitoring		Project #: 40007960		Whitmire, Cheyenne R.		Page: Page 1 of 1	
Site:		SSOW#:		E-Mail: cheyenne.whitmire@testamericainc.com		Job #:	
Due Date Requested:							
TAT Requested (days): Standard							
PO #:							
WO #:							
Field Filtered Sample (Yes or No)							
Perform MS/MSD (Yes or No)							
Field Filtration Method							
Sample Identification							
Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code	Analysis Requested	Analysis Requested	Special Instructions/Note
DUP5-20170619	6/19/17	0800	G	Water			PH: 5.69
MW-D2-20170619	6/19/17	1005	G	Water			PH: 6.22
MW-D3-20170619	6/19/17	1135	G	Water			PH: 6.47
MW-D1-20170619	6/19/17	1250	G	Water			PH: 5.66
MW-U1-20170619	6/19/17	1440	G	Water			PH: 5.07
Water							
Water							
LAST ITEM							
Total Number of Containers:							
Special Instructions/Note:							
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)							
Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months							
Special Instructions/QC Requirements:							
Method of Shipment:							
Date/Time:							
Received by: <i>Stephen W. Randall</i> Company: <i>Geosyntec</i>							
Received by: <i>6/20/17 1600</i> Company: <i>Geosyntec</i>							
Received by: <i>6/20/17 0909</i> Company: <i>Geosyntec</i>							
Received by: <i>6/20/17 0909</i> Company: <i>Geosyntec</i>							
Cooler Temperature(s) °C and Other Remarks: <i>19°C 7/17</i>							

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-139647-1

Login Number: 139647

List Number: 1

Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	23.2°C IR-2(RAD) 4.9°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-1

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17 *
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-17 *
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17 *
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-139647-2

Client Project/Site: CCR App.III/IV GW Monitoring

For:

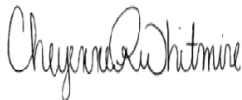
Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

7/21/2017 6:59:02 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Method Summary	4
Sample Summary	5
Client Sample Results	6
Definitions	11
Chronicle	12
QC Association	14
QC Sample Results	15
Chain of Custody	17
Receipt Checklists	18
Certification Summary	19

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Job ID: 400-139647-2

Laboratory: TestAmerica Pensacola

Narrative

**Job Narrative
400-139647-2**

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-315805. Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision. DUP5-20170619 (400-139647-1), MW-D2-20170619 (400-139647-2), MW-D3-20170619 (400-139647-3), MW-D1-20170619 (400-139647-4) and MW-U1-20170619 (400-139647-5)

Method(s) PrecSep-21: Radium 226 Prep Batch 160-315784. Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision. DUP5-20170619 (400-139647-1), MW-D2-20170619 (400-139647-2), MW-D3-20170619 (400-139647-3), MW-D1-20170619 (400-139647-4) and MW-U1-20170619 (400-139647-5)



Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-139647-1	DUP5-20170619	Water	06/19/17 08:00	06/21/17 09:09
400-139647-2	MW-D2-20170619	Water	06/19/17 10:05	06/21/17 09:09
400-139647-3	MW-D3-20170619	Water	06/19/17 11:35	06/21/17 09:09
400-139647-4	MW-D1-20170619	Water	06/19/17 12:50	06/21/17 09:09
400-139647-5	MW-U1-20170619	Water	06/19/17 14:40	06/21/17 09:09

- 1
- 2
- 3
- 4
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- 10
- 11
- 12
- 13

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Client Sample ID: DUP5-20170619

Lab Sample ID: 400-139647-1

Date Collected: 06/19/17 08:00

Matrix: Water

Date Received: 06/21/17 09:09

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0566	U	0.0588	0.0590	1.00	0.0919	pCi/L	06/29/17 08:38	07/21/17 06:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/29/17 08:38	07/21/17 06:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.185	U	0.206	0.207	1.00	0.338	pCi/L	06/29/17 09:19	07/13/17 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/29/17 09:19	07/13/17 14:27	1
Y Carrier	88.2		40 - 110					06/29/17 09:19	07/13/17 14:27	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.241	U	0.214	0.215	5.00	0.338	pCi/L		07/21/17 17:06	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Client Sample ID: MW-D2-20170619

Lab Sample ID: 400-139647-2

Date Collected: 06/19/17 10:05

Matrix: Water

Date Received: 06/21/17 09:09

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.121		0.0713	0.0722	1.00	0.0854	pCi/L	06/29/17 08:38	07/21/17 06:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					06/29/17 08:38	07/21/17 06:31	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.267	U	0.218	0.219	1.00	0.347	pCi/L	06/29/17 09:19	07/13/17 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					06/29/17 09:19	07/13/17 14:27	1
Y Carrier	89.7		40 - 110					06/29/17 09:19	07/13/17 14:27	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.388		0.229	0.231	5.00	0.347	pCi/L		07/21/17 17:06	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Client Sample ID: MW-D3-20170619

Lab Sample ID: 400-139647-3

Date Collected: 06/19/17 11:35

Matrix: Water

Date Received: 06/21/17 09:09

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.145		0.0862	0.0872	1.00	0.113	pCi/L	06/29/17 08:38	07/21/17 06:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/29/17 08:38	07/21/17 06:44	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.635		0.227	0.234	1.00	0.300	pCi/L	06/29/17 09:19	07/13/17 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/29/17 09:19	07/13/17 14:27	1
Y Carrier	88.6		40 - 110					06/29/17 09:19	07/13/17 14:27	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.780		0.242	0.250	5.00	0.300	pCi/L		07/21/17 17:06	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Client Sample ID: MW-D1-20170619

Lab Sample ID: 400-139647-4

Date Collected: 06/19/17 12:50

Matrix: Water

Date Received: 06/21/17 09:09

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0608	U	0.0631	0.0634	1.00	0.0987	pCi/L	06/29/17 08:38	07/21/17 06:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					06/29/17 08:38	07/21/17 06:44	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0955	U	0.235	0.235	1.00	0.401	pCi/L	06/29/17 09:19	07/13/17 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					06/29/17 09:19	07/13/17 14:27	1
Y Carrier	89.7		40 - 110					06/29/17 09:19	07/13/17 14:27	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.156	U	0.243	0.243	5.00	0.401	pCi/L		07/21/17 17:06	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Client Sample ID: MW-U1-20170619

Lab Sample ID: 400-139647-5

Date Collected: 06/19/17 14:40

Matrix: Water

Date Received: 06/21/17 09:09

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00306	U	0.0423	0.0423	1.00	0.0907	pCi/L	06/29/17 08:38	07/21/17 06:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/29/17 08:38	07/21/17 06:44	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.132	U	0.209	0.209	1.00	0.352	pCi/L	06/29/17 09:19	07/13/17 14:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/29/17 09:19	07/13/17 14:28	1
Y Carrier	87.5		40 - 110					06/29/17 09:19	07/13/17 14:28	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.135	U	0.213	0.213	5.00	0.352	pCi/L		07/21/17 17:06	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Client Sample ID: DUP5-20170619

Lab Sample ID: 400-139647-1

Date Collected: 06/19/17 08:00

Matrix: Water

Date Received: 06/21/17 09:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			315784	06/29/17 08:38	LDE	TAL SL
Total/NA	Analysis	9315		1	318444	07/21/17 06:30	ALD	TAL SL
Total/NA	Prep	PrecSep_0			315805	06/29/17 09:19	LDE	TAL SL
Total/NA	Analysis	9320		1	317096	07/13/17 14:27	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	318694	07/21/17 17:06	RTM	TAL SL

Client Sample ID: MW-D2-20170619

Lab Sample ID: 400-139647-2

Date Collected: 06/19/17 10:05

Matrix: Water

Date Received: 06/21/17 09:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			315784	06/29/17 08:38	LDE	TAL SL
Total/NA	Analysis	9315		1	318444	07/21/17 06:31	ALD	TAL SL
Total/NA	Prep	PrecSep_0			315805	06/29/17 09:19	LDE	TAL SL
Total/NA	Analysis	9320		1	317096	07/13/17 14:27	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	318694	07/21/17 17:06	RTM	TAL SL

Client Sample ID: MW-D3-20170619

Lab Sample ID: 400-139647-3

Date Collected: 06/19/17 11:35

Matrix: Water

Date Received: 06/21/17 09:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			315784	06/29/17 08:38	LDE	TAL SL
Total/NA	Analysis	9315		1	318451	07/21/17 06:44	ALD	TAL SL
Total/NA	Prep	PrecSep_0			315805	06/29/17 09:19	LDE	TAL SL
Total/NA	Analysis	9320		1	317096	07/13/17 14:27	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	318694	07/21/17 17:06	RTM	TAL SL

Client Sample ID: MW-D1-20170619

Lab Sample ID: 400-139647-4

Date Collected: 06/19/17 12:50

Matrix: Water

Date Received: 06/21/17 09:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			315784	06/29/17 08:38	LDE	TAL SL
Total/NA	Analysis	9315		1	318451	07/21/17 06:44	ALD	TAL SL
Total/NA	Prep	PrecSep_0			315805	06/29/17 09:19	LDE	TAL SL
Total/NA	Analysis	9320		1	317096	07/13/17 14:27	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	318694	07/21/17 17:06	RTM	TAL SL

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Client Sample ID: MW-U1-20170619

Lab Sample ID: 400-139647-5

Date Collected: 06/19/17 14:40

Matrix: Water

Date Received: 06/21/17 09:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			315784	06/29/17 08:38	LDE	TAL SL
Total/NA	Analysis	9315		1	318451	07/21/17 06:44	ALD	TAL SL
Total/NA	Prep	PrecSep_0			315805	06/29/17 09:19	LDE	TAL SL
Total/NA	Analysis	9320		1	317096	07/13/17 14:28	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	318694	07/21/17 17:06	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Rad

Prep Batch: 315784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-1	DUP5-20170619	Total/NA	Water	PrecSep-21	
400-139647-2	MW-D2-20170619	Total/NA	Water	PrecSep-21	
400-139647-3	MW-D3-20170619	Total/NA	Water	PrecSep-21	
400-139647-4	MW-D1-20170619	Total/NA	Water	PrecSep-21	
400-139647-5	MW-U1-20170619	Total/NA	Water	PrecSep-21	
MB 160-315784/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-315784/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-315784/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 315805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-139647-1	DUP5-20170619	Total/NA	Water	PrecSep_0	
400-139647-2	MW-D2-20170619	Total/NA	Water	PrecSep_0	
400-139647-3	MW-D3-20170619	Total/NA	Water	PrecSep_0	
400-139647-4	MW-D1-20170619	Total/NA	Water	PrecSep_0	
400-139647-5	MW-U1-20170619	Total/NA	Water	PrecSep_0	
MB 160-315805/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-315805/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-315805/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-315784/1-A
Matrix: Water
Analysis Batch: 318444

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315784

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1682		0.0752	0.0767	1.00	0.0686	pCi/L	06/29/17 08:38	07/21/17 06:28	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					06/29/17 08:38	07/21/17 06:28	1

Lab Sample ID: LCS 160-315784/2-A
Matrix: Water
Analysis Batch: 318444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315784

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.4	10.36		1.08	1.00	0.0755	pCi/L	91	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	103		40 - 110						

Lab Sample ID: LCSD 160-315784/3-A
Matrix: Water
Analysis Batch: 318444

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315784

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	11.4	10.30		1.08	1.00	0.106	pCi/L	91	68 - 137	0.03	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba Carrier	97.9		40 - 110								

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-315805/1-A
Matrix: Water
Analysis Batch: 317096

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315805

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1371	U	0.181	0.182	1.00	0.302	pCi/L	06/29/17 09:19	07/13/17 14:26	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					06/29/17 09:19	07/13/17 14:26	1
Y Carrier	88.6		40 - 110					06/29/17 09:19	07/13/17 14:26	1

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-315805/2-A
Matrix: Water
Analysis Batch: 317096

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315805

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	13.2	13.84		1.47	1.00	0.276	pCi/L	105	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	103		40 - 110
Y Carrier	87.1		40 - 110

Lab Sample ID: LCSD 160-315805/3-A
Matrix: Water
Analysis Batch: 317096

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315805

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	13.2	13.93		1.48	1.00	0.316	pCi/L	106	56 - 140	0.03	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	97.9		40 - 110
Y Carrier	89.0		40 - 110

TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

Client Information
Client Contact: **Stephen W. Randall**
Company: **Jeremy Gasser**
Address: **1255 Roberts Blvd, NW Suite 200**
City: **Kennesaw**
State, Zip: **GA, 30144**
Phone: **678-202-9583 (Tel)**
Email: **igasser@geosyntec.com**
Project Name: **CCR App. III/IV GW Monitoring**
Site: **40007960**

Sampler: Lab PM: **Whitire, Cheyenne R**
STEPHEN W. RANDALL
Phone: **478-328-6181**
E-Mail: **cheyenne.whitire@testamericainc.com**

Due Date Requested: _____
TAT Requested (days): **Standard**

PO #: _____
WO #: _____
Project #: _____
SSOW#: _____

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Analysis Requested		Total Number of Containers	Special Instructions/Note:
					D	N	D	N	1	2		
DUP-5-20170619	6/19/17	0800	G	Water	N	N	N	N	1			PH: 5.69
MW-D2-20170619	6/19/17	1005	G	Water	N	N	N	N	1			PH: 6.22
MW-D3-20170619	6/19/17	1135	G	Water	N	N	N	N	1			PH: 6.47
MW-D1-20170619	6/19/17	1250	G	Water	N	N	N	N	1			PH: 5.66
MW-U1-20170619	6/19/17	1440	G	Water	N	N	N	N	1			PH: 5.07
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								



Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: III, IV, Other (specify) _____

Empty Kit Relinquished by: _____ Date: _____
Relinquished by: *Stephen W. Randall* Date: **6/20/17**
Relinquished by: _____ Date: _____
Relinquished by: _____ Date: _____

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements: _____

Method of Shipment: _____
 Received by: _____ Date/Time: **6/20/17 0909**
 Received by: _____ Date/Time: _____
 Received by: _____ Date/Time: _____

Company: **GEOSYNTEC**
Company: **GEOSYNTEC**
Company: **GEOSYNTEC**

Cooler Temperature(s) °C and Other Remarks: **19°C - 7/17**

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-139647-2

Login Number: 139647

List Number: 1

Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	23.2°C IR-2(RAD) 4.9°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17 *
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-17 *
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17 *
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

Laboratory: TestAmerica St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-18
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-18
Illinois	NELAP	5	200023	11-30-17
Iowa	State Program	7	373	02-01-18
Kansas	NELAP	7	E-10236	10-31-17
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-18
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-18
Missouri	State Program	7	780	06-30-17 *
Nevada	State Program	9	MO000542017-1	07-31-17 *
New Jersey	NELAP	2	MO002	06-30-18
New York	NELAP	2	11616	03-31-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-139647-2

Laboratory: TestAmerica St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
North Dakota	State Program	8	R207	06-30-17 *
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17 *
Pennsylvania	NELAP	3	68-00540	02-21-18
South Carolina	State Program	4	85002001	06-30-17 *
Texas	NELAP	6	T104704193-16-10	07-31-17 *
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-17 *
Virginia	NELAP	3	460230	06-14-18
Washington	State Program	10	C592	08-30-17 *
West Virginia DEP	State Program	3	381	08-31-17 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Pensacola

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-140784-1

Client Project/Site: CCR App.III/IV GW Monitoring

For:

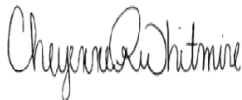
Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

8/9/2017 4:54:19 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

LINKS

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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7

8

9

10

11

12

13

14



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	6
Sample Summary	7
Client Sample Results	8
Definitions	13
Chronicle	14
QC Association	16
QC Sample Results	19
Chain of Custody	24
Receipt Checklists	25
Certification Summary	26

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Job ID: 400-140784-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-140784-1

Metals

Method(s) 6020: The method blank for preparation batch 362047 and analytical batch 363171 contained Calcium above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: DUP6-20170717 (400-140784-1), MW-D2-20170717 (400-140784-2) and MW-D3-20170717 (400-140784-3). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 362504 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: (400-141113-A-1), (400-141113-A-1 MS), (400-141113-A-1 MSD), (400-141113-A-2), (400-141113-A-2 MS) and (400-141113-A-2 MSD). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 362154 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.



Detection Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Client Sample ID: DUP6-20170717

Lab Sample ID: 400-140784-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0017		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.20		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.24		0.050	0.021	mg/L	5		6020	Total Recoverable
Cobalt	0.0013	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Molybdenum	0.0034	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00063	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00013	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	120		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	350		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	4.2		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.11		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	24		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.79				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D2-20170717

Lab Sample ID: 400-140784-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00095	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.16		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.13		0.050	0.021	mg/L	5		6020	Total Recoverable
Selenium	0.00033	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00011	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	140		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	380		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.2		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	17		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.68				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D3-20170717

Lab Sample ID: 400-140784-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0016		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.20		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.25		0.050	0.021	mg/L	5		6020	Total Recoverable
Cobalt	0.0014	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Client Sample ID: MW-D3-20170717 (Continued)

Lab Sample ID: 400-140784-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	0.0027	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Thallium	0.00012	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	120		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	350		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	4.4		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	25		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.01				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D1-20170717

Lab Sample ID: 400-140784-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.012		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.094		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	19	B	0.25	0.13	mg/L	5		6020	Total Recoverable
Selenium	0.00033	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	54		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	3.9		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.11		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	13		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.20				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-U1-20170717

Lab Sample ID: 400-140784-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00046	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.0025		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	37	B	0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0014	J	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00070	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	78		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	2.2		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2.8	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.37				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-140784-1	DUP6-20170717	Water	07/17/17 08:00	07/20/17 08:49
400-140784-2	MW-D2-20170717	Water	07/17/17 10:25	07/20/17 08:49
400-140784-3	MW-D3-20170717	Water	07/17/17 12:00	07/20/17 08:49
400-140784-4	MW-D1-20170717	Water	07/17/17 13:20	07/20/17 08:49
400-140784-5	MW-U1-20170717	Water	07/17/17 15:25	07/20/17 08:49

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Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Client Sample ID: DUP6-20170717

Lab Sample ID: 400-140784-1

Date Collected: 07/17/17 08:00

Matrix: Water

Date Received: 07/20/17 08:49

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		07/28/17 10:01	08/05/17 17:14	5
Arsenic	0.0017		0.0013	0.00046	mg/L		07/28/17 10:01	08/05/17 17:14	5
Barium	0.20		0.0025	0.00049	mg/L		07/28/17 10:01	08/05/17 17:14	5
Beryllium	ND		0.0020	0.00034	mg/L		07/28/17 10:01	08/05/17 17:14	5
Boron	0.24		0.050	0.021	mg/L		07/28/17 10:01	08/05/17 17:14	5
Cadmium	ND		0.0010	0.00034	mg/L		07/28/17 10:01	08/05/17 17:14	5
Chromium	ND		0.0025	0.0011	mg/L		07/28/17 10:01	08/05/17 17:14	5
Cobalt	0.0013	J	0.0025	0.00040	mg/L		07/28/17 10:01	08/05/17 17:14	5
Lead	ND		0.0013	0.00035	mg/L		07/28/17 10:01	08/05/17 17:14	5
Lithium	ND		0.0025	0.0032	mg/L		07/28/17 10:01	08/05/17 17:14	5
Molybdenum	0.0034	J	0.010	0.00085	mg/L		07/28/17 10:01	08/05/17 17:14	5
Selenium	0.00063	J	0.0013	0.00024	mg/L		07/28/17 10:01	08/05/17 17:14	5
Thallium	0.00013	J	0.00050	0.000085	mg/L		07/28/17 10:01	08/05/17 17:14	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120		0.50	0.25	mg/L		07/28/17 10:01	08/07/17 12:48	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		07/26/17 08:56	07/27/17 14:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	350		5.0	3.4	mg/L			07/22/17 15:11	1
Chloride	4.2		2.0	0.60	mg/L			07/28/17 12:56	1
Fluoride	0.11		0.10	0.032	mg/L			08/01/17 11:11	1
Sulfate	24		5.0	1.4	mg/L			07/28/17 14:43	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.79				SU			07/17/17 07:00	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Client Sample ID: MW-D2-20170717

Lab Sample ID: 400-140784-2

Date Collected: 07/17/17 10:25

Matrix: Water

Date Received: 07/20/17 08:49

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		07/28/17 10:01	08/05/17 17:19	5
Arsenic	0.00095	J	0.0013	0.00046	mg/L		07/28/17 10:01	08/05/17 17:19	5
Barium	0.16		0.0025	0.00049	mg/L		07/28/17 10:01	08/05/17 17:19	5
Beryllium	ND		0.0020	0.00034	mg/L		07/28/17 10:01	08/05/17 17:19	5
Boron	0.13		0.050	0.021	mg/L		07/28/17 10:01	08/05/17 17:19	5
Cadmium	ND		0.0010	0.00034	mg/L		07/28/17 10:01	08/05/17 17:19	5
Chromium	ND		0.0025	0.0011	mg/L		07/28/17 10:01	08/05/17 17:19	5
Cobalt	ND		0.0025	0.00040	mg/L		07/28/17 10:01	08/05/17 17:19	5
Lead	ND		0.0013	0.00035	mg/L		07/28/17 10:01	08/05/17 17:19	5
Lithium	ND		0.0025	0.0032	mg/L		07/28/17 10:01	08/05/17 17:19	5
Molybdenum	ND		0.010	0.00085	mg/L		07/28/17 10:01	08/05/17 17:19	5
Selenium	0.00033	J	0.0013	0.00024	mg/L		07/28/17 10:01	08/05/17 17:19	5
Thallium	0.00011	J	0.00050	0.000085	mg/L		07/28/17 10:01	08/05/17 17:19	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140		0.50	0.25	mg/L		07/28/17 10:01	08/07/17 12:53	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		07/26/17 08:56	07/27/17 14:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	380		5.0	3.4	mg/L			07/22/17 15:11	1
Chloride	5.2		2.0	0.60	mg/L			07/28/17 12:39	1
Fluoride	0.060	J	0.10	0.032	mg/L			08/01/17 11:13	1
Sulfate	17		5.0	1.4	mg/L			07/28/17 14:43	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.68				SU			07/17/17 09:25	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Client Sample ID: MW-D3-20170717

Lab Sample ID: 400-140784-3

Date Collected: 07/17/17 12:00

Matrix: Water

Date Received: 07/20/17 08:49

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		07/28/17 10:01	08/05/17 17:24	5
Arsenic	0.0016		0.0013	0.00046	mg/L		07/28/17 10:01	08/05/17 17:24	5
Barium	0.20		0.0025	0.00049	mg/L		07/28/17 10:01	08/05/17 17:24	5
Beryllium	ND		0.0020	0.00034	mg/L		07/28/17 10:01	08/05/17 17:24	5
Boron	0.25		0.050	0.021	mg/L		07/28/17 10:01	08/05/17 17:24	5
Cadmium	ND		0.0010	0.00034	mg/L		07/28/17 10:01	08/05/17 17:24	5
Chromium	ND		0.0025	0.0011	mg/L		07/28/17 10:01	08/05/17 17:24	5
Cobalt	0.0014	J	0.0025	0.00040	mg/L		07/28/17 10:01	08/05/17 17:24	5
Lead	ND		0.0013	0.00035	mg/L		07/28/17 10:01	08/05/17 17:24	5
Lithium	ND		0.0025	0.0032	mg/L		07/28/17 10:01	08/05/17 17:24	5
Molybdenum	0.0027	J	0.010	0.00085	mg/L		07/28/17 10:01	08/05/17 17:24	5
Selenium	ND		0.0013	0.00024	mg/L		07/28/17 10:01	08/05/17 17:24	5
Thallium	0.00012	J	0.00050	0.000085	mg/L		07/28/17 10:01	08/05/17 17:24	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120		0.50	0.25	mg/L		07/28/17 10:01	08/07/17 12:57	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		07/26/17 08:56	07/27/17 14:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	350		5.0	3.4	mg/L			07/22/17 15:11	1
Chloride	4.4		2.0	0.60	mg/L			07/28/17 12:40	1
Fluoride	0.060	J	0.10	0.032	mg/L			08/01/17 11:15	1
Sulfate	25		5.0	1.4	mg/L			07/28/17 14:43	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.01				SU			07/17/17 11:00	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Client Sample ID: MW-D1-20170717

Lab Sample ID: 400-140784-4

Date Collected: 07/17/17 13:20

Matrix: Water

Date Received: 07/20/17 08:49

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		07/28/17 10:01	08/05/17 17:29	5
Arsenic	ND		0.0013	0.00046	mg/L		07/28/17 10:01	08/05/17 17:29	5
Barium	0.012		0.0025	0.00049	mg/L		07/28/17 10:01	08/05/17 17:29	5
Beryllium	ND		0.0020	0.00034	mg/L		07/28/17 10:01	08/05/17 17:29	5
Boron	0.094		0.050	0.021	mg/L		07/28/17 10:01	08/05/17 17:29	5
Cadmium	ND		0.0010	0.00034	mg/L		07/28/17 10:01	08/05/17 17:29	5
Calcium	19	B	0.25	0.13	mg/L		07/28/17 10:01	08/05/17 17:29	5
Chromium	ND		0.0025	0.0011	mg/L		07/28/17 10:01	08/05/17 17:29	5
Cobalt	ND		0.0025	0.00040	mg/L		07/28/17 10:01	08/05/17 17:29	5
Lead	ND		0.0013	0.00035	mg/L		07/28/17 10:01	08/05/17 17:29	5
Lithium	ND		0.0025	0.0032	mg/L		07/28/17 10:01	08/05/17 17:29	5
Molybdenum	ND		0.010	0.00085	mg/L		07/28/17 10:01	08/05/17 17:29	5
Selenium	0.00033	J	0.0013	0.00024	mg/L		07/28/17 10:01	08/05/17 17:29	5
Thallium	ND		0.00050	0.000085	mg/L		07/28/17 10:01	08/05/17 17:29	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		07/26/17 08:56	07/27/17 14:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	54		5.0	3.4	mg/L			07/22/17 15:11	1
Chloride	3.9		2.0	0.60	mg/L			07/28/17 12:40	1
Fluoride	0.11		0.10	0.032	mg/L			08/01/17 11:17	1
Sulfate	13		5.0	1.4	mg/L			07/28/17 14:43	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.20				SU			07/17/17 12:20	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Client Sample ID: MW-U1-20170717

Lab Sample ID: 400-140784-5

Date Collected: 07/17/17 15:25

Matrix: Water

Date Received: 07/20/17 08:49

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		07/28/17 10:01	08/05/17 17:34	5
Arsenic	0.00046	J	0.0013	0.00046	mg/L		07/28/17 10:01	08/05/17 17:34	5
Barium	0.0025		0.0025	0.00049	mg/L		07/28/17 10:01	08/05/17 17:34	5
Beryllium	ND		0.0020	0.00034	mg/L		07/28/17 10:01	08/05/17 17:34	5
Boron	ND		0.050	0.021	mg/L		07/28/17 10:01	08/05/17 17:34	5
Cadmium	ND		0.0010	0.00034	mg/L		07/28/17 10:01	08/05/17 17:34	5
Calcium	37	B	0.25	0.13	mg/L		07/28/17 10:01	08/05/17 17:34	5
Chromium	0.0014	J	0.0025	0.0011	mg/L		07/28/17 10:01	08/05/17 17:34	5
Cobalt	ND		0.0025	0.00040	mg/L		07/28/17 10:01	08/05/17 17:34	5
Lead	ND		0.0013	0.00035	mg/L		07/28/17 10:01	08/05/17 17:34	5
Lithium	ND		0.0025	0.0032	mg/L		07/28/17 10:01	08/05/17 17:34	5
Molybdenum	ND		0.010	0.00085	mg/L		07/28/17 10:01	08/05/17 17:34	5
Selenium	0.00070	J	0.0013	0.00024	mg/L		07/28/17 10:01	08/05/17 17:34	5
Thallium	ND		0.00050	0.000085	mg/L		07/28/17 10:01	08/05/17 17:34	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		07/26/17 08:56	07/27/17 14:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	78		5.0	3.4	mg/L			07/22/17 15:11	1
Chloride	2.2		2.0	0.60	mg/L			07/28/17 12:40	1
Fluoride	0.060	J	0.10	0.032	mg/L			08/01/17 11:19	1
Sulfate	2.8	J	5.0	1.4	mg/L			07/28/17 14:43	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.37				SU			07/17/17 14:25	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Client Sample ID: DUP6-20170717
Date Collected: 07/17/17 08:00
Date Received: 07/20/17 08:49

Lab Sample ID: 400-140784-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			362047	07/28/17 10:01	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	363171	08/05/17 17:14	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		362047	07/28/17 10:01	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	10	363330	08/07/17 12:48	DRE	TAL PEN
Total/NA	Prep	7470A			361705	07/26/17 08:56	JAP	TAL PEN
Total/NA	Analysis	7470A		1	361988	07/27/17 14:06	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	361402	07/22/17 15:11	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	362135	07/28/17 12:56	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	362504	08/01/17 11:11	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	362154	07/28/17 14:43	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	361901	07/17/17 07:00	BWS	TAL PEN

Client Sample ID: MW-D2-20170717
Date Collected: 07/17/17 10:25
Date Received: 07/20/17 08:49

Lab Sample ID: 400-140784-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			362047	07/28/17 10:01	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	363171	08/05/17 17:19	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		362047	07/28/17 10:01	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	10	363330	08/07/17 12:53	DRE	TAL PEN
Total/NA	Prep	7470A			361705	07/26/17 08:56	JAP	TAL PEN
Total/NA	Analysis	7470A		1	361988	07/27/17 14:21	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	361402	07/22/17 15:11	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	362135	07/28/17 12:39	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	362504	08/01/17 11:13	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	362154	07/28/17 14:43	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	361901	07/17/17 09:25	BWS	TAL PEN

Client Sample ID: MW-D3-20170717
Date Collected: 07/17/17 12:00
Date Received: 07/20/17 08:49

Lab Sample ID: 400-140784-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			362047	07/28/17 10:01	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	363171	08/05/17 17:24	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		362047	07/28/17 10:01	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	10	363330	08/07/17 12:57	DRE	TAL PEN
Total/NA	Prep	7470A			361705	07/26/17 08:56	JAP	TAL PEN
Total/NA	Analysis	7470A		1	361988	07/27/17 14:23	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	361402	07/22/17 15:11	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	362135	07/28/17 12:40	RRC	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Client Sample ID: MW-D3-20170717

Lab Sample ID: 400-140784-3

Date Collected: 07/17/17 12:00

Matrix: Water

Date Received: 07/20/17 08:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	362504	08/01/17 11:15	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	362154	07/28/17 14:43	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	361901	07/17/17 11:00	BWS	TAL PEN

Client Sample ID: MW-D1-20170717

Lab Sample ID: 400-140784-4

Date Collected: 07/17/17 13:20

Matrix: Water

Date Received: 07/20/17 08:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			362047	07/28/17 10:01	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	363171	08/05/17 17:29	DRE	TAL PEN
Total/NA	Prep	7470A			361705	07/26/17 08:56	JAP	TAL PEN
Total/NA	Analysis	7470A		1	361988	07/27/17 14:24	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	361402	07/22/17 15:11	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	362135	07/28/17 12:40	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	362504	08/01/17 11:17	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	362154	07/28/17 14:43	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	361901	07/17/17 12:20	BWS	TAL PEN

Client Sample ID: MW-U1-20170717

Lab Sample ID: 400-140784-5

Date Collected: 07/17/17 15:25

Matrix: Water

Date Received: 07/20/17 08:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			362047	07/28/17 10:01	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	363171	08/05/17 17:34	DRE	TAL PEN
Total/NA	Prep	7470A			361705	07/26/17 08:56	JAP	TAL PEN
Total/NA	Analysis	7470A		1	361988	07/27/17 14:26	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	361402	07/22/17 15:11	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	362135	07/28/17 12:40	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	362504	08/01/17 11:19	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	362154	07/28/17 14:43	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	361901	07/17/17 14:25	BWS	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Metals

Prep Batch: 361705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-140784-1	DUP6-20170717	Total/NA	Water	7470A	
400-140784-2	MW-D2-20170717	Total/NA	Water	7470A	
400-140784-3	MW-D3-20170717	Total/NA	Water	7470A	
400-140784-4	MW-D1-20170717	Total/NA	Water	7470A	
400-140784-5	MW-U1-20170717	Total/NA	Water	7470A	
MB 400-361705/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-361705/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-140784-1 MS	DUP6-20170717	Total/NA	Water	7470A	
400-140784-1 MSD	DUP6-20170717	Total/NA	Water	7470A	

Analysis Batch: 361988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-140784-1	DUP6-20170717	Total/NA	Water	7470A	361705
400-140784-2	MW-D2-20170717	Total/NA	Water	7470A	361705
400-140784-3	MW-D3-20170717	Total/NA	Water	7470A	361705
400-140784-4	MW-D1-20170717	Total/NA	Water	7470A	361705
400-140784-5	MW-U1-20170717	Total/NA	Water	7470A	361705
MB 400-361705/14-A	Method Blank	Total/NA	Water	7470A	361705
LCS 400-361705/15-A	Lab Control Sample	Total/NA	Water	7470A	361705
400-140784-1 MS	DUP6-20170717	Total/NA	Water	7470A	361705
400-140784-1 MSD	DUP6-20170717	Total/NA	Water	7470A	361705

Prep Batch: 362047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-140784-1	DUP6-20170717	Total Recoverable	Water	3005A	
400-140784-1 - DL	DUP6-20170717	Total Recoverable	Water	3005A	
400-140784-2 - DL	MW-D2-20170717	Total Recoverable	Water	3005A	
400-140784-2	MW-D2-20170717	Total Recoverable	Water	3005A	
400-140784-3 - DL	MW-D3-20170717	Total Recoverable	Water	3005A	
400-140784-3	MW-D3-20170717	Total Recoverable	Water	3005A	
400-140784-4	MW-D1-20170717	Total Recoverable	Water	3005A	
400-140784-5	MW-U1-20170717	Total Recoverable	Water	3005A	
MB 400-362047/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
MB 400-362047/1-A ^5 - RA	Method Blank	Total Recoverable	Water	3005A	
LCS 400-362047/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-140853-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-140853-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 363171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-140784-1	DUP6-20170717	Total Recoverable	Water	6020	362047
400-140784-2	MW-D2-20170717	Total Recoverable	Water	6020	362047
400-140784-3	MW-D3-20170717	Total Recoverable	Water	6020	362047
400-140784-4	MW-D1-20170717	Total Recoverable	Water	6020	362047
400-140784-5	MW-U1-20170717	Total Recoverable	Water	6020	362047
MB 400-362047/1-A ^5	Method Blank	Total Recoverable	Water	6020	362047
LCS 400-362047/2-A	Lab Control Sample	Total Recoverable	Water	6020	362047
400-140853-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	362047
400-140853-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	362047

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Metals (Continued)

Analysis Batch: 363330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-140784-1 - DL	DUP6-20170717	Total Recoverable	Water	6020	362047
400-140784-2 - DL	MW-D2-20170717	Total Recoverable	Water	6020	362047
400-140784-3 - DL	MW-D3-20170717	Total Recoverable	Water	6020	362047
MB 400-362047/1-A ^5 - RA	Method Blank	Total Recoverable	Water	6020	362047

General Chemistry

Analysis Batch: 361402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-140784-1	DUP6-20170717	Total/NA	Water	SM 2540C	
400-140784-2	MW-D2-20170717	Total/NA	Water	SM 2540C	
400-140784-3	MW-D3-20170717	Total/NA	Water	SM 2540C	
400-140784-4	MW-D1-20170717	Total/NA	Water	SM 2540C	
400-140784-5	MW-U1-20170717	Total/NA	Water	SM 2540C	
MB 400-361402/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-361402/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-140784-2 DU	MW-D2-20170717	Total/NA	Water	SM 2540C	

Analysis Batch: 362135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-140784-1	DUP6-20170717	Total/NA	Water	SM 4500 Cl- E	
400-140784-2	MW-D2-20170717	Total/NA	Water	SM 4500 Cl- E	
400-140784-3	MW-D3-20170717	Total/NA	Water	SM 4500 Cl- E	
400-140784-4	MW-D1-20170717	Total/NA	Water	SM 4500 Cl- E	
400-140784-5	MW-U1-20170717	Total/NA	Water	SM 4500 Cl- E	
MB 400-362135/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-362135/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-362135/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 362154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-140784-1	DUP6-20170717	Total/NA	Water	SM 4500 SO4 E	
400-140784-2	MW-D2-20170717	Total/NA	Water	SM 4500 SO4 E	
400-140784-3	MW-D3-20170717	Total/NA	Water	SM 4500 SO4 E	
400-140784-4	MW-D1-20170717	Total/NA	Water	SM 4500 SO4 E	
400-140784-5	MW-U1-20170717	Total/NA	Water	SM 4500 SO4 E	
MB 400-362154/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-362154/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-362154/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-140837-G-17 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-140837-G-17 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 362504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-140784-1	DUP6-20170717	Total/NA	Water	SM 4500 F C	
400-140784-2	MW-D2-20170717	Total/NA	Water	SM 4500 F C	
400-140784-3	MW-D3-20170717	Total/NA	Water	SM 4500 F C	
400-140784-4	MW-D1-20170717	Total/NA	Water	SM 4500 F C	
400-140784-5	MW-U1-20170717	Total/NA	Water	SM 4500 F C	
MB 400-362504/3	Method Blank	Total/NA	Water	SM 4500 F C	

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

General Chemistry (Continued)

Analysis Batch: 362504 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-362504/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
660-81920-B-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
660-81920-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-141112-K-1 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Field Service / Mobile Lab

Analysis Batch: 361901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-140784-1	DUP6-20170717	Total/NA	Water	Field Sampling	
400-140784-2	MW-D2-20170717	Total/NA	Water	Field Sampling	
400-140784-3	MW-D3-20170717	Total/NA	Water	Field Sampling	
400-140784-4	MW-D1-20170717	Total/NA	Water	Field Sampling	
400-140784-5	MW-U1-20170717	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-362047/1-A ^5
Matrix: Water
Analysis Batch: 363171

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 362047

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		07/28/17 10:01	08/05/17 16:59	5
Arsenic	ND		0.0013	0.00046	mg/L		07/28/17 10:01	08/05/17 16:59	5
Barium	ND		0.0025	0.00049	mg/L		07/28/17 10:01	08/05/17 16:59	5
Beryllium	ND		0.0020	0.00034	mg/L		07/28/17 10:01	08/05/17 16:59	5
Boron	ND		0.050	0.021	mg/L		07/28/17 10:01	08/05/17 16:59	5
Cadmium	ND		0.0010	0.00034	mg/L		07/28/17 10:01	08/05/17 16:59	5
Calcium	0.260		0.25	0.13	mg/L		07/28/17 10:01	08/05/17 16:59	5
Chromium	ND		0.0025	0.0011	mg/L		07/28/17 10:01	08/05/17 16:59	5
Cobalt	ND		0.0025	0.00040	mg/L		07/28/17 10:01	08/05/17 16:59	5
Lead	ND		0.0013	0.00035	mg/L		07/28/17 10:01	08/05/17 16:59	5
Lithium	ND		0.0025	0.0032	mg/L		07/28/17 10:01	08/05/17 16:59	5
Molybdenum	ND		0.010	0.00085	mg/L		07/28/17 10:01	08/05/17 16:59	5
Selenium	ND		0.0013	0.00024	mg/L		07/28/17 10:01	08/05/17 16:59	5
Thallium	ND		0.00050	0.000085	mg/L		07/28/17 10:01	08/05/17 16:59	5

Lab Sample ID: LCS 400-362047/2-A
Matrix: Water
Analysis Batch: 363171

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 362047

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.0500	0.0544		mg/L		109	80 - 120
Arsenic	0.0500	0.0536		mg/L		107	80 - 120
Barium	0.0500	0.0530		mg/L		106	80 - 120
Beryllium	0.0500	0.0510		mg/L		102	80 - 120
Boron	0.100	0.106		mg/L		106	80 - 120
Cadmium	0.0500	0.0548		mg/L		110	80 - 120
Calcium	5.00	4.84		mg/L		97	80 - 120
Chromium	0.0500	0.0482		mg/L		96	80 - 120
Cobalt	0.0500	0.0529		mg/L		106	80 - 120
Lead	0.0500	0.0537		mg/L		107	80 - 120
Lithium	0.0500	0.0550		mg/L		110	80 - 120
Molybdenum	0.100	0.108		mg/L		108	80 - 120
Selenium	0.0500	0.0527		mg/L		105	80 - 120
Thallium	0.0100	0.0105		mg/L		105	80 - 120

Lab Sample ID: 400-140853-A-1-B MS ^5
Matrix: Water
Analysis Batch: 363171

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 362047

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	ND		0.0500	0.0568		mg/L		114	75 - 125
Arsenic	ND		0.0500	0.0536		mg/L		107	75 - 125
Barium	0.012		0.0500	0.0646		mg/L		106	75 - 125
Beryllium	ND		0.0500	0.0508		mg/L		102	75 - 125
Boron	ND		0.100	0.119		mg/L		119	75 - 125
Cadmium	ND		0.0500	0.0528		mg/L		106	75 - 125
Calcium	0.48	B	5.00	5.29		mg/L		96	75 - 125
Chromium	ND		0.0500	0.0491		mg/L		98	75 - 125

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 400-140853-A-1-B MS ^5
Matrix: Water
Analysis Batch: 363171

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 362047

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Cobalt	ND		0.0500	0.0501		mg/L		100		75 - 125
Lead	ND		0.0500	0.0486		mg/L		97		75 - 125
Lithium	ND		0.0500	0.0543		mg/L		109		75 - 125
Molybdenum	ND		0.100	0.112		mg/L		112		75 - 125
Selenium	ND		0.0500	0.0560		mg/L		112		75 - 125
Thallium	ND		0.0100	0.0105		mg/L		105		75 - 125

Lab Sample ID: 400-140853-A-1-C MSD ^5
Matrix: Water
Analysis Batch: 363171

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 362047

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Antimony	ND		0.0500	0.0550		mg/L		110		75 - 125	3	20
Arsenic	ND		0.0500	0.0538		mg/L		108		75 - 125	0	20
Barium	0.012		0.0500	0.0652		mg/L		107		75 - 125	1	20
Beryllium	ND		0.0500	0.0503		mg/L		101		75 - 125	1	20
Boron	ND		0.100	0.117		mg/L		117		75 - 125	2	20
Cadmium	ND		0.0500	0.0538		mg/L		108		75 - 125	2	20
Calcium	0.48	B	5.00	5.26		mg/L		96		75 - 125	1	20
Chromium	ND		0.0500	0.0495		mg/L		99		75 - 125	1	20
Cobalt	ND		0.0500	0.0499		mg/L		100		75 - 125	0	20
Lead	ND		0.0500	0.0484		mg/L		97		75 - 125	0	20
Lithium	ND		0.0500	0.0532		mg/L		106		75 - 125	2	20
Molybdenum	ND		0.100	0.111		mg/L		111		75 - 125	2	20
Selenium	ND		0.0500	0.0553		mg/L		111		75 - 125	1	20
Thallium	ND		0.0100	0.0102		mg/L		102		75 - 125	3	20

Method: 6020 - Metals (ICP/MS) - RA

Lab Sample ID: MB 400-362047/1-A ^5
Matrix: Water
Analysis Batch: 363330

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 362047

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony - RA	ND		0.0025	0.0010	mg/L		07/28/17 10:01	08/07/17 12:44	5
Arsenic - RA	0.000755	J	0.0013	0.00046	mg/L		07/28/17 10:01	08/07/17 12:44	5
Barium - RA	ND		0.0025	0.00049	mg/L		07/28/17 10:01	08/07/17 12:44	5
Beryllium - RA	ND		0.0020	0.00034	mg/L		07/28/17 10:01	08/07/17 12:44	5
Boron - RA	ND		0.050	0.021	mg/L		07/28/17 10:01	08/07/17 12:44	5
Cadmium - RA	ND		0.0010	0.00034	mg/L		07/28/17 10:01	08/07/17 12:44	5
Calcium - RA	ND		0.25	0.13	mg/L		07/28/17 10:01	08/07/17 12:44	5
Chromium - RA	ND		0.0025	0.0011	mg/L		07/28/17 10:01	08/07/17 12:44	5
Cobalt - RA	ND		0.0025	0.00040	mg/L		07/28/17 10:01	08/07/17 12:44	5
Lead - RA	ND		0.0013	0.00035	mg/L		07/28/17 10:01	08/07/17 12:44	5
Lithium - RA	ND		0.0025	0.0032	mg/L		07/28/17 10:01	08/07/17 12:44	5
Molybdenum - RA	ND		0.010	0.00085	mg/L		07/28/17 10:01	08/07/17 12:44	5
Selenium - RA	ND		0.0013	0.00024	mg/L		07/28/17 10:01	08/07/17 12:44	5
Thallium - RA	ND		0.00050	0.000085	mg/L		07/28/17 10:01	08/07/17 12:44	5

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-361705/14-A
Matrix: Water
Analysis Batch: 361988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 361705

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		07/26/17 08:56	07/27/17 14:03	1

Lab Sample ID: LCS 400-361705/15-A
Matrix: Water
Analysis Batch: 361988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 361705

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.000991		mg/L		98	80 - 120

Lab Sample ID: 400-140784-1 MS
Matrix: Water
Analysis Batch: 361988

Client Sample ID: DUP6-20170717
Prep Type: Total/NA
Prep Batch: 361705

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00201	0.00196		mg/L		97	80 - 120

Lab Sample ID: 400-140784-1 MSD
Matrix: Water
Analysis Batch: 361988

Client Sample ID: DUP6-20170717
Prep Type: Total/NA
Prep Batch: 361705

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00201	0.00191		mg/L		95	80 - 120	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 400-361402/1
Matrix: Water
Analysis Batch: 361402

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		5.0	3.4	mg/L			07/22/17 15:11	1

Lab Sample ID: LCS 400-361402/2
Matrix: Water
Analysis Batch: 361402

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	300		mg/L		102	78 - 122

Lab Sample ID: 400-140784-2 DU
Matrix: Water
Analysis Batch: 361402

Client Sample ID: MW-D2-20170717
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	380		376		mg/L		0	5

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-362135/6
Matrix: Water
Analysis Batch: 362135

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	0.60	mg/L			07/28/17 12:13	1

Lab Sample ID: LCS 400-362135/7
Matrix: Water
Analysis Batch: 362135

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	30.6		mg/L		102	90 - 110

Lab Sample ID: MRL 400-362135/3
Matrix: Water
Analysis Batch: 362135

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.85	J	mg/L		93	50 - 150

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-362504/3
Matrix: Water
Analysis Batch: 362504

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.032	mg/L			08/01/17 10:46	1

Lab Sample ID: LCS 400-362504/4
Matrix: Water
Analysis Batch: 362504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.94		mg/L		99	90 - 110

Lab Sample ID: 660-81920-B-1 MS
Matrix: Water
Analysis Batch: 362504

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND		1.00	1.04		mg/L		104	75 - 125

Lab Sample ID: 660-81920-B-1 MSD
Matrix: Water
Analysis Batch: 362504

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		1.00	1.04		mg/L		104	75 - 125	0	4

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-141112-K-1 DU
Matrix: Water
Analysis Batch: 362504

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.21		0.200	F5	mg/L		5	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-362154/6
Matrix: Water
Analysis Batch: 362154

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.4	mg/L			07/28/17 14:09	1

Lab Sample ID: LCS 400-362154/7
Matrix: Water
Analysis Batch: 362154

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	13.8		mg/L		92	90 - 110

Lab Sample ID: MRL 400-362154/3
Matrix: Water
Analysis Batch: 362154

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.30	J	mg/L		86	50 - 150

Lab Sample ID: 400-140837-G-17 MS
Matrix: Water
Analysis Batch: 362154

Client Sample ID: Matrix Spike
Prep Type: Total/NA



Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	ND	F1	10.0	16.0	F1	mg/L		160	77 - 128

Lab Sample ID: 400-140837-G-17 MSD
Matrix: Water
Analysis Batch: 362154

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	ND	F1	10.0	16.2	F1	mg/L		162	77 - 128	1	5

Chain of Custody Record

Client Information Client Contact: STEPHEN W. RANDALL Phone: 478-328-6181 Company: Geosyntec Consultants, Inc. Address: 1255 Roberts Blvd, NW Suite 200 City: Kennesaw State, Zip: GA, 30144 Phone: 678-202-9583(Tel) Email: igasser@geosyntec.com Project Name: CCR App. II/IV GW Monitoring Site:		Lab PM: Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@lestamericainc.com Carrier Tracking No(s): COC No: 400-66412-26250.1 Page: 1 of 1 Job #:		Analysis Requested  400-140784 COC	
Due Date Requested: TAT Requested (days): STANDARD PO #: Purchase Order Requested WO #:		9315_Ra226, 9320_Ra228 SM4500_C1_E, SM4500_H+, SM4500_SO4_F Fieldsampling - Field pH 6020, 7470A 2540C - Total Dissolved Solids 4500_F_C - Fluoride		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Sample Identification Sample Date Sample Time Sample Type (C=comp, G=grab) Matrix (Water, Beach, Other, etc.)		Special Instructions/Note: PH: 6.79 PH: 6.68 PH: 7.01 PH: 6.20 PH: 6.37 LAST ITEM			
Sample Date Sample Time Sample Type Matrix		Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant Deliverable Requested: <input checked="" type="checkbox"/> I/III, IV, Other (specify)			
Empty Kit Relinquished by:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Relinquished by: Stephen W. Randall Date/Time: 7/19/17 1600		Received by:  Date/Time: 7/20/17 0849			
Relinquished by:		Received by:			
Relinquished by:		Received by:			
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 3.1°C 21.2°C JBZ			

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-140784-1

Login Number: 140784

List Number: 1

Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1°C IR-2, RADS 21.2°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-1

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17 *
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-140784-2

Client Project/Site: CCR App.III/IV GW Monitoring

For:


Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

8/28/2017 9:51:52 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Method Summary	4
Sample Summary	5
Client Sample Results	6
Definitions	11
Chronicle	12
QC Association	14
QC Sample Results	15
Chain of Custody	18
Receipt Checklists	19
Certification Summary	20

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Job ID: 400-140784-2

Laboratory: TestAmerica Pensacola

Narrative

**Job Narrative
400-140784-2**

RAD

Method(s) 9320: Radium-228 Prep Batch: 160-319696. The method blank (MB) has Ra-228 activity above the MDC and CRDL. The following associated samples are non-detect for the contaminant therefore, re-analysis is not required. The data have been qualified and reported. DUP6-20170717 (400-140784-1), MW-D2-20170717 (400-140784-2), MW-D3-20170717 (400-140784-3), MW-D1-20170717 (400-140784-4), MW-U1-20170717 (400-140784-5), (LCS 160-319696/2-A), (MB 160-319696/1-A), (240-82602-G-3-B), (240-82602-L-3-B MS) and (240-82602-H-3-B MSD).

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-140784-1	DUP6-20170717	Water	07/17/17 08:00	07/20/17 08:49
400-140784-2	MW-D2-20170717	Water	07/17/17 10:25	07/20/17 08:49
400-140784-3	MW-D3-20170717	Water	07/17/17 12:00	07/20/17 08:49
400-140784-4	MW-D1-20170717	Water	07/17/17 13:20	07/20/17 08:49
400-140784-5	MW-U1-20170717	Water	07/17/17 15:25	07/20/17 08:49

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Client Sample ID: DUP6-20170717

Lab Sample ID: 400-140784-1

Date Collected: 07/17/17 08:00

Matrix: Water

Date Received: 07/20/17 08:49

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.160		0.0804	0.0817	1.00	0.0934	pCi/L	07/28/17 10:39	08/21/17 13:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					07/28/17 10:39	08/21/17 13:51	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.263	U	0.215	0.217	1.00	0.343	pCi/L	07/28/17 11:10	08/14/17 14:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					07/28/17 11:10	08/14/17 14:52	1
Y Carrier	90.8		40 - 110					07/28/17 11:10	08/14/17 14:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.422		0.230	0.232	5.00	0.343	pCi/L		08/22/17 15:38	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Client Sample ID: MW-D2-20170717

Lab Sample ID: 400-140784-2

Date Collected: 07/17/17 10:25

Matrix: Water

Date Received: 07/20/17 08:49

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.119		0.0719	0.0727	1.00	0.0876	pCi/L	07/28/17 10:39	08/21/17 13:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					07/28/17 10:39	08/21/17 13:52	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.415		0.225	0.229	1.00	0.336	pCi/L	07/28/17 11:10	08/14/17 14:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					07/28/17 11:10	08/14/17 14:52	1
Y Carrier	89.7		40 - 110					07/28/17 11:10	08/14/17 14:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.534		0.237	0.240	5.00	0.336	pCi/L		08/22/17 15:38	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Client Sample ID: MW-D3-20170717

Lab Sample ID: 400-140784-3

Date Collected: 07/17/17 12:00

Matrix: Water

Date Received: 07/20/17 08:49

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.197		0.0842	0.0861	1.00	0.0827	pCi/L	07/28/17 10:39	08/21/17 13:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					07/28/17 10:39	08/21/17 13:52	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.212	U	0.204	0.204	1.00	0.329	pCi/L	07/28/17 11:10	08/14/17 14:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					07/28/17 11:10	08/14/17 14:52	1
Y Carrier	93.1		40 - 110					07/28/17 11:10	08/14/17 14:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.409		0.220	0.222	5.00	0.329	pCi/L		08/22/17 15:38	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Client Sample ID: MW-D1-20170717

Lab Sample ID: 400-140784-4

Date Collected: 07/17/17 13:20

Matrix: Water

Date Received: 07/20/17 08:49

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0729	U	0.0613	0.0616	1.00	0.0890	pCi/L	07/28/17 10:39	08/21/17 13:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	106		40 - 110					07/28/17 10:39	08/21/17 13:52	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0803	U	0.196	0.197	1.00	0.338	pCi/L	07/28/17 11:10	08/14/17 14:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	106		40 - 110					07/28/17 11:10	08/14/17 14:48	1
Y Carrier	90.8		40 - 110					07/28/17 11:10	08/14/17 14:48	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.153	U	0.206	0.206	5.00	0.338	pCi/L		08/22/17 15:38	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Client Sample ID: MW-U1-20170717

Lab Sample ID: 400-140784-5

Date Collected: 07/17/17 15:25

Matrix: Water

Date Received: 07/20/17 08:49

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0105	U	0.0476	0.0476	1.00	0.0965	pCi/L	07/28/17 10:39	08/21/17 13:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					07/28/17 10:39	08/21/17 13:54	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.180	U	0.190	0.190	1.00	0.309	pCi/L	07/28/17 11:10	08/14/17 14:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					07/28/17 11:10	08/14/17 14:48	1
Y Carrier	92.7		40 - 110					07/28/17 11:10	08/14/17 14:48	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.190	U	0.195	0.196	5.00	0.309	pCi/L		08/22/17 15:38	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Client Sample ID: DUP6-20170717

Date Collected: 07/17/17 08:00

Date Received: 07/20/17 08:49

Lab Sample ID: 400-140784-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			319693	07/28/17 10:39	LDE	TAL SL
Total/NA	Analysis	9315		1	323215	08/21/17 13:51	RTM	TAL SL
Total/NA	Prep	PrecSep_0			319696	07/28/17 11:10	LDE	TAL SL
Total/NA	Analysis	9320		1	322030	08/14/17 14:52	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	323540	08/22/17 15:38	RTM	TAL SL

Client Sample ID: MW-D2-20170717

Date Collected: 07/17/17 10:25

Date Received: 07/20/17 08:49

Lab Sample ID: 400-140784-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			319693	07/28/17 10:39	LDE	TAL SL
Total/NA	Analysis	9315		1	323221	08/21/17 13:52	RTM	TAL SL
Total/NA	Prep	PrecSep_0			319696	07/28/17 11:10	LDE	TAL SL
Total/NA	Analysis	9320		1	322030	08/14/17 14:52	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	323540	08/22/17 15:38	RTM	TAL SL

Client Sample ID: MW-D3-20170717

Date Collected: 07/17/17 12:00

Date Received: 07/20/17 08:49

Lab Sample ID: 400-140784-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			319693	07/28/17 10:39	LDE	TAL SL
Total/NA	Analysis	9315		1	323221	08/21/17 13:52	RTM	TAL SL
Total/NA	Prep	PrecSep_0			319696	07/28/17 11:10	LDE	TAL SL
Total/NA	Analysis	9320		1	322030	08/14/17 14:52	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	323540	08/22/17 15:38	RTM	TAL SL

Client Sample ID: MW-D1-20170717

Date Collected: 07/17/17 13:20

Date Received: 07/20/17 08:49

Lab Sample ID: 400-140784-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			319693	07/28/17 10:39	LDE	TAL SL
Total/NA	Analysis	9315		1	323221	08/21/17 13:52	RTM	TAL SL
Total/NA	Prep	PrecSep_0			319696	07/28/17 11:10	LDE	TAL SL
Total/NA	Analysis	9320		1	322031	08/14/17 14:48	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	323540	08/22/17 15:38	RTM	TAL SL

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Client Sample ID: MW-U1-20170717

Lab Sample ID: 400-140784-5

Date Collected: 07/17/17 15:25

Matrix: Water

Date Received: 07/20/17 08:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			319693	07/28/17 10:39	LDE	TAL SL
Total/NA	Analysis	9315		1	323206	08/21/17 13:54	KLS	TAL SL
Total/NA	Prep	PrecSep_0			319696	07/28/17 11:10	LDE	TAL SL
Total/NA	Analysis	9320		1	322031	08/14/17 14:48	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	323540	08/22/17 15:38	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Association Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Rad

Prep Batch: 319693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-140784-1	DUP6-20170717	Total/NA	Water	PrecSep-21	
400-140784-2	MW-D2-20170717	Total/NA	Water	PrecSep-21	
400-140784-3	MW-D3-20170717	Total/NA	Water	PrecSep-21	
400-140784-4	MW-D1-20170717	Total/NA	Water	PrecSep-21	
400-140784-5	MW-U1-20170717	Total/NA	Water	PrecSep-21	
MB 160-319693/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-319693/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
240-82602-H-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	PrecSep-21	
240-82602-L-3-A MS	Matrix Spike	Total/NA	Water	PrecSep-21	

Prep Batch: 319696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-140784-1	DUP6-20170717	Total/NA	Water	PrecSep_0	
400-140784-2	MW-D2-20170717	Total/NA	Water	PrecSep_0	
400-140784-3	MW-D3-20170717	Total/NA	Water	PrecSep_0	
400-140784-4	MW-D1-20170717	Total/NA	Water	PrecSep_0	
400-140784-5	MW-U1-20170717	Total/NA	Water	PrecSep_0	
MB 160-319696/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-319696/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
240-82602-H-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	PrecSep_0	
240-82602-L-3-B MS	Matrix Spike	Total/NA	Water	PrecSep_0	



QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-319693/1-A
Matrix: Water
Analysis Batch: 323222

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 319693

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.004782	U	0.0349	0.0349	1.00	0.0748	pCi/L	07/28/17 10:39	08/21/17 11:34	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					07/28/17 10:39	08/21/17 11:34	1

Lab Sample ID: LCS 160-319693/2-A
Matrix: Water
Analysis Batch: 323222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 319693

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.4	8.357		0.918	1.00	0.0766	pCi/L	74	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	105		40 - 110						

Lab Sample ID: 240-82602-H-3-A MSD
Matrix: Water
Analysis Batch: 323206

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 319693

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	1.02		11.4	11.02		1.15	1.00	0.0972	pCi/L	88	75 - 138	0.19	1
Carrier	MSD %Yield	MSD Qualifier	Limits										
Ba Carrier	106		40 - 110										

Lab Sample ID: 240-82602-L-3-A MS
Matrix: Water
Analysis Batch: 323206

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 319693

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	1.02		11.4	10.58		1.11	1.00	0.105	pCi/L	84	75 - 138
Carrier	MS %Yield	MS Qualifier	Limits								
Ba Carrier	104		40 - 110								

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-319696/1-A
Matrix: Water
Analysis Batch: 322030

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 319696

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.593		0.414	0.530	1.00	0.353	pCi/L	07/28/17 11:10	08/14/17 14:54	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					07/28/17 11:10	08/14/17 14:54	1
Y Carrier	89.7		40 - 110					07/28/17 11:10	08/14/17 14:54	1

Lab Sample ID: LCS 160-319696/2-A
Matrix: Water
Analysis Batch: 322030

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 319696

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	13.0	13.22		1.42	1.00	0.310	pCi/L	101	56 - 140
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	105		40 - 110						
Y Carrier	90.5		40 - 110						

Lab Sample ID: 240-82602-H-3-B MSD
Matrix: Water
Analysis Batch: 322030

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 319696

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	0.955		13.0	14.05		1.49	1.00	0.339	pCi/L	100	45 - 150	0.04	1
Carrier	MSD %Yield	MSD Qualifier	Limits										
Ba Carrier	106		40 - 110										
Y Carrier	91.2		40 - 110										

Lab Sample ID: 240-82602-L-3-B MS
Matrix: Water
Analysis Batch: 322030

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 319696

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	0.955		13.1	14.16		1.51	1.00	0.350	pCi/L	101	45 - 150
Carrier	MS %Yield	MS Qualifier	Limits								
Ba Carrier	104		40 - 110								
Y Carrier	91.6		40 - 110								

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Lab Sample ID: 400-140712-A-8 DU
Matrix: Water
Analysis Batch: 323540

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Combined Radium 226 + 228	0.524		0.6537		0.285	5.00	0.410	pCi/L	0.24	

- 1
- 2
- 3
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- 7
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- 9
- 10
- 11
- 12
- 13

Chain of Custody Record

Client Information Client Contact: Jeremy Gasser Company: Geosyntec Consultants, Inc. Address: 1255 Roberts Blvd, NW Suite 200 City: Kennesaw State, Zip: GA, 30144 Phone: 678-202-9583(Tel) Email: igasser@geosyntec.com Project Name: CCR App. III/IV GW Monitoring Site:		Sampler: STEPHEN W. RANDALL Lab PM: Whitmore, Cheyenne R Phone: 478-328-6181 E-Mail: cheyenne.whitmore@lestamericainc.com		Carrier Tracking No(s): COC No: 400-66412-26250.1 Page: 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): STANDARD PO #: Purchase Order Requested WO #:		Analysis Requested 9315_Ra226, 9320_Ra228 SM4500_C1_E, SM4500_H+, SM4500_SO4_F Field Sampling - Field pH 6020, 7470A 2540C - Total Dissolved Solids 4500_F_C - Fluoride		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Sample Identification Sample Date Sample Time Sample Type (C=comp, G=grab) Matrix (Water, Beach, Composite, A-M)		Special Instructions/Note: PH: 6.79 PH: 6.68 PH: 7.01 PH: 6.20 PH: 6.37 LAST ITEM			
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant Deliverable Requested: <input checked="" type="checkbox"/> III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:			
Empty Kit Relinquished by: Relinquished by: Stephen W. Randall Relinquished by: Relinquished by:		Method of Shipment: Date/Time: 7/19/17 1600 Received by: GEOSYNTEC Company: GEOSYNTEC Date/Time: Received by: Company: Date/Time: Received by: Company:			
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 3.1°C 21.2°C JLR			



Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-140784-2

Login Number: 140784

List Number: 1

Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1°C IR-2, RADS 21.2°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17 *
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

Laboratory: TestAmerica St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-18
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-18
Illinois	NELAP	5	200023	11-30-17
Iowa	State Program	7	373	02-01-18
Kansas	NELAP	7	E-10236	10-31-17 *
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-18
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-18
Missouri	State Program	7	780	06-30-18
Nevada	State Program	9	MO000542017-1	07-31-18
New Jersey	NELAP	2	MO002	06-30-18
New York	NELAP	2	11616	03-31-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Pensacola

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-140784-2

Laboratory: TestAmerica St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
North Dakota	State Program	8	R207	06-30-17 *
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17 *
Pennsylvania	NELAP	3	68-00540	02-21-18
South Carolina	State Program	4	85002001	06-30-17 *
Texas	NELAP	6	T104704193-17-11	07-31-18
US Fish & Wildlife	Federal		058448	08-31-18
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-17 *
Virginia	NELAP	3	460230	06-14-18
Washington	State Program	10	C592	08-30-17 *
West Virginia DEP	State Program	3	381	08-31-17 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Pensacola

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-141929-1

Client Project/Site: CCR App.III/IV GW Monitoring

Revision: 1

For:

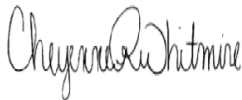
Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

9/20/2017 12:23:23 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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2

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4

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7

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9

10

11

12

13

14



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	6
Sample Summary	7
Client Sample Results	8
Definitions	13
Chronicle	14
QC Association	16
QC Sample Results	19
Chain of Custody	24
Receipt Checklists	25
Certification Summary	26

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Job ID: 400-141929-1

Laboratory: TestAmerica Pensacola

Narrative

**Job Narrative
400-141929-1**

Metals

Method(s) 6020: The following sample was diluted to bring the concentration of target analytes within the calibration range:
MW-D2-20170814 (400-141929-2). Elevated reporting limits (RLs) are provided.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Client Sample ID: DUP7-20170814

Lab Sample ID: 400-141929-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0023	J	0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	35		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0013	J	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00045	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	96		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	2.4		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	3.5	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.88				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D2-20170814

Lab Sample ID: 400-141929-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.13		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.13		0.050	0.021	mg/L	5		6020	Total Recoverable
Lead	0.00037	J	0.0013	0.00035	mg/L	5		6020	Total Recoverable
Thallium	0.00013	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	130		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	380		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.4		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	20		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.81				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D3-20170814

Lab Sample ID: 400-141929-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00048	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.18		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.24		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	110		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0013	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Molybdenum	0.0017	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Thallium	0.00011	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	350		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	4.7		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.12		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	27		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Client Sample ID: MW-D3-20170814 (Continued)

Lab Sample ID: 400-141929-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Field pH	6.86				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D1-20170814

Lab Sample ID: 400-141929-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.014		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.11		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	21		0.25	0.13	mg/L	5		6020	Total Recoverable
Lead	0.00080	J	0.0013	0.00035	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	76		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	3.9		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.070	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	22		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.36				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-U1-20170814

Lab Sample ID: 400-141929-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0020	J	0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	33		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0012	J	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00058	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	86		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	2.0		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.050	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2.6	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.45				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-141929-1	DUP7-20170814	Water	08/14/17 08:00	08/16/17 08:36
400-141929-2	MW-D2-20170814	Water	08/14/17 10:35	08/16/17 08:36
400-141929-3	MW-D3-20170814	Water	08/14/17 11:45	08/16/17 08:36
400-141929-4	MW-D1-20170814	Water	08/14/17 12:50	08/16/17 08:36
400-141929-5	MW-U1-20170814	Water	08/14/17 15:25	08/16/17 08:36

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Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Client Sample ID: DUP7-20170814

Lab Sample ID: 400-141929-1

Date Collected: 08/14/17 08:00

Matrix: Water

Date Received: 08/16/17 08:36

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		08/23/17 14:12	08/28/17 11:39	5
Arsenic	ND		0.0013	0.00046	mg/L		08/23/17 14:12	08/28/17 11:39	5
Barium	0.0023	J	0.0025	0.00049	mg/L		08/23/17 14:12	08/28/17 11:39	5
Beryllium	ND		0.0020	0.00034	mg/L		08/23/17 14:12	08/28/17 11:39	5
Boron	ND		0.050	0.021	mg/L		08/23/17 14:12	08/28/17 11:39	5
Cadmium	ND		0.0010	0.00034	mg/L		08/23/17 14:12	08/28/17 11:39	5
Calcium	35		0.25	0.13	mg/L		08/23/17 14:12	08/28/17 11:39	5
Chromium	0.0013	J	0.0025	0.0011	mg/L		08/23/17 14:12	08/28/17 11:39	5
Cobalt	ND		0.0025	0.00040	mg/L		08/23/17 14:12	08/28/17 11:39	5
Lead	ND		0.0013	0.00035	mg/L		08/23/17 14:12	08/28/17 11:39	5
Lithium	ND		0.0025	0.0032	mg/L		08/23/17 14:12	08/28/17 11:39	5
Molybdenum	ND		0.010	0.00085	mg/L		08/23/17 14:12	08/28/17 11:39	5
Selenium	0.00045	J	0.0013	0.00024	mg/L		08/23/17 14:12	08/28/17 11:39	5
Thallium	ND		0.00050	0.000085	mg/L		08/23/17 14:12	08/28/17 11:39	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		08/22/17 10:46	08/23/17 14:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	96		5.0	3.4	mg/L			08/19/17 15:42	1
Chloride	2.4		2.0	0.60	mg/L			08/23/17 07:59	1
Fluoride	0.060	J	0.10	0.032	mg/L			08/25/17 14:08	1
Sulfate	3.5	J	5.0	1.4	mg/L			08/24/17 07:43	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.88				SU			08/14/17 07:00	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Client Sample ID: MW-D2-20170814

Lab Sample ID: 400-141929-2

Date Collected: 08/14/17 10:35

Matrix: Water

Date Received: 08/16/17 08:36

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		08/23/17 14:12	08/28/17 12:02	5
Arsenic	ND		0.0013	0.00046	mg/L		08/23/17 14:12	08/28/17 12:02	5
Barium	0.13		0.0025	0.00049	mg/L		08/23/17 14:12	08/28/17 12:02	5
Beryllium	ND		0.0020	0.00034	mg/L		08/23/17 14:12	08/28/17 12:02	5
Boron	0.13		0.050	0.021	mg/L		08/23/17 14:12	08/28/17 12:02	5
Cadmium	ND		0.0010	0.00034	mg/L		08/23/17 14:12	08/28/17 12:02	5
Chromium	ND		0.0025	0.0011	mg/L		08/23/17 14:12	08/28/17 12:02	5
Cobalt	ND		0.0025	0.00040	mg/L		08/23/17 14:12	08/28/17 12:02	5
Lead	0.00037	J	0.0013	0.00035	mg/L		08/23/17 14:12	08/28/17 12:02	5
Lithium	ND		0.0025	0.0032	mg/L		08/23/17 14:12	08/28/17 12:02	5
Molybdenum	ND		0.010	0.00085	mg/L		08/23/17 14:12	08/28/17 12:02	5
Selenium	ND		0.0013	0.00024	mg/L		08/23/17 14:12	08/28/17 12:02	5
Thallium	0.00013	J	0.00050	0.000085	mg/L		08/23/17 14:12	08/28/17 12:02	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130		0.50	0.25	mg/L		08/23/17 14:12	08/29/17 14:20	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		08/22/17 10:46	08/23/17 14:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	380		5.0	3.4	mg/L			08/19/17 15:42	1
Chloride	5.4		2.0	0.60	mg/L			08/23/17 07:59	1
Fluoride	0.060	J	0.10	0.032	mg/L			08/25/17 14:10	1
Sulfate	20		5.0	1.4	mg/L			08/24/17 08:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.81				SU			08/14/17 09:35	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Client Sample ID: MW-D3-20170814

Lab Sample ID: 400-141929-3

Date Collected: 08/14/17 11:45

Matrix: Water

Date Received: 08/16/17 08:36

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		08/23/17 14:12	08/28/17 12:06	5
Arsenic	0.00048	J	0.0013	0.00046	mg/L		08/23/17 14:12	08/28/17 12:06	5
Barium	0.18		0.0025	0.00049	mg/L		08/23/17 14:12	08/28/17 12:06	5
Beryllium	ND		0.0020	0.00034	mg/L		08/23/17 14:12	08/28/17 12:06	5
Boron	0.24		0.050	0.021	mg/L		08/23/17 14:12	08/28/17 12:06	5
Cadmium	ND		0.0010	0.00034	mg/L		08/23/17 14:12	08/28/17 12:06	5
Calcium	110		0.25	0.13	mg/L		08/23/17 14:12	08/28/17 12:06	5
Chromium	ND		0.0025	0.0011	mg/L		08/23/17 14:12	08/28/17 12:06	5
Cobalt	0.0013	J	0.0025	0.00040	mg/L		08/23/17 14:12	08/28/17 12:06	5
Lead	ND		0.0013	0.00035	mg/L		08/23/17 14:12	08/28/17 12:06	5
Lithium	ND		0.0025	0.0032	mg/L		08/23/17 14:12	08/28/17 12:06	5
Molybdenum	0.0017	J	0.010	0.00085	mg/L		08/23/17 14:12	08/28/17 12:06	5
Selenium	ND		0.0013	0.00024	mg/L		08/23/17 14:12	08/28/17 12:06	5
Thallium	0.00011	J	0.00050	0.000085	mg/L		08/23/17 14:12	08/28/17 12:06	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		08/22/17 10:46	08/23/17 15:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	350		5.0	3.4	mg/L			08/19/17 15:42	1
Chloride	4.7		2.0	0.60	mg/L			08/23/17 07:59	1
Fluoride	0.12		0.10	0.032	mg/L			08/25/17 14:12	1
Sulfate	27		5.0	1.4	mg/L			08/24/17 07:43	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.86				SU			08/14/17 10:45	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Client Sample ID: MW-D1-20170814

Lab Sample ID: 400-141929-4

Date Collected: 08/14/17 12:50

Matrix: Water

Date Received: 08/16/17 08:36

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		08/23/17 14:12	08/28/17 12:11	5
Arsenic	ND		0.0013	0.00046	mg/L		08/23/17 14:12	08/28/17 12:11	5
Barium	0.014		0.0025	0.00049	mg/L		08/23/17 14:12	08/28/17 12:11	5
Beryllium	ND		0.0020	0.00034	mg/L		08/23/17 14:12	08/28/17 12:11	5
Boron	0.11		0.050	0.021	mg/L		08/23/17 14:12	08/28/17 12:11	5
Cadmium	ND		0.0010	0.00034	mg/L		08/23/17 14:12	08/28/17 12:11	5
Calcium	21		0.25	0.13	mg/L		08/23/17 14:12	08/28/17 12:11	5
Chromium	ND		0.0025	0.0011	mg/L		08/23/17 14:12	08/28/17 12:11	5
Cobalt	ND		0.0025	0.00040	mg/L		08/23/17 14:12	08/28/17 12:11	5
Lead	0.00080	J	0.0013	0.00035	mg/L		08/23/17 14:12	08/28/17 12:11	5
Lithium	ND		0.0025	0.0032	mg/L		08/23/17 14:12	08/28/17 12:11	5
Molybdenum	ND		0.010	0.00085	mg/L		08/23/17 14:12	08/28/17 12:11	5
Selenium	ND		0.0013	0.00024	mg/L		08/23/17 14:12	08/28/17 12:11	5
Thallium	ND		0.00050	0.000085	mg/L		08/23/17 14:12	08/28/17 12:11	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		08/22/17 10:46	08/23/17 15:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	76		5.0	3.4	mg/L			08/19/17 15:42	1
Chloride	3.9		2.0	0.60	mg/L			08/23/17 07:59	1
Fluoride	0.070	J	0.10	0.032	mg/L			08/25/17 14:14	1
Sulfate	22		5.0	1.4	mg/L			08/24/17 07:43	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.36				SU			08/14/17 11:50	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Client Sample ID: MW-U1-20170814

Lab Sample ID: 400-141929-5

Date Collected: 08/14/17 15:25

Matrix: Water

Date Received: 08/16/17 08:36

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		08/23/17 14:12	08/28/17 12:33	5
Arsenic	ND		0.0013	0.00046	mg/L		08/23/17 14:12	08/28/17 12:33	5
Barium	0.0020	J	0.0025	0.00049	mg/L		08/23/17 14:12	08/28/17 12:33	5
Beryllium	ND		0.0020	0.00034	mg/L		08/23/17 14:12	08/28/17 12:33	5
Boron	ND		0.050	0.021	mg/L		08/23/17 14:12	08/28/17 12:33	5
Cadmium	ND		0.0010	0.00034	mg/L		08/23/17 14:12	08/28/17 12:33	5
Calcium	33		0.25	0.13	mg/L		08/23/17 14:12	08/28/17 12:33	5
Chromium	0.0012	J	0.0025	0.0011	mg/L		08/23/17 14:12	08/28/17 12:33	5
Cobalt	ND		0.0025	0.00040	mg/L		08/23/17 14:12	08/28/17 12:33	5
Lead	ND		0.0013	0.00035	mg/L		08/23/17 14:12	08/28/17 12:33	5
Lithium	ND		0.0025	0.0032	mg/L		08/23/17 14:12	08/28/17 12:33	5
Molybdenum	ND		0.010	0.00085	mg/L		08/23/17 14:12	08/28/17 12:33	5
Selenium	0.00058	J	0.0013	0.00024	mg/L		08/23/17 14:12	08/28/17 12:33	5
Thallium	ND		0.00050	0.000085	mg/L		08/23/17 14:12	08/28/17 12:33	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		08/22/17 10:46	08/23/17 15:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	86		5.0	3.4	mg/L			08/19/17 15:42	1
Chloride	2.0		2.0	0.60	mg/L			08/23/17 07:59	1
Fluoride	0.050	J	0.10	0.032	mg/L			08/25/17 14:16	1
Sulfate	2.6	J	5.0	1.4	mg/L			08/24/17 07:43	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.45				SU			08/14/17 14:25	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Client Sample ID: DUP7-20170814

Lab Sample ID: 400-141929-1

Date Collected: 08/14/17 08:00

Matrix: Water

Date Received: 08/16/17 08:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			365338	08/23/17 14:12	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	366042	08/28/17 11:39	DRE	TAL PEN
Total/NA	Prep	7470A			365118	08/22/17 10:46	JAP	TAL PEN
Total/NA	Analysis	7470A		1	365383	08/23/17 14:57	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	364838	08/19/17 15:42	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	365277	08/23/17 07:59	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	365727	08/25/17 14:08	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	365448	08/24/17 07:43	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	365120	08/14/17 07:00	BWS	TAL PEN

Client Sample ID: MW-D2-20170814

Lab Sample ID: 400-141929-2

Date Collected: 08/14/17 10:35

Matrix: Water

Date Received: 08/16/17 08:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			365338	08/23/17 14:12	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	366042	08/28/17 12:02	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		365338	08/23/17 14:12	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	10	366202	08/29/17 14:20	DRE	TAL PEN
Total/NA	Prep	7470A			365118	08/22/17 10:46	JAP	TAL PEN
Total/NA	Analysis	7470A		1	365383	08/23/17 14:58	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	364838	08/19/17 15:42	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	365277	08/23/17 07:59	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	365727	08/25/17 14:10	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	365448	08/24/17 08:01	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	365120	08/14/17 09:35	BWS	TAL PEN

Client Sample ID: MW-D3-20170814

Lab Sample ID: 400-141929-3

Date Collected: 08/14/17 11:45

Matrix: Water

Date Received: 08/16/17 08:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			365338	08/23/17 14:12	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	366042	08/28/17 12:06	DRE	TAL PEN
Total/NA	Prep	7470A			365118	08/22/17 10:46	JAP	TAL PEN
Total/NA	Analysis	7470A		1	365383	08/23/17 15:12	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	364838	08/19/17 15:42	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	365277	08/23/17 07:59	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	365727	08/25/17 14:12	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	365448	08/24/17 07:43	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	365120	08/14/17 10:45	BWS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Client Sample ID: MW-D1-20170814

Lab Sample ID: 400-141929-4

Date Collected: 08/14/17 12:50

Matrix: Water

Date Received: 08/16/17 08:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			365338	08/23/17 14:12	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	366042	08/28/17 12:11	DRE	TAL PEN
Total/NA	Prep	7470A			365118	08/22/17 10:46	JAP	TAL PEN
Total/NA	Analysis	7470A		1	365383	08/23/17 15:14	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	364838	08/19/17 15:42	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	365277	08/23/17 07:59	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	365727	08/25/17 14:14	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	365448	08/24/17 07:43	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	365120	08/14/17 11:50	BWS	TAL PEN

Client Sample ID: MW-U1-20170814

Lab Sample ID: 400-141929-5

Date Collected: 08/14/17 15:25

Matrix: Water

Date Received: 08/16/17 08:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			365338	08/23/17 14:12	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	366042	08/28/17 12:33	DRE	TAL PEN
Total/NA	Prep	7470A			365118	08/22/17 10:46	JAP	TAL PEN
Total/NA	Analysis	7470A		1	365383	08/23/17 15:16	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	364838	08/19/17 15:42	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	365277	08/23/17 07:59	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	365727	08/25/17 14:16	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	365448	08/24/17 07:43	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	365120	08/14/17 14:25	BWS	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Metals

Prep Batch: 365118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-141929-1	DUP7-20170814	Total/NA	Water	7470A	
400-141929-2	MW-D2-20170814	Total/NA	Water	7470A	
400-141929-3	MW-D3-20170814	Total/NA	Water	7470A	
400-141929-4	MW-D1-20170814	Total/NA	Water	7470A	
400-141929-5	MW-U1-20170814	Total/NA	Water	7470A	
MB 400-365118/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-365118/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-141950-AF-2-C MS	Matrix Spike	Total/NA	Water	7470A	
400-141950-AF-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Prep Batch: 365338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-141929-1	DUP7-20170814	Total Recoverable	Water	3005A	
400-141929-2	MW-D2-20170814	Total Recoverable	Water	3005A	
400-141929-2 - DL	MW-D2-20170814	Total Recoverable	Water	3005A	
400-141929-3	MW-D3-20170814	Total Recoverable	Water	3005A	
400-141929-4	MW-D1-20170814	Total Recoverable	Water	3005A	
400-141929-5	MW-U1-20170814	Total Recoverable	Water	3005A	
MB 400-365338/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-365338/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-141929-1 MS	DUP7-20170814	Total Recoverable	Water	3005A	
400-141929-1 MSD	DUP7-20170814	Total Recoverable	Water	3005A	

Analysis Batch: 365383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-141929-1	DUP7-20170814	Total/NA	Water	7470A	365118
400-141929-2	MW-D2-20170814	Total/NA	Water	7470A	365118
400-141929-3	MW-D3-20170814	Total/NA	Water	7470A	365118
400-141929-4	MW-D1-20170814	Total/NA	Water	7470A	365118
400-141929-5	MW-U1-20170814	Total/NA	Water	7470A	365118
MB 400-365118/14-A	Method Blank	Total/NA	Water	7470A	365118
LCS 400-365118/15-A	Lab Control Sample	Total/NA	Water	7470A	365118
400-141950-AF-2-C MS	Matrix Spike	Total/NA	Water	7470A	365118
400-141950-AF-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	365118

Analysis Batch: 366041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-365338/1-A ^5	Method Blank	Total Recoverable	Water	6020	365338

Analysis Batch: 366042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-141929-1	DUP7-20170814	Total Recoverable	Water	6020	365338
400-141929-2	MW-D2-20170814	Total Recoverable	Water	6020	365338
400-141929-3	MW-D3-20170814	Total Recoverable	Water	6020	365338
400-141929-4	MW-D1-20170814	Total Recoverable	Water	6020	365338
400-141929-5	MW-U1-20170814	Total Recoverable	Water	6020	365338
MB 400-365338/1-A ^5	Method Blank	Total Recoverable	Water	6020	365338
LCS 400-365338/2-A	Lab Control Sample	Total Recoverable	Water	6020	365338
400-141929-1 MS	DUP7-20170814	Total Recoverable	Water	6020	365338
400-141929-1 MSD	DUP7-20170814	Total Recoverable	Water	6020	365338

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Metals (Continued)

Analysis Batch: 366202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-141929-2 - DL	MW-D2-20170814	Total Recoverable	Water	6020	365338

General Chemistry

Analysis Batch: 364838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-141929-1	DUP7-20170814	Total/NA	Water	SM 2540C	
400-141929-2	MW-D2-20170814	Total/NA	Water	SM 2540C	
400-141929-3	MW-D3-20170814	Total/NA	Water	SM 2540C	
400-141929-4	MW-D1-20170814	Total/NA	Water	SM 2540C	
400-141929-5	MW-U1-20170814	Total/NA	Water	SM 2540C	
MB 400-364838/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-364838/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-141890-A-14 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 365277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-141929-1	DUP7-20170814	Total/NA	Water	SM 4500 Cl- E	
400-141929-2	MW-D2-20170814	Total/NA	Water	SM 4500 Cl- E	
400-141929-3	MW-D3-20170814	Total/NA	Water	SM 4500 Cl- E	
400-141929-4	MW-D1-20170814	Total/NA	Water	SM 4500 Cl- E	
400-141929-5	MW-U1-20170814	Total/NA	Water	SM 4500 Cl- E	
MB 400-365277/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-365277/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-365277/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-141929-2 MS	MW-D2-20170814	Total/NA	Water	SM 4500 Cl- E	
400-141929-2 MSD	MW-D2-20170814	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 365448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-141929-1	DUP7-20170814	Total/NA	Water	SM 4500 SO4 E	
400-141929-2	MW-D2-20170814	Total/NA	Water	SM 4500 SO4 E	
400-141929-3	MW-D3-20170814	Total/NA	Water	SM 4500 SO4 E	
400-141929-4	MW-D1-20170814	Total/NA	Water	SM 4500 SO4 E	
400-141929-5	MW-U1-20170814	Total/NA	Water	SM 4500 SO4 E	
MB 400-365448/16	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-365448/17	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-365448/13	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-141929-2 MS	MW-D2-20170814	Total/NA	Water	SM 4500 SO4 E	
400-141929-2 MSD	MW-D2-20170814	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 365727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-141929-1	DUP7-20170814	Total/NA	Water	SM 4500 F C	
400-141929-2	MW-D2-20170814	Total/NA	Water	SM 4500 F C	
400-141929-3	MW-D3-20170814	Total/NA	Water	SM 4500 F C	
400-141929-4	MW-D1-20170814	Total/NA	Water	SM 4500 F C	
400-141929-5	MW-U1-20170814	Total/NA	Water	SM 4500 F C	
MB 400-365727/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-365727/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

General Chemistry (Continued)

Analysis Batch: 365727 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-142056-A-5 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-142056-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-141890-A-15 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Field Service / Mobile Lab

Analysis Batch: 365120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-141929-1	DUP7-20170814	Total/NA	Water	Field Sampling	
400-141929-2	MW-D2-20170814	Total/NA	Water	Field Sampling	
400-141929-3	MW-D3-20170814	Total/NA	Water	Field Sampling	
400-141929-4	MW-D1-20170814	Total/NA	Water	Field Sampling	
400-141929-5	MW-U1-20170814	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-365338/1-A ^5
Matrix: Water
Analysis Batch: 366041

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 365338

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		08/23/17 14:12	08/28/17 11:26	5
Antimony	ND		0.0025	0.0010	mg/L		08/23/17 14:12	08/28/17 11:26	5
Arsenic	ND		0.0013	0.00046	mg/L		08/23/17 14:12	08/28/17 11:26	5
Arsenic	ND		0.0013	0.00046	mg/L		08/23/17 14:12	08/28/17 11:26	5
Barium	ND		0.0025	0.00049	mg/L		08/23/17 14:12	08/28/17 11:26	5
Barium	ND		0.0025	0.00049	mg/L		08/23/17 14:12	08/28/17 11:26	5
Beryllium	ND		0.0020	0.00034	mg/L		08/23/17 14:12	08/28/17 11:26	5
Beryllium	ND		0.0020	0.00034	mg/L		08/23/17 14:12	08/28/17 11:26	5
Boron	ND		0.050	0.021	mg/L		08/23/17 14:12	08/28/17 11:26	5
Boron	ND		0.050	0.021	mg/L		08/23/17 14:12	08/28/17 11:26	5
Cadmium	ND		0.0010	0.00034	mg/L		08/23/17 14:12	08/28/17 11:26	5
Cadmium	ND		0.0010	0.00034	mg/L		08/23/17 14:12	08/28/17 11:26	5
Calcium	ND		0.25	0.13	mg/L		08/23/17 14:12	08/28/17 11:26	5
Calcium	ND		0.25	0.13	mg/L		08/23/17 14:12	08/28/17 11:26	5
Chromium	ND		0.0025	0.0011	mg/L		08/23/17 14:12	08/28/17 11:26	5
Chromium	ND		0.0025	0.0011	mg/L		08/23/17 14:12	08/28/17 11:26	5
Cobalt	ND		0.0025	0.00040	mg/L		08/23/17 14:12	08/28/17 11:26	5
Cobalt	ND		0.0025	0.00040	mg/L		08/23/17 14:12	08/28/17 11:26	5
Lead	ND		0.0013	0.00035	mg/L		08/23/17 14:12	08/28/17 11:26	5
Lead	ND		0.0013	0.00035	mg/L		08/23/17 14:12	08/28/17 11:26	5
Lithium	ND		0.0025	0.0032	mg/L		08/23/17 14:12	08/28/17 11:26	5
Lithium	ND		0.0025	0.0032	mg/L		08/23/17 14:12	08/28/17 11:26	5
Molybdenum	ND		0.010	0.00085	mg/L		08/23/17 14:12	08/28/17 11:26	5
Molybdenum	ND		0.010	0.00085	mg/L		08/23/17 14:12	08/28/17 11:26	5
Selenium	ND		0.0013	0.00024	mg/L		08/23/17 14:12	08/28/17 11:26	5
Selenium	ND		0.0013	0.00024	mg/L		08/23/17 14:12	08/28/17 11:26	5
Thallium	ND		0.00050	0.000085	mg/L		08/23/17 14:12	08/28/17 11:26	5
Thallium	ND		0.00050	0.000085	mg/L		08/23/17 14:12	08/28/17 11:26	5

Lab Sample ID: LCS 400-365338/2-A
Matrix: Water
Analysis Batch: 366042

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 365338

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0530		mg/L		106	80 - 120
Arsenic	0.0500	0.0518		mg/L		104	80 - 120
Barium	0.0500	0.0520		mg/L		104	80 - 120
Beryllium	0.0500	0.0483		mg/L		97	80 - 120
Boron	0.100	0.0995		mg/L		100	80 - 120
Cadmium	0.0500	0.0511		mg/L		102	80 - 120
Calcium	5.00	4.73		mg/L		95	80 - 120
Chromium	0.0500	0.0495		mg/L		99	80 - 120
Cobalt	0.0500	0.0520		mg/L		104	80 - 120
Lead	0.0500	0.0504		mg/L		101	80 - 120
Lithium	0.0500	0.0519		mg/L		104	80 - 120
Molybdenum	0.100	0.0991		mg/L		99	80 - 120
Selenium	0.0500	0.0504		mg/L		101	80 - 120
Thallium	0.0100	0.0101		mg/L		101	80 - 120

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 400-141929-1 MS
Matrix: Water
Analysis Batch: 366042

Client Sample ID: DUP7-20170814
Prep Type: Total Recoverable
Prep Batch: 365338

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	Limits	%Rec.
				Result	Qualifier					
Antimony	ND		0.0500	0.0545		mg/L		109	75 - 125	
Arsenic	ND		0.0500	0.0531		mg/L		106	75 - 125	
Barium	0.0023	J	0.0500	0.0539		mg/L		103	75 - 125	
Beryllium	ND		0.0500	0.0498		mg/L		100	75 - 125	
Boron	ND		0.100	0.108		mg/L		108	75 - 125	
Cadmium	ND		0.0500	0.0526		mg/L		105	75 - 125	
Calcium	35		5.00	40.1	4	mg/L		106	75 - 125	
Chromium	0.0013	J	0.0500	0.0512		mg/L		100	75 - 125	
Cobalt	ND		0.0500	0.0513		mg/L		103	75 - 125	
Lead	ND		0.0500	0.0512		mg/L		102	75 - 125	
Lithium	ND		0.0500	0.0481		mg/L		96	75 - 125	
Molybdenum	ND		0.100	0.105		mg/L		105	75 - 125	
Selenium	0.00045	J	0.0500	0.0526		mg/L		104	75 - 125	
Thallium	ND		0.0100	0.0104		mg/L		104	75 - 125	

Lab Sample ID: 400-141929-1 MSD
Matrix: Water
Analysis Batch: 366042

Client Sample ID: DUP7-20170814
Prep Type: Total Recoverable
Prep Batch: 365338

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	Limits	RPD	Limit
				Result	Qualifier						
Antimony	ND		0.0500	0.0530		mg/L		106	75 - 125	3	20
Arsenic	ND		0.0500	0.0519		mg/L		104	75 - 125	2	20
Barium	0.0023	J	0.0500	0.0541		mg/L		103	75 - 125	0	20
Beryllium	ND		0.0500	0.0481		mg/L		96	75 - 125	4	20
Boron	ND		0.100	0.105		mg/L		105	75 - 125	4	20
Cadmium	ND		0.0500	0.0511		mg/L		102	75 - 125	3	20
Calcium	35		5.00	40.1	4	mg/L		106	75 - 125	0	20
Chromium	0.0013	J	0.0500	0.0515		mg/L		100	75 - 125	0	20
Cobalt	ND		0.0500	0.0511		mg/L		102	75 - 125	0	20
Lead	ND		0.0500	0.0508		mg/L		102	75 - 125	1	20
Lithium	ND		0.0500	0.0474		mg/L		95	75 - 125	1	20
Molybdenum	ND		0.100	0.102		mg/L		102	75 - 125	3	20
Selenium	0.00045	J	0.0500	0.0518		mg/L		103	75 - 125	2	20
Thallium	ND		0.0100	0.0103		mg/L		103	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-365118/14-A
Matrix: Water
Analysis Batch: 365383

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 365118

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020	0.000070	mg/L		08/22/17 10:46	08/23/17 14:43	1

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 400-365118/15-A
Matrix: Water
Analysis Batch: 365383

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 365118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00101	0.00104		mg/L		104	80 - 120

Lab Sample ID: 400-141950-AF-2-C MS
Matrix: Water
Analysis Batch: 365383

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 365118

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	ND		0.00201	0.00213		mg/L		106	80 - 120

Lab Sample ID: 400-141950-AF-2-D MSD
Matrix: Water
Analysis Batch: 365383

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 365118

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	ND		0.00201	0.00216		mg/L		107	80 - 120	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 400-364838/1
Matrix: Water
Analysis Batch: 364838

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		5.0	3.4	mg/L			08/19/17 15:42	1

Lab Sample ID: LCS 400-364838/2
Matrix: Water
Analysis Batch: 364838

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	293	254		mg/L		87	78 - 122

Lab Sample ID: 400-141890-A-14 DU
Matrix: Water
Analysis Batch: 364838

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	1900		1920		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-365277/6
Matrix: Water
Analysis Batch: 365277

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	0.60	mg/L			08/23/17 07:15	1

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: LCS 400-365277/7
Matrix: Water
Analysis Batch: 365277

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	29.6		mg/L		99	90 - 110

Lab Sample ID: MRL 400-365277/3
Matrix: Water
Analysis Batch: 365277

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	2.22		mg/L		111	50 - 150

Lab Sample ID: 400-141929-2 MS
Matrix: Water
Analysis Batch: 365277

Client Sample ID: MW-D2-20170814
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.4		10.0	16.5		mg/L		111	73 - 120

Lab Sample ID: 400-141929-2 MSD
Matrix: Water
Analysis Batch: 365277

Client Sample ID: MW-D2-20170814
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.4		10.0	16.3		mg/L		109	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-365727/3
Matrix: Water
Analysis Batch: 365727

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.032	mg/L			08/25/17 13:45	1

Lab Sample ID: LCS 400-365727/4
Matrix: Water
Analysis Batch: 365727

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.34		mg/L		109	90 - 110

Lab Sample ID: 400-142056-A-5 MS
Matrix: Water
Analysis Batch: 365727

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.63		1.00	1.71		mg/L		108	75 - 125

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QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-142056-A-5 MSD
Matrix: Water
Analysis Batch: 365727

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.63		1.00	1.74		mg/L		111	75 - 125	2	4

Lab Sample ID: 400-141890-A-15 DU
Matrix: Water
Analysis Batch: 365727

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.51		0.510		mg/L		0	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-365448/16
Matrix: Water
Analysis Batch: 365448

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.4	mg/L			08/24/17 07:25	1

Lab Sample ID: LCS 400-365448/17
Matrix: Water
Analysis Batch: 365448

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.2		mg/L		102	90 - 110

Lab Sample ID: MRL 400-365448/13
Matrix: Water
Analysis Batch: 365448

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.59	J	mg/L		92	50 - 150

Lab Sample ID: 400-141929-2 MS
Matrix: Water
Analysis Batch: 365448

Client Sample ID: MW-D2-20170814
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20		10.0	29.9		mg/L		94	77 - 128

Lab Sample ID: 400-141929-2 MSD
Matrix: Water
Analysis Batch: 365448

Client Sample ID: MW-D2-20170814
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	20		10.0	30.2		mg/L		98	77 - 128	1	5

TestAmerica Pensacola

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-141929-1

Login Number: 141929

List Number: 1

Creator: Hughes, Nicholas T

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.2°C - IR7 ; 29.0°C - IR2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-1

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-11	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-141929-2

Client Project/Site: CCR App.III/IV GW Monitoring

For:

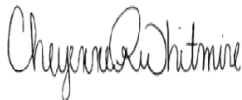
Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

9/18/2017 4:34:55 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12



Table of Contents

Cover Page	1
Table of Contents	2
Method Summary	3
Sample Summary	4
Client Sample Results	5
Definitions	10
Chronicle	11
QC Association	13
QC Sample Results	14
Chain of Custody	16
Receipt Checklists	17
Certification Summary	18

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

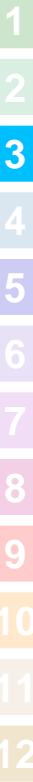
Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-141929-1	DUP7-20170814	Water	08/14/17 08:00	08/16/17 08:36
400-141929-2	MW-D2-20170814	Water	08/14/17 10:35	08/16/17 08:36
400-141929-3	MW-D3-20170814	Water	08/14/17 11:45	08/16/17 08:36
400-141929-4	MW-D1-20170814	Water	08/14/17 12:50	08/16/17 08:36
400-141929-5	MW-U1-20170814	Water	08/14/17 15:25	08/16/17 08:36

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12

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Client Sample ID: DUP7-20170814

Lab Sample ID: 400-141929-1

Date Collected: 08/14/17 08:00

Matrix: Water

Date Received: 08/16/17 08:36

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.125		0.0686	0.0695	1.00	0.0809	pCi/L	08/18/17 10:31	09/12/17 06:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.7		40 - 110					08/18/17 10:31	09/12/17 06:25	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.304	U	0.217	0.219	1.00	0.337	pCi/L	08/18/17 11:50	08/28/17 14:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.7		40 - 110					08/18/17 11:50	08/28/17 14:16	1
Y Carrier	86.4		40 - 110					08/18/17 11:50	08/28/17 14:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.430		0.228	0.230	5.00	0.337	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Client Sample ID: MW-D2-20170814

Lab Sample ID: 400-141929-2

Date Collected: 08/14/17 10:35

Matrix: Water

Date Received: 08/16/17 08:36

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.257		0.0943	0.0971	1.00	0.0882	pCi/L	08/18/17 10:31	09/12/17 06:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					08/18/17 10:31	09/12/17 06:25	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.196	U	0.227	0.227	1.00	0.373	pCi/L	08/18/17 11:50	08/28/17 14:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					08/18/17 11:50	08/28/17 14:15	1
Y Carrier	83.7		40 - 110					08/18/17 11:50	08/28/17 14:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.452		0.246	0.247	5.00	0.373	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Client Sample ID: MW-D3-20170814

Lab Sample ID: 400-141929-3

Date Collected: 08/14/17 11:45

Matrix: Water

Date Received: 08/16/17 08:36

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.344		0.105	0.109	1.00	0.0832	pCi/L	08/18/17 10:31	09/12/17 06:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.8		40 - 110					08/18/17 10:31	09/12/17 06:26	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00428	U	0.192	0.192	1.00	0.349	pCi/L	08/18/17 11:50	08/28/17 14:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.8		40 - 110					08/18/17 11:50	08/28/17 14:15	1
Y Carrier	86.7		40 - 110					08/18/17 11:50	08/28/17 14:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.339	U	0.219	0.221	5.00	0.349	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Client Sample ID: MW-D1-20170814

Lab Sample ID: 400-141929-4

Date Collected: 08/14/17 12:50

Matrix: Water

Date Received: 08/16/17 08:36

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.117		0.0675	0.0683	1.00	0.0843	pCi/L	08/18/17 10:31	09/12/17 06:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					08/18/17 10:31	09/12/17 06:26	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.170	U	0.195	0.195	1.00	0.320	pCi/L	08/18/17 11:50	08/28/17 14:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					08/18/17 11:50	08/28/17 14:15	1
Y Carrier	90.1		40 - 110					08/18/17 11:50	08/28/17 14:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.287	U	0.206	0.207	5.00	0.320	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Client Sample ID: MW-U1-20170814

Lab Sample ID: 400-141929-5

Date Collected: 08/14/17 15:25

Matrix: Water

Date Received: 08/16/17 08:36

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0102	U	0.0349	0.0349	1.00	0.0700	pCi/L	08/18/17 10:31	09/12/17 06:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					08/18/17 10:31	09/12/17 06:26	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.292	U	0.231	0.232	1.00	0.367	pCi/L	08/18/17 11:50	08/28/17 14:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					08/18/17 11:50	08/28/17 14:15	1
Y Carrier	87.5		40 - 110					08/18/17 11:50	08/28/17 14:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.302	U	0.233	0.235	5.00	0.367	pCi/L		09/15/17 12:58	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Client Sample ID: DUP7-20170814

Lab Sample ID: 400-141929-1

Date Collected: 08/14/17 08:00

Matrix: Water

Date Received: 08/16/17 08:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			322988	08/18/17 10:31	LDE	TAL SL
Total/NA	Analysis	9315		1	326911	09/12/17 06:25	RTM	TAL SL
Total/NA	Prep	PrecSep_0			322995	08/18/17 11:50	LDE	TAL SL
Total/NA	Analysis	9320		1	324697	08/28/17 14:16	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	327466	09/15/17 12:58	RTM	TAL SL

Client Sample ID: MW-D2-20170814

Lab Sample ID: 400-141929-2

Date Collected: 08/14/17 10:35

Matrix: Water

Date Received: 08/16/17 08:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			322988	08/18/17 10:31	LDE	TAL SL
Total/NA	Analysis	9315		1	326911	09/12/17 06:25	RTM	TAL SL
Total/NA	Prep	PrecSep_0			322995	08/18/17 11:50	LDE	TAL SL
Total/NA	Analysis	9320		1	324697	08/28/17 14:15	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	327466	09/15/17 12:58	RTM	TAL SL

Client Sample ID: MW-D3-20170814

Lab Sample ID: 400-141929-3

Date Collected: 08/14/17 11:45

Matrix: Water

Date Received: 08/16/17 08:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			322988	08/18/17 10:31	LDE	TAL SL
Total/NA	Analysis	9315		1	326911	09/12/17 06:26	RTM	TAL SL
Total/NA	Prep	PrecSep_0			322995	08/18/17 11:50	LDE	TAL SL
Total/NA	Analysis	9320		1	324697	08/28/17 14:15	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	327466	09/15/17 12:58	RTM	TAL SL

Client Sample ID: MW-D1-20170814

Lab Sample ID: 400-141929-4

Date Collected: 08/14/17 12:50

Matrix: Water

Date Received: 08/16/17 08:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			322988	08/18/17 10:31	LDE	TAL SL
Total/NA	Analysis	9315		1	326911	09/12/17 06:26	RTM	TAL SL
Total/NA	Prep	PrecSep_0			322995	08/18/17 11:50	LDE	TAL SL
Total/NA	Analysis	9320		1	324697	08/28/17 14:15	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	327466	09/15/17 12:58	RTM	TAL SL

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Client Sample ID: MW-U1-20170814

Lab Sample ID: 400-141929-5

Date Collected: 08/14/17 15:25

Matrix: Water

Date Received: 08/16/17 08:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			322988	08/18/17 10:31	LDE	TAL SL
Total/NA	Analysis	9315		1	326911	09/12/17 06:26	RTM	TAL SL
Total/NA	Prep	PrecSep_0			322995	08/18/17 11:50	LDE	TAL SL
Total/NA	Analysis	9320		1	324697	08/28/17 14:15	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	327466	09/15/17 12:58	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Association Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Rad

Prep Batch: 322988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-141929-1	DUP7-20170814	Total/NA	Water	PrecSep-21	
400-141929-2	MW-D2-20170814	Total/NA	Water	PrecSep-21	
400-141929-3	MW-D3-20170814	Total/NA	Water	PrecSep-21	
400-141929-4	MW-D1-20170814	Total/NA	Water	PrecSep-21	
400-141929-5	MW-U1-20170814	Total/NA	Water	PrecSep-21	
MB 160-322988/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-322988/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
480-122778-B-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 322995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-141929-1	DUP7-20170814	Total/NA	Water	PrecSep_0	
400-141929-2	MW-D2-20170814	Total/NA	Water	PrecSep_0	
400-141929-3	MW-D3-20170814	Total/NA	Water	PrecSep_0	
400-141929-4	MW-D1-20170814	Total/NA	Water	PrecSep_0	
400-141929-5	MW-U1-20170814	Total/NA	Water	PrecSep_0	
MB 160-322995/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-322995/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
480-122778-B-1-B DU	Duplicate	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-322988/1-A
Matrix: Water
Analysis Batch: 326689

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322988

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.06183	U	0.0504	0.0507	1.00	0.0733	pCi/L	08/18/17 10:31	09/12/17 06:11	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					08/18/17 10:31	09/12/17 06:11	1

Lab Sample ID: LCS 160-322988/2-A
Matrix: Water
Analysis Batch: 326689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322988

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	9.60	9.306		0.957	1.00	0.0763	pCi/L	97	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	102		40 - 110						

Lab Sample ID: 480-122778-B-1-A DU
Matrix: Water
Analysis Batch: 326911

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 322988

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.158		0.3348		0.110	1.00	0.0991	pCi/L	0.92	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	105		40 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-322995/1-A
Matrix: Water
Analysis Batch: 324696

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322995

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.1084	U	0.184	0.184	1.00	0.351	pCi/L	08/18/17 11:50	08/28/17 14:18	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					08/18/17 11:50	08/28/17 14:18	1
Y Carrier	84.5		40 - 110					08/18/17 11:50	08/28/17 14:18	1

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-322995/2-A
Matrix: Water
Analysis Batch: 324696

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322995

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	13.0	12.59		1.38	1.00	0.368	pCi/L	97	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	102		40 - 110
Y Carrier	82.2		40 - 110


Lab Sample ID: 480-122778-B-1-B DU
Matrix: Water
Analysis Batch: 324697

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 322995

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.201	U	0.2954	U	0.201	1.00	0.305	pCi/L	0.21	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	105		40 - 110
Y Carrier	87.9		40 - 110

Chain of Custody Record

Client Information Client Contact: Jeremy Gasser Company: Geosyntec Consultants, Inc. Address: 1255 Roberts Blvd. NW Suite 200 City: Kennesaw State, Zip: GA, 30144 Phone: 678-202-9583(Tel) Email: jgasser@geosyntec.com Project Name: CCR App. III/IV GW Monitoring Site:		Lab PM: Whitmore, Chyenne R. E-Mail: chyenne.whitmore@testamericainc.com Carrier Tracking No(s): Job #:	
Due Date Requested: TAT Requested (days): STANDARD PO #: Purchase Order Requested WO #:		COC No: 400-66412-26250-1 Page: Page 1 of 1 Job #:	
Sample Identification Sample ID: Dwp 7 - 20170814 MW-D2-20170814 MW-D3-20170814 MW-D1 - 20170814 MW-U1-20170814		Analysis Requested 9315 Ra228, 9320 Ra228 SM4500 Cl, E, SM4500 H, SM4500 SO4 E Field Sampling - Field pH 620, 7470A 2540C - Total Dissolved Solids 4500 F, C - Fluoride  400-141929 COC	
Sample Date 8/14/17 8/14/17 8/14/17 8/14/17 8/14/17		Sample Time 0800 1035 1145 1250 1525	
Sample Type G G G G G		Matrix Water Water Water Water Water Water Water Water Water	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological			
Deliverable Requested: <input checked="" type="checkbox"/> II, <input type="checkbox"/> III, <input type="checkbox"/> IV, Other (specify)			
Empty Kit Relinquished by:			
Relinquished by: <i>Stephen W. Randau</i> Date: 8/15/17 1630 Company: FEDEX		Relinquished by: <i>[Signature]</i> Date: 8/16/17 936 Company: TA	
Relinquished by:		Relinquished by:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 29.0°C IRZ, 42°F	
Special Instructions/Note: PH: 7.88 PH: 6.81 PH: 6.86 PH: 6.36 PH: 7.45 7.45 LAST ITEM			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Special Instructions/QC Requirements:			

1
2
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11
12

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-141929-2

Login Number: 141929

List Number: 1

Creator: Hughes, Nicholas T

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.2°C - IR7 ; 29.0°C - IR2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-11	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

Laboratory: TestAmerica St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-18
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-18
Illinois	NELAP	5	200023	11-30-17
Iowa	State Program	7	373	02-01-18
Kansas	NELAP	7	E-10236	10-31-17 *
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-18
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-18
Missouri	State Program	7	780	06-30-18
Nevada	State Program	9	MO000542017-1	07-31-18
New Jersey	NELAP	2	MO002	06-30-18
New York	NELAP	2	11616	03-31-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-141929-2

Laboratory: TestAmerica St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
North Dakota	State Program	8	R207	06-30-17 *
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-18
Pennsylvania	NELAP	3	68-00540	02-21-18
South Carolina	State Program	4	85002001	06-30-17 *
Texas	NELAP	6	T104704193-17-11	07-31-18
US Fish & Wildlife	Federal		058448	08-31-18
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-18
Virginia	NELAP	3	460230	06-14-18
Washington	State Program	10	C592	08-30-18
West Virginia DEP	State Program	3	381	08-31-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Pensacola

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-143370-1

Client Project/Site: CCR App.III/IV GW Monitoring

For:

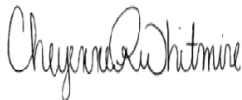
Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

9/30/2017 1:11:51 PM

Cheyenne Whitmire, Project Manager II

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12

13

14



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	6
Sample Summary	7
Client Sample Results	8
Definitions	13
Chronicle	14
QC Association	16
QC Sample Results	19
Chain of Custody	24
Receipt Checklists	25
Certification Summary	26

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Job ID: 400-143370-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-143370-1

Metals

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: DUP8-20170913 (400-143370-1), MW-D2-20170913 (400-143370-2) and MW-D3-20170913 (400-143370-3). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 368904 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: (400-143316-A-3), (400-143316-A-3 MS) and (400-143316-A-3 MSD). Elevated reporting limits (RLs) are provided.



Detection Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Client Sample ID: DUP8-20170913

Lab Sample ID: 400-143370-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.14		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.15		0.050	0.021	mg/L	5		6020	Total Recoverable
Thallium	0.00011	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	130		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	380		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.5		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.061	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	20		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.18				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D2-20170913

Lab Sample ID: 400-143370-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.14		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.15		0.050	0.021	mg/L	5		6020	Total Recoverable
Thallium	0.00012	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	130		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	390		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.5		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.061	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	20		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.44				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-D3-20170913

Lab Sample ID: 400-143370-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00079	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.18		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.26		0.050	0.021	mg/L	5		6020	Total Recoverable
Cobalt	0.0014	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Molybdenum	0.0021	J	0.010	0.00085	mg/L	5		6020	Total Recoverable
Thallium	0.00013	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Calcium - DL	120		0.50	0.25	mg/L	10		6020	Total Recoverable
Total Dissolved Solids	390		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	4.5		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.12		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	29		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.56				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Client Sample ID: MW-D1-20170913

Lab Sample ID: 400-143370-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.014		0.0025	0.00049	mg/L	5		6020	Total
Boron	0.15		0.050	0.021	mg/L	5		6020	Recoverable Total
Calcium	22		0.25	0.13	mg/L	5		6020	Recoverable Total
Total Dissolved Solids	92		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	3.1		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.075	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	23		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	5.88				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-U1-20170913

Lab Sample ID: 400-143370-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0023	J	0.0025	0.00049	mg/L	5		6020	Total
Calcium	35		0.25	0.13	mg/L	5		6020	Recoverable Total
Chromium	0.0014	J	0.0025	0.0011	mg/L	5		6020	Recoverable Total
Selenium	0.00041	J	0.0013	0.00024	mg/L	5		6020	Recoverable Total
Total Dissolved Solids	110		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	2.2		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.058	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	3.1	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	7.63				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-143370-1	DUP8-20170913	Water	09/13/17 08:00	09/15/17 09:14
400-143370-2	MW-D2-20170913	Water	09/13/17 10:30	09/15/17 09:14
400-143370-3	MW-D3-20170913	Water	09/13/17 12:15	09/15/17 09:14
400-143370-4	MW-D1-20170913	Water	09/13/17 13:40	09/15/17 09:14
400-143370-5	MW-U1-20170913	Water	09/13/17 15:25	09/15/17 09:14

- 1
- 2
- 3
- 4
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Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Client Sample ID: DUP8-20170913

Lab Sample ID: 400-143370-1

Date Collected: 09/13/17 08:00

Matrix: Water

Date Received: 09/15/17 09:14

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		09/26/17 12:10	09/28/17 00:12	5
Arsenic	ND		0.0013	0.00046	mg/L		09/26/17 12:10	09/28/17 00:12	5
Barium	0.14		0.0025	0.00049	mg/L		09/26/17 12:10	09/28/17 00:12	5
Beryllium	ND		0.0020	0.00034	mg/L		09/26/17 12:10	09/28/17 00:12	5
Boron	0.15		0.050	0.021	mg/L		09/26/17 12:10	09/28/17 00:12	5
Cadmium	ND		0.0010	0.00034	mg/L		09/26/17 12:10	09/28/17 00:12	5
Chromium	ND		0.0025	0.0011	mg/L		09/26/17 12:10	09/28/17 00:12	5
Cobalt	ND		0.0025	0.00040	mg/L		09/26/17 12:10	09/28/17 00:12	5
Lead	ND		0.0013	0.00035	mg/L		09/26/17 12:10	09/28/17 00:12	5
Lithium	ND		0.0025	0.0032	mg/L		09/26/17 12:10	09/28/17 00:12	5
Molybdenum	ND		0.010	0.00085	mg/L		09/26/17 12:10	09/28/17 00:12	5
Selenium	ND		0.0013	0.00024	mg/L		09/26/17 12:10	09/28/17 00:12	5
Thallium	0.00011	J	0.00050	0.000085	mg/L		09/26/17 12:10	09/28/17 00:12	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130		0.50	0.25	mg/L		09/26/17 12:10	09/28/17 12:34	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		09/21/17 09:21	09/22/17 14:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	380		5.0	3.4	mg/L			09/20/17 14:08	1
Chloride	5.5		2.0	0.60	mg/L			09/21/17 08:53	1
Fluoride	0.061	J	0.10	0.032	mg/L			09/29/17 15:42	1
Sulfate	20		5.0	1.4	mg/L			09/21/17 10:47	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.18				SU			09/13/17 07:00	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Client Sample ID: MW-D2-20170913

Lab Sample ID: 400-143370-2

Date Collected: 09/13/17 10:30

Matrix: Water

Date Received: 09/15/17 09:14

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		09/26/17 12:10	09/28/17 00:16	5
Arsenic	ND		0.0013	0.00046	mg/L		09/26/17 12:10	09/28/17 00:16	5
Barium	0.14		0.0025	0.00049	mg/L		09/26/17 12:10	09/28/17 00:16	5
Beryllium	ND		0.0020	0.00034	mg/L		09/26/17 12:10	09/28/17 00:16	5
Boron	0.15		0.050	0.021	mg/L		09/26/17 12:10	09/28/17 00:16	5
Cadmium	ND		0.0010	0.00034	mg/L		09/26/17 12:10	09/28/17 00:16	5
Chromium	ND		0.0025	0.0011	mg/L		09/26/17 12:10	09/28/17 00:16	5
Cobalt	ND		0.0025	0.00040	mg/L		09/26/17 12:10	09/28/17 00:16	5
Lead	ND		0.0013	0.00035	mg/L		09/26/17 12:10	09/28/17 00:16	5
Lithium	ND		0.0025	0.0032	mg/L		09/26/17 12:10	09/28/17 00:16	5
Molybdenum	ND		0.010	0.00085	mg/L		09/26/17 12:10	09/28/17 00:16	5
Selenium	ND		0.0013	0.00024	mg/L		09/26/17 12:10	09/28/17 00:16	5
Thallium	0.00012	J	0.00050	0.000085	mg/L		09/26/17 12:10	09/28/17 00:16	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130		0.50	0.25	mg/L		09/26/17 12:10	09/28/17 12:38	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		09/21/17 09:21	09/22/17 14:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		5.0	3.4	mg/L			09/20/17 14:08	1
Chloride	5.5		2.0	0.60	mg/L			09/21/17 08:31	1
Fluoride	0.061	J	0.10	0.032	mg/L			09/29/17 15:44	1
Sulfate	20		5.0	1.4	mg/L			09/21/17 10:47	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.44				SU			09/13/17 09:30	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Client Sample ID: MW-D3-20170913

Lab Sample ID: 400-143370-3

Date Collected: 09/13/17 12:15

Matrix: Water

Date Received: 09/15/17 09:14

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		09/26/17 12:10	09/28/17 00:21	5
Arsenic	0.00079	J	0.0013	0.00046	mg/L		09/26/17 12:10	09/28/17 00:21	5
Barium	0.18		0.0025	0.00049	mg/L		09/26/17 12:10	09/28/17 00:21	5
Beryllium	ND		0.0020	0.00034	mg/L		09/26/17 12:10	09/28/17 00:21	5
Boron	0.26		0.050	0.021	mg/L		09/26/17 12:10	09/28/17 00:21	5
Cadmium	ND		0.0010	0.00034	mg/L		09/26/17 12:10	09/28/17 00:21	5
Chromium	ND		0.0025	0.0011	mg/L		09/26/17 12:10	09/28/17 00:21	5
Cobalt	0.0014	J	0.0025	0.00040	mg/L		09/26/17 12:10	09/28/17 00:21	5
Lead	ND		0.0013	0.00035	mg/L		09/26/17 12:10	09/28/17 00:21	5
Lithium	ND		0.0025	0.0032	mg/L		09/26/17 12:10	09/28/17 00:21	5
Molybdenum	0.0021	J	0.010	0.00085	mg/L		09/26/17 12:10	09/28/17 00:21	5
Selenium	ND		0.0013	0.00024	mg/L		09/26/17 12:10	09/28/17 00:21	5
Thallium	0.00013	J	0.00050	0.000085	mg/L		09/26/17 12:10	09/28/17 00:21	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120		0.50	0.25	mg/L		09/26/17 12:10	09/28/17 12:43	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		09/21/17 09:21	09/22/17 14:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		5.0	3.4	mg/L			09/20/17 14:08	1
Chloride	4.5		2.0	0.60	mg/L			09/21/17 08:32	1
Fluoride	0.12		0.10	0.032	mg/L			09/29/17 15:47	1
Sulfate	29		5.0	1.4	mg/L			09/21/17 10:47	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.56				SU			09/13/17 11:15	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Client Sample ID: MW-D1-20170913

Lab Sample ID: 400-143370-4

Date Collected: 09/13/17 13:40

Matrix: Water

Date Received: 09/15/17 09:14

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		09/26/17 12:10	09/28/17 00:25	5
Arsenic	ND		0.0013	0.00046	mg/L		09/26/17 12:10	09/28/17 00:25	5
Barium	0.014		0.0025	0.00049	mg/L		09/26/17 12:10	09/28/17 00:25	5
Beryllium	ND		0.0020	0.00034	mg/L		09/26/17 12:10	09/28/17 00:25	5
Boron	0.15		0.050	0.021	mg/L		09/26/17 12:10	09/28/17 00:25	5
Cadmium	ND		0.0010	0.00034	mg/L		09/26/17 12:10	09/28/17 00:25	5
Calcium	22		0.25	0.13	mg/L		09/26/17 12:10	09/28/17 00:25	5
Chromium	ND		0.0025	0.0011	mg/L		09/26/17 12:10	09/28/17 00:25	5
Cobalt	ND		0.0025	0.00040	mg/L		09/26/17 12:10	09/28/17 00:25	5
Lead	ND		0.0013	0.00035	mg/L		09/26/17 12:10	09/28/17 00:25	5
Lithium	ND		0.0025	0.0032	mg/L		09/26/17 12:10	09/28/17 00:25	5
Molybdenum	ND		0.010	0.00085	mg/L		09/26/17 12:10	09/28/17 00:25	5
Selenium	ND		0.0013	0.00024	mg/L		09/26/17 12:10	09/28/17 00:25	5
Thallium	ND		0.00050	0.000085	mg/L		09/26/17 12:10	09/28/17 00:25	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		09/21/17 09:21	09/22/17 14:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	92		5.0	3.4	mg/L			09/20/17 14:08	1
Chloride	3.1		2.0	0.60	mg/L			09/21/17 08:32	1
Fluoride	0.075	J	0.10	0.032	mg/L			09/29/17 15:49	1
Sulfate	23		5.0	1.4	mg/L			09/21/17 10:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.88				SU			09/13/17 12:40	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Client Sample ID: MW-U1-20170913

Lab Sample ID: 400-143370-5

Date Collected: 09/13/17 15:25

Matrix: Water

Date Received: 09/15/17 09:14

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		09/26/17 12:10	09/28/17 00:30	5
Arsenic	ND		0.0013	0.00046	mg/L		09/26/17 12:10	09/28/17 00:30	5
Barium	0.0023	J	0.0025	0.00049	mg/L		09/26/17 12:10	09/28/17 00:30	5
Beryllium	ND		0.0020	0.00034	mg/L		09/26/17 12:10	09/28/17 00:30	5
Boron	ND		0.050	0.021	mg/L		09/26/17 12:10	09/28/17 00:30	5
Cadmium	ND		0.0010	0.00034	mg/L		09/26/17 12:10	09/28/17 00:30	5
Calcium	35		0.25	0.13	mg/L		09/26/17 12:10	09/28/17 00:30	5
Chromium	0.0014	J	0.0025	0.0011	mg/L		09/26/17 12:10	09/28/17 00:30	5
Cobalt	ND		0.0025	0.00040	mg/L		09/26/17 12:10	09/28/17 00:30	5
Lead	ND		0.0013	0.00035	mg/L		09/26/17 12:10	09/28/17 00:30	5
Lithium	ND		0.0025	0.0032	mg/L		09/26/17 12:10	09/28/17 00:30	5
Molybdenum	ND		0.010	0.00085	mg/L		09/26/17 12:10	09/28/17 00:30	5
Selenium	0.00041	J	0.0013	0.00024	mg/L		09/26/17 12:10	09/28/17 00:30	5
Thallium	ND		0.00050	0.000085	mg/L		09/26/17 12:10	09/28/17 00:30	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		09/21/17 09:21	09/22/17 14:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	110		5.0	3.4	mg/L			09/20/17 14:08	1
Chloride	2.2		2.0	0.60	mg/L			09/21/17 08:53	1
Fluoride	0.058	J	0.10	0.032	mg/L			09/29/17 15:51	1
Sulfate	3.1	J	5.0	1.4	mg/L			09/21/17 10:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.63				SU			09/13/17 14:25	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Client Sample ID: DUP8-20170913

Date Collected: 09/13/17 08:00

Date Received: 09/15/17 09:14

Lab Sample ID: 400-143370-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			369553	09/26/17 12:10	KWN	TAL PEN
Total Recoverable	Analysis	6020		5	369886	09/28/17 00:12	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		369553	09/26/17 12:10	KWN	TAL PEN
Total Recoverable	Analysis	6020	DL	10	370050	09/28/17 12:34	DRE	TAL PEN
Total/NA	Prep	7470A			368851	09/21/17 09:21	JAP	TAL PEN
Total/NA	Analysis	7470A		1	369097	09/22/17 14:29	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	368722	09/20/17 14:08	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	368859	09/21/17 08:53	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	370140	09/29/17 15:42	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	368904	09/21/17 10:47	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	369816	09/13/17 07:00	BWS	TAL PEN

Client Sample ID: MW-D2-20170913

Date Collected: 09/13/17 10:30

Date Received: 09/15/17 09:14

Lab Sample ID: 400-143370-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			369553	09/26/17 12:10	KWN	TAL PEN
Total Recoverable	Analysis	6020		5	369886	09/28/17 00:16	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		369553	09/26/17 12:10	KWN	TAL PEN
Total Recoverable	Analysis	6020	DL	10	370050	09/28/17 12:38	DRE	TAL PEN
Total/NA	Prep	7470A			368851	09/21/17 09:21	JAP	TAL PEN
Total/NA	Analysis	7470A		1	369097	09/22/17 14:31	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	368722	09/20/17 14:08	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	368859	09/21/17 08:31	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	370140	09/29/17 15:44	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	368904	09/21/17 10:47	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	369816	09/13/17 09:30	BWS	TAL PEN

Client Sample ID: MW-D3-20170913

Date Collected: 09/13/17 12:15

Date Received: 09/15/17 09:14

Lab Sample ID: 400-143370-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			369553	09/26/17 12:10	KWN	TAL PEN
Total Recoverable	Analysis	6020		5	369886	09/28/17 00:21	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		369553	09/26/17 12:10	KWN	TAL PEN
Total Recoverable	Analysis	6020	DL	10	370050	09/28/17 12:43	DRE	TAL PEN
Total/NA	Prep	7470A			368851	09/21/17 09:21	JAP	TAL PEN
Total/NA	Analysis	7470A		1	369097	09/22/17 14:33	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	368722	09/20/17 14:08	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	368859	09/21/17 08:32	RRC	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Client Sample ID: MW-D3-20170913

Lab Sample ID: 400-143370-3

Date Collected: 09/13/17 12:15

Matrix: Water

Date Received: 09/15/17 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	370140	09/29/17 15:47	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	368904	09/21/17 10:47	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	369816	09/13/17 11:15	BWS	TAL PEN

Client Sample ID: MW-D1-20170913

Lab Sample ID: 400-143370-4

Date Collected: 09/13/17 13:40

Matrix: Water

Date Received: 09/15/17 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			369553	09/26/17 12:10	KWN	TAL PEN
Total Recoverable	Analysis	6020		5	369886	09/28/17 00:25	DRE	TAL PEN
Total/NA	Prep	7470A			368851	09/21/17 09:21	JAP	TAL PEN
Total/NA	Analysis	7470A		1	369097	09/22/17 14:34	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	368722	09/20/17 14:08	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	368859	09/21/17 08:32	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	370140	09/29/17 15:49	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	368904	09/21/17 10:49	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	369816	09/13/17 12:40	BWS	TAL PEN

Client Sample ID: MW-U1-20170913

Lab Sample ID: 400-143370-5

Date Collected: 09/13/17 15:25

Matrix: Water

Date Received: 09/15/17 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			369553	09/26/17 12:10	KWN	TAL PEN
Total Recoverable	Analysis	6020		5	369886	09/28/17 00:30	DRE	TAL PEN
Total/NA	Prep	7470A			368851	09/21/17 09:21	JAP	TAL PEN
Total/NA	Analysis	7470A		1	369097	09/22/17 14:36	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	368722	09/20/17 14:08	TET	TAL PEN
Total/NA	Analysis	SM 4500 CI- E		1	368859	09/21/17 08:53	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	370140	09/29/17 15:51	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	368904	09/21/17 10:49	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	369816	09/13/17 14:25	BWS	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Metals

Prep Batch: 368851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-143370-1	DUP8-20170913	Total/NA	Water	7470A	
400-143370-2	MW-D2-20170913	Total/NA	Water	7470A	
400-143370-3	MW-D3-20170913	Total/NA	Water	7470A	
400-143370-4	MW-D1-20170913	Total/NA	Water	7470A	
400-143370-5	MW-U1-20170913	Total/NA	Water	7470A	
MB 400-368851/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-368851/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-143378-N-1-B MS	Matrix Spike	Total/NA	Water	7470A	
400-143378-N-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 369097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-143370-1	DUP8-20170913	Total/NA	Water	7470A	368851
400-143370-2	MW-D2-20170913	Total/NA	Water	7470A	368851
400-143370-3	MW-D3-20170913	Total/NA	Water	7470A	368851
400-143370-4	MW-D1-20170913	Total/NA	Water	7470A	368851
400-143370-5	MW-U1-20170913	Total/NA	Water	7470A	368851
MB 400-368851/14-A	Method Blank	Total/NA	Water	7470A	368851
LCS 400-368851/15-A	Lab Control Sample	Total/NA	Water	7470A	368851
400-143378-N-1-B MS	Matrix Spike	Total/NA	Water	7470A	368851
400-143378-N-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	368851

Prep Batch: 369553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-143370-1 - DL	DUP8-20170913	Total Recoverable	Water	3005A	
400-143370-1	DUP8-20170913	Total Recoverable	Water	3005A	
400-143370-2 - DL	MW-D2-20170913	Total Recoverable	Water	3005A	
400-143370-2	MW-D2-20170913	Total Recoverable	Water	3005A	
400-143370-3	MW-D3-20170913	Total Recoverable	Water	3005A	
400-143370-3 - DL	MW-D3-20170913	Total Recoverable	Water	3005A	
400-143370-4	MW-D1-20170913	Total Recoverable	Water	3005A	
400-143370-5	MW-U1-20170913	Total Recoverable	Water	3005A	
MB 400-369553/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-369553/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-143466-G-1-C MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-143466-G-1-D MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 369886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-143370-1	DUP8-20170913	Total Recoverable	Water	6020	369553
400-143370-2	MW-D2-20170913	Total Recoverable	Water	6020	369553
400-143370-3	MW-D3-20170913	Total Recoverable	Water	6020	369553
400-143370-4	MW-D1-20170913	Total Recoverable	Water	6020	369553
400-143370-5	MW-U1-20170913	Total Recoverable	Water	6020	369553
MB 400-369553/1-A ^5	Method Blank	Total Recoverable	Water	6020	369553
LCS 400-369553/2-A	Lab Control Sample	Total Recoverable	Water	6020	369553
400-143466-G-1-C MS ^5	Matrix Spike	Total Recoverable	Water	6020	369553
400-143466-G-1-D MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	369553

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Metals (Continued)

Analysis Batch: 370050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-143370-1 - DL	DUP8-20170913	Total Recoverable	Water	6020	369553
400-143370-2 - DL	MW-D2-20170913	Total Recoverable	Water	6020	369553
400-143370-3 - DL	MW-D3-20170913	Total Recoverable	Water	6020	369553

General Chemistry

Analysis Batch: 368722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-143370-1	DUP8-20170913	Total/NA	Water	SM 2540C	
400-143370-2	MW-D2-20170913	Total/NA	Water	SM 2540C	
400-143370-3	MW-D3-20170913	Total/NA	Water	SM 2540C	
400-143370-4	MW-D1-20170913	Total/NA	Water	SM 2540C	
400-143370-5	MW-U1-20170913	Total/NA	Water	SM 2540C	
MB 400-368722/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-368722/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-143378-J-5 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 368859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-143370-1	DUP8-20170913	Total/NA	Water	SM 4500 Cl- E	
400-143370-2	MW-D2-20170913	Total/NA	Water	SM 4500 Cl- E	
400-143370-3	MW-D3-20170913	Total/NA	Water	SM 4500 Cl- E	
400-143370-4	MW-D1-20170913	Total/NA	Water	SM 4500 Cl- E	
400-143370-5	MW-U1-20170913	Total/NA	Water	SM 4500 Cl- E	
MB 400-368859/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-368859/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-368859/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-143370-1 MS	DUP8-20170913	Total/NA	Water	SM 4500 Cl- E	
400-143370-1 MSD	DUP8-20170913	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 368904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-143370-1	DUP8-20170913	Total/NA	Water	SM 4500 SO4 E	
400-143370-2	MW-D2-20170913	Total/NA	Water	SM 4500 SO4 E	
400-143370-3	MW-D3-20170913	Total/NA	Water	SM 4500 SO4 E	
400-143370-4	MW-D1-20170913	Total/NA	Water	SM 4500 SO4 E	
400-143370-5	MW-U1-20170913	Total/NA	Water	SM 4500 SO4 E	
MB 400-368904/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-368904/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-368904/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-143276-E-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-143276-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 370140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-143370-1	DUP8-20170913	Total/NA	Water	SM 4500 F C	
400-143370-2	MW-D2-20170913	Total/NA	Water	SM 4500 F C	
400-143370-3	MW-D3-20170913	Total/NA	Water	SM 4500 F C	
400-143370-4	MW-D1-20170913	Total/NA	Water	SM 4500 F C	
400-143370-5	MW-U1-20170913	Total/NA	Water	SM 4500 F C	

TestAmerica Pensacola

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

General Chemistry (Continued)

Analysis Batch: 370140 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-370140/1	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-370140/2	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-143535-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-143535-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-143536-A-3 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Field Service / Mobile Lab

Analysis Batch: 369816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-143370-1	DUP8-20170913	Total/NA	Water	Field Sampling	
400-143370-2	MW-D2-20170913	Total/NA	Water	Field Sampling	
400-143370-3	MW-D3-20170913	Total/NA	Water	Field Sampling	
400-143370-4	MW-D1-20170913	Total/NA	Water	Field Sampling	
400-143370-5	MW-U1-20170913	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-369553/1-A ^5
Matrix: Water
Analysis Batch: 369886

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 369553

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	0.0010	mg/L		09/26/17 12:10	09/27/17 22:19	5
Arsenic	ND		0.0013	0.00046	mg/L		09/26/17 12:10	09/27/17 22:19	5
Barium	ND		0.0025	0.00049	mg/L		09/26/17 12:10	09/27/17 22:19	5
Beryllium	ND		0.0020	0.00034	mg/L		09/26/17 12:10	09/27/17 22:19	5
Boron	ND		0.050	0.021	mg/L		09/26/17 12:10	09/27/17 22:19	5
Cadmium	ND		0.0010	0.00034	mg/L		09/26/17 12:10	09/27/17 22:19	5
Calcium	ND		0.25	0.13	mg/L		09/26/17 12:10	09/27/17 22:19	5
Chromium	ND		0.0025	0.0011	mg/L		09/26/17 12:10	09/27/17 22:19	5
Cobalt	ND		0.0025	0.00040	mg/L		09/26/17 12:10	09/27/17 22:19	5
Lead	ND		0.0013	0.00035	mg/L		09/26/17 12:10	09/27/17 22:19	5
Lithium	ND		0.0025	0.0032	mg/L		09/26/17 12:10	09/27/17 22:19	5
Molybdenum	ND		0.010	0.00085	mg/L		09/26/17 12:10	09/27/17 22:19	5
Selenium	ND		0.0013	0.00024	mg/L		09/26/17 12:10	09/27/17 22:19	5
Thallium	ND		0.00050	0.000085	mg/L		09/26/17 12:10	09/27/17 22:19	5

Lab Sample ID: LCS 400-369553/2-A
Matrix: Water
Analysis Batch: 369886

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 369553

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0522		mg/L		104	80 - 120
Arsenic	0.0500	0.0519		mg/L		104	80 - 120
Barium	0.0500	0.0502		mg/L		100	80 - 120
Beryllium	0.0500	0.0502		mg/L		100	80 - 120
Boron	0.100	0.0995		mg/L		99	80 - 120
Cadmium	0.0500	0.0522		mg/L		104	80 - 120
Calcium	5.00	4.83		mg/L		97	80 - 120
Chromium	0.0500	0.0504		mg/L		101	80 - 120
Cobalt	0.0500	0.0508		mg/L		102	80 - 120
Lead	0.0500	0.0521		mg/L		104	80 - 120
Lithium	0.0500	0.0538		mg/L		108	80 - 120
Molybdenum	0.100	0.103		mg/L		103	80 - 120
Selenium	0.0500	0.0509		mg/L		102	80 - 120
Thallium	0.0100	0.0104		mg/L		104	80 - 120

Lab Sample ID: 400-143466-G-1-C MS ^5
Matrix: Water
Analysis Batch: 369886

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 369553

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.0500	0.0559		mg/L		112	75 - 125
Arsenic	0.0033		0.0500	0.0572		mg/L		108	75 - 125
Barium	3.3		0.0500	3.39	4	mg/L		216	75 - 125
Beryllium	ND		0.0500	0.0519		mg/L		104	75 - 125
Boron	0.15		0.100	0.260		mg/L		112	75 - 125
Cadmium	ND		0.0500	0.0527		mg/L		105	75 - 125
Calcium	38		5.00	43.1	4	mg/L		109	75 - 125
Chromium	ND		0.0500	0.0526		mg/L		105	75 - 125

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 400-143466-G-1-C MS ^5
Matrix: Water
Analysis Batch: 369886

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 369553

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.00075	J	0.0500	0.0528		mg/L		104	75 - 125
Lead	ND		0.0500	0.0522		mg/L		104	75 - 125
Lithium	ND		0.0500	0.0549		mg/L		110	75 - 125
Molybdenum	ND		0.100	0.110		mg/L		110	75 - 125
Selenium	ND		0.0500	0.0547		mg/L		109	75 - 125
Thallium	0.00028	J	0.0100	0.0108		mg/L		106	75 - 125

Lab Sample ID: 400-143466-G-1-D MSD ^5
Matrix: Water
Analysis Batch: 369886

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 369553

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Antimony	ND		0.0500	0.0541		mg/L		108	75 - 125	3	20
Arsenic	0.0033		0.0500	0.0576		mg/L		109	75 - 125	1	20
Barium	3.3		0.0500	3.35	4	mg/L		147	75 - 125	1	20
Beryllium	ND		0.0500	0.0511		mg/L		102	75 - 125	2	20
Boron	0.15		0.100	0.253		mg/L		105	75 - 125	3	20
Cadmium	ND		0.0500	0.0516		mg/L		103	75 - 125	2	20
Calcium	38		5.00	42.4	4	mg/L		94	75 - 125	2	20
Chromium	ND		0.0500	0.0518		mg/L		104	75 - 125	1	20
Cobalt	0.00075	J	0.0500	0.0527		mg/L		104	75 - 125	0	20
Lead	ND		0.0500	0.0516		mg/L		103	75 - 125	1	20
Lithium	ND		0.0500	0.0532		mg/L		106	75 - 125	3	20
Molybdenum	ND		0.100	0.105		mg/L		105	75 - 125	4	20
Selenium	ND		0.0500	0.0522		mg/L		104	75 - 125	5	20
Thallium	0.00028	J	0.0100	0.0106		mg/L		103	75 - 125	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-368851/14-A
Matrix: Water
Analysis Batch: 369097

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 368851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000070	mg/L		09/21/17 09:21	09/22/17 13:38	1

Lab Sample ID: LCS 400-368851/15-A
Matrix: Water
Analysis Batch: 369097

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 368851

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.000985		mg/L		98	80 - 120

Lab Sample ID: 400-143378-N-1-B MS
Matrix: Water
Analysis Batch: 369097

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 368851

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00201	0.00199		mg/L		99	80 - 120

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Lab Sample ID: 400-143378-N-1-C MSD
Matrix: Water
Analysis Batch: 369097

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 368851
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	ND		0.00201	0.00196		mg/L		97	80 - 120	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 400-368722/1
Matrix: Water
Analysis Batch: 368722

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		5.0	3.4	mg/L			09/20/17 14:08	1

Lab Sample ID: LCS 400-368722/2
Matrix: Water
Analysis Batch: 368722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	293	280		mg/L		96	78 - 122

Lab Sample ID: 400-143378-J-5 DU
Matrix: Water
Analysis Batch: 368722

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	810		810		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-368859/6
Matrix: Water
Analysis Batch: 368859

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	0.60	mg/L			09/21/17 08:00	1

Lab Sample ID: LCS 400-368859/7
Matrix: Water
Analysis Batch: 368859

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chloride	30.0	29.7		mg/L		99	90 - 110

Lab Sample ID: MRL 400-368859/3
Matrix: Water
Analysis Batch: 368859

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Chloride	2.00	2.25		mg/L		113	50 - 150

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: 400-143370-1 MS
Matrix: Water
Analysis Batch: 368859

Client Sample ID: DUP8-20170913
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.5		10.0	16.4		mg/L		108	73 - 120

Lab Sample ID: 400-143370-1 MSD
Matrix: Water
Analysis Batch: 368859

Client Sample ID: DUP8-20170913
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.5		10.0	16.4		mg/L		109	73 - 120	0	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-370140/1
Matrix: Water
Analysis Batch: 370140

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.032	mg/L			09/29/17 15:03	1

Lab Sample ID: LCS 400-370140/2
Matrix: Water
Analysis Batch: 370140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.67		mg/L		92	90 - 110

Lab Sample ID: 400-143535-A-1 MS
Matrix: Water
Analysis Batch: 370140

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND		1.00	0.964		mg/L		96	75 - 125

Lab Sample ID: 400-143535-A-1 MSD
Matrix: Water
Analysis Batch: 370140

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		1.00	1.00		mg/L		100	75 - 125	4	4

Lab Sample ID: 400-143536-A-3 DU
Matrix: Water
Analysis Batch: 370140

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.037	J	0.0370	J	mg/L		0	4

TestAmerica Pensacola

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-368904/6
Matrix: Water
Analysis Batch: 368904

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.4	mg/L			09/21/17 10:04	1

Lab Sample ID: LCS 400-368904/7
Matrix: Water
Analysis Batch: 368904

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.3		mg/L		102	90 - 110

Lab Sample ID: MRL 400-368904/3
Matrix: Water
Analysis Batch: 368904

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.90	J	mg/L		98	50 - 150

Lab Sample ID: 400-143276-E-1 MS
Matrix: Water
Analysis Batch: 368904

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	2.9	J	10.0	13.8		mg/L		109	77 - 128

Lab Sample ID: 400-143276-E-1 MSD
Matrix: Water
Analysis Batch: 368904

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	2.9	J	10.0	13.8		mg/L		109	77 - 128	0	5

Chain of Custody Record

3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Client Information Client Contact: Jeremy Gasser Company: Geosyntec Consultants, Inc. Address: 1255 Roberts Blvd, NW Suite 200 City: Kennesaw State, Zip: GA, 30144 Phone: 678-202-9583(Tel) Email: jgasser@geosyntec.com Project Name: CCR App. III/IV GW Monitoring Site:		Smpler: STEPHEN W. RANDALL Lab PM: Whitmire, Cheyenne R. Phone: 478-328-6181 E-Mail: cheyenne.whitmire@testamericainc.com		Camer Tracking No(s): COC No: 400-66412-26250.1 Page: Page 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): STANDARD PO #: Purchase Order Requested WO #: Project #: 40007960 SSONW#:		Analysis Requested 9315_Ra226, 9320_Ra228 SM4500_CL_E, SM4500_H+, SM4500_SO4_F Field Sampling - Field pH 6020, 7470A 2540C - Total Dissolved Solids 4500_F_C - Fluoride			
Sample Identification DUP8-20170913 MW-D2-20170913 MW-D3-20170913 MW-D1-20170913 MW-U1-20170913		Sample Date 9/13/17 9/13/17 9/13/17 9/13/17 9/13/17	Sample Time 0800 1030 1215 1340 1525	Sample Type (C=comp, G=grab) G G G G G	Matrix (W=water, B=soil, O=ore/rock, BT=leachate, A=air) Water Water Water Water Water Water Water Water
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: <input checked="" type="checkbox"/> III, IV, Other (specify)					
Empty Kit Relinquished by: _____ Date: _____ Relinquished by: <u>Stephen W. Randall</u> Date/Time: <u>9/14/17 1630</u> Company: <u>FedEx</u> Relinquished by: _____ Date/Time: _____ Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____					
Special Instructions/Note: PH: 7.18 PH: 6.44 PH: 6.56 PH: 5.88 PH: 7.63 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements: Method of Shipment: _____ Received by: _____ Date/Time: <u>9/15/17 0914</u> Company: <u>JAR</u> Received by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____ Cooler Temperature(s) and Other Remarks: <u>24.5 C, 2.6 C, 2.2</u>					



Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-143370-1

Login Number: 143370

List Number: 1

Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	24.5°C RADS, 2.6°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-1

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-143370-2

Client Project/Site: CCR App.III/IV GW Monitoring

For:

Geosyntec Consultants, Inc.

1255 Roberts Blvd, NW

Suite 200

Kennesaw, Georgia 30144

Attn: Jeremy Gasser



Authorized for release by:

10/18/2017 2:37:53 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

LINKS

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Method Summary	4
Sample Summary	5
Client Sample Results	6
Definitions	11
Chronicle	12
QC Association	14
QC Sample Results	15
Chain of Custody	17
Receipt Checklists	18
Certification Summary	19

Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Job ID: 400-143370-2

Laboratory: TestAmerica Pensacola

Narrative

**Job Narrative
400-143370-2**

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-328290. Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision. DUP8-20170913 (400-143370-1), MW-D2-20170913 (400-143370-2), MW-D3-20170913 (400-143370-3), MW-D1-20170913 (400-143370-4) and MW-U1-20170913 (400-143370-5)

Method(s) PrecSep-21: Radium 226 Prep Batch 160-328281. Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision. DUP8-20170913 (400-143370-1), MW-D2-20170913 (400-143370-2), MW-D3-20170913 (400-143370-3), MW-D1-20170913 (400-143370-4) and MW-U1-20170913 (400-143370-5)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-143370-1	DUP8-20170913	Water	09/13/17 08:00	09/15/17 09:14
400-143370-2	MW-D2-20170913	Water	09/13/17 10:30	09/15/17 09:14
400-143370-3	MW-D3-20170913	Water	09/13/17 12:15	09/15/17 09:14
400-143370-4	MW-D1-20170913	Water	09/13/17 13:40	09/15/17 09:14
400-143370-5	MW-U1-20170913	Water	09/13/17 15:25	09/15/17 09:14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Client Sample ID: DUP8-20170913

Lab Sample ID: 400-143370-1

Date Collected: 09/13/17 08:00

Matrix: Water

Date Received: 09/15/17 09:14

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.171		0.0747	0.0762	1.00	0.0755	pCi/L	09/21/17 11:07	10/17/17 06:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					09/21/17 11:07	10/17/17 06:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.483		0.229	0.233	1.00	0.328	pCi/L	09/21/17 12:05	10/02/17 13:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					09/21/17 12:05	10/02/17 13:09	1
Y Carrier	81.5		40 - 110					09/21/17 12:05	10/02/17 13:09	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.654		0.241	0.245	5.00	0.328	pCi/L		10/17/17 18:07	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Client Sample ID: MW-D2-20170913

Lab Sample ID: 400-143370-2

Date Collected: 09/13/17 10:30

Matrix: Water

Date Received: 09/15/17 09:14

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.141		0.0723	0.0734	1.00	0.0863	pCi/L	09/21/17 11:07	10/17/17 06:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					09/21/17 11:07	10/17/17 06:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.312	U	0.224	0.225	1.00	0.349	pCi/L	09/21/17 12:05	10/02/17 13:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					09/21/17 12:05	10/02/17 13:09	1
Y Carrier	79.6		40 - 110					09/21/17 12:05	10/02/17 13:09	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.453		0.235	0.237	5.00	0.349	pCi/L		10/17/17 18:07	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Client Sample ID: MW-D3-20170913

Lab Sample ID: 400-143370-3

Date Collected: 09/13/17 12:15

Matrix: Water

Date Received: 09/15/17 09:14

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.199		0.0768	0.0789	1.00	0.0686	pCi/L	09/21/17 11:07	10/17/17 06:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					09/21/17 11:07	10/17/17 06:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.08		0.322	0.337	1.00	0.433	pCi/L	09/21/17 12:05	10/02/17 13:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					09/21/17 12:05	10/02/17 13:10	1
Y Carrier	81.1		40 - 110					09/21/17 12:05	10/02/17 13:10	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.28		0.331	0.346	5.00	0.433	pCi/L		10/17/17 18:07	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Client Sample ID: MW-D1-20170913

Lab Sample ID: 400-143370-4

Date Collected: 09/13/17 13:40

Matrix: Water

Date Received: 09/15/17 09:14

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.119		0.0656	0.0664	1.00	0.0778	pCi/L	09/21/17 11:07	10/17/17 06:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					09/21/17 11:07	10/17/17 06:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.697		0.255	0.263	1.00	0.345	pCi/L	09/21/17 12:05	10/02/17 13:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					09/21/17 12:05	10/02/17 13:10	1
Y Carrier	80.4		40 - 110					09/21/17 12:05	10/02/17 13:10	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.816		0.263	0.271	5.00	0.345	pCi/L		10/17/17 18:07	1

Client Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Client Sample ID: MW-U1-20170913

Lab Sample ID: 400-143370-5

Date Collected: 09/13/17 15:25

Matrix: Water

Date Received: 09/15/17 09:14

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0101	U	0.0370	0.0370	1.00	0.0738	pCi/L	09/21/17 11:07	10/17/17 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					09/21/17 11:07	10/17/17 06:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.604		0.245	0.251	1.00	0.344	pCi/L	09/21/17 12:05	10/02/17 13:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					09/21/17 12:05	10/02/17 13:11	1
Y Carrier	82.6		40 - 110					09/21/17 12:05	10/02/17 13:11	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.614		0.248	0.254	5.00	0.344	pCi/L		10/17/17 18:07	1

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Chronicle

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Client Sample ID: DUP8-20170913

Lab Sample ID: 400-143370-1

Date Collected: 09/13/17 08:00

Matrix: Water

Date Received: 09/15/17 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			328281	09/21/17 11:07	LDE	TAL SL
Total/NA	Analysis	9315		1	332200	10/17/17 06:10	RTM	TAL SL
Total/NA	Prep	PrecSep_0			328290	09/21/17 12:05	LDE	TAL SL
Total/NA	Analysis	9320		1	329893	10/02/17 13:09	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	332279	10/17/17 18:07	RTM	TAL SL

Client Sample ID: MW-D2-20170913

Lab Sample ID: 400-143370-2

Date Collected: 09/13/17 10:30

Matrix: Water

Date Received: 09/15/17 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			328281	09/21/17 11:07	LDE	TAL SL
Total/NA	Analysis	9315		1	332200	10/17/17 06:10	RTM	TAL SL
Total/NA	Prep	PrecSep_0			328290	09/21/17 12:05	LDE	TAL SL
Total/NA	Analysis	9320		1	329893	10/02/17 13:09	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	332279	10/17/17 18:07	RTM	TAL SL

Client Sample ID: MW-D3-20170913

Lab Sample ID: 400-143370-3

Date Collected: 09/13/17 12:15

Matrix: Water

Date Received: 09/15/17 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			328281	09/21/17 11:07	LDE	TAL SL
Total/NA	Analysis	9315		1	332200	10/17/17 06:10	RTM	TAL SL
Total/NA	Prep	PrecSep_0			328290	09/21/17 12:05	LDE	TAL SL
Total/NA	Analysis	9320		1	329893	10/02/17 13:10	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	332279	10/17/17 18:07	RTM	TAL SL

Client Sample ID: MW-D1-20170913

Lab Sample ID: 400-143370-4

Date Collected: 09/13/17 13:40

Matrix: Water

Date Received: 09/15/17 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			328281	09/21/17 11:07	LDE	TAL SL
Total/NA	Analysis	9315		1	332200	10/17/17 06:10	RTM	TAL SL
Total/NA	Prep	PrecSep_0			328290	09/21/17 12:05	LDE	TAL SL
Total/NA	Analysis	9320		1	329893	10/02/17 13:10	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	332279	10/17/17 18:07	RTM	TAL SL

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Client Sample ID: MW-U1-20170913

Lab Sample ID: 400-143370-5

Date Collected: 09/13/17 15:25

Matrix: Water

Date Received: 09/15/17 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			328281	09/21/17 11:07	LDE	TAL SL
Total/NA	Analysis	9315		1	332200	10/17/17 06:11	RTM	TAL SL
Total/NA	Prep	PrecSep_0			328290	09/21/17 12:05	LDE	TAL SL
Total/NA	Analysis	9320		1	329892	10/02/17 13:11	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	332279	10/17/17 18:07	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Rad

Prep Batch: 328281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-143370-1	DUP8-20170913	Total/NA	Water	PrecSep-21	
400-143370-2	MW-D2-20170913	Total/NA	Water	PrecSep-21	
400-143370-3	MW-D3-20170913	Total/NA	Water	PrecSep-21	
400-143370-4	MW-D1-20170913	Total/NA	Water	PrecSep-21	
400-143370-5	MW-U1-20170913	Total/NA	Water	PrecSep-21	
MB 160-328281/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-328281/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-328281/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 328290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-143370-1	DUP8-20170913	Total/NA	Water	PrecSep_0	
400-143370-2	MW-D2-20170913	Total/NA	Water	PrecSep_0	
400-143370-3	MW-D3-20170913	Total/NA	Water	PrecSep_0	
400-143370-4	MW-D1-20170913	Total/NA	Water	PrecSep_0	
400-143370-5	MW-U1-20170913	Total/NA	Water	PrecSep_0	
MB 160-328290/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-328290/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-328290/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-328281/1-A
Matrix: Water
Analysis Batch: 332200

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 328281

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.08282		0.0592	0.0597	1.00	0.0792	pCi/L	09/21/17 11:07	10/17/17 06:10	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					09/21/17 11:07	10/17/17 06:10	1

Lab Sample ID: LCS 160-328281/2-A
Matrix: Water
Analysis Batch: 332200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 328281

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	9.60	9.390		0.976	1.00	0.0743	pCi/L	98	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	101		40 - 110						

Lab Sample ID: LCSD 160-328281/3-A
Matrix: Water
Analysis Batch: 332200

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 328281

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	9.60	9.731		1.00	1.00	0.0479	pCi/L	101	68 - 137	0.17	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba Carrier	99.7		40 - 110								

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-328290/1-A
Matrix: Water
Analysis Batch: 329893

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 328290

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1774	U	0.207	0.208	1.00	0.341	pCi/L	09/21/17 12:05	10/02/17 13:09	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					09/21/17 12:05	10/02/17 13:09	1
Y Carrier	81.9		40 - 110					09/21/17 12:05	10/02/17 13:09	1

QC Sample Results

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-328290/2-A
Matrix: Water
Analysis Batch: 329893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 328290

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	12.8	15.61		1.65	1.00	0.305	pCi/L	122	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	101		40 - 110
Y Carrier	79.6		40 - 110

Lab Sample ID: LCSD 160-328290/3-A
Matrix: Water
Analysis Batch: 329893

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 328290

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	12.8	16.72		1.74	1.00	0.295	pCi/L	130	56 - 140	0.33	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	99.7		40 - 110
Y Carrier	81.1		40 - 110

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Lab Sample ID: 180-70348-A-1 DU
Matrix: Water
Analysis Batch: 332279

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Combined Radium 226 + 228	0.444		0.7876		0.267	5.00	0.342	pCi/L	0.68	

Chain of Custody Record

3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 476-2671

Client Information Client Contact: Jeremy Gasser Company: Geosyntec Consultants, Inc. Address: 1255 Roberts Blvd, NW Suite 200 City: Kennesaw State, Zip: GA, 30144 Phone: 678-202-9583(Tel) Email: jgasser@geosyntec.com Project Name: CCR App. III/IV GW Monitoring Site:		Lab PM: Whitmire, Cheyenne R. E-Mail: cheyenne.whitmire@testamericainc.com Camer Tracking No(s): COC No: 400-66412-26250.1 Page: Page 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): STANDARD PO #: Purchase Order Requested WO #: Project #: 40007960 SSON#:		Analysis Requested 9315_Ra226, 9320_Ra228 SM4500_CL_E, SM4500_H+, SM4500_SO4_F Field Sampling - Field pH 6020, 7470A 2240C - Total Dissolved Solids 4500_F_C - Fluoride	
Sample Identification Sample Date Sample Time Sample Type (C=comp, G=grab) Matrix (W=water, B=soil, O=ore/rock, BT=Trace, A=Air)		Special Instructions/Note: PH: 7.18 PH: 6.44 PH: 6.56 PH: 5.88 PH: 7.63 LAST ITEM	
DUP8-20170913 MW-D2-20170913 MW-D3-20170913 MW-D1-20170913 MW-U1-20170913		9/13/17 0800 G Water 9/13/17 1030 G Water 9/13/17 1215 G Water 9/13/17 1340 G Water 9/13/17 1525 G Water Water Water Water Water Water	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: <input checked="" type="checkbox"/> III, IV, Other (specify)			
Empty Kit Relinquished by: _____ Date: _____ Relinquished by: <u>Stephen W. Randall</u> Date/Time: 9/14/17 1630 Company: <u>FedEx</u> Relinquished by: _____ Date/Time: _____ Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____			
Custody Seal No.: _____ Custody Seal Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temperature(s) and Other Remarks: <u>24.5 C, 2.6 C, 2.2</u>			



Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 400-143370-2

Login Number: 143370

List Number: 1

Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	24.5°C RADS, 2.6°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
 Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

Laboratory: TestAmerica St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-18
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-18
Illinois	NELAP	5	200023	11-30-17
Iowa	State Program	7	373	02-01-18
Kansas	NELAP	7	E-10236	10-31-17 *
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-18
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-18
Missouri	State Program	7	780	06-30-18
Nevada	State Program	9	MO000542017-1	07-31-18
New Jersey	NELAP	2	MO002	06-30-18
New York	NELAP	2	11616	03-31-18
North Dakota	State Program	8	R207	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: CCR App.III/IV GW Monitoring

TestAmerica Job ID: 400-143370-2

Laboratory: TestAmerica St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-18
Pennsylvania	NELAP	3	68-00540	02-21-18
South Carolina	State Program	4	85002001	06-30-18
Texas	NELAP	6	T104704193-17-11	07-31-18
US Fish & Wildlife	Federal		058448	08-31-18
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-18
Virginia	NELAP	3	460230	06-14-18
Washington	State Program	10	C592	08-30-18
West Virginia DEP	State Program	3	381	08-31-18