0014

Document Information Form

Mine Number: C/007/009

File Name: Incoming

To: DOGM

From:

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Company Utah State University

Date Sent: October 23, 1981

Explanation:

Soil Analysis Report

cc:

File in:
C/ 007 , 009 , Incoming
Refer to:
- ☐ Confidential
- ☐ Shelf
- ☐ Expandable

Date _____ For additional information

Table IV-C.2(2). (page 1 of 1[illegible]

FILE 007/009

UTAH STATE UNIVERSITY

Soils Laboratory

Logan, Utah

SOIL ANALYSIS REPORT

A. R. Southard
Eureka Project

COLLECTED BY Haverson (HAC) DATE _____ LOCATION _____

LABORATORY NUMBER	COLLECTOR'S NUMBER	DEPTH IN cm	HORIZON	PARTICLE SIZE DISTRIBUTION (in mm.) (percent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY <0.002	sand 0.02-0.002	% >2 mm.	TEXTURAL CLASS
79-4126	Pedon 1	0- 8							20	8	72		SL
4127		8- 30							29	18	53		SL
4128		30- 60							31	16	53		SL
4129		60- 95							33	16	51		L
4130		95-120							41	29	30		CL
4131		120-135							40	33	27		CL
4132		135-150							40	37	23		CL

	pH SATURATED PASTE	pH 1:5	ORGANIC MATTER ORGANIC MATTER %	ORGANIC CARBON %	NITROGEN %		TOTAL SOLUBLE SALTS %	ELECTRICAL CONDUCTIVITY EC x 10³ MILLIMHOS PER CM @25°C	CaCO3 equivalent per cent	GYPSUM meq./100g SOIL	GYPSUM %	MOISTURE TENSIONS 1/3 ATMOS. %	MOISTURE TENSIONS 15 ATMOS. %	Saturation %
4126	7.8			.89	.13			.7	10.4					
4127	7.9			.70	.12			.4	6.7					
4128	8.1			.56	.05			.3	9.6					
4129	8.0			.45	.05			.4	8.6					
4130	8.2			.63	.06			.9	6.0					
4131	8.2			.53	.06			.9	4.6					
4132	8.3			.53	.06			1.7	2.0					

	CATION EXCHANGE CAPACITY	Extractable Cations Ca	Mg	Na	K	EXCHANGEABLE SODIUM PERCENTAGE ESP	Saturation extract Ca	Na	K		Fe	Boron ppm	NaHCO3 P
	← milliequivalents per 100g soil												→
4126	4.5		2.0	.1	.6			–					22.
4127	6.8		3.2	.2	.8			–					2.8
4128	6.5		3.5	.2	.1			–					1.1
4129	6.7		3.7	.3	.3			–					.9
4130	13.5		12.9	.8	.5			–					4.0
4131	14.3		15.7	1.0	.5			–					5.9
4132	13.9		16.5	1.3	–			–					14.0

File in:
- ☐ Confidential
- ☐ Shelf
- ☐ Expandable

Refer to Record No 0014 Date 10-23-81
In C/ 007, 009, Incoming
For additional information

*When CaCO3 is present in soils, [illegible] meaning, and extractable Mg is often unreliable.

FILE 007/009

UTAH STATE UNIVERSITY

Soils Laboratory

Logan, Utah

SOIL ANALYSIS REPORT

A. R. Southard
Eureka Project

COLLECTED BY Haverson (HAC) DATE _____ LOCATION _____

Laboratory Number	Collector's Number	Depth in cm	Horizon	Particle Size Distribution (in mm.) (percent): Very Coarse Sand 2-1	Coarse Sand 1-0.5	Medium Sand 0.5-0.25	Fine Sand 0.25-0.10	Very Fine Sand 0.10-0.05	Silt 0.05-0.002	Clay <0.002	Sand 0.05-0.002	% > 2 mm.	Textural Class
79-4126	Pedon 1	0- 8							20	8	72		SL
4127		8- 30							29	18	53		SL
4128		30- 60							31	16	53		SL
4129		60- 95							33	16	51		L
4130		95-120							41	29	30		CL
4131		120-135							40	33	27		CL
4132		135-150							40	37	23		CL

Laboratory Number	pH Saturated Paste	pH 1:5	Organic Matter: Organic Matter %	Organic Carbon %	Nitrogen %	Total Soluble Salts %	Electrical Conductivity EC x 10³ Millimhos per cm @ 25°C	$CaCO_3$ equivalent per cent	Gypsum: meq./100g soil	Gypsum %	Moisture Tensions: 1/3 Atmos. %	15 Atmos. %	Satu ratio %
4126	7.8			.89	.13		.7	10.4					—
4127	7.9			.70	.12		.4	6.7					—
4128	8.1			.56	.05		.3	9.6					—
4129	8.0			.45	.05		.4	8.6					—
4130	8.2			.63	.06		.9	6.0					—
4131	8.2			.53	.06		.9	4.6					—
4132	8.3			.53	.06		1.7	2.0					—

Laboratory Number	Cation Exchange Capacity	Extractable Cations (milliequivalents per 100g soil): Ca	Mg	Na	K	Exchangeable Sodium Percentage ESP	Saturation extract: Ca	Na	K		Fe	Boron ppm	$NaHCO_3$ P
4126	4.5		2.0	.1	.6			—					22.
4127	6.8		3.2	.2	.8			—					2.8
4128	6.5		3.5	.2	.1			—					1.1
4129	6.7		3.7	.3	.3			—					.9
4130	13.5		12.9	.8	.5			—					4.0
4131	14.3		15.7	1.0	.5			—					5.9
4132	13.9		16.5	1.3	.5			—					14.0

*When $CaCO_3$ is present in soils, extractable Ca is without meaning, and extractable Mg is often unreliable.

DIVISION OF OIL, GAS & MINING

UTAH STATE UNIVERSITY

Soils Laboratory

Logan, Utah

SOIL ANALYSIS REPORT (cont.) Pg. 2

A. R. Southard
Eureka Project

COLLECTED BY Leebench (AMC) DATE _____ LOCATION _____

LABORATORY NUMBER	COLLECTOR'S NUMBER	DEPTH IN cm	HORIZON	PARTICLE SIZE DISTRIBUTION (in mm.) (percent): VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	sand 0.05-0.002	% > 2 mm.	TEXTURAL CLASS
79-4133	Pedon 2	0-13							27	6	67		SL
4134		13-16							36	8	56		SL
4135		16-36							23	26	51		SCL
4136		36-56							38	18	44		L
4137		56-80							40	18	42		L
4138		80-114							42	16	42		L
4139		114-137							- -	-omit-	- -		omit
4140		137-160							- -	-omit-	- -		omit

LABORATORY NUMBER	pH: SATURATED PASTE	pH: 1:5	ORGANIC MATTER: ORGANIC MATTER %	ORGANIC MATTER: ORGANIC CARBON %	ORGANIC MATTER: NITROGEN %	TOTAL SOLUBLE SALTS %	ELECTRICAL CONDUCTIVITY EC x 10³ MILLIMHOS PER CM @25°C	$CaCO_3$ equivalent per cent	GYPSUM: me /100g SOIL	GYPSUM: %	MOISTURE TENSIONS: 1/3 ATMOS. %	MOISTURE TENSIONS: 15 ATMOS. %	Saturation %
133	8.3			1.26	.07		.4	4.6					-
4134	8.7			.68	.06		.7	3.5					-
4135	9.0			.55	.06		3.9	8.2					30.
4136	9.3			.40	.04		9.9	17.6					29.
4137	9.2			.38	.05		10.0	16.7					-
4138	8.8			.33	.04		23.0	13.9					-
4139	8.4			.33	.04		27.0	10.4					-
4140	8.4			.32	.04		29.0	7.3					-

LABORATORY NUMBER	CATION EXCHANGE CAPACITY	Extractable Cations: Ca	Mg	Na	K	EXCHANGEABLE SODIUM PERCENTAGE ESP	Saturation extract: Ca	Na	K		Fe	Boron ppm	$NaHCO_3$ P
	←	milliequivalents per 100g soil							→		←		→
4133	5.2		1.5	.3	.3			-				-	8.6
4134	4.1		1.7	.7	.5			-				-	1.4
4135	8.8		5.7	4.4	2.4			.96				-	13.0
4136	4.6		4.9	4.6	.6			2.6				-	4.9
4137	4.5		4.8	5.2	.5			-				-	3.4
4138	4.7		4.7	6.6	.3			-				-	1.4
4139	4.6		3.5	6.7	.4			-				-	.5
4140	11.0		4.9	6.6	.4			-				-	.8

*When $CaCO_3$ is present in soils, extractable Ca is without meaning, and extractable Mg is often unreliable.

UTAH STATE UNIVERSITY

Soils Laboratory

Logan, Utah

SOIL ANALYSIS REPORT (cont.) Pg. 3

A. R. Southard
Eureka Project

COLLECTED BY *Shingle(NDF2)* DATE _____ LOCATION _____

LABORATORY NUMBER	COLLECTOR'S NUMBER	DEPTH IN CM	HORIZON	PARTICLE SIZE DISTRIBUTION (in mm.) (percent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY <0.002	sand 0.02-0.002	% > 2 mm.	TEXTURAL CLASS
79-4141	Pedon 3	0-10							63	28	9		SiCL
4142		10-26							66	31	3		SiCL
4143		26-40							61	34	5		SiCL
4144	Pedon 4	0-3	*Shale Badlands (By)*						69	18	13		SiL
4145		3-10							70	17	13		SiL

LABORATORY NUMBER	pH SATURATED PASTE	pH 1:5	ORGANIC MATTER: ORGANIC MATTER %	ORGANIC CARBON %	NITROGEN %		TOTAL SOLUBLE SALTS %	ELECTRICAL CONDUCTIVITY EC x 10³ MILLIMHOS PER CM @25°C	CaCO3 equivalent per cent	GYPSUM me./100g SOIL	GYPSUM %	MOISTURE TENSIONS 1/3 ATMOS. %	15 ATMOS. %	Saturation %
4141	8.1			.72	.08			6.1	10.4					–
4142	7.9			.84	.09			10.0	10.1					–
4143	7.9			.77	.07			10.0	8.6					–
4144	7.8			1.03	.08			7.2	12.8					–
4145	7.9			1.08	.07			8.5	12.8					–

LABORATORY NUMBER	CATION EXCHANGE CAPACITY	Extractable Cations (millieqivalents per 100g soil): Ca	Mg	Na	K	EXCHANGEABLE SODIUM PERCENTAGE ESP	Saturation extract: Ca	Na	K		Fe	Boron ppm	P
4141	9.2		4.1	2.8	.3			–					.2
4142	4.6		4.9	3.3	.3			–					.2
4143	8.8		4.9	2.8	.2			–					0
4144	7.1		6.4	.3	.3			–				–	0
4145	6.2		7.1	.5	.3			–				–	0

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UTAH STATE UNIVERSITY

Soils Laboratory

Logan, Utah

SOIL ANALYSIS REPORT (cont)
Pg. 4

A. R. Southard
Eureka Project

COLLECTED BY Haverson, alkali (OAC2) DATE _____ LOCATION _____

LABORATORY NUMBER	COLLECTOR'S NUMBER	DEPTH IN CM	HORIZON	PARTICLE SIZE DISTRIBUTION (in mm.) (percent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY <0.002	sand 0.02-0.002	% >2 mm.	TEXTURAL CLASS
79-4146	Pedon 5	0-8	cm						55	11	34		SiL
79-4147		8-20							45	13	42		L
4148		20-30							45	13	42		L
4149		30-66							67	8	25		SiL
4150		66-93							50	12	38		L
4151		93-103							64	9	27		SiL
4152		103-126							62	9	29		SiL
4153		126-157							55	11	34		SiL

	pH SATURATED PASTE	pH 1:5	ORGANIC MATTER: ORGANIC MATTER %	ORGANIC CARBON %	NITROGEN %		TOTAL SOLUBLE SALTS %	ELECTRICAL CONDUCTIVITY EC x 10³ MILLIMHOS PER CM @25°C	CaCO3 equivalent per cent	GYPSUM me./100g SOIL	%	MOISTURE TENSIONS 1/3 ATMOS. %	15 ATMOS. %	Satu ratio %
.146	8.3			.94	.09			12.0	11.0					—
4147	8.5			.78	.07			28.0	10.5					—
4148	8.4			.87	.07			36.0	10.9					—
4149	8.4			.79	.08			50.0	9.1					—
4150	8.4			.73	.07			60.0	9.1					—
4151	8.4			.53	.06			75.0	8.2					—
4152	8.5			.67	.07			70.0	8.5					—
4153	8.6			.58	.06			72.0	8.4					—

	CATION EXCHANGE CAPACITY	Extractable Cations: Ca	Mg	Na	K	EXCHANGEABLE SODIUM PERCENTAGE ESP	Saturation extract: Ca	Na	K		Fe	Boron ppm	P
	← milliequivalents per 100g soil								→		←		→
4146	4.8		2.8	3.4	.8			—				—	7.0
4147	6.2		3.8	6.3	.5			—				—	3.1
4148	7.0		7.1	7.9	.4			—				—	.6
4149	5.3		12.8	12.7	.4			—				—	.5
4150	4.8		15.2	11.7	.3			—				—	.4
4151	4.6		18.9	15.9	.3			—				—	.6
4152	7.8		19.8	18.5	.4			—				—	.6
4153	7.5		17.8	16.8	.3			—				—	.6

*When $CaCO_3$ is present in soils, extractable Ca is without meaning, and extractable Mg is often unreliable.

UTAH STATE UNIVERSITY

Soils Laboratory

Logan, Utah

SOIL ANALYSIS REPORT (cont.) Pg. 5

A. R. Southard
Eureka Project

COLLECTED BY *Ildefonso (IEC)* DATE _____ LOCATION _____

LABORATORY NUMBER	COLLECTOR'S NUMBER	DEPTH IN cm	HORIZON	PARTICLE SIZE DISTRIBUTION (in mm.) (percent): VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY <0.002	sand 0.02-0.002	% > 2 mm.	TEXTURAL CLASS
79-4154	Pedon 6	0-15							31	17	52		SL
4155		15-25							41	14	45		L
4156		25-45							41	14	45		L
4157		45-70							37	15	48		L
4158		70-120							30	17	53		SL
4159		120-150							51	29	20		CL

LABORATORY NUMBER	pH SATURATED PASTE	pH 1:5	ORGANIC MATTER: ORGANIC MATTER %	ORGANIC CARBON %	NITROGEN %		TOTAL SOLUBLE SALTS %	ELECTRICAL CONDUCTIVITY EC x 10³ MILLIMHOS PER CM @25°C	CaCO3 equivalent per cent	GYPSUM me./100g SOIL	%	MOISTURE TENSIONS 1/3 ATMOS. %	15 ATMOS. %	Saturation %
4154	8.0			1.79	.14			.8	11.8					—
4155	7.8			1.69	.13			1.5	15.3					—
4156	8.0			1.05	.11			2.1	18.5					—
4157	8.0			.79	.08			3.2	17.1					—
4158	8.3			.52	.05			26.0	12.1					—
4159	7.9			1.45	.10			10.0	14.9					—

LABORATORY NUMBER	CATION EXCHANGE CAPACITY	Extractable Cations: Ca	Mg	Na	K	EXCHANGEABLE SODIUM PERCENTAGE ESP	Saturation extract: Ca	Na	K		Fe	Boron ppm	P
	←	millieqivalents per 100g soil							→		←		→
4154	11.2		2.6	.2	.5			–					3.0
4155	9.0		3.4	.2	.6			–					3.4
4156	7.1		6.3	.3	.5			–					.7
4157	6.5		6.6	.4	.3			–					.1
4158	4.7		11.2	2.5	.3			–					2.2
4159	12.4		13.0	2.1	.3			–					1.0

*When $CaCO_3$ is present in soils, extractable Ca is without meaning, and extractable Mg is often unreliable.

UTAH STATE UNIVERSITY
Soils Laboratory
Logan, Utah

SOIL ANALYSIS REPORT (cont.) Pg. 6

A. R. Southard
Eureka Project

COLLECTED BY Haverson (HAC) DATE _____ LOCATION _____

LABORATORY NUMBER	COLLECTOR'S NUMBER	DEPTH IN cm	HORIZON	PARTICLE SIZE DISTRIBUTION (in mm.) (percent): VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY <0.002	sand 0.02-0.002	% > 2 mm.	TEXTURAL CLASS
79-4160	Pedon 7	0-8							48	19	33		L
4161		8-20							51	19	30		SiL
4162		20-43							36	17	47		L
4163		43-75							46	17	37		L
4164		75-100							32	17	51		L
4165		100-148							29	15	56		SL
4166		148+							20	13	67		SL

	pH: SATURATED PASTE	pH: 1:5	ORGANIC MATTER: ORGANIC MATTER %	ORGANIC CARBON %	NITROGEN %	TOTAL SOLUBLE SALTS %	ELECTRICAL CONDUCTIVITY EC x 10³ MILLIMHOS PER CM @25°C	$CaCO_3$ equivalent per cent	GYPSUM: me./100g SOIL	GYPSUM: %	MOISTURE TENSIONS: 1/3 ATMOS. %	MOISTURE TENSIONS: 15 ATMOS. %	Sat. ratio
4160	8.1			1.11	.11		.7	12.9					—
4161	7.8			.85	.08		.5	13.7					—
4162	8.0			.53	.06		.5	10.9					—
4163	8.0			.64	.09		.7	12.5					—
4164	7.6			.57	.09		16.0	11.9					—
4165	8.6			.52	.05		25.0	13.1					—
4166	8.8			.34	.04		38.0	12.7					—

	CATION EXCHANGE CAPACITY	Extractable Cations: Ca	Mg	Na	K	EXCHANGEABLE SODIUM PERCENTAGE ESP	Saturation extract: Ca	Na	K		Fe	Boron ppm	P
	←	milliequivalents per 100g soil											→
4160	7.6		2.4	.1	1.2			—				—	12.5
4161	7.9		2.2	.2	.5			—				—	.5
4162	5.9		2.3	.2	.2			—				—	.5
4163	7.2		3.3	.4	.2			—				—	.5
4164	5.6		6.3	1.5	.2			—				—	2.5
4165	4.7		10.1	3.2	.1			—				—	4.9
4166	1.8		8.8	.3	.2			—				—	2.3

*When $CaCO_3$ is present in soils, extractable Ca is without meaning, and extractable Mg is often unreliable.

UTAH STATE UNIVERSITY

Soils Laboratory

Logan, Utah

SOIL ANALYSIS REPORT (cont.)
Pg. 7

A. R. Southard
Eureka Project

COLLECTED BY *Miscellaneous samples* DATE _____ LOCATION _____

LABORATORY NUMBER	COLLECTOR'S NUMBER	DEPTH IN cm	HORIZON	PARTICLE SIZE DISTRIBUTION (in mm.) (percent): VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY <0.002	0.02-0.002	% > 2 mm.	TEXTURAL CLASS
79-4167	Pedon 2	0-6	(between mounds)						–	–	–		–
4168		0-8	Greasewood						–	–	–		–
4169	Eureka	Fish Creek							–	–	–		–
4170		10-30	Corrals						–	–	–		–

LABORATORY NUMBER	pH: SATURATED PASTE	pH: 1:5	ORGANIC MATTER: ORGANIC MATTER %	ORGANIC CARBON %	NITROGEN %	TOTAL SOLUBLE SALTS %	ELECTRICAL CONDUCTIVITY EC x 10^3 MILLIMHOS PER CM @25°C	CaCO3 equivalent per cent	GYPSUM: me./100g SOIL	GYPSUM %	MOISTURE TENSIONS: 1/3 ATMOS. %	15 ATMOS. %	Sa ratio %
4167	8.2			–			.5	–					–
4168	9.0			–	–		.9	–					–
4169	8.2			–	–		450.	–					–
4170	8.6			–	–		55.	–					–

LABORATORY NUMBER	CATION EXCHANGE CAPACITY	Extractable Cations: Ca	Mg	Na	K	EXCHANGEABLE SODIUM PERCENTAGE ESP	Saturation extract: Ca	Na	K		Fe		P
	←	millieqivalents per 100g soil							→		←	ppm	→
4167	–		–	–	–			–				–	–
4168	–		–	–	–			–				–	–
4169	–		–	–	–			–				–	–
4170	–		–	–	–			–				–	–

*When $CaCO_3$ is present in soils, extractable Ca is without meaning, and extractable Mg is often unreliable.

UTAH STATE UNIVERSITY

Soils Laboratory

Logan, Utah

SOIL ANALYSIS REPORT (cont.) A. R. Southard
Pg. 8 Eureka Project

COLLECTED BY Sn DATE LOCATION

LABORATORY NUMBER	COLLECTORS NUMBER	DEPTH IN cm	HORIZON	PARTICLE SIZE DISTRIBUTION (in mm.) (percent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	Sand 0.02-0.002	% > 2 mm.	TEXTURAL CLASS
79-4349	Pedon 8	0-10	cm						31	25	44		L
4350		10-27	cm						36	40	24		CL
4351		27-50	cm						46	43	11		SiC
4352		50-90	cm						44	33	23		CL
4353		90-120	cm						40	31	29		CL
4365		Plow	South hay						51	22	27		SiL
4366		50 cm	field						45	33	22		L

	pH SATURATED PASTE	pH 1:5	ORGANIC MATTER ORGANIC MATTER %	ORGANIC CARBON %	NITROGEN %		TOTAL SOLUBLE SALTS %	ELECTRICAL CONDUCTIVITY EC x 10³ MILLIMHOS PER CM @25°C	CaCO3 equivalent per cent	GYPSUM me./100g SOIL	%	MOISTURE TENSIONS 1/3 ATMOS. %	15 ATMOS. %	Saturation %
49	7.8			.90	.11			1.9	17.5					
4350	7.6			.69	.10			1.6	15.9					
4351	7.6			.78	.10			.9	17.4					
4352	7.4			.48	.07			2.8	20.7					
4353	7.5			.43				5.2	5.4					
4365	8.2			1.10	.13			5.5	15.4					
4366	8.2			.69	.09			1.7	15.0					

	CATION EXCHANGE CAPACITY	Extractable Cations Ca	Mg	Na	K	EXCHANGEABLE SODIUM PERCENTAGE ESP	Saturation extract Ca	Na	K		Fe	Boron ppm	P
	←	milliequivalents per 100g soil							→		←		→
4349	9.3		2.2	.5	1.3			–					18.9
4350	17.0		2.6	.7	1.0			–					.9
4351	17.9		3.3	.5	.4			–					0
4352	16.3		2.7	.8	.3			–					0
4353	17.1		6.0	2.0	.4			–					0
4365	9.7		6.5	.7	.7								12.6
4366	8.4		6.0	.8	<.1								2.8

*When $CaCO_3$ is present in soils, extractable Ca is without meaning, and extractable Mg is often unreliable.

UTAH STATE UNIVERSITY · LOGAN, UTAH 84322

SOIL, PLANT and WATER
ANALYSIS LABORATORY
UMC 48

USU Log #	Ident.	Depth (in inches)	meq/l Ca + Mg	meq/l Na	SAR	ESP
79-4126	Pedon 1	0-3 cm	6.9	.7	.4	<.1
4127		3-12	5.0	.7	.4	<.1
4128		12-14	4.0	1.3	.9	.1
4129		24-38	3.9	1.4	1.0	.2
4130		38-48	4.9	5.0	3.2	3.3
4131		48-54	5.0	6.0	3.8	4.2
4132		54-60	11.4	8.7	3.6	3.9
79-4133	Pedon 2	0-13 cm	3.4	2.3	1.8	1.4
4134		13-16	2.1	5.7	5.6	6.5
4135		16-36	1.8	27.8	29	29
4136		36-56	3.0	70.4	57	45
4137		56-80	3.4	97.4	74	52
4138		80-114	19	170	55	44
4139		114-137	47	187	39	36
4140		137-160	59	187	34	33
79-4141	Pedon 3	0-10 cm	14	31.7	12	14
4142		10-26	37	47.4	11	13
4143		26-40	43	44.8	9.7	12
4144	Pedon 4	0-3 cm	58	3.1	.6	<.1
4145		3-10	64	6.5	1.1	.4

Table IV-C.2(2). Soil Analysis Report - SAR and ESP

UTAH STATE UNIVERSITY · LOGAN, UTAH 84322

SOIL, PLANT and WATER
ANALYSIS LABORATORY
UMC 48

USU Log #	Ident.	Depth (in inches)	meq/l Ca + Mg	meq/l Na	SAR	ESP
79-4146	Pedon 5	0-8 cm	16	7.8	2.8	2.8
4147		8-20	46	174	36	34
4148		20-30	106	209	29	29
4149		30-66	207	278	27	28
4150		66-93	302	309	25	26
4151		93-103	407	400	28	29
4152		103-126	330	404	32	32
4153		126-157	306	391	10	12
79-4154	Pedon 6	0-15	9.2	1.3	.6	<.1
4155		15-25	13	1.7	.7	<.1
4156		25-45	18	2.7	.9	.1
4157		45-70	29	5.3	1.4	.8
4158		70-120	178	78.3	8.3	9.9
4159		120-150	69	27	4.6	5.2
79-4160	Pedon 7	0-8	4.9	.9	.6	< .1
4161		8-20	4.0	.8	.6	< .1
4162		20-43	3.6	1.0	.7	<.1
4163		43-75	4.2	2.5	1.7	1.2
4164		75-100	100	42.2	5.9	6.9
4165		100-148	141	100	12	14
4166		148 +	168	226	25	26
79-4167	Pedon 2	0-6 (between mounds)	4.8	1.0	.6	< .1
4168		0-8 (Greasewood)	1.0	8.5	12	14
4169	Eureka	Fish Creek	2270	2780	83	55
4170		10-30 Corrals	6.0	43.9	25	26
79-4365	Pedon 9	Plow South Hay	10.0	5.7	2.5	2.4
4366		50 cm Field	10.3	7.7	3.4	3.6

Table IV-C.2(2). Soil Analysis Report - SAR and ESP

1.2.3 LABORATORY RESEARCH

The analyses performed in the laboratory concerned the evaluation of projectile points, miscellaneous lithics, and ceramic fragments.

Projectile point analyses included identification of manufacturing techniques, such as heat treatment, blank and preform preparation, edge grinding, edge reworking, and use wear analyses. Arrow and atlatl points were catalogued according to type.

The evaluation of miscellaneous lithics involved obsidian trace element analysis and the identification of various tool styles and manufacturing techniques.

Ceramics collected during the field survey were examined to determine manufacturing technique, paste and temper composition, and surface preparation. Sherds were later catalogued according to type and variety.

1.2.4 ARTIFACT INVENTORY AND ANALYSIS

Artifact collection was undertaken to verify site analyses initiated during the report preparation period. It consisted of collecting dianostic projectile points and prehistoric ceramics found on any given site. Chronological evaluations of prehistoric sites were accomplished through artifact correlation with established types and varieties. The various projectile point types collected from the field were generally identifiable with similar Great Basin, Eastern Great Basin, Colorado Plateau, and Western Plains types. Ceramics were

evaluated for type and, thus, correlated with the types and varieties of local Utah wares. Artifact collection also involved the arbitrary collection of unusual artifacts or intrusive lithic materials such as obsidian or tiger chert for use in trace element analyses and the evaluation of cultural contacts beyond the Price Basin locality.

Historic artifacts consisted of unusual items and datable bottles and cans retained for the development of a type variety collection.

As Table IV-1.2 demonstrates, this collection policy resulted in the retention of from one to five artifacts located on 19 of the 32 newly recorded sites.

1.2.5 NATIONAL REGISTER OF HISTORIC PLACES

Each of the cultural resource sites was evaluated with respect to the criteria for listing on the National Register, according to the following criteria set forth in 30 CFR 60.6:

> The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
>
> (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) that are associated with the lives of persons significant in our past; or
>
> (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) that have yielded, or may be likely to yield, information important in prehistory or history.

Cultural sites are defined as sites whose significance lies wholly or partly in the archeological data they contain. These data are embodied in material remains, such as artifacts, structures, and refuse, which were utilized purposely or accidentally by human beings in history and prehistory. Where such sites contained artifacts potentially having archeological significance, diagnostic artifacts were collected for use in determining National Register eligibility. In order to distinguish these sites from archeological properties, determinations of National Register eligibility were made. Testing for this eligibility included a preliminary assessment of subsurface materials, of the nature of archeological materials present, and of the type of information that might be obtained from the sites. Only those sites eligible for and potentially eligible for listing on the National Register were defined as archeological properties.

Subsequent sub-sections of this section present the reasons why each particular site is not eligible for, is potentially eligible for, or is eligible for listing on the National Register.

The National Register of Historic Places was checked, and none of the 33 cultural resource sites was found on the Register.

Table IV-I.2

AERC No.	Permanent Site No.	Artifact
----	42Cb92	Not collected
292N/1	42Cb134	Not collected
292/N2	42Cb135	1 knife, 1 arrow point, 2 dart points
356A/1	42Cb167	Not collected
356A/2	42Cb168	Not collected
356N/1	42Cb170	1 unfinished arrow point
356N/2	42Cb171	Not collected
356N/3	42Cb172	Not collected
356N/4	42Cb173	1 tin can
356Y/5	42Cb174	1 cartridge casing - 50 caliber
356Y/6	42Cb175	1 dart point/knife, 2 sherds
356A/2	42Cb190	Not collected
356A/4	42Cb192	1 arrow point base
356A/5	42Cb193	Not collected
356A/6	42Cb194	1 obsidian flake
356A/7	42Cb195	Not collected
356A/8	42Cb196	Not collected
356A/9	42Cb197	1 arrow point
356A/10	42Cb198	1 dart point
356A/11	42Cb199	Not collected
356A/12	42Cb200	1 preform
356A/13	42Cb201	1 obsidian flake
356A/14	$2Cb202	1 arrow point
356N/1	42Cb183	2 metal forks, 1 shell button
356N/2	42Cb184	Not collected
356N/3	42Cb185	1 arrow point, 1 eccentric, 5 sherds, 1 scraper
356N/4	42Cb186	1 sherd

area streams during water years 1976-78 was 0.2 to 8,353 milligram/liter. By way of comparison, for the same period of time the concentration range in the Price River at Woodside was 19 to 69,600 milligram/liter.

The observed range of pH in project area streams (excluding Anderson reservoir, which is not representative of natural stream water) is 7.5 to 8.9. The bicarbonate range is 236 to 514 milligram/liter (Table IV-B.14). Both measurements indicate alkaline water.

Both total and dissolved iron (Fe) and manganese (Mn) in surface water have been measured in the project area streams. The observed range in concentration of total iron is broad, 8 to 39,500 micrograms/liter, in contrast to the observed range in concentration of dissolved iron, which was 10 to 4,430 micrograms/liter. Similarly, the observed range in concentration of total manganese is broad, 6 to 2,500 micrograms/liter, in contrast to the observed range in concentration of dissolved manganese, which was 4 to 1,930 micrograms/liter. The change in concentration of both iron and manganese varies together. The high total concentrations of both is probably sediment in the water samples, but it is not known if the high concentration is natural or a pollutant.

Water quality data for 1980, as shown in Table IV-B.14, include four seasonal measurements for Dugout Creek, Pine Creek, Pace Creek, and Soldier Creek, the four streams having

Table IV-B.3. Water quality analyses from samples taken from abandoned mine workings and springs.

Location: See Section IV-B.1.2.3, page 11-70
Constituents: In milligrams per liter except manganese and iron, which are in micrograms per liter.
Specific conductance: Field determination.
pH: Field determination.

Site Number	Location	Date of Sample	Discharge (gal/min)	Temperature (deg. C)	Specific Conductance (Micromhos)	pH (Units)	Dissolved Solids: Sum of Constituents	Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Chloride Cl	Sulfate SO_4	Bicarbonate HCO_3	Iron Total Fe	Iron Dissolved Fe	Manganese Total Mn	Manganese Dissolved Mn
SPRINGS																		
2	(D-13-12) 4bdc-S1	76-07-14	2.4	14.0	540	8.6	----	48	32	35	1.0	4.5	26	306	---	---	---	---
8	5cbc-S1	76-07-14	2.1	11.5	880	7.8	---	36	32	140	2.6	12	110	472	---	40	---	---
8	"	76-08-24	3.4	8.0	---	---	980	27	19	206	3.3	6.0	124	593	---	300	---	38
30	9ddc-S1	76-07-15	4.3	7.7	545	7.4	---	72	28	12	1.8	4.4	24	315	---	30	---	---
30	"	76-08-26	3.9	8.0	---	---	540	9	23	104	1.0	2.0	56	349	---	285	---	4
30	"	77-06-06	1.1	7.0	510	---	465	53	37	13	.9	8.0	21	342	129	---	---	6
30	"	77-09-14	.6	9.5	465	---	---	66	25	23	1.0	6.0	30	342	---	38	---	8
30	"	78-08-02	10	8.5	500	8.0	310	75	24	11	1.0	4.0	20	349	106	---	---	23
30	"	78-10-19	2.7	9.0	480	7.4	330	54	11	62	.9	2.0	17	373	6	---	---	53
30	"	79-07-18	23	8.0	410	7.0	292	73	27	9	1.0	8.0	25	353	233	20	6	10
30	"	79-10-24	5	9.5	495	7.3	309	70	29	8	3	1.0	22	372	84	14	6	6
30	"	80-06-05	8.9	7.5	550	8.4	285	87	16	7	5	4	23	310	22	22	10	4
30	"	81-02-12	2.7	6.3	510	7.4	342	112	30	28	5	1	174	326	200	60	30	10
30	"	81-04-27	13.5	5.8	420	7.3	325	78	27	33	7	3.3	115	249	90	80	50	30
30	"	81-08-18	3.6	10.0	530	7.1	480	143	31	39	7	4.7	259	310	70	60	40	30
4	10abb-S1	76-07-14	11	16.5	540	8.4	---	69	28	17	.9	4.4	22	203	---	20	---	---
42	10adb-S1	76-07-14	3.0	6.5	600	7.1	371	110	27	11	1.4	4.6	25	376	---	30	---	---
41	11acd-S1	76-07-15	12	7.5	570	7.8	---	66	35	29	1.2	6.2	37	359	---	30	---	---
50	12adb-S1	76-07-14	11	9.2	585	7.8	---	44	42	24	1.1	4.5	56	338	---	30	---	---
49	12cbb-S1	76-07-14	2.0	8.9	580	7.8	---	76	35	21	.9	9.7	35	401	---	30	---	---
60	13aad-S1	76-07-20	3.5	10.0	400	7.4	282	67	25	10	.8	2.5	21	302	---	20	---	---
63	23cbb-S1	80-02-29	4.9	4.4	750	7.0	505	81	56	19	5	1	103	438	180	94	22	18
63	"	80-05-15	23	5.0	1,070	8.5	773	75	95	21	9	3	319	311	160	158	8	8
63	"	80-10-13	6.3	10.0	1,025	7.1	584	90	62	29	5	8	137	523	1,220	279	77	52
63	"	81-02-11	58	5.5	750	7.3	564	137	40	63	18	2	268	425	600	480	80	50
63	"	81-04-22	9.4	5.3	730	7.2	468	99	50	34	5.5	10	198	329	290	240	70	60
63	"	81-08-19	4.9	12.2	920	7.0	600	170	51	30	6	11	313	438	190	100	60	50
65	(D-13-13) 18bac-S1	76-07-20	38	16.0	500	8.3	350	63	34	29	1.6	3.7	54	310	---	10	---	---
MINES																		
74	(D-13-12) 23bda	79-06-06	7[1]	5.5	640	7.0	526	87	44	15	4	3	161	---	20	16	20	9
75	"	79-07-31	0[2]	17.2	770	7.0	513	84	44	32	11	3	63	---	20	16	41	41
76	"	79-07-31	0[3]	11.1	2,050	6.4	2,714	305	278	18	14	12	1,385	---	263	60	747	747

1 - Portal was opened on the previous afternoon and water allowed to drain. Water level in the mine had dropped 1.5 feet between the time the portal was opened and the time that the sample was taken.

2 - Portal opened on this date, but there was no flow from the mine. Mine nearly full of water. Sampled near the entrance.

3 - Portal opened on this date, but there was no flow from the mine. Sample taken at a small stagnant pool several hundred feet inside the mine.

10/20/81

TABLE IV-B.14 - Surface Water Quality Data

Constituents: In milligrams per liter except manganese and iron which are in microgams per liter.
Specific Conductance: Field determination.
pH: Field determination.

Site Number	Stream	Date of Sample	Specific Conductance (micromhos)	pH (Units)	Temperature (deg. C)	Dissolved Solids Residue at 180°C	Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Chloride Cl	Sulfate SO_4	Bicarbonate HCO_3	Iron Total Fe	Iron Dissolved Fe	Manganese Total Mn	Manganese Dissolved Mn	Suspended Sediment
5	Dugout Creek	76-07-21	570	8.5	16.5	344	42	40	23	2.0	7.5	67	278	---	70	---	---	---
		76-08-24	---	---	10.0	493	37	32	45	3.0	4.0	81	295	---	157	---	6	---
		77-05-18	710	---	2.0	880	70	95	29	5.1	8.0	260	420	---	198	---	46	---
		77-09-25	690	---	17.0	498	81	52	35	6.7	8.0	108	456	---	106	---	17	---
		78-04-13	505	8.1	2.0	360	57	36	39	2.0	2.0	74	320	---	30	---	48	526
		78-08-02	500	8.6	11.0	360	55	36	23	2.4	2.0	66	349	132	---	---	14	3.0
		78-10-20	560	8.6	8.0	400	47	43	45	2.8	2.0	75	388	40	---	---	22	1.0
		79-04-18	480	8.4	3.0	360	27	59	17	2.0	5.0	70	307	5006	<50	215	<20	343
		79-07-19	500	8.4	20.0	345	73	29	19	2.0	1.0	81	310	<16	<20	<6	<10	4.5
		79-10-24	590	8.2	6.5	447	67	43	14	<3	4.0	86	387	53	53	<6	<6	6
		80-02-29	650	8.1	2.2	465	88	38	17	4	1	96	374	168	25	13	<5	5
		80-05-13	---	---	6.7	317	84	13	11	6	3	43	305	3200	54	95	<5	254
		80-08-06	580	8.6	18.3	348	63	38	21	2	4	79	309	<50	<50	<6	<6	6
		80-10-13	620	8.4	8.9	368	70	46	24	4	6	73	346	39	34	31	22	4
		81-02-11	670	8.2	0.0	405	118	62	41	6	2	274	385	300	3	60	20	3
		81-04-22	545	8.3	8.3	369	71	42	31	4	6.7	156	263	90	70	30	20	7.5
		81-08-19	650	7.5	12	424	104	41	28	4	7.9	140	315	100	80	40	20	5
7	Dugout Creek left fork	78-04-13	505	8.5	3.5	418	56	40	47	2.4	2.0	82	329	---	53	---	12	733
		78-08-03	570	8.9	10.5	375	49	44	28	1.9	2.0	82	339	43	---	---	16	2.0
		78-10-20	600	8.6	6.0	418	43	55	34	2.5	4.0	94	383	11	---	---	5	2.0
		79-07-19	620	8.5	19.0	401	58	41	24	2.0	2.0	68	340	<16	<20	<6	<10	.2
		79-10-25	620	8.4	6.0	476	65	51	16	<3	3.0	65	380	72	66	8	<6	4.0
		80-05-15	540	---	7.2	314	83	20	14	12	3	46	320	3200	32	72	5	210
		80-07-08	600	8.7	17.8	374	54	46	26	3	3	100	314	<50	<50	<6	<6	4
		80-10-13	700	8.7	0.0	434	53	47	32	4	4	99	376	27	23	7	5	2
		81-04-21	580	8.5	5.6	395	182	6	16	2	6	189	258	360	320	100	60	4
		81-08-19	700	7.9	17.8	412	182	5	17	3	8	173	290	320	300	90	60	21
21	Fish Creek	76-08-24	---	---	19.5	430	42	34	31	2.7	4.0	87	271	---	134	---	7	---
		78-04-27	470	8.6	4.0	285	64	34	13	.2	12.0	48	322	---	40	---	13	186
		78-08-03	490	8.8	14.5	338	44	42	21	2.0	4.0	50	346	47	---	---	12	< 1
		78-10-19	500	8.2	8.5	328	37	50	14	2.2	4.0	63	325	8	---	---	4	2.0
		79-07-19	510	---	10.5	322	66	36	9	1.0	2.0	39	365	<16	<20	<6	<10	1.1
		79-10-25	510	8.4	7.0	424	64	44	10	<3	1.0	86	358	117	<14	<6	<6	6
		80-05-16	560	---	7.2	337	40	35	8	7	2	52	301	1200	<12	22	<5	134
		80-07-08	580	8.6	10.0	295	62	36	10	3	3	60	329	<50	<50	<6	<6	10
		80-10-24	660	8.5	0.6	481	85	40	15	3	5	167	330	71	<11	6	<4	4
		81-04-21	500	8.4	5	349	139	7	6	1.5	4.7	198	236	200	150	80	30	2

TABLE IV-B.14 - Surface Water Quality Data, Contd.
Page 2.

Site Number	Stream	Date of Sample	Specific Conductance (Micromhos)	pH (Units)	Temperature (deg. C)	Dissolved Solids Residue at 180 deg. C	Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Chloride Cl	Sulfate SO_4	Bicarbonate HCO_3	Iron Total Fe	Iron Dissolved Fe	Manganese Total Mn	Manganese Dissolved Mn	Suspended Sediment
22	Soldier Creek	76-07-21	750	8.4	16.0	421	43	35	64	2.5	12	90	332	---	10	---	---	---
		76-08-25	---	---	16.0	690	29	30	118	4.1	14	130	368	---	197	---	14	---
		77-05-18	850	---	11.3	860	29	62	134	2.3	16	190	478	---	385	---	119	---
		77-09-18	810	---	15.5	---	32	35	112	3.8	12	114	415	---	76	---	9	12
		78-04-13	440	8.4	.0	---	38	29	95	1.8	10	72	307	---	110	---	18	968
		78-08-02	595	8.7	19.0	412	32	37	71	1.4	12	67	388	37	---	---	18	11
		78-10-19	690	8.6	13.0	512	26	44	110	1.9	16	92	459	45	---	---	48	1
		79-04-19	460	8.1	8.5	374	45	30	60	3.0	12	72	365	39,500	<50	1,343	<20	8,353
		79-07-18	600	8.6	20.0	415	50	31	65	2.0	7	94	332	66	66	<6	<10	12
		79-10-23	795	8.5	10.0	551	39	48	55	<3.0	11	81	452	92	48	10	<6	16
		80-02-28	740	8.3	0.3	535	73	32	84	3.0	1	68	514	254	129	41	35	800
		80-05-14	---	---	5.6	310	25	64	23	6.0	20	48	299	16,000	13	295	5	671
		80-08-06	740	8.6	12.8	413	13	59	77	2.0	<1	78	396	98	<50	<6	<6	8
		80-10-21	900	8.4	0.0	542	53	44	102	3.0	12	157	455	1,543	22	37	30	57
		81-02-11	850	8.2	0.3	611	108	55	114	7.0	4	366	481	1,200	120	110	70	78
		81-04-22	670	8.6	11.1	409	82	42	79	4.5	16	123	389	3,190	600	350	330	397
		81-08-18	830	8.4	25.0	720	161	40	81	3.6	24	395	338	2,090	390	210	170	16
23	Pine Creek	76-07-21	450	8.6	11.0	291	50	26	19	1.1	6.2	35	296	---	60	---	---	---
		76-08-25	---	---	15.0	---	39	29	55	1.5	4.0	75	315	---	310	---	10	---
		77-05-18	640	---	10.0	765	50	80	36	10.1	8.0	210	378	---	137	---	15	---
		78-04-13	500	8.2	3.5	310	57	26	3.2	1.4	6.0	32	305	---	123	---	11	455
		78-08-02	470	8.7	18.0	305	44	35	23	1.0	4.0	44	310	149	---	---	25	6
		78-10-19	540	8.4	9.5	385	40	35	60	1.2	4.0	55	386	87	---	---	35	4
		79-04-19	420	8.4	8.5	285	18	17	18	1.0	5.0	25	306	1,630	<50	73	<20	55
		79-07-18	520	8.0	16.5	215	43	37	18	1.0	5.0	38	384	77	77	<6	<10	5.9
		79-10-24	580	8.2	7.0	393	47	53	15	<3.0	3.0	58	402	135	36	16	16	8
		80-02-28	580	8.3	1.7	356	79	26	18	3.0	1.0	51	349	174	31	32	<5	59
		80-05-14	---	---	6.7	283	73	9	10	6.0	3.0	23	307	5,800	13	161	<5	461
		80-06-08	550	8.5	13.3	290	14	65	19	2.0	4.0	41	329	<50	<50	14	<6	16
		80-10-21	565	8.4	4.5	468	67	36	25	2.0	2.0	56	358	419	<11	17	15	8
		81-02-13	720	8.0	0.0	429	160	26	60	17.0	1.3	249	378	400	100	60	20	6
		81-04-21	640	8.4	6.1	382	150	12	17	2.0	4.0	198	246	1,200	580	190	140	27
		81-08-21	540	7.7	13.9	332	90	40	28	4.0	6.3	139	295	5,000	4,430	2,000	1,890	57
67	Anderson Reservoir	78-04-13	950	8.4	---	740	68	55	143	3.8	18.0	320	271	---	107	---	2	10
		78-08-01	830	8.9	25.5	560	33	69	59	4.1	38.0	240	200	67	---	---	22	7.0
		78-10-20	1,200	10.0	11.5	1,040	25	97	190	4.2	24.0	600	71	91	---	---	23	5.0
		79-04-19	900	8.2	10.5	857	81	68	93	4.0	25.0	355	265	109	<50	33	23	46
		79-07-19	1,050	8.8	23.5	922	43	65	96	4.0	21.0	454	176	139	<20	<6	<10	4.9
		79-10-23	1,250	9.4	11.5	900	23	121	91	<3.0	32.0	452	115	<19	15	<6	<6	2.0
		80-05-15	1,200	---	15.0	1,034	169	32	146	8.0	29.0	455	296	30	<12	<7	<5	2
		80-08-05	1,500	9.5	26.1	1,149	45	108	164	5.0	37.0	662	217	102	<50	13	<6	10
		80-10-22	1,200	8.2	10.1	1,261	90	156	164	7.0	40.0	545	336	244	29	28	22	1
		81-08-21	1,450	8.7	22.2	1,064	164	66	93	11.0	45.0	584	87	4,500	4,000	1,500	960	7

10/19/81

TABLE IV-B.14 - Surface Water Quality Data Continued
Page 3

Site Number	Stream	Date of Sample	Specific Conductance (micromhos)	pH (Units)	Temperature (deg. C)	Dissolved Solids Residue at 180°C	Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Chloride Cl	Sulfate SO_4	Bicarbonate HCO_3	Iron Total Fe	Iron Dissolved Fe	Manganese Total Mn	Manganese Dissolved Mn	Suspended Sediment
68	Soldier Creek	78-10-20	2850	8.6	10.0	3140	168	245	480	6	62	1825	437	26	---	---	10	2
		79-10-26	3400	8.5	11.0	3375	188	237	563	9.6	65	1980	405	<19	<14	9	9	20
		80-05-15	610	---	13.3	470	66	51	28	7	7	183	299	7500	34	166	<5	480
		80-10-22	2700	8.3	14.0	1666	160	54	248	6	46	533	419	218	12	10	6	1
69	Dugout Creek	79-04-18	710	8.4	6.0	724	34	103	51	6	10	285	282	5890	<50	14	<20	1357
		79-10-22	1290	---	10.5	1010	73	97	8	4	10	347	400	450	<14	65	<6	2
		80-05-16	690	---	27.2	428	44	68	16	7	6	111	318	4700	<12	98	<5	318
		80-08-05	1160	8.8	22.2	864	23	122	864	4	14	400	298	<50	<50	8	<6	17
		80-10-23	1300	8.4	9.5	1158	128	91	80	5	15	508	330	206	<11	18	11	11
70	Pace Creek	79-04-18	1030	8.4	8.0	1210	89	108	146	5	13	577	325	5100	<50	160	<20	3025
		79-10-22	1110	---	11.5	967	82	97	61	4	5	467	311	19	<14	9	9	4
		80-05-16	980	---	6.7	729	164	19	50	7	3	223	351	4300	<12	104	<5	333
		80-08-05	1110	8.9	22.2	784	32	109	88	4	11	354	323	<50	<50	<6	<6	15
		80-10-23	2000	8.2	4.5	1387	111	143	197	6	29	902	345	88	<11	8	4	10
72	Corbula Creek	78-04-13	1900	7.9	12.0	2600	200	26	537	7.4	40	1620	342	----	78	---	23	9
73	Soldier Creek	79-10-26	----	---	---	729	24	80	41	<3	1	119	443	306	18	60	60	22
		80-08-06	730	8.7	11.0	427	15	71	61	2	10	107	376	<50	<50	13	9	7
		80-10-21	900	8.7	9.4	615	56	58	85	3	15	171	380	910	33	57	43	62
PC 1	Pace Creek	78-04-26	670	8.4	4.5	525	58	56	53	.3	16	150	390	----	25	---	24	101
		78-08-01	700	---	21.0	490	42	60	44	2.9	6	160	351	1926	---	---	25	84
		78-10-20	750	8.2	5.0	610	91	49	58	3.0	8	178	451	19	---	---	18	1.0
		81-04-24	750	8.5	7.8	523	88	57	47	4.5	8	221	314	2190	940	140	130	183
		81-08-20	875	7.5	17.2	581	123	53	41	5.5	9	230	358	1500	1250	2500	1930	11
PC 2	Pace Creek	78-04-14	770	8.6	1.5	----	57	55	82	2.8	6	176	381	----	18	---	13	82
		78-08-01	700	---	24.0	525	48	63	46	3.3	6	185	349	33	---	---	18	17
		78-10-20	790	8.4	6.0	642	98	50	61	3.3	8	213	432	13	---	---	26	2.0
		79-04-18	650	8.4	3.0	491	30	72	45	3	6	131	355	11,530	<50	313	<20	429
		79-07-21	700	8.2	12.0	572	89	36	51	2	3	155	365	497	<20	<6	<10	42
		79-10-24	800	8.7	3.5	619	69	70	23	3	12	192	401	171	30	<6	<6	2
		80-02-28	825	8.4	0.6	585	89	52	34	4	3	159	360	193	66	7	<5	9
		80-05-14	---	8.5	6.1	496	120	14	26	7	2	130	367	4800	32	108	<5	328
		80-08-05	820	8.9	19.4	517	61	60	48	3	11	222	360	923	<50	9	<6	26
		80-10-23	920	8.4	3.4	674	74	81	52	4	14	367	380	245	32	30	22	15.5
		81-02-12	860	8.6	0.0	607	1325	52	63	11	2	360	407	300	100	50	10	6.6
		81-04-22	750	8.5	5	500	77	57	47	5	8	247	296	500	270	20	10	43
		81-08-20	850	7.8	22.8	558	107	525	41	6	9	240	312	5000	4350	2000	1910	26.5