

Addendum OP-5b-1

Field Soil Profile Descriptions

NW Pad PR-1

NW Pad PR-2

NC Pad PR-1

SE Pad PR-1

SE Pad2 PR-2

NE Pad PR-1

NE Pad PR-2

EW Road PR-1

EW Road PR-2

EW Road PR-3

EW Road PR-4

EW Road PR-5

EW Road PR-6

EW Road PR-7

EW Road PR-8

Soil type: *Regal sandy loam*

NW Pad PR-2
along rd corridor File No.

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Area	<i>Ur Energy East Creek Perint Area</i>	Date	<i>9-9-09</i>	Stop No.	
Classification	<i>med deep Sweetwater Co W4</i>				
Location	<i>NW Pad along road corridor, see soils map</i>				
N. veg. (or crop)	<i>Wyo big sage, mixed grasses, see photo</i>	Climate	<i>west. c - aridic moist</i>		
Parent material	<i>alluvium</i>				
Physiography	<i>in slight swale - drain no channel, broad - flat</i>				
Relief	Drainage	<i>well</i>		Salt or alkali	-
Elevation	Gr. water	<i>deep</i>		Stoniness	-
Slope	<i>3%</i>	Moisture	<i>all dry</i>		
Aspect	<i>SW</i>	Root distrib.	<i>MRV 0-18"</i>		% Clay *
Erosion	<i>none</i>	% Coarse fragments *			
Permeability	<i>med</i>	<i>see below</i>		% Coarser than V.F.S. *	
Additional notes					

Salvage 18"

4 samples: 0-3, 3-10, 10-18, 18-38"

* Control section average

Horizon	Depth	Color		Texture	Structure	Consistence			Reaction	Boundary	CF	
		Dry	Moist			Dry	Moist	Wet				
A	0-3	10YR 5/3	10YR 4/3	F SL	WM GR	SO	VFR	NS/NA	EO	SS	52	small BR
Bw	3-10	2.5YR 10YR 5/4	10YR 4/4	Loam clay loam	MM SBR	SH+	FR	SS/p	EO	GW	28	"
Bk	10-18	10YR 7/4	10YR 6/4	Loam SL	Mass	H VH	FI	SS/SP	SE EM	GW	70	"
c/c	18-38 +7	10YR 7/4	10YR 6/4	Loam SL	Mass Rx structure	H	FI	SS/SP	EMx	-		much co sand
												<i>Very compacted</i>

Soil type: *Peper sandy loam*

SE Pad PA-1

JN DE

File No.

Area *Ur Energy Lost Creek Permit Area*

Date *9-9-09*

Stop No.

Classification *deep*

Sweetwater CO. WY

Location

see soils map

N. veg. (or crop)

Sage, mixed grasses

Climate

frigid Temp

Parent material

alluvium

Physiography

lower side slope

usric - arid. e moist.

Relief

Drainage

well

Salt or alkali

-

Elevation

Gr. water

deep (not encountered)

Stoniness

-

Slope

3%

Moisture

dry

Aspect

SW

Root distrib.

MRD 0-10"

% Clay *

Erosion

slight

% Coarse fragments *

% Coarser than V.F.S. *

Permeability

mod

see below

Additional notes

(Not analyzed in lab)

Salvage: 14"

5 Samples: 0-3, 3-10, 10-17, 17-40, 40-65"

* Control section average

Horizon	Depth	Color		Texture	Structure	Consistence			Reac-tion	Bound-ary	CF	
		Dry	Moist			Dry	Moist	Wet				
A	0-3	10YR 6/4 5/3	10YR 4/3	S SL	WM PL	SO	VFR	NS/NP	E0	GS	10%	much ER
Bw	3-10	10YR 5/4	10YR 4/4	S CL	MM SBK	SH	FR	SS/SP	E0	GW	5%	
Bck	10-17	10YR 6/4	10YR 5/4	Loam	MMS	SH	FR	SS/SP	E0	GW	10%	
C	17-40	10YR 8/2	10YR 7/2	SL	MMS	SH	FR	NS/NP	EM	GW		much co sand
C ₅	40-65	10YR 8/1	10YR 7/1	SL	MMS ry st.	SH	FR	NS/NP	SE	-		" "

Soil type: *Peper sandy loam*

SE Pad 2 PR-1 File No.

Area	<i>Ut Energy Lost Creek Permit Area</i>	Date	<i>9-11-09</i>	Stop No.	
Classification	<i>deep</i>	<i>Sweetwater Co Wyo</i>			
Location					
N. veg. (or crop)	<i> sage, mixed grasses, cactus</i>	Climate	<i>semi-arid</i>		
Parent material	<i>local alluvium</i>	<i>Frigid temp.</i>			
Physiography	<i>upland plains</i>				
Relief		Drainage	<i>well</i>	Salt or alkali	<i>-</i>
Elevation		Gr. water	<i>deep (not encountered)</i>	Stoniness	<i>-</i>
Slope	<i>3%</i>	Moisture	<i>all dry</i>		
Aspect	<i>South</i>	Root distrib.	<i>MRP 0-16"</i>	% Clay *	
Erosion	<i>slight</i>	% Coarse fragments *		% Coarser than V.F.S. *	
Permeability	<i>moderate</i>	<i>see below</i>			
Additional notes					

Salvage: 16"

4 Samples: 0-3, 3-16, 16-30, 30-52"

* Control section average

Horizon	Depth	Color		Texture	Structure	Consistence			Reaction	Boundary	CF
		Dry	Moist			Dry	Moist	Wet			
A	0-3	10YR 7/3	10YR 5/3	<i>Sandy loam</i>	<i>w m gr</i>	SO	VFR	SS/NP	EO	G/S	4%
BW	3-16	10YR 5/4	10YR 4/4	<i>Sandy loam</i>	<i>mm sbr</i>	SH H	FR	S/SP	EO	GW	-
BC	16-30	10YR 7/4	10YR 6/4	<i>SL LS</i>	<i>Mass</i>	SH H	FR	<i>thin ES zone</i> NS/ NP	EO	GW	15%
c/c	30-52	10YR 8/3	10YR 8/2	<i>SL, CO, sand</i>	<i>fx str</i>	H LO	NS/ NP	EO	GW	5%	

Soil type: Regal sandy loam NE Pad PR-1

JN, DE File No.

Area: Ut Energy Lost Creek Permit Date: 9-10-09 Stop No. _____

Classification: mod deep to deep Area: Sweetwater Co WYO

Location: _____

N. veg. (or crop): Wyo big sage, mixed grasses Climate: u.stic - arid

Parent material: local alluvium moist

Physiography: upland sideslope frigid temp

Relief: _____ Drainage: well Salt or alkali: -

Elevation: _____ Gr. water: deep (not encountered) Stoniness: _____

Slope: 4% Moisture: all dry

Aspect: SE Root distrib.: M R D 0-16" % Clay: _____

Erosion: none % Coarse fragments: _____ % Coarser than V.F.S.: _____

Permeability: med see below

Additional notes: _____

Sample 16"

5 Samples: 0-3, 3-8, 8-16, 16-34, 34-68"

* Control section average

Horizon	Depth	Color		Texture	Structure	Consistence			Reac-tion	Bound-ary	CF %	
		Dry	Moist			Dry	Moist	Wet				
A	0-3	10YR 5/3, 5/4	10YR 4/3, 4/4	SFL	WM GR	SO	VFR	NS/NP	E0	GS	10%	small GR
Bw	3-8	7.5YR 5/4	7.5YR 4/4	SCL	MM SBK	SH H	FR	S/P	E0	GW	5%	small gr.
BC	8-16	10YR 5/4 7/4	10YR 6/6	SL LS	mass	SH	FR	NS/NP	E0	GW	35-40%	co sand & fine gravel
c/cr	16-34	10YR 8/3 8/4	10YR 7/3	LS	mass fx at.	SH VH	LO	NS/NP	SE	GW	30%	co sand & fine gravel
Cr	34-68	10YR 8/2	10YR 7/2	SL LS	mass fx at.	VH	LO	NS/NP	SE	-		fine gravel

Soil type: Pedal sandy loam NE Pad PR-2
File No.

Area: Ur Energy Lost Creek Permit Area Date: 9-10-09 Stop No. _____

Classification: deep Location: Sweetwater CO Wyo

N. veg. (or crop): Wyo Big sage, mixed grasses, cactus Climate: arctic aridic ^{modist}

Parent material: local alluv Physiography: upland side slope plain frigid temp

Relief: _____ Drainage: well Salt or alkali: _____

Elevation: _____ Gr. water: deep (not encountered) Stoniness: _____

Slope: 3% Moisture: dry

Aspect: South Root distrib.: ARRP 0-16" % Clay: _____

Erosion: none % Coarse fragments: _____ % Coarser than V.F.S.: _____

Permeability: mod see below

Additional notes: _____

Subsage 16"

4 Samples: 0-3, 3-16, 16-30, 30-62"

* Control section average

Horizon	Depth	Color		Texture	Structure	Consistence			Reaction	Bound-ary	CE	
		Dry	Moist			Dry	Moist	Wet				
A	0-3	10YR 5/3	10YR 4/3	FSL	mm ER	SO SH	VFR FR	NS/ NP	EO	GS	10%	small GR
BW	3-16 16-30	7.5YR 5/4	7.5YR 4/4	SL, SCL	MCO SBR	H	FR Fz	s/p	EO	GW	5%	"
BK	16-30	10YR 6/3	10YR 5/3	SL, loam	Mass	SH	FR	ss/sP	E2 E3	GW	5%	"
C/cr	30-62	10YR 8/3	10YR 7/3	SL	mass Rx structure	VH	Fz	NS/NP	SE	GW	20%	co sand small gravel

Soil type: Teagulf sandy loam File No. IN, DE

Area Ur Energy Lost Creek Permit Area Date 9-10-09 Stop No. _____

Classification Med deep Sweetwater Co. WY

Location see soils map for detailed location

N. veg. (or crop) scattered sage, scattered mixed grasses Climate semi-aridic

Parent material thin alluv. cushion plants frigid temp. moist

Physiography gently sloping upland convex crest

Relief _____ Drainage well Salt or alkali _____

Elevation _____ Gr. water deep Stoniness _____

Slope 4% Moisture all dry

Aspect South Root distrib. NRV 0-14" % Clay * _____

Erosion slight % Coarse fragments * _____

Permeability med. see below Many F, VF % Coarser than V.F.S. * _____

Additional notes few M, CO 0-7"
Common M, F, VF & few CO
7-14"
Few F, VF 14-27"

Subsage: 14"

4 Samples: 0-2, 2-7, 7-14, 14-27"

R not sampled

* Control section average

Horizon	Depth	Color		Texture	Structure	Consistence			Reaction	Boundary	CF %	
		Dry	Moist			Dry	Moist	Wet				
A	0-2	10YR 7/3	10YR 6/3	SL Sandy Loam	WM PL	SO	VER	NS/NP	E0	GS	20%	small gravel
Bw	2-7	7.5YR 5/4 10YR 5/4	7.5YR 4/4 10YR 4/4	Sandy Loam	MM SPK	SH	FR	SS/SP	E0	GW	30%	small gravel
Bck	7-14	10YR 6/3	10YR 4/3	SL	Mass	SH	FR	NS/NP	E0	GW	20%	small med gravel
c/c	14-27	10YR 6/3	10YR 7/3	CL SL KS	Mass H dy structure	H	FR	NS/NP	EM	GW		much coarse sand +
R	27-52	5YR 7/4	5YR 5/4	fractured siltstone shale bedrock fractures into 1/8" small shale cubes								

Soil type: Poposhia loam SNDE EW Road PR-4 File No.

Area Ur Emery Lost Creek Permit Area Date 9-10-09 Stop No.

Classification Deep Sweetwater Co Wyo

Location see soil map moist.

N. veg. (or crop) Big sage (fall) rabbitbrush, mixed grasses Climate arctic arctic

Parent material streamlain alluv 0-34" over fan alluv frigid temp

Physiography Big sage drain bottomland

Relief Drainage well Salt or alkali -

Elevation Gr. water deep not encountered Stoniness -

Slope 2% Moisture all dry

Aspect SE Root distrib. map 0-19" % Clay *

Erosion slight % Coarse fragments *

Permeability mod rapid see below % Coarser than V.F.S. *

Additional notes

Salvage: 19"

4 Samples: 0-4, 4-19, 19-34, 34-58"

* Control section average

Horizon	Depth	Color		Texture	Structure	Consistence			Reaction	Boundary	CF	
		Dry	Moist			Dry	Moist	Wet				
A	0-4	10YR 5/3	10YR 4/3	Loam	MM PL	SO	FR	SS/NP	E0	GS	59	2m gravel
Bw	4-19	10YR 6/4	10YR 5/4	Loam	WM SBR	SH	FR	SS/SP	E0	GW	152	2m gr
Bc	19-34	10YR 7/4	10YR 6/4	SL	Mass	SH	FR	SS/NP	E0	GW	209	2m gr
c/cr	34-58	10YR 8/4	10YR 7/4	SL, CO, LS	Mass N structure	SH	LO	NP/NP	E0	GW	300	co sand & gr

Soil type: Peper sandy loam IN, DE EW Road PR-5 File No.

Area Ur Emery Lost Creek Permit Area Date 9-11-09 Stop No.

Classification deep Sweetwater Co. Wyo

Location see soils map

N. veg. (or crop) Wyo big sage Climate u.stic-aridiz moist

Parent material local alluv. frigid temp

Physiography upland small hill sideslope

Relief Drainage well Salt or alkali -

Elevation Gr. water deep (not encountered) Stoniness -

Slope 5% Moisture all dry

Aspect S Root distrib. M RD 0-16" % Clay *

Erosion none to slight % Coarse fragments * % Coarser than V.F.S. *

Permeability med see below

Additional notes well developed profile

Salvage 16"

5 Samples: 0-3, 3-10, 10-16, 16-25, 25-57

* Control section average

Horizon	Depth	Color		Texture	Structure	Consistence			Reaction	Boundary	CF %	
		Dry	Moist			Dry	Moist	Wet				
A	0-3	10YR 5/3	10YR 4/3	Sandy loam	MM GR	SO	FR	S/NP	EO	GS	10%	small granules
Bw1	3-10	10YR 4/4	10YR 4/3	Loam. sandy clay loam	SM SBK SH	SH	FI FR	S/SP	EO	GW	32%	"
Bw2	10-16	10YR 5/4	10YR 4/4	Loam. clay loam	SM ABK	H	FI	S/P	EO	GW	-	EM spots near bottom
BcR	16-25	10YR 6/4	10YR 4/4	SL clay loam	Mass. SM ABK	VH	FI	S/P	ES	GW	-	
c/c	25-57	10YR 8/3	10YR 7/3	SL clay loam	Mass. IX strait	VH LO	NS/NP	EM	GW	GW	-	

Soil type: Regostria loam E W Road PR-7 File No.

Area Ur Energy Lost Creek Permit Area Date 9-11-09 Stop No.

Classification deep Location Sweetwater Co. Wyo

Location see soils map

N. veg. (or crop) tall big sage, rabbitbrush, mixed grasses Climate semi-arid to moist

Parent material stream-lain alluvium 0-22" Cactus fig

Physiography upland Drainage

Relief Drainage well Salt or alkali -

Elevation Gr. water deep (not encountered) Stoniness -

Slope 2% Moisture all dry

Aspect sw Root distrib. MRV 0-22" % Clay *

Erosion none % Coarse fragments * Many M, F, VF % Coarser than V.F.S. *

Permeability mod see below Com Co. 0-4"

Additional notes Salvage: 22" Many M, F, VF, few Co 4-12"
Many F, VF, com. M & Co 12-22"
Few Fine, VF 22-47"

4 Samples: 0-4, 4-12, 12-22, 22-47"

Horizon	Depth	Color		Texture	Structure	Consistence			Reaction	Boundary	CF
		Dry	Moist			Dry	Moist	Wet			
		* Control section average									
A	0-4	10YR 5/3	10YR 4/3	silt loam	mm GR	so SH	FR	5/SP	EO	CS	-
Bw1	4-12	10YR 4/3	10YR 3/3	loam	mm SBK H	5H H	FR FI	5/SP	EO	CW	-
Bw2	12-22	10YR 5/3	10YR 4/3	loam	mm SBK H	4 H	FI	5/SP	EO	GW	-
C	22-47	10YR 7/6	10YR 6/6	SL co LS	mass	H SH	FR LO	N5/ NP	EO	GW	5% silt gravel

Soil type: *Teagulf Sandy Loam* IN DE File No. *EW Road PR-8*

Area *Ur Energy Lost Creek Permit Area* Date *9-11-09* Stop No.

Classification *Ud. deep* *Sweetwater CO, WY*

Location *see soils map*

N. veg. (or crop) *sage grasses, cactus* Climate *wet-aridic moist*

Parent material *alluvium* Physiography *frigid temp*

Relief *upland convex* Drainage *well* Salt or alkali *-*

Elevation Gr. water *deep (not encountered)* Stoniness *-*

Slope *3%* Moisture *all dry*

Aspect *South* Root distrib. *0-15* % Clay *

Erosion *slight* % Coarse fragments * % Coarser than V.F.S. *

Permeability *see below*

Additional notes

Salvage: 15"

5 Samples: 0-2, 2-6, 6-15, 15-27, 27-53"

* Control section average

Horizon	Depth	Color		Texture	Structure	Consistence			Reaction	Boundary	CF %
		Dry	Moist			Dry	Moist	Wet			
A	0-2	10YR 7/3	10YR 5/3	Sandy Loam	MM PL	SO	VFR	SS/SP	EO	GS	15% sm. GR
B	2-6	10YR 5/4	10YR 4/4	Sandy Loam clay loam	MM SBR	H	FR	S/SP	EO	GW	15% sm. GR
BC	6-15	10YR 6/3	10YR 5/3	SL	Mixed	H	FR	NS/mix NP	EO, EM	GW	10% sm. GR
C/er	15-27	10YR 7/4	10YR 6/4	SL Loam sand	Mixed	SH	LO	NS/NP	EO	SE GW	much co sand +
Cf	27-53	10YR 8/2	10YR 7/2	SL sand	fx ATrust	LO	NS/NP	EM	EO	GW	much co sand +