Clatsop Dune Sheet, Oregon
UTM Sector and Datum (xx/yr), Northing, Easting, Estimated Error (EPE +-m), DEM Altitude (Alt m NGVD88).
Exposure Type: Active (AC), Trench (TR), Auger (AU), Road Cut (RC), Creek Cut (CC), Sea Cliff (SC), Slope (SL).
Units: Age: Tertiary (T), Pleistocene (P), Holocene (H), Wave-cut Platform (W); Parent Material; Soil Horizon
Parent Material: Eolian Dune (D), Loess (L), Colluvium (U), Peat (P), Alluvial/Fluvial (V), Lagoonal/Estuary (N),
Beach Shoreface (S), Basal Conglomerate (M).
Note: Loess (L) is designated where it overlies bedrock, colluvium, or pre-existing Bw/Bt horizons.
Soil Horizon: Organic (A), Leached (E), Accumulation (B), Fe+3 Accumulation (Bw),
Incipient Clay Accumulation (Btj), Clay Accumulation (Bt), Humate Accumulation (Bh),
Calcrete (Bk), Silcrete (Bq), Reduced Glade Layer (Bg), Subsoil Calcrete (K),
Dune Parent (C), Oxidized Parent (Cox).
Subsurface depth (cm); Dominant Grain Size: Silt, Sand, Pebbles, Cobbles (default is sand)
Sand sizes (Coarse U/L, Medium U/L, Fine U/L,VeryFine U/L)
Bedding: Cross Beds (XB,dipxx), Planar Beds (PB), Fluidization (FL), Heavy Mineral Laminae (HM)
Munsel Maximum Color (moist): lowest value and highest chroma.
Penetrometer: (P. kg/square cm) unconfined compressive strength.
Soil Structure: loose, very weak blocky, weak blocky, strong blocky, columnar/prismatic.
Diagenesis: Fe-ortstein, Fe-humate, allophane, gibbsite, calcrete, silcrete

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT1	10N/83	5114370	425160	10	3	7/22/97	AU

Site Notes: IRED1 Dune sand is FU/ML at this site. Shell at 415 cm.

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-5						
HDC	5-400	FU/ML		10YR5/3			
HS	400-460						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT2	10N/83	5110700	425860	10	5	7/23/97	AU

Site Notes: DELA0 Modern foredune.

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDC	0-200	FU/ML					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT3	10N/83	5110730	426300	10	5	7/23/97	AU

Site Notes: DELA1

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-3						
HDC	3-175						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT4	10N/83	5110830	426330	10	5	7/23/97	AU

Site Notes: DELA2

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-2						
HDBw	2-5						
HDC	5-200	FU/ML					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT5	10N/83	5110910	426360	10	5	7/23/97	AU

Site Notes: DELA3

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-3						
HDC	3-150						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT6	10N/83	5110990	426750	10	6	7/23/97	AU

Site Notes: DELA4 Reactivated dune ridge, paleosol at 410 cm depth.

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-3					Loose	
HDC	3-410						
HDA	410-415						
HDC	415-450						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT7	10N/83	5110990	427000	10	7	7/23/97	AU

Site Notes: DELA5

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-15			10YR4/1			
HDBw	15-40			10YR3/2		Very Weak B.	
HDC	40-120			10YR4/3			

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT8	10N/83	5110990	427250	10	6	7/23/97	AU

Site Notes: DELA6

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-20						
HDBw	20-45						
HDCox	45-65						
HDC	65-150						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT9	10N/83	5109300	427770	10	6	7/28/97	AU

Site Notes: RUBB1

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-15						
HDBw	15-35			10YR4/2			
HDCox	35-40	FU		10YR4/6			
HDA	40-45			10YR3/2			
HDBw	45-75						
HDC	75-600	FU/ML		2.5Y6/4			

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT10	10N/83	5109240	426820	10	5	7/28/97	AU

Site Notes: SECO1 Site re-examined 9/2003 (FOP). Two paleosols at 375 and 400 cm depth. (RC Sample).

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-1						
HDC	1-375						
HDA	375-377						
HDBw	377-380						
HDC	380-400	FU/ML					
HDBw	400-415						
HDC	415-430	FU/ML					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT11	10N/83	5109120	427160	10	6	7/27/97	AU

Site Notes: SECO2

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-1						
HDC	1-160						

HDA	160-170						
HDBw	170-175						
HDC	175-600	FU					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT12	10N/83	5109200	427660	10	6	7/28/97	AU

Site Notes: CAMP1

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
Missing top							
HD	0-100						
HDA	100-104						
HDC	104-600						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT13	10N/83	5108560	428110	10	2	7/28/97	AU

Site Notes: PERK1A

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDBw	0-15			10YR2/2			
HDC	15-450	FU		2.5T5/3			

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT14	10N/83	5108540	428670	10	2	7/28/97	AU

Site Notes: PERK2 Profile started 1.75 m below surface. Placer at 325 cm depth (subsurface).

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
Missing top	0-175						
HS	175-350						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT15	10N/83	5108560	428700	10	2	7/22/97	AU

Site Notes: PERK1

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
Disturbed	0-25						
HDBw	25-50			10YR4/3		Very Weak B.	
HDCox	50-75	FU					
HDC	75-150	FU					
HS	150-225	ML/FU					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT16	10N/83	5108530	428740	10	2	7/28/97	AU

Site Notes: PERK3 Thick soil profile with peds.

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-15						
HDBw	15-50					Weak Blocky	
HDCox	50-100						
HDA	100-110						
HDBw	110-150						
HDCox	150-200	FU					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT17	10N/83	5108570	429010	10	2	7/28/97	AU

Site Notes: PERK4 (RC Sample).

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HP	0-230						
HDC	230-250						
HS	250-300						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT18	10N/83	5108540	429120	10	3	7/28/97	AU

Site Notes: PERK5 Pleistocene terrace soil (gray clay).

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
PN	0-100						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT19	10N/83	5101910	428360	10	5	7/22/97	AU

Site Notes: PINE1: Dune sand is coarser (FU/ML) in Clatsop relative to northern subcells.

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-5						
HDC	5-300	FU/ML					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT20	10N/83	5101940	428470	10	6	7/22/97	AU

Site Notes: PINE2

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDC	0-285	FU/ML					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT21	10N/83	5099670	428400	10	5	7/28/97	AU

Site Notes: DELR1

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDC	0-600	FU					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT22	10N/83	5099630	428500	10	4	7/28/97	AU

Site Notes: DELR2

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-2						
HDBw	2-5						
HDC	5-200	FU					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT23	10N/83	5099280	428790	10	5	7/29/97	AU

Site Notes: WELL1

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDC	0-300						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT24	10N/83	5099080	428700	10	5	7/29/97	AU

Site Notes: WELL2

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDC	0-600						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT25	10N/83	5098860	429280	10	5	9/1/97	RC

Site Notes: SHAM1 Midden site in dune ridge. Top soil taken 20 m NW of road cut. (RC Sample).

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDBw	0-20						
HDC	20-125						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT26	10N/83	5098190	428629	10	10	7/24/97	AU

Site Notes: GOLF1 Reactivated dune ridge (east side) paleosol at 330 cm depth.

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-5						
HDC	5-330	FU		2.5Y6/3			
HDA	330-340			2.5Y4/2			
HDC	340-700			2.5Y6/6			

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT27	10N/83	5098110	428900	10	6	7/23/97	AU

Site Notes: GOLF0

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDC	0-75						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT28	10N/83	5098220	429230	10	7	7/25/97	AU

Site Notes: GOLF2

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDC	0-600	FU		2.5Y5/4			

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT29	10N/83	5098010	429480	10	6	7/24/97	AU

Site Notes: HILL3

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-5			10YR3/2			
HDBw	5-25			10YR4/3		Very Weak B.	
HDCox	25-100	FU		10YR4/6			
HDC	100-300	FU		2.5Y5/4			

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT30	10N/83	5097920	429620	10	5	7/24/97	AU

Site Notes: HILL2 Top of section from photo.
Reactivated dune ridge, paleosol at 250 cm. Heavy minerals (10-20%) at 210 cm.

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-5						
HDBw	5-30						
HDC	30-250						
HDA	250-254						
HDC	254-500						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT31	10N/83	5098050	429930	10	4	7/24/97	AU

Site Notes: HILL1 Heavy mineral enrichment below 325 cm depth.

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-5						
HDBw	5-25			10YR4/4			
HDCox	25-75	FU					
HDC	75-225						
HS	225-350	ML					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT32	10N/83	5098050	429970	10	4	7/24/97	RC

Site Notes: HILL4 Heavy mineral enrichment below 110 cm. Section from road cut-missing soil profile.

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
Missing top							
HDC	100-300						

HS	300-450						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT33	10N/83	5097990	430220	10	4	7/24/97	AU

Site Notes: SALM2 Soil Bw horizon (45 cm thick) contains small peds.

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-5						
HDBw	5-50			10YR3/3		Weak Blocky	
HDCox	50-100			10YR4/3			
HDC	100-150			2.5Y4/3			

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT34	10N/83	5097940	430400	10	4	7/24/97	AU

Site Notes: SALM1 Debris flow deposits at 68-108 cm depth. (RC Sample).

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HP	0-68						
HU	68-108						
HP	108-178						
HS	178-197	ML					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT35	10N/83	5096550	428440	10	10	7/23/97	AU

Site Notes: ESTR0

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDC	0-1,000	FU/ML					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT36	10N/83	5096550	428590	10	8	7/25/97	AU

Site Notes: ESTR4 Reactivated dune ridge with two paleosols at 460 and 485 cm depth.

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
Missing top							
HDC	0-460						
HDA	460-468			10YR2/1			
HDCox	468-475			2.5Y5/4			
HDC	475-485	FU					
HDA	485-487	FU/FL		10YR4/2			
HDC	487-600	FU					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT37	10N/83	5096530	428860	10	4	7/25/97	AU

Site Notes: ESTR5

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDA	0-5						
HDBw	5-25			10YR3/3			
HDCox	25-75			2.5Y4/4			
HDC	75-300						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT38	10N/83	5096550	429000	10	4	7/23/97	AU

Site Notes: ESTR3

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDC	0-200	FU/ML					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT39	10N/83	5096360	429270	10	1	7/23/97	AU

Site Notes: ESTR2 Creek gravel (but what was the source of pebbles?).

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HV	0-50	pebbbles					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT40	10N/83	5096340	429520	10	3	7/23/97	AU

Site Notes: ESTR1

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDC	0-185						
HV	185-200	Pebbles					

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
CLAT41	10N/83	5096380	429870	10	1	7/25/97	AU

Site Notes: OSTE1 Sites is near the back edge of the beach plain.

Units	Depth	Grain Size	Bedding	Color	P.kg/cm^2	Structure	Diagenesis
HDBw	0-50			10YR3/3		Very Weak B.	
HDCox	50-100	FU		10YR4/6			
HDC	100-150	FU		2.5Y4/4			
HS	150-160	ML		2.5Y4/4			