

Lincoln City Dune Sheet, Oregon

UTM Sector and Datum (xx/yr), Northing, Easting, Estimated Error (EPE +-m), DEM Altitude (Alt m MSL).

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)

Munsell Maximum Color (field condition: moist)

Penetrometer: (P. kg/square cm) unconfined compressive strength.

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
LINC1	N10/83	4983930	420610	5	37	7/11/01	RC

Site Notes: Location of easternmost extent of Pleistocene dune sheet east of Roads End.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LA	0-10	Silt				1.5 Loose	
PDBtj	10-20	FVL		10YR4/6		4.5 Weak Blocky	
PDBw	20-40	FU					
PDCox	40-150			2.5Y6/4		4	

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC2	N10/83	4983580	420640	6	35	7/11/01	RC

Site Notes: This site is on bedrock exposed at the surface and in road cuts, within Lincoln Shore Estates.

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Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC3	N10/83	4983160	421330	4	15	7/11/01	RC

Site Notes: Exposure in RC and quarry/parking lot off US101.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PSA	0-20						
PSBtj	20-50					4.5 Weak Blocky	
PSCox	50-100					Very Weak B.	
PW	100-101						
T	101-200						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC4	N10/83	4982970	420420	4	15	7/11/01	RC

Site Notes: Loess and loess colluvium reach 2 m thickness upslope of this site.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LA	0-10	Silt				Very Weak B.	
LBw	10-30	Silt		10YR6/8		4 Weak Blocky	
PDCox	30-180	FU	Truncated	2.5Y6/4		4	
TBtj	180-250						
T	250-350						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
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LINC5	N10/83	4982750	420920	8	49	7/11/01	RC
Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
T							

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC6	N10/83	4981325	421400	11	20	7/10/01	

Site Notes: This site is on the western hillside of Devils Lake, near 22nd St and Lake St.

RC

TL sample taken at 1.2 m in section, and about 2 m depth subsurface.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PDA	0-20		Truncated			Loose	Truncated
PDBtj	20-50		Truncated	10YR6/8		3 Very Weak B.	Truncated
PDCox	50-170			10YR7/6		2.5	

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC7	N10/83	4981190	419960	9	23	11/7/01	SC/AU

Site Notes: This is a sea cliff section at the west end of 21st (beach access parking lot and cement stairs).

Stair landing at 1630 cm depth.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PDA	0-20					Very Weak B.	
PDBw	20-40			5YR4/6	3.75	Weak Blocky	
PDCox	40-65				4		
PDBg	65-68				4	Weak Blocky	
PDCox	68-180						Fe-ortstein
PDC	180-340						
PDBg	340-345						allophane
PDC	345-950		XB				
PDBg	950-995						
PDC	995-1300						
PDBg	1300-1305						
PDC	1305-1360						
PDBg	1360-1377						
Cover	1377-1630						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC8	N10/83	4981070	421310	6	20	7/11/01	RC

Site Notes: This site is on the west side hillside of Devils Lake south of intersection with 22nd St and Lake St.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LBw	0-30				1.5	Loose	
T							

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC9	N10/83	4981000	420340	5	40	7/11/01	RC

Site Notes: This site is near the eastern edge of the Pleistocene dune sheet west of Devils Lake.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PD	0-80						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC10	N10/83	4980810	420570	5	41	7/11/01	RC

Site Notes: Near West Devil Lake Drive.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
T							

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC11	N10/83	4980640	421030	7	30	7/11/01	RC

Site Notes: Bedrock on west side of West Devils Lake Drive.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
T							

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC12	N10/83	4979000	420000		24	7/10/01	RC

Site Notes: This site was an excavation site, south of Dee River on the west side of HW101.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PDC	0-300						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC13	N10/83	4979120	420660		10	25	7/10/01

Site Notes:

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LBw	0-30					1.5	Very Weak B.
PDBtj	30-60	FVL		7.5YR6/6		2.75	Weak Blocky
PDCox	60-100	FU				3.5	
PDC	100-700						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC14	N10/83	4979090	419530		10	37	7/12/01

Site Notes: Site is just north of Canyon Drive beach access (TL Sample taken at 25 m depth).

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LA	0-30	Silt					
LBw	30-50	Silt					
PDBtj	50-100			7.5YR5/6		3	Weak Blocky
PDBw	100-195	FU					Very Weak B.
PDCox	195-208	FU		2.5YR7/2			Very Weak B.
PDBg	208-216						Fe-ortstein
PDCox	216-800		XB				
PP	800-805						
PDBg	805-880					4.5	
PDBw	880-1120		Truncated	5YR6/1		3.5	Weak Blocky
PDCox	1120-1770						Very Weak B. Fe-ortstein
PDBg	1770-1790						Fe-ortstein
PDCox	1790-2200					1	Very Weak B. allophane
PP	2200-2320						
PDC	2320-2750					2.5	
PDBg	2750-2755						
PDCox	2755-2850					3.75	Fe-ortstein
PDC	2850-2900					3.5	Fe-ortstein
Cover	2900-3200						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC15	N10/83	4978800	419550		15	2/5/04	6/11/02

Site Notes: Lint Soil Series exposed by excavation for a house south of Canyon Drive Beach access.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LA	0-5	Silt		10YR2/3		0	Very Weak B.
LBw	5-37	Silt		10YR3/2		2	Weak Blocky
LC	37-53	Silt		10YR3/3		1.5	Very Weak B.
PDBw	53-71	FU		10YR3/4		3.5	Very Weak B.
PDCox	71-143	FU				2	
PDBg	143-163	VFU		5Y5/1		3.5	
PLBw	163-193	Silt				4	Weak Blocky
PLC	193-213	Silt				3.25	

PDBg	213-220	VFU			3		
PDCox	220-300	FU			3.5		Fe-ortstein

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC16	N10/83	4978760	420100		8	1/28/04	7/11/02 AU

Site Notes: Lincoln City outlet malls about 30 m east of HW101 (RC sample from 8.2 m depth).

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
Fill	0-167						
LBg	167-244						
PDCox	244-716						
PP	716-726						
PDBg	726-823						
PDC	823-1052						
PV	1052-1112						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC17	N10/83	4978730	419550		7	25	6/25/02 SC

Site Notes: This site is located about 150 m south of Canyon Drive Beach Access).

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LA	0-20						
LBw	20-40						
LBCox	40-100						
PDBw	100-120						
PDCox	120-200						
PDBw	200-230						
PDC	230-500						
PDBg	500-530						
PDC	530-670						
PDBg	670-680						
PDC	680-1000						
PP	1000-1010						
PDBg	1010-1100						
PDC	1100-1350						
PDBg	1350-1390						
PDC	1390-1700						
PDBg	1700-1720						
Cover	1720-2000						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC18	N10/83	4978620	419410		7	25	6/25/02 SC

Site Notes: This site is located south of Canyon Creek.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LBw	0-40						
PDBw	40-70						
PDCox	70-110						
PDBg	110-120						
PDC	120-190						
PDBg	190-200						
PDC	200-350						
PDBg	350-400						
PDC	400-700						
PDBg	700-710						
PDC	710-900						
PDBg	900-950						
PDC	950-1200						

PP 1200-1230
PDBg 1230-1260
Cover 1260-2000

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC19	N10/83	4978590	420720		13	47 7/10/01	RC
Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
T							

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC20	N10/83	4978330	420550		8	3/19/04 6/11/02	RC/AU
Site Notes: This site is located within the Lint Soil Series (topsoil and paleosol) on a bedrock ridge top (RC Sample).							
Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LA	0-10	Silt				1 Loose	
LBw	10-36	Silt		10yr3/3		2 Weak Blocky	
LC	36-65	Silt		10YR4/3		1.5 Very Weak B.	
LBw	65-86	Silt		10yr3/3		2.5 Weak Blocky	
LC	86-110	Silt				2.25	
TBt	110-130					4.5	

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC21	N10/83	4978260	419990		8	36 7/10/01	RC
Site Notes: This site is on the west side of US101 in a quarry, easternmost boundary of dune sheet.							
Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PDBw	0-30						
PDC	30-700		XB				

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC22	N10/83	4978320	419400		7	20 6/25/02	SC
Site Notes: This site is located about 0.5 km south of Canyon Creek.							
Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LBw	0-25						
PDBw	25-70						
PDC	70-300						
PDBw	300-340						
PDC	340-700						
PDBg	700-740						
PDC	740-1030						
PDBg	1030-1100						
PDC	1100-1200						
PDBg	1200-1210						
PDC	1210-1350						
PDBg	1350-1380						
PDC	1380-1420						
PS	1420-1500						
PW	1500-1501						
T	1501-1670						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC23	N10/83	4977460	419830		8	30 7/10/01	RC
Site Notes: This site contains a 5 m thick section of planar bedded coarse sands, paleo-rivermouth?							
Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PV	0-500	CL				4	

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC24	N10/83	4977090	419710		8	33 7/10/01	RC

Site Notes: This site is the easternmost location of dune field north of Taft.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PDBw	0-40			7.5YR7/6	>4.5	Very Weak B.	
PDCox	40-300	FU		10YR8/4		2	

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC25	N10/83	4976470	419170		8	20 7/12/01	RC

Site Notes: This site is located just north of Inn at Spanish Head.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PDBw	0-50						
PDCox	50-100						
PDBw	100-120						
PDCox	120-650						
PDBg	650-700						
PDC	700-900						
PDBg	900-930						
PDC	930-1200						
Cover	1200-1450						
PW	1450-1451						
T	1451-1550						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC26	N10/83	4976350	419870		29	34 7/10/01	RC

Site Notes: This site is located at the southern end of the Lincoln City High School (south end of upper fields).

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LBw	0-50	Silt				2.5 Very Weak B.	
PDBtj	50-150			5YR5/8		4 Strong Blocky	
PDCox	150-300	FU		10YR8/8		4.5	

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC27	N10/83	4976150	420360		7	12 7/10/01	RC

Site Notes: Bedrock east side of Taft on north side of Schooner Creek.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
T							

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC28	N10/83	4975990	419170		8	20 7/12/01	SC

Site Notes: This site is located 200 m south of Inn at Spanish Head.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PDBw	0-30						
PDBg	30-170						
PDC	170-350						
PDBg	350-380						
PDC	380-490						
PDBg	490-510						
PDC	510-540						
PDBg	540-570						
PDC	570-700						
Cover	700-1400						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC29	N10/83	4975860	419160		7	20 7/12/01	SC

Site Notes: Comparison site to adjacent (north) site LINC28.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LA	0-10						
LBw	10-60						
PDBw	60-100						
PDCox	100-350						
PDBg	350-380						
PDC	380-650						
PDBg	650-670						
PDC	670-700						
PDBg	700-730						
PDC	730-800						
Cover	800-1400						

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC30	N10/83	4971200	419170		14	35 7/10/01	RC/AU

Site Notes: This site is at corner of Salishan Lodge.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
LBw	0-50	Silt		7.5YR5/8		2.5	Very Weak B.
PDBw	50-75	FU				3.25	Very Weak B.
PDCox	75-150	FU				2.25	

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC31	N10/83	4969720	417970		15	11 7/10/01	SC

Site Notes: This site is located at the sea cliff west of Glen Eden Beach Access parking lot.

The section demonstrates pockets of paleosol and debris flow preserved in hollows below deflation surfaces.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PDBtj	0-30			7.5YR6/8		4	Strong Blocky
PDBw	30-60					4	Weak Blocky
PDCox	60-120					3	Weak Blocky
PDBg	120-140			7.5YR8/1			
PDCox	140-220		Liquefaction				
PDC	220-250			2.5Y8/4		2.5	
PU	250-380						
PDC	380-410	FU					Very Weak B.
PSCox	410-430	MU				3.75	
PSC	430-650	MU				2.5	

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC32	N10/83	4966750	417600		4	26 7/10/01	RC

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PDA	0-5						
PDBtj	5-50			7.5YR7/8		4	Strong Blocky
PDCox	50-200			2.5Y8/4		4	Weak Blocky
PDC	200-300					2.5	Very Weak B.

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC33	N10/83	4964590	415790		8	16 7/10/01	SC

Site Notes: This is located south of Depoe Bay, next to US101.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PDA	0-10	Shells					
PDBtj	10-30			7.5YR7/8			
PDCox	30-80	ML					Fe-ortstein

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC34	N10/83	4961960	416060				

Site Notes: This site is in the Little Whale Cove gated development.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PDBtj	0-50			7.5YR6/6		4 Weak Blocky	
PDCox	50-120					Very Weak B.	
PDC	120-300			10YR7/4			

Dune Sheet	Zone/NAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure
LINC35	N10/83	4960490	415490		5	20 7/10/01	RC

Site Notes: This site is in the Little Whale Cove gated development.

Units	Depth cm	Grain Size	Bedding	Color	Pen(kg/cm ²)	Structure	Diagenesis
PDBtj	0-40			7.5YR6/8		4.5 Strong Blocky	
PDCox	40-150	ML		2.5Y8/8		4 Weak Blocky	