

Observers: CL

Center for Snow and Avalanche Studies

Profile # 1

Time: 1100 MST

Snowpack Profile

Date: 11/2/10

Location: SASP

Elev. 11,050' Aspect: NE

Boot Pen: 4-10 cm  $\angle$ : 3 °

Air T: +9 °C Sky: 0

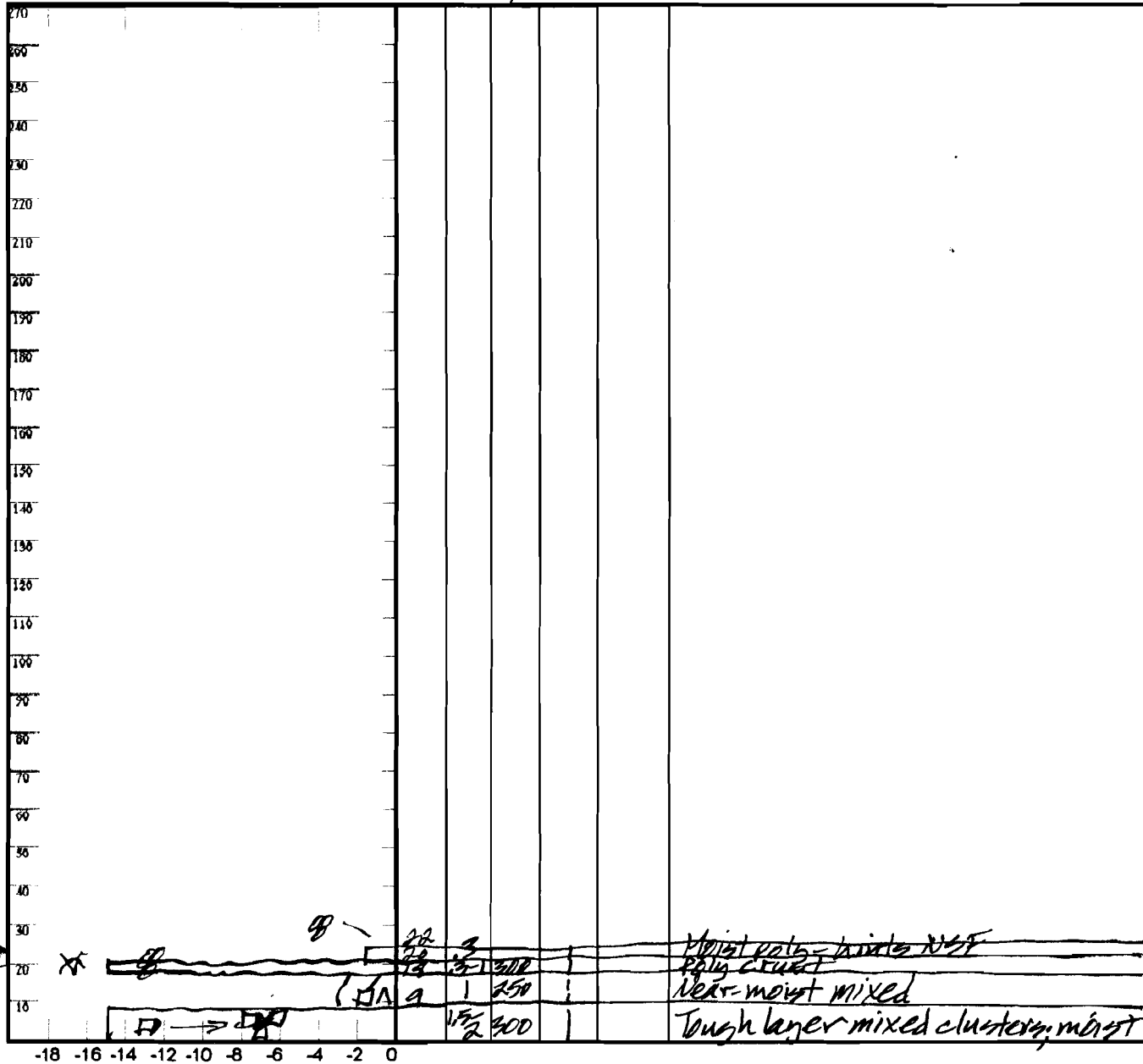
Precip: Nil Wind: Nil

Prior Pit: # —; — / — / —

Total Snowpack SWE: 50 mm H<sub>2</sub>O

Notes: H<sub>s</sub> = 0.20 m;  $\bar{\rho}$  = 250 kg/m<sup>3</sup>

T° K P 1F 4F F H E  $\rho$   $\theta$  DOD Notes



7  
SWE  
50

Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2ONor} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$	F	E	T <sub>wl</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

V. 11/20/03

Observers: CL+AT

Center for Snow and Avalanche Studies

Profile # 2

Time: 0955

Snowpack Profile

Date: 12/4/10

Location: SASP

Elev. 11,050'

Aspect: NE

Boot Pen: 44 cm

$\angle$ : 3 °

Air T: +3 °C

Sky: ☉

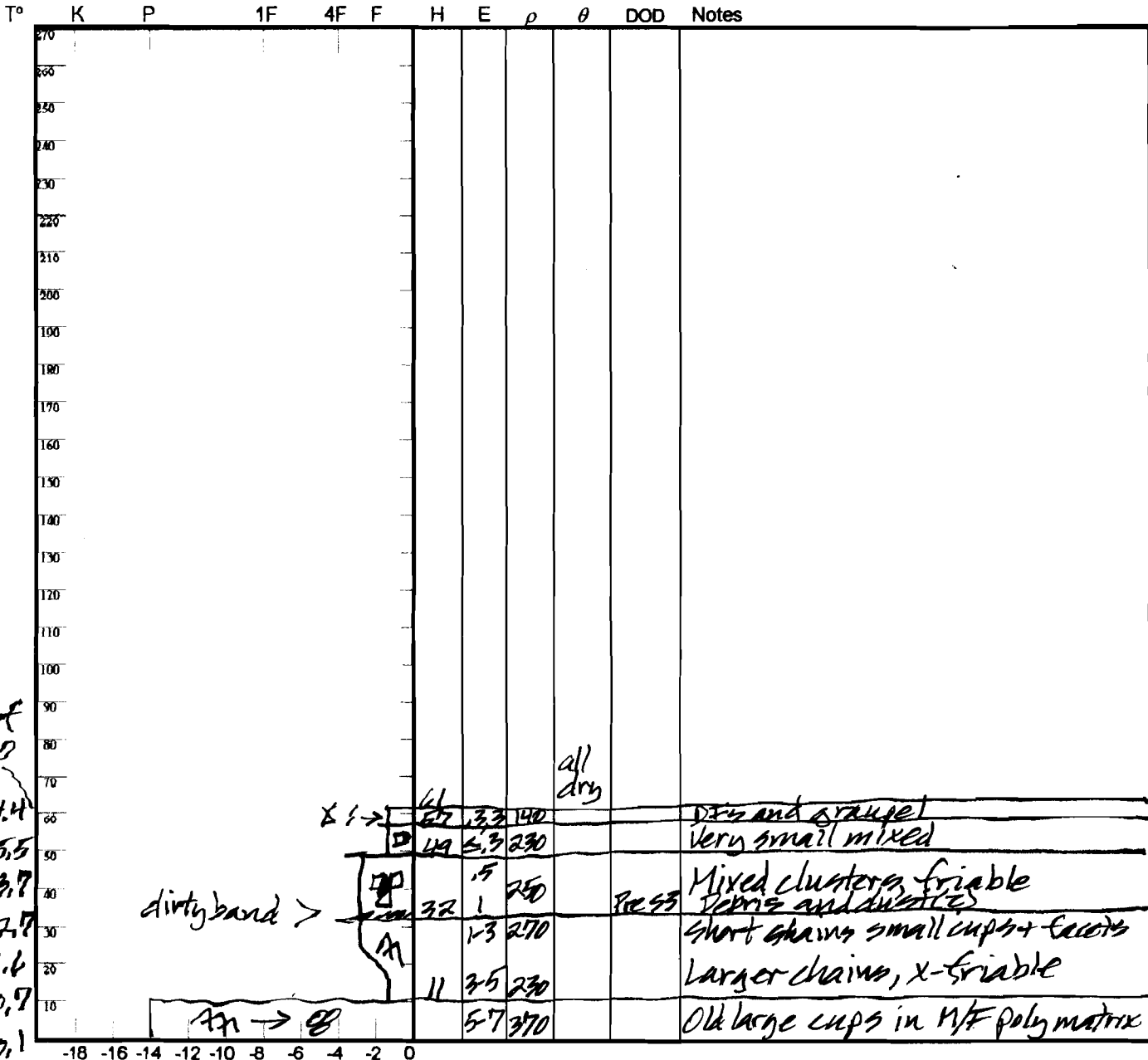
Precip: Nil

Wind: Nil

Prior Pit: # 1; 11/2/10

Total Snowpack SWE: 165 mm H<sub>2</sub>O

Notes: H<sub>57</sub> = 0.63 m;  $\bar{\rho}$  = 262 kg/m<sup>3</sup>



surf  
3.0  
4.4  
5.5  
3.7  
2.7  
1.6  
0.7  
0.1

7  
SWE  
5  
20  
43  
53  
44

Potential Slab			Weak Layer & Bed Surface						
Ref	H <sub>2</sub> O <sub>Nor</sub> ÷ H <sub>Nor</sub> = $\rho_{kg}$	Sin $\angle$ x H <sub>Nor</sub> x $\rho$ x 9.8 = $\tau_{Slab}$	F	E	T <sub>wl</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	x x x 9.8 =							
B	mm ÷ m =	x x x 9.8 =							

Notes: Dirty band @ 32 cm is ambiguous - veg debris and ordinary (ambient) local 'dust' (very shallow cover), or dry dust, or both; no concentrated wet-deposition dust in the usual location along track to SASP, so unlikely that S#3 had dust entrained early in storm.

Observers: CL+MB

Center for Snow and Avalanche Studies

Profile # 3

Time: 1110 MST

Snowpack Profile

Date: 12/14/10

Location: SBSF

Elev. 12,200'

Aspect: NE

Boot Pen: 16 cm

$\angle$ : 1 °

Air T: -1 °C

Sky: 0

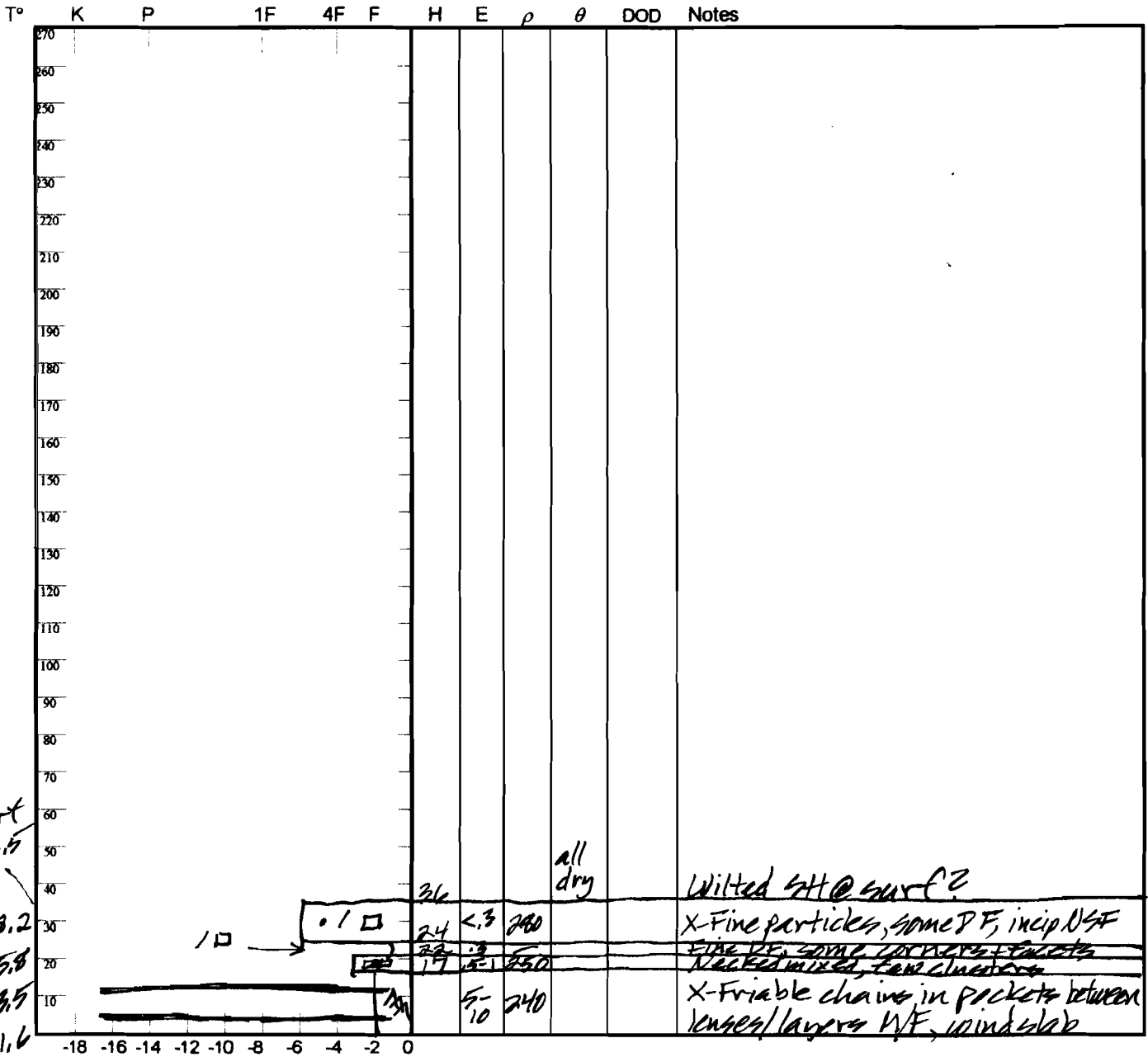
Precip: Nil

Wind: Nil

Prior Pit: # —; — / — / —

Total Snowpack SWE: 120 mm H<sub>2</sub>O

Notes: H<sub>2</sub>O = 0.38 ;  $\rho$  = 316 kg/m<sup>3</sup>



7  
SWE

30

20

Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2O_{Nor}} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

V. 11/20/03

Observers: CL+AT

Center for Snow and Avalanche Studies

Profile # 4

Time: 1050

Snowpack Profile

Date: 1/2/11

Location: SASP

Elev. 11,050'

Aspect: NE

Boot Pen: 49 cm

$\angle$ : 3 °

Air T: -6 °C

Sky: 0

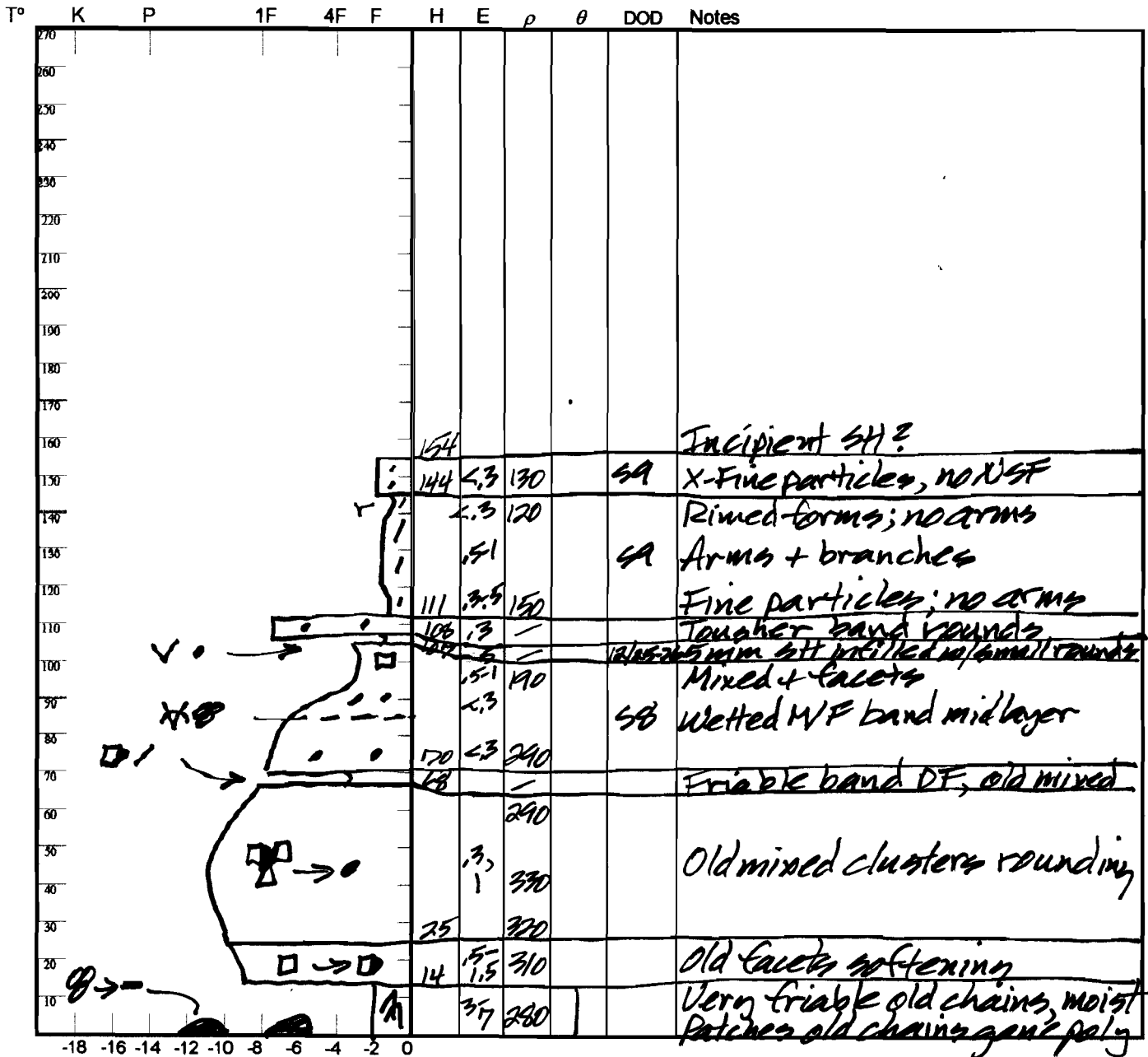
Precip: Nil

Wind: Nil

Prior Pit: # 2; 12/4/10

Total Snowpack SWE: 361 mm H<sub>2</sub>O

Notes: H<sub>s</sub> = 1.55m;  $\rho$  = 233 kg/m<sup>3</sup>



Handwritten notes on the right side of the graph, including 'SWE' and numerical values: 7, 36, 21, 51, 38, 80, 61, 43, 31.

Potential Slab			Weak Layer & Bed Surface						
Ref	$H_2O_{Nor} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = T_{Slab}$	F	E	T <sub>wl</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

V. 11/20/03

Observers: CL+MB

Center for Snow and Avalanche Studies

Profile # 5

Time: 1045

Snowpack Profile

Date: 1/6/11

Location: SBSP

Elev. 13,200'

Aspect: NE

Boot Pen: 0-20 cm

$\angle$ : 3°

Air T: -4 °C

Sky: 0

Precip: Nil

Wind: Lt

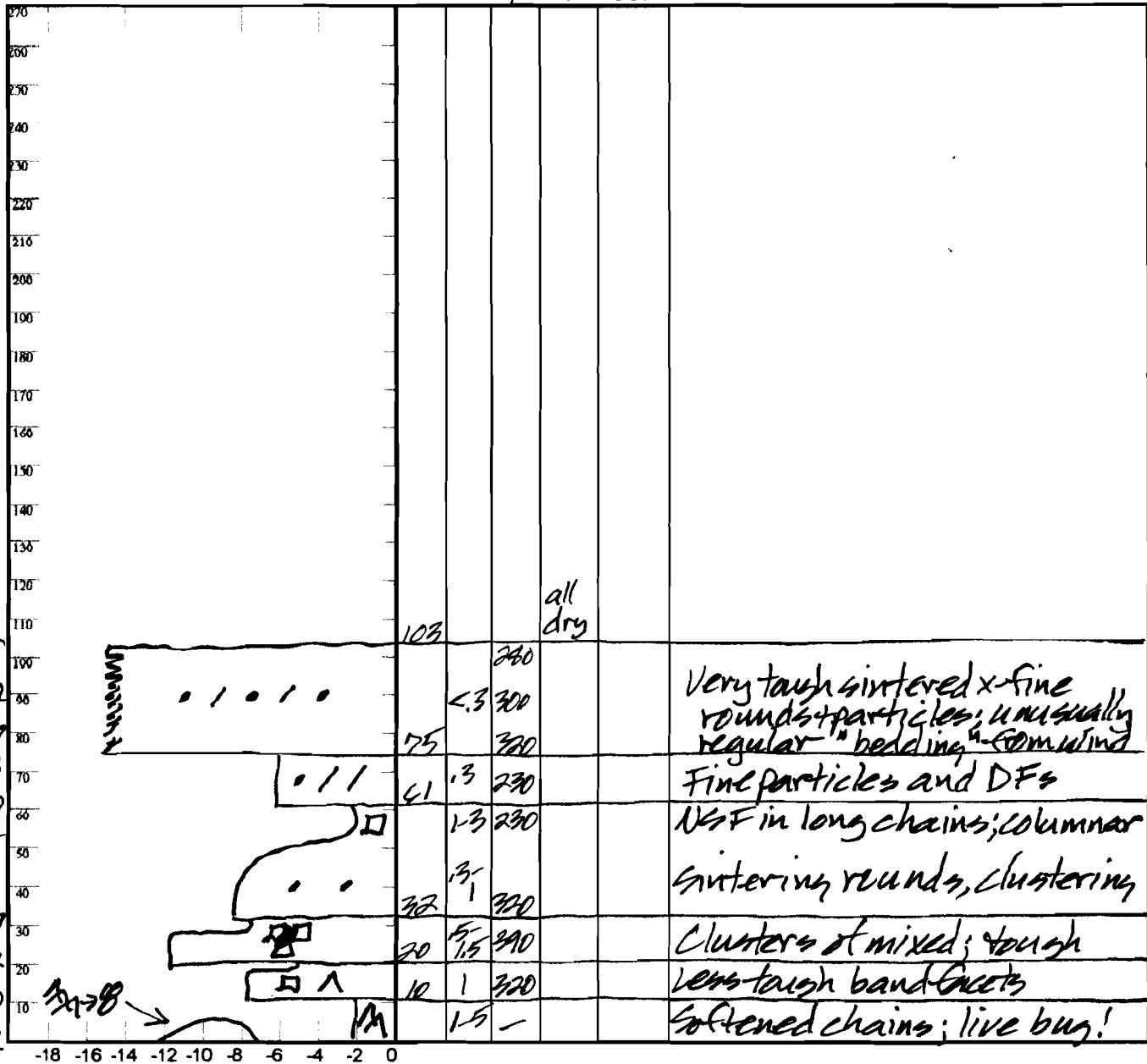
Prior Pit: # 3; 12, 14, 10

Total Snowpack SWE: 260 mm H<sub>2</sub>O

Notes: H<sub>st</sub> = 1.02;  $\bar{\rho}$  = 275 kg/m<sup>3</sup>

SBSP extremely rough and drifted; high spatial variation

T° K P 1F 4F F H E  $\rho$   $\theta$  DOD Notes



SWOT  
-7.9  
-11.1  
-14.2  
-13.0  
-16.3  
-9.0  
-7.5  
-5.8  
-4.7  
-3.2  
-2.0  
-1.2

7  
SWE  
80  
31  
78  
91

Potential Slab			Weak Layer & Bed Surface						
Ref	$H_2O_{Nor} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

V. 11/20/03

Observers: CL+MB

Center for Snow and Avalanche Studies

Profile # 6

Time: 1115 MST

Snowpack Profile

Date: 1/30/11

Location: SBSP

Elev. 12,300'

Aspect: NE

Boot Pen: 9 cm

$\alpha$ : 5°

Air T: -6 °C

Sky: 0

Precip: Nil

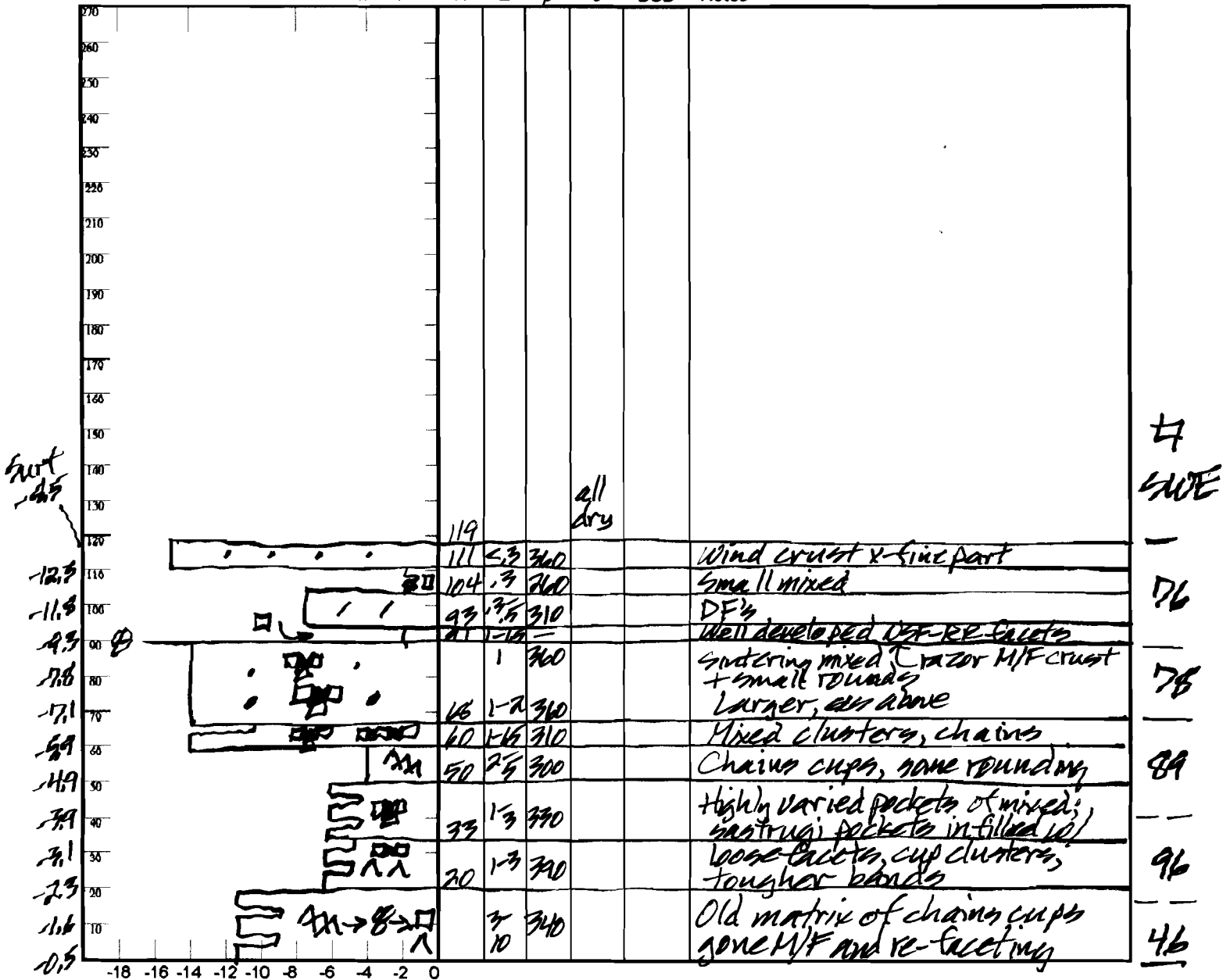
Wind: Lt/Mod

Prior Pit: # 5; 1/6/11

Total Snowpack SWE: 365 mm H<sub>2</sub>O

Notes: H<sub>s</sub> = 1.22 m;  $\bar{\rho}$  = 316 kg/m<sup>3</sup>

T° K P 1F 4F F H E  $\rho$   $\theta$  DOD Notes



Potential Slab			Weak Layer & Bed Surface						
Ref	$H_2O_{Nor} \div H_{Nor} = \rho_{kg}$	$\sin \alpha \times H_{Nor} \times \rho \times 9.8 = \tau_{slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes: No dust layers observed

Observers: CLAT

Center for Snow and Avalanche Studies

Profile # 7

Time: 1120

Snowpack Profile

Date: 2/3/11

Location: SASF

Elev. 11,050'

Aspect: NE

Boot Pen: 34 cm

∠: 2°

Air T: -9 °C

Sky: 0

Precip: Nil

Wind: Nil

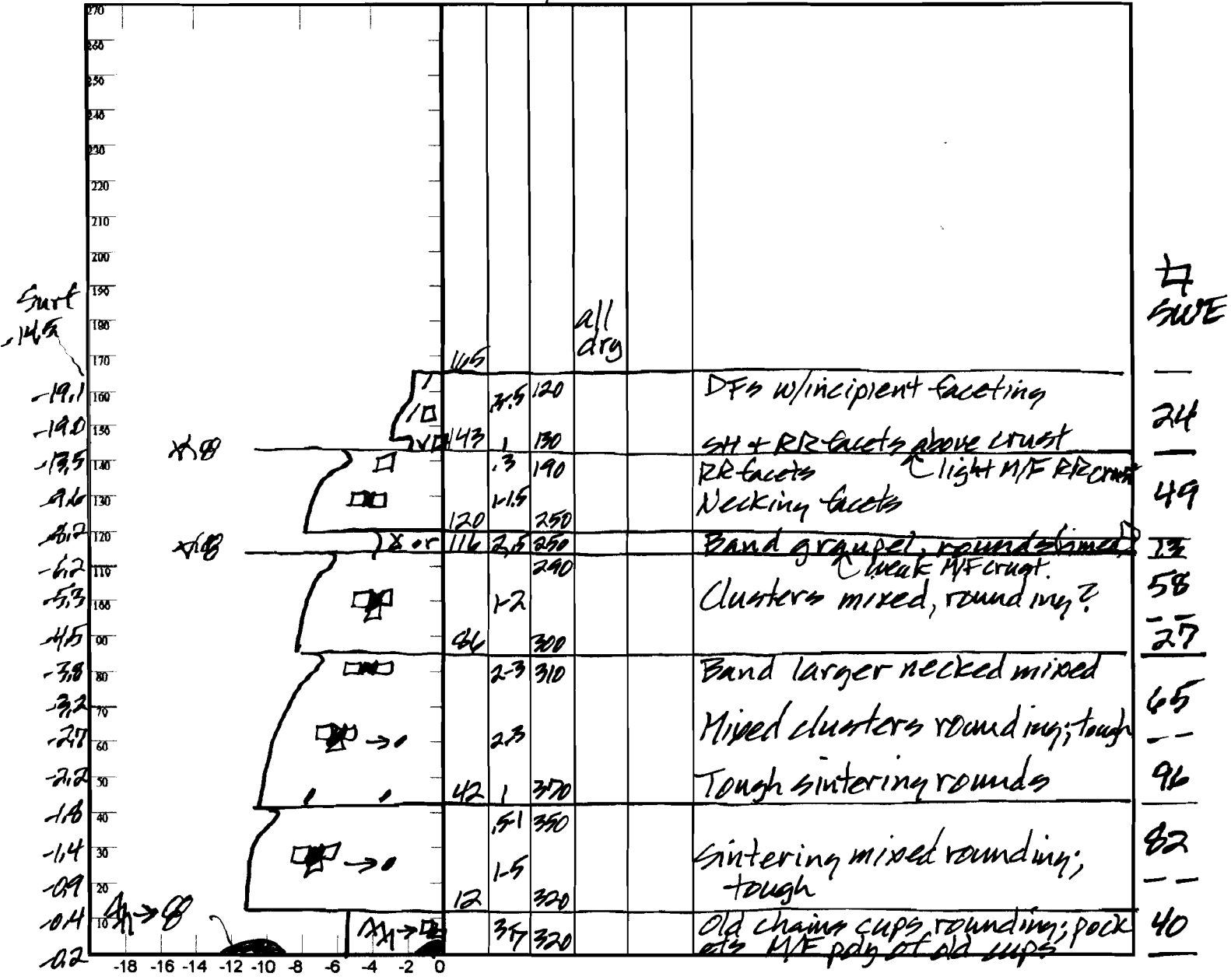
Prior Pit: # 4; 112/11

Total Snowpack SWE: 454 mm H<sub>2</sub>O

Notes: H<sub>s</sub> = 1.6 m;  $\bar{\rho}$  = 282 kg/m<sup>3</sup>

No dust layers observed

T° K P 1F 4F F H E ρ θ DOD Notes



Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2O_{Nor}} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = T_{Slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							
Notes:									

Observers: CL+AT

Center for Snow and Avalanche Studies

Profile # 8

Time: 1240

Snowpack Profile

Date: 2/26/11

Location: SERP

Elev. 12,200' Aspect: NE

Boot Pen: 23 cm  $\angle$ : 4 °

Air T: -2 °C Sky: 0

Precip: Nil

Wind: Mod

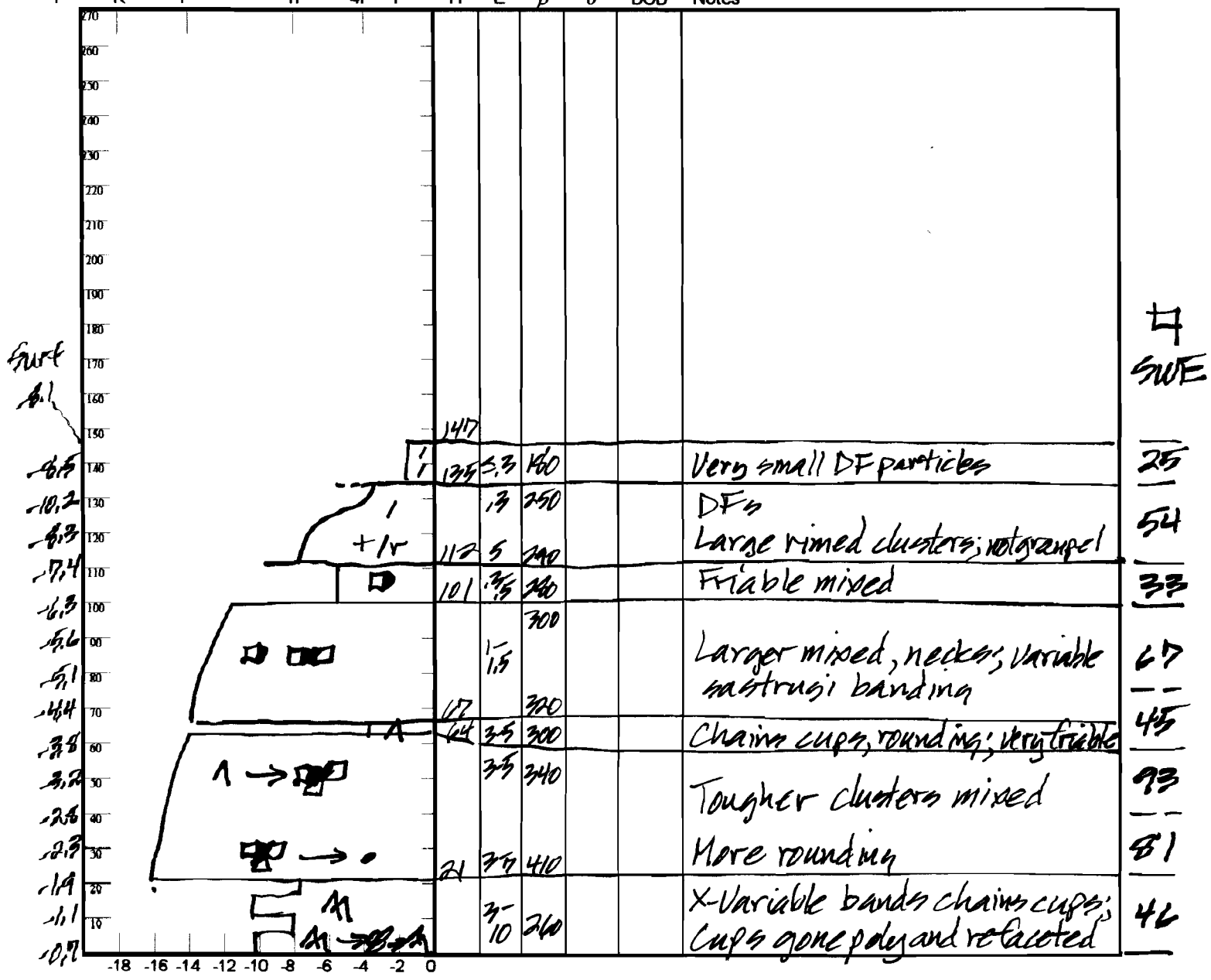
Prior Pit: # 6; 1/30/11

Total Snowpack SWE: 444 mm H<sub>2</sub>O

Notes: H<sub>5</sub> = 1.46 m;  $\bar{\rho}$  = 304 Kg/m<sup>3</sup>

No dust observed.

T° K P 1F 4F F H E  $\rho$   $\theta$  DOD Notes



Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2O_{Nor}} \div H_{Nor} = \rho_{hg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = T_{Slab}$	F	E	T <sub>wl</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	x x x 9.8 =							
B	mm ÷ m =	x x x 9.8 =							

Notes:



Observers: CL+AT

Center for Snow and Avalanche Studies

Profile # 9

Time: 1135

Snowpack Profile

Date: 3/1/11

Location: SASP

Elev. 11,060'

Aspect: NE

Boot Pen: 28 cm

∠: 3°

Air T: +6 °C

Sky: ☉

Precip: Nil

Wind: Nil

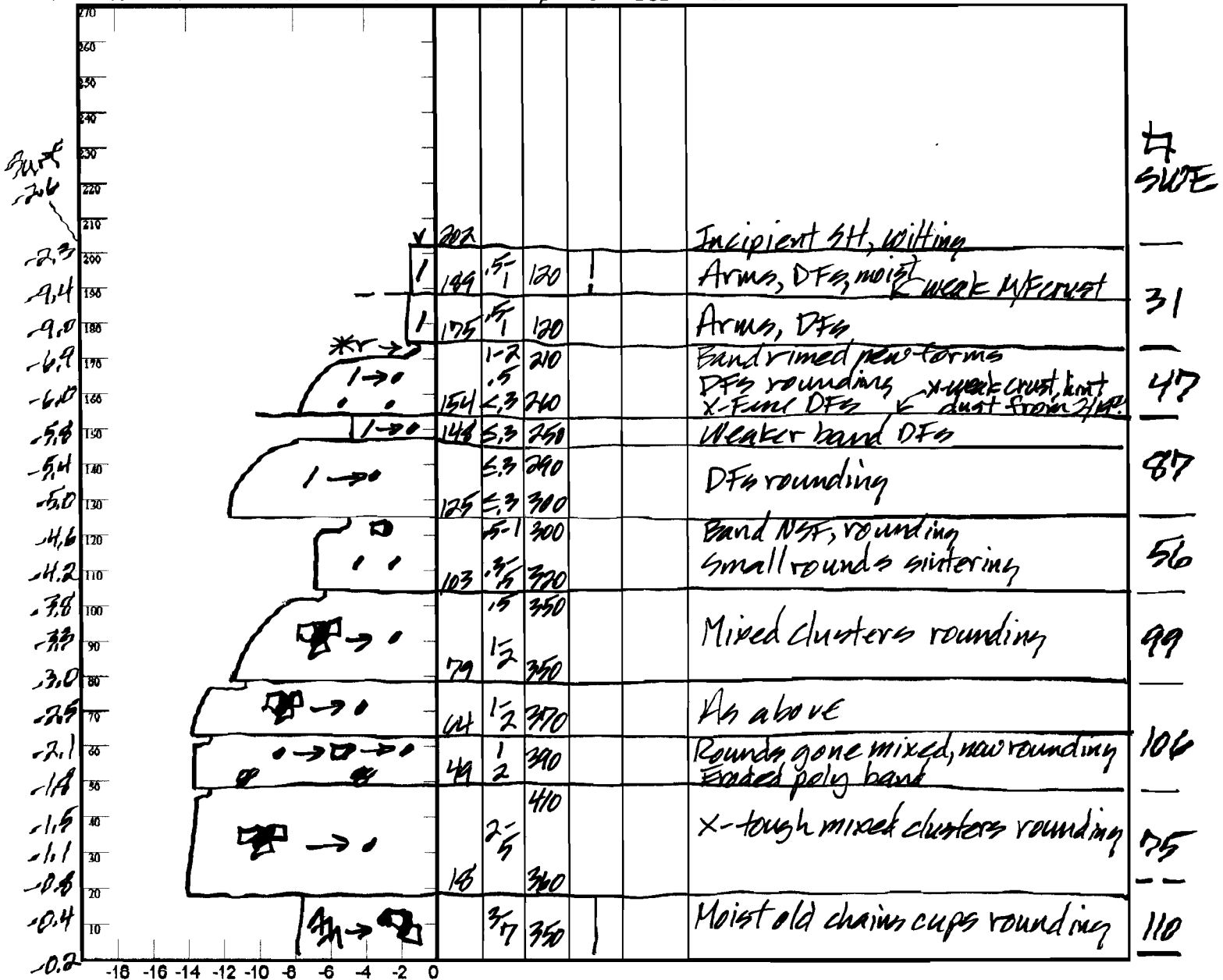
Prior Pit: # 7; 2/3/11

Total Snowpack SWE: 611 mm H<sub>2</sub>O

Notes: H<sub>st</sub> = 1.98 m;  $\bar{\rho}$  = 309 kg/m<sup>3</sup>

No definitive dust layer observed; x-weak, ambiguous band @ 154cm

T° K P 1F 4F F H E ρ θ DOD Notes



Potential Slab				Weak Layer & Bed Surface						
Ref	$H_{2ONor} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$		F	E	T <sub>wl</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	x x x 9.8 =								
B	mm ÷ m =	x x x 9.8 =								

Notes:

V. 11/20/03

Observers: CL

Center for Snow and Avalanche Studies

Profile # 10

Time: 1035

Snowpack Profile

Date: 3/10/11

Location: SBS

Elev. 12,200'

Aspect: NE

Boot Pen: 31 cm

$\angle$ : 4 °

Air T: +1 °C

Sky: 0

Precip: Nil

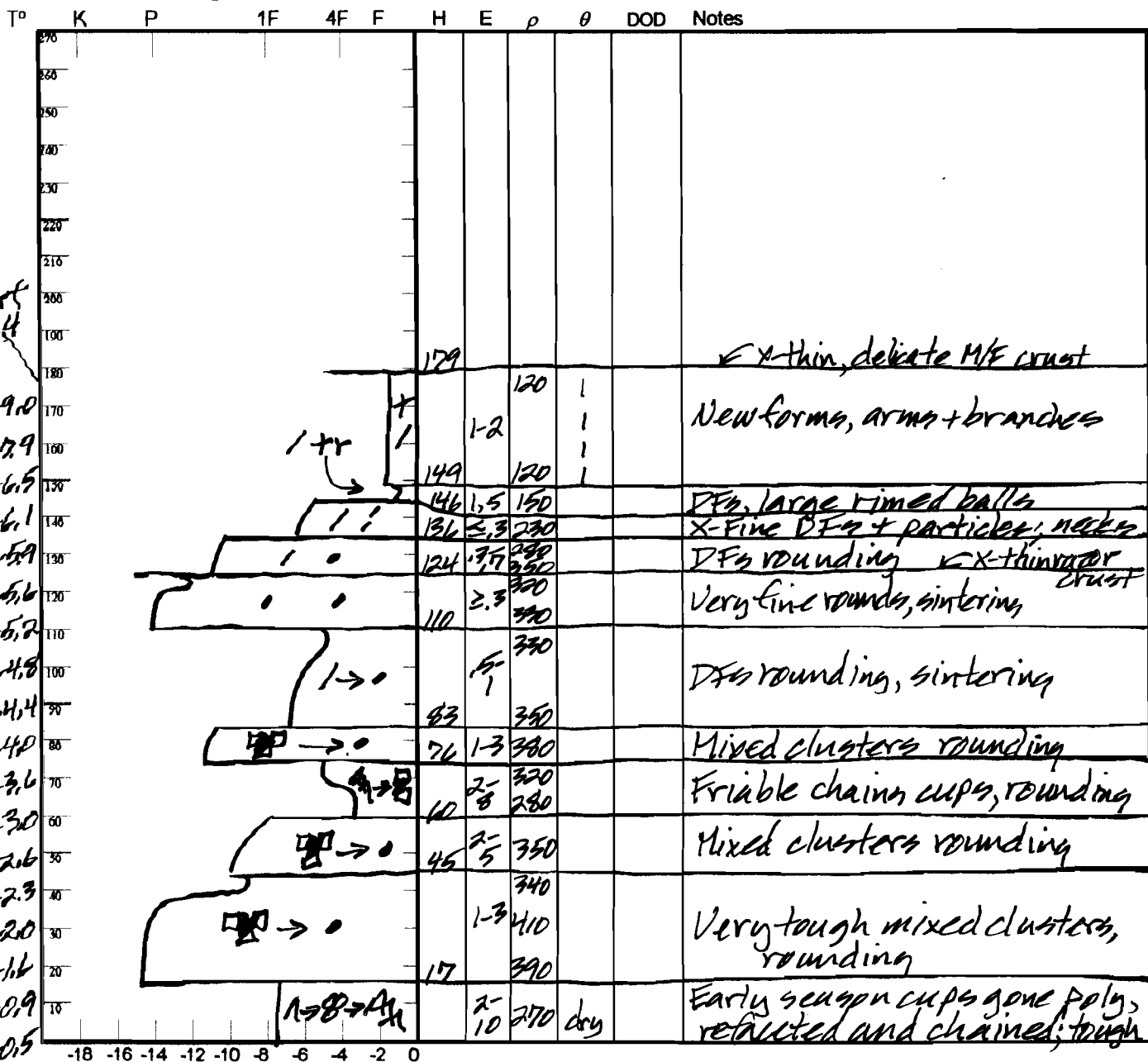
Wind: Nil

Prior Pit: # 8; 2/28/11

Total Snowpack SWE: 597 mm H<sub>2</sub>O

Notes: H<sub>57</sub> = 1.78 m;  $\bar{\rho}$  = 302 kg/m<sup>3</sup>

No dust layers observed



SWE  
7  
—  
42  
—  
68  
—  
55  
—  
82  
—  
27  
—  
52  
—  
46  
—  
57  
—  
52  
—  
36  
—

Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2ONor} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

V. 11/20/03

Observers: CL, AT, MB

Center for Snow and Avalanche Studies

Profile # 11

Time: 0900 HRT

Snowpack Profile

Date: 3/29/11

Location: SASP

Elev. 11,140'

Aspect: NE

Boot Pen: 28 cm  $\angle$ : 3 °

Air T: -6 °C Sky: 0

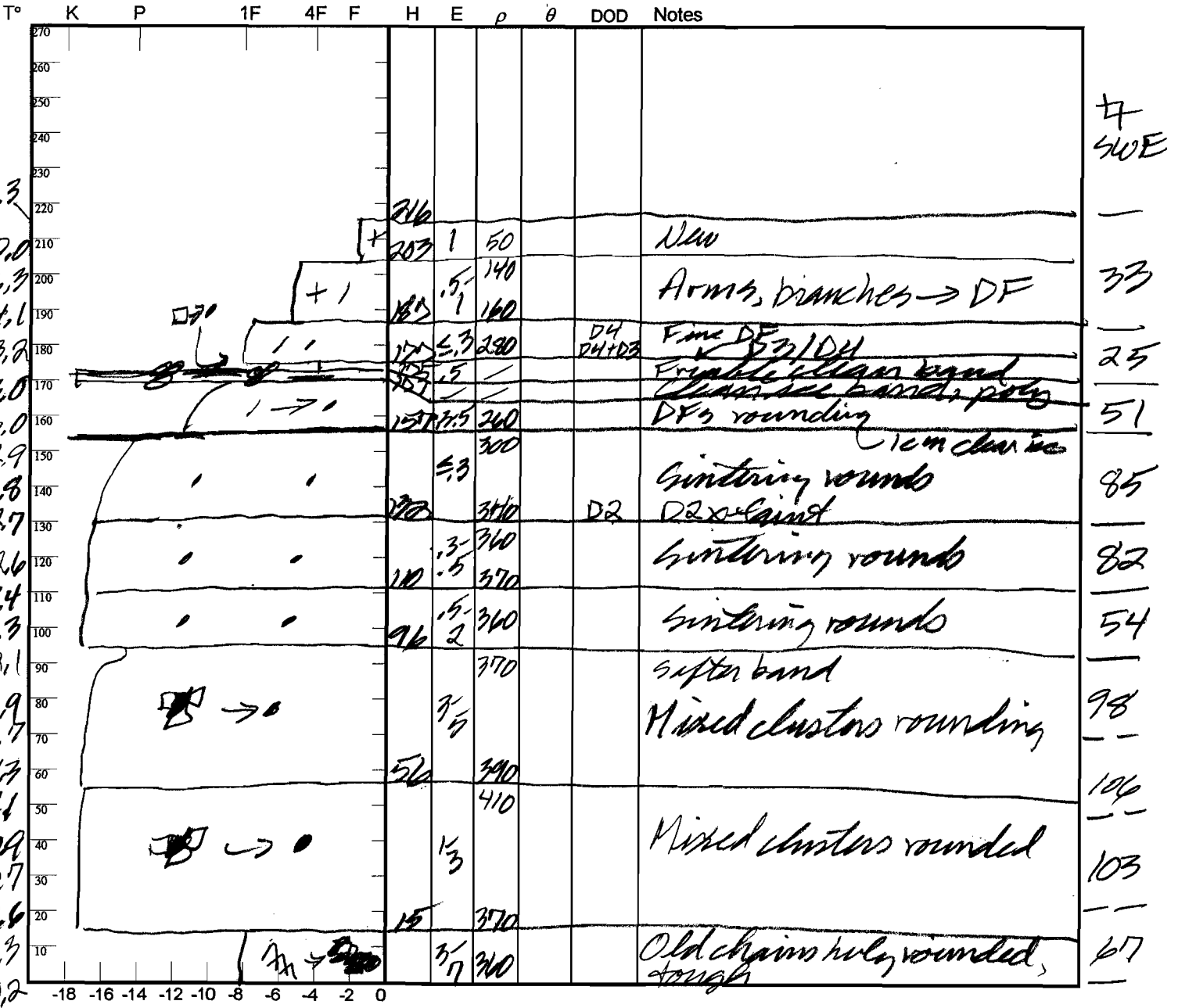
Precip: Nil

Wind: Nil

Prior Pit: # 9; 31/1/11

Total Snowpack SWE: 1704 mm H<sub>2</sub>O

Notes: H<sub>2</sub>O = 2.15 ; ρ = 327 kg/m<sup>3</sup>



Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2O_{Nor}} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

Observers: CL+AE

Center for Snow and Avalanche Studies

Profile # 12

Time: 0945 MST

Snowpack Profile

Date: 4/4/11

Location: GSP

Elev. 18200'

Aspect: NE

Boot Pen: 10 cm

∠: 3°

Air T: +11°C

Sky: ☉

Precip: Nil

Wind: Nil

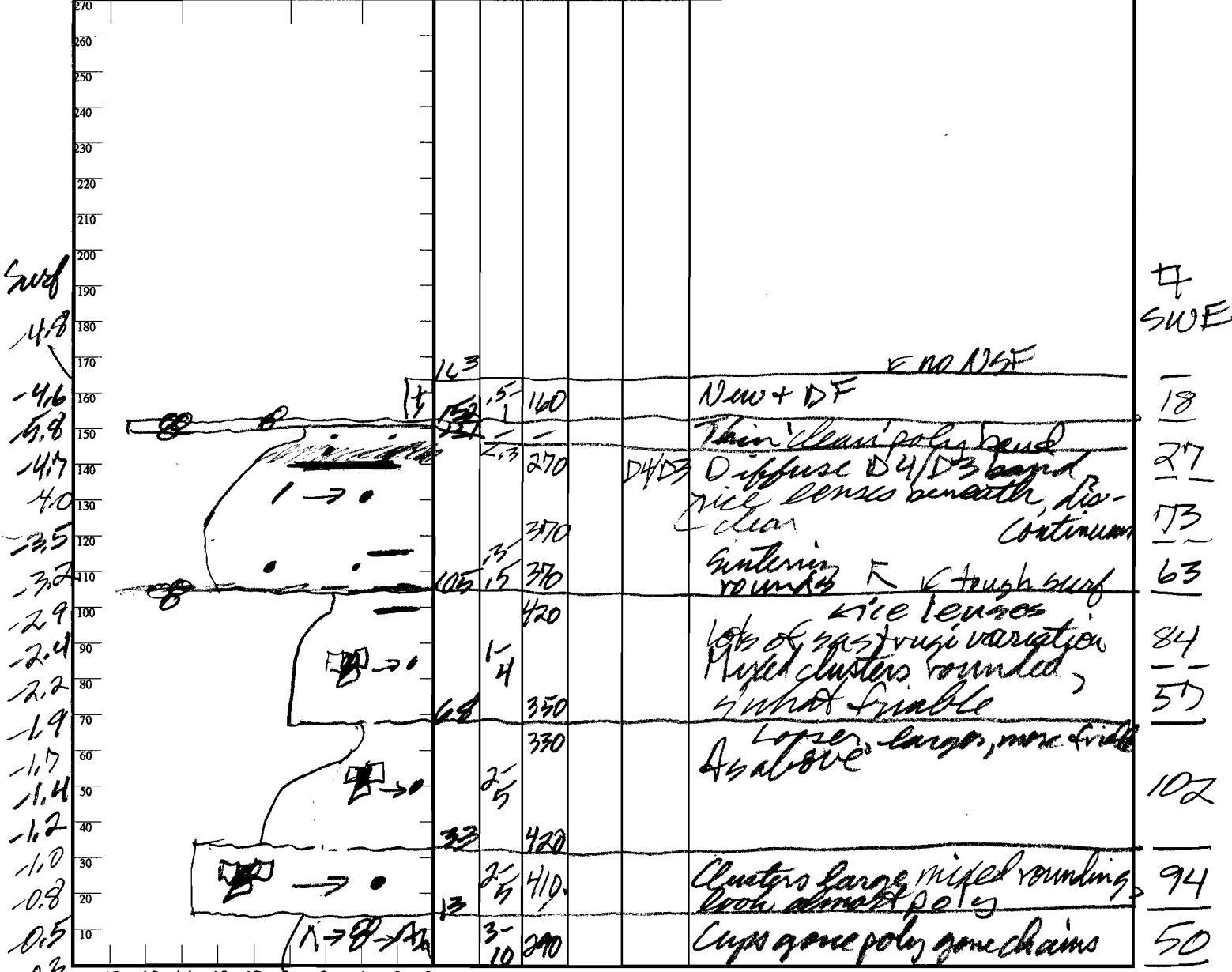
Prior Pit: # 8 ; 2/26/11

Total Snowpack SWE: 668 mm H<sub>2</sub>O

Notes: HS  $\eta = 1.64$  m;  $\rho = 346$  kg/m<sup>3</sup>

10 normal grain samples

T° K P 1F 4F F H E ρ θ DOD Notes



Potential Slab			Weak Layer & Bed Surface						
Ref	$H_2O_{Nor} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes: Dust covered in isolated patches per plot; NE aspect slopes actually slipping w/ 80 dusty crust as we left to descend

Observers: CL+MB

Center for Snow and Avalanche Studies

Profile # 13

Time: 0910 MST

Snowpack Profile

Date: 4.6.11

Location: SNAP

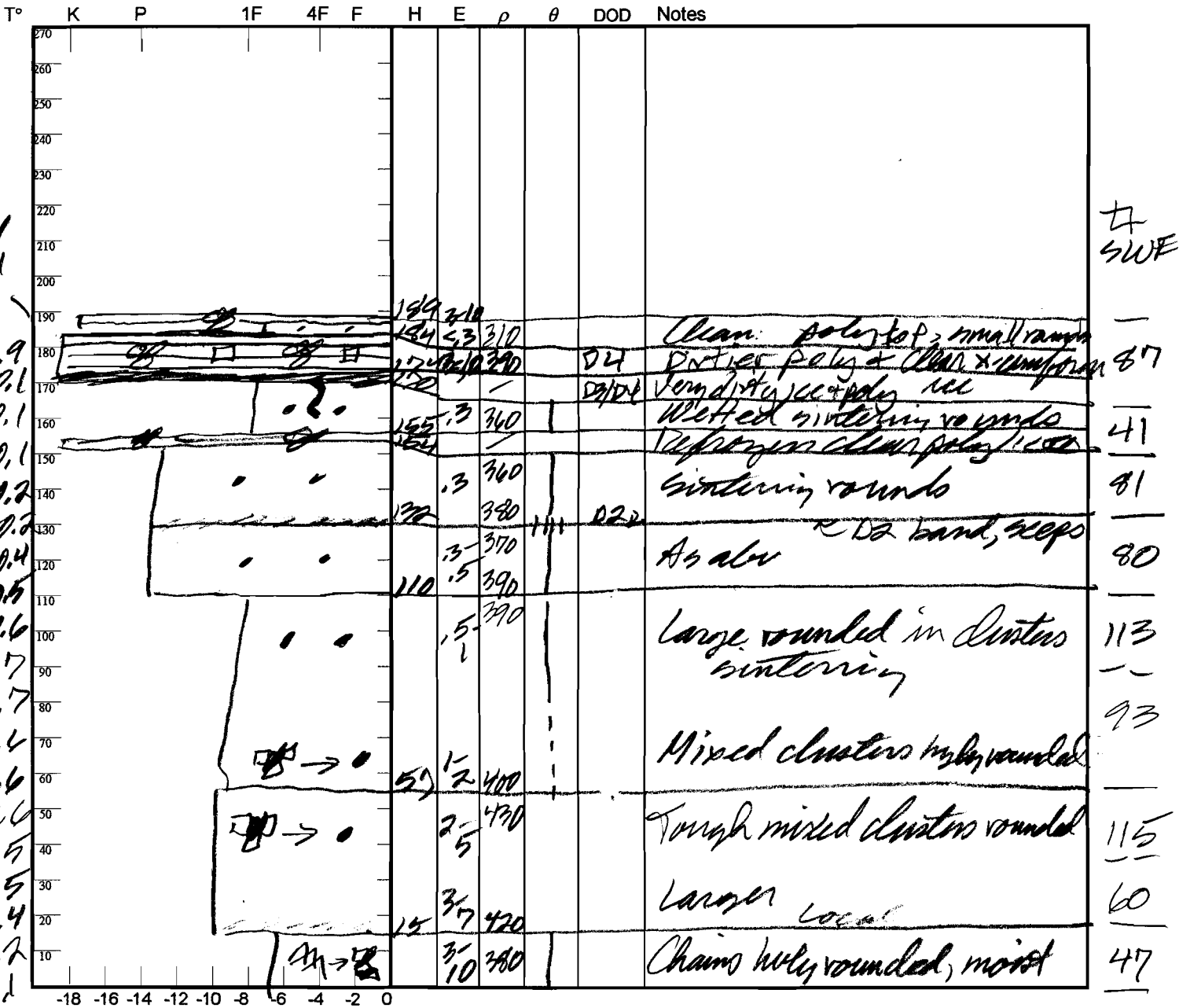
Elev. 11,080' Aspect: NE Boot Pen: 3 cm  $\angle$ : 3°

Air T: +1°C Sky: 0

Precip: Nil Wind: Nil Prior Pit: # 11; 3129, 11

Total Snowpack SWE: 717 mm H<sub>2</sub>O

Notes: H<sub>2</sub>O = 1.87 m<sub>3</sub> p = 383 kg/m<sup>3</sup>



Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2O_{Nor}} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

Observers: CLMB, AB

Center for Snow and Avalanche Studies

Profile # 14

Time: 1030 MST

Snowpack Profile

Date: 4/11/11

Location: GASP

Elev. 11,080'

Aspect: NE

Boot Pen: 34 cm

$\angle$ : 3 °

Air T: +1.6 °C

Sky: 0

Precip: Nil

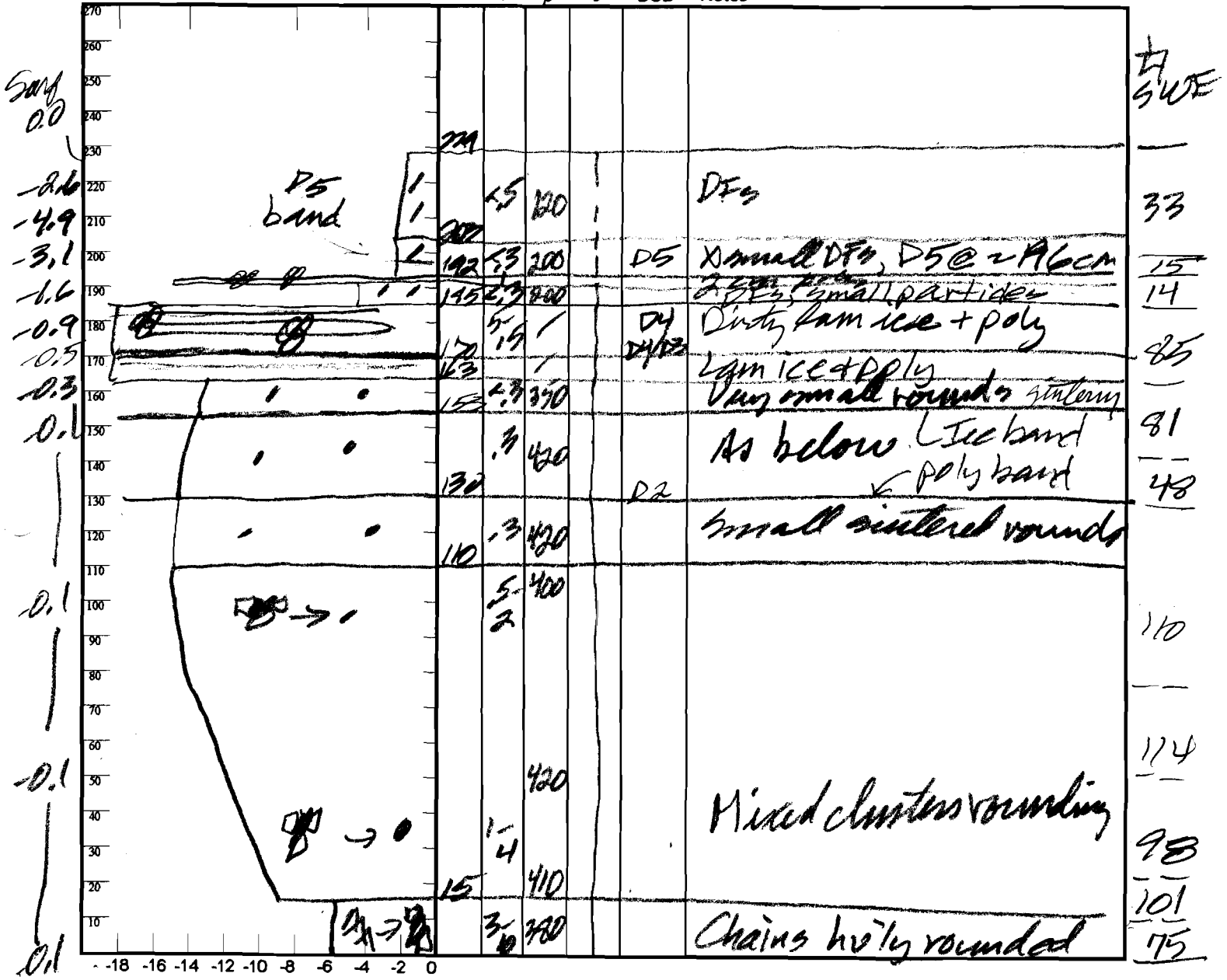
Wind: Nil

Prior Pit: # 13; 4/1/11

Total Snowpack SWE: 774 mm H<sub>2</sub>O

Notes: HS  $\tau$  = 122 m;  $\rho$  = 349 kg/m<sup>3</sup>

T° K P 1F 4F F H E  $\rho$   $\theta$  DOD Notes



Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2O_{Nor}} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

Observers: CL+KB

Center for Snow and Avalanche Studies

Profile # 15

Time: 1000

Snowpack Profile

Date: 4/18/11

Location: GAP

Elev. 11,050'

Aspect: NE

Boot Pen: 5 cm 4:30

Air T:      °C Sky: D

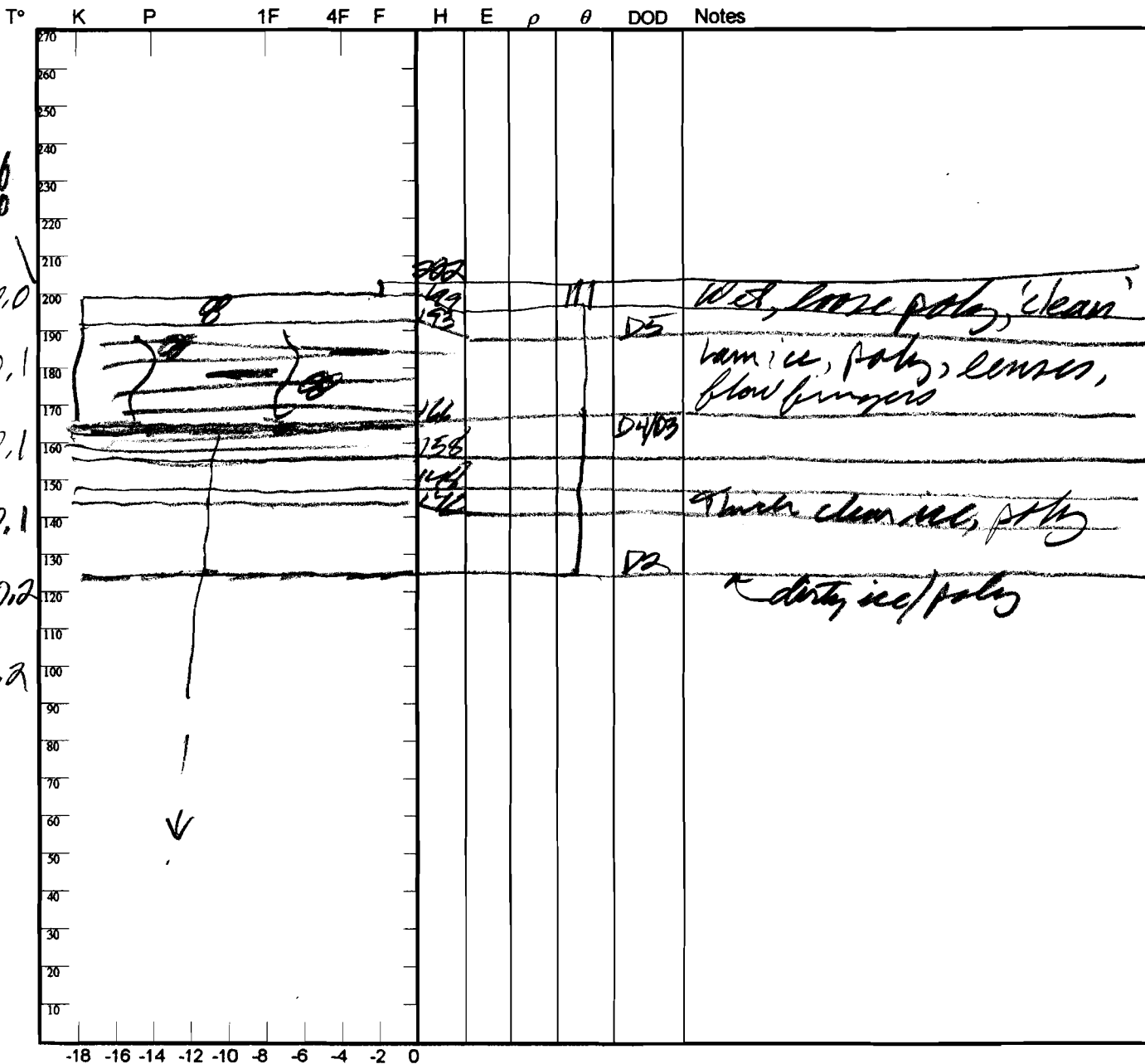
Precip: Nil

Wind: Mod

Prior Pit: # 14; 4/11/11

Total Snowpack SWE:      mm H<sub>2</sub>O

Notes: Did not collect SWE



Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2ONor} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

Observers: CL+HB  
 Time: 0900 MGT  
 Location: SAAP  
 Air T: -2°C Sky: ☉  
 Total Snowpack SWE: 267 mm H<sub>2</sub>O

Center for Snow and Avalanche Studies

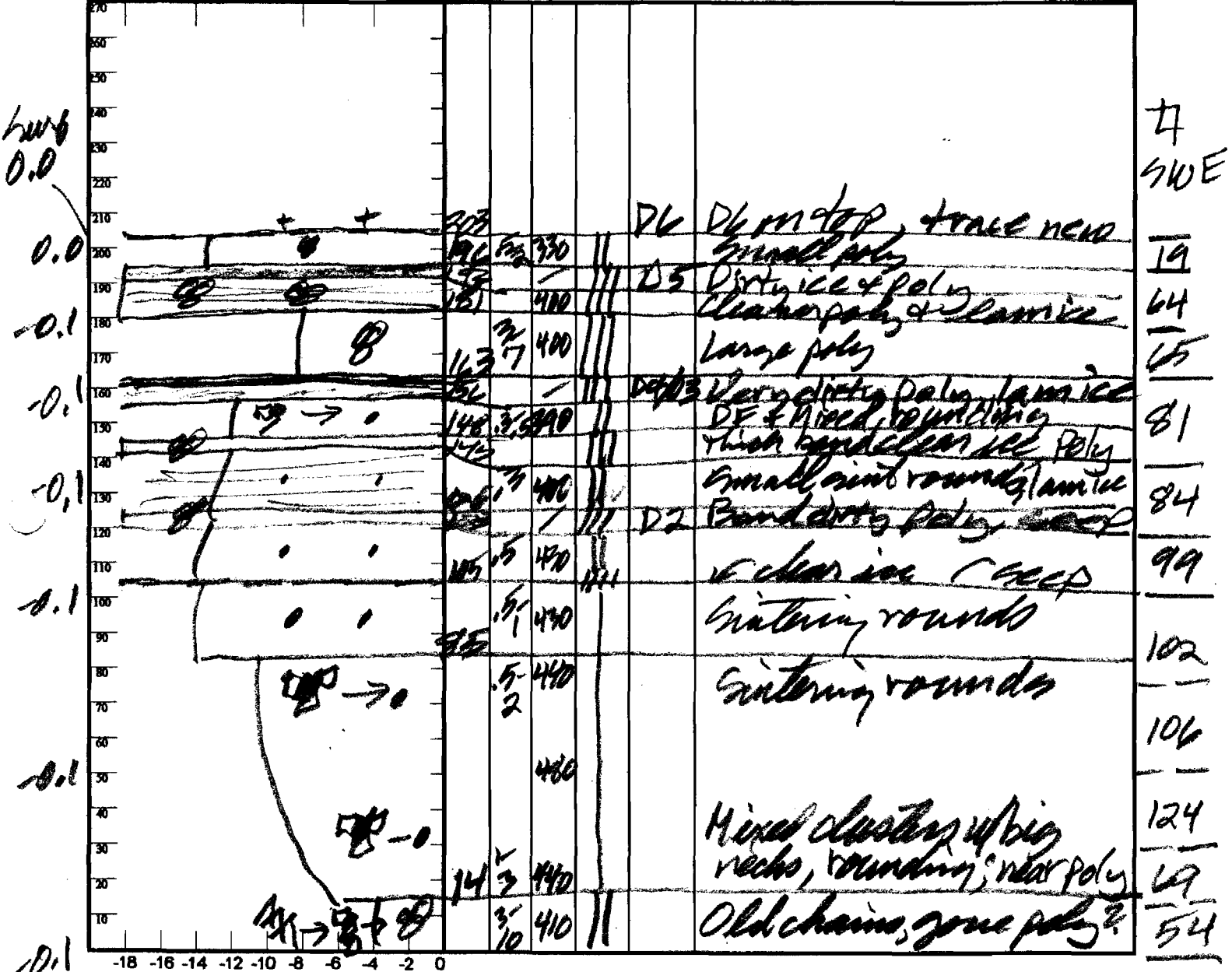
Snowpack Profile

Elev. 11090' Aspect: NE Boot Pen: 0 cm 2.3°  
 Precip: 51" Wind: lt Prior Pit: # 15; 41611  
 Notes: H<sub>97</sub> = 2.06m; ρ = 421 kg/m<sup>3</sup>

Profile # 16

Date: 4/22/11

T° K P 1F 4F F H E ρ θ DOD Notes



Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2}O_{Nor} + H_{Nor} = \rho_{eq}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{slab}$	F	E	Twl	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes: Cross column tapered to 20.3 cm ft/yrh @ base  
D1 @ surf in sample 1; D5 in samples 3-7 (seep);  
D4 @ base



Observers: CL+AT+USFS+BLM Center for Snow and Avalanche Studies

Profile # 17

Time: 1010 MST

Snowpack Profile

Date: 5.3.11

Location: GA SP

Elev. 11080'

Aspect: NE

Boot Pen: 26 cm

$\alpha$ : 3 °

Air T: 13 °C

Sky: ①

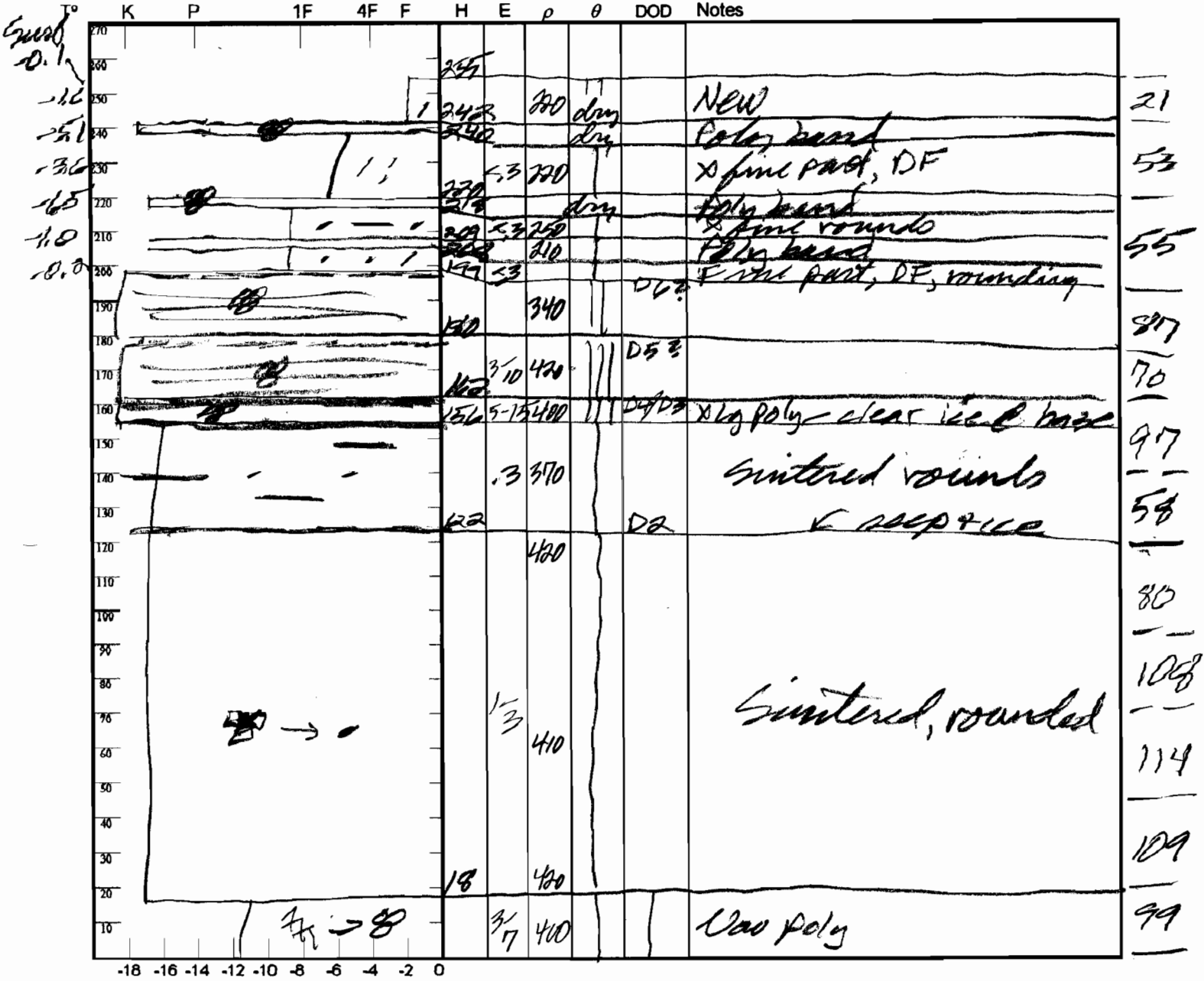
Precip: Nil

Wind: Nil

Prior Pit: # 16; 4/22/11

Total Snowpack SWE: 951 mm H<sub>2</sub>O

Notes: H<sub>s</sub> = 2.50 m;  $\rho = 380 \text{ kg/m}^3$



Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2ONor} \div H_{Nor} = \rho_{kg}$	$\sin \alpha \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

Observers: CL+AT

Center for Snow and Avalanche Studies

Profile # 18

Time: 0905 MST

Snowpack Profile

Date: 5/4/11

Location: SBS

Elev. 12,200'

Aspect: NE

Boot Pen: 16 cm

$\angle$ : 4 °

Air T: -1 °C

Sky: 0

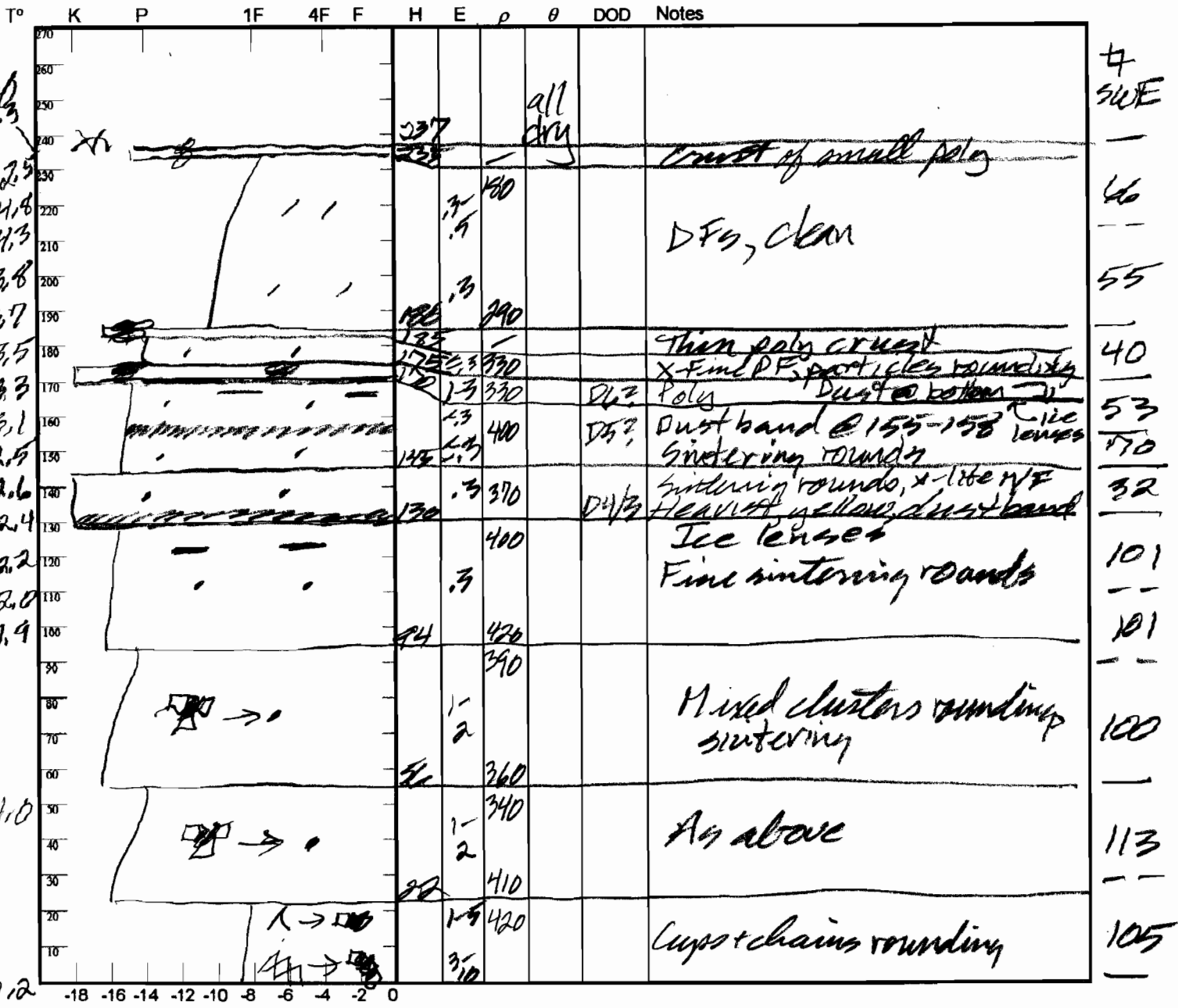
Precip: Nil

Wind: H

Prior Pit: # 12; 41511

Total Snowpack SWE: 836 mm H<sub>2</sub>O

Notes: H<sub>s</sub> = 2.34 ;  $\bar{\rho}$  = 357 kg/m<sup>3</sup>



Potential Slab			Weak Layer & Bed Surface						
Ref	H <sub>2</sub> O <sub>Nor</sub> ÷ H <sub>Nor</sub> = ρ <sub>kg</sub>	Sin ∠ x H <sub>Nor</sub> x ρ x 9.8 = τ <sub>Slab</sub>	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

V. 11/20/03

Observers: CL, AT

Center for Snow and Avalanche Studies

Profile # 19

Time: 1450 HST

Snowpack Profile

Date: 5/12/11

Location: 9A5P

Elev. 11,050'

Aspect NE

Boot Pen: 39 cm

$\angle$ : 3°

Air T: +1 °C

Sky: ☉

Precip: XLT

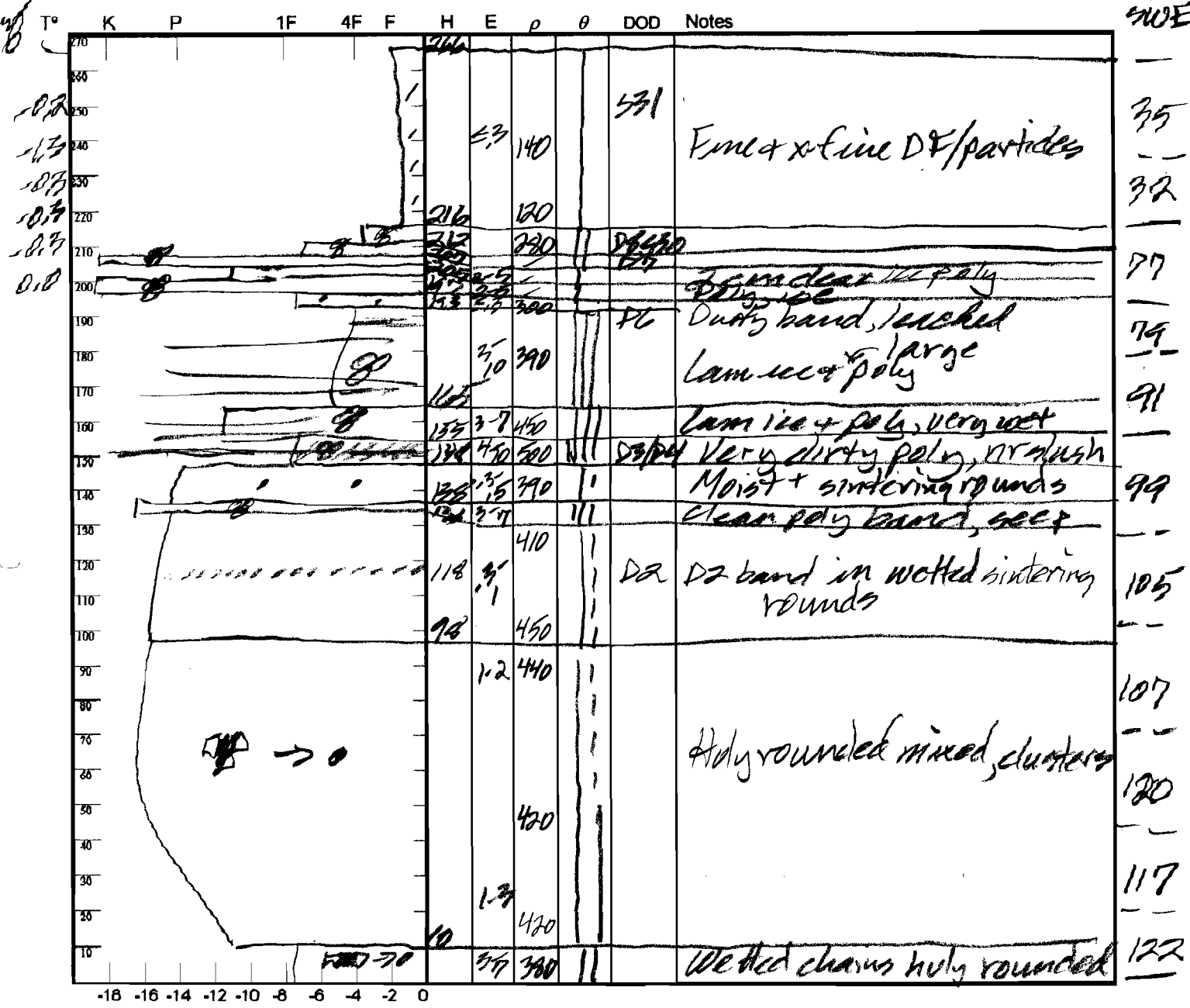
Wind: XLT

Prior Pit: # 17; 5/3/11

Total Snowpack SWE: 964 mm H<sub>2</sub>O

Notes: H<sub>2</sub>O = 2.65 ;  $\rho$  = 371 kg/m<sup>3</sup>

*Emp*



Potential Slab			Weak Layer & Bed Surface						
Ref	H <sub>2</sub> O <sub>Nor</sub> ÷ H <sub>Nor</sub> = ρ <sub>kg</sub>	Sin ∠ x H <sub>Nor</sub> x ρ x 9.8 = τ <sub>Slab</sub>	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	x x x 9.8 =							
B	mm ÷ m =	x x x 9.8 =							

Notes:

Observers: CHAT  
 Time: 1325 MST  
 Location: SASP  
 Air T: +8 °C Sky: ⊕  
 Total Snowpack SWE: 999 mm H<sub>2</sub>O

Center for Snow and Avalanche Studies

Profile # 20

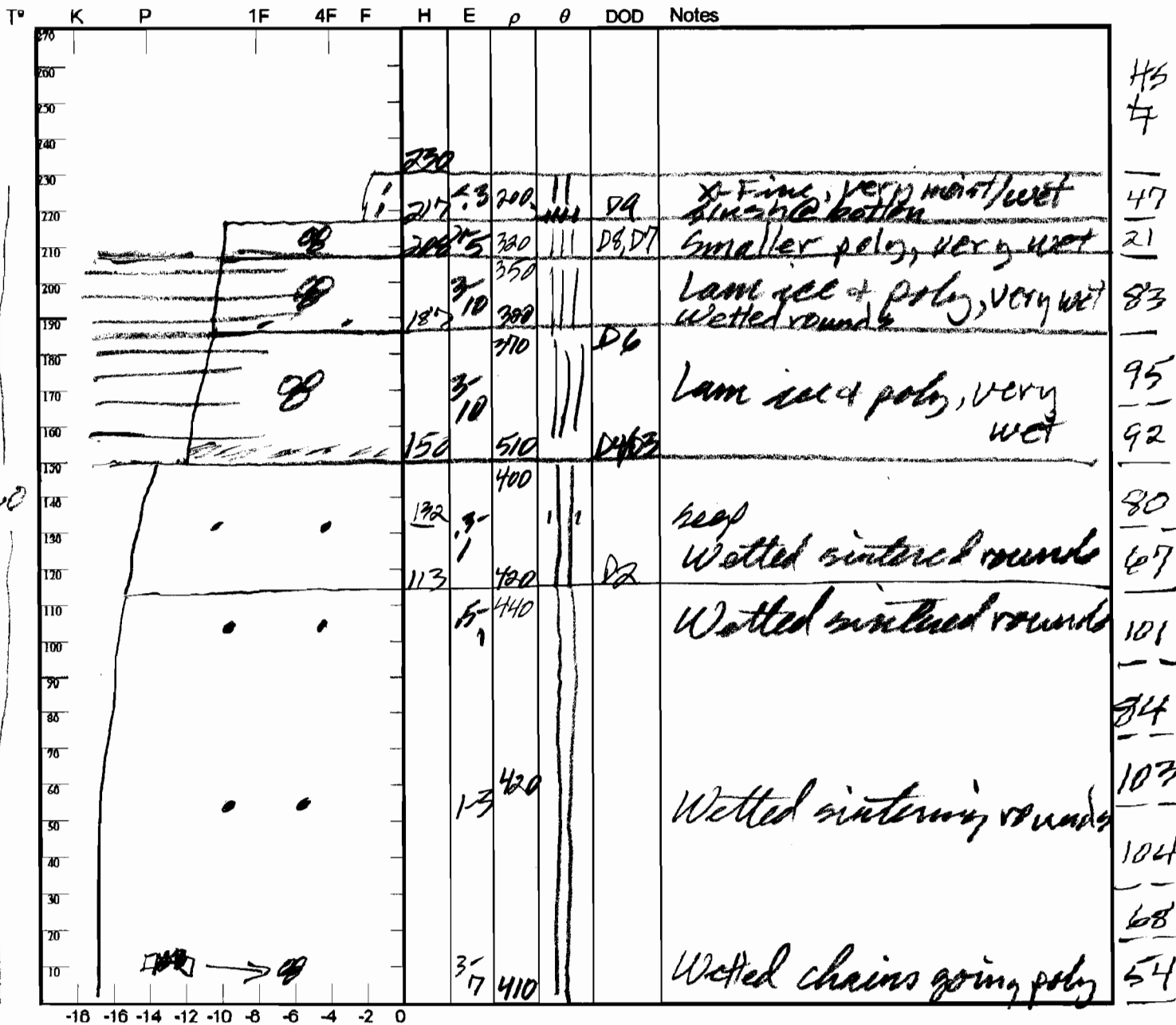
Snowpack Profile

Date: 5/23/11

Elev. 11,060' Aspect: NE Boot Pen: 14 cm  $\angle$ : 23°

Precip: S- Wind: LT/Mod Prior Pit: # 19; 5/12/11

Notes: H<sub>st</sub> = 2.36 m;  $\bar{\rho}$  = 423 kg/m<sup>3</sup>



Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2O_{Nor}} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

V. 11/20/03

Observers: CL+AT

Center for Snow and Avalanche Studies

Profile # 21

Time: 1000 MST

Snowpack Profile

Date: 6/1/11

Location: SA 47

Elev. 13,040' Aspect: NE

Boot Pen: 1520 cm L: 3°

Air T: +15°C Sky: 0

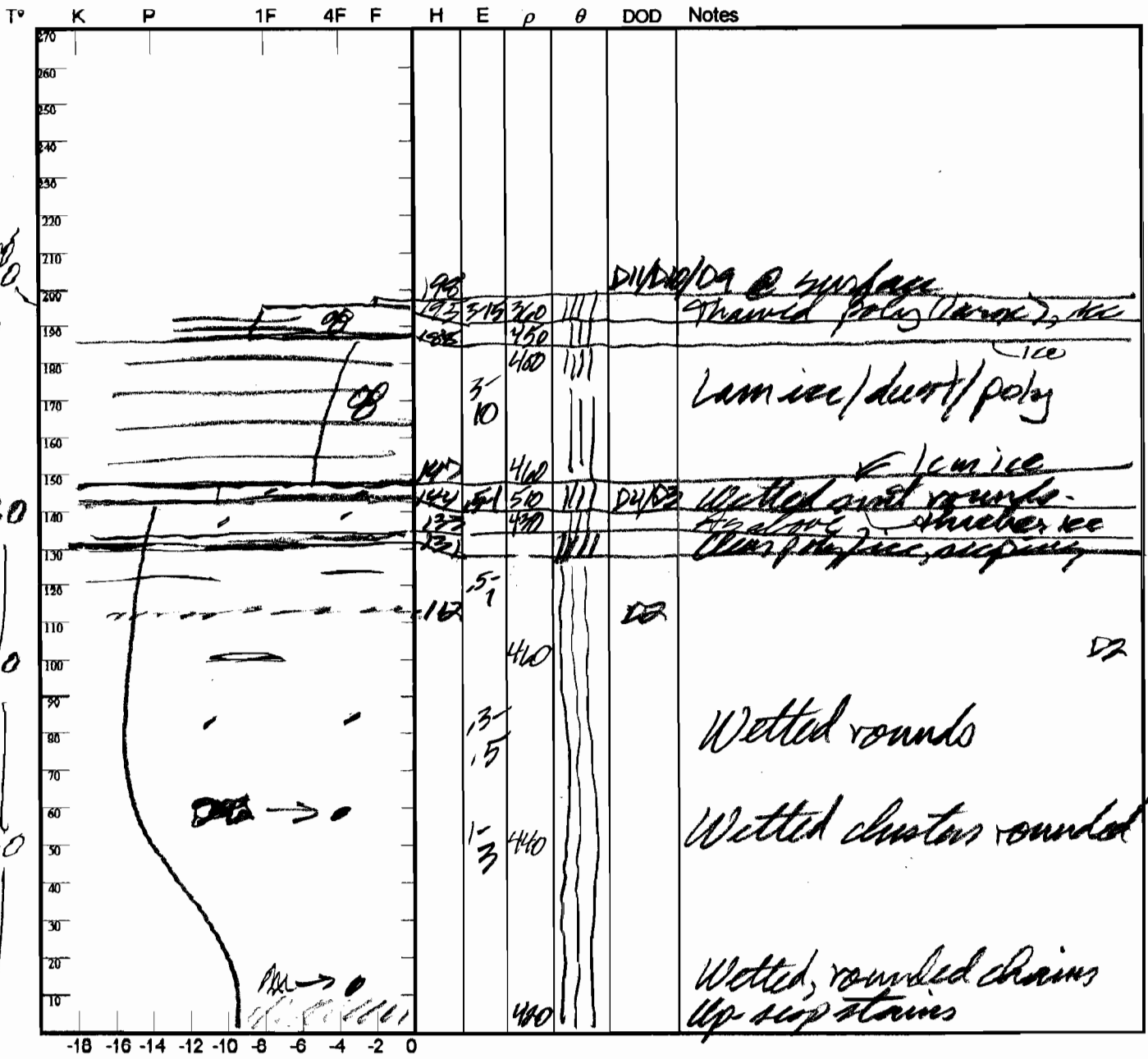
Precip: Nil

Wind: Lt

Prior Pit: # 20; 5183/11

Total Snowpack SWE: 917 mm H<sub>2</sub>O

Notes: HS 7 = 1.99 m;  $\rho = 460 \text{ kg/m}^3$



Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2ONor} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes: D11/10/a in grainometri #1; rest have super DB/D

Observers: CHAT

Center for Snow and Avalanche Studies

Profile # 22

Time: 0940

Snowpack Profile

Date: 4/7/11

Location: SBSP

Elev. 12,200'

Aspect: NE

Boot Pen: 1 cm

2.3

Air T: +4 °C

Sky: 0

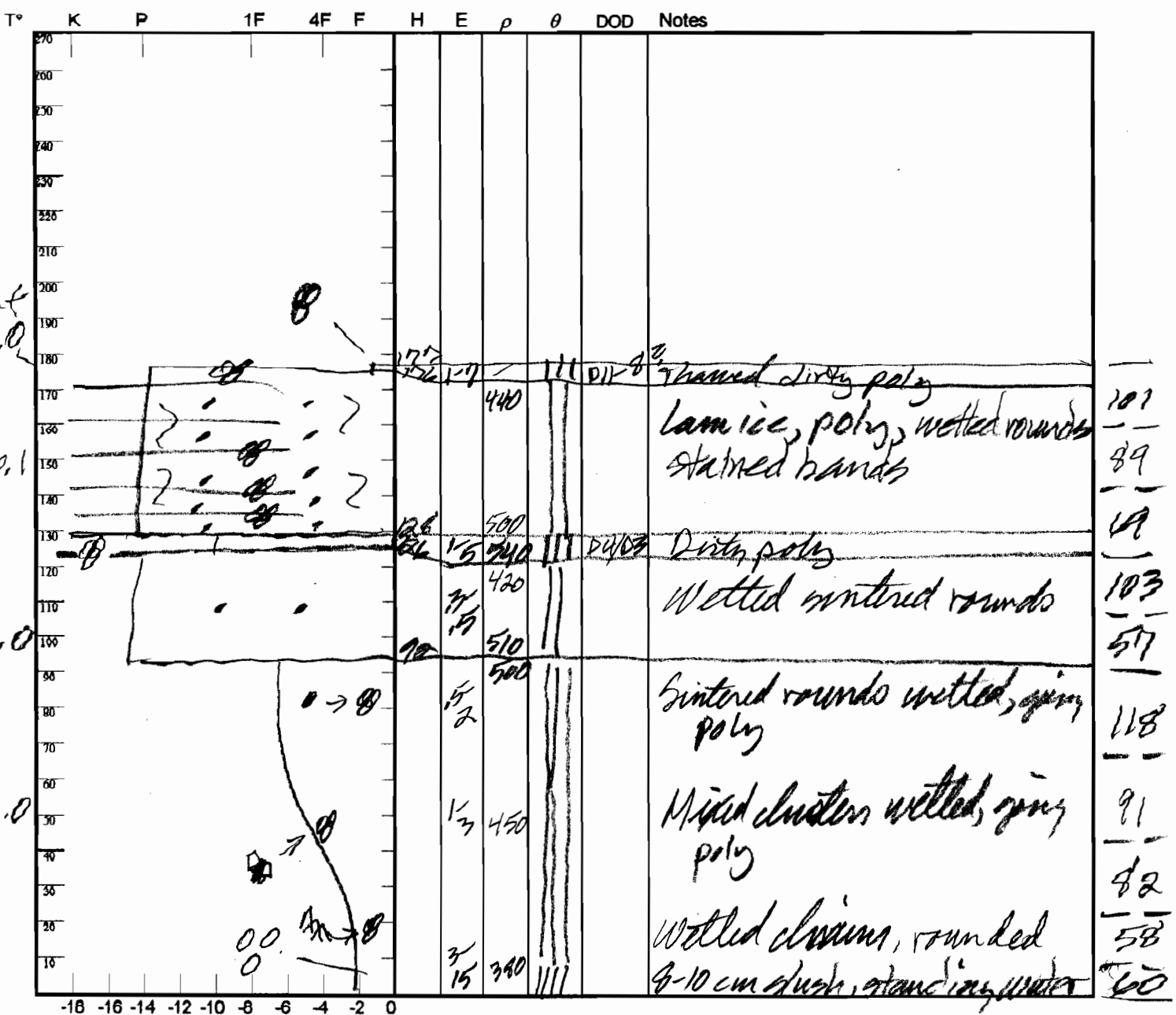
Precip: Nil

Wind: Nil

Prior Pit: # 18; 514111

Total Snowpack SWE: 226 mm H<sub>2</sub>O

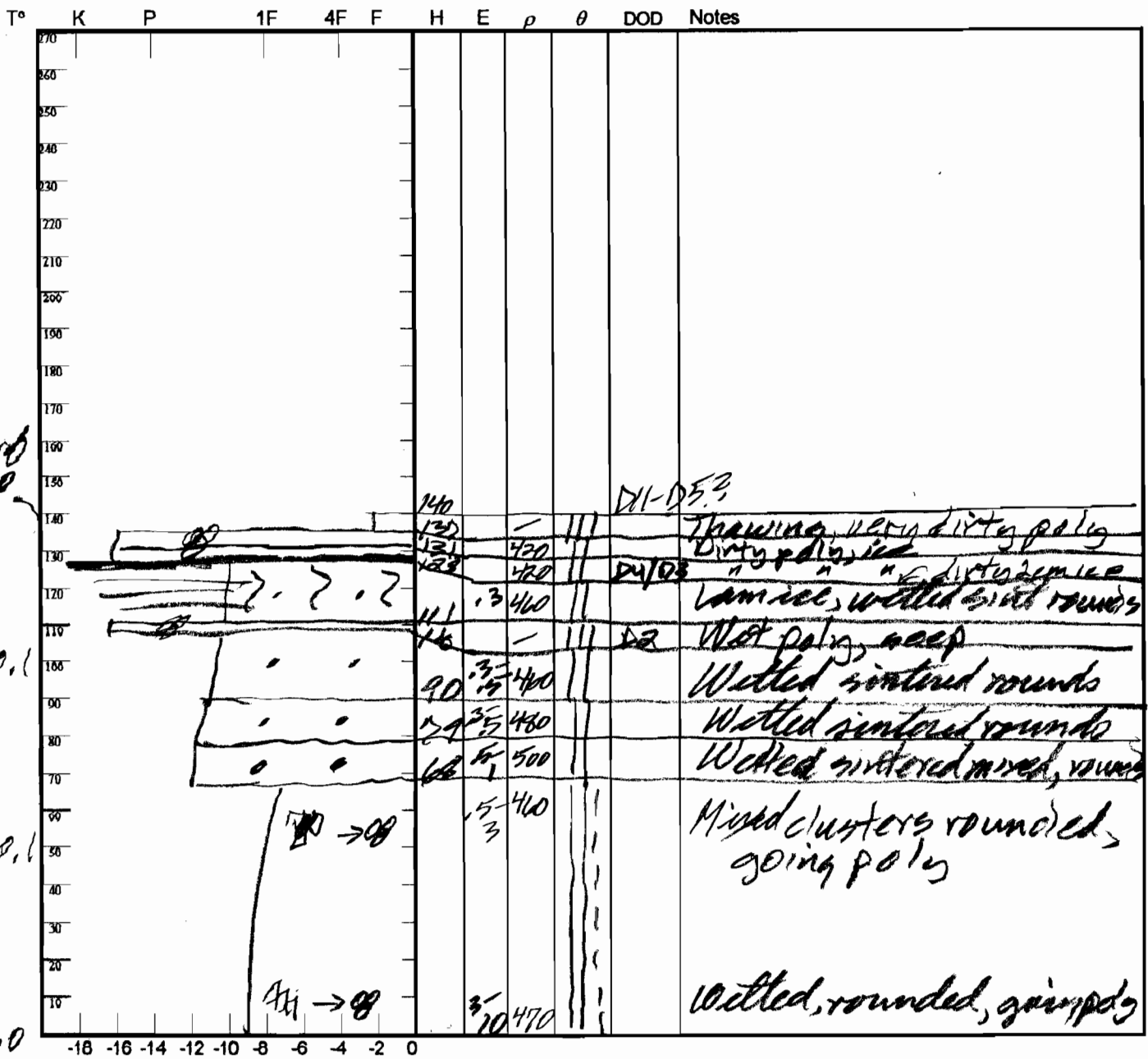
Notes: H<sub>2</sub>O = 1.76 m; ρ = 415 kg/m<sup>3</sup>



Potential Slab			Weak Layer & Bed Surface						
Ref	H <sub>2</sub> O <sub>Nor</sub> ÷ H <sub>Nor</sub> = ρ <sub>kg</sub>	Sin ∠ x H <sub>Nor</sub> x ρ x 9.8 = τ <sub>Slab</sub>	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

Observers: CL, AT Center for Snow and Avalanche Studies Profile # 23  
 Time: 0745 MST Snowpack Profile Date: 6/8/11  
 Location: SASP Elev. 11,080' Aspect: NE Boot Pen: 1 cm 2:3 °  
 Air T: +9 °C Sky: 0 Precip: Nil Wind: LT Prior Pit: # 21; 6/1/11  
 Total Snowpack SWE: 699 mm H<sub>2</sub>O Notes: H<sub>2</sub>O = 1.41 m; ρ = 496 kg/m<sup>3</sup>



SWE  
 7  
 35  
 96  
 21  
 115  
 114  
 110  
 97  
 41

Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2O_{Nor}} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =							
B	mm ÷ m =	X X X 9.8 =							

Notes:

Observers: CHAT

Center for Snow and Avalanche Studies

Profile # 24

Time: 0950

Snowpack Profile

Date: 6/14/11

Location: GASP

Elev. 11,080

Aspect: NE

Boot Pen: 3 cm

$\angle$ : 23°

Air T: 12 °C

Sky: 0

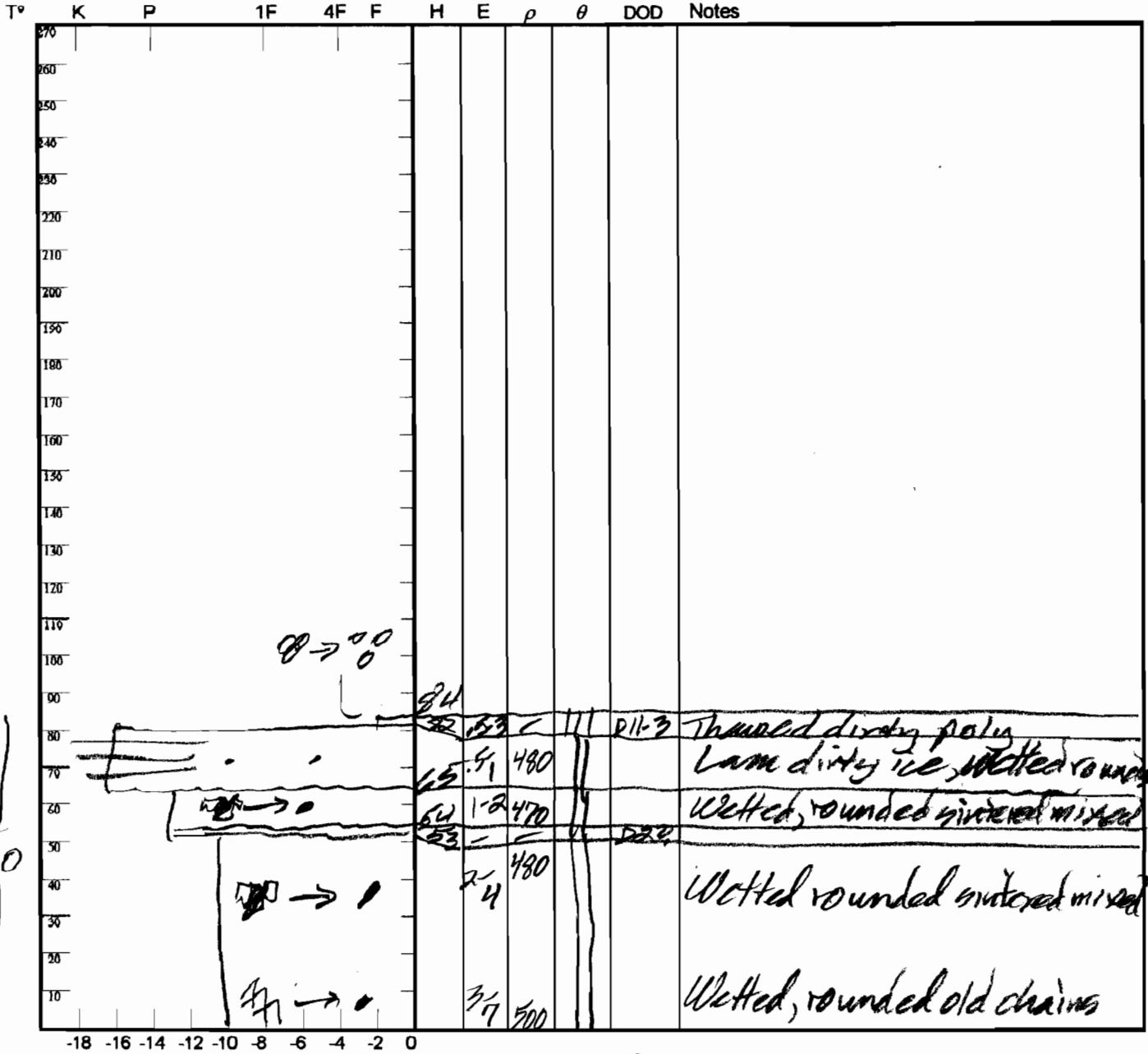
Precip: Nil

Wind: LT

Prior Pit: # 23; 6/13/11

Total Snowpack SWE: 450 mm H<sub>2</sub>O

Notes: 450 = 0.85m;  $\bar{\rho}$  = 529 kg/m<sup>3</sup>



# SWE

0.0

94

56

110

99

91

Potential Slab			Weak Layer & Bed Surface						
Ref	$H_{2ONor} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{slab}$	F	E	T <sub>WL</sub>	S	C	RB	Shear Quality
A	mm $\div$ m =	X X X 9.8 =							
B	mm $\div$ m =	X X X 9.8 =							

Notes:



Observers: CLTAT

Center for Snow and Avalanche Studies

Profile # 25

Time: 0835

Snowpack Profile

Date: 6/21/11

Location: GBSP

Elev. 13,200' Aspect: NE

Boot Pen: Var cm  $\angle$ : 23°

Air T: 14 °C Sky: 0

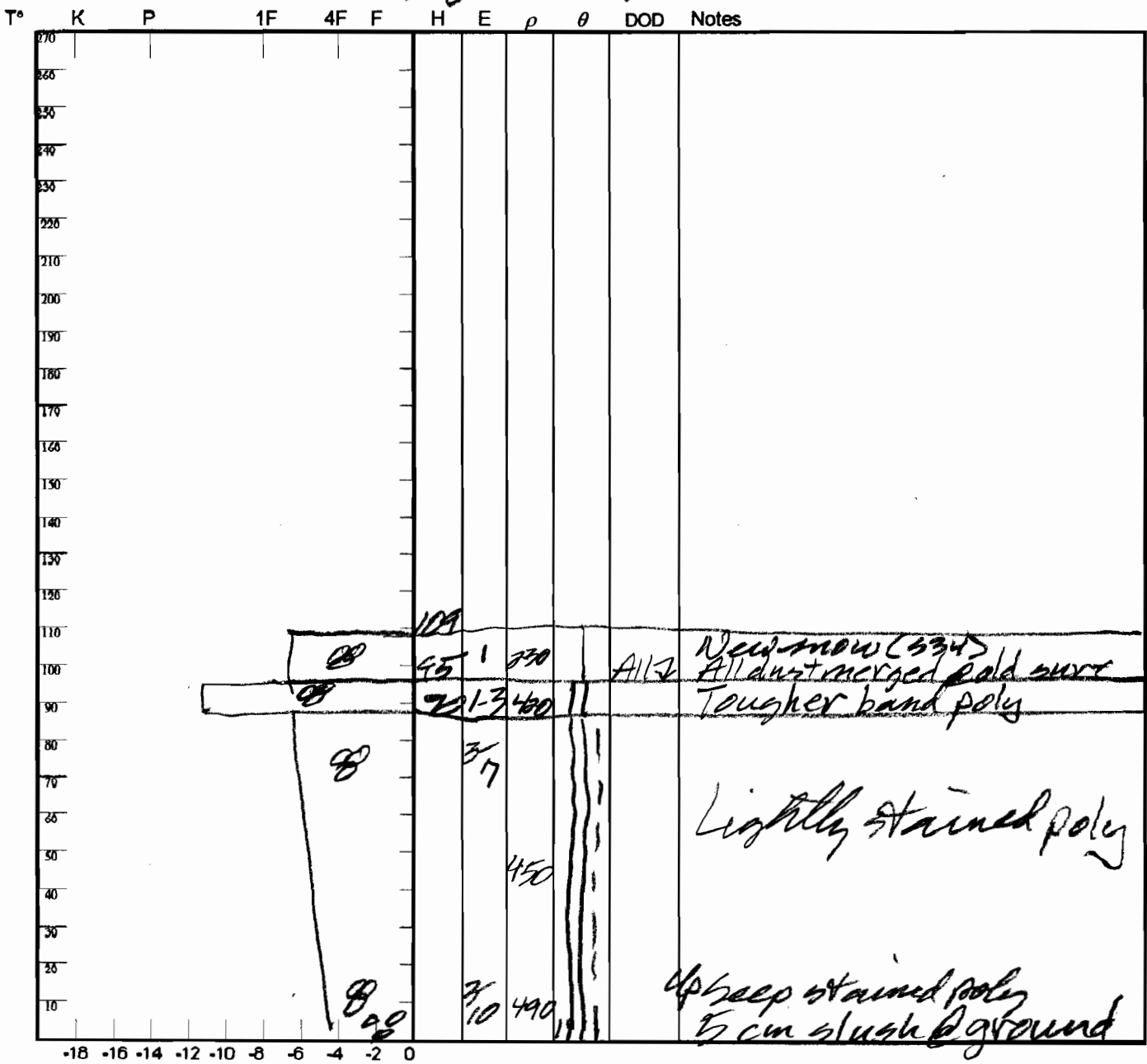
Precip: Nil Wind: lt

Prior Pit: # 22; 6/7/11

Total Snowpack SWE: 2500 mm H<sub>2</sub>O

Notes: H<sub>50</sub> = 1.10 m ;  $\bar{\rho}$  = 457 kg/m<sup>3</sup>

Old surface was deeply sun-cupped ~ 30cm deep



---  
 82  
 ---  
 94+36  
 ---  
 101  
 ---  
 85  
 ---  
 48+50

Potential Slab				Weak Layer & Bed Surface						
Ref	$H_{2ONor} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{slab}$		F	E	T <sub>wl</sub>	S	C	RB	Shear Quality
A	mm ÷ m =	X X X 9.8 =								
B	mm ÷ m =	X X X 9.8 =								

Notes: