

Observers: CL+MB

Center for Snow and Avalanche Studies

Profile # 1

Time: 1245 MST

Snowpack Profile

Date: 10/31/06

Location: SBSF

Elev. 12,200 Aspect: NE

Boot Pen: 25 cm  $\angle$ : 23°

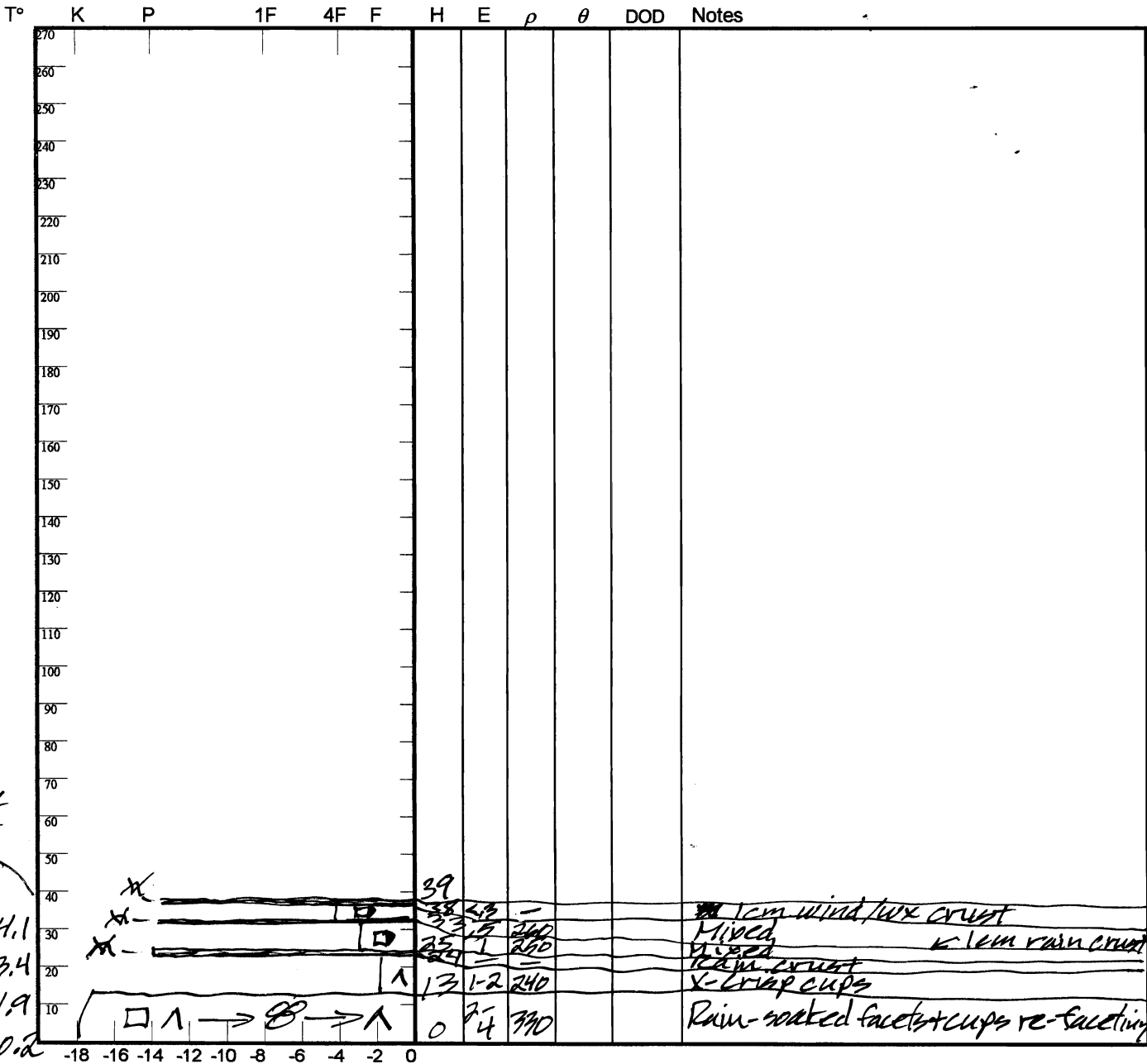
Air T: -0.5°C Sky: 0

Precip: Nil Wind: LH

Prior Pit: # —; — / — / —

Total Snowpack SWE: 101 mm H<sub>2</sub>O

Notes: H<sub>2</sub>O = 0.35 m;  $\bar{\rho}$  = 266 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: CLAMB

Center for Snow and Avalanche Studies

Profile # 2

Time: 1110

Snowpack Profile

Date: 11/1/06

Location: SASP

Elev. 11,050

Aspect: NE

Boot Pen: 20 cm

∠: 17°

Air T: +1 °C

Sky: 0

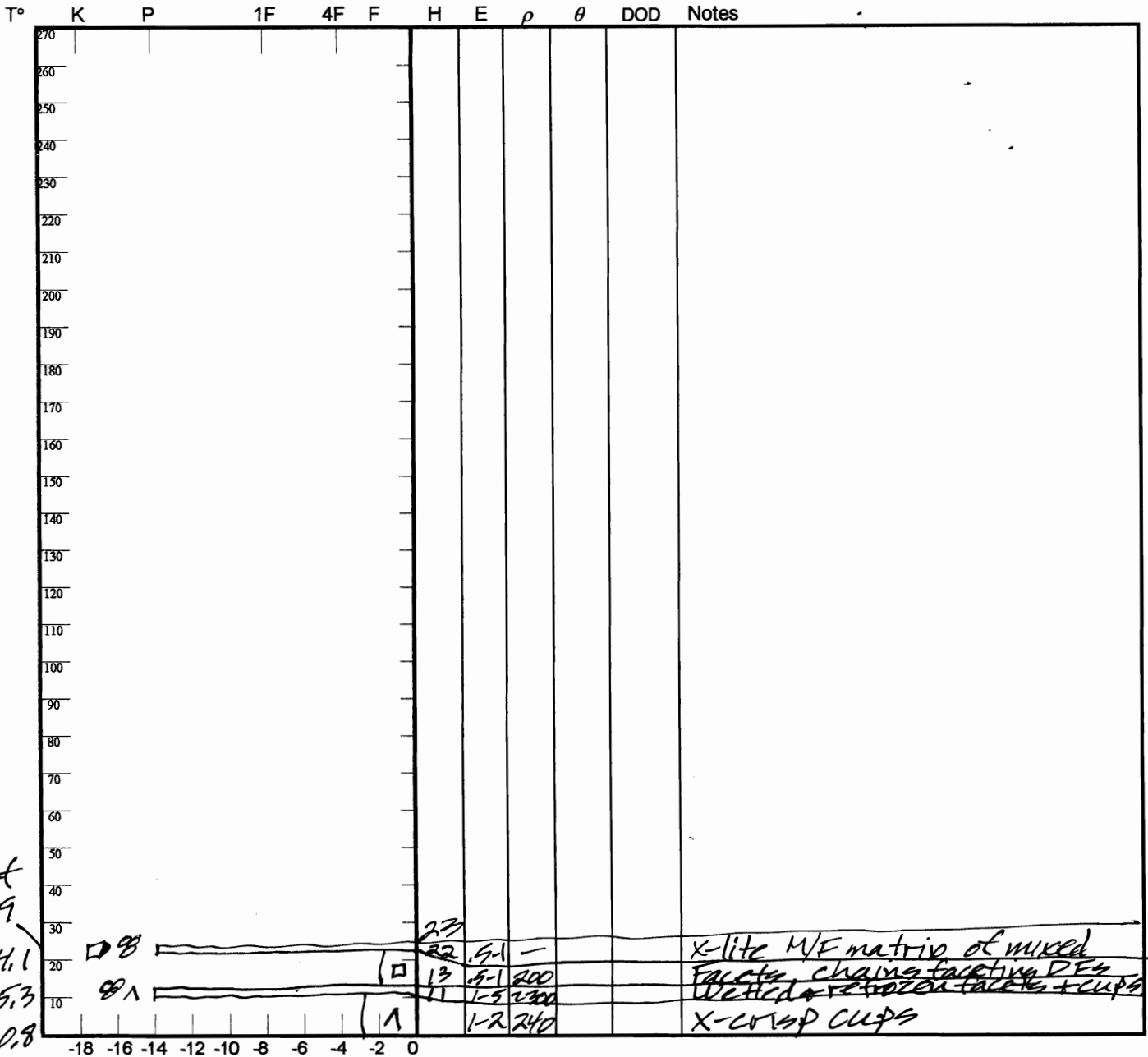
Precip: Nil

Wind: Nil

Prior Pit: # 1; 1-1-1

Total Snowpack SWE: 58 mm H<sub>2</sub>O

Notes: HS  $\eta = .21m$ ;  $\bar{\rho} = 276 kg/m^3$



Surt  
-4.9  
-4.1  
-5.3  
-0.8

7  
SWE  
58

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 # 3

Time: 1230 MST

Snowpack Profile

Date: 11/30/06

Location: SASP aux. plot

Elev. 11,050'

Aspect: NE

Boot Pen: 52 cm

∠: 4°

Air T: -7°C

Sky: 0

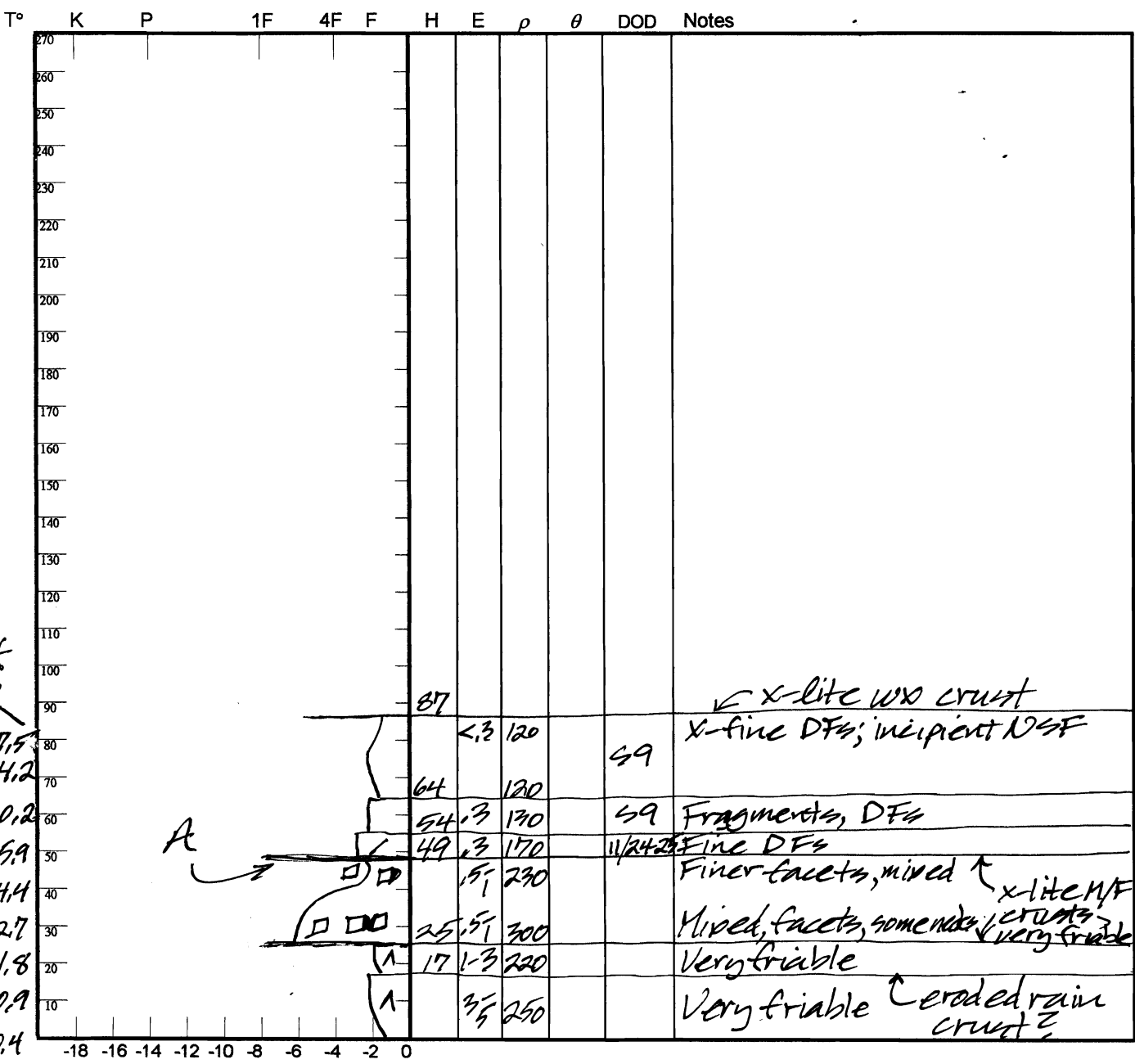
Precip: Nil

Wind: LT

Prior Pit: # 2; 11/1/06

Total Snowpack SWE: 169 mm H<sub>2</sub>O

Notes: \_\_\_\_\_



Surf  
-16.0  
-17.5  
-14.2  
-10.2  
-5.9  
-4.4  
-2.7  
-1.8  
-0.9  
-0.4

7  
SWE  
28  
17  
60  
64

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	$45 \text{ mm} \div 36 \text{ m} = 118$	X X X 9.8 =								
B	$\text{mm} \div \text{m} =$	X X X 9.8 =								

Notes: 5-0.95 lb ramdrops @ 0.32-0.33 cm

Observers: CL+MB

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Profile # 4

Time: 1225

Snowpack Profile

Date: 12/4/06

Location: SBSP

Elev. 12,200' Aspect: NE

Boot Pen: 7 cm  $\angle$ : 3°

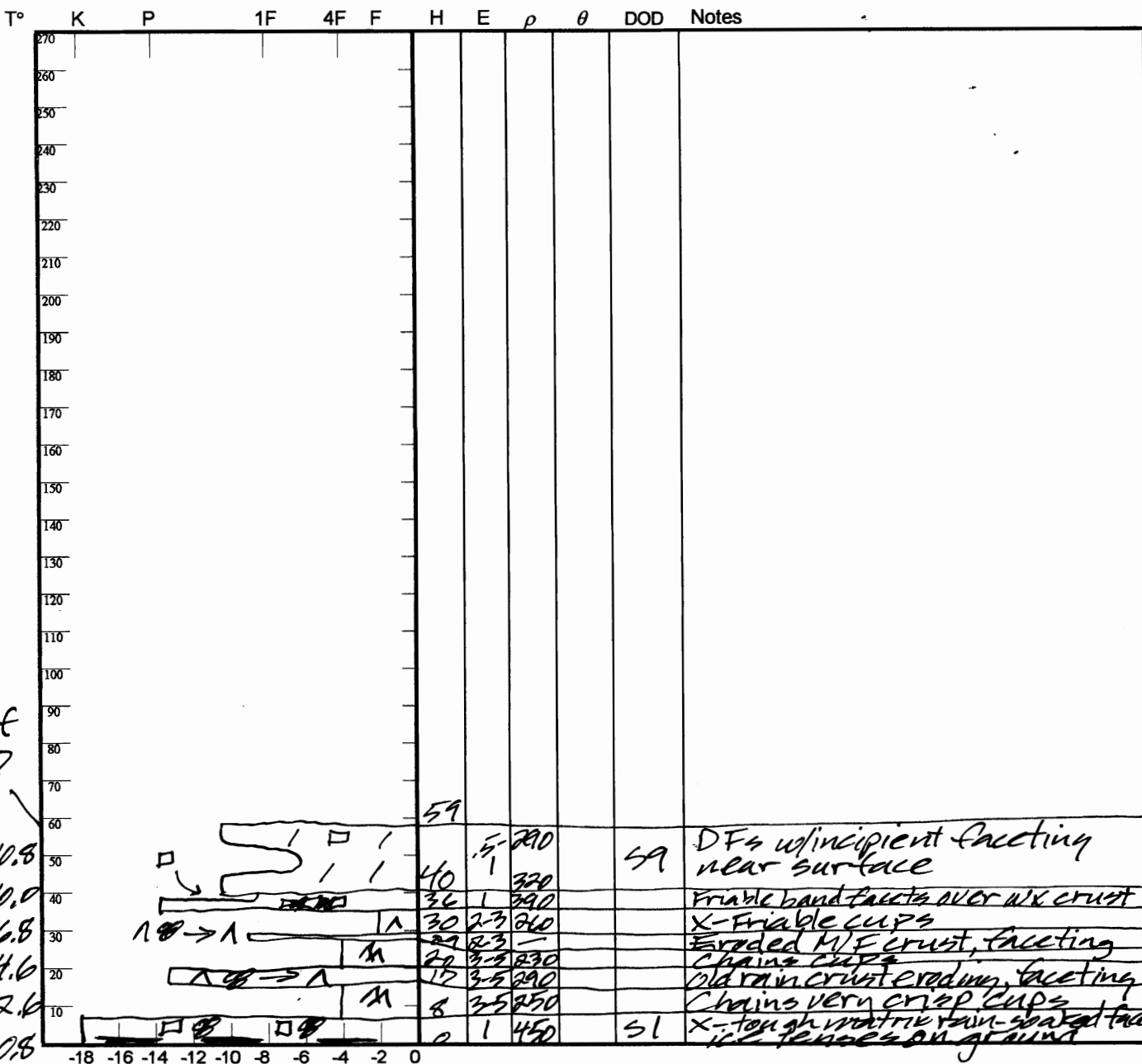
Air T: -1 °C Sky: 0

Precip: Nil Wind: Nil

Prior Pit: # 1; 10/31/06

Total Snowpack SWE: 167 mm H<sub>2</sub>O

Notes: Hst = 0.60;  $\rho$  = 278 kg/m<sup>3</sup>



4 SWE

49  
15  
70  
33

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 $\div$ m =	X X X 9.8 =								
B	mm $\div$ m =	X X X 9.8 =								

Notes:

Observers: CL+AB

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Profile # 5

Time: 1110

Snowpack Profile

Date: 11/1/07

Location: SASP-East

Elev. 11,050'

Aspect: NE

Boot Pen: 22 cm

$\angle$ : 5°

Air T: 0 °C

Sky: D

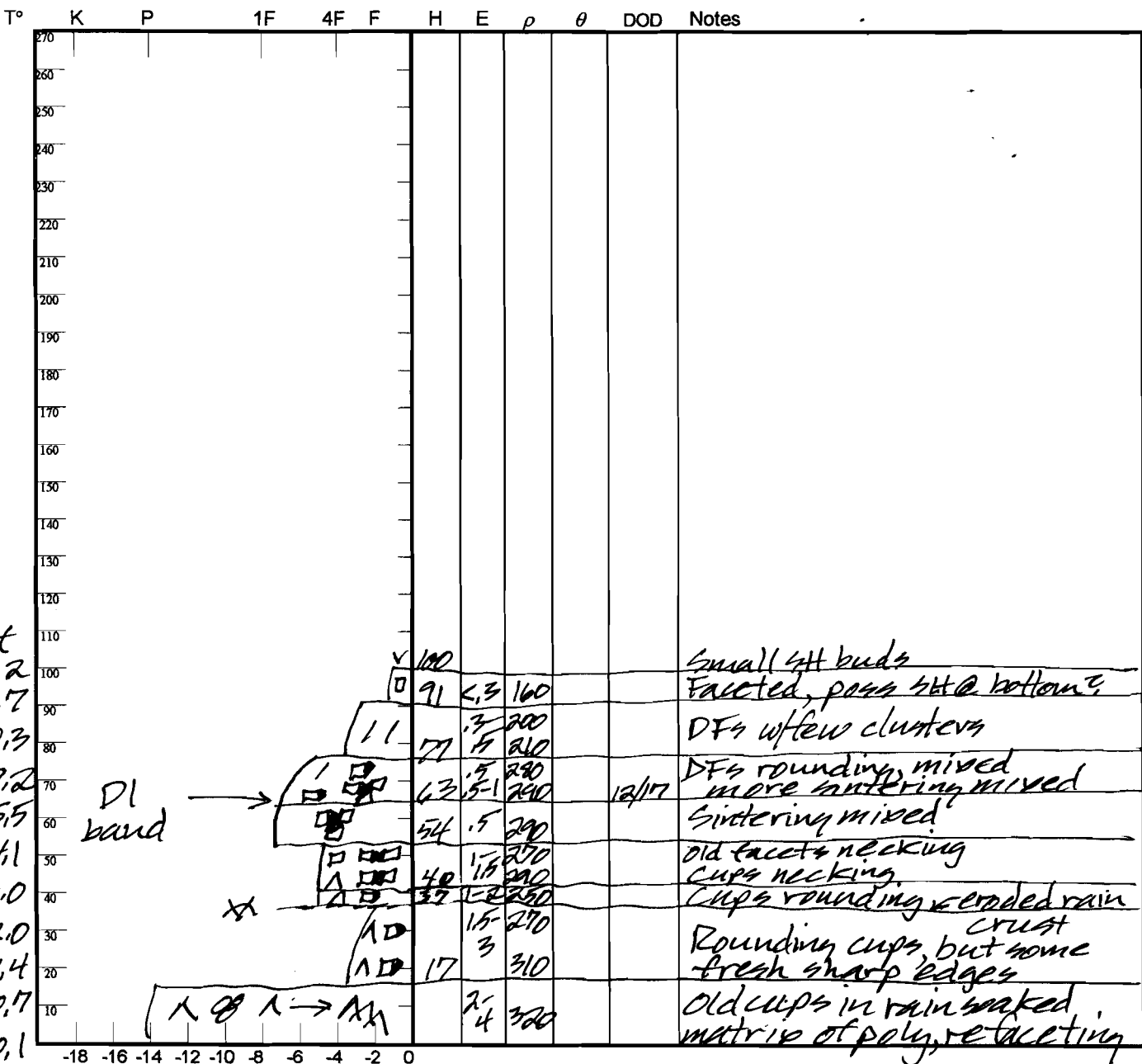
Precip: Nil

Wind: Nil

Prior Pit: # 3; 21/30/06

Total Snowpack SWE: 267 mm H<sub>2</sub>O

Notes: H<sub>s</sub> = 1.02;  $\bar{\rho}$  = 262 kg/m<sup>3</sup>



7  
SWE

40

37

27

53

66

44

Sweat  
-7.2  
-11.7  
-10.3  
-7.2  
-5.5  
-4.1  
-3.0  
-2.0  
-1.4  
-0.7  
-0.1

DL band

XX

1 0 1 → XX

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:

Observers: CLAMB

Center for Snow and Avalanche Studies

Profile # 6

Time: 1355

Snowpack Profile

Date: 11/1/07

Location: SBSP

Elev. 12,280' Aspect: NE

Boot Pen: Var cm  $\angle$ : 4°

Air T: -3°C Sky: ☉

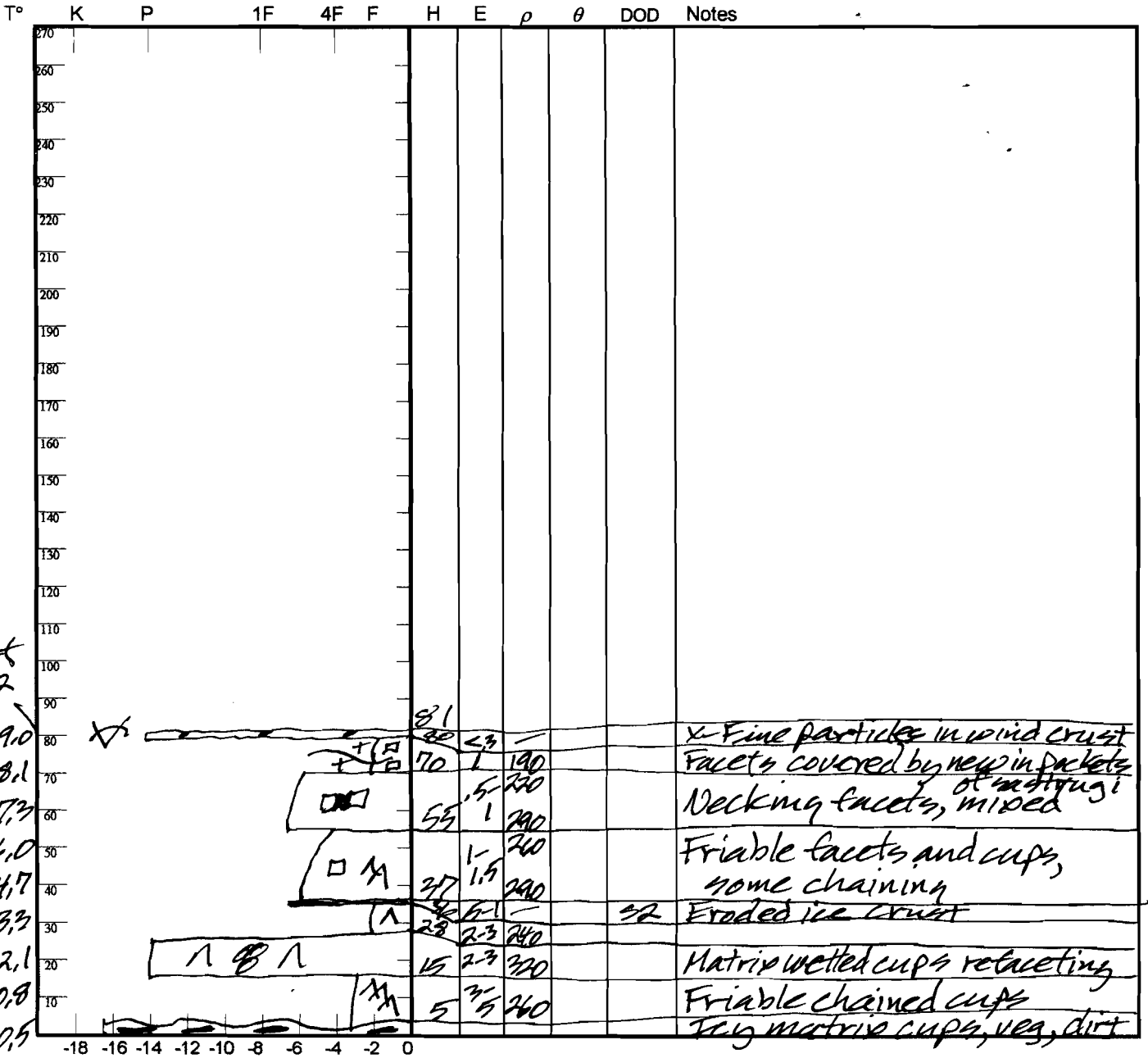
Precip: Nil

Wind: LF

Prior Pit: # 4; 124106

Total Snowpack SWE: 215 mm H<sub>2</sub>O

Notes:  $H_s/H = 0.79$ ;  $\rho = 252 \text{ kg/m}^3$



Handwritten 'SWE' and other symbols on the right margin.

Handwritten '170' on the right margin.

Handwritten '56' on the right margin.

Handwritten '89' on the right margin.

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	TWL	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: CL+MB

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Profile # 7

Time: 1335

Snowpack Profile

Date: 1/29/07

Location: SBSP

Elev. 12,200'

Aspect: NE

Boot Pen: 20 cm

∠: 3°

Air T: -6 °C

Sky: O

Precip: Nil

Wind: Lt

Prior Pit: # 6; 1/1/07

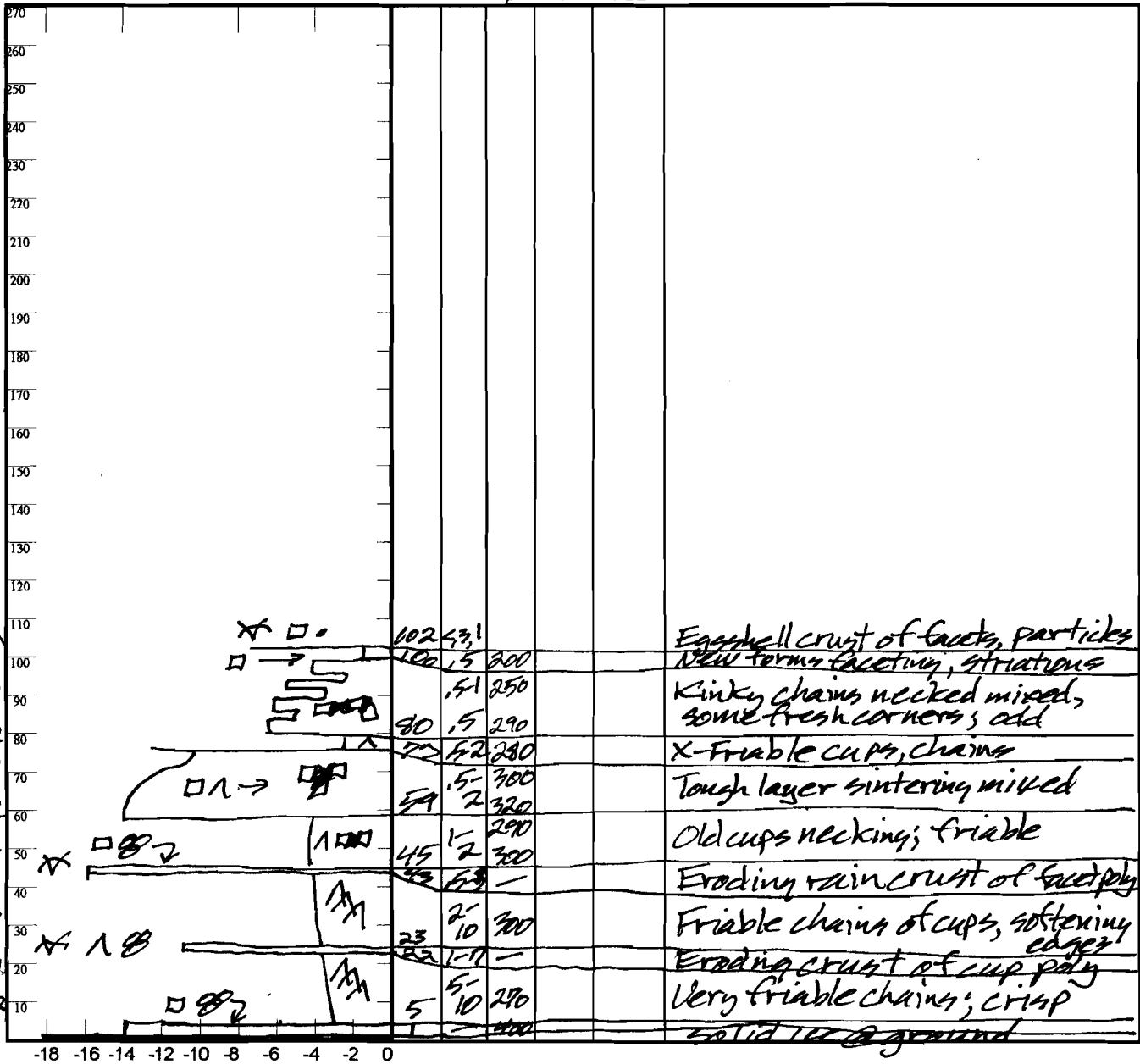
Total Snowpack SWE: 301 mm H<sub>2</sub>O

Notes:  $H_s/H = 0.98$ ;  $\rho = 307 \text{ kg/m}^3$

No Dust #1 layer present.

T° K P 1F 4F F H E ρ θ DOD Notes

Quot -10.6  
-11.0  
-12.0  
-10.2  
-9.7  
-7.2  
-5.6  
-4.9  
-3.8  
-3.0  
-2.2  
-0.8



7  
SWE  
62  
63  
47  
58  
71

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+MB

Center for Snow and Avalanche Studies

Profile # 8

Time: 1035

Snowpack Profile

Date: 1/30/07

Location: GAAP

Elev. 11,040' Aspect: NE

Boot Pen: 22 cm  $\angle$ : 3°

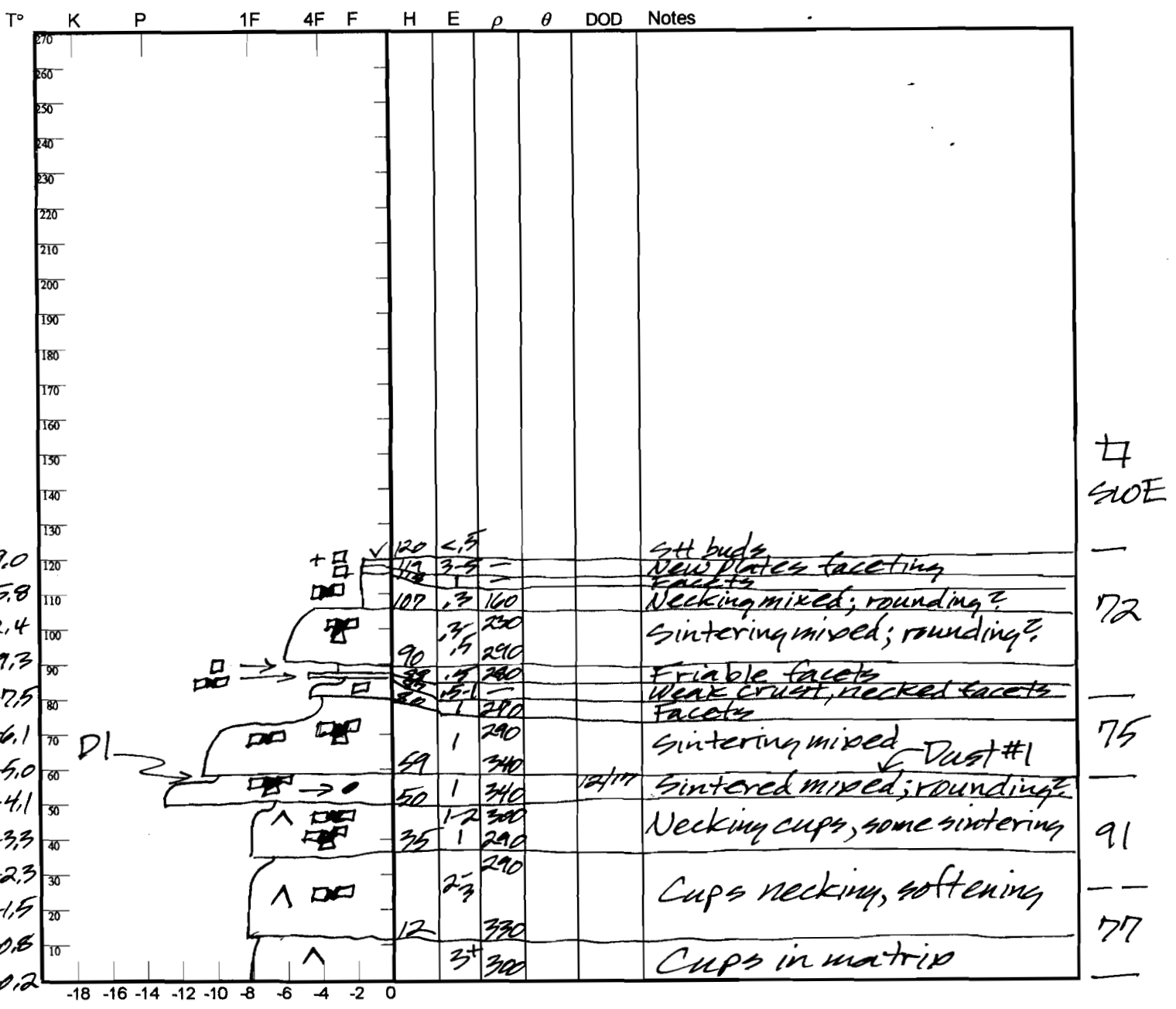
Air T: -2°C Sky: D

Precip: Nil<sup>+</sup> Wind: Lt

Prior Pit: # 5; 11107

Total Snowpack SWE: 315 mm H<sub>2</sub>O

Notes: H<sub>2</sub>O = 1.18;  $\rho = 247$  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, MB, SS

Center for Snow and Avalanche Studies

Profile # 9

Time: 1145

Snowpack Profile

Date: 3/5/07

Locat on: SBSP

Elev. 12,200'

Aspect: NE

Boot Pen: 0-10 cm

$\angle$ : 3 °

Air T +8 °C

Sky: ⊙

Precip: Nil

Wind: Nil

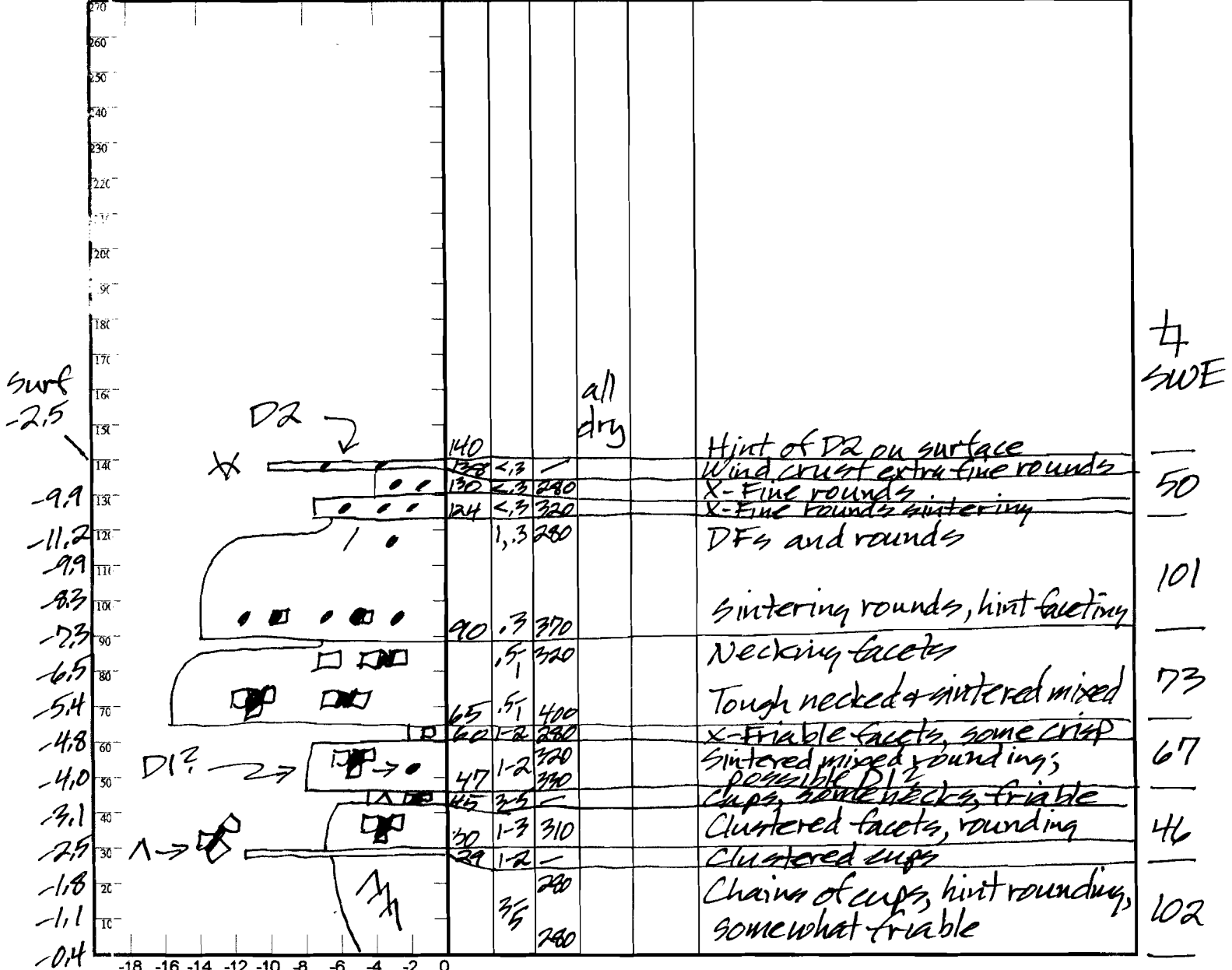
Prior Pit: # 7; 1/29/07

Total Snowpack SWE: 439 mm H<sub>2</sub>O

Notes: HST = 1,40 m;  $\bar{\rho} = 314$  kg/m<sup>3</sup>

Highly variable D2 exposure in alpine terrain.

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 $\div$ m =	X X X 9.8 =								
B	mm $\div$ m =	X X X 9.8 =								

Notes:

Observers: CL, MB, SS

Center for Snow and Avalanche Studies

Profile # 10

Time: 1430

Snowpack Profile

Date: 3/5/07

Locat on: SASP

Elev. 11,050'

Aspect: NE

Boot Pen: 20 cm

∠: 3°

Air T +9 °C

Sky: DD cirrus

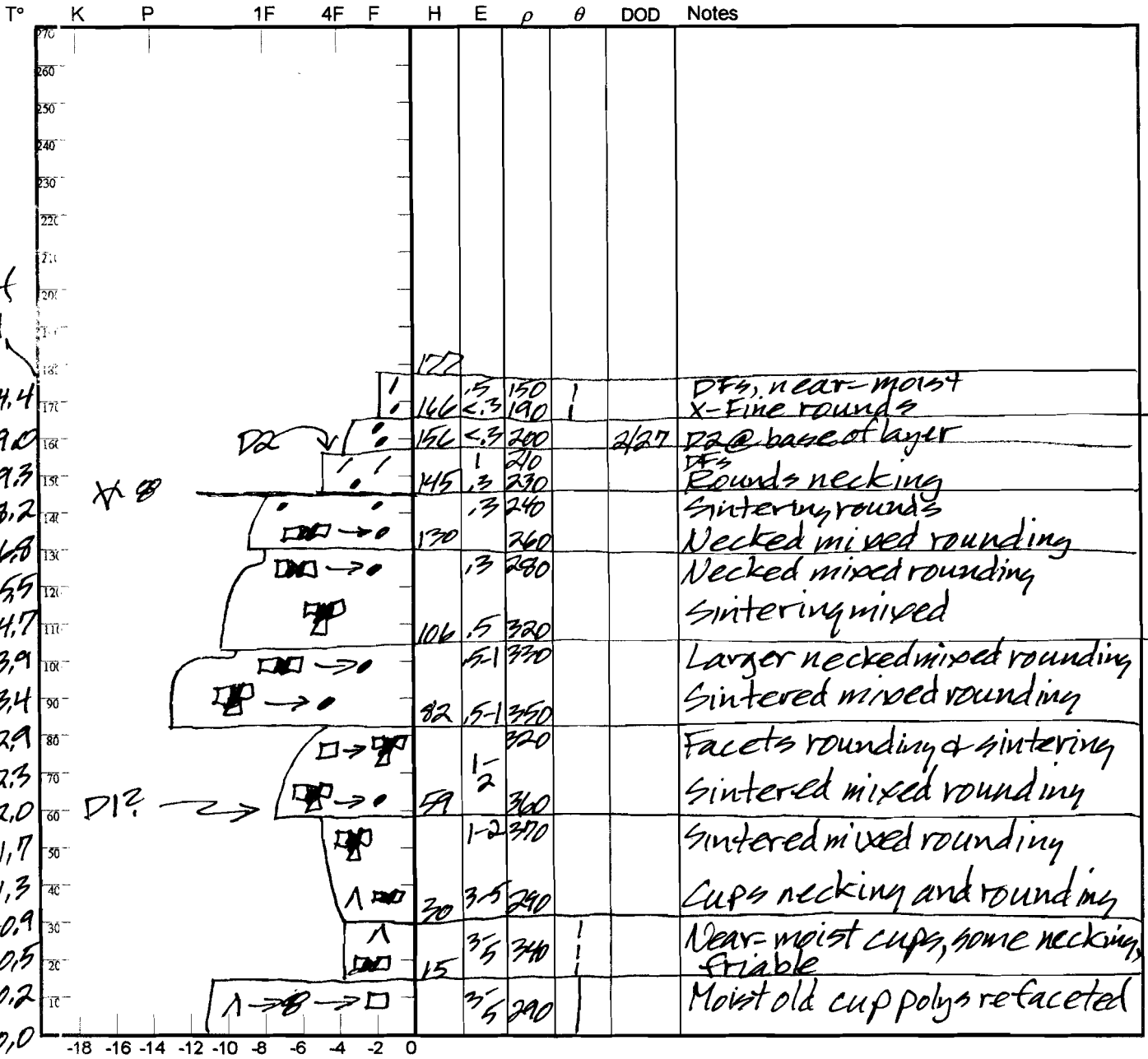
Precip: Nil

Wind: Nil

Prior Pit: # 8; 1130/07

Total Snowpack SWE: 499 mm H<sub>2</sub>O

Notes: H<sub>s</sub>t = 1.73; ρ = 288 kg/m<sup>3</sup>



7  
 SWE  
 37  
 41  
 68  
 91  
 65  
 94  
 83

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+MB

Center for Snow and Avalanche Studies

Profile # 11

Time: 1030 MST

Snowpack Profile

Date: 3/12/07

Locat on: SBSP

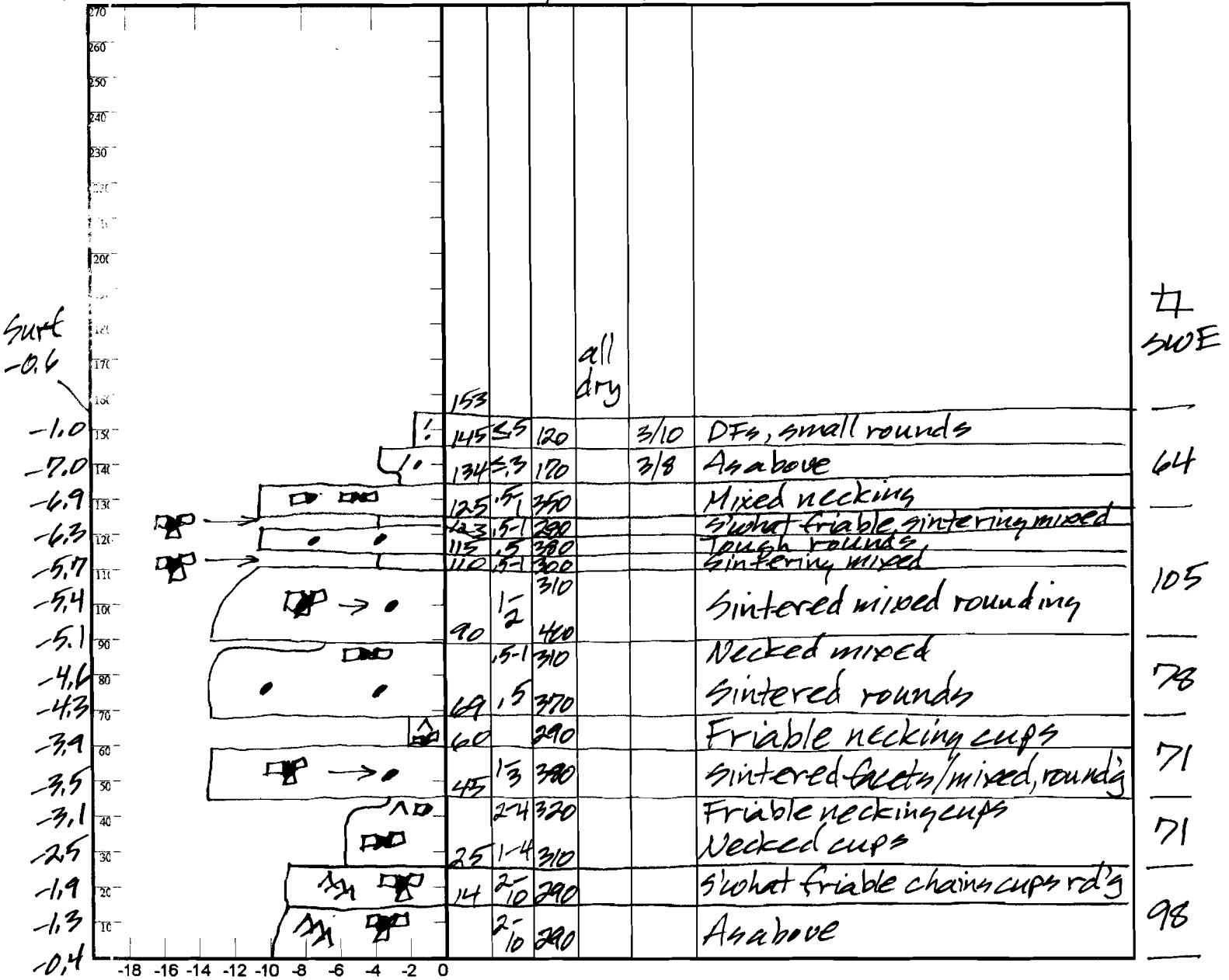
Elev. 12,200' Aspect: NE Boot Pen: 5 cm  $\angle$ : 3°

Air T +8 °C Sky: 0 Precip: Nil Wind: Nil Prior Pit: # 9; 3/5/07

Total Snowpack SWE: 487 mm H<sub>2</sub>O Notes: H<sub>2</sub>O = 1.57;  $\rho$  = 310 kg/m<sup>3</sup>

No D2 visible in this pit.

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 $\div$ m =	x x x 9.8 =							
B	mm $\div$ m =	x x x 9.8 =							

Notes:

Observers: CL+MB

Center for Snow and Avalanche Studies

Profile # 12

Time: 1400 MST

Snowpack Profile

Date: 3/12/07

Locat on: SASP

Elev. 11,050'

Aspect: NE

Boot Pen: 13 cm

$\angle$ : 3°

Air T +11 °C

Sky: 0

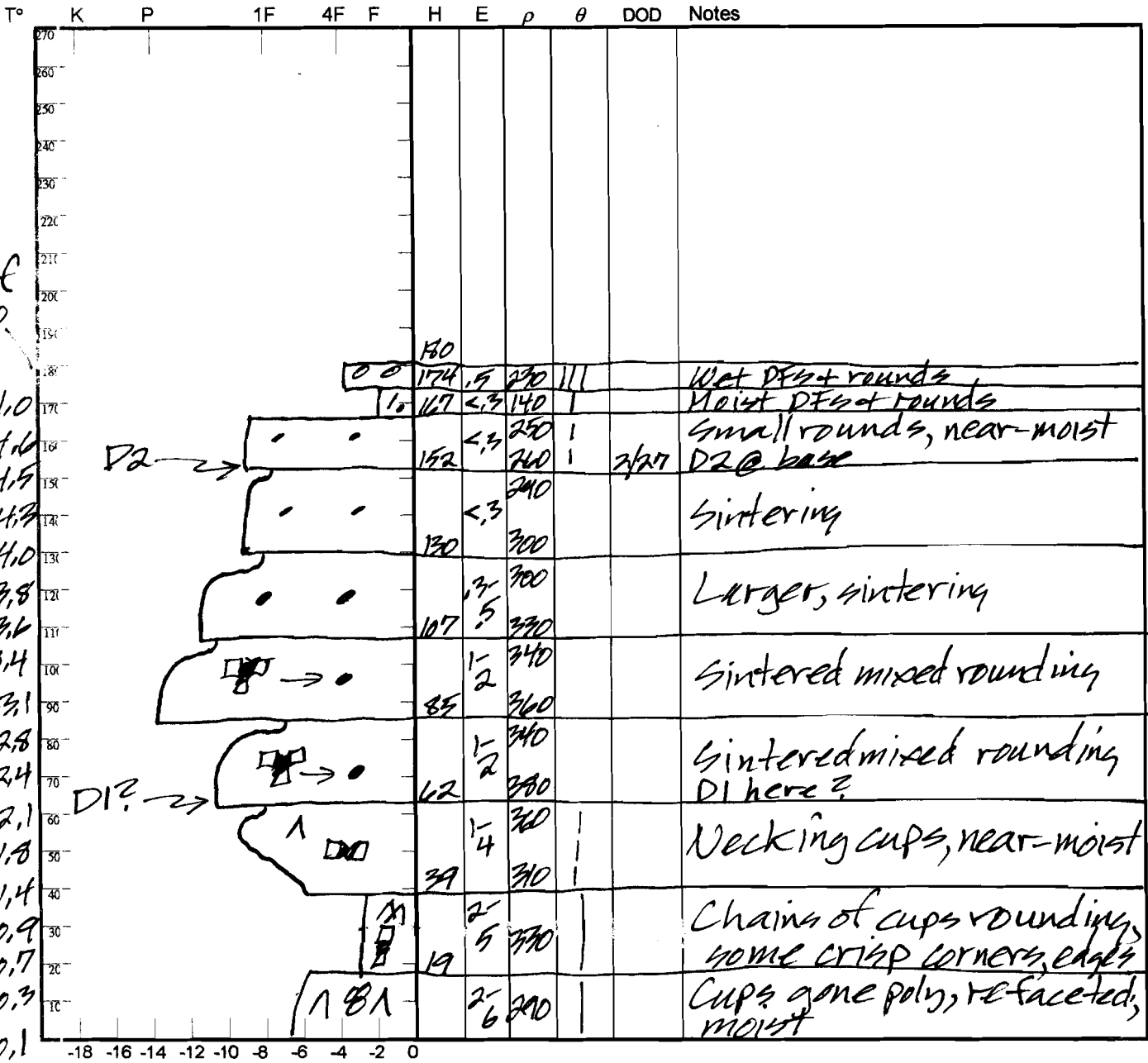
Precip: Nil

Wind: Nil

Prior Pit: # 10; 3/5/07

Total Snowpack SWE: 523 mm H<sub>2</sub>O

Notes: HST = 1.73;  $\bar{\rho}$  = 302 kg/m<sup>3</sup>



Surf SWE

Surf 0.0

D2 →

D1? →

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+MB

Center for Snow and Avalanche Studies

Profile # 13

Time: 0950 MST

Snowpack Profile

Date: 3/19/07

Locat on: SBSP

Elev. 12200'

Aspect: NE

Boot Pen: 0-2 cm

∠: 4°

Air T +9 °C

Sky: 0

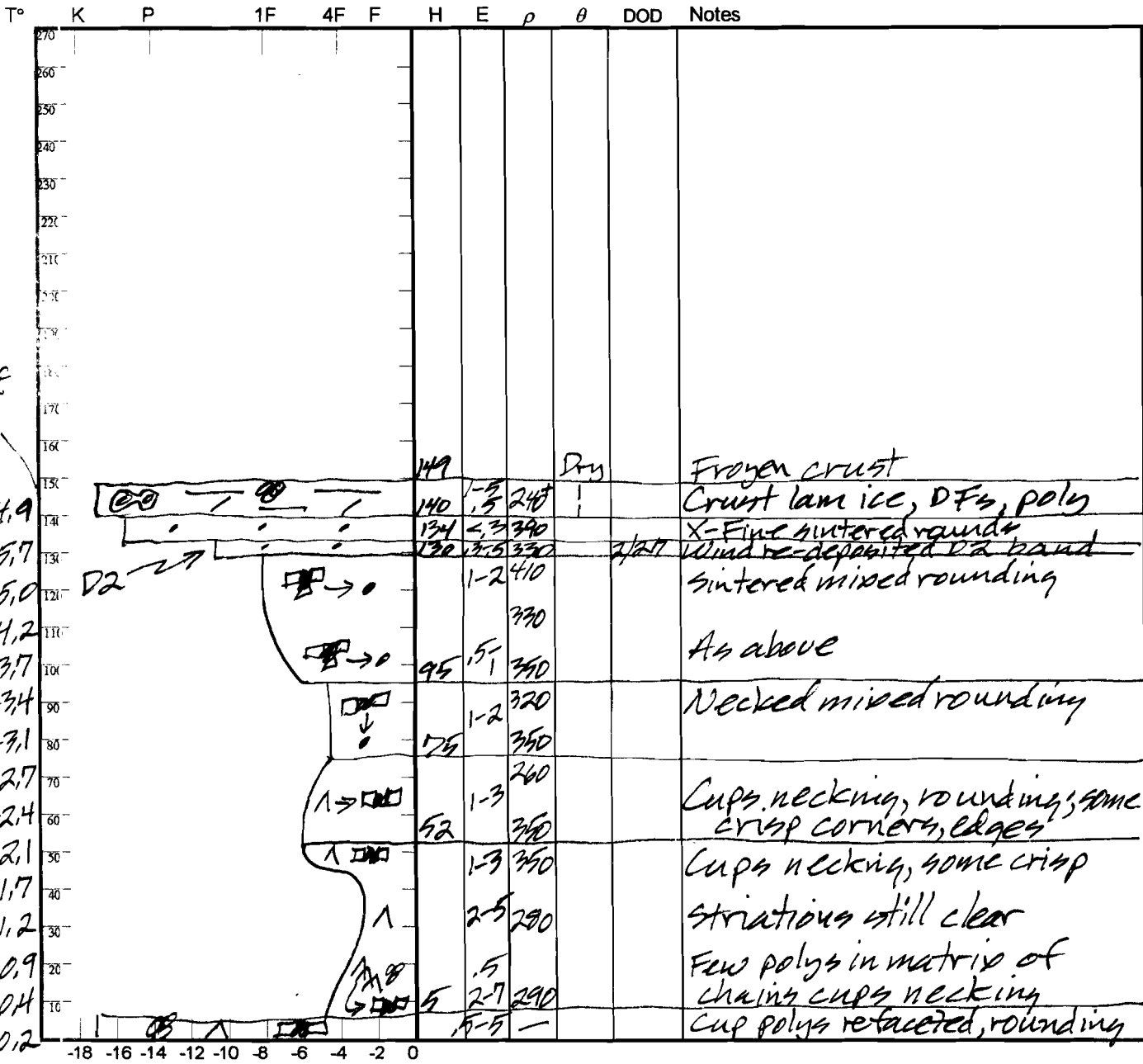
Precip: Nil

Wind: Nil

Prior Pit: # 11; 3/12/07

Total Snowpack SWE: 463 mm H<sub>2</sub>O

Notes: Hs ∠ = 1.43 ; ρ = 324 kg/m<sup>3</sup>



SWRF  
-0.1

∠  
SWE

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: CL4MB

Center for Snow and Avalanche Studies

Profile # 14

Time: 1230 MST

Snowpack Profile

Date: 3/19/07

Locat on: HA5P

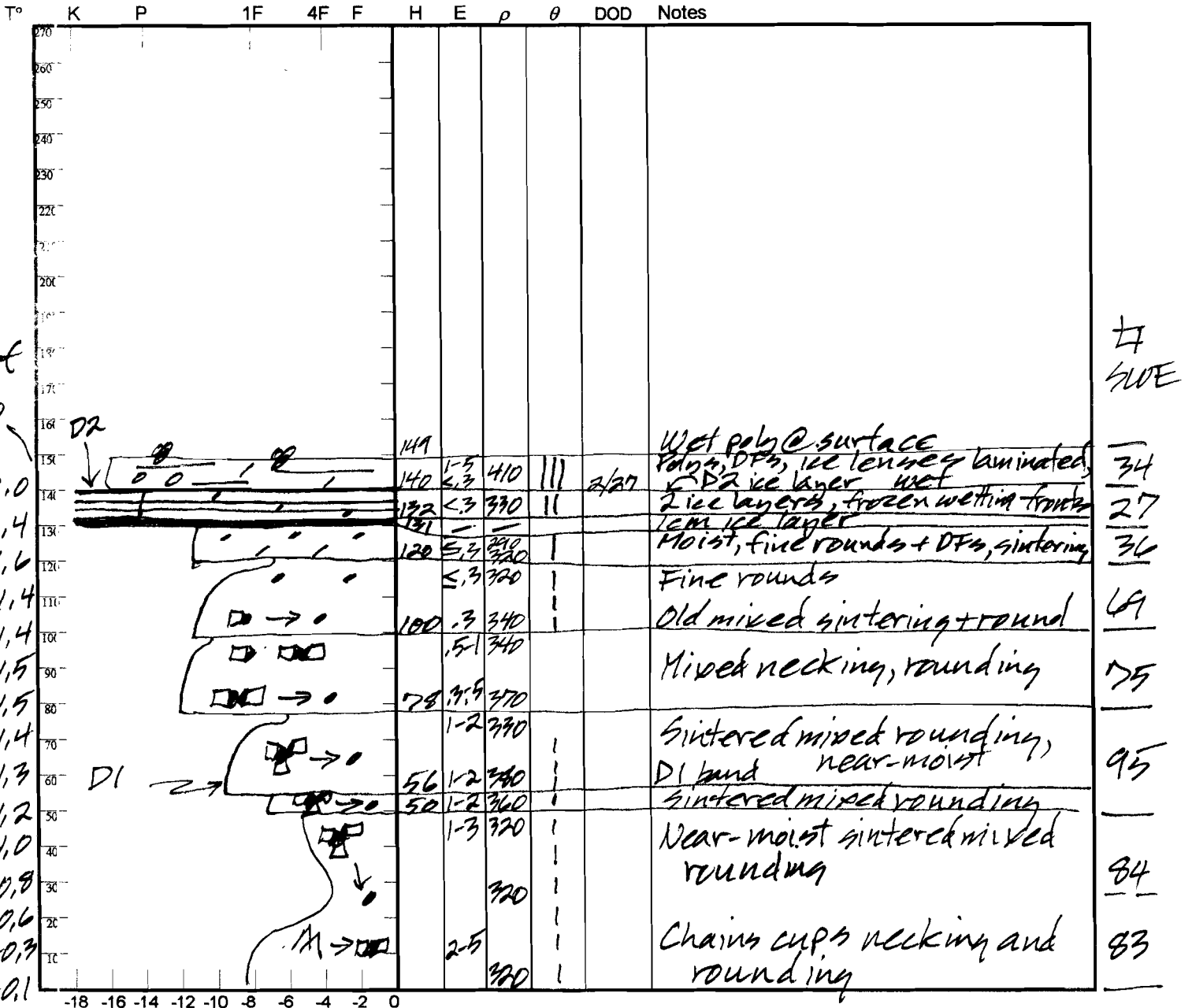
Elev. 11,050' Aspect: NE Boot Pen: 3 cm  $\angle$ : 2°

Air T +7°C Sky: DD

Precip: Occ 91 Wind: L4 Prior Pit: # 12; 3/12/07

Total Snowpack SWE: 503 mm H<sub>2</sub>O

Notes: HST = 1.51;  $\rho = 333$  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 $\div$ m =	X X X 9.8 =							
B	mm $\div$ m =	X X X 9.8 =							

Notes:

Observers: CLM6

Center for Snow and Avalanche Studies

Profile # 15

Time: 0925 MST

Snowpack Profile

Date: 3/26/07

Locat on: SBSP

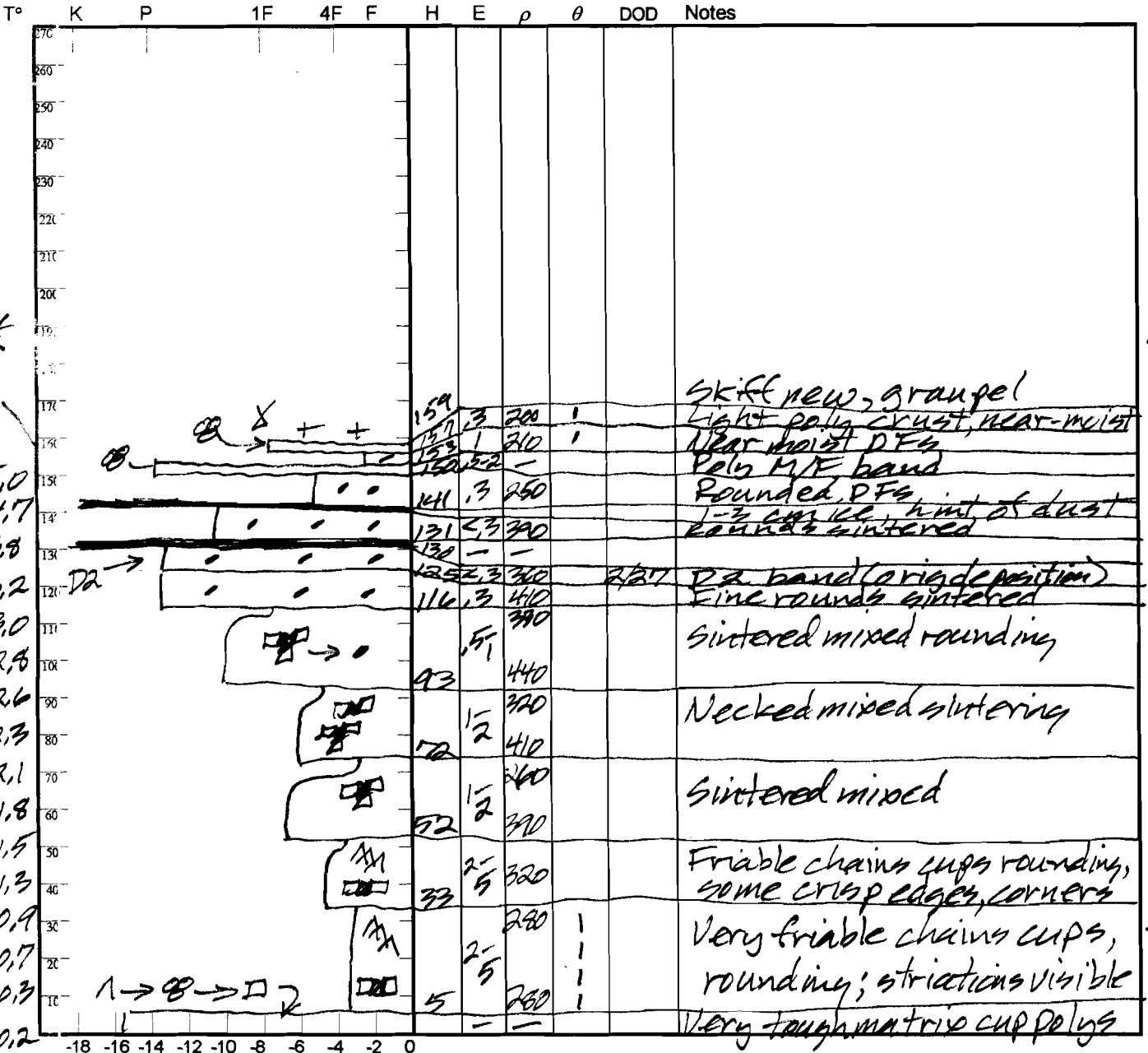
Elev. 12,200' Aspect: NE Boot Pen: 10 cm  $\angle$ : 5°

Air T +2 °C Sky: 0

Precip: Nil Wind: 4 NE Prior Pit: # 13; 3/19/07

Total Snowpack SWE: 504 mm H<sub>2</sub>O

Notes: HS  $t = 1.59m$ ;  $\rho = 317 kg/m^3$



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 $\div$ m =	X X X 9.8 =								
B	mm $\div$ m =	X X X 9.8 =								

Notes:

Observers: CL+MG

Center for Snow and Avalanche Studies

Profile # 16

Time: 1230 MST

Snowpack Profile

Date: 3/26/07

Locat on: SASP

Elev. 14,050' Aspect: NE Boot Pen: 5 cm  $\angle$ : 3°

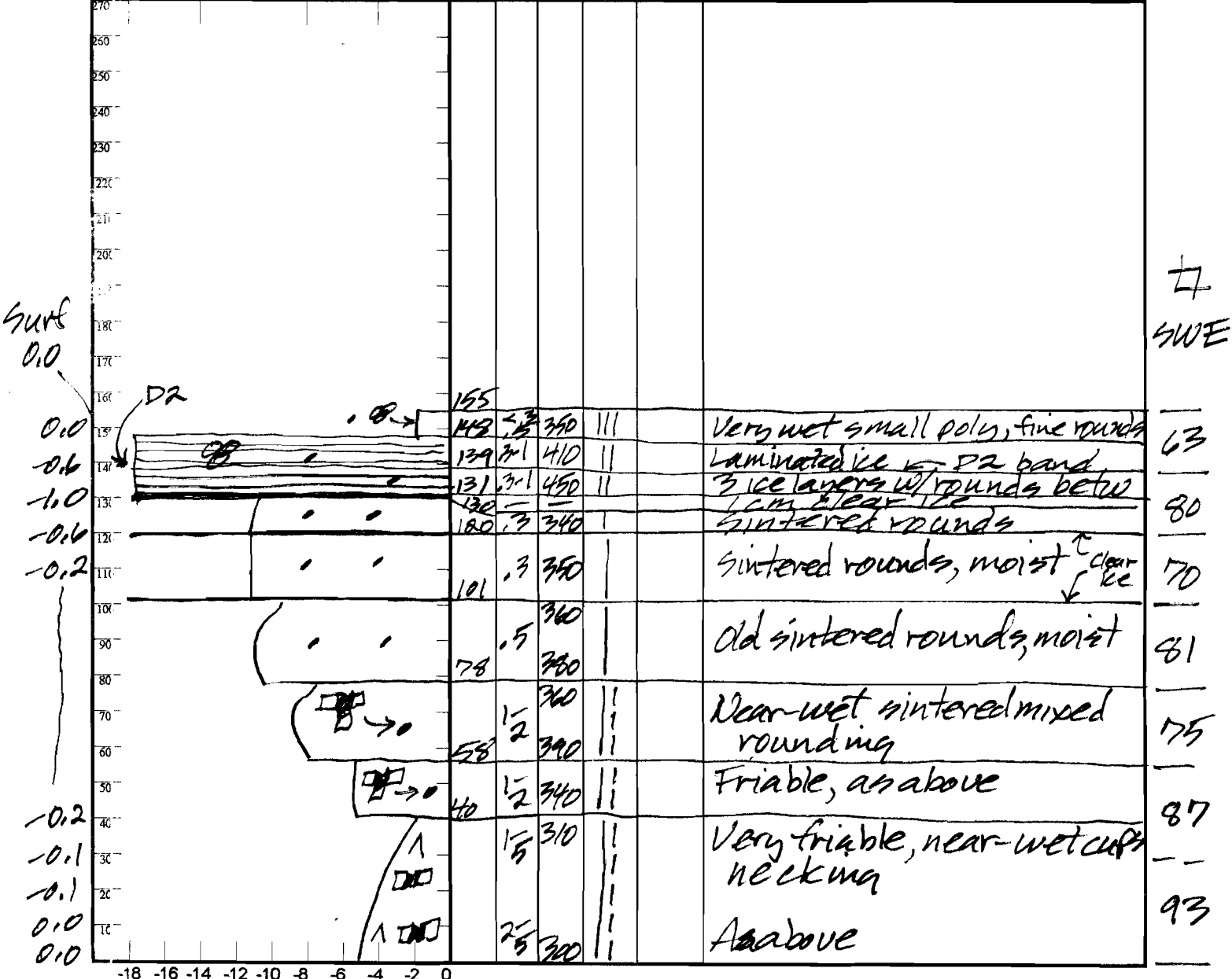
Air T +11 °C Sky: 0

Precip: Nil Wind: Nil Prior Pit: # 14; 3/19/07

Total Snowpack SWE: 549 mm H<sub>2</sub>O

Notes: H<sub>s</sub> = 1.54 m;  $\rho$  = 356 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+MG

Center for Snow and Avalanche Studies

Profile # 16

Time: 1230 MST

Snowpack Profile

Date: 3/26/07

Locat on: SASP

Elev. 11,050'

Aspect: NE

Boot Pen: 5 cm

$\angle$ : 3°

Air T +11 °C

Sky: 0

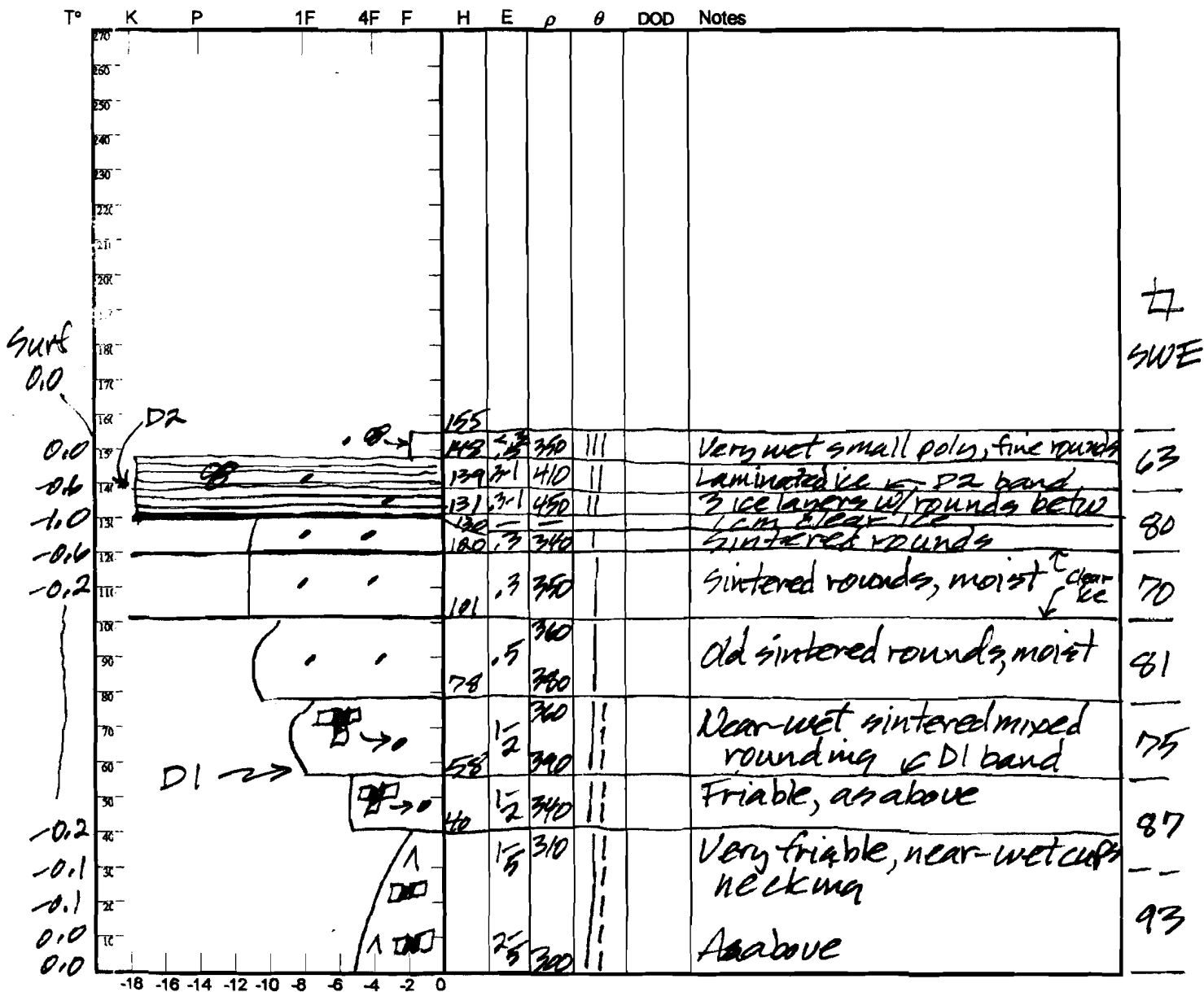
Precip: Nil

Wind: Nil

Prior Pit: # 14; 3/19/07

Total Snowpack SWE: 549 mm H<sub>2</sub>O

Notes: HST = 1.54 m;  $\bar{\rho} = 356$  kg/m<sup>3</sup>



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:

Observers: CL, MB, AT

Center for Snow and Avalanche Studies

Profile # 17

Time: 1035 MST

Snowpack Profile

Date: 4/2/07

Locat on: SBSF

Elev. 12,200 Aspect: NW

Boot Pen: 0-10 cm  $\angle$ : 3 °

Air T 0 °C Sky: ☉

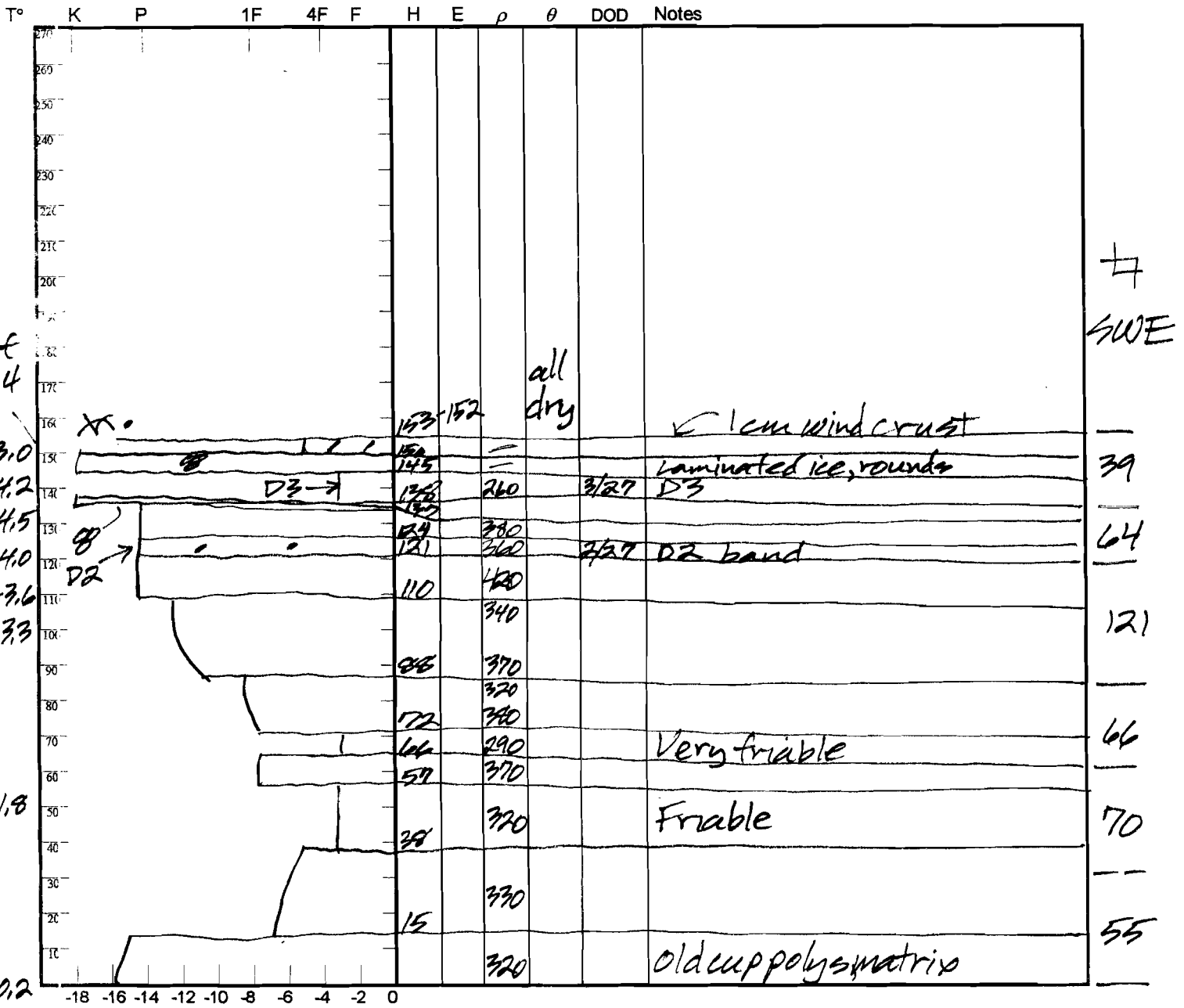
Precip: Spindrift Wind: Mod

Prior Pit: # 15; 3/26/07

Total Snowpack SWE: 502 mm H<sub>2</sub>O

Notes: H<sub>s</sub> = 1.53;  $\bar{\rho}$  = 328 kg/m<sup>3</sup>

snow surface heavily eroded; D3 variably exposed in scours



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, MB, AT

Center for Snow and Avalanche Studies

Profile # 18

Time: 1230 MST

Snowpack Profile

Date: 4/2/07

Location: SASP

Elev. 11,050'

Aspect: NE

Boot Pen: 23 cm

$\angle$ : 4 °

Air T: +8 °C

Sky: ☉

Precip: Nil

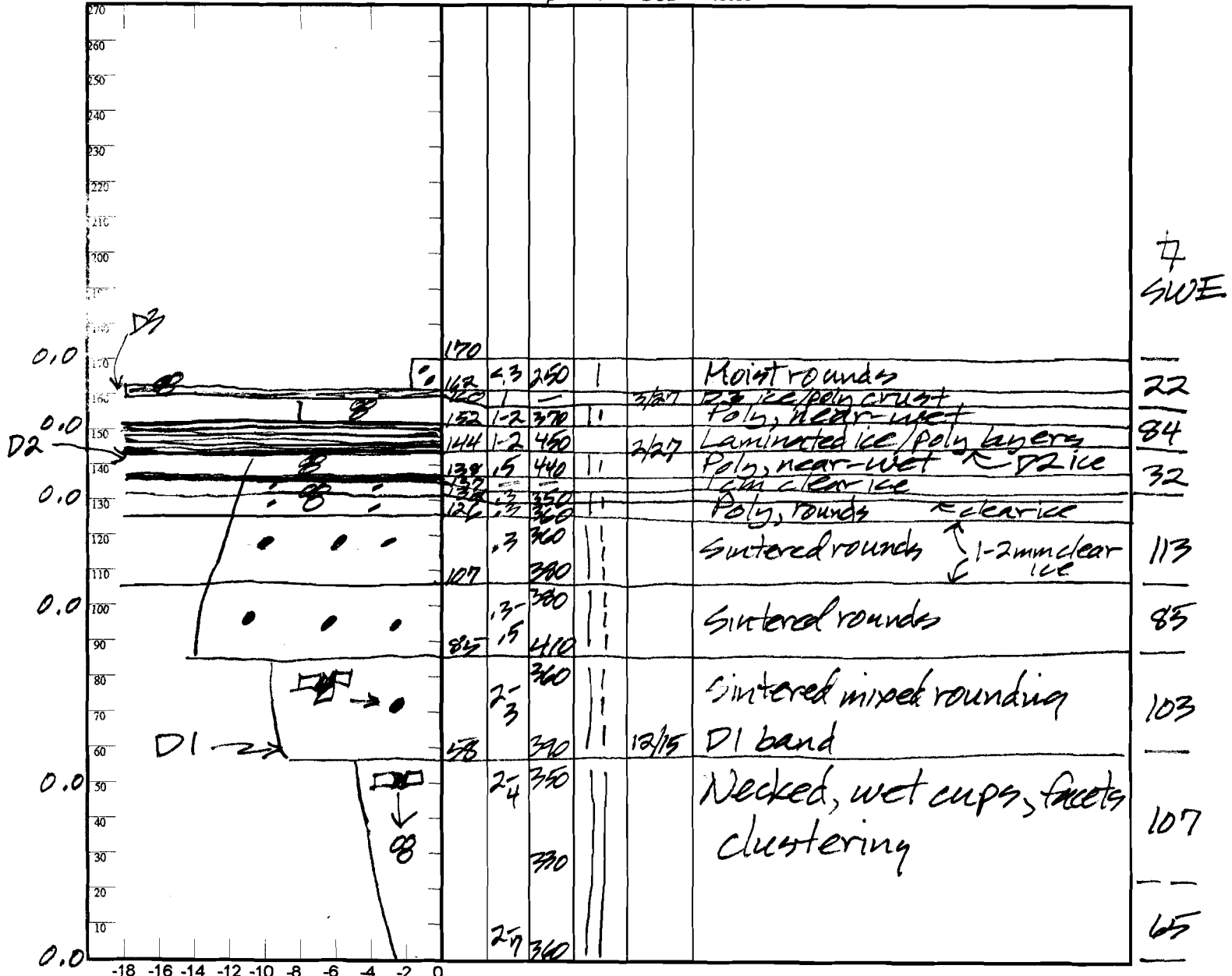
Wind: LH+

Prior Pit: # 16; 326107

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

Notes: H<sub>s</sub> = 1.69;  $\rho$  = 361 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+MB

Center for Snow and Avalanche Studies

Profile # 19

Time: 1020 MST

Snowpack Profile

Date: 4/16/07

Location: SBSP

Elev. 12,200'

Aspect: NE

Boot Pen: 10-15 cm

$\angle$ : 3°

Air T: -2 °C

Sky: D

Precip: Nil\*

Wind: Mod

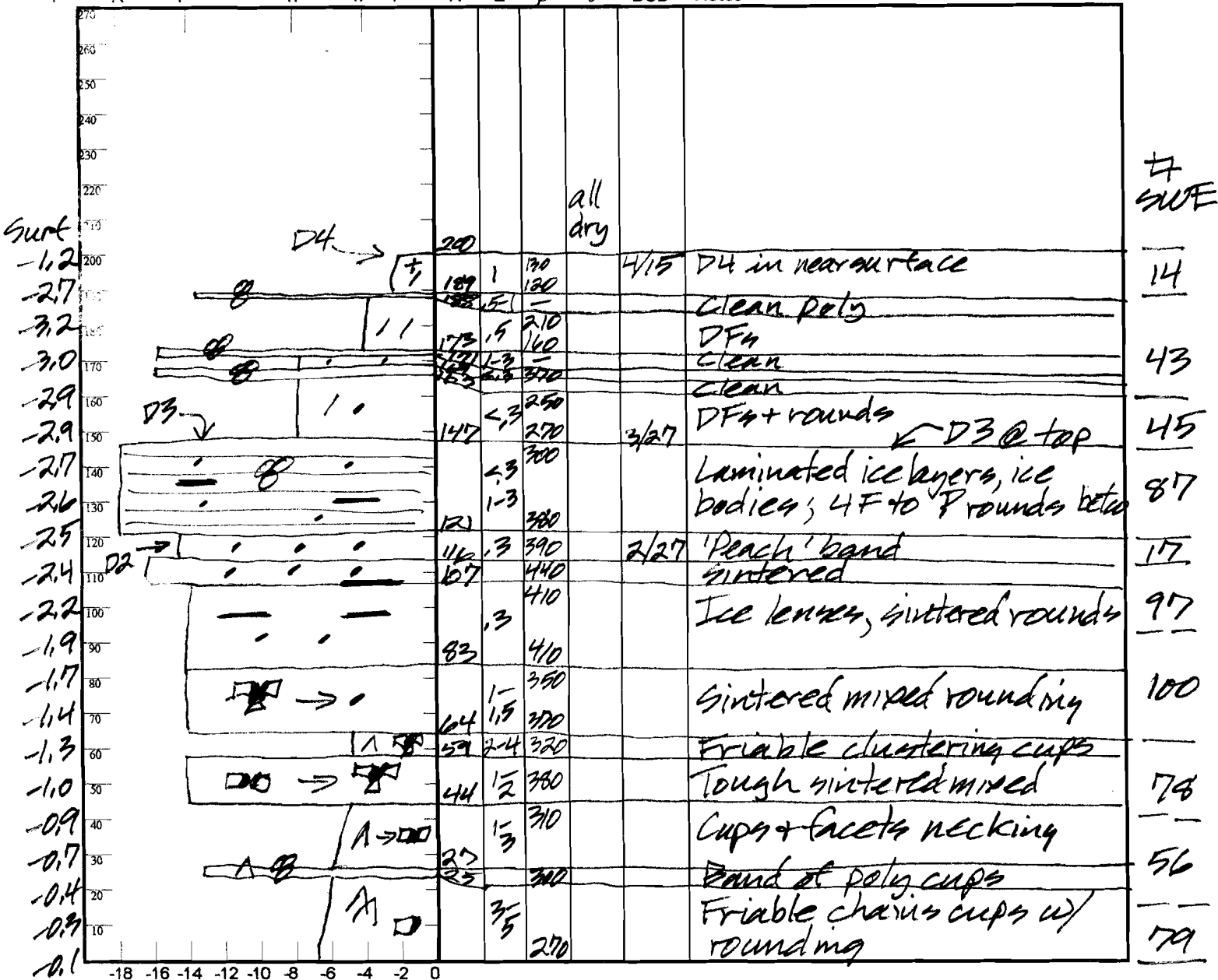
Prior Pit: # 17; 4/2/07

Total Snowpack SWE: 416 mm H<sub>2</sub>O

Notes: H<sub>2</sub>O = 1.94;  $\bar{\rho}$  = 518 kg/m<sup>3</sup>

\* mod spindrift into pit

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 $\div$ m =	X X X 9.8 =								
B	mm $\div$ m =	X X X 9.8 =								

Notes:

Observers: CL, MB, UAFS, et al Center for Snow and Avalanche Studies

Profile # 20

Time: 0835 MST

Snowpack Profile

Date: 4/18/07

Location: SASP

Elev. 16050' Aspect: NE

Boot Pen: < 1 cm  $\angle$ : 3°

Air T: +4 °C Sky: 0

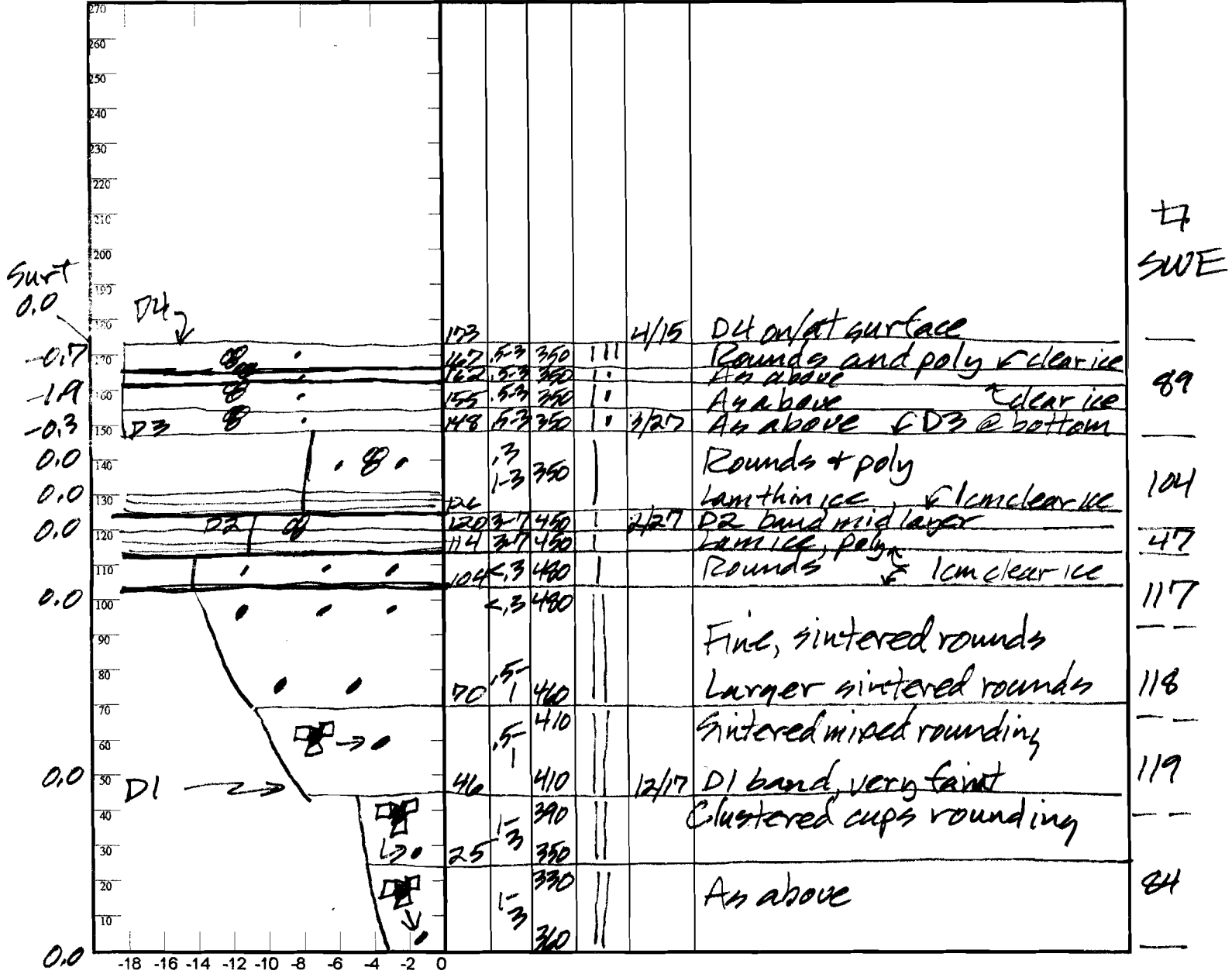
Precip: Nil Wind: Mod

Prior Pit: # 18; 4/2/07

Total Snowpack SWE: 0.78 mm H<sub>2</sub>O

Notes: H<sub>s</sub>t = 1.70;  $\bar{\rho}$  = 399 kg/m<sup>3</sup>

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



Potential Slab				Weak Layer & Bed Surface						
Ref	$H_{2ONor} \div H_{Nor} = \rho_{kg}$	$\sin \angle \times H_{Nor} \times \rho \times 9.8 = \tau_{Slab}$		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: CL, MB, CB

Center for Snow and Avalanche Studies

Profile # 21

Time: 1030

Snowpack Profile

Date: 4/23/07

Location: SASP

Elev. 11,050' Aspect: NE Boot Pen: 35 cm  $\angle$ : 3 °

Air T: -3 °C

Sky: ☉

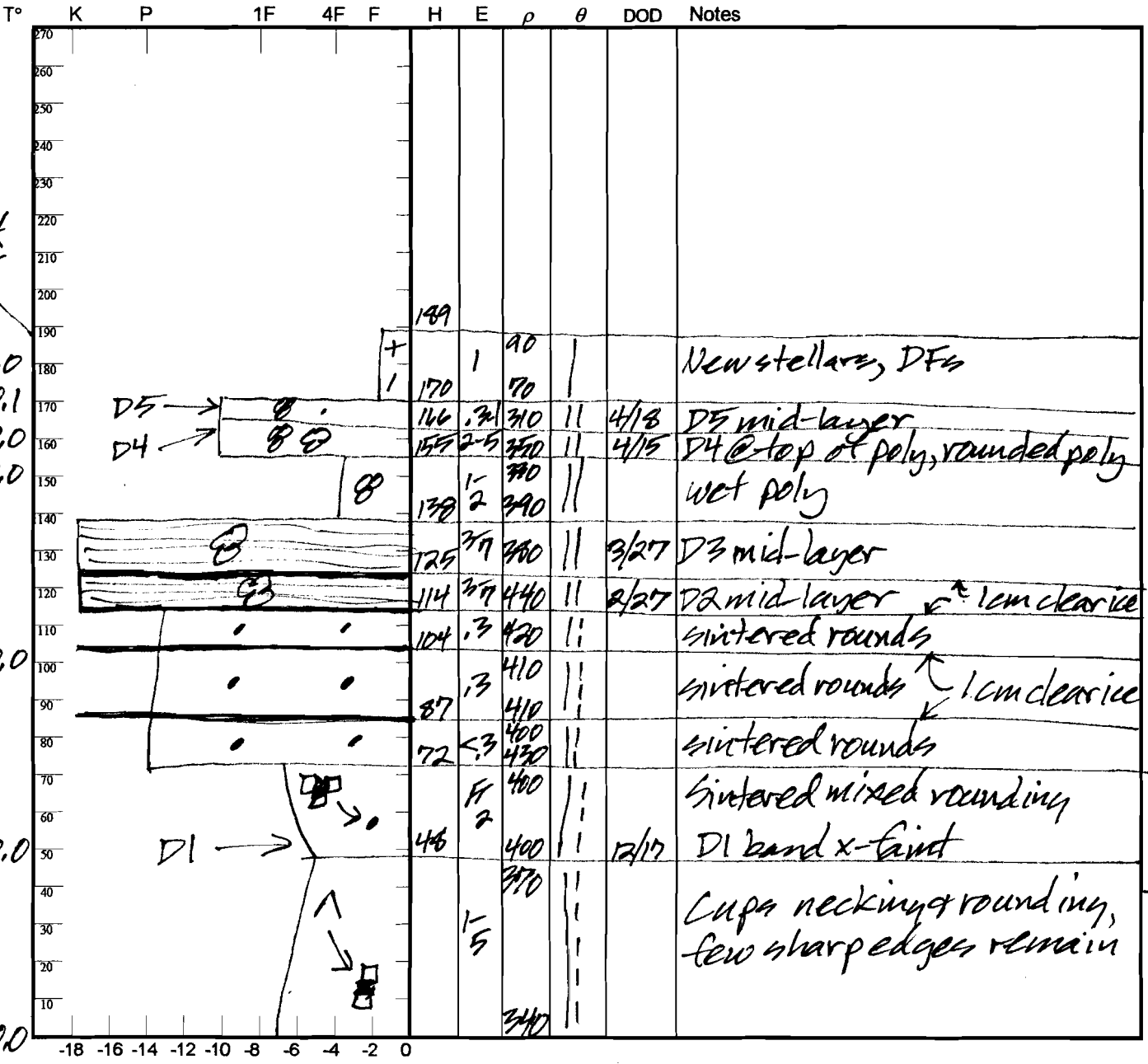
Precip: S3-4

Wind: H/Mod

Prior Pit: # 20; 4/18/07

Total Snowpack SWE: 654 mm H<sub>2</sub>O

Notes: H<sub>2</sub>O = 1.87 m;  $\bar{\rho} = 350$  kg/m<sup>3</sup>



4  
SWE  
14  
52  
60  
113  
110  
94  
90  
57  
64

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 $\div$ m =	X X X 9.8 =							
B	mm $\div$ m =	X X X 9.8 =							

Notes:

V. 11/20/03

Observers: Ch, AT, CC

Center for Snow and Avalanche Studies

Profile # 22

Time: 1230 MST

Snowpack Profile

Date: 4/25/07

Location: SBSF

Elev. 12200'

Aspect: NE

Boot Pen: 35 cm

$\angle$ : 3°

Air T: +4°C

Sky: 0

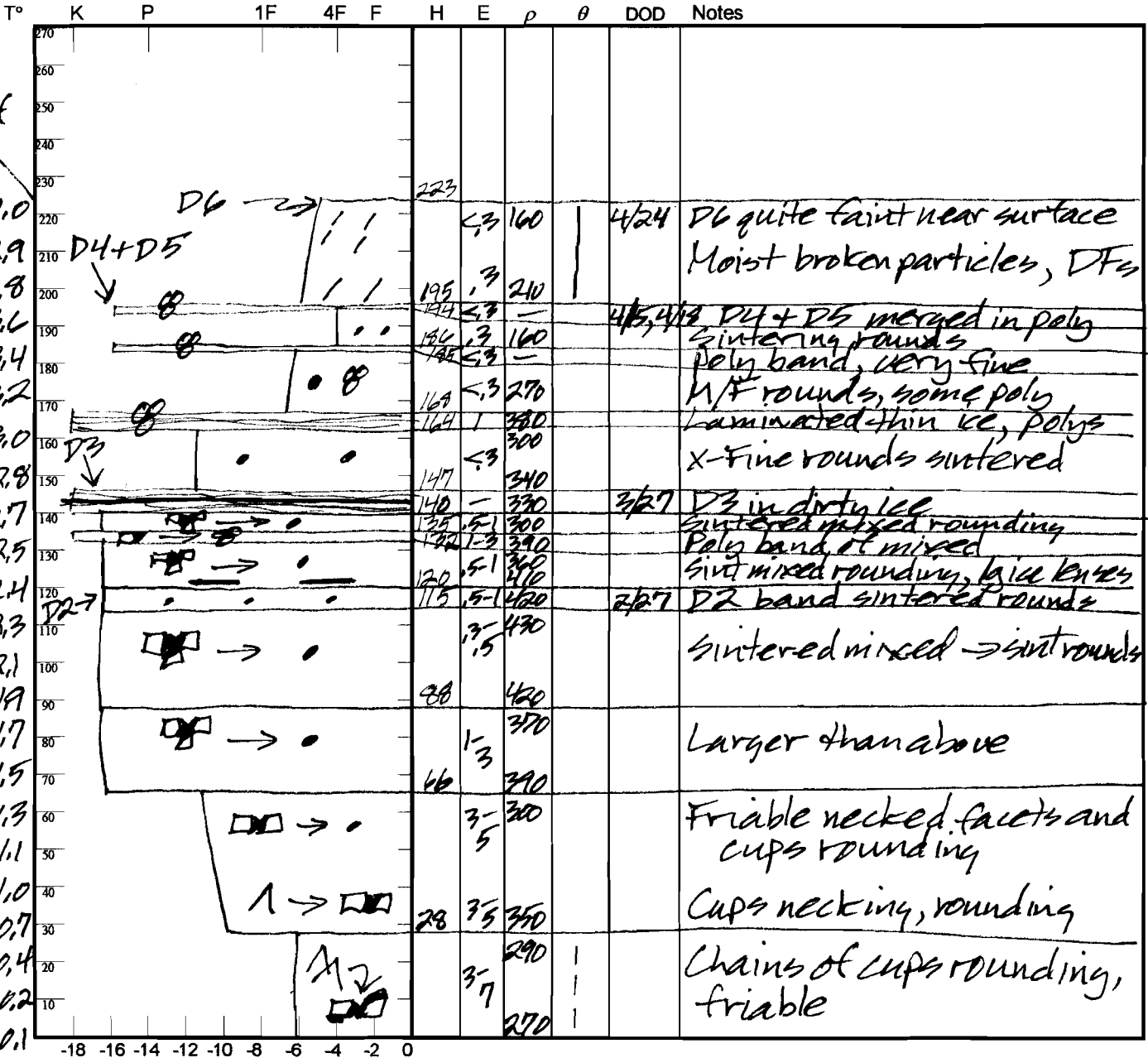
Precip: Nil

Wind: Nil

Prior Pit: # 19; 4/16/07

Total Snowpack SWE: 736 mm H<sub>2</sub>O

Notes: H<sub>2</sub>O = 2.20 m;  $\rho = 335$  kg/m<sup>3</sup>



7  
SWE

42

66

66

56

73

115

90

97

68

63

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 $\div$ m =	X X X 9.8 =							
B	mm $\div$ m =	X X X 9.8 =							

Notes:

V. 11/20/03

Observers: MB+CL

Center for Snow and Avalanche Studies

Profile # 23

Time: 0945 MST

Snowpack Profile

Date: 4/30/07

Location: SBSP

Elev. 12,200' Aspect: NE

Boot Pen: 12 cm  $\angle$ : 3°

Air T: 6 °C Sky: ①

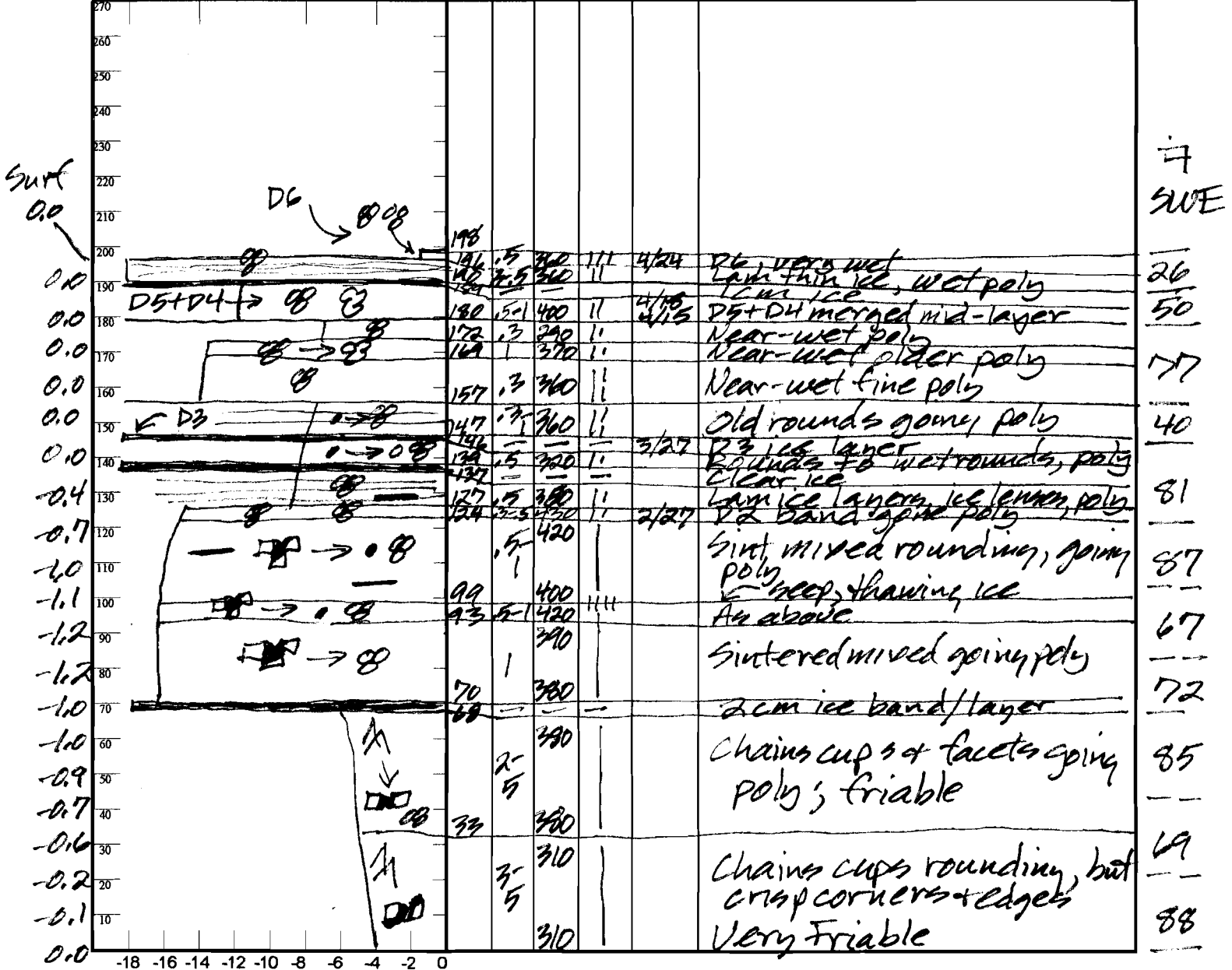
Precip: Nil Wind: Nil

Prior Pit: # 22; 4/25/07

Total Snowpack SWE: 742 mm H<sub>2</sub>O

Notes: HS  $\eta = 1.98$ ;  $\rho = 375 \text{ kg/m}^3$

T° K P 1F 4F F H E  $\rho$   $\theta$  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 $\div$ m =	X X X 9.8 =							
B	mm $\div$ m =	X X X 9.8 =							

Notes:

V. 11/20/03



Observers: CL+AT

Center for Snow and Avalanche Studies

Profile # 24

Time: 0840 MST

Snowpack Profile

Date: 5/2/07

Location: GAAP

Elev. 11,050' Aspect: NE Boot Pen: 30 cm  $\angle$ : 2°

Air T: +5 °C

Sky: ☉

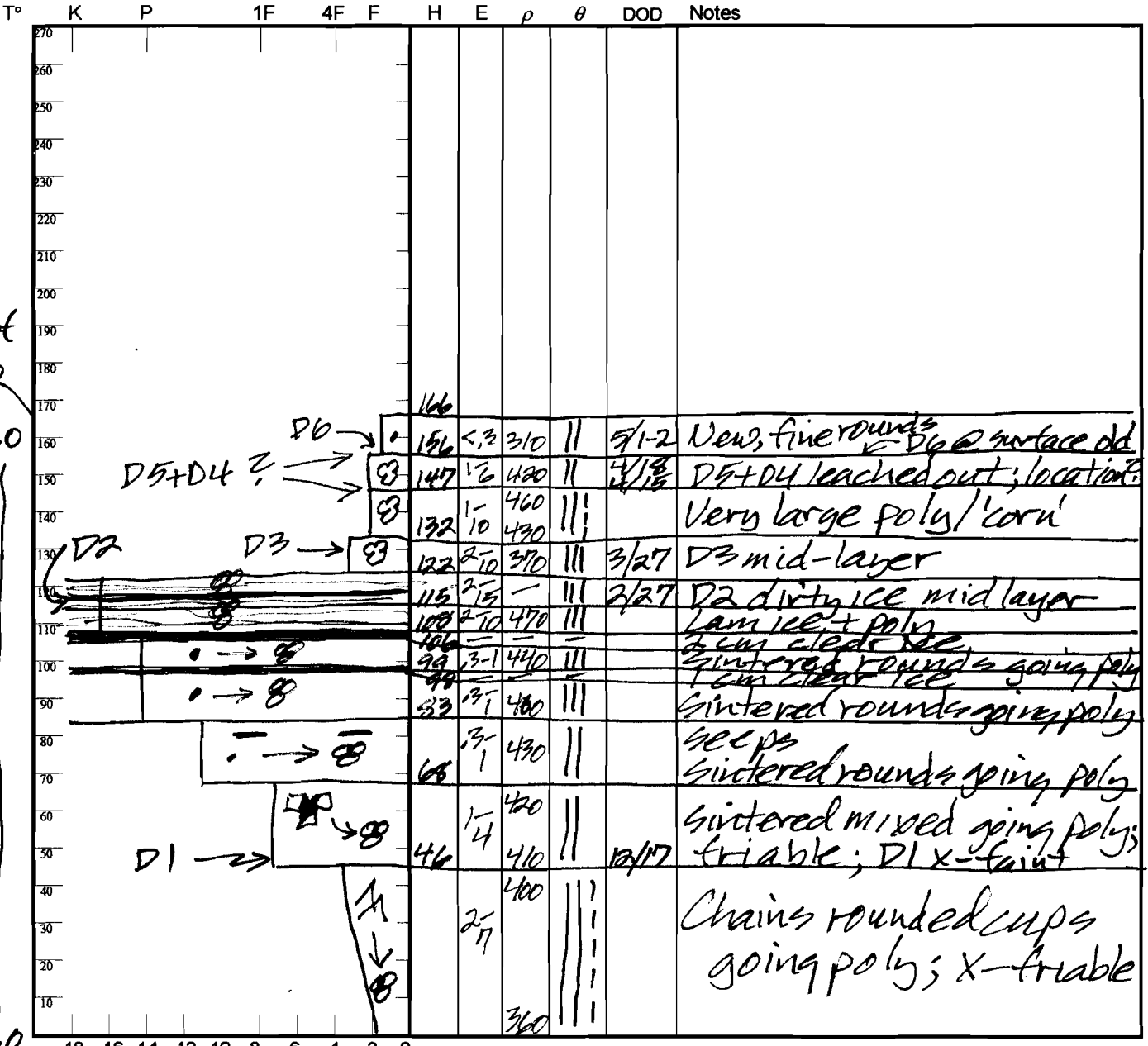
Precip: SI

Wind: Nil

Prior Pit: # 21; 4/23/07

Total Snowpack SWE: 160 mm H<sub>2</sub>O

Notes: H<sub>s</sub> = 1.65 m;  $\rho$  = 400 kg/m<sup>3</sup>



SWE  
0.0  
0.0  
0.0

7  
SWE  
22  
97  
91  
122  
67  
90  
83  
88

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 # 25

Time: 0920 MST

Snowpack Profile

Date: 5/7/07

Location: 535P

Elev. 12200'

Aspect: NE

Boot Pen: 21 cm

∠: 4°

Air T: +5 °C

Sky: 0

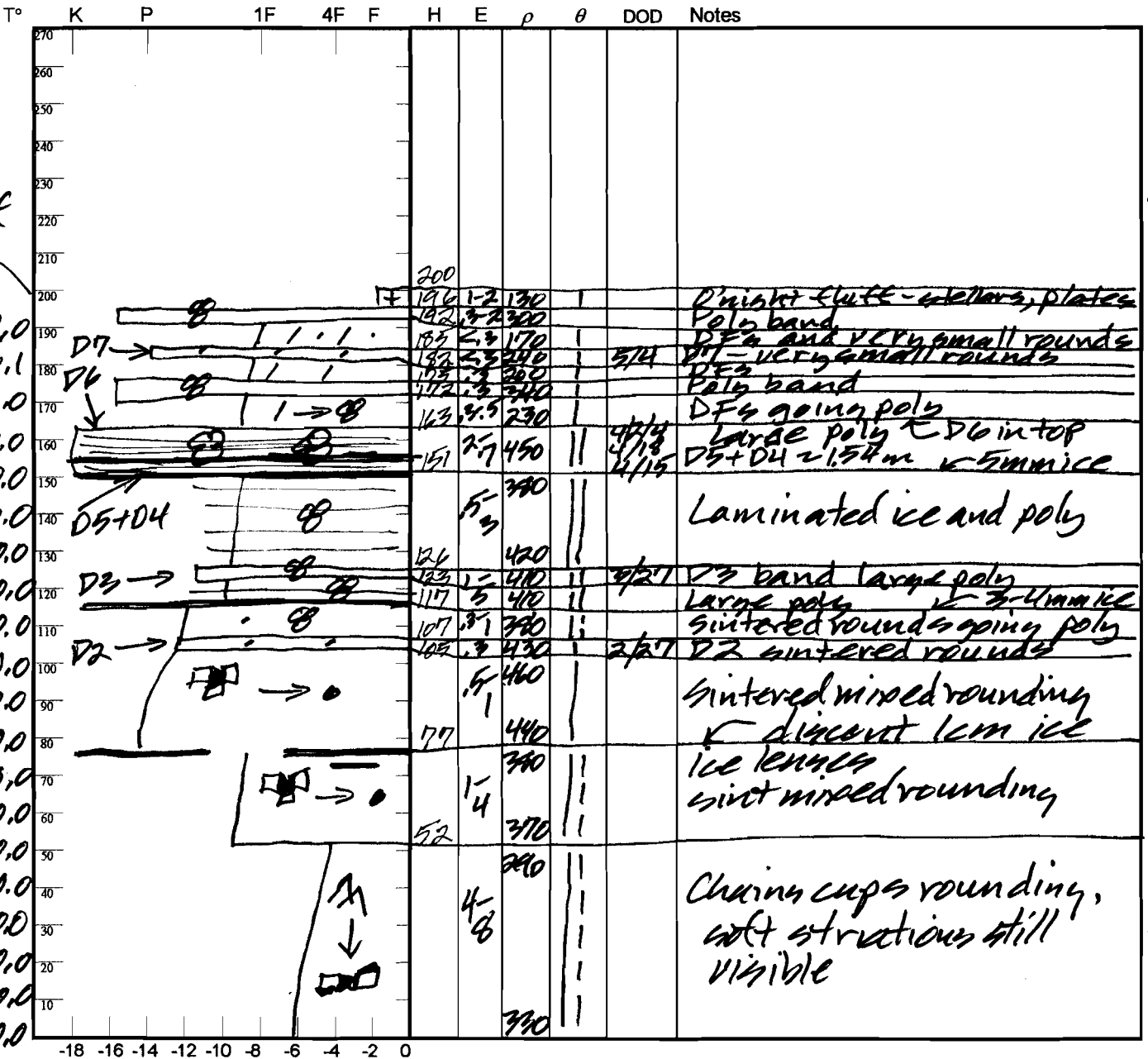
Precip: Nil

Wind: Nil

Prior Pit: #23; 4/30/07

Total Snowpack SWE: 705 mm H<sub>2</sub>O

Notes: HS  $\eta = 2.00m$ ;  $\bar{\rho} = 353 kg/m^3$



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, AT, AM

Center for Snow and Avalanche Studies

Profile # 26

Time: 0850 MST

Snowpack Profile

Date: 5/9/07

Location: SASP

Elev. 11,050'

Aspect: NE

Boot Pen: 4 cm

$\angle$ : 4 °

Air T: +10 °C

Sky: 0

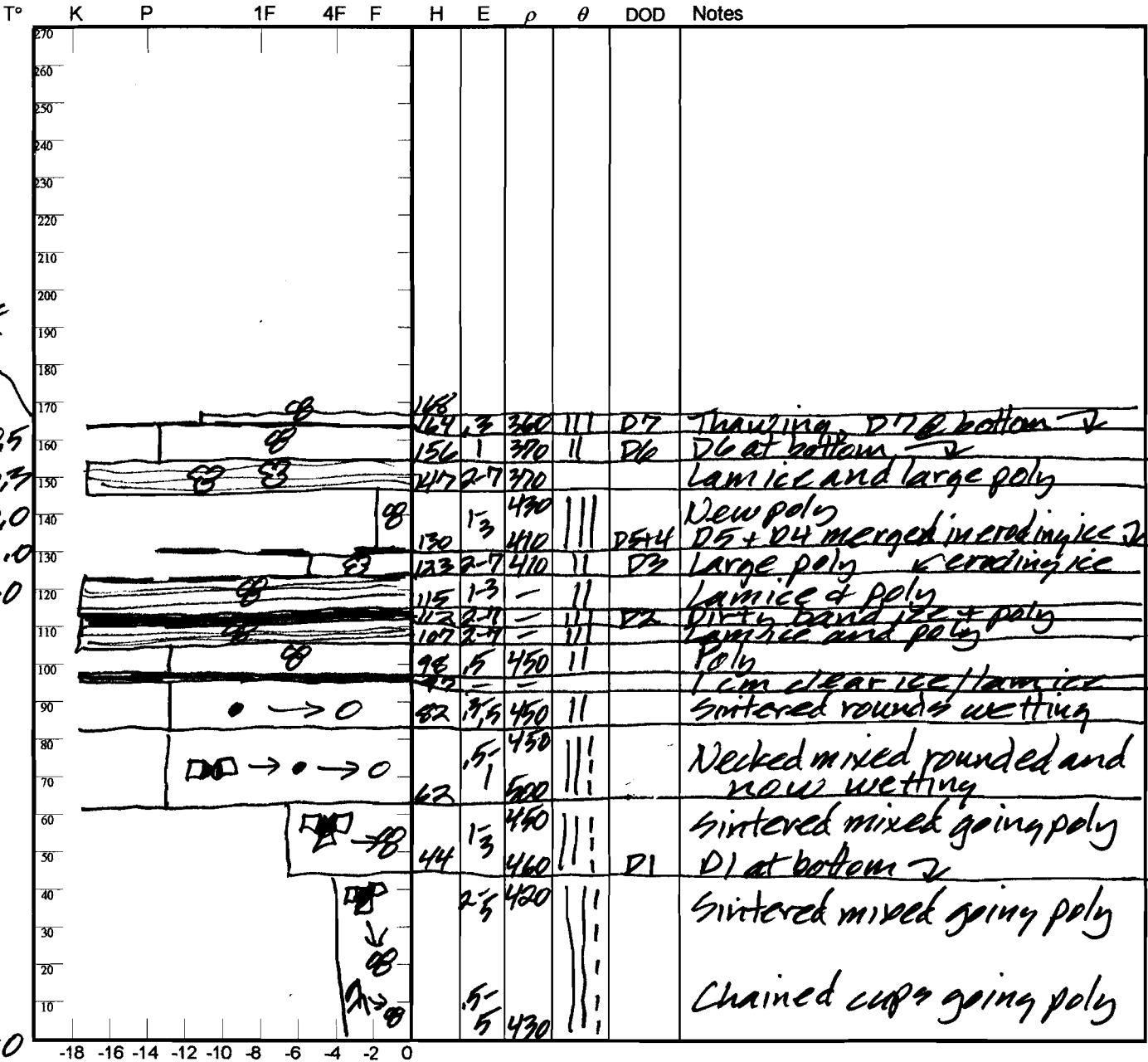
Precip: Nil

Wind: Nil

Prior Pit: # 24; 5/2/07

Total Snowpack SWE: 711 mm H<sub>2</sub>O

Notes: H<sub>5</sub>t = 1.66 m;  $\bar{\rho}$  = 428 kg/m<sup>3</sup>



7  
SWE

35  
48  
65  
61  
51  
45  
73  
101  
68  
85  
79

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+TP

Center for Snow and Avalanche Studies

Profile # 27(SWE3)

Time: 0915 MST

Snowpack Profile

Date: 5/15/07

Location: SBSP

Elev. 12,200' Aspect: NE

Boot Pen: 3 cm  $\angle$ : 3°

Air T: +10 °C

Sky: 0

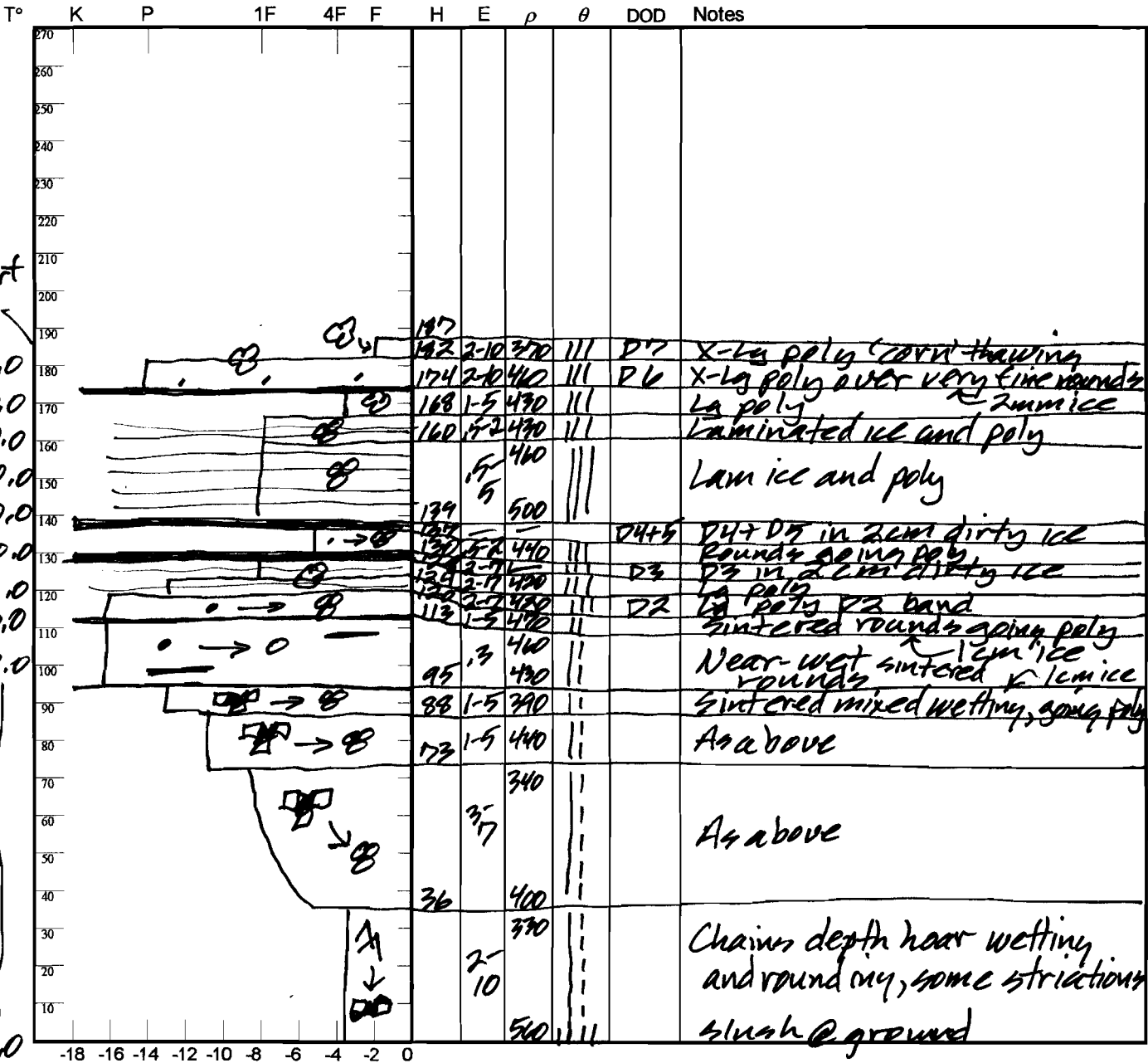
Precip: Nil

Wind: Nil

Prior Pit: # 25; 5/7/07

Total Snowpack SWE: 759 mm H<sub>2</sub>O

Notes: HS 4 = 1.90m;  $\bar{\rho}$  = 399 kg/m<sup>3</sup>



Handwritten notes on the right side of the graph, including 'SWE', '42', '93(a)', '46(b)', '50', '73', '82', '89', '83(a)', '57(b)', '58(a)', and '46(b)'.

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+TP

Center for Snow and Avalanche Studies

Profile # 28(SWE 7)

Time: 0900MST

Snowpack Profile

Date: 5/16/07

Location: SASP

Elev. 11,050'

Aspect: NE

Boot Pen: 4 cm

$\angle$ : 4°

Air T: +6 °C

Sky: 0

Precip: Nil

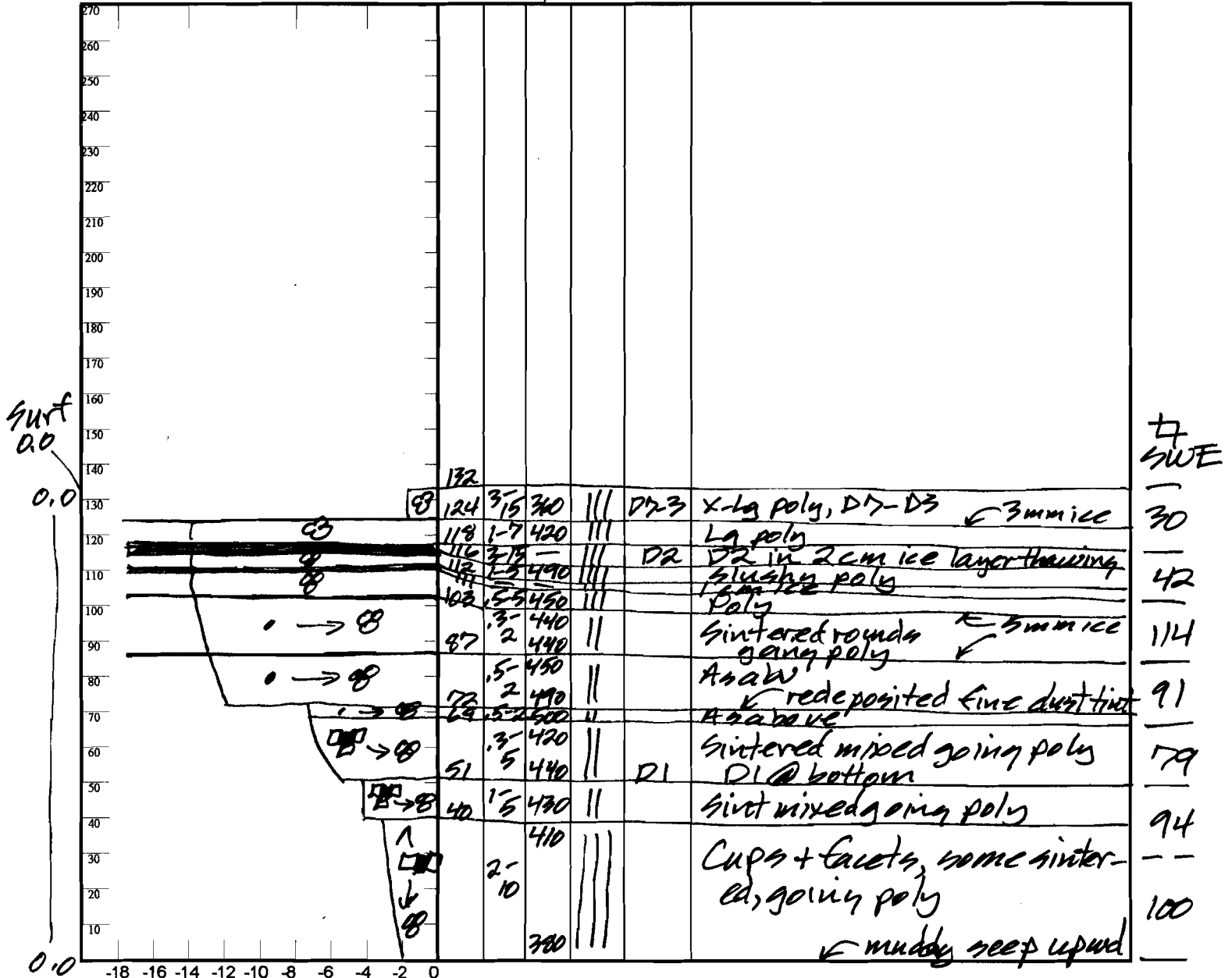
Wind: Nil

Prior Pit: # 26; 5/9/07

Total Snowpack SWE: 550 mm H<sub>2</sub>O

Notes: HST = 1.26m;  $\bar{\rho} = 436$  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:

V. 11/20/03

Observers: CL+AT

Center for Snow and Avalanche Studies

Profile # 29

Time: 0855 MST

Snowpack Profile

Date: 5/21/07

Location: SBSP

Elev. 12200'

Aspect: NE

Boot Pen: 30 cm

∠: 3°

Air T: +4 °C

Sky: ☉

Precip: SL-2

Wind: Lt

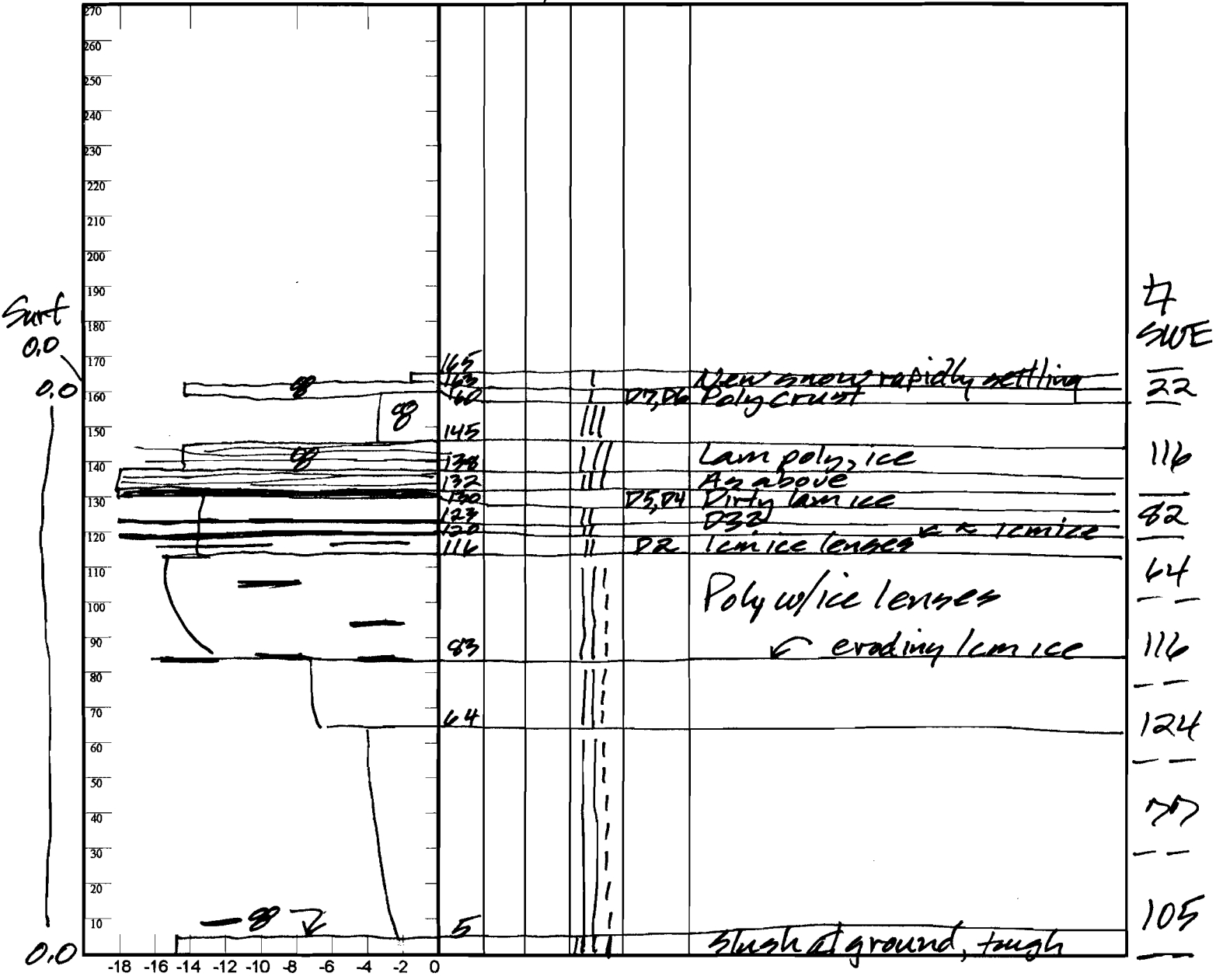
Prior Pit: # 27; 515107

Total Snowpack SWE: 706 mm H<sub>2</sub>O

Notes: Hst = 1.63 m; ρ = 433 kg/m<sup>3</sup>

Obs cut short by intense convective showers.

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+AT

Center for Snow and Avalanche Studies

Profile # 30

Time: 0830 MST

Snowpack Profile

Date: 5/23/07

Location: SASP

Elev. 11,050'

Aspect: NE

Boot Pen: 15 cm

∠: 4°

Air T: -1 °C

Sky: ☁

Precip: 51

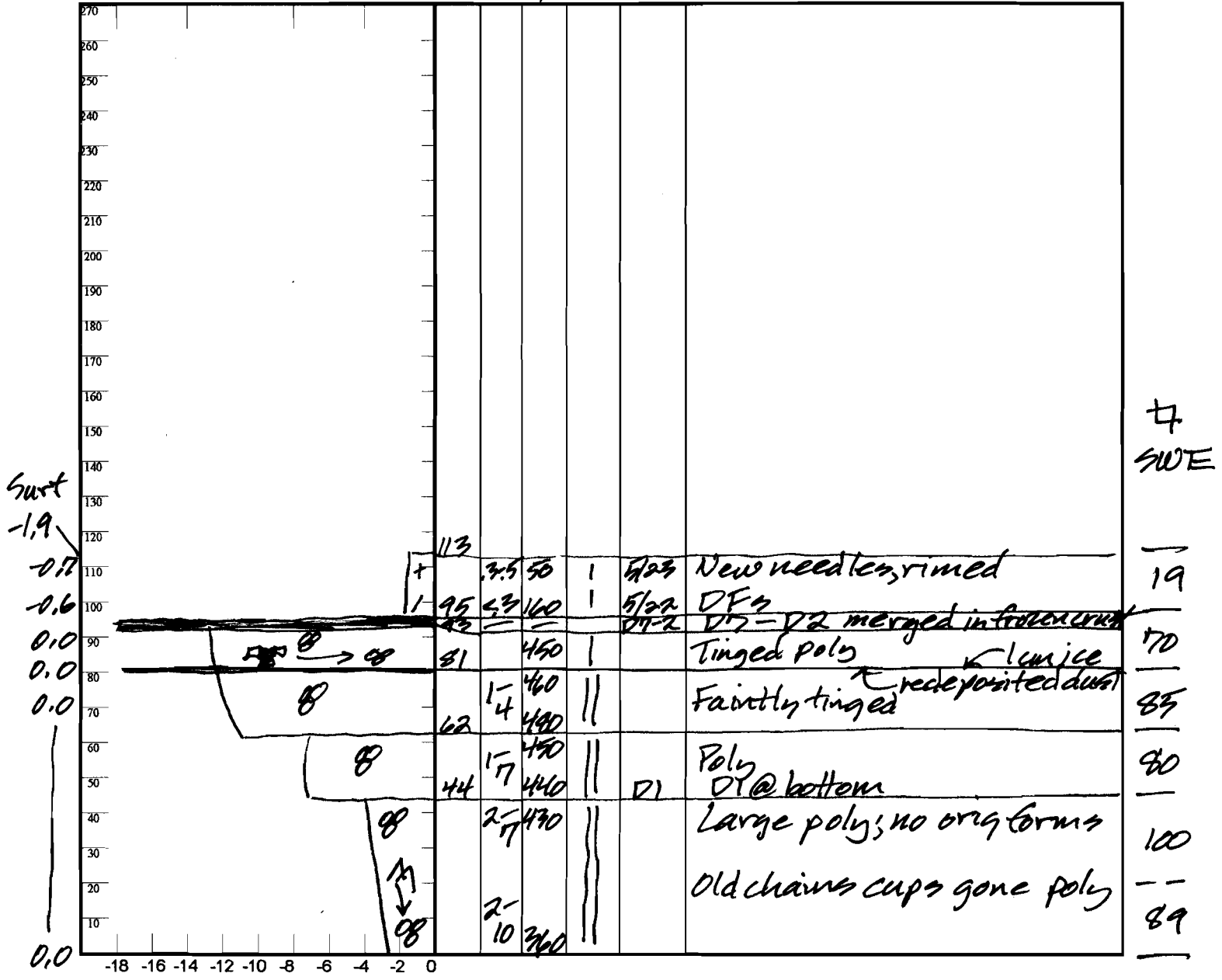
Wind: Nil

Prior Pit: # 28; 5/16/07

Total Snowpack SWE: 443 mm H<sub>2</sub>O

Notes:  $\bar{\rho} = 385 \text{ kg/m}^3$ ; HS  $\eta = 1.15 \text{ m}$

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:

Observers: CL44

Center for Snow and Avalanche Studies

Profile # 31

Time: 1025

Snowpack Profile

Date: 5/29/07

Location: SBSP

Elev. 12,200'

Aspect: NE

Boot Pen: 7 cm

∠: 4°

Air T: +5 °C

Sky: 0

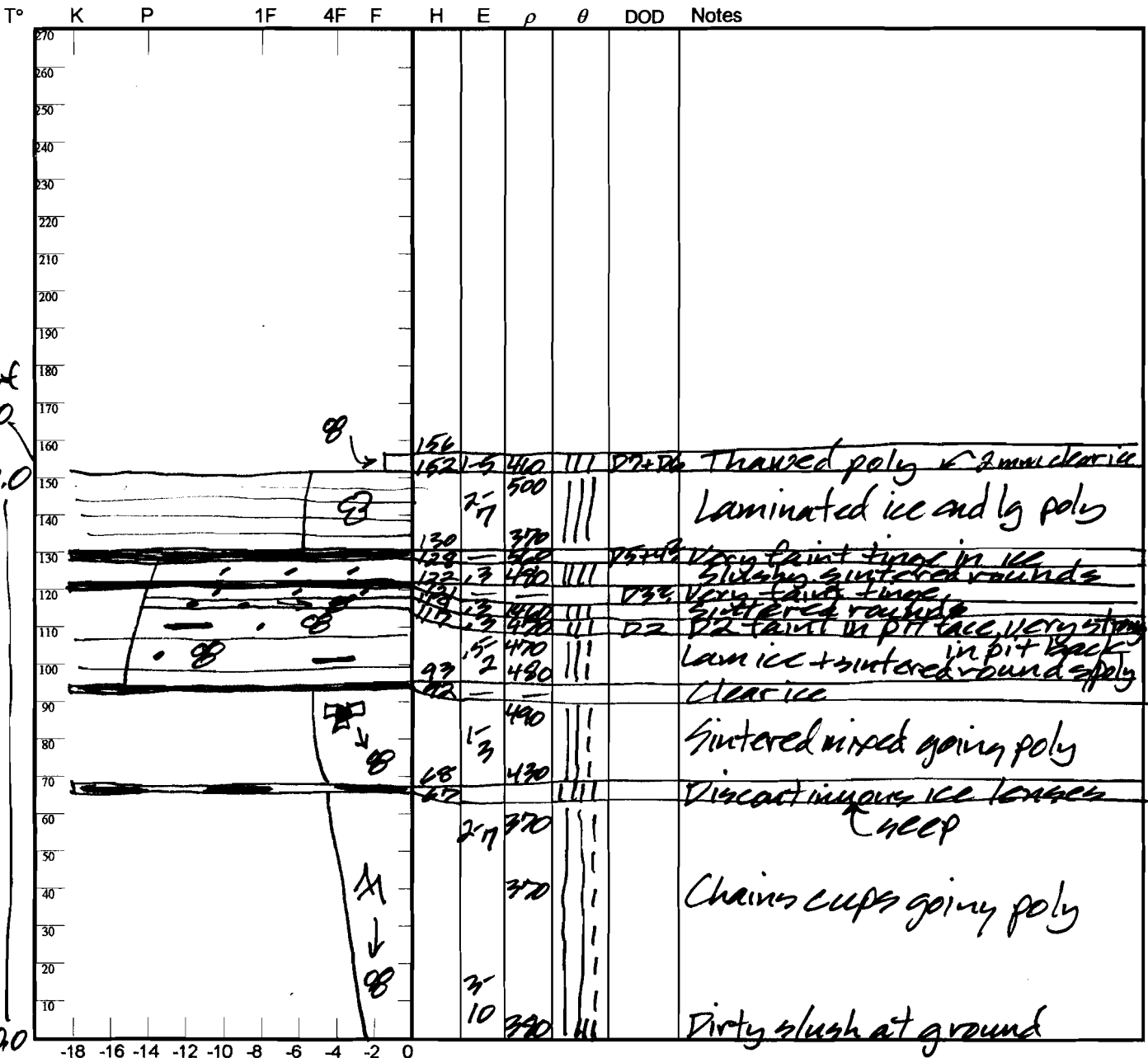
Precip: Nil

Wind: Mod

Prior Pit: # 29; 5/22/07

Total Snowpack SWE: 630 mm H<sub>2</sub>O

Notes: Hst = 1.53; ρ = 412 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, SH, AM

Center for Snow and Avalanche Studies

Profile # 32

Time: 0900

Snowpack Profile

Date: 5/30/07

Location: SASP

Elev. 11,050'

Aspect: NE

Boot Pen: 1-2 cm

$\angle$ : 4°

Air T: +6 °C

Sky: 0

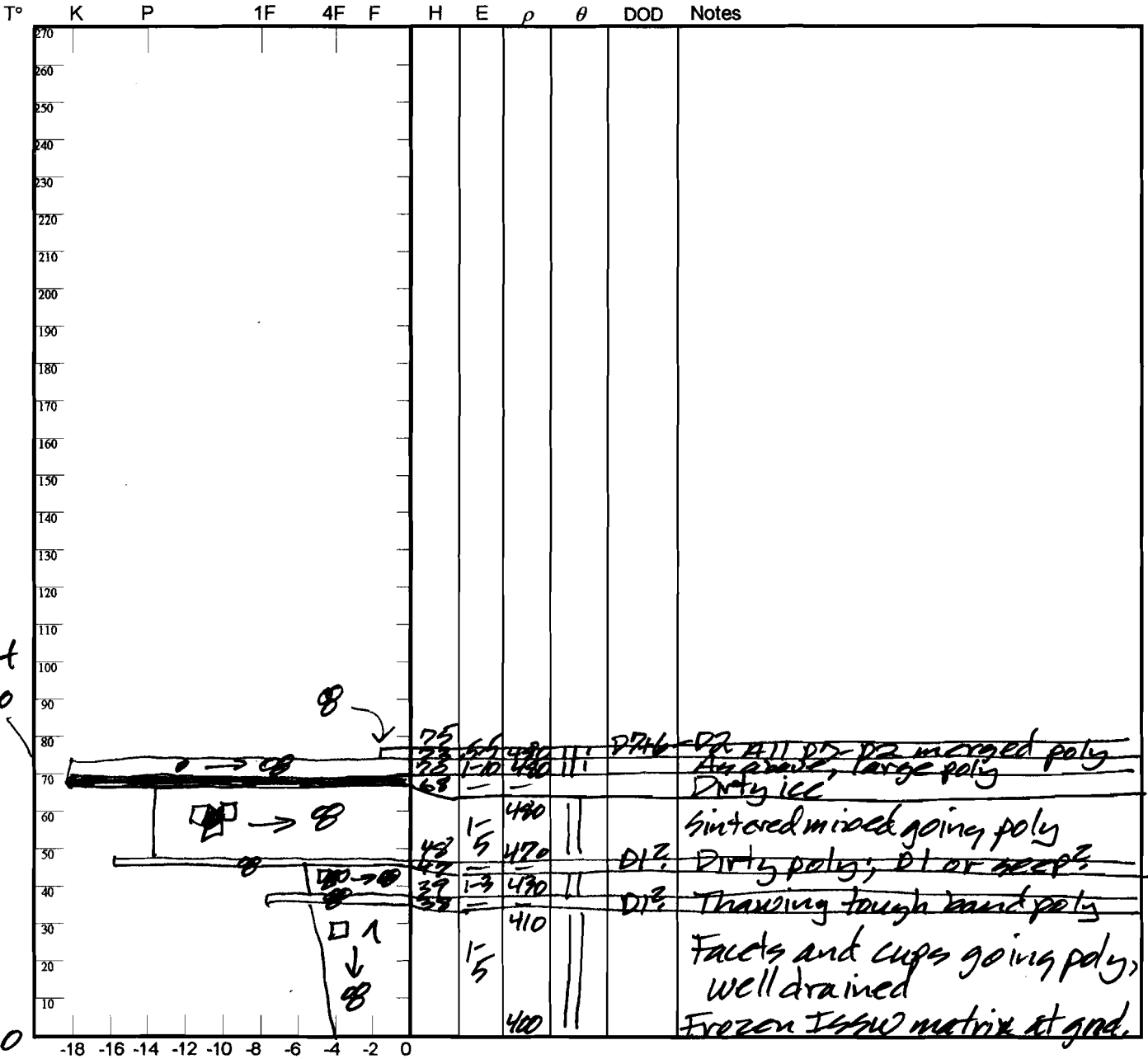
Precip: Nil

Wind: Nil-Lt

Prior Pit: # 30; 5/23/07

Total Snowpack SWE: 309 mm H<sub>2</sub>O

Notes: HS 7 = 0.73 m;  $\bar{\rho}$  = 423 kg/m<sup>3</sup>



7  
SWE

35  
88  
93  
93

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: CHAT

Center for Snow and Avalanche Studies

Profile # 33

Time: 0920 MST

Snowpack Profile

Date: 6/5/07

Location: 4BSP

Elev. 12,200'

Aspect: NE

Boot Pen: 6 cm

∠: 3°

Air T: +10 °C

Sky: ☉

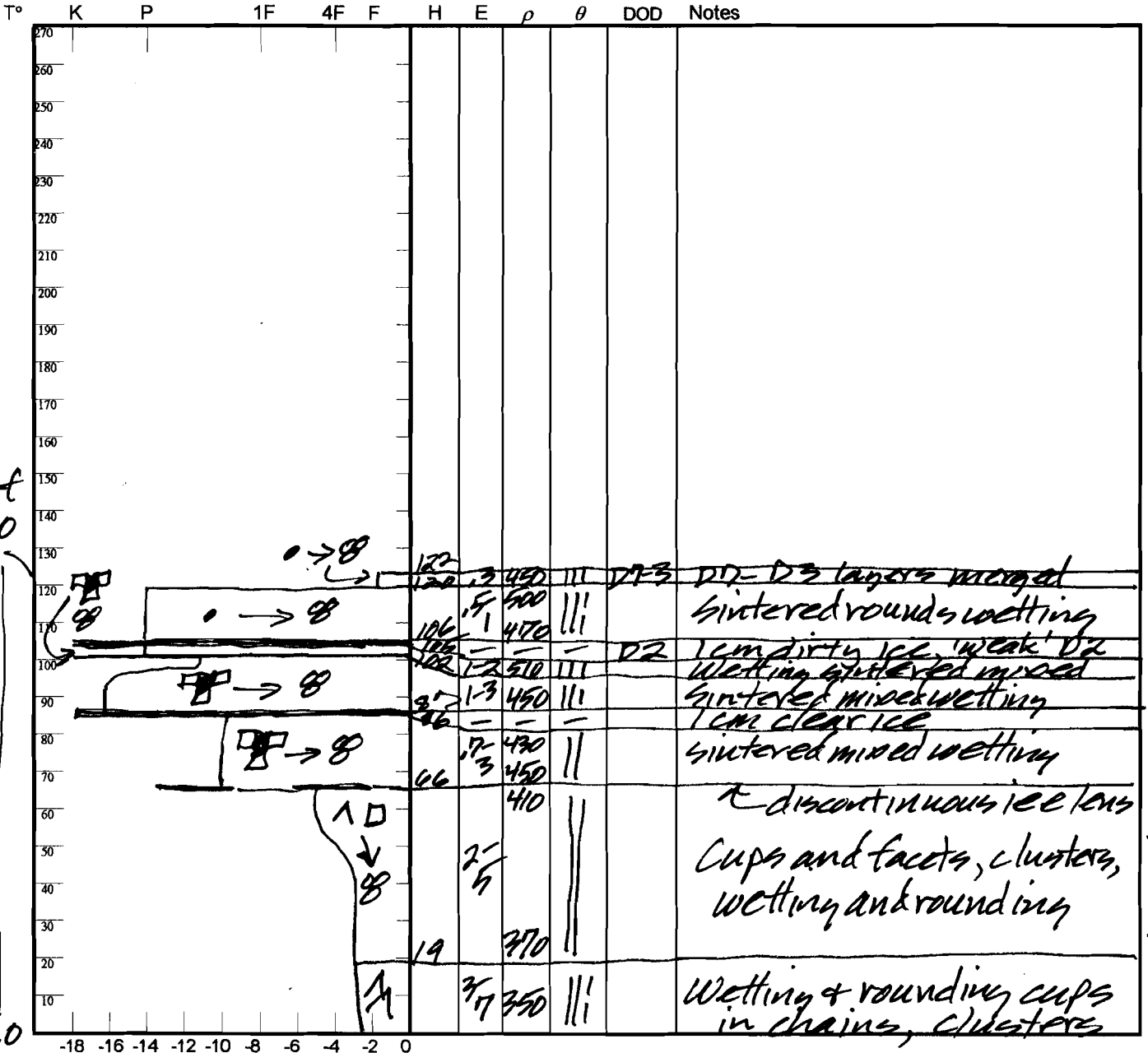
Precip: Nil

Wind: Mod

Prior Pit: # 31; 5/29/07

Total Snowpack SWE: 492 mm H<sub>2</sub>O

Notes: HS = 1.24 m; ρ = 397 kg/m<sup>3</sup>



Handwritten notes on the right side of the graph, including a box labeled 'SWE' and various numbers (116, 84, 122, 106, 116) corresponding to different depths.

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 # 34

Time: 0815

Snowpack Profile

Date: 6/6/07

Location: SASP

Elev. 11,050'

Aspect: NE

Boot Pen: 8 cm

$\angle$ : 3°

Air T: +5 °C

Sky: ☁

Precip: Nil

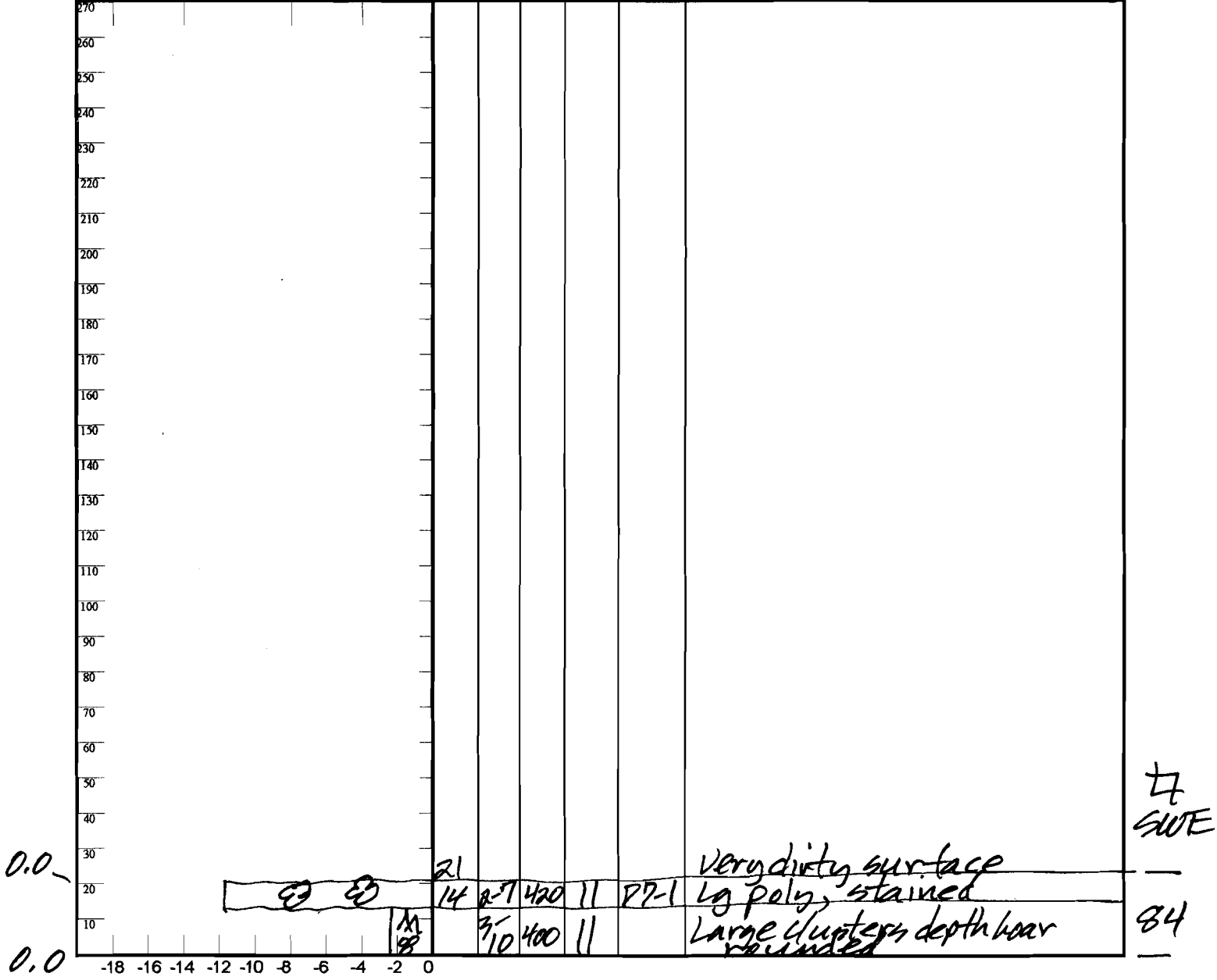
Wind: stng

Prior Pit: # 32: 5/30/07

Total Snowpack SWE: 84 mm H<sub>2</sub>O

Notes: H<sub>s</sub> = 0.21 m;  $\rho = 400$  kg/m<sup>3</sup>;  
50% of plot (including under mast sensors) bare ground.

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

Observers: CLTP

Center for Snow and Avalanche Studies

Profile # 35

Time: 0940

Snowpack Profile

Date: 6/13/07

Location: SBSP

Elev. 12,200'

Aspect: NE

Boot Pen: 5-10 cm

∠: ?°

Air T: +6 °C

Sky: 0

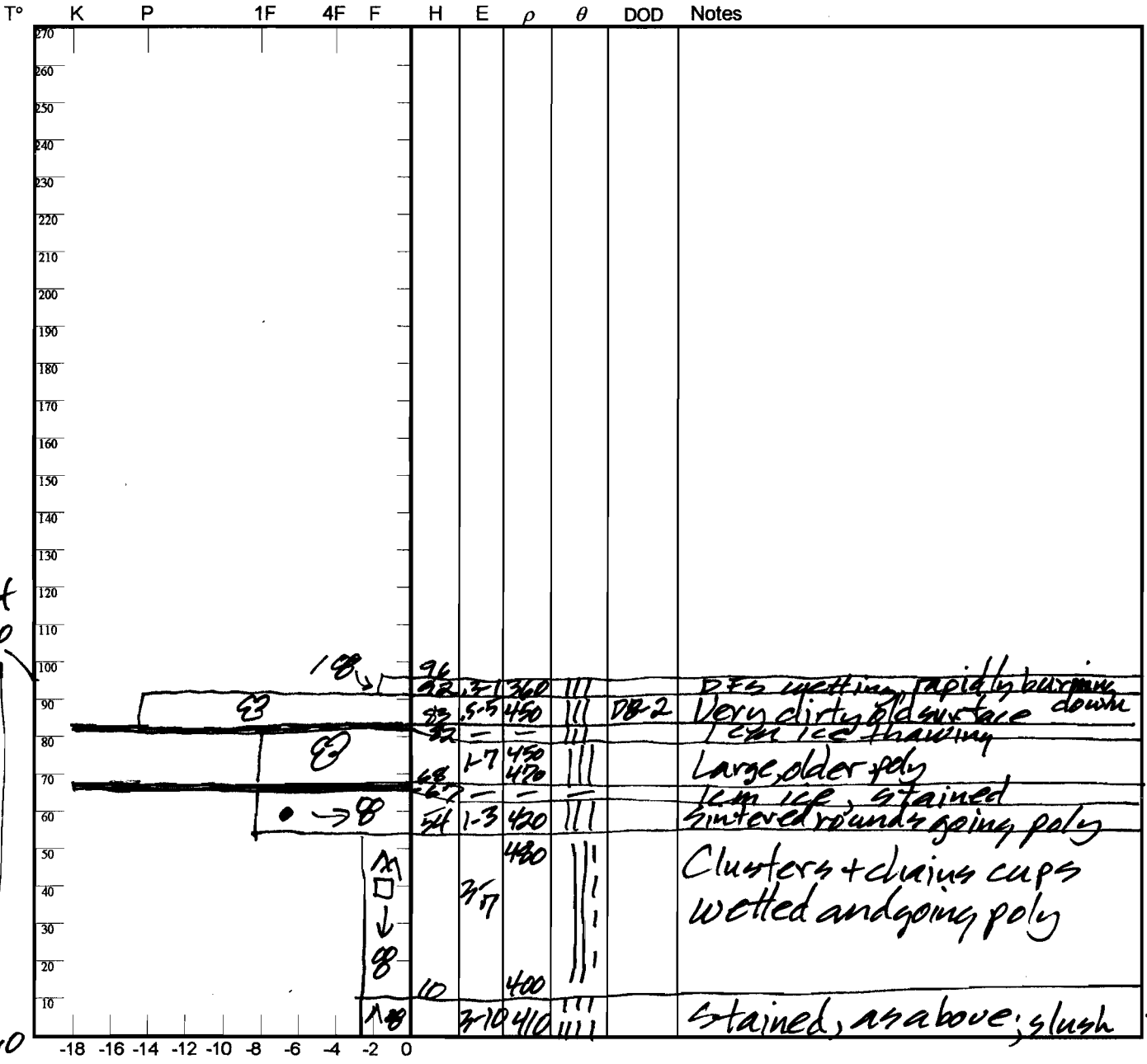
Precip: Nil

Wind: Lt

Prior Pit: # 39; 6/5/07

Total Snowpack SWE: 424 mm H<sub>2</sub>O

Notes:  $H_s \eta = 0.96$ ;  $\bar{\rho} = 442 \text{ kg/m}^3$



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+CL+AM

Center for Snow and Avalanche Studies

Profile # 36

Time: 1015

Snowpack Profile

Date: 6/19/07

Location: 484D

Elev. 12,200'

Aspect: NE

Boot Pen: 40 cm

$\angle$ : 3 °

Air T: +11 °C

Sky: 0

Precip: Nil

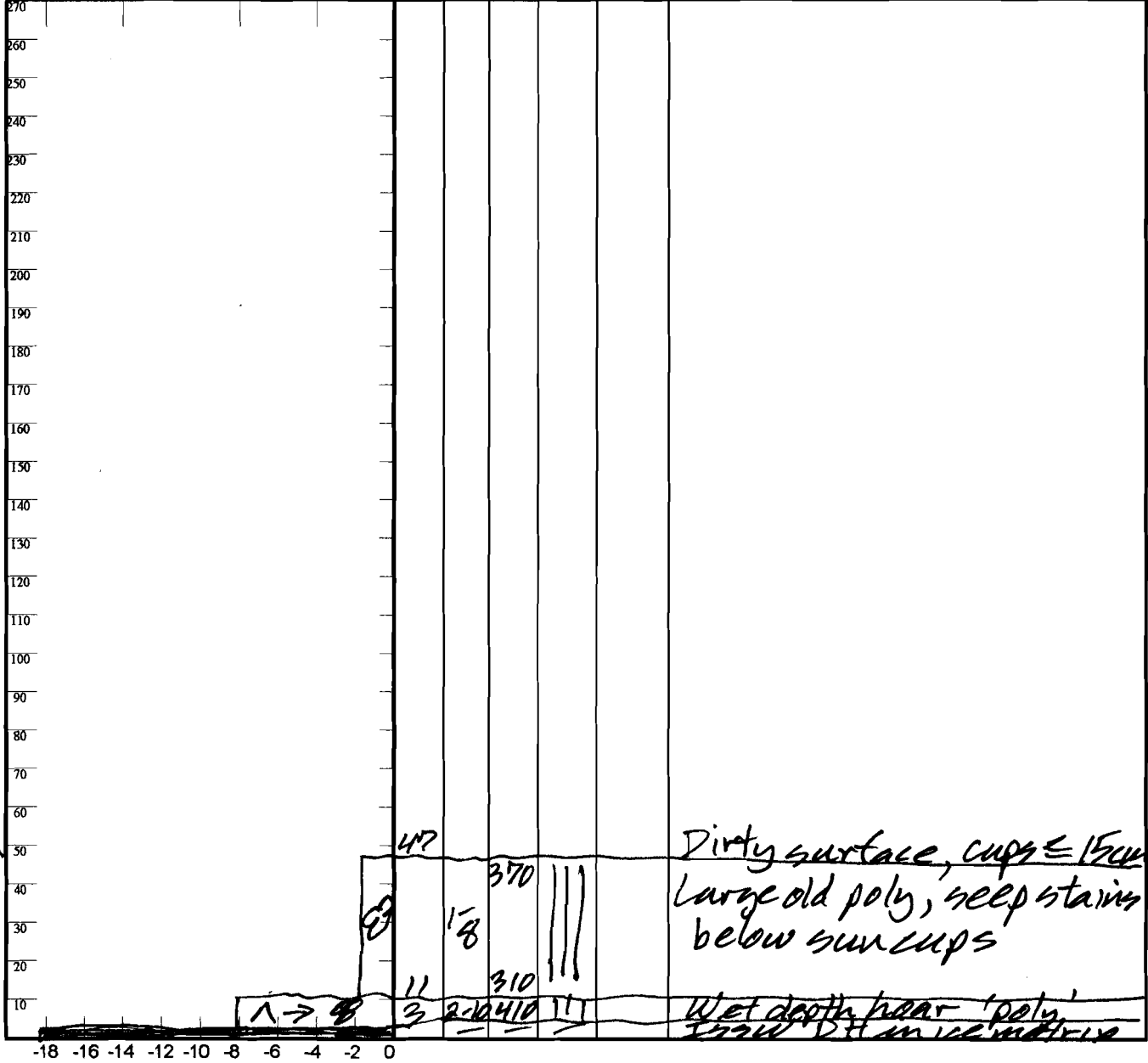
Wind: Nil

Prior Pit: # 35; 6/13/07

Total Snowpack SWE: 191 mm H<sub>2</sub>O

Notes: Hst = 0.50 m;  $\rho = 382$  kg/m<sup>3</sup>

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



7  
SWE  
44  
95  
52

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:									