8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	329/475

B-73
343+00.00 R 1
-40.0000

2672.51

2669.36

13

24

4

03/08

3

25

100/.55

ROADWAY EMBANKMENT, Brown silty sand with gravel and trace of mica

COLLUVIUM, Brown silty sand with gravel.

SAPROLITE, Gray to black sandy silt.

WEATHERED ROCK, Weathered rock of gneiss.

343+00.00

-L-

04-AUG-2008 09:46
D:\Projects\R2519B_GEO_RDWY_US19\CADD_GEOTECH\PlanProf\R2519B_GEO_xs1_1.5_10.290+00_431+00.dgn
$$$$USERNAME$$$$

8/23/99

0 2,5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	330/475

B-74
344+00.00 R I
-42.0000

2675.20
2672.93

ROADWAY EMBANKMENT, Brown silty sand with trace of gravel and boulders

13
30
17
607.05

03/08

SAPROLITE

ALLUVIUM

CRYSTALLINE ROCK, Amphibolite gneiss.

344+00.00

2695
2690
2685
2680
2675
2670
2665
2660
2655
2650

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

04-AUG-2008 09:46
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8/23/99

0 2.5 5

PROJ. REFERENCE NO. R-2519B

SHEET NO. 33 / 475

B-75
344+50.00 R 1
-43.0000

2676.59

2673.50

13

4

8

03/08

34

ROADWAY EMBANKMENT, Brown silty sand with trace of gravel and boulders

ALLUVIAL, Dark gray silty sand with gravel.

WEATHERED ROCK, Weathered rock of gneiss.

100/.55

60/.03

CRYSTALLINE ROCK, Amphibolite gneiss.

344+50.00

-L-

2695
2690
2685
2680
2675
2670
2665
2660
2655
2650
2645

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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8/23/99

0 2.5 5

PROJ. REFERENCE NO. R-2519B

SHEET NO. 332/475

B-76
345+00.00 R I
-41.0000

(23) (15) (2) (4) (19)

ROADWAY EMBANKMENT, Brown silty sand with trace of mica and gravel

ALLUVIAL, Gray silty sand.

03/08

ALLUVIAL, Coarse sand and gravel.

SAPROLITE, Gray-brown silty sand.

345+00.00

—L—

14-JUL-2008 11:02
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	333/475

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2695 2690 2685 2680 2675 2670 2665 2660 2655 2650 2645

B-77
345+50.00 R 1
-41.0000

(14) ROADWAY EMBANKMENT, Brown silty sand with trace of mica, gravel and boulders

(7)

(2) ALLUVIAL, Sand and gravel.

(15) ALLUVIAL, Gray silty sand.

(3) SAPROLITE, Brown silty sand with some mica.

(46)

345+50.00

-L-

14-JUL-2008 11:02
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$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	334/475

B-78
346+00.00 R I
-41.0000

7
8
3
12
2
11

ROADWAY EMBANKMENT, Brown silty sand with trace of gravel and boulders

03/08

ALLUVIAL, Dark gray silty sand with gravel and trace of mica

SAPROLITE, Tan silty sand with trace to little amounts of mica

346+00.00

2690
2685
2680
2675
2670
2665
2660
2655
2650
2645

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	335/475

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2695 2690 2685 2680 2675 2670 2665 2660 2655 2650 2645

B-70
347+00.00 R 1
-36.0000

100/.9 ROADWAY EMBANKMENT, Brown silty sand with trace of mica

7

5

03/08 ALLUVIAL, Gray silty sand with trace of organic matter.

9

12 ALLUVIAL, Gray silty sand and gravel.

6 SAPROLITE, Tan silty sand with some mica.

24

347+00.00

—L—

14-JUL-2008 11:03
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	3361 425

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

27.00
26.95
26.90
26.85

349+50.00

12-AUG-2008 14:23
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	337/425

WEATHERED ROCK

350+00.00

8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	338/476

WEATHERED ROCK

350+50.00

—L—

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	339/475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2735
2730
2725
2720
2715
2710
2705
2700
2695
2690

WEATHERED ROCK

351+00.00

—L—

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

05-AUG-2008 14:47
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	340 / 475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2750 2740 2730 2720 2710 2700

WEATHERED ROCK

352+00.00

2750 2740 2730 2720 2710 2700

WEATHERED ROCK

351+50.00

2740 2730 2720 2710 2700 2690

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

05-AUG-2008 15:42
$$USERNAME$$
$$$$

B-255
353+00.00 R I
-180.0000

5
4
3
5
15

SAPROLITE, Brown silty sand.

SAPROLITE, Brown silty sand with some mica.

50/.0 WEATHERED ROCK, Weathered rock of gneiss.

CRYSTALLINE ROCK, Amphibolite gneiss.

353+00.00

WEATHERED ROCK

352+50.00

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	342 / 475

WEATHERED ROCK

353+50.00

—L—

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	343/475

B-256
354+00.00 R I
-200.0000

9
20
26
9
19
52
23
100/.2
60/.0

SAPROLITE, Red-brown to brown silty sand with trace of mica, Mn0 seams and weathered rock fragments

DR14 - STA 12+76.30

WEATHERED ROCK, Weathered rock of gneiss.

CRYSTALLINE ROCK, Amphibolite gneiss.

354+00.00

05-AUG-2008 15:42
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$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	344/475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2800
2790
2780
2770
2760
2750
2740
2730
2720
2710

DR14 - STA 12+25.00

WEATHERED ROCK

354+50.00

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	345 475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2810
2800
2790
2780
2770
2760
2750
2740
2730
2720
2710

B-250
355+00.00 R I
-193.0000

(7) (8) (5) (3) (2) (12) (12) (17) (24) (68/0)

Red-brown to brown silty sand with quartz vein and trace to little amounts mica and MnO.

100/.2

WEATHERED ROCK, Weathered rock of gneiss.

CRYSTALLINE ROCK, Amphibolite gneiss.

355+00.00
—L—

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	346 / 475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2810 2800 2790 2780 2770 2760 2750 2740 2730 2720 2710

DRI4 – STA 11+23.00

WEATHERED ROCK

355+50.00

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	347/475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2810
2800
2790
2780
2770
2760
2750
2740
2730
2720
2710

STA

WEATHERED ROCK

356+00.00

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	343/475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2750
2740
2730
2720

WEATHERED ROCK

357+00.00

2770
2760
2750
2740
2730
2720

WEATHERED ROCK

356+50.00

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

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8/23/99

0 2,5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	340 / 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2750
2745
2740
2735
2730
2725
2720

357+50.00

05-AUG-2008 08:22
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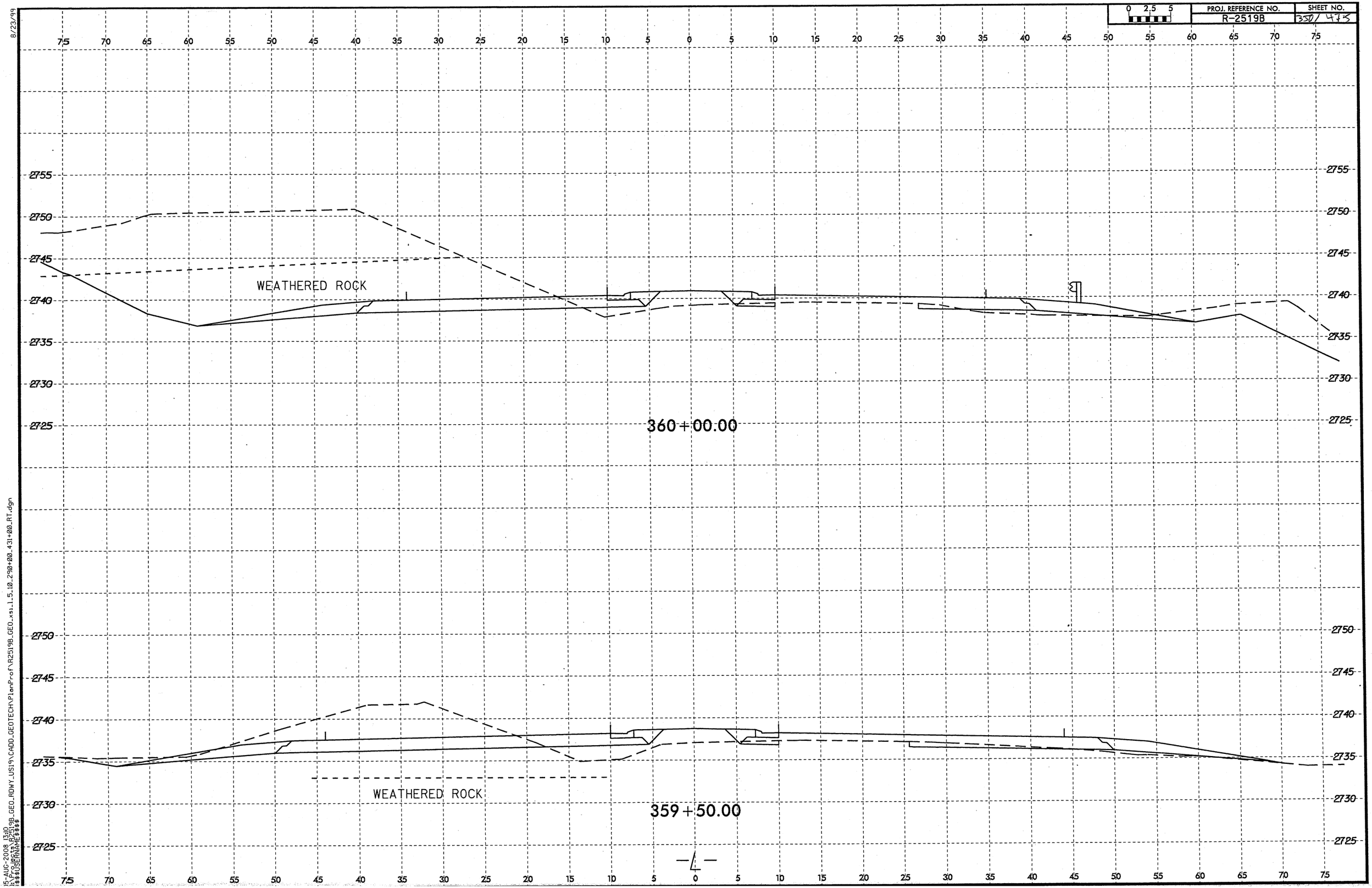
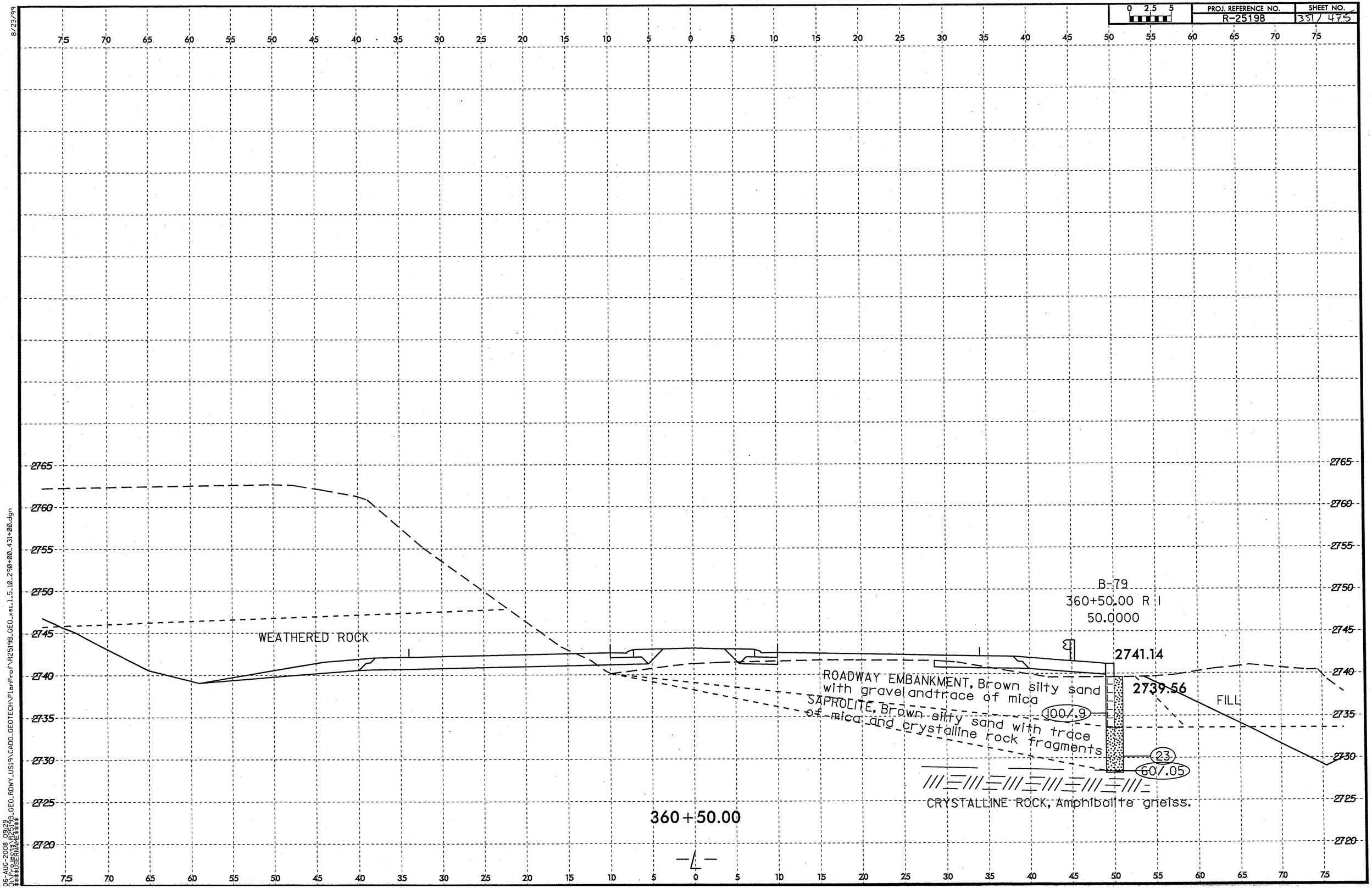


8/23/99

0 2.5 5

PROJ. REFERENCE NO. R-2519B

SHEET NO. 351 / 475



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$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	352 / 475

WEATHERED ROCK

361+00.00

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	353 476

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2775 2770 2765 2760 2755 2750 2745 2740 2735 2730 2725 2720 2715

WEATHERED ROCK

B-80
361+00.00 R I
50.0000

2743.33

2740.47

ROADWAY EMBANKMENT, Brown silty sand with little amounts of gravel

SAPROLITE, Dark brown silty sand with trace of mica.

WEATHERED ROCK, Weathered rock of gneiss.

CRYSTALLINE ROCK, Amphibolite gneiss.

(11) (100+) (31) 607.08

FILL

DRIVE STA 11+91.56

361+00.00

—L—

11-AUG-2008 13:14
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8/23/99

0 2.5 5

PROJ. REFERENCE NO. R-2519B

SHEET NO. 354 of 475

SAPROLITE

WEATHERED ROCK

SAPROLITE

ROAD

SAPR
mica

SAPRO
mica

361+50.00

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	355/475

SAPROLITE

WEATHERED ROCK

SAPROLITE

B-81
361+50.00 R 1
47.0000

2745.50

DRIS
STA 12+42.48

ROADWAY EMBANKMENT, Brown silty sand with gravel.

SAPROLITE, Brown to black silty sand with trace of mica

2739.44

13

WEATHERED ROCK, Weathered rock of gneiss.

100/.85

SAPROLITE, Brown to black silty sand with trace of mica

100/.65

WEATHERED ROCK, Weathered rock of gneiss.

75

SAPROLITE, Brown to black silty sand with trace of mica

63

60/.07

CRYSTALLINE ROCK, Amphibolite gneiss.

361+50.00

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	356 A 425

B-249
362+00.00 R I
-130.0000

20
18
19
26
14
28
50
100/.8
100/.6
100/.6

SAPROLITE, Brown silty sand with trace of mica.

WEATHERED ROCK, Weathered rock of gneiss.

SAPROLITE

362+00.00

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	357/475

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2785 2780 2775 2770 2765 2760 2755 2750 2745 2740 2735 2730 2725 2720 2715 2710

SAPROLITE

B-82
362+00.00 R-1
53.0000

DRIS
STA 12+93.33

2747.67

ARTIFICIAL FILL, Brown silty sand with trace of mica.

10

2741.74

COLLUVIUM, Brown silty clay.

8

COLLUVIUM, Brown sandy silt.

9

SAPROLITE, Brown silaty sand with a little amount of mica

11

66

WEATHERED ROCK, Weathered rock of gneiss.

100/.9

60/.0A

CRYSTALLINE ROCK, Amphibolite gneiss.

362+00.00

4

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	358 / 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2790 2785 2780 2775 2770 2765 2760 2755 2750 2745 2740

SAPROLITE

EMBANKMENT

362+50.00

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

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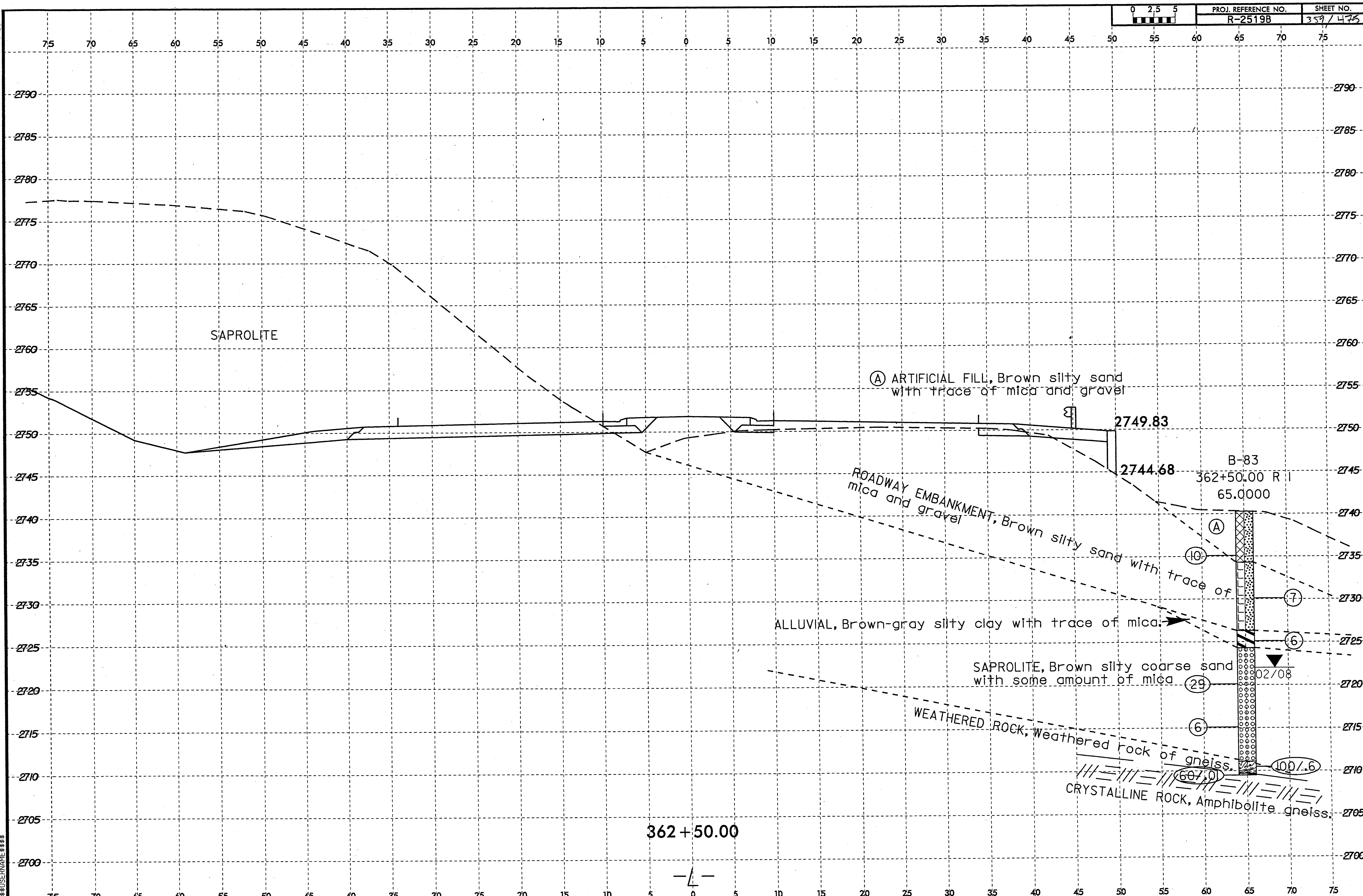

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	360/475

SAPROLITE

EMBANKMENT

363+00.00

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8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	361 / 475

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2760 2755 2750 2745 2740 2735 2730 2725 2720 2715 2710 2705 2700 2695

2751.98

2749.04

EMBANKMENT

Ⓐ ARTIFICIAL FILL, Brown silty sand with trace of mica.

B-84
363+00.00 R I
75.0000

Ⓐ

92/08

(3) ALLUVIAL, Gray-brown sandy silt with trace of mica.

ALLUVIAL, Sand and gravel.

(12)

(18)

SAPROLITE, Brown-gray silty sand with little amount of mica

(32)

100/.8

WEATHERED ROCK, Weathered rock of gneiss.

SAPROLITE, Brown-gray silty sand with trace of mica.

(31)

60/.03

CRYSTALLINE ROCK, Amphibolite gneiss.

363+00.00

07-AUG-2008 08:49
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	362 475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2880

2870

2860

2850

2840

2830

2820

2810

2800

2790

2780

B-242
374+00.00 R 1
-220.0000

15
20
23
80
75
30
45
8
54
46
100/.8

02/08

SAPROLITE, Brown silty sand with trace to little amounts of mica

WEATHERED ROCK, Weathered rock of gneiss.

CRYSTALLINE ROCK, Amphibolite gneiss.

B-247
374+00.00 R 1
-115.0000

14
32
27
25
14
30
24
36
22
10
100/.8
60/.1

SAPROLITE, Brown silty sand with trace of mica.

WEATHERED ROCK, Weathered rock of gneiss.

374+00.00

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	363/475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2890
2880
2870
2860
2850
2840
2830
2820
2810
2800

375+50.00

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

13-AUG-2008 15:42
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8/23/99

0 5 10

PROJ. REFERENCE NO. R-2519B

SHEET NO. 364/473

B-243
376+00.00 R I
-150.0000

13
10
29
17
35
47
38
48
60/.1

100/.6

SAPROLITE, Brown silty sand with trace to little amounts of mica

WEATHERED ROCK, Weathered rock of gneiss.

CRYSTALLINE ROCK, Amphibolite gneiss.

376+00.00

2910
2900
2890
2880
2870
2860
2850
2840
2830
2820
2810

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	365/478

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2900
2890
2880
2870
2860
2850
2840
2830
2820
2810

376+50.00

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	366/475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2910
2900
2890
2880
2870
2860
2850
2840
2830
2820
2810

377+00.00

13-AUG-2008 15:39
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	367/475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2920
2915
2910
2905
2900
2895
2890
2885

389+00.00

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2920
2915
2910
2905
2900
2895
2890
2885

13-AUG-2008 15:48
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	368/475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2940
2935
2930
2925
2920
2915
2910
2905
2900
2895
2890
2885

389+50.00

14-AUG-2008 12:37
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	369/475

B-234
390+00.00 R I
-160.0000

41 | 87
15 | 100/.3
60/.1
100/.3
60/.0

SAPROLITE, Brown silty sand with trace of mica and MnO stains

WEATHERED ROCK, Weathered rock of pegmatite.

CRYSTALLINE ROCK, Granitic pegmatite.

390+00.00

07-AUG-2008 08:38
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	370/475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2960
2950
2940
2930
2920
2910
2900
2890
2880

390+50.00

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

15-AUG-2008 09:37
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8/23/99

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	371 / 475

WEATHERED ROCK

391+00.00

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	372 / 425

WEATHERED ROCK

391+50.00

04-AUG-2008 09:03
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8/23/99

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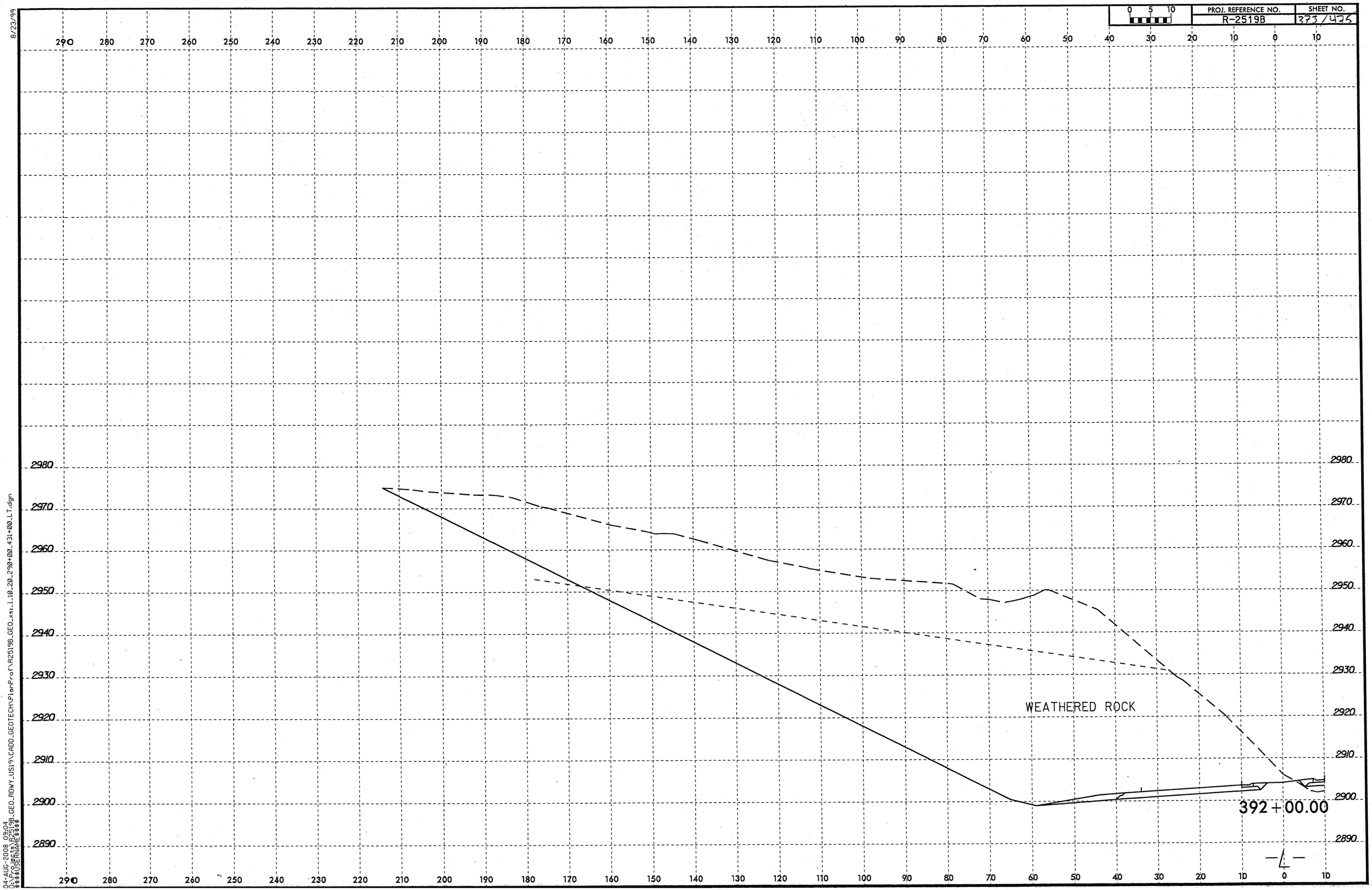
	R-2519B	373/425



8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	374/475

WEATHERED ROCK

392+50.00

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	375/475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

3000 2990 2980 2970 2960 2950 2940 2930 2920 2910 2900

B-235
393+00.00 R I
-120.0000

18
72
52
36
100/.8
100/.4
100/.1
60/.1
100/.7
60/.0

SAPROLITE, White silty sand with trace of mica.

WEATHERED ROCK, Weathered rock of pegmatite.

CRYSTALLINE ROCK, Granitic pegmatite with weathered rock seam.

SAPROLITE, White silty sand.

393+00.00

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	376/475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

3000
2990
2980
2970
2960
2950
2940
2930
2920
2910
2900

WEATHERED ROCK

393+50.00

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

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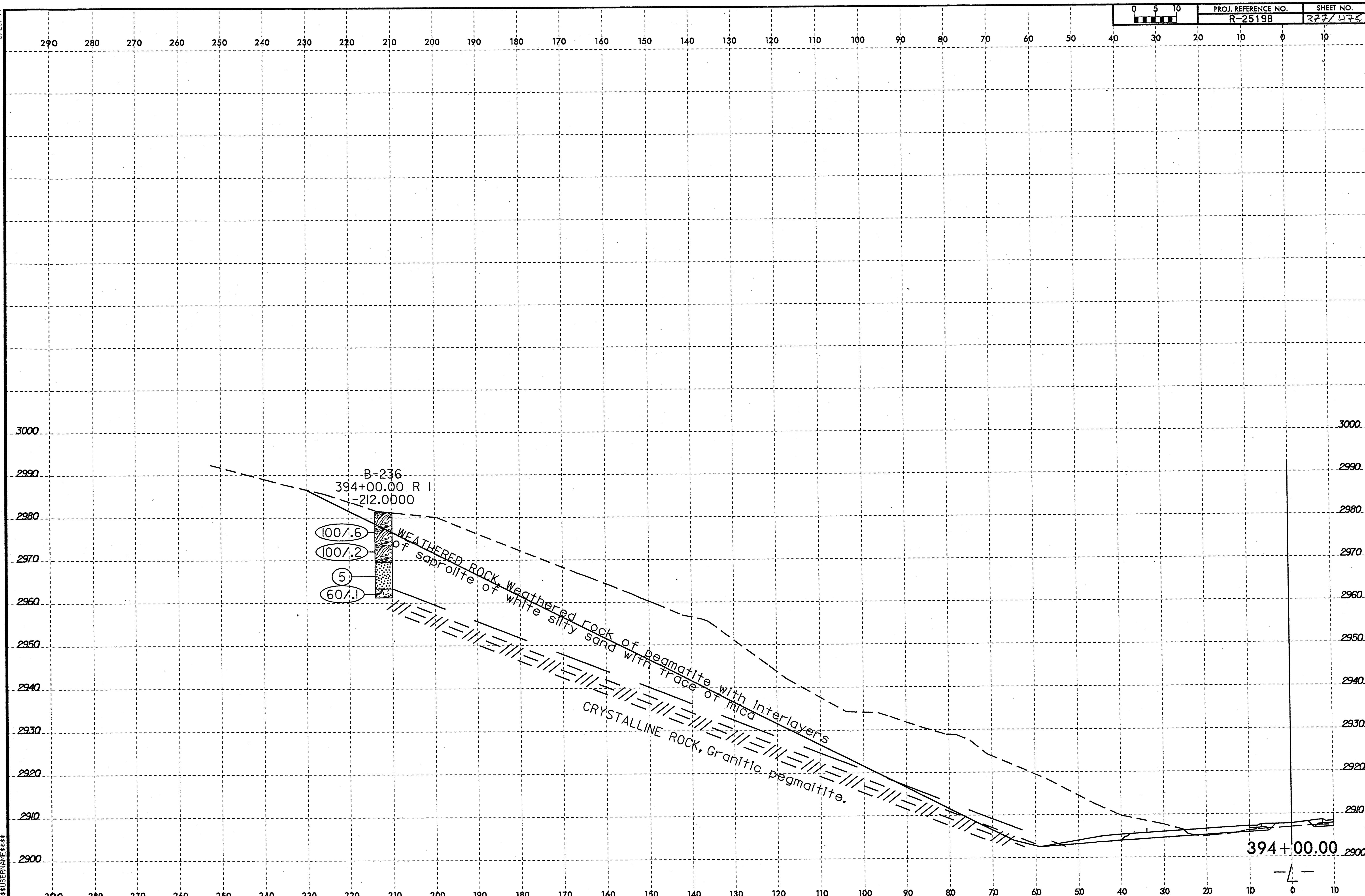
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R-2519B
SHEET NO.
377/475
0 5 10
B-236
394+00.00 R I
-212.0000
100/.6
100/.2
5
60/.1
WEATHERED ROCK, Weathered rock of pegmatite with interlayers of saprolite of white silty sand with trace of mica
CRYSTALLINE ROCK, Granitic pegmatite.
394+00.00
3000
2990
2980
2970
2960
2950
2940
2930
2920
2910
2900
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
10
8/23/99

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	378/475

394+50.00 R I

394+50.00

—L—

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2980 2970 2960 2950 2940 2930 2920 2910 2900 2890 2880 2870 2860 2850 2840 2830 2820 2810 2800 2790

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	370 / 475

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

2910
2900
2890
2880
2870
2860
2850
2840
2830
2820
2810
2800
2790
2780
2770

396+00.00

COLLUVIUM, Brown sandy silt with gravel and boulders.

WEATHERED ROCK, Weathered rock of gneiss.

CRYSTALLINE ROCK, Amphibolite gneiss.

B-118
396+00.00 R 1
232.0000

67
100/.4
80/.1
60/.0

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	380/475

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

2910 2900 2890 2880 2870 2860 2850 2840 2830 2820 2810 2800 2790 2780 2770 2760 2750

EMBANKMENT

397+00.00

—L—

B-119
397+00.00 R
280.0000

COLLUVIUM, Yellow-brown clayey silt with trace of gravel.

SAPROLITE, Brown silty sand with trace of weathered rock fragments

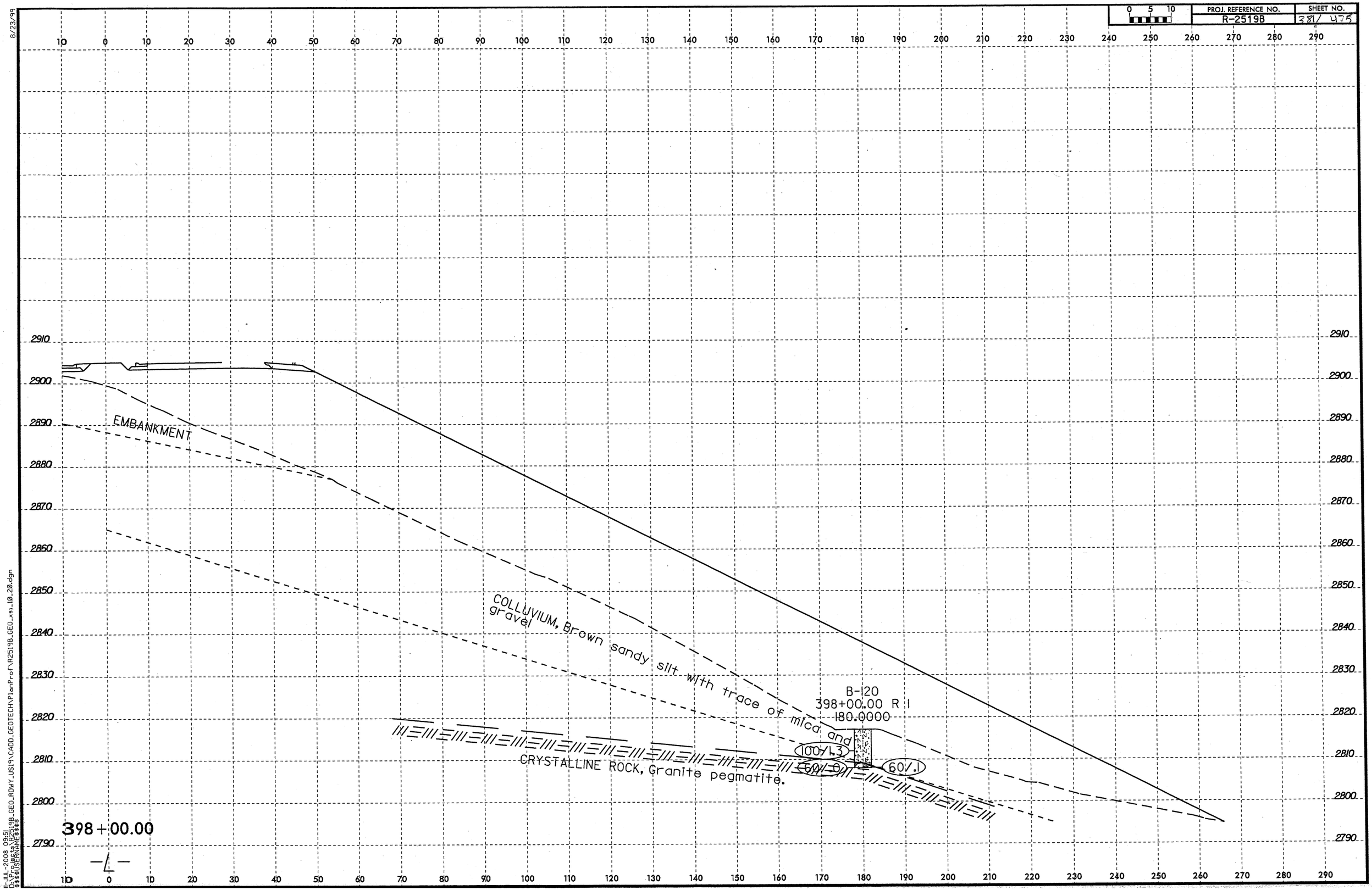
SAPROLITE, Tan sandy silt with little mica.

WEATHERED ROCK, Weathered rock of granitic gneiss

9 8 8 4 8 +00/.3

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	381 475



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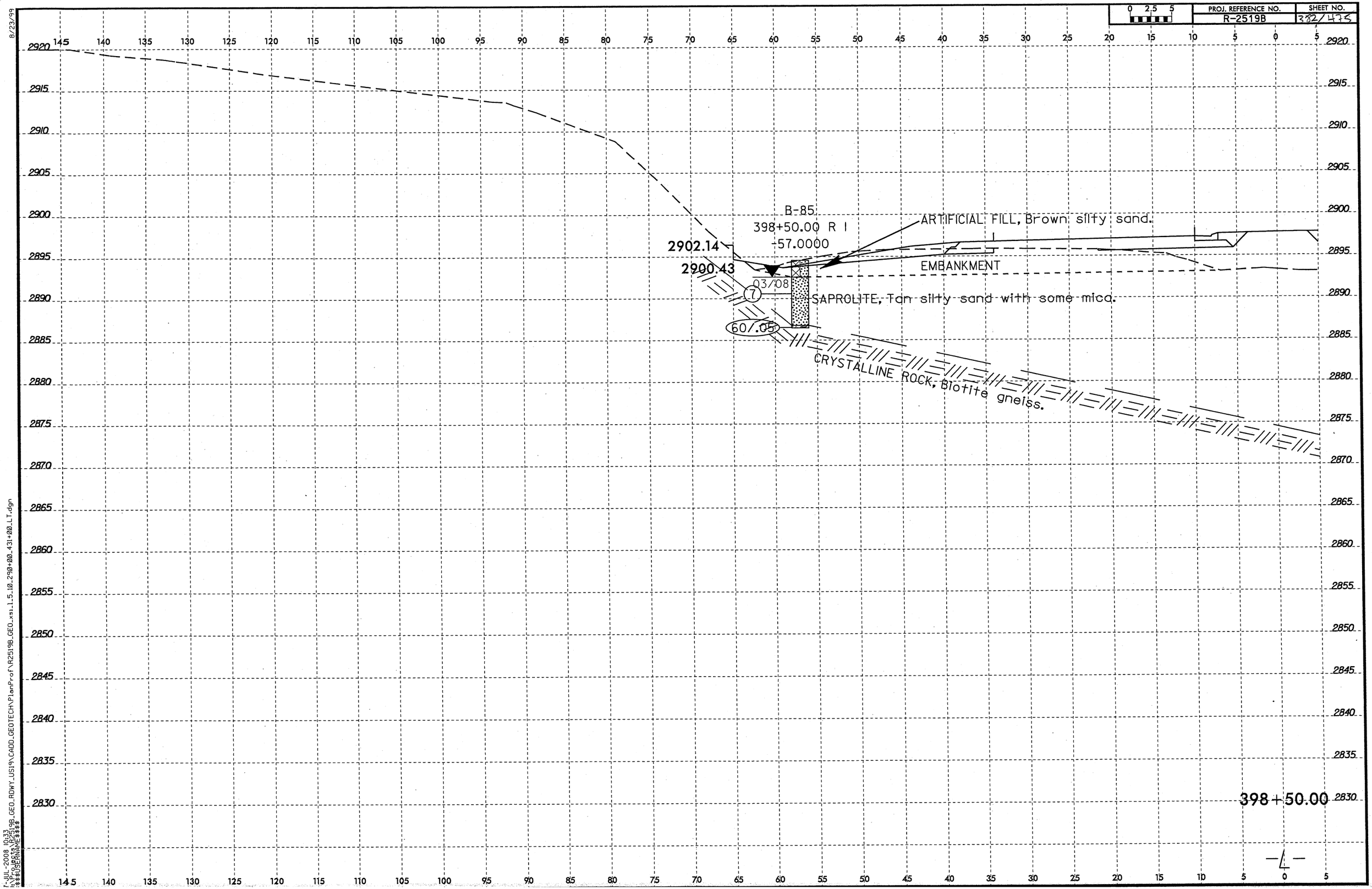
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	382/475



8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	333/475

B-86
399+00.00 R I
-56.0000

2901.56
2898.97

ARTIFICIAL FILL, Brown silty sand.

EMBANKMENT

36

SAPROLITE, Gray silty sand.

100/.25

WEATHERED ROCK, Weathered rock of gneiss.

60/.04

CRYSTALLINE ROCK, Biotite gneiss.

399+00.00

—4—

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	384/475

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

2910
2900
2890
2880
2870
2860
2850
2840
2830
2820
2810

EMBANKMENT

SAPROLITE, Brown silty sand and sandy silt with little to some mica and MnO staining

COLLUVIUM, Gray-brown sandy silt with trace of gravel.

WEATHERED ROCK, Weathered rock of gneiss.

B-121
399+00.00 R I
195.0000

32
12
60/7.0
13

399+00.00

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	385/425

B-87
399+50.00 R I
56.0000
2899.50
2898.00
607.04

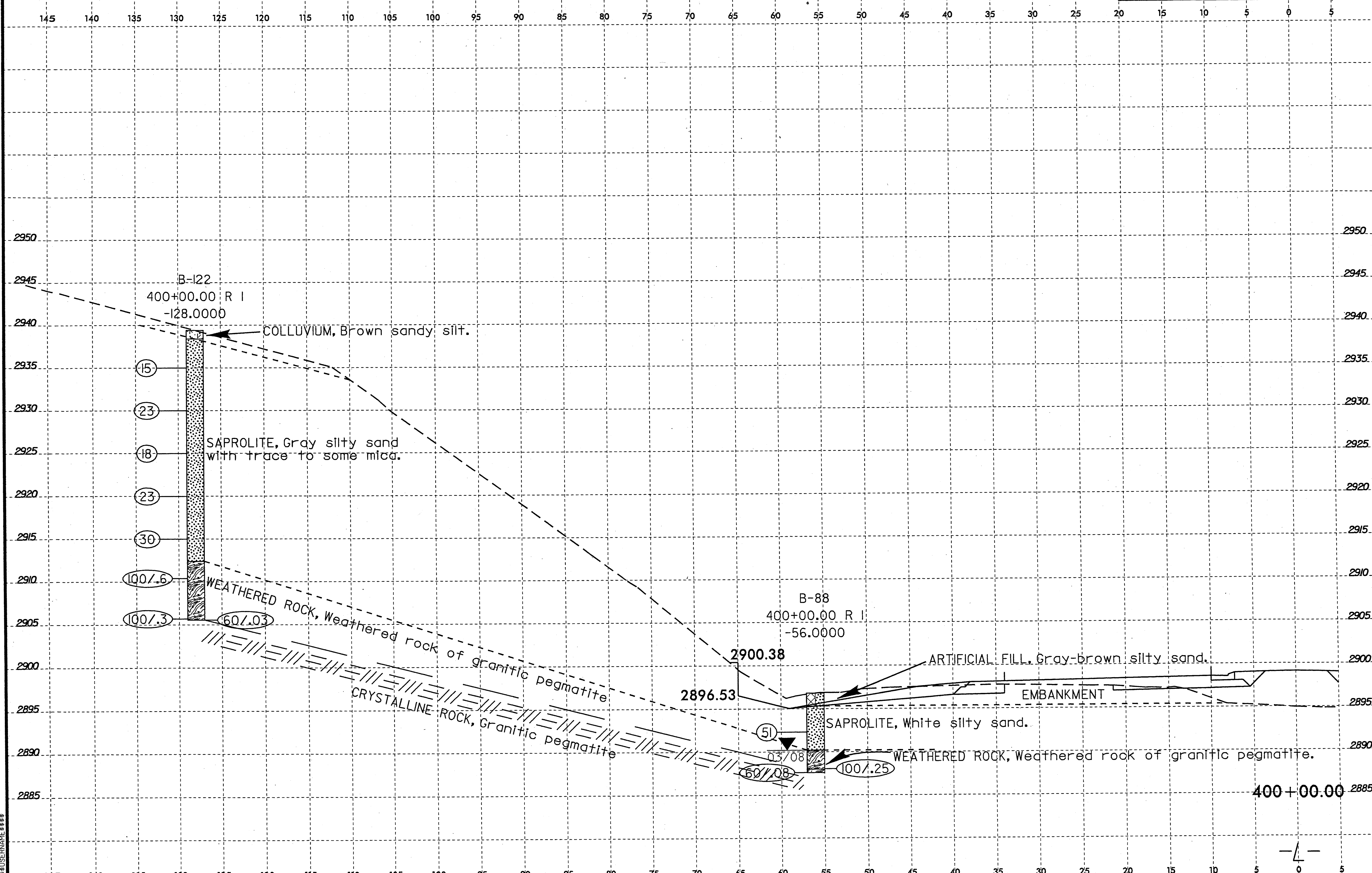
ARTIFICIAL FILL, Brown silty sand.

SAPROLITE, Gray silty sand.

CRYSTALLINE ROCK, Biotite gneiss.

399+50.00

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	386/425



8/23/99

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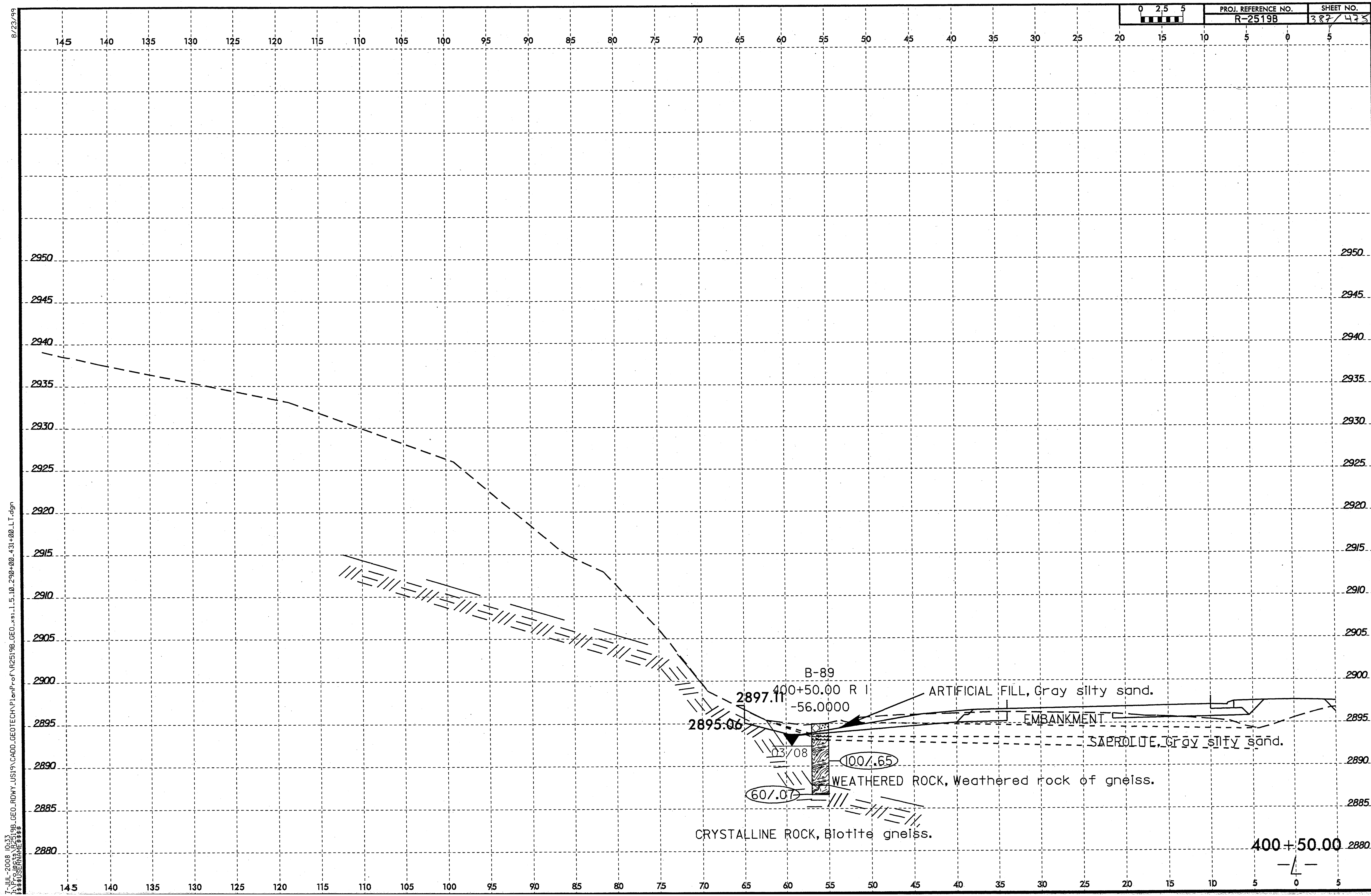

PROJ. REFERENCE NO.
R-2519B
SHEET NO.
387/475
8/23/99
B-89
400+50.00 R I
-56.0000
2897.11
2895.06
03/08
100/.65
60/.07
ARTIFICIAL FILL, Gray silty sand.
EMBANKMENT
SAPROLITE, Gray silty sand.
WEATHERED ROCK, Weathered rock of gneiss.
CRYSTALLINE ROCK, Biotite gneiss.
400+50.00
7-JUL-2008 10:33

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	388/475

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2915 2910 2905 2900 2895 2890 2885 2880

B-91
401+50.00 -R-1
-60.0000

ARTIFICIAL FILL, Gray silty sand.

EMBANKMENT

47

SAPROLITE, White silty sand.

60/.01

CRYSTALLINE ROCK, Biotite gneiss.

401+50.00

B-90
401+00.00 R 1
-57.0000

ARTIFICIAL FILL, Gray silty sand.

EMBANKMENT

9

SAPROLITE, Gray silty sand with trace of mica.

60/.03

CRYSTALLINE ROCK, Biotite gneiss.

401+00.00

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2915 2910 2905 2900 2895 2890 2885 2880

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	389 / 475

B-92
402+00.00 R 1
-58.0000

ARTIFICIAL FILL, Brown sand and gravel.

EMBANKMENT

SAPROLITE, White silty sand.

100/.3

WEATHERED ROCK, White weathered rock of pegmatite.

100/.5

60/.05

CRYSTALLINE ROCK, Pegmatite.

402 + 00.00

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	390/475

B-93
402+50.00 R 1
-58.0000

ARTIFICIAL FILL, Brown sand and gravel.

EMBANKMENT

SAPROLITE, White silty sand.

100/.6

100/.3

WEATHERED ROCK, Weathered rock of pegmatite.

60/.0'

CRYSTALLINE ROCK, White pegmatite.

402+50.00
-L-

14-JUL-2008 08:45
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8/23/99

0 2,5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	391/473

B-124
407+00.00 R I
83.0000

53 — 72 — SAPROLITE, White silty sand with trace of mica.

32 — WEATHERED ROCK, Weathered rock of pegmatite.

100/.9

75 — SAPROLITE, White silty sand with trace of mica.

94

407+00.00

2895 2890 2885 2880 2875 2870 2865 2860

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	392 / 475

B-237
407+50.00 R 1
-130.0000

37
15
32
94
30
87
56
30
25
100/.7
100/.8

SAPROLITE, Brown and white silty sand with trace of mica

WEATHERED ROCK, Weathered rock of gneiss.

407+50.00

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	393/475

B-123
407+50.00 R 1
31.0000

47
100/.4
100/.2
100/.4
100/.2
100/.9

RESIDUAL, Tan sandy clay with trace of mica.

WEATHERED ROCK, Weathered rock of gneiss.

Interlayers of silty sand with some mica, saprolite, silty clay saprolite and weathered rock of gneiss

04/08

407+50.00

-L-

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8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	394/475

B-125
408+00.00 R I
91.0000

ARTIFICIAL FILL, Sand and gravel.

100/.3
100/.2
100/.3
100/.2
10/.0

WEATHERED ROCK, Weathered rock of granitic pegmatite.

408+00.00

2895
2890
2885
2880
2875
2870
2865

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8/23/99

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	395/475

B-238
408+50.00 R 1
-139.0000

27
21
10
22
22
23
64
15
52
74
60/0

SAPROLITE, Brown and white silty sand with trace of mica

CRYSTALLINE ROCK, Granitic pegmatite.

WEATHERED ROCK, Weathered rock of pegmatite.

408+50.00

—L—

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	396/475

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

2870
2860
2850
2840
2830
2820
2810
2800
2790
2780
2770

EMBANKMENT

DRY STA II

COLLUVIUM, Brown sandy silt with cobbles and boulders.

SAPROLITE, Black to orange silty sand with some mica.

WEATHERED ROCK, Weathered rock of gneiss.

B-126
411+50.00 R I
227.0000

21
100/.3
100/.2

411+50.00

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	397/475

EMBANKMENT

B-127
415+00.00 R
120.0000

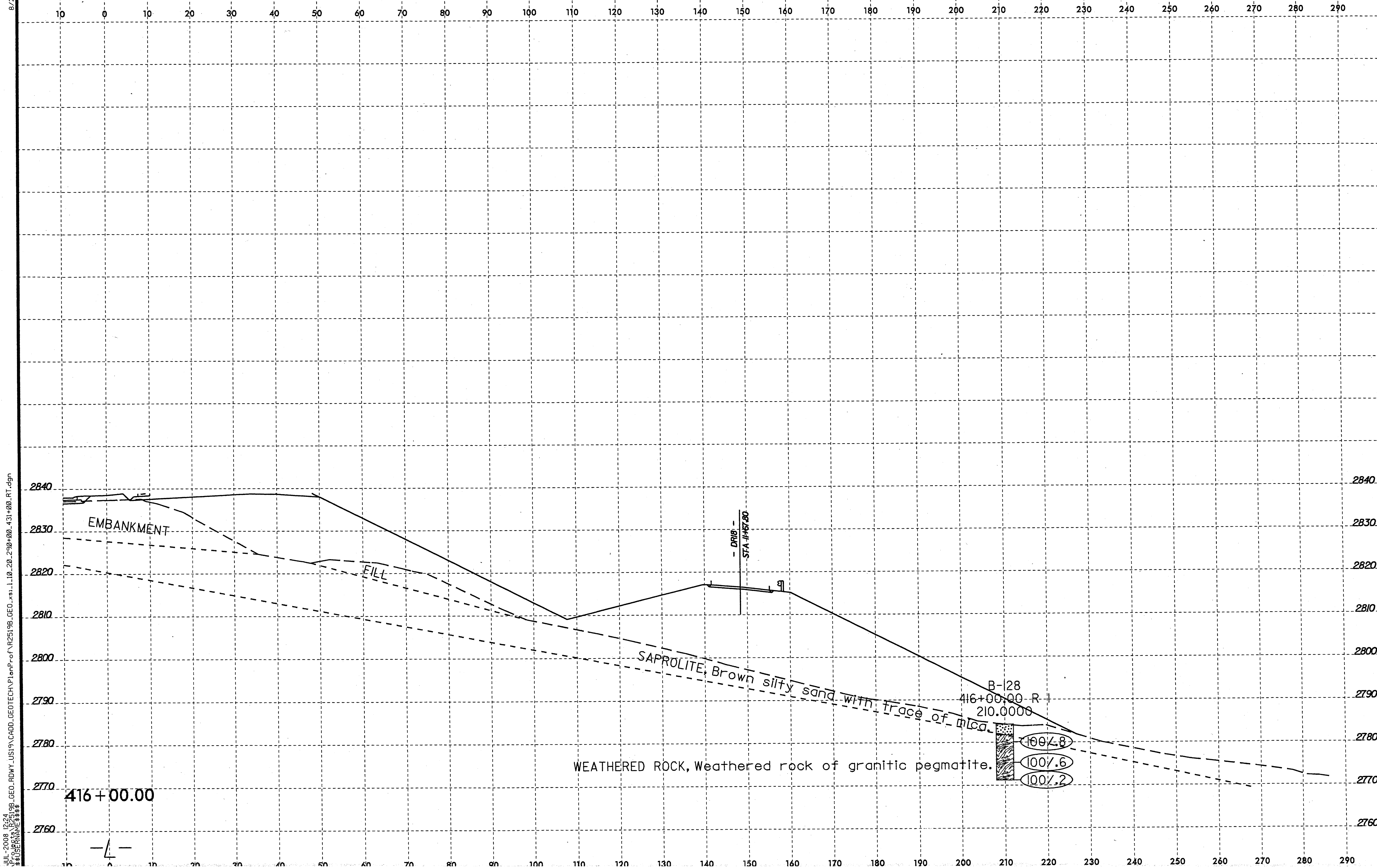
SAPROLITE, White to gray silty sand with little mica.

(1) (46) 60/.0 ▽ 04/08

CRYSTALLINE ROCK, Amphibolite gneiss.

415+00.00

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	398/475



8/23/99

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	399 / 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2825 2820 2815 2810 2805 2800 2795 2790 2785 2780

422+50.00

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	460/473

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2795
2790
2785
2780
2775

423+50.00

2795
2790
2785
2780

423+00.00

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	481 / 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2805
2800
2795
2790
2785
2780
2775
2770

424+00.00

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	402/473

425+00.00

424+50.00

2780
2775
2770
2765
2785

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	403/475

B-268
11+02.00 R 1
0.0000

COLLUVIUM, Red-brown silty clay with sand.

SAPROLITE, Brown to gray silty sand.

32
26
12
17

11+00.00

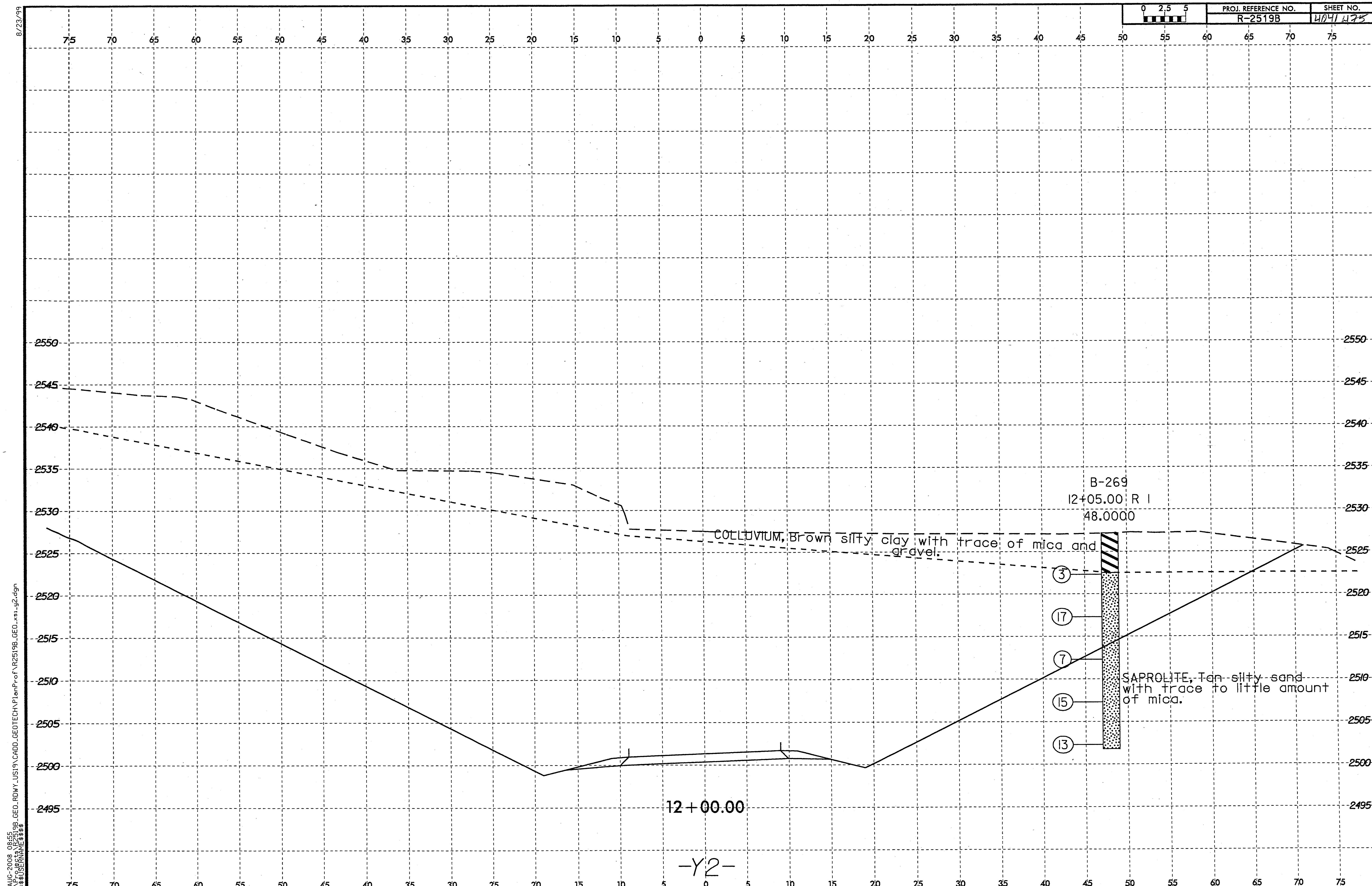
-Y2-

-L-

2540
2535
2530
2525
2520
2515
2510
2505
2500
2495

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	404/475



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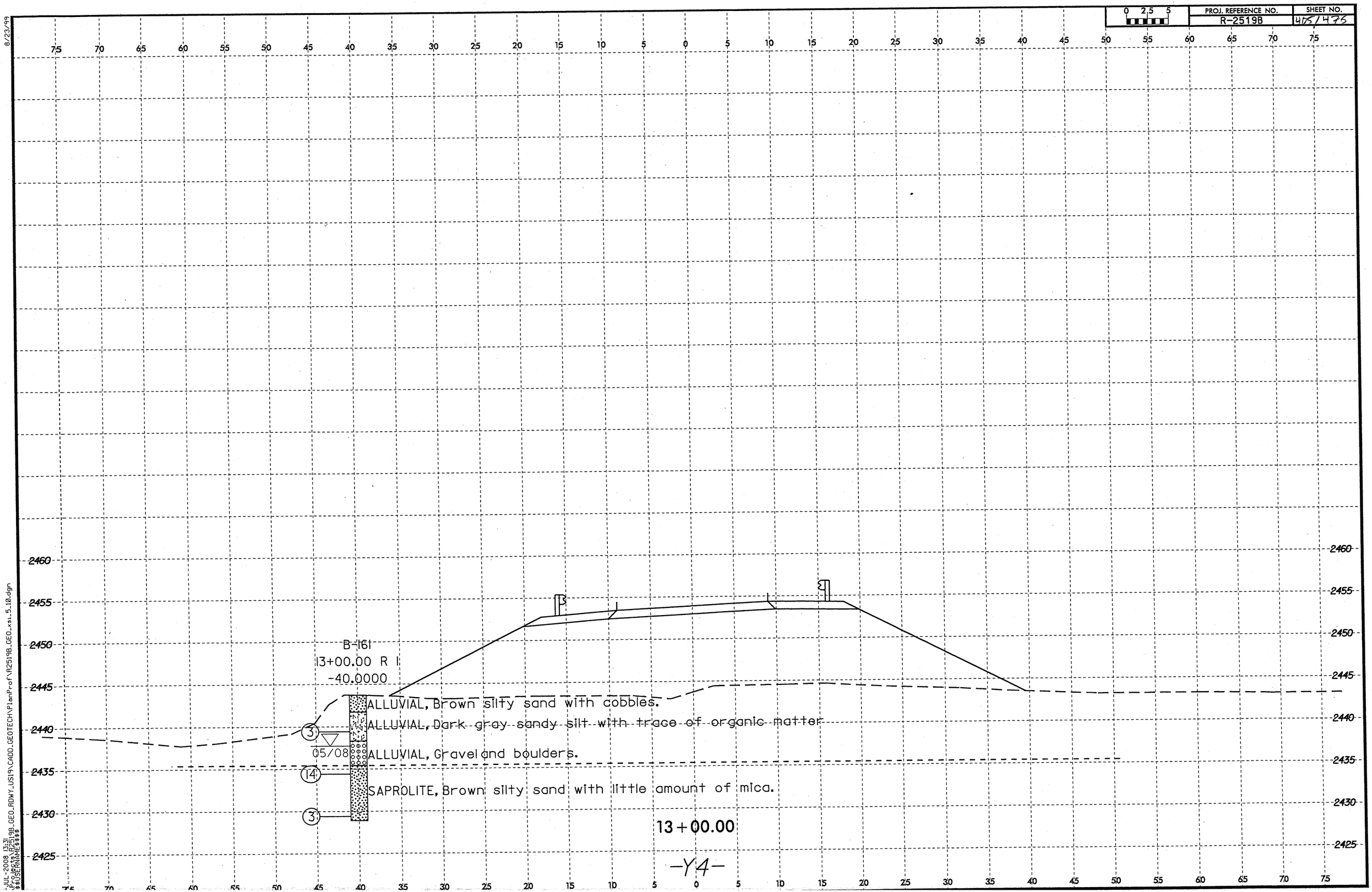
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	475/475



13+00.00

-Y4-

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	406 & 475

B-139
11+50.00 R I
-75.0000

COLLUVIUM, Brown silty clay with sand.

COLLUVIUM, Gravel and boulders.

SAPROLITE, Brown-gray silty sand.

CRYSTALLINE ROCK, Amphibolite gneiss.

3

49

84

60/.09

11+50.00

-Y5-

8/23/99

0 2.5 5

PROJ. REFERENCE NO. R-2519B

SHEET NO. 407 & 415

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2505 2500 2495 2490 2485 2480 2475 2470 2465 2460 2455 2450

COLLUVIUM, Brown silty clay with sand and gravel.

SAPROLITE, Gray-brown silty sand.

WEATHERED ROCK, Weathered rock of gneiss.

CRYSTALLINE ROCK, Amphibolite gneiss.

B-149
12+00.00 R
40.0000

11

100/.5

60/.08

12+00.00

-Y5-

2-JUL-2008 14:11
$$$$USERNAME$$$$
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	408 of 475

B-142
12+50.00 R I
-65.0000

(12) COLLUVIUM, Brown silty clay with sand and gravel.

(11) COLLUVIUM, Brown silty clay with gravel and boulders.

100/.5 WEATHERED ROCK, Weathered rock of gneiss.

60/.08 CRYSTALLINE ROCK, Amphibolite gneiss.

NOTE : Sporadic 1' X 2' outcrops in existing cut

12+50.00
-Y5-

8/23/99

0 2.5 5

PROJ. REFERENCE NO. R-2519B

SHEET NO. 474 / 475

NOTE : Sporadic 1' X 2' outcrops in existing cut

13+00.00

-Y5-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	410/ 475

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2485
2480
2475
2470
2465
2460
2455

13+50.00

-Y5-

20-AUG-2008 08:24
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$$$$USERNAME$$$$

8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	411 / 475

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2495
2490
2485
2480
2475
2470
2465
2460
2455
2450

14+00.00

-Y5-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	412 / 475

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2530
2525
2520
2515
2510
2505
2500
2495
2490
2485
2480
2475

B-263
11+46.00 R I
67.0000

COLLUVIUM, Brown silty clay with sand

SAPROLITE, Brown silty sand with little mica.

WEATHERED ROCK, Weathered rock of gneiss.

SAPROLITE, Brown silty sand with little mica.

SEE X-SEC FOR 11+51.50

7
13
6
9
5

2488.25

100/.85

11+50.00

-Y6-

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

AUG-2008 15:04
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8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	413/475

B-263
11+46.00 R 1
67.0000

SEE X-SEC FOR L.T. 51+50

COLLUVIUM, Brown silty clay with sand

SAPROLITE, Brown silty sand with little mica.

WEATHERED ROCK, Weathered rock of gneiss.

2488.25

SAPROLITE, Brown silty sand with little mica.

100/.85

11+50.00

-Y6-

2520
2515
2510
2505
2500
2495
2490
2485
2480

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

7 13 6 9 5

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	410 / 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2560 2555 2550 2545 2540 2535 2530 2525 2520 2515 2510 2505 2500 2495 2490

12+00.00

-Y6-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	415/476

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2550 2545 2540 2535 2530 2525 2520 2515 2510 2505 2500 2495 2490 2485 2480

SEE X-SEC FOR -L- 51+00

2491.69

12+00.00

-Y6-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	476 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2590 2585 2580 2575 2570 2565 2560 2555 2550 2545 2540 2535 2530 2525 2520 2515 2510 2505 2500

12+50.00

-Y6-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	417/475

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2585 2580 2575 2570 2565 2560 2555 2550 2545 2540 2535 2530 2525 2520 2515 2510 2505 2500 2495

SEE X-SEC FOR -L-

2504.94

12+50.00

-Y6-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	413/ 475

13+

ARTIFICIAL FILL, Brown silty sand

SAPROLITE, Dark brown silty sand with little mi

CRYSTALLINE R

13+00.00

-Y6-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	419 / 475

B-265
13+25.00 R I
8.0000

n silty sand.

th little mica.

9

60/.04

RYSTALLINE ROCK, Amphibolite gneiss.

SEE X-SEC FOR –L– 50+50

2519.94

13+00.00

-Y6-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	420/425

B-264
13+73.00 R
3.0000

ARTIFICIAL FILL, Brown silty sand.
COLLUVIUM, Red-brown silty clay with gravel.
SAPROLITE, Brown silty sand.
WEATHERED ROCK, Weathered rock of gneiss.
CRYSTALLINE ROCK, Amphibolite gneiss.

(4) (37) 60/.08 100/.25

13+50.00
-Y6-

13-AUG-2008 10:03
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	421 / 475

B-264
13+73.00 R 1
3.0000

ARTIFICIAL FILL, Brown silty sand.

COLLUVIUM, Red-brown silty clay with gravel.

SAPROLITE, Brown silty sand.

WEATHERED ROCK, Weathered rock of gneiss.

CRYSTALLINE ROCK, Amphibolite gneiss.

FILL

FOR L- 50+00

13+50.00

-Y6-

8/23/99

0 2,5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	422/475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2595 2590 2585 2580 2575 2570 2565 2560 2555 2550 2545 2540 2535 2530 2525 2520 2515 2510 2505 2500

14+00.00

-Y6-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	423/475

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2590 2585 2580 2575 2570 2565 2560 2555 2550 2545 2540 2535 2530 2525 2520 2515 2510 2505 2500

SEE X-SEC FOR -L- 49+50

14+00.00
-Y6-

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

21-AUG-2008 14:47
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	424 / 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2590 2585 2580 2575 2570 2565 2560 2555 2550 2545 2540 2535 2530 2525

14+50.00

-Y6-

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	425/475

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2560 2555 2550 2545 2540 2535 2530 2525 2520 2515 2510 2505 2500 2495

SEE X-SEC FOR -L- 49+00

14+50.00

-Y6-

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2560 2555 2550 2545 2540 2535 2530 2525 2520 2515 2510 2505 2500 2495

11-AUG-2008 14:48
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8/23/99

0 2,5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	426/476

B-266
10+30.00 R I
-40.0000

SEE X-SEC FOR -L-

SEE X-SEC FOR -L-

10/06

(28)

ALLUVIAL, Brown sand and gravel.

10+50.00

B-267
10+25.00 R I
0.0000

ALLUVIAL, Brown silty sand.

10/06

(8)

ALLUVIAL, Gravel and boulders.

CRYSTALLINE ROCK, Amphibolite gneiss

10+00.00

-Y14-

3-AUG-2008 10:29
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	422 of 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2595
2590
2585
2580
2575
2570

10+00.00

-Y16-

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	428 & 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2620
2615
2610
2605
2600
2595
2590
2585
2580
2575
2570
2565
2560

SEE X-SEC FOR -L-

10+50.00

-Y16-

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2620
2615
2610
2605
2600
2595
2590
2585
2580
2575
2570
2565
2560

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	424 / 475

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2585
2580
2575
2570
2565

SHEAR TO –L–

10+50.00
–Y16–

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2585
2580
2575
2570
2565

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	430 A 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2630 2625 2620 2615 2610 2605 2600 2595 2590 2585 2580 2575 2570 2565

SEE X-SEC FOR -L- 158+50

2607.173

11+00.00

-Y16-

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

4-AUG-2008 08:54
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8/23/99

0 2.5 5

PROJ. REFERENCE NO. R-2519B

SHEET NO. 431 / 475

B-187
10+95.00 R L
-40.0000

ARTIFICIAL FILL, Brown silty sand.

SAPROLITE, Brown silty sand with little amount of mica.

400/.9

60/.02

CRYSTALLINE ROCK, White pegmatite.

SEE X-SEC FOR -L-

11+00.00

-Y16-

7-JUN-2008 08:41
$$$$USERNAME$$$$
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8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	4322 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2625 2620 2615 2610 2605 2600 2595 2590 2585 2580 2575 2570 2565

11+50.00

-Y16-

14-AUG-2008 08:54
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	433 / 475

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2610
2605
2600
2595
2590
2585
2580
2575
2570

11+50.00

-Y16-

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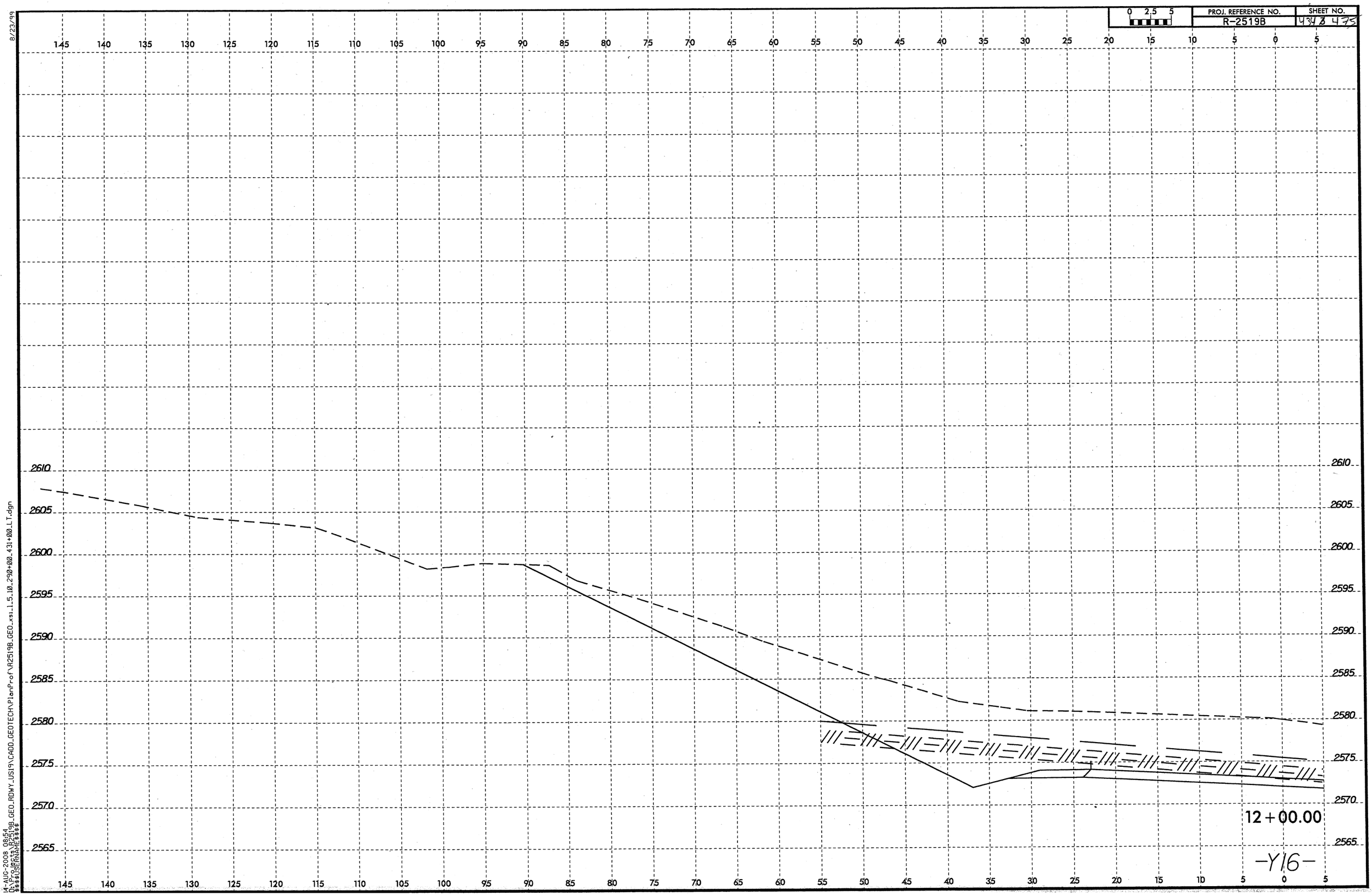

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	435/425

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2580
2575
2570

12+50.00

2595
2590
2585
2580
2575
2570

12+00.00

-Y16-

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	436 OF 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2605
2600
2595
2590
2585
2580
2575
2570
2565

12+50.00
-Y16-

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	427 & 428

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2605
2600
2595
2590
2585
2580
2575
2570
2565

13+00.00

-Y16-

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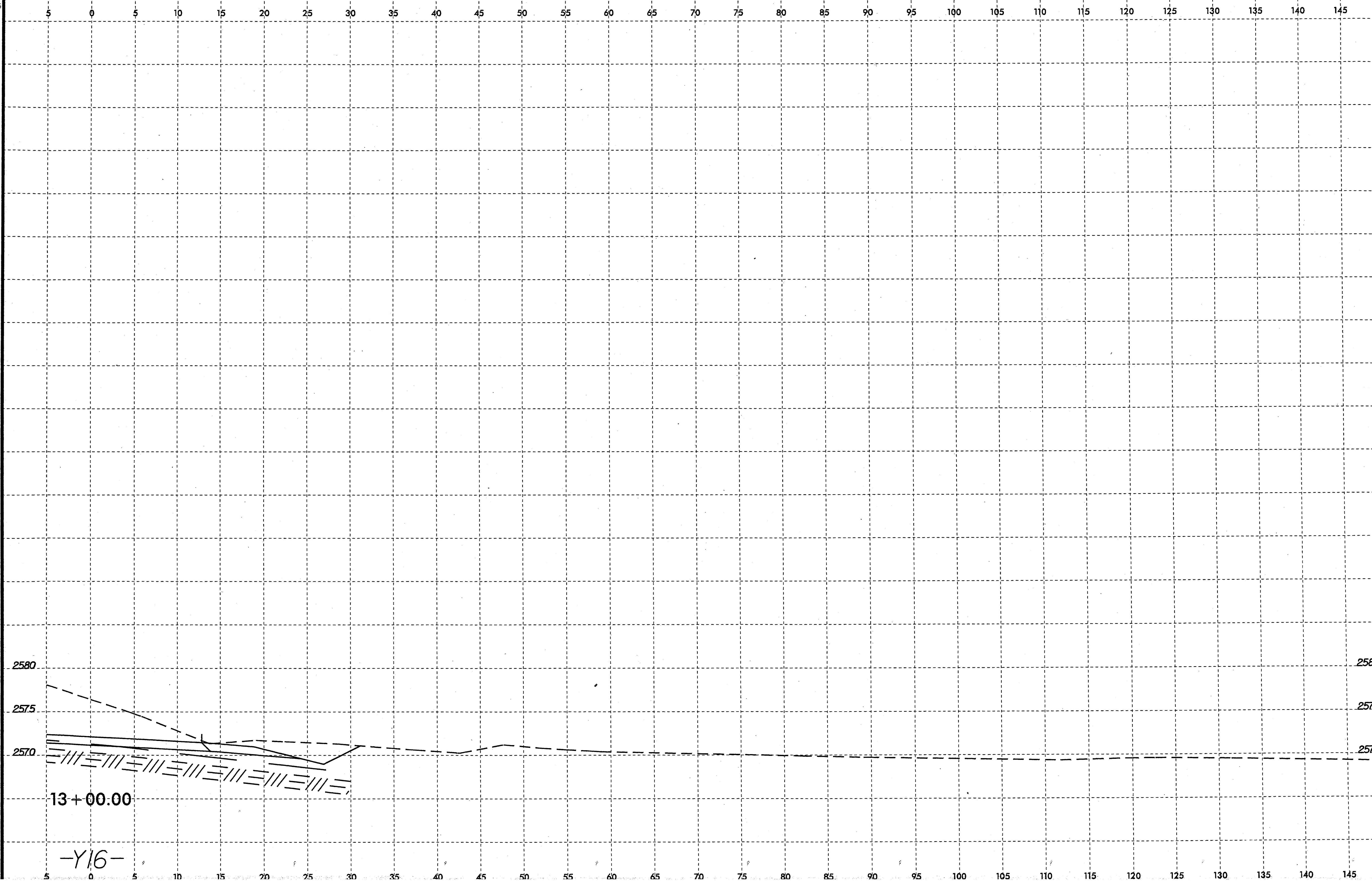
PROJ. REFERENCE NO.	SHEET NO:
R-2519B	438/475



8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	439 & 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2600
2595
2590
2585
2580
2575
2570
2565
2560

13+50.00

-Y16-

1-AUG-2008 08:55
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8/23/99

0 2,5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	440 A 475

B-203
12+18.00 R 1
-98.0000

COLLUVIUM, Red-brown silty clay with trace of mica and gravel.

36
10
7
7
17

SAPROLITE, Brown silty sand with little amount of mica.

12+00.00

-Y20-

29-JUL-2008 12:17
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8/23/99

0 2,5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	441 / 475

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2580 2575 2570 2565 2560 2555 2550 2545 2540 2535 2530 2525 2520 2515

SEE X-SEC FOR -L-

SEE X-SEC FOR -L-

B-279
12+54.00 R 1
59.0000

ROADWAY EMBANKMENT, Brown silty sand with gravel and trace amounts of mica.

2
1
2
3
3

ALLUVIAL, Gray silty sand with gravel and boulders.

01/08

8

ALLUVIAL, Gray silty sand.

4

SAPROLITE, Gray silty sand with moderate amounts of mica.

11

WEATHERED ROCK, Weathered rock of pegmatite.

100/.95

12+50.00

-Y22-

12-AUG-2008 15:47
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$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	442 & 475

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

2830
2820
2810
2800
2790
2780
2770
2760
2750
2740
2730
2720

B-274
11+93.00 R
-3.0000

COLLUVIUM, Red-brown silty clay with trace of mica and gravel.

FILL

SAPROLITE, Brown and black silty sand with trace of mica and MnO stains.

10
9
8
6
10
5
9
10

12+00.00

-Y24-

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	443 / 478

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

2850
2840
2830
2820
2810
2800
2790
2780
2770
2760
2750
2740

B-274
11+93.00 R 1
-3.0000

COLLUVIUM, Red-brown silty clay with trace of mica and gravel.

10
9
8
6

10 SAPROLITE, Brown and black silty sand with trace of mica and MnO stains.

5
9
10

12+00.00

-Y24-

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	447 475

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2765 2760 2755 2750 2745 2740 2735 2730 2725 2720 2715 2710 2705

B-276
14+22.00 R I
75.0000

(8)
(10)
(15)
(10)
(60/.4)
(100/.7)
(60/.3)
(60/.0)

SAPROLITE, Brown silty sand with some mica.

WEATHERED ROCK, Weathered rock of gneiss.

CRYSTALLINE ROCK, Amphibolite gneiss.

14+50.00
-Y33-

13-AUG-2008 10:10
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USER NAME = sss

8/23/99

0 2.5 5

PROJ. REFERENCE NO. R-2519B

SHEET NO. 445 / 475

B-262
11+13.00 R 1
-53.0000

COLLUVIUM, Brown sandy silt with gravel.

7
8
26
9
15

04/08

SAPROLITE, Brown silty sand with trace of mica.

WEATHERED ROCK, Weathered rock of gneiss.

100/.6

60/.01

CRYSTALLINE ROCK, Amphibolite gneiss.

11+00.00

-DR2-

7-AUG-2008 09:09
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	446 / 475

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

2600 2595 2590 2585 2580 2575 2570 2565 2560 2555 2550 2545 2540 2535 2530 2525

COLLUVIUM, Red-brown sandy silt with gravel

13+00.00

-DR2-

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

11-AUG-2006 14:16
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	427 of 475

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2585 2580 2575 2570 2565 2560 2555 2550 2545 2540 2535 2530 2525 2520 2515 2510 2505

COLLUVIUM, Red-brown sandy silt with gravel.

B-261
12+90.00 R 1
71.0000

EOL

5
6
8
8
12
67
100/.65

SAPROLITE, Brown silty sand with trace of mica.

WEATHERED ROCK, Weathered rock of gneiss.

▼ 04/08

13+00.00
-DR2-

2585 2580 2575 2570 2565 2560 2555 2550 2545 2540 2535 2530 2525 2520 2515 2510 2505

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

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$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	442/475

B-260
13+47.00 R 1
22.0000

5
8
28
100/.95
100/.4
100/.25
60/.09

COLLUVIUM, Brown silty sand with gravel.

SAPROLITE, Brown silty sand with trace of mica.

WEATHERED ROCK, Weathered rock of gneiss.

CRYSTALLINE ROCK, Amphibolite gneiss.

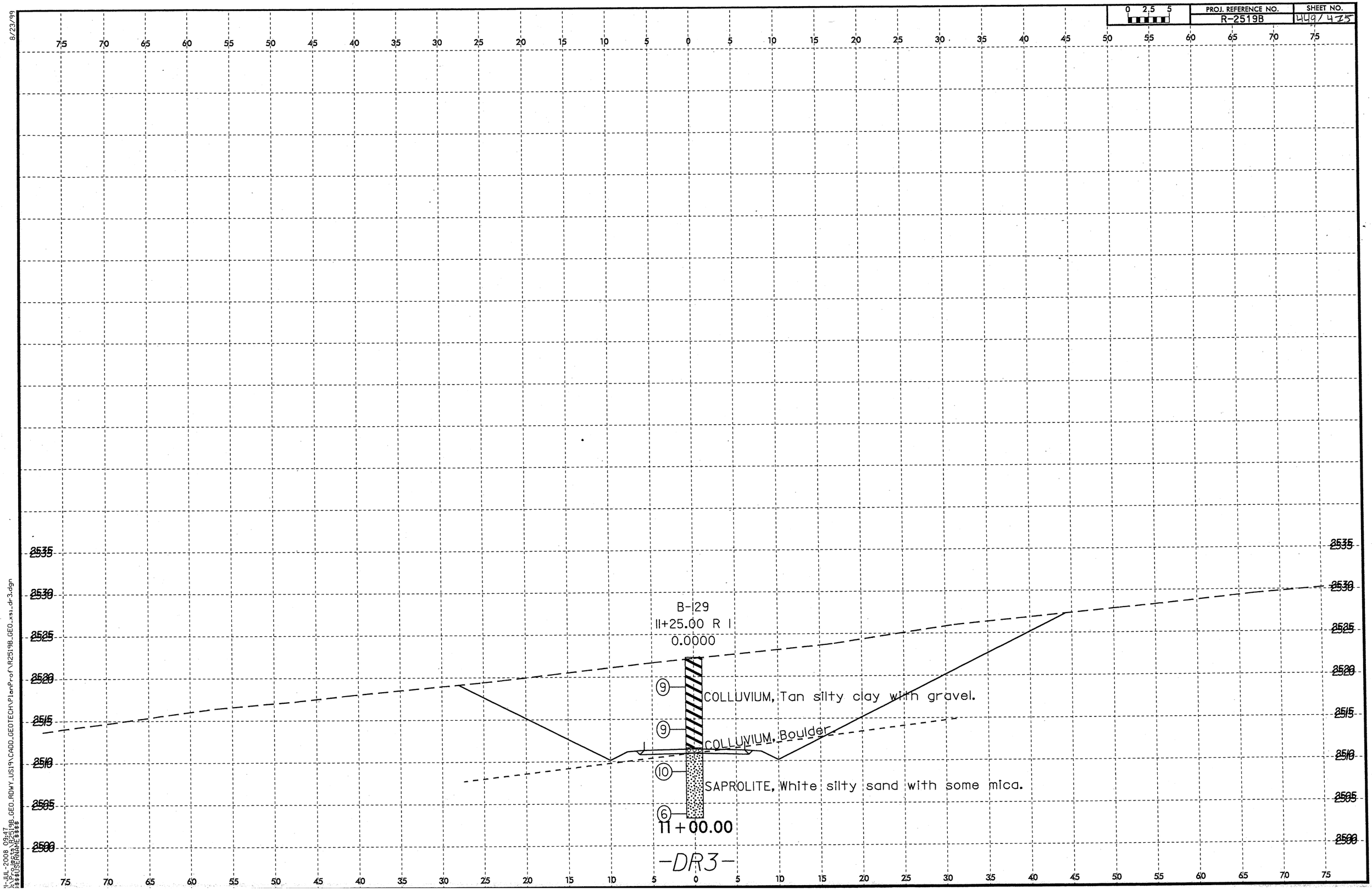
13+50.00

-DR2-

8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	449/425



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8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	450 / 475

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2750
2745
2740
2735
2730
2725
2720
2715

B-270
10+82.00 R 1
22.0000

COLLUVIUM, Red silty clay with trace of mica and small gravel

(7) RESIDUAL, Brown sandy silt with quartz seam.

(19)

(6) SAPROLITE, Brown and black sandy silt with MnO seam and trace of mica

(7)

11+00.00

-DR8-

2-AUG-2008 09:45
J:\Projects\R2519B_GEO_RDWY_US19\CADD_GEOTECH\PlanProf\R2519B_GEO_xs1_dr8.dgn
$$$$USERNAME$$$$

B-271
13+92.00 R I
-25.0000

COLLUVIUM, Red-brown silty sand with trace of gravel.

(7) (9) (11) (8) (8) (7) (26) (14) (21) (72)

SAPROLITE, Red-brown and black sandy silt with Mn stains.

SAPROLITE, White silty sand with trace of mica.

14+00.00

-DR9-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	45274775

B-273
14+75.00 R I
-45.0000

(12)
(22)
(6)
(25)
(22)
(14)
(14)
(20)
(20)
(26)

SAPROLITE, Brown and black silty sand with quartz seams and little to some amount of mica.

14+50.00

-DR9-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	453/475

2684.94

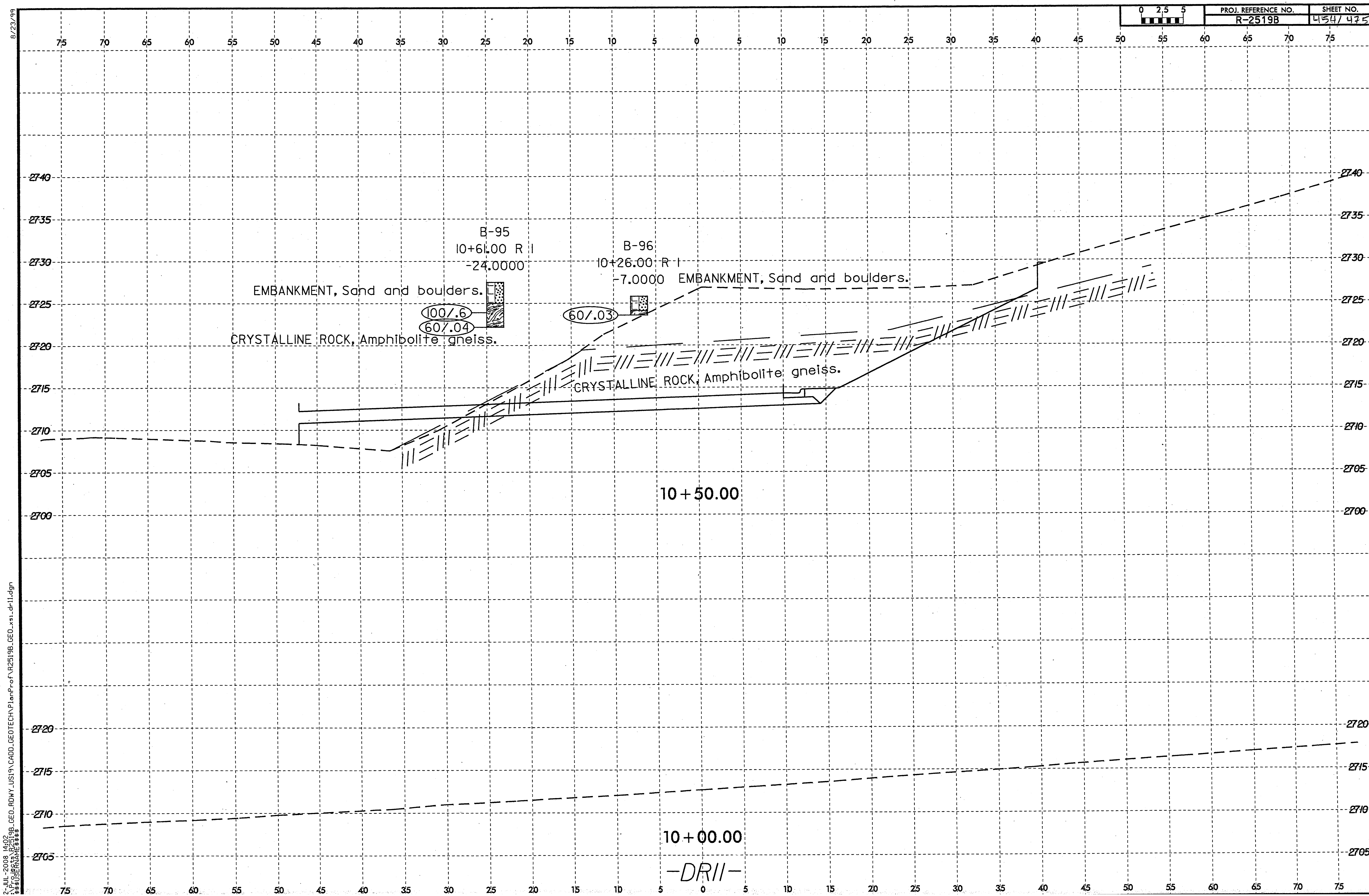
B-272
15+25.00 R I
45.0000

11'
14'
14'
12'
12'
21'
25'

SAPROLITE, White silty sand with some amount of mica.

15+00.00

-DR9-


PROJ. REFERENCE NO.
R-2519B
SHEET NO.
454/475
0 2.5 5
B-95
10+61.00 R I
-24.0000
EMBANKMENT, Sand and boulders.
100/.6
60/.04
CRYSTALLINE ROCK, Amphibolite gneiss.
B-96
10+26.00 R I
-7.0000
EMBANKMENT, Sand and boulders.
60/.03
CRYSTALLINE ROCK, Amphibolite gneiss.
10+50.00
10+00.00
-DRII-
2740
2735
2730
2725
2720
2715
2710
2705
2700
75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
8/23/99

8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	453/475

A GROUNDLINE AS SURVEYED
B ACTUAL GROUNDLINE

B-94
11+18.00 R I
13.0000

WEATHERED ROCK, Weathered rock of gneiss.

EMBANKMENT, Brown silty sand with gravel.

CRYSTALLINE ROCK, Granitic pegamatite.

60/.08

100/.25

11+00.00

-DRII-

8/23/99

0 2,5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	456/475

A GROUNDLINE AS SURVEYED
B ACTUAL GROUNDLINE

BOULDER FILL

SAPROLITE W/ INTERLAYERS OF WEATHERED ROCK

11+50.00

-DRII-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	452/475

A GROUNDLINE AS SURVEYED
B ACTUAL GROUNDLINE

BOULDER FILL

12+00.00

-DRII-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	458 / 475

A GROUNDLINE AS SURVEYED
B ACTUAL GROUNDLINE

BOULDER FILL

12+50.00
-DRII-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	459/475

A GROUNDLINE AS SURVEYED
B ACTUAL GROUNDLINE

BOULDER FILL

13+00.00

-DRII-

25-JUN-2008 12:58
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	4602 4125

B-277
12+30.00 R I
70.0000

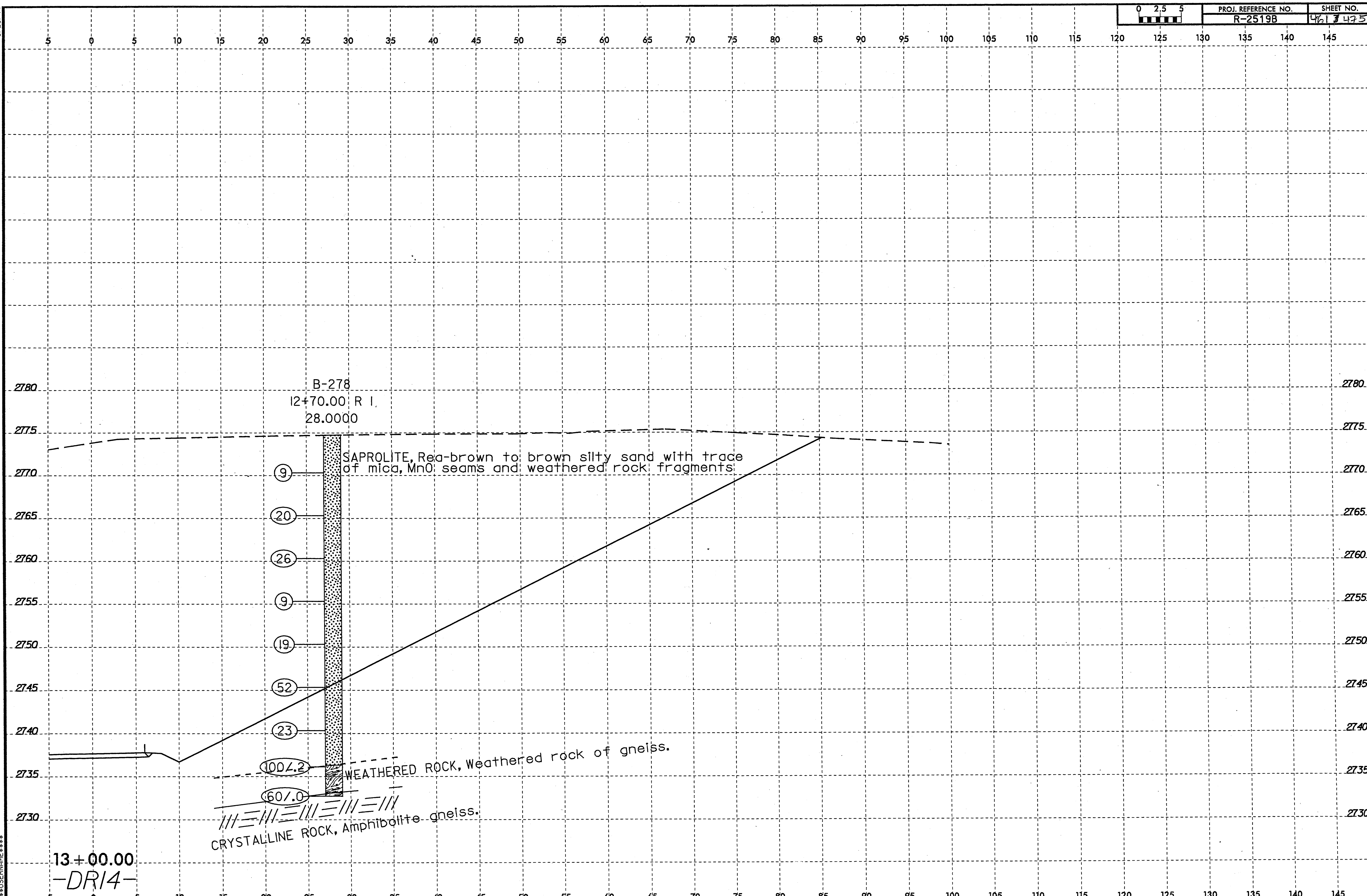
5
SAPROLITE, Brown silty sand.
4
3
5
15
WEATHERED ROCK, Weathered rock of gneiss.
SAPROLITE, Brown silty sand with some mica.
50
60/0
CRYSTALLINE ROCK, Amphibolite gneiss.

12+50.00

12+00.00

-DR14-

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	461 3 475



8/23/99

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	462/475

B-275
11+75.00 R I
0.0000

(7)
(8) Red-brown to brown silty sand with quartz vein and trace to little amounts of mica and MnO
(5)
(31)
(21)
(12)
(12)
(17)
(24)

WEATHERED ROCK, Weathered rock of gneiss.

100/.2
60/.0

CRYSTALLINE ROCK, Amphibolite gneiss.

11+50.00

-DR14-

07-AUG-2008 12:33
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0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
R-2519B	463/475

B-28l
ll+95.00 R l
-25.0000

ROADWAY EMBANKMENT, Brown silty sand with little amounts of gravel.

FILL

11

100+

SAPROLITE, Dark brown silty sand with trace of mica.

31

WEATHERED ROCK, Weathered rock of gneiss.

60/.08

CRYSTALLINE ROCK, Amphibolite gneiss.

12+00.00

B-28O
ll+48.00 R l
-34.0000

ROADWAY EMBANKMENT, Brown silty sand with gravel and trace mica.

FILL

100/.9

23

60/.05

SAPROLITE, Brown silty sand with trace of mica and crystalline rock fragments.

CRYSTALLINE ROCK, Amphibolite gneiss.

11+50.00

-DR15-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	464/475

B-282
12+45.00 R I
19.0000

ROADWAY EMBANKMENT, Brown silty sand with gravel.

SAPROLITE, Brown to black silty sand with trace of mica.

13

100/.85

WEATHERED ROCK, Weathered rock of gneiss.

SAPROLITE, Brown to black silty sand with trace of mica.

100/.65

WEATHERED ROCK, Weathered rock of gneiss.

75

SAPROLITE, Brown to black silty sand with trace of mica.

63

60/.01

CRYSTALLINE ROCK, Amphibolite gneiss.

12+50.00

-DR15-

12-AUG-2008 11:04
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	465/473

B-283
12+94.00 R-1
-5.0000

ARTIFICIAL FILL, Brown silty sand with trace of mica.

COLLUVIUM, Brown silty clay.

COLLUVIUM, Brown sandy silt.

SAPROLITE, Brown silty sand with a little amount of mica.

WEATHERED ROCK, Weathered rock of gneiss.

CRYSTALLINE ROCK, Amphibolite gneiss.

13+00.00

-DR15-

10
8
9
11
66
100/.9
60/.04

2760
2755
2750
2745
2740
2735
2730
2725
2720
2715
2710
2705

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	466/475

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

2855
2850
2845
2840
2835
2830
2825
2820
2815
2810
2805
2800
2795
2790
2785
2780

COLLUVIUM, Brown sandy silt with cobbles and boulders.

SAPROLITE, Black to orange silty sand with some mica.

WEATHERED ROCK, Weathered rock of gneiss.

B-257
11+42.00 R-1
125.0000

21
100/.3
100/.2

11+50.00

-DRIT-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	467/475

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2815
2810
2805
2800
2795
2790
2785
2780
2775
2770

B-259
11+97.00 R 1
-54.0000

SAPROLITE, Brown silty sand with trace of mica.

100/.8

100/.6

WEATHERED ROCK, Weathered rock of granitic pegmatite.

100/.2

12+00.00

-DR18-

07-AUG-2008 10:19
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-2519B	462 of 475

B-258
12+49.00 R 1
76.0000

SAPROLITE, White to gray silty sand with little mica.

46
607.0
04708

CRYSTALLINE ROCK, Amphibolite gneiss.

12+50.00

-DR18-

07-AUG-2008 10:14
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JCS

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-MATERIALS AND TESTS UNIT
SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1	COUNTY:	Yancey	Owner:	NCDOT
DATE SAMPLED:	4.10.08	DATE RECEIVED:	4.22.08	DATE REPORTED:	4.30.08
SAMPLED FROM:	-L-	SAMPLED BY:	C. A. Dunnagan		
SUBMITTED BY:	W. D. Frye	2002	STANDARD SPECIFICATION		
LABORATORY:	Asheville				

TEST RESULTS

Project Sample No.	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8
Lab Sample No. A	157397	157398	157399	157400	157401	157402	157403	157404
HiCAMS Sample #	--	--	--	--	--	--	--	--
Retained #4 Sieve %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5
Passing #10 Sieve %	100	99	100	92	98	98	93	78
Passing #40 Sieve %	96	89	93	84	89	95	87	71
Passing #200 Sieve %	49	27	27	53	25	29	65	47

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	18	33	27	20	30	11	13	17
Fine Sand - Ret. #270	41	47	55	25	49	69	17	26
Silt 0.05-0.005 mm %	23	14	16	25	17	16	17	23
Clay < 0.005 mm %	18	6	2	30	4	4	53	34
Passing # 40 Sieve %	--	--	--	--	--	--	--	--
Passing # 200 Sieve %	--	--	--	--	--	--	--	--

Liquid Limit	54	43	40	60	44	39	61	52
Plastic Index	NP	NP	NP	21	NP	NP	29*	23
AASHTO Classification	A-5 (4)	A-2-5 (0)	A-2-4 (0)	A-7-5 (9)	A-2-5 (0)	A-2-4 (0)	A-7-5 (17)	A-7-6 (7)
Quantity								
Texture								
Station	93+50	93+50	93+50	96+50	96+50	96+50	103+00	103+00
Hole No.								
Depth (ft) From:	5.0	10.0	40.0	4.3	14.3	24.3	5.1	10.1
To:	6.0	11.0	41.0	5.3	15.3	25.3	6.1	11.1

Remarks:

A-157397-157404; *SS-7 is acceptable material, but not to be used in top 2 feet of embankment or backfill.

CC:

C. A. Dunnagan	
File	

SOILS ENGINEER:	

M&T 503E

JCS

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-MATERIALS AND TESTS UNIT
SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1	COUNTY:	Yancey	Owner:	NCDOT
DATE SAMPLED:	4.15.08	DATE RECEIVED:	4.22.08	DATE REPORTED:	4.30.08
SAMPLED FROM:	-L-	SAMPLED BY:	C. A. Dunnagan		
SUBMITTED BY:	W. D. Frye	2002	STANDARD SPECIFICATION		
LABORATORY:	Asheville				

TEST RESULTS

Project Sample No.	SS-9	SS-10	SS-11	SS-12	SS-13	SS-14	SS-15	SS-16
Lab Sample No. A	157405	157406	157407	157408	157409	157410	157411	157412
HiCAMS Sample #	--	--	--	--	--	--	--	--
Retained #4 Sieve %	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0
Passing #10 Sieve %	99	84	100	97	93	99	99	97
Passing #40 Sieve %	85	76	97	95	85	91	90	70
Passing #200 Sieve %	25	38	76	74	63	41	43	26

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	34	22	8	5	15	21	22	44
Fine Sand - Ret. #270	49	40	20	24	23	49	47	35
Silt 0.05-0.005 mm %	11	24	34	22	24	20	25	19
Clay < 0.005 mm %	6	14	38	49	38	10	6	2
Passing # 40 Sieve %	--	--	--	--	--	--	--	--
Passing # 200 Sieve %	--	--	--	--	--	--	--	--

Liquid Limit	41	48	34	51	52	48	47	37
Plastic Index	NP	NP	10	24	13	NP	NP	NP
AASHTO Classification	A-2-5 (0)	A-5 (1)	A-4 (8)	A-7-6 (16)	A-7-5 (9)	A-5 (1)	A-5 (2)	A-2-4 (0)
Quantity								
Texture								
Station	103+00	105+50	105+50	105+50	65+00	65+00	65+00	65+00
Hole No.								
Depth (ft) From:	15.1	4.3	9.3	19.3	3.1	8.1	33.1	38.1
To:	16.1	5.3	10.3	20.3	4.1	9.1	34.1	39.1

Remarks:

A-157405-157412

CC:

C. A. Dunnagan	
File	

SOILS ENGINEER:	

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-MATERIALS AND TESTS UNIT
SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1	COUNTY:	Yancey	Owner:	NCDOT		
DATE SAMPLED:	4.21.08	DATE RECEIVED:	4.23.08	DATE REPORTED:	4.30.08		
SAMPLED FROM:	-L-	SAMPLED BY:	C. A. Dunnagan				
SUBMITTED BY:	W. D. Frye			2002	STANDARD SPECIFICATION		
LABORATORY:	Asheville						

TEST RESULTS

Project Sample No.	SS-17	SS-18	SS-19					
Lab Sample No. A	157437	157438	157439					
HiCAMS Sample #	--	--	--					
Retained #4 Sieve %	0.0	0.0	0.0					
Passing #10 Sieve %	99	98	93					
Passing #40 Sieve %	87	71	81					
Passing #200 Sieve %	31	26	56					

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	31	45	22					
Fine Sand - Ret. #270	44	35	21					
Silt 0.05-0.005 mm %	21	18	23					
Clay < 0.005 mm %	4	2	34					
Passing # 40 Sieve %	--	--	--					
Passing # 200 Sieve %	--	--	--					

Liquid Limit	40	26	54					
Plastic Index	NP	NP	18					
AASHTO Classification	A-2-4 (0)	A-2-4 (0)	A-7-5 (9)					
Quantity								
Texture								
Station	67+00	67+00	68+50					
Hole No.								
Depth (ft) From:	4.4	24.4	3.5					
To:	5.4	25.4	4.5					

Remarks:

A-157437-157439

CC:

C. A. Dunnagan	
File	

SOILS ENGINEER:	

M&T 503E

JCS

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-MATERIALS AND TESTS UNIT
SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1	COUNTY:	Yancey	Owner:	NCDOT		
DATE SAMPLED:	4.30.08	DATE RECEIVED:	5.2.08	DATE REPORTED:	5.7.08		
SAMPLED FROM:	-L-	SAMPLED BY:	C. A. Dunnagan				
SUBMITTED BY:	W. D. Frye			2002	STANDARD SPECIFICATION		
LABORATORY:	Asheville						

TEST RESULTS

Project Sample No.	SS-20							
Lab Sample No. A	157506							
HiCAMS Sample #	--							
Retained #4 Sieve %	0.0							
Passing #10 Sieve %	85							
Passing #40 Sieve %	78							
Passing #200 Sieve %	51							

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	19							
Fine Sand - Ret. #270	26							
Silt 0.05-0.005 mm %	25							
Clay < 0.005 mm %	30							
Passing # 40 Sieve %	--							
Passing # 200 Sieve %	--							

Liquid Limit	43							
Plastic Index	NP							
AASHTO Classification	A-5 (3)							
Quantity								
Texture								
Station	53+00							
Hole No.								
Depth (ft) From:	4.0							
To:	5.0							

Remarks:

A-157506

CC:

C. A. Dunnagan	
File	

SOILS ENGINEER:	

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-MATERIALS AND TESTS UNIT
SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1	COUNTY:	Yancey	Owner:	NCDOT
DATE SAMPLED:	4.16.08	DATE RECEIVED:	4.22.08	DATE REPORTED:	4.30.08
SAMPLED FROM:	-L-	SAMPLED BY:	C. A. Dunnagan		
SUBMITTED BY:	W. D. Frye		2002	STANDARD SPECIFICATION	
LABORATORY:	Asheville				

TEST RESULTS

Project Sample No.	SS-100	SS-101						
Lab Sample No. A	157413	157414						
HiCAMS Sample #	--	--						
Retained #4 Sieve %	0.0	0.0						
Passing #10 Sieve %	92	96						
Passing #40 Sieve %	73	72						
Passing #200 Sieve %	55	38						

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	28	36						
Fine Sand - Ret. #270	16	33						
Silt 0.05-0.005 mm %	20	21						
Clay < 0.005 mm %	36	10						
Passing # 40 Sieve %	--	--						
Passing # 200 Sieve %	--	--						

Liquid Limit	50	43						
Plastic Index	9	NP						
AASHTO Classification	A-5 (5)	A-5 (1)						
Quantity								
Texture								
Station	397+00	397+00						
Hole No.								
Depth (ft) From:	4.7	9.7						
To:	5.7	10.7						

Remarks:

A-157413 & 157414

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SOILS ENGINEER:	

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-MATERIALS AND TESTS UNIT
SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1	COUNTY:	Yancey		Owner:	NCDOT	
DATE SAMPLED:	5.16 & 5.22	DATE RECEIVED:	5.21 & 5.23		DATE REPORTED:	6.3.08	
SAMPLED FROM:	- L -	SAMPLED BY:	C. A. Dunnagan				
SUBMITTED BY:	W. D. Frye			2002	STANDARD SPECIFICATION		
LABORATORY:	Asheville						

TEST RESULTS

Project Sample No.	SS-32	SS-33	SS-34	SS-35	SS-36	SS-37	SS-38	SS-39
Lab Sample No. A	157668	157669	157670	157671	157731	157732	157733	157734
HiCAMS Sample #	--	--	--	--	--	--	--	--
Retained #4 Sieve %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Passing #10 Sieve %	80	75	82	68	84	89	82	91
Passing #40 Sieve %	54	57	67	49	62	65	58	66
Passing #200 Sieve %	30	43	54	37	34	34	30	42

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	44	31	25	35	40	41	43	38
Fine Sand - Ret. #270	22	16	12	12	22	24	24	19
Silt 0.05-0.005 mm %	26	27	29	21	16	21	21	23
Clay < 0.005 mm %	8	26	34	32	22	14	12	20
Passing # 40 Sieve %	--	--	--	--	--	--	--	--
Passing # 200 Sieve %	--	--	--	--	--	--	--	--

Liquid Limit	34	43	46	44	46	42	38	43
Plastic Index	NP	10	15	11	NP	NP	NP	NP
AASHTO Classification	A-2-4 (0)	A-5 (1)	A-7-5 (7)	A-7-5 (1)	A-2-5 (0)	A-2-5 (0)	A-2-4 (0)	A-5 (1)
Quantity								
Texture								
Station	145+00	146+00	146+00	146+00	169+00	169+00	169+00	173+50
Hole No.								
Depth (ft) From:	23.6	9.0	14.0	19.0	4.4	9.4	14.4	14.1
To:	24.6	10.0	15.0	20.0	5.4	10.4	15.4	15.1

Remarks:

A-157668 – 157671 ; A-157731 - 157734

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SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1 (cont)	COUNTY:	Yancey		Owner:	NCDOT	
DATE SAMPLED:	5.22.08	DATE RECEIVED:	5.23.08		DATE REPORTED:	6.3.08	
SAMPLED FROM:	- L -	SAMPLED BY:	C. A. Dunnagan				
SUBMITTED BY:	W. D. Frye			2002	STANDARD SPECIFICATION		
LABORATORY:	Asheville						

TEST RESULTS

Project Sample No.	SS-40	SS-41	SS-42					
Lab Sample No. A	157735	157736	157737					
HiCAMS Sample #	--	--	--					
Retained #4 Sieve %	0.0	0.0	0.0					
Passing #10 Sieve %	90	81	69					
Passing #40 Sieve %	66	60	51					
Passing #200 Sieve %	37	41	32					

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	40	36	37					
Fine Sand - Ret. #270	22	15	20					
Silt 0.05-0.005 mm %	22	23	21					
Clay < 0.005 mm %	16	26	22					
Passing # 40 Sieve %	--	--	--					
Passing # 200 Sieve %	--	--	--					

Liquid Limit	40	54	51					
Plastic Index	NP	NP	NP					
AASHTO Classification	A-4 (0)	A-5 (2)	A-2-5 (0)					
Quantity								
Texture								
Station	173+50	173+50	173+50					
Hole No.								
Depth (ft) From:	19.1	29.1	34.1					
To:	20.1	30.1	35.1					

Remarks:

A-157735 - 157737

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DIVISION OF HIGHWAYS-MATERIALS AND TESTS UNIT
SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1	COUNTY:	Yancey	Owner:	NCDOT
DATE SAMPLED:	5.1.08	DATE RECEIVED:	5.7.08	DATE REPORTED:	5.12.08
SAMPLED FROM:	Culvert	SAMPLED BY:	C. A. Dunnagan		
SUBMITTED BY:	W. D. Frye	2002	STANDARD SPECIFICATION		
LABORATORY:	Asheville				

TEST RESULTS

Project Sample No.	SS-21	SS-22	SS-23	SS-24	SS-25			
Lab Sample No. A	157515	157516	157517	157518	157519			
HiCAMS Sample #	--	--	--	--	--			
Retained #4 Sieve %	0.0	2.0	0.0	0.0	0.0			
Passing #10 Sieve %	99	92	100	100	100			
Passing #40 Sieve %	97	86	85	81	96			
Passing #200 Sieve %	61	65	48	20	20			

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	9	12	25	42	23			
Fine Sand - Ret. #270	35	18	33	40	57			
Silt 0.05-0.005 mm %	26	0	14	2	4			
Clay < 0.005 mm %	30	70	28	16	16			
Passing # 40 Sieve %	--	--	--	--	--			
Passing # 200 Sieve %	--	--	--	--	--			

Liquid Limit	46	58	51	28	35			
Plastic Index	NP	20	NP	NP	NP			
AASHTO Classification	A-5 (6)	A-7-5 (12)	A-5 (3)	A-2-4 (0)	A-2-4 (0)			
Quantity								
Texture								
Station	13+00	29+00	29+00	29+00	29+00			
Hole No.								
Depth (ft) From:	3.8	4.6	19.6	24.6	29.6			
To:	4.8	5.6	20.6	25.6	30.6			

Remarks:

A-157515 – A-157519

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SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1	COUNTY:	Yancey	Owner:	NCDOT
DATE SAMPLED:	5.8.08	DATE RECEIVED:	5.13.08	DATE REPORTED:	5.28.08
SAMPLED FROM:	-L-	SAMPLED BY:	C. A. Dunnagan		
SUBMITTED BY:	W. D. Frye	2002	STANDARD SPECIFICATION		
LABORATORY:	Asheville				

TEST RESULTS

Project Sample No.	SS-26	SS-27	SS-28	SS-29	SS-30	SS-31		
Lab Sample No. A	157557	157558	157559	157560	157561	157562		
HiCAMS Sample #	--	--	--	--	--	--		
Retained #4 Sieve %	0.0	0.0	0.0	0.0	0.0	0.0		
Passing #10 Sieve %	100	100	93	100	97	96		
Passing #40 Sieve %	96	99	86	92	90	83		
Passing #200 Sieve %	61	89	47	50	54	32		

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	14	2	18	18	14	28		
Fine Sand - Ret. #270	28	10	39	40	40	46		
Silt 0.05-0.005 mm %	11	3	6	22	20	8		
Clay < 0.005 mm %	47	85	37	20	26	18		
Passing # 40 Sieve %	--	--	--	--	--	--		
Passing # 200 Sieve %	--	--	--	--	--	--		

Liquid Limit	49	60	50	41	40	39		
Plastic Index	18	20	NP	NP	NP	NP		
AASHTO Classification	A-7-5 (9)	A-7-5 (16)	A-5 (3)	A-5 (3)	A-4 (4)	A-2-4 (0)		
Quantity								
Texture								
Station	18+50	105+50	105+50	105+50	125+50	125+50		
Hole No.								
Depth (ft) From:	4.5	4.4	9.4	14.4	19.2	24.2		
To:	5.5	5.4	10.4	15.4	20.2	25.2		

Remarks:

A-157557 - 157562

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SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1	COUNTY:	Yancey	Owner:	NCDOT		
DATE SAMPLED:	5.29/6.2	DATE RECEIVED:	5.30/6.3	DATE REPORTED:	6.12.08		
SAMPLED FROM:	- L -	SAMPLED BY:	C. A. Dunnagan				
SUBMITTED BY:	W. D. Frye			2002	STANDARD SPECIFICATION		
LABORATORY:	Asheville						

TEST RESULTS

Project Sample No.	SS-43	SS-44	SS-45	SS-46	SS-47			
Lab Sample No. A	157748	157749	157772	157773	157774			
HiCAMS Sample #	--	--	--	--	--			
Retained #4 Sieve %	0.0	0.0	0.0	0.0	0.0			
Passing #10 Sieve %	91	97	98	86	98			
Passing #40 Sieve %	73	67	89	75	86			
Passing #200 Sieve %	53	26	60	45	45			

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	27	50	14	22	23			
Fine Sand - Ret. #270	17	29	30	32	42			
Silt 0.05-0.005 mm %	20	21	30	36	33			
Clay < 0.005 mm %	36	0.0	26	10	2			
Passing # 40 Sieve %	--	--	--	--	--			
Passing # 200 Sieve %	--	--	--	--	--			
Liquid Limit	57	33	42	37	32			
Plastic Index	13	NP	NP	NP	NP			
AASHTO Classification	A-7-5 (6)	A-2-4 (0)	A-5 (5)	A-4 (2)	A-4 (2)			
Quantity								
Texture								
Station	185+50	185+50	210+50	210+50	210+50			
Hole No.								
Depth (ft) From:	3.7	8.7	4.0	9.0	19.0			
To:	4.7	9.7	5.0	10.0	20.0			

Remarks:

A-157748 & 157749 ; A-157772 - 157774

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SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1	COUNTY:	Yancey	Owner:	NCDOT		
DATE SAMPLED:	6.6.08	DATE RECEIVED:	6.10.08	DATE REPORTED:	6.17.08		
SAMPLED FROM:	- L -	SAMPLED BY:	C. A. Dunnagan				
SUBMITTED BY:	W. D. Frye			2002	STANDARD SPECIFICATION		
LABORATORY:	Asheville						

TEST RESULTS

Project Sample No.	SS-48	SS-49						
Lab Sample No. A	157861	157862						
HiCAMS Sample #	--	--						
Retained #4 Sieve %	0.0	0.0						
Passing #10 Sieve %	100	97						
Passing #40 Sieve %	94	84						
Passing #200 Sieve %	70	46						

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	14	24						
Fine Sand - Ret. #270	19	38						
Silt 0.05-0.005 mm %	31	34						
Clay < 0.005 mm %	36	4						
Passing # 40 Sieve %	--	--						
Passing # 200 Sieve %	--	--						
Liquid Limit	50	40						
Plastic Index	16	NP						
AASHTO Classification	A-7-5 (11)	A-4 (2)						
Quantity								
Texture								
Station	217+50	217+50						
Hole No.								
Depth (ft) From:	4.1	14.1						
To:	5.1	15.1						

Remarks:

A-157861 & 157862

CC:

C. A. Dunnagan	
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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-MATERIALS AND TESTS UNIT
SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1	COUNTY:	Yancey	Owner:	NCDOT
DATE SAMPLED:	6.16.08	DATE RECEIVED:	6.18.08	DATE REPORTED:	7.1.08
SAMPLED FROM:	- L -	SAMPLED BY:	C. A. Dunnagan		
SUBMITTED BY:	W. D. Frye	2002	STANDARD SPECIFICATION		
LABORATORY:	Asheville				

TEST RESULTS

Project Sample No.	SS-48	SS-49	SS-50					
Lab Sample No. A	157951	157952	157953					
HiCAMS Sample #	--	--	--					
Retained #4 Sieve %	0.0	0.0	0.0					
Passing #10 Sieve %	99	98	93					
Passing #40 Sieve %	85	86	80					
Passing #200 Sieve %	42	46	29					

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	32	29	34					
Fine Sand - Ret. #270	30	29	40					
Silt 0.05-0.005 mm %	18	18	20					
Clay < 0.005 mm %	20	24	6					
Passing # 40 Sieve %	--	--	--					
Passing # 200 Sieve %	--	--	--					

Liquid Limit	40	43	31					
Plastic Index	NP	NP	NP					
AASHTO Classification	A-4 (1)	A-5 (2)	A-2-4 (0)					
Quantity								
Texture								
Station	219+00	219+00	219+00					
Hole No.								
Depth (ft) From:	4.1	9.1	14.1					
To:	5.1	10.1	15.1					

Remarks:

A-157951 - 157953

CC:

C. A. Dunnagan	
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SOILS ENGINEER:	

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DIVISION OF HIGHWAYS-MATERIALS AND TESTS UNIT
SOILS TEST REPORT-SOILS LABORATORY

T.I.P. ID #:	R-2519B

REPORT ON SAMPLES OF:	Soils for Quality

PROJECT:	35609.1.1	COUNTY:	Yancey	Owner:	NCDOT
DATE SAMPLED:	6.30.08	DATE RECEIVED:	7.7.08	DATE REPORTED:	7.16.08
SAMPLED FROM:	- L -	SAMPLED BY:	C. A. Dunnagan		
SUBMITTED BY:	W. D. Frye	2002	STANDARD SPECIFICATION		
LABORATORY:	Asheville				

TEST RESULTS

Project Sample No.	SS-51	SS-52	SS-53					
Lab Sample No. A	158106	158107	158108					
HiCAMS Sample #	--	--	--					
Retained #4 Sieve %	0.0	0.0	0.0					
Passing #10 Sieve %	90	92	81					
Passing #40 Sieve %	78	78	74					
Passing #200 Sieve %	54	54	54					

MINUS #10 FRACTION

Soil Mortar - 100%								
Coarse Sand -Ret. #60	23	24	15					
Fine Sand - Ret. #270	18	19	24					
Silt 0.05-0.005 mm %	21	33	23					
Clay < 0.005 mm %	38	24	38					
Passing # 40 Sieve %	--	--	--					
Passing # 200 Sieve %	--	--	--					

Liquid Limit	43	39	40					
Plastic Index	19	NP	10					
AASHTO Classification	A-7-6 (8)	A-4 (4)	A-4 (4)					
Quantity								
Texture								
Station	244+50	244+50	244+50					
Hole No.								
Depth (ft) From:	19.4	24.4	29.4					
To:	20.4	25.4	30.4					

Remarks:

A-158106 - 158108

CC:

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