

BLADDER SPILL

SPILL
Volume
A = 270' W x 300' L
B = 105' W x 300' L
C = 180' W x 210' L
D = 60' W x 210' L

Ave Depth = $\frac{12 + 14 + 16 + 18}{4} = 15'$
Volume = $105 \times 300 \times 15 = 4,725,000$ cu yd
 $12 \times 14 = 168$
 $168 \times 29 \times 16 = 73,824$

STRIP A FILL

D-10 & D8

PUSH CAP OVER
LANDFILL

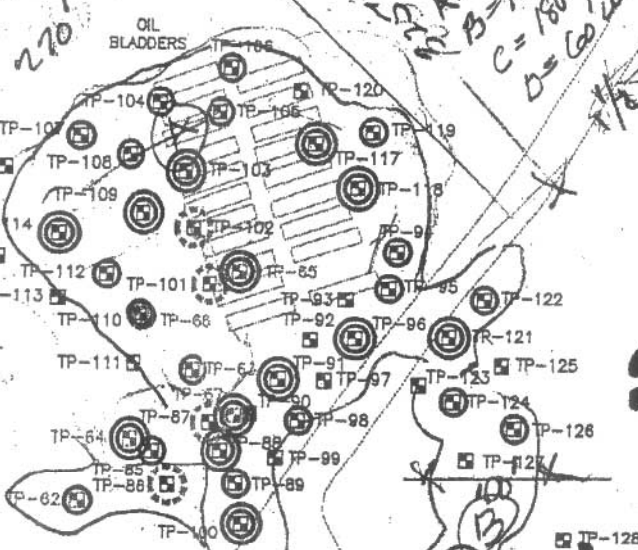
AIRSTRIPE

SS 49

OPERATIONAL
LANDFILL

BURN
PIT

CONSTRUCTION
LANDFILL



TP-58

TP-139

TP-55

TP-56

TP-54

TP-59

WS-LF1

TP-138

WS-TP140

TP-140

WS-TP132

TP-132

TP-130

TP-129

TP-131

TP-128

TP-125

TP-124

TP-123

TP-122

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TP-08

TP-07

TP-06

TP-05

TP-04

TP-03

TP-02

TP-01

TP-00

TEMPERATURES IN DEGREES C

	Bead # 1	Bead # 2	Bead # 3	Bead # 4	Bead # 5	Bead # 6	Bead # 7	Bead # 8	Bead # 9	Bead # 10
Installation Depth Below Collar (M)	-0.5	-1.0	-1.5	-2.0	-3.0	-4.0	-4.5	-5.0	-5.5	-6.0
Calibration Factors	-0.01	0.12	-0.02	-0.02	-0.18	-0.03	-0.01	-0.1	-0.03	-0.07

Temperatures

20-Mar-99	-22.9	-23.9	-24.0	-23.7	-21.7	-17.0	-15.9	-15.0	-14.2	-13.5
22-Mar-99	-22.7	-23.3	-23.5	-23.3	-21.6	-17.1	-16.0	-15.2	-14.3	-13.6
23-Mar-99	-22.5	-23.2	-23.3	-23.1	-21.5	-17.2	-16.0	-15.2	-14.4	-13.6
24-Mar-99	-22.4	-23.0	-23.2	-22.9	-21.4	-17.2	-16.1	-15.3	-14.4	-13.7
25-Mar-99	-22.4	-22.9	-23.0	-22.8	-21.4	-17.2	-16.2	-15.4	-14.5	-13.8
26-Mar-99	-23.1	-22.8	-22.9	-22.6	-21.3	-17.3	-16.2	-15.4	-14.5	-13.8
27-Mar-99	-23.7	-23.0	-22.8	-22.5	-21.2	-17.3	-16.3	-15.5	-14.6	-13.9
29-Mar-99	-24.7	-23.4	-22.8	-22.4	-21.0	-17.4	-16.4	-15.6	-14.7	-14.0
30-Mar-99	-25.9	-23.9	-23.0	-22.3	-21.0	-17.4	-16.4	-15.6	-14.7	-14.0
6-Apr-99	-24.1	-24.1	-23.5	-22.7	-20.9	-17.5	-16.6	-15.9	-15.0	-14.3
13-Apr-99	-22.7	-22.8	-22.6	-22.2	-20.8	-17.6	-16.8	-16.0	-15.3	-14.5
20-Apr-99	-19.9	-20.6	-21.2	-21.3	-20.6	-17.7	-16.9	-16.2	-15.5	-14.7
26-Apr-99	-18.4	-19.8	-20.5	-20.6	-20.0	-17.7	-17.0	-16.4	-15.6	-14.9
4-May-99	-16.2	-18.0	-19.0	-19.5	-19.4	-17.6	-17.0	-16.4	-15.7	-15.1
11-May-99	-14.1	-16.2	-17.4	-18.2	-18.7	-17.4	-16.9	-16.4	-15.8	-15.2
18-May-99	-9.6	-12.8	-15.0	-16.5	-17.7	-17.2	-16.8	-16.4	-15.8	-15.3
25-May-99	-6.7	-10.1	-12.6	-14.5	-16.5	-16.8	-16.6	-16.3	-15.8	-15.3
1-Jun-99	-5.0	-8.4	-10.7	-12.7	-15.1	-16.3	-16.2	-16.0	-15.7	-15.3
8-Jun-99	-0.5	-2.9	-7.0	-10.2	-13.6	-15.7	-15.8	-15.8	-15.5	-15.2
15-Jun-99	-0.7	-2.7	-5.6	-8.3	-12.0	-15.0	-15.3	-15.4	-15.3	-15.1
22-Jun-99	0.2	-1.8	-4.5	-7.1	-10.7	-14.2	-14.7	-14.9	-15.0	-14.9
29-Jun-99	1.3	-1.3	-3.5	-5.9	-9.4	-13.2	-14.0	-14.3	-14.5	-14.6
5-Jul-99	4.3	-0.5	-2.3	-4.7	-8.8	-12.8	-13.5	-13.9	-14.2	-14.4
13-Jul-99	3.9	2.9	-1.6	-4.3	-8.0	-12.2	-13.0	-13.5	-13.8	-14.1
20-Jul-99	3.3	1.3	-1.3	-3.8	-7.4	-11.6	-12.5	-13.0	-13.4	-13.8
27-Jul-99	3.9	1.7	-1.1	-3.4	-6.8	-11.1	-12.0	-12.5	-13.1	-13.4
3-Aug-99	4.8	2.0	-0.8	-3.0	-6.4	-10.6	-11.5	-12.1	-12.7	-13.2
10-Aug-99	4.8	2.4	-0.8	-2.8	-6.0	-10.3	-11.1	-11.8	-12.3	-12.8
17-Aug-99	3.9	2.0	-0.7	-2.6	-5.7	-9.9	-10.7	-11.4	-12.0	-12.5
24-Aug-99	1.4	0.7	-0.7	-2.5	-5.4	-9.6	-10.4	-11.1	-11.7	-12.3
31-Aug-99	0.0	0.1	-0.7	-2.4	-5.2	-9.3	-10.2	-10.8	-11.4	-12.0
7-Sep-99	-0.2	-0.1	-0.2	-1.5	-4.3	-8.2	-9.5	-10.2	-10.8	-11.5
14-Sep-99	-0.4	-0.1	-0.3	-1.6	-4.1	-8.0	-9.3	-10.0	-10.6	-11.2
22-Sep-99	-1.3	-0.4	-0.4	-1.6	-4.0	-7.8	-9.1	-9.7	-10.4	-11.1
28-Sep-99	-1.0	-0.5	-0.5	-1.6	-3.9	-7.6	-8.8	-9.5	-10.2	-10.9
5-Oct-99	-5.9	-3.0	-1.4	-1.8	-3.9	-7.4	-8.6	-9.3	-10.0	-10.7
12-Oct-99	-8.1	-5.4	-3.7	-2.8	-3.9	-7.3	-8.5	-9.1	-9.8	-10.5
19-Oct-99	-12.9	-9.4	-6.3	-4.5	-4.3	-7.2	-8.3	-9.0	-9.6	-10.3
26-Oct-99	-14.3	-11.3	-8.4	-6.4	-5.2	-7.2	-8.2	-8.8	-9.5	-10.1
2-Nov-99	-15.8	-13.7	-10.8	-8.3	-6.3	-7.3	-8.2	-8.7	-9.3	-10.0
9-Nov-99	-21.1	-16.7	-12.7	-10.0	-7.6	-7.6	-8.2	-8.7	-9.3	-9.9
16-Nov-99	-20.7	-17.0	-13.7	-11.5	-9.0	-8.1	-8.4	-8.8	-9.3	-9.8
23-Nov-99	-18.6	-17.8	-15.7	-13.3	-10.3	-8.7	-8.8	-9.0	-9.4	-9.8
30-Nov-99	-19.3	-16.7	-15.1	-13.6	-11.4	-9.4	-9.2	-9.3	-9.5	-9.9
7-Dec-99	-24.9	-21.4	-17.8	-15.2	-12.3	-10.0	-9.6	-9.6	-9.8	-10.0
13-Dec-99	-26.8	-23.8	-20.3	-17.3	-13.6	-10.6	-10.1	-10.0	-10.0	-10.2
22-May-00	-12.3	-14.1	-15.7	-16.9	-18.2	-18.1	-17.8	-17.4	-16.9	-16.4
29-May-00	-10.3	-13.2	-14.7	-15.9	-17.2	-17.6	-17.4	-17.2	-16.8	-16.4
6-Jun-00	-0.3	-0.1	-1.0	-2.3	-10.8	-12.2	-13.0	-15.6	-16.6	-16.2
16-Jun-00	1.0	-2.0	-5.7	-9.6	-13.9	-16.2	-16.4	-16.4	-16.2	-16.0
26-Jun-00	5.3	1.2	-1.8	-5.6	-10.9	-14.8	-15.5	-15.8	-15.8	-15.7
4-Jul-00	2.1	0.7	-1.3	-4.4	-9.3	-13.7	-14.7	-15.1	-15.3	-15.4
11-Jul-00	2.8	1.0	-1.2	-3.9	-8.2	-12.8	-14.0	-14.5	-14.8	-15.0
18-Jul-00	2.5	1.2	-1.1	-3.5	-7.5	-12.1	-13.3	-13.9	-14.3	-14.6
19-Sep-00	-3.9	-0.4	-1.0	-2.1	-4.6	-8.4	-9.6	-10.3	-11.0	-11.6
26-Sep-00	-6.3	-3.7	-2.4	-2.6	-4.5	-8.2	-9.4	-10.1	-10.8	-11.4
10-Oct-00	-9.9	-7.4	-5.6	-4.9	-5.2	-7.9	-9.0	-9.7	-10.3	-10.9
10-Nov-00	-18.7	-16.8	-14.2	-12.0	-9.5	-8.8	-9.2	-9.5	-9.9	-10.4
27-Apr-01	-19.8	-21.5	-23.0	-23.7	-23.5	-21.0	-19.8	-19.1	-18.2	-17.3
22-May-01	-9.9	-12.8	-15.5	-17.6	-19.7	-19.6	-19.1	-18.7	-18.2	-17.5
18-Jun-01	1.9	-0.7	-3.9	-7.3	-12.1	-16.0	-16.8	-17.0	-17.0	-16.9
19-Jul-01	8.5	2.4	-1.1	-3.4	-7.3	-12.0	-13.4	-14.1	-14.6	-15.0
21-Aug-01	0.0	0.0	-0.1	-2.0	-5.3	-9.8	-11.2	-11.9	-12.6	-13.2
21-Aug-01	0.0	0.0	-0.1	-2.0	-5.3	-9.8	-11.2	-11.9	-12.6	-13.2
16-Nov-02	-14.3	-13.3	-11.4	-9.7	-8.1	-8.5	-9.1	-9.5	-10.0	-10.6
18-Dec-02	-18.6	-17.6	-16.8	-15.8	-13.7	-11.0	-10.6	-10.5	-10.5	-10.7
10-Feb-03	-27.6	-25.3	-23.4	-21.6	-18.6	-14.8	-13.8	-13.3	-12.9	-12.5
11-Mar-03	-28.3	-26.2	-24.9	-23.8	-21.4	-17.0	-15.7	-15.0	-14.3	-13.8
17-Apr-03	-24.7	-24.5	-24.0	-23.3	-21.9	-18.6	-17.4	-16.7	-16.0	-15.2
15-May-03	-15.2	-17.1	-18.1	-18.8	-19.4	-18.3	-17.6	-17.1	-16.6	-15.9
17-Jun-03	-24.7	-24.5	-24.0	-23.3	-21.9	-18.6	-17.4	-16.7	-16.0	-15.2

TEMPERATURES IN DEGREES C

	Bead # 1	Bead # 2	Bead # 3	Bead # 4	Bead # 5	Bead # 6	Bead # 7	Bead # 8	Bead # 9	Bead # 10
Installation Depth Below Collar (M)	-0.5	-1.0	-1.5	-2.0	-2.5	-3.0	-3.5	-4.0	-4.5	-5.0
Calibration Factors	-0.02	-0.04	-0.08	-0.06	-0.03	0.04	-0.03	-0.14	-0.12	-0.01

Temperatures

20-Mar-99	-24.2	-24.8	-24.9	-24.5	-23.8	-22.7	-21.5	-20.0	-18.6	-17.4
22-Mar-99	-24.0	-24.2	-24.5	-24.2	-23.5	-22.5	-21.5	-20.1	-18.7	-17.5
23-Mar-99	-23.7	-24.2	-24.3	-24.0	-23.4	-22.5	-21.4	-20.1	-18.8	-17.6
24-Mar-99	-23.5	-24.0	-24.1	-23.9	-23.3	-22.4	-21.4	-20.1	-18.8	-17.6
25-Mar-99	-23.5	-23.8	-23.9	-23.7	-23.1	-22.3	-21.3	-20.1	-18.8	-17.6
26-Mar-99	-24.0	-23.8	-23.8	-23.6	-23.0	-22.2	-21.3	-20.1	-18.9	-17.7
27-Mar-99	-24.3	-24.0	-23.7	-23.5	-22.9	-22.2	-21.3	-20.1	-18.9	-17.7
29-Mar-99	-25.2	-24.4	-23.8	-23.3	-22.8	-22.0	-21.2	-20.1	-18.9	-17.8
30-Mar-99	-26.1	-25.0	-23.9	-23.3	-22.7	-21.9	-21.2	-20.0	-18.9	-17.8
6-Apr-99	-24.7	-24.8	-24.3	-23.6	-22.8	-21.9	-21.0	-20.0	-19.0	-18.0
13-Apr-99	-23.5	-23.6	-23.4	-23.0	-22.5	-21.8	-21.0	-20.0	-19.0	-18.1
20-Apr-99	-20.9	-21.5	-22.0	-22.2	-21.9	-21.4	-20.8	-20.0	-19.1	-18.2
26-Apr-99	-19.9	-20.7	-21.4	-21.5	-21.3	-20.9	-20.5	-19.8	-19.0	-18.3
4-May-99	-18.1	-19.3	-20.1	-20.4	-20.5	-20.4	-20.1	-19.6	-18.9	-18.2
11-May-99	-16.1	-17.6	-18.8	-19.4	-19.7	-19.7	-19.5	-19.2	-18.7	-18.2
18-May-99	-12.5	-14.6	-16.6	-17.8	-18.5	-18.8	-18.9	-18.8	-18.5	-18.0
25-May-99	-10.2	-12.3	-14.5	-15.9	-17.0	-17.7	-18.1	-18.2	-18.1	-17.8
1-Jun-99	-7.6	-10.4	-12.7	-14.3	-15.6	-16.5	-17.1	-17.5	-17.5	-17.4
8-Jun-99	-3.3	-6.2	-9.6	-11.9	-13.8	-15.2	-16.0	-16.7	-16.9	-17.0
15-Jun-99	-1.4	-4.1	-7.4	-9.8	-11.9	-13.6	-14.7	-15.7	-16.2	-16.5
22-Jun-99	-0.4	-2.1	-5.0	-7.7	-10.2	-12.1	-13.4	-14.7	-15.5	-15.9
29-Jun-99	1.6	-1.0	-3.6	-6.1	-8.4	-10.4	-11.9	-13.3	-14.4	-15.1
5-Jul-99	4.2	0.0	-2.7	-5.3	-7.6	-9.6	-11.2	-12.7	-13.8	-14.6
13-Jul-99	3.9	1.1	-1.9	-4.4	-6.7	-8.7	-10.3	-11.9	-13.1	-13.9
20-Jul-99	3.1	1.0	-1.5	-3.8	-6.0	-7.9	-9.5	-11.1	-12.4	-13.3
27-Jul-99	4.0	1.2	-1.3	-3.4	-5.4	-7.3	-8.8	-10.4	-11.7	-12.7
3-Aug-99	4.3	1.6	-1.1	-3.1	-5.0	-6.8	-8.3	-9.9	-11.1	-12.1
10-Aug-99	4.2	1.7	-1.0	-2.8	-4.7	-6.4	-7.8	-9.4	-10.6	-11.7
17-Aug-99	3.3	1.7	-0.8	-2.6	-4.4	-6.0	-7.4	-8.9	-10.2	-11.2
24-Aug-99	1.0	0.5	-0.7	-2.4	-4.2	-5.7	-7.1	-8.6	-9.8	-10.8
31-Aug-99	0.0	0.0	-0.9	-2.4	-4.0	-5.5	-6.7	-8.2	-9.4	-10.4
7-Sep-99	-0.1	-0.2	-1.0	-2.4	-3.9	-5.3	-6.5	-7.9	-9.1	-10.1
14-Sep-99	-0.2	-0.3	-1.2	-2.3	-3.7	-5.1	-6.3	-7.6	-8.8	-9.8
21-Sep-99	-0.8	-0.5	-1.4	-2.5	-3.7	-5.0	-6.1	-7.4	-8.6	-9.5
28-Sep-99	-1.1	-1.2	-1.8	-2.6	-3.7	-4.9	-6.0	-7.2	-8.3	-9.3
5-Oct-99	-4.7	-3.2	-2.7	-3.0	-3.9	-4.9	-5.9	-7.1	-8.1	-9.1
12-Oct-99	-6.8	-5.2	-4.3	-4.0	-4.3	-5.0	-5.8	-6.9	-7.9	-8.8
19-Oct-99	-11.7	-9.0	-6.7	-5.6	-5.2	-5.4	-6.1	-7.0	-7.9	-8.7
26-Oct-99	-13.9	-11.3	-9.0	-7.6	-6.7	-6.4	-6.6	-7.2	-7.9	-8.6
2-Nov-99	-15.9	-14.0	-11.5	-9.7	-8.3	-7.6	-7.5	-7.7	-8.1	-8.7
9-Nov-99	-19.7	-16.3	-13.2	-11.3	-9.9	-8.9	-8.5	-8.3	-8.5	-8.9
16-Nov-99	-20.3	-17.0	-14.3	-12.7	-11.3	-10.2	-9.6	-9.1	-9.0	-9.2
23-Nov-99	-19.1	-18.1	-16.1	-14.4	-12.7	-11.4	-10.6	-9.9	-9.6	-9.6
30-Nov-99	-18.7	-17.0	-15.6	-14.6	-13.4	-12.3	-11.5	-10.8	-10.3	-10.1
7-Dec-99	-24.2	-21.2	-18.1	-16.0	-14.4	-13.1	-12.2	-11.4	-10.8	-9.9
13-Dec-99	-26.6	-23.8	-20.7	-18.3	-16.1	-14.4	-13.2	-12.1	-11.4	-11.0
22-May-00	-11.9	-13.3	-15.0	-16.3	-17.3	-18.1	-18.5	-18.8	-18.9	-18.6
29-May-00	-11.0	-12.7	-14.2	-15.3	-16.3	-17.1	-17.7	-18.1	-18.3	-18.2
6-Jun-00	-7.2	-10.0	-12.3	-13.9	-15.2	-16.2	-16.8	-17.4	-17.6	-17.7
16-Jun-00	0.0	-2.3	-6.7	-10.2	-12.6	-14.3	-15.4	-16.3	-16.8	-17.1
26-Jun-00	2.4	-1.0	-4.3	-7.1	-9.7	-11.9	-13.3	-14.8	-15.7	-16.2
4-Jul-00	1.4	-0.4	-3.2	-5.8	-8.2	-10.3	-11.9	-13.6	-14.7	-15.4
11-Jul-00	1.7	-0.2	-2.8	-5.0	-7.3	-9.3	-10.9	-12.6	-13.9	-14.7
18-Jul-00	1.8	-0.2	-2.4	-4.5	-6.6	-8.6	-10.1	-11.8	-13.0	-14.1
19-Sep-00	-3.8	-2.4	-2.5	-3.2	-4.3	-5.4	-6.5	-7.9	-9.0	-10.0
26-Sep-00	-5.7	-4.1	-3.7	-3.9	-4.6	-5.6	-6.5	-7.8	-8.9	-9.8
10-Oct-00	-9.5	-7.7	-6.6	-6.1	-6.1	-6.4	-7.0	-7.8	-8.7	-9.5
10-Nov-00	-18.6	-16.8	-14.7	-13.0	-11.6	-10.6	-10.1	-9.8	-9.8	-10.0
27-Apr-01	-20.5	-22.2	-23.3	-23.9	-23.9	-23.6	-23.1	-22.3	-21.3	-20.4
22-May-01	-15.1	-17.4	-18.9	-20.0	-20.6	-21.0	-21.0	-20.8	-20.5	-20.0
18-Jun-01	-0.3	-3.2	-6.6	-9.4	-12.1	-14.2	-15.6	-17.0	-17.7	-18.2
19-Jul-01	4.3	-0.1	-2.4	-4.7	-7.0	-9.0	-10.5	-12.3	-13.6	-14.7
21-Aug-01	-0.1	-0.1	-1.3	-3.0	-4.9	-6.5	-8.0	-9.6	-11.0	-12.1
14-Sep-02	-0.1	-0.4	-1.6	-3.0	-4.5	-5.9	-7.2	-8.6	-9.8	-10.9
23-Oct-02	-6.9	-6.9	-6.8	-6.8	-6.8	-7.0	-7.5	-8.1	-8.9	-9.6
16-Nov-02	-14.8	-13.1	-11.7	-10.3	-9.6	-9.2	-9.1	-9.2	-9.5	-9.9
18-Dec-02	-18.4	-17.7	-17.0	-16.1	-15.1	-14.0	-13.1	-12.3	-11.7	-11.4
10-Feb-03	-27.0	-25.2	-23.5	-21.9	-20.2	-18.8	-17.7	-16.4	-15.4	-14.6
11-Mar-03	-28.0	-26.4	-25.3	-24.2	-22.9	-21.6	-20.3	-18.9	-17.6	-16.5
17-Apr-03	-24.9	-24.9	-24.4	-23.7	-15.8	-22.2	-21.4	-20.4	-19.3	-18.4
15-May-03	-16.0	-17.3	-18.1	-18.9	-19.4	-19.7	-19.7	-19.5	-19.1	-18.6
17-Jun-03	-1.5	-4.0	-6.6	-8.9	-11.0	-12.8	-14.0	-15.2	-16.1	-16.5

POLARIS MINE - OPERATIONAL LANDFILL - THERMISTOR STRING #3
TEMPERATURES IN DEGREES C

	Bead # 1	Bead # 2	Bead # 3	Bead # 4	Bead # 5	Bead # 6	Bead # 7	Bead # 8	Bead # 9	Bead # 10
Installation Depth Below	0.2	-0.3	-0.8	-1.3	-2.3	-3.3	-3.8	-4.3	-4.8	-5.3
Calibration Factors	0.05	-0.04	-0.02	-0.03	-0.02	-0.02	-0.36	-0.02	-0.13	-0.01

Temperatures

20-Mar-99	-17.7	-23.6	-24.8	-25.2	-24.4	-21.7	-20.2	-18.9	-17.6	-16.6
22-Mar-99	-16.9	-23.6	-24.2	-24.7	-24.0	-21.6	-20.2	-19.0	-17.8	-16.7
23-Mar-99	-17.1	-23.2	-24.2	-24.5	-23.8	-21.6	-20.2	-19.1	-17.8	-16.8
24-Mar-99	-18.6	-23.1	-23.9	-24.3	-23.7	-21.5	-20.2	-19.1	-17.8	-16.8
25-Mar-99	-20.5	-23.1	-23.7	-24.1	-23.5	-21.4	-20.2	-19.1	-17.9	-16.9
26-Mar-99	-20.8	-23.8	-23.7	-23.9	-23.4	-21.4	-20.2	-19.1	-17.9	-16.9
27-Mar-99	-23.9	-24.3	-23.9	-23.9	-23.3	-21.3	-20.2	-19.1	-18.0	-17.0
29-Mar-99	-29.2	-25.5	-24.5	-24.0	-23.1	-21.2	-20.1	-19.1	-18.0	-17.1
30-Mar-99	-24.5	-26.7	-25.1	-24.3	-23.0	-21.2	-20.1	-19.1	-18.0	-17.1
6-Apr-99	-15.4	-24.5	-24.8	-24.6	-23.2	-21.0	-20.0	-19.1	-18.1	-17.3
13-Apr-99	-16.8	-23.4	-23.6	-23.6	-22.7	-21.0	-20.0	-19.2	-18.2	-17.4
20-Apr-99	-14.8	-20.8	-21.6	-22.1	-22.1	-20.7	-19.8	-19.2	-18.3	-17.5
26-Apr-99	-14.4	-19.8	-21.0	-21.5	-21.4	-20.4	-19.6	-19.1	-18.3	-17.6
4-May-99	-11.3	-18.3	-19.6	-20.2	-20.6	-20.0	-19.4	-18.9	-18.3	-17.6
11-May-99	-5.2	-16.2	-18.0	-18.9	-19.7	-19.5	-19.0	-18.7	-18.2	-17.6
18-May-99	-4.0	-12.1	-14.7	-16.4	-18.3	-18.9	-18.5	-18.4	-18.0	-17.5
25-May-99	-2.6	-9.6	-12.2	-14.0	-16.6	-18.0	-17.9	-18.0	-17.7	-17.3
1-Jun-99	6.1	-5.9	-9.9	-12.0	-14.9	-16.9	-17.1	-17.4	-17.3	-17.1
8-Jun-99	6.1	-2.9	-6.0	-8.6	-12.8	-15.8	-16.3	-16.7	-16.8	-16.7
15-Jun-99	10.4	-1.1	-3.8	-6.2	-10.7	-14.4	-15.2	-15.9	-16.2	-16.3
22-Jun-99	3.5	-0.4	-2.6	-4.8	-9.2	-13.1	-14.1	-15.0	-15.6	-15.8
29-Jun-99	9.5	1.8	-1.2	-3.4	-7.6	-11.7	-12.8	-13.9	-14.6	-15.0
5-Jul-99	9.3	4.9	0.1	-2.5	-6.9	-11.0	-12.2	-13.3	-14.1	-14.6
13-Jul-99	8.9	4.2	1.0	-1.6	-5.9	-10.1	-11.4	-12.6	-13.5	-14.0
20-Jul-99	8.7	3.3	0.9	-1.3	-5.2	-9.4	-10.7	-11.9	-12.9	-13.4
27-Jul-99	11.2	4.5	1.2	-1.1	-4.7	-8.7	-10.0	-11.3	-12.3	-12.9
3-Aug-99	9.3	4.5	1.6	-0.8	-4.3	-8.2	-9.5	-10.7	-11.7	-12.4
10-Aug-99	10.2	4.5	1.8	-0.6	-4.0	-7.7	-9.0	-10.2	-11.2	-11.9
17-Aug-99	6.3	3.4	1.7	-0.4	-3.7	-7.3	-8.5	-9.8	-10.8	-11.5
24-Aug-99	1.4	1.0	0.5	-0.4	-3.5	-6.9	-8.2	-9.4	-10.4	-11.1
31-Aug-99	-0.3	0.0	-0.1	-0.6	-3.3	-6.6	-7.8	-9.0	-10.1	-10.7
7-Sep-99	-0.1	-0.2	-0.1	-0.7	-3.2	-6.4	-7.5	-8.7	-9.7	-10.4
14-Sep-99	-0.7	-0.4	-0.1	-0.8	-3.2	-6.2	-7.2	-8.4	-9.4	-10.2
21-Sep-99	-1.3	-1.5	-0.9	-1.0	-3.1	-6.0	-7.0	-8.2	-9.2	-9.9
28-Sep-99	-2.3	-1.4	-1.4	-1.7	-3.3	-5.9	-6.8	-8.0	-8.9	-9.6
5-Oct-99	-9.6	-5.8	-3.6	-2.9	-3.6	-5.8	-6.7	-7.8	-8.7	-9.4
12-Oct-99	-13.8	-7.6	-5.6	-4.8	-4.5	-5.9	-6.7	-7.7	-8.5	-9.2
19-Oct-99	-15.6	-13.0	-9.4	-7.4	-5.7	-6.3	-6.8	-7.6	-8.4	-9.0
26-Oct-99	-16.5	-14.8	-11.7	-9.9	-7.6	-7.0	-7.2	-7.8	-8.4	-9.0
2-Nov-99	-18.6	-16.6	-14.5	-12.5	-9.3	-7.9	-7.7	-8.1	-8.6	-9.0
9-Nov-99	-25.7	-21.1	-16.8	-14.2	-10.9	-8.9	-8.5	-8.6	-8.8	-9.1
16-Nov-99	-24.6	-21.4	-17.5	-15.2	-12.3	-10.0	-9.3	-9.2	-9.2	-9.4
23-Nov-99	-17.7	-19.6	-18.6	-17.1	-13.7	-11.0	-10.1	-9.8	-9.7	-9.7
30-Nov-99	-25.4	-19.3	-17.4	-16.4	-14.3	-11.8	-10.9	-10.4	-10.2	-10.1
7-Dec-99	-28.6	-25.6	-21.8	-19.1	-15.3	-12.5	-11.5	-11.1	-10.6	-10.5
13-Dec-99	-30.4	-27.4	-24.4	-21.9	-17.3	-13.5	-12.3	-11.7	-11.2	-10.9
22-May-00	-5.0	-11.8	-13.5	-14.9	-17.1	-18.4	-18.5	-18.6	-18.4	-18.2
29-May-00	2.3	-11.2	-12.9	-14.1	-16.1	-17.6	-17.8	-18.0	-18.0	-17.8
6-Jun-00	3.8	-7.0	-10.3	-12.3	-15.0	-16.8	-17.1	-17.4	-17.5	-17.4
16-Jun-00	15.4	5.9	-0.5	-4.8	-11.1	-15.2	-15.9	-16.5	-16.8	-16.9
26-Jun-00	14.4	3.3	-0.4	-3.0	-8.3	-12.9	-14.1	-15.2	-15.8	-16.2
4-Jul-00	7.2	1.7	-0.1	-2.3	-7.0	-11.6	-12.9	-14.1	-15.0	-15.4
11-Jul-00	7.6	2.5	-0.1	-2.0	-6.2	-10.6	-12.0	-13.3	-14.2	-14.8
18-Jul-00	4.6	2.2	0.0	-1.7	-5.7	-9.8	-11.2	-12.6	-13.5	-14.2
19-Sep-00	-6.3	-4.5	-2.8	-2.7	-4.0	-6.6	-7.6	-8.7	-9.7	-10.4
26-Sep-00	-10.4	-6.1	-4.3	-3.8	-4.5	-6.6	-7.5	-8.5	-9.5	-10.2
10-Oct-00	-9.3	-9.8	-7.5	-6.6	-6.2	-7.1	-7.6	-8.4	-9.2	-9.8
10-Nov-00	-19.2	-18.7	-16.5	-14.8	-11.9	-10.1	-9.6	-9.7	-9.8	-10.0
27-Apr-01	-17.6	-19.6	-21.6	-22.8	-23.5	-22.6	-21.8	-21.1	-20.2	-19.4
22-May-01	-1.2	-11.9	-14.6	-16.3	-18.9	-20.0	-19.8	-19.8	-19.5	-19.1
18-Jun-01	5.5	0.6	-1.9	-4.7	-10.0	-14.4	-15.6	-16.5	-17.1	-17.4
19-Jul-01	18.8	4.9	-0.3	-2.0	-5.9	-10.0	-11.3	-12.7	-13.8	-14.4
21-Aug-01	2.7	0.0	0.0	-1.0	-4.1	-7.7	-8.9	-10.2	-11.3	-12.1

DESTROYED

POLARIS MINE - OPERATIONAL LANDFILL - THERMISTOR STRING #4
TEMPERATURES IN DEGREES C

	Bead # 1	Bead # 2	Bead # 3	Bead # 4	Bead # 5	Bead # 6	Bead # 7	Bead # 8	Bead # 9	Bead # 10	Bead # 11	Bead # 12
Installation Depth Below Collar (M)	-0.5	-1.0	-1.5	-2.0	-2.5	-3.0	-4.0	-5.0	-5.5	-6.0	-6.5	-7.0
Calibration Factors	-0.06	-0.01	-0.04	-0.02	-0.01	0.03	-0.03	-0.04	-0.04	-0.15	-0.06	-0.09

Temperatures

20-Mar-99	-23.1	-23.8	-23.7	-23.3	-22.5	-21.2	-18.1	-15.3	-14.2	-13.3	-12.5	
22-Mar-99	-22.7	-23.2	-23.3	-22.9	-22.2	-21.1	-18.2	-15.4	-14.3	-13.4	-12.6	
23-Mar-99	-22.7	-23.1	-23.1	-22.7	-22.1	-21.0	-18.2	-15.5	-14.3	-13.5	-12.7	
24-Mar-99	-22.4	-22.9	-22.9	-22.6	-22.0	-20.9	-18.2	-15.5	-14.4	-13.5	-12.7	
25-Mar-99	-22.3	-22.7	-22.7	-22.4	-21.8	-20.8	-18.2	-15.6	-14.4	-13.6	-12.8	
26-Mar-99	-22.7	-22.6	-22.5	-22.3	-21.7	-20.7	-18.2	-15.6	-14.5	-13.6	-12.8	
27-Mar-99	-23.2	-22.6	-22.4	-22.2	-21.6	-20.6	-18.2	-15.6	-14.5	-13.7	-12.8	
29-Mar-99	-24.3	-23.0	-22.4	-22.0	-21.4	-20.5	-18.2	-15.7	-14.6	-13.7	-12.9	
30-Mar-99	-25.4	-23.4	-22.6	-21.9	-21.3	-20.4	-18.1	-15.7	-14.6	-13.8	-13.0	
6-Apr-99	-23.9	-23.6	-23.0	-22.3	-21.4	-20.3	-18.1	-15.8	-14.8	-14.0	-13.2	
13-Apr-99	-22.4	-22.3	-22.0	-21.7	-21.1	-20.2	-18.1	-15.9	-15.0	-14.2	-13.4	
20-Apr-99	-20.3	-20.8	-21.0	-20.9	-20.6	-19.8	-18.0	-16.0	-15.1	-14.4	-13.6	
26-Apr-99	-18.8	-20.0	-20.3	-20.2	-19.9	-19.3	-17.8	-16.0	-15.2	-14.5	-13.8	-13.2
4-May-99	-17.6	-18.7	-19.0	-19.2	-19.1	-18.8	-17.6	-16.0	-15.3	-14.6	-13.9	-13.3
11-May-99	-15.3	-17.0	-17.7	-18.1	-18.3	-18.1	-17.3	-15.9	-15.2	-14.6	-14.0	-13.5
18-May-99	-10.5	-13.7	-15.3	-16.4	-17.0	-17.2	-16.9	-15.7	-15.2	-14.6	-14.1	-13.6
25-May-99	-8.0	-11.2	-13.0	-14.4	-15.4	-16.0	-16.2	-15.5	-15.1	-14.6	-14.1	-13.6
1-Jun-99	-6.2	-9.5	-11.2	-12.7	-13.8	-14.7	-15.5	-15.2	-14.8	-14.5	-14.0	-13.6
8-Jun-99	-1.9	-4.7	-7.7	-10.1	-11.9	-13.3	-14.6	-14.7	-14.5	-14.2	-13.9	-13.6
15-Jun-99	-1.3	-3.5	-5.9	-8.1	-9.9	-11.5	-13.6	-14.2	-14.2	-14.0	-13.7	-13.5
22-Jun-99	-0.4	-2.5	-4.7	-6.7	-8.4	-10.1	-12.4	-13.6	-13.7	-13.7	-13.5	-13.3
29-Jun-99	0.3	-1.8	-3.7	-5.5	-7.1	-8.7	-11.1	-12.6	-13.0	-13.1	-13.2	-13.1
5-Jul-99	2.1	-1.4	-3.2	-4.9	-6.5	-8.0	-10.6	-12.2	-12.6	-12.8	-13.0	-12.9
13-Jul-99	3.1	-0.8	-2.6	-4.3	-5.8	-7.3	-9.9	-11.5	-12.1	-12.4	-12.6	-12.7
20-Jul-99	2.4	-0.6	-2.2	-3.7	-5.2	-6.7	-9.2	-11.0	-11.6	-11.9	-12.2	-12.4
27-Jul-99	3.1	-0.4	-1.9	-3.3	-4.7	-6.1	-8.6	-10.4	-11.0	-11.4	-11.8	-12.0
3-Aug-99	3.5	-0.2	-1.7	-3.0	-4.3	-5.7	-8.1	-10.0	-10.6	-11.1	-11.5	-11.7
10-Aug-99	3.6	0.0	-1.5	-2.8	-4.0	-5.3	-7.7	-9.6	-10.2	-10.7	-11.2	-11.5
17-Aug-99	3.2	0.2	-1.3	-2.5	-3.7	-5.0	-7.3	-9.2	-9.9	-10.4	-10.9	-11.1
24-Aug-99	1.1	0.0	-1.2	-2.3	-3.4	-4.7	-7.0	-8.8	-9.5	-10.1	-10.5	-10.9
7-Sep-99	0.0	-0.3	-0.1	-0.6	-1.5	-2.4	-4.6	-6.6	-7.5	-8.4	-9.1	-9.6
14-Sep-99	-0.6	-0.6	-0.2	-0.9	-1.6	-2.4	-4.4	-6.3	-7.3	-8.1	-8.8	-9.3
21-Sep-99	-1.3	-1.8	-1.5	-1.4	-1.9	-2.5	-4.3	-6.1	-7.0	-7.9	-8.6	-9.1
28-Sep-99	-2.4	-1.6	-1.7	-2.0	-2.3	-2.8	-4.3	-5.9	-6.8	-7.6	-8.3	-8.8
5-Oct-99	-10.1	-6.9	-4.3	-3.1	-3.0	-3.1	-4.3	-5.8	-6.7	-7.4	-8.1	-8.7
12-Oct-99	-14.6	-8.7	-6.2	-4.8	-4.2	-4.0	-4.5	-5.8	-6.6	-7.3	-7.9	-8.4
19-Oct-99	-15.7	-14.1	-10.2	-7.0	-5.7	-5.0	-4.9	-5.8	-6.4	-7.1	-7.7	-8.2
26-Oct-99	-16.5	-15.6	-12.1	-9.1	-7.6	-6.6	-5.7	-6.0	-6.6	-7.1	-7.7	-8.1
2-Nov-99	-18.9	-16.9	-14.6	-11.4	-9.5	-8.1	-6.5	-6.4	-6.7	-7.2	-7.7	-8.1
9-Nov-99	-25.9	-22.1	-16.9	-12.7	-10.8	-9.4	-7.5	-6.9	-7.0	-7.4	-7.7	-8.1
16-Nov-99	-24.7	-21.6	-17.0	-13.5	-11.8	-10.6	-8.4	-7.4	-7.6	-7.9	-8.2	
23-Nov-99	-17.4	-19.1	-17.6	-15.2	-13.4	-11.8	-9.3	-8.1	-7.9	-7.9	-8.1	-8.3
30-Nov-99	-25.6	-19.3	-16.4	-14.7	-13.5	-12.4	-10.2	-8.7	-8.4	-8.2	-8.3	-8.4
7-Dec-99	-28.8	-25.7	-21.0	-17.0	-14.9	-13.3	-10.8	-9.3	-8.9	-8.6	-8.6	-8.6
13-Dec-99	-30.5	-27.3	-23.4	-19.5	-17.1	-15.0	-11.7	-9.9	-9.3	-9.0	-8.9	-8.8
22-May-00	-3.3	-10.4	-11.9	-13.8	-14.9	-15.7	-16.7	-16.7	-16.4	-16.0	-15.5	-15.0
29-May-00	3.3	-9.5	-11.7	-13.2	-14.1	-14.9	-15.9	-16.1	-16.0	-15.7	-15.3	-14.9
6-Jun-00	4.3	-5.8	-9.3	-11.7	-13.0	-13.9	-15.2	-15.5	-15.5	-15.3	-15.1	-14.7
16-Jun-00	16.3	6.8	2.5	-1.8	-5.7	-8.8	-13.1	-14.6	-14.8	-14.9	-14.7	-14.5
26-Jun-00	15.8	5.5	2.0	-1.1	-3.5	-5.8	-10.2	-12.8	-13.6	-14.0	-14.1	-14.1
4-Jul-00	7.5	2.9	1.6	-0.8	-2.9	-4.8	-8.8	-11.5	-12.5	-13.1	-13.5	-13.6
11-Jul-00	7.1	3.2	-1.7	-6.6	-10.9	-13.5	-15.0	-15.3	-15.5	-15.6	-15.3	-15.1
18-Jul-00	4.8	3.0	-1.5	-5.9	-10.0	-12.5	-14.4	-14.8	-15.1	-15.3	-15.1	-15.0
19-Sep-00	-6.1	-3.8	-1.5	-1.4	-1.9	-2.6	-4.6	-6.5	-7.4	-8.3	-9.0	-9.5
26-Sep-00	-10.4	-5.6	-3.5	-2.6	-2.6	-3.0	-4.6	-6.3	-7.2	-8.1	-8.7	-9.3
10-Oct-00	-9.4	-10.0	-7.3	-5.5	-5.0	-4.7	-5.1	-6.3	-7.0	-7.7	-8.4	-8.9
10-Nov-00	-19.4	-19.0	-16.4	-13.1	-11.4	-10.1	-8.2	-7.6	-7.7	-8.0	-8.3	-8.6
27-Apr-01	-17.5	-18.2	-20.1	-21.9	-22.4	-22.4	-21.3	-19.5	-18.5	-17.4	-16.5	-15.8
22-May-01	-0.2	-8.9	-12.0	-15.1	-16.7	-17.8	-18.7	-18.3	-17.8	-17.2	-16.6	-16.1
18-Jun-01	6.4	1.7	-0.8	-3.6	-6.3	-8.6	-12.6	-14.9	-15.4	-15.7	-15.6	-15.5
19-Jul-01	18.4	5.9	0.0	-1.8	-3.5	-5.1	-8.4	-10.8	-11.9	-12.7	-13.2	-13.5
21-Aug-01	2.3	0.0	0.0	-1.0	-2.3	-3.5	-6.3	-8.6	-9.6	-10.5	-11.2	-11.7
14-Sep-02	3.5	-0.1	-0.6	-1.5	-2.5	-3.5	-6.0	-8.1	-9.1	-10.0		
23-Oct-02	-6.8	-6.7	-6.7	-6.6	-6.6	-6.5	-6.8	-7.6	-8.2	-8.9	-9.5	-10.0
16-Nov-02	-19.4	-17.0	-14.8	-13.1	-11.6	-10.3	-8.8	-8.5	-8.8	-9.1	-9.5	-9.8
18-Dec-02	-22.1	-19.3	-18.7	-18.2	-17.5	-16.6	-14.0	-11.9	-11.2	-10.8	-10.5	-10.5
10-Feb-03	-31.7	-29.2	-27.1	-25.4	-23.8	-22.1	-18.8	-16.1	-15.0	-14.1	-13.5	-13.0
11-Mar-03	-25.5	-29.6	-27.6	-26.6	-25.7	-24.7	-21.7	-18.7	-17.3	-16.2	-15.2	-14.5
17-Apr-03	-21.6	-24.8	-25.1	-24.9	-24.5	-23.9	-22.3	-20.2	-19.1	-18.0	-17.1	-16.3
15-May-03	-6.1	-13.6	-15.6	-16.9	-18.0	-18.8	-19.7	-19.3	-18.8	-18.2	-17.6	-17.0
17-Jun-03	8.2	-0.3	-2.9	-5.8	-8.3	-10.5	-13.8	-15.5	-15.4	-15.9	-16.2	-16.2

POLARIS MINE - OPERATIONAL LANDFILL - THERMISTOR STRING #5
TEMPERATURES IN DEGREES C

	Bead # 1	Bead # 2	Bead # 3	Bead # 4	Bead # 5	Bead # 6	Bead # 7	Bead # 8	Bead # 9	Bead # 10	Bead # 11	Bead # 12
Installation Depth Below Collar (M)	0.2	-0.3	-1.3	-2.3	-3.3	-4.3	-5.3	-5.8	-6.3	-6.8	-7.3	-7.8
Calibration Factors	-0.01	-0.07	-0.01	-0.12	0.03	0.03	-0.02	-0.06	0.02	-0.02	-0.12	0.02

Temperatures

20-Mar-99	-19.9	-23.6	-25.1	-23.9	-21.4	-18.5	-15.5	-14.6	-13.9	-13.1	-12.4	
22-Mar-99	-19.0	-23.5	-24.5	-23.6	-21.4	-18.6	-15.7	-14.8	-14.1	-13.2	-12.5	
23-Mar-99	-19.1	-23.3	-24.3	-23.4	-21.3	-18.6	-15.8	-14.9	-14.1	-13.2	-12.6	
24-Mar-99	-20.5	-23.1	-24.1	-23.3	-21.3	-18.7	-15.8	-14.9	-14.2	-13.3	-12.7	
25-Mar-99	-21.6	-23.0	-23.9	-23.1	-21.2	-18.7	-15.9	-15.0	-14.3	-13.3	-12.7	
26-Mar-99	-22.6	-23.5	-23.7	-23.0	-21.2	-18.7	-16.0	-15.1	-14.3	-13.4	-12.7	
27-Mar-99	-24.9	-23.9	-23.6	-22.9	-21.1	-18.7	-16.0	-15.1	-14.3	-13.4	-12.8	
29-Mar-99	-29.1	-25.0	-23.6	-22.7	-21.0	-18.7	-16.1	-15.2	-14.5	-13.5	-12.8	
30-Mar-99	-25.6	-26.2	-23.8	-22.6	-21.0	-18.8	-16.2	-15.3	-14.5	-13.6	-12.9	
6-Apr-99	-18.8	-24.6	-24.4	-22.7	-20.8	-18.8	-16.5	-15.6	-14.9	-14.0	-13.2	
13-Apr-99	-20.1	-23.1	-23.3	-22.3	-20.8	-18.9	-16.7	-15.9	-15.2	-14.3	-13.5	
20-Apr-99	-16.6	-20.7	-21.9	-21.8	-20.6	-18.9	-16.8	-16.1	-15.5	-14.5	-13.7	
26-Apr-99	-16.4	-19.8	-21.2	-21.0	-20.2	-18.8	-17.0	-16.3	-15.6	-14.8	-14.0	-13.3
4-May-99	-14.4	-18.1	-19.9	-20.3	-19.8	-18.7	-17.1	-16.4	-15.8	-15.0	-14.2	-13.6
11-May-99	-8.9	-16.1	-18.6	-19.5	-19.3	-18.5	-17.1	-16.5	-16.0	-15.1	-14.4	-13.8
18-May-99	-6.0	-11.8	-16.1	-18.2	-18.7	-18.2	-17.0	-16.5	-16.0	-15.3	-14.6	-13.9
25-May-99	-5.0	-9.2	-13.6	-16.5	-17.8	-17.7	-16.9	-16.5	-16.1	-15.4	-14.7	-14.1
1-Jun-99	2.4	-6.3	-11.5	-14.9	-16.8	-17.1	-16.7	-16.4	-16.0	-15.4	-14.8	-14.2
8-Jun-99	3.3	-3.3	-9.0	-13.2	-15.6	-16.4	-16.4	-16.2	-15.9	-15.4	-14.8	-14.2
15-Jun-99	7.1	-2.0	-7.2	-11.5	-14.5	-15.7	-16.0	-16.0	-15.7	-15.3	-14.8	-14.3
22-Jun-99	2.4	-0.8	-5.4	-10.1	-13.3	-14.9	-15.6	-15.6	-15.5	-15.2	-14.8	-14.3
29-Jun-99	6.7	1.7	-3.8	-8.3	-11.9	-13.8	-15.0	-15.1	-15.1	-14.9	-14.7	-14.3
5-Jul-99	8.2	4.9	-1.1	-7.3	-11.2	-13.2	-14.6	-14.8	-14.9	-14.8	-14.6	-14.2
13-Jul-99	7.5	5.0	-1.5	-6.4	-10.2	-12.5	-14.0	-12.2	-14.5	-14.5	-14.4	-14.1
20-Jul-99	6.4	3.6	-1.0	-5.6	-9.4	-11.7	-13.5	-13.9	-14.1	-14.2	-14.2	-14.0
27-Jul-99	9.8	4.3	-0.8	-5.0	-8.7	-11.0	-12.9	-13.4	-13.7	-13.9	-14.0	-13.9
3-Aug-99	10.0	5.0	-0.5	-4.6	-8.1	-10.5	-12.4	-12.9	-13.2	-13.6	-13.7	-13.7
10-Aug-99	10.3	4.8	-0.4	-4.2	-7.6	-9.9	-11.9	-12.5	-12.9	-13.3	-13.5	-13.5
17-Aug-99	6.2	4.0	-0.2	-3.9	-7.2	-9.5	-11.5	-12.1	-12.5	-12.9	-13.2	-13.3
24-Aug-99	1.5	1.6	-0.2	-3.6	-6.8	-9.1	-11.1	-11.7	-12.1	-12.6	-12.9	-13.1
31-Aug-99	-0.3	0.2	-0.3	-3.4	-6.5	-8.7	-10.7	-11.4	-11.8	-12.3	-12.7	-12.9
7-Sep-99	0.0	-0.2	-0.4	-3.3	-6.2	-8.4	-10.4	-11.0	-11.5	-12.0	-12.4	-12.7
15-Sep-99	-0.7	-0.3	-0.5	-3.2	-5.9	-8.1	-10.1	-10.7	-11.1	-11.7	-12.2	-12.5
21-Sep-99	-1.3	-0.8	-0.7	-3.1	-5.7	-7.8	-9.8	-10.4	-10.9	-11.5	-12.0	-12.3
28-Sep-99	-1.9	-0.7	-0.9	-3.1	-5.5	-7.6	-9.5	-10.1	-10.6	-11.2	-11.8	-12.1
5-Oct-99	-8.8	-4.1	-1.5	-3.1	-5.4	-7.4	-9.2	-9.9	-10.3	-11.0	-11.5	-11.9
12-Oct-99	-13.0	-6.3	-3.2	-3.5	-5.3	-7.2	-9.0	-9.6	-10.1	-10.8	-11.3	-11.6
19-Oct-99	-15.4	-12.1	-5.8	-4.4	-5.4	-6.9	-8.7	-9.4	-9.9	-10.5	-11.1	-11.5
26-Oct-99	-16.5	-14.2	-8.6	-6.2	-5.8	-7.0	-8.6	-9.2	-9.7	-10.3	-10.9	-11.3
2-Nov-99	-18.4	-16.4	-11.4	-7.8	-6.6	-7.2	-8.5	-9.1	-9.5	-10.2	-10.7	-11.2
9-Nov-99	-25.5	-20.7	-13.2	-9.4	-7.6	-7.5	-8.5	-9.0	-9.4	-10.0	-10.5	-11.0
16-Nov-99	-24.3	-20.6	-14.4	-10.9	-8.7	-8.1	-8.6	-9.4	-9.4	-9.9	-10.5	-10.9
23-Nov-99	-18.2	-19.8	-16.5	-12.3	-9.8	-8.7	-8.8	-9.1	-9.4	-9.9	-10.4	-10.7
30-Nov-99	-24.7	-18.8	-16.0	-13.2	-10.8	-9.4	-9.1	-9.3	-9.5	-9.9	-10.3	-10.7
7-Dec-99	-28.4	-25.4	-18.5	-14.1	-11.5	-10.1	-9.5	-9.5	-9.6	-10.0	-10.3	-10.6
13-Dec-99	-30.3	-27.5	-21.4	-15.9	-12.6	-10.7	-9.9	-9.8	-9.9	-10.1	-10.4	-10.6
22-May-00	-5.2	-11.4	-14.4	-16.8	-18.3	-18.5	-18.0	-17.7	-17.3	-16.5	-15.8	-15.2
29-May-00	1.0	-10.7	-13.6	-15.9	-17.4	-18.0	-17.7	-17.5	-17.1	-16.5	-15.9	-15.2
6-Jun-00	2.7	-7.0	-12.0	-14.9	-16.6	-17.3	-17.4	-17.2	-16.9	-16.4	-15.9	-15.3
16-Jun-00	13.3	-1.0	-7.8	-12.5	-15.3	-16.4	-16.8	-16.8	-16.6	-16.2	-15.8	-15.3
26-Jun-00	13.9	3.3	-3.8	-9.5	-13.4	-15.3	-16.2	-16.3	-16.2	-16.0	-15.7	-15.2
4-Jul-00	7.5	2.3	-2.1	-7.8	-12.0	-14.3	-15.6	-15.9	-15.9	-15.8	-15.5	-15.2
11-Jul-00	7.6	3.5	1.8	-0.9	-2.5	-4.3	-7.8	-10.6	-11.6	-12.3	-13.0	-13.0
18-Jul-00	5.2	3.2	1.6	-0.8	-2.3	-3.9	-7.2	-9.9	-10.9	-11.6	-12.4	-12.5
19-Sep-00	-5.8	-2.2	-1.4	-3.6	-6.2	-8.3	-10.4	-11.0	-11.5	-12.1	-12.6	-12.9
26-Sep-00	-9.7	-4.3	-2.3	-3.8	-6.0	-8.1	-10.1	-10.7	-11.2	-11.9	-12.4	-12.7
10-Oct-00	-9.1	-8.6	-5.4	-5.1	-6.1	-7.8	-9.6	-10.2	-10.7	-11.3	-11.9	-12.3
10-Nov-00	-19.2	-18.2	-13.8	-10.6	-8.9	-8.6	-9.3	-9.7	-10.0	-10.6	-11.1	-11.5
27-Apr-01	-17.9	-20.2	-23.2	-23.8	-22.9	-21.4	-19.3	-18.5	-17.8	-16.8	-15.8	-15.1
22-May-01	-1.9	-11.5	-16.4	-19.3	-20.4	-20.2	-19.2	-18.7	-18.1	-17.3	-16.5	-15.7
18-Jun-01	4.7	-0.5	-6.4	-11.6	-15.3	-17.0	-17.7	-17.7	-17.5	-17.1	-16.6	-16.0
19-Jul-01	17.4	4.8	-1.8	-6.4	-10.3	-12.9	-14.9	-15.4	-15.6	-15.8	-15.8	-15.5
21-Aug-01	2.5	0.0	-0.7	-4.3	-7.7	-10.2	-12.4	-13.0	-13.5	-14.0	-14.4	-14.5
14-Sep-02	2.6	-0.1	-1.2	-4.0	-6.8	-9.1	-11.1	-11.8	-12.3	-13.0	-13.5	-13.8
23-Oct-02	-6.7	-6.6	-6.3	-6.2	-6.7	-8.0	-9.7	-10.3	-10.8	-11.5	-12.1	-12.5
16-Nov-02	-18.7	-16.1	-12.6	-9.8	-8.5	-8.6	-9.6	-10.0	-10.4	-10.9	-11.6	-11.9
18-Dec-02	-21.5	-19.5	-18.6	-16.3	-13.6	-11.7	-10.8	-10.7	-10.8	-10.9	-11.3	-11.6
10-Feb-03	-30.9	-28.8	-25.6	-21.9	-18.5	-16.1	-14.2	-13.6	-13.2	-12.8	-12.5	-12.4
11-Mar-03	-27.7	-29.1	-27.1	-24.7	-21.6	-18.7	-16.2	-15.5	-14.9	-14.1	-13.6	-13.2
17-Apr-03	-22.8	-25.5	-25.4	-24.2	-22.5	-20.6	-18.4	-18.4	-16.8	-15.9	-15.1	-14.5
15-May-03	-8.9	-15.5	-18.0	-19.8	-20.5	-20.0	-18.8	-18.2	-17.6	-16.8	-16.0	-15.3
17-Jun-03	5.3	-2.1	-7.4	-11.8	-15.0	-16.6	-17.3	-17.3	-17.1	-16.8	-16.3	-15.8



PROJECT: [illegible] DATE: [illegible] BY: [illegible] FOR: [illegible]	SCALE: 1" = 1 MILE UNIT: FEET PROJECTION: UTM COORDINATE SYSTEM: NAD 83 DATA SOURCE: [illegible] DATE OF DATA: [illegible] DATE OF PROCESSING: [illegible] DATE OF PLOT: [illegible]	PROJECT: [illegible] DATE: [illegible] BY: [illegible] FOR: [illegible]	SCALE: 1" = 1 MILE UNIT: FEET PROJECTION: UTM COORDINATE SYSTEM: NAD 83 DATA SOURCE: [illegible] DATE OF DATA: [illegible] DATE OF PROCESSING: [illegible] DATE OF PLOT: [illegible]
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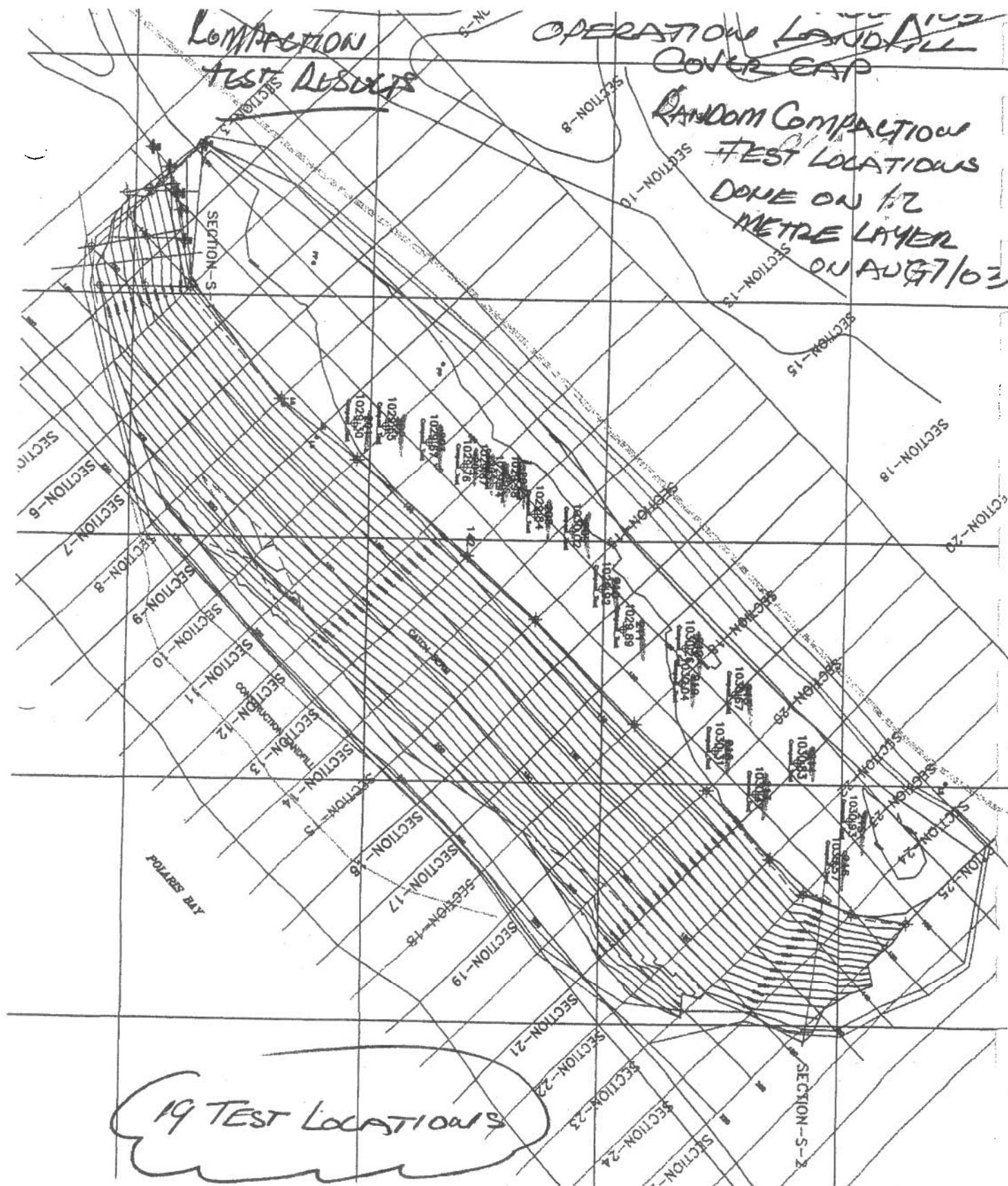
a) Plate load tests should be completed on each lift to verify that adequate compaction has been achieved. b) The plate load tests should be completed at a frequency of one test for every 5,000 square metres. A minimum 25 mm thick, round steel plate with an area of 0.0929 square metres (1 square foot) (diameter of plate = 0.344 m) shall be placed on the surface of the compacted cover material. The edge of the plate should be flat not rounded. Prior to starting the test, the surface of the test location (over an area with a diameter of 0.6 m) shall be groomed smooth using the steel plate. c) A force of 13.3 kN (3,000 lbs) shall be applied to the plate (located in the center of the smooth area) in a manner that the load reaches the soil as a static load, without impact, fluctuation or eccentricity. The load shall be applied for a period of 5 minutes. The plate shall be removed without disturbing the soil around the edge of the plate. The displacement of the soil shall be measured at four equidistant locations along the edge of the test area to the nearest 1 mm. All four displacement measurements at each test location should be recorded as well as the average displacement. The average displacement shall not exceed 10.0 mm for any test. e) For each test location, the following information shall be recorded: date, time, material type, lift number, location (co-ordinates or shown on a plan drawing), applied load, the four displacement measurements, the average displacement, pass/fail compaction requirement. f) If a plate load test fails, the area between passing plate load tests should be recompacted and retested until the compaction standard is achieved. g) All test results are to be forwarded to the Owner for review and approval after each lift is tested and before subsequent lifts are placed.

pk
QC
SDC
will
address

COMPACTION
TEST RESULTS

OPERATION LANDFILL
COVER CAP

RANDOM COMPACTIONS
TEST LOCATIONS
DONE ON 1/2
METRE LAYER
ON AUG 7/03



19 TEST LOCATIONS

OP. LANDFILL COMPACTION TEST

Weather - Cold - -4°C
WINDY.

CC IAN DICKIE TECK COM.
HERB McLEAN SLEXC

R. J. J. J.

OPERATIONAL LAND FILL COMPACTION TEST LOCATIONS

3000 lb / 12" dia

Point Num	Northing	Easting	Elevation	Descriptor Name	Time Start	Time End	Plate M. displacement
201	593.460	1252.379	1029.299	Aug 7/03	3:00	3:10	0 0 0
202	606.115	1253.433	1029.552	"	3:12	3:20	0 0 2
203	623.709	1259.794	1029.669		3:20	3:27	0 0 4
204	638.672	1270.042	1029.759		3:27	3:35	2 0 0
205	648.079	1271.376	1029.873		3:35	3:42	2 0 0
206	654.436	1276.802	1029.943		3:42	3:50	0 0 2
207	659.050	1275.635	1029.983		3:50	3:57	0 0 0
208	670.131	1289.238	1029.837		3:57	4:05	0 0 2
209	685.956	1296.020	1030.015		4:05	4:12	3 0 0
210	699.009	1319.504	1029.924		4:12	4:19	2 0 0
211	707.997	1336.406	1029.889		4:19	4:26	0 0 0
212	733.266	1344.157	1030.255		4:26	4:35	0 0 0
213	754.039	1363.459	1030.666		4:35	4:42	2 0 0
214	781.081	1390.836	1030.831		4:42	4:50	0 0 0
215	803.700	1415.462	1030.927		4:50	4:58	0 0 0
216	797.234	1433.457	1030.572		5:05	5:12	2 3 0
217	763.152	1404.141	1030.474		5:12	5:19	0 0 0
218	745.922	1386.018	1030.305		5:19	5:26	0 0 0
219	732.255	1358.949	1030.043		5:26	5:35	0 0 0

TEST MATERIAL

NEW QUARRY BLASTED ROCK

C. SURV
FRI 8 AUG/03

C.C. IAN DICKIE TECK CONIN
HERB McLEAN SLEFC

TEST WERE DONE WITH A 3000 LB WEIGHT
& 12" dia

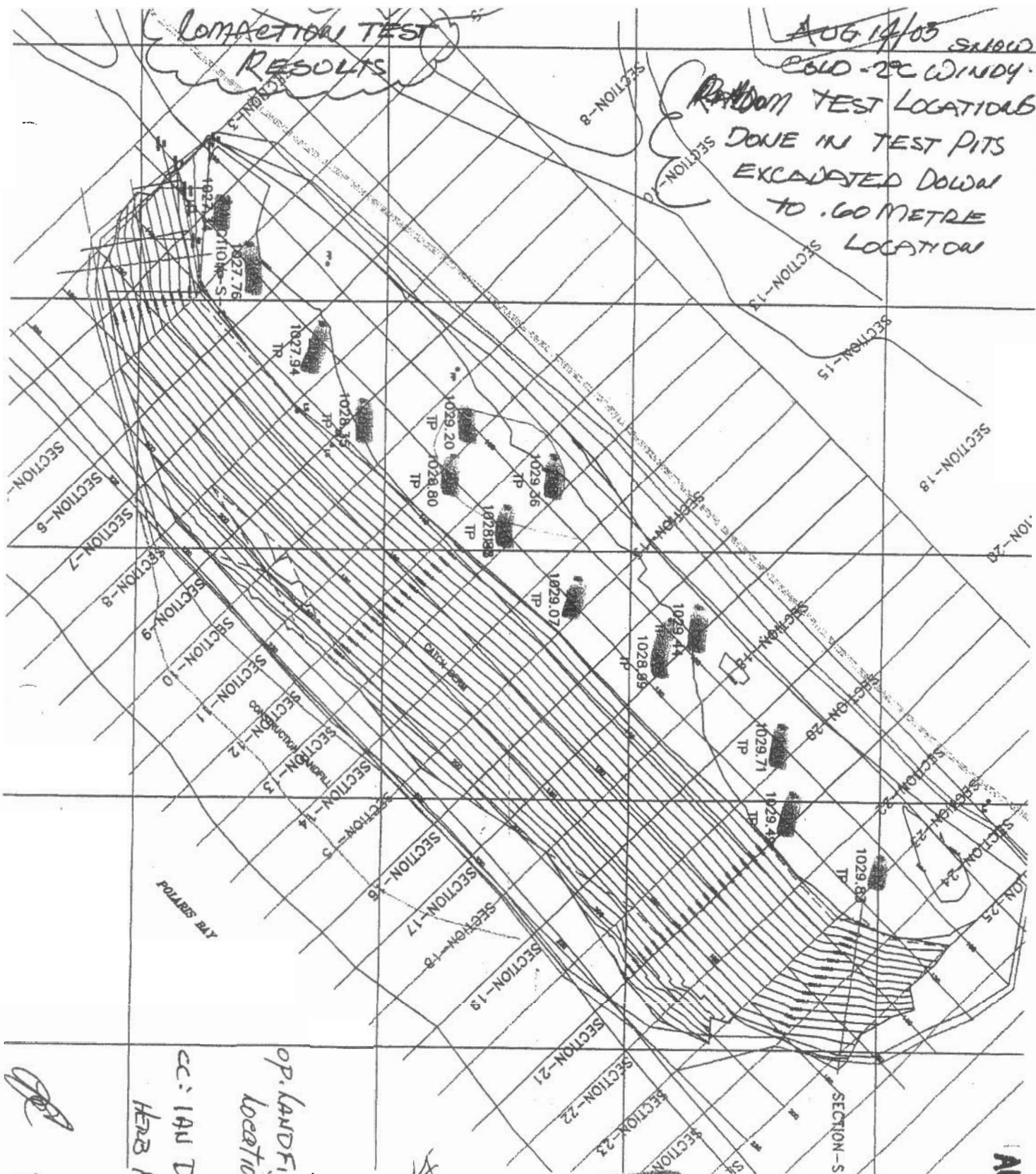
Aug 7/03
PJS

COMACTION TEST RESULTS

AUG 19/03 SNAID

COLD - 2°C WINDY

RANDOM TEST LOCATIONS
DONE IN TEST PITS
EXCAVATED DOWN
TO .60 METRE
LOCATION



17 LOCATIONS TESTED
MATERIAL IS NEW QUARRY
BLASTED SHOT ROCK

AUG 13 2003

OP. LANDFILL TEST PIT
LOCATION'S

CC: IAN DICKIE TEKK COY
HERB HELEAN SLIDE

SUE

OPERATIONAL LANDFILL Test Pit Locations

3000LB DT

	Point Num.	Northing	Easting	Elevation	Descriptor/Name	Time		Displacement				
						START	END	1	2	3	4	
1	201	527.148	1163.258	1027.336	TP	ASUG 14/03	3:40	3:18	0	0	0	0
2	202	539.217	1188.929	1027.756	TP		3:18	3:15	0	0	2M	0
3	XXX	XXX	XXX	XXX	XXX		3:25	3:32	2M	0	0	0
4	204	563.479	1220.310	1027.944	TP		3:32	3:39	2M	2M	2M	0
5	205	583.413	1248.532	1028.349	TP		3:39	3:46	0	0	0	0
6	206	619.386	1271.940	1028.797	TP		3:46	3:54	0	0	0	0
7	207	625.825	1248.996	1029.203	TP		3:54	4:04	water	in pit		
8	208	660.925	1271.591	1029.362	TP		4:04	4:10	water	in pit		
9	XXX	XXX	XXX	XXX	XXX		4:10	4:17	0	0	2M	0
10	210	641.966	1292.397	1028.848	TP		4:17	4:25	0	0	0	0
11	211	669.164	1319.550	1029.070	TP		4:25	4:33	1	3	0	0
12	212	719.456	1331.364	1029.439	TP		4:33	4:39	0	0	0	0
13	213	705.308	1344.190	1028.950	TP		4:39	4:46	0	2	0	0
14	XXX	XXX	XXX	XXX								
15	215	752.686	1377.931	1029.715	TP		4:46	4:54	3	0	0	0
16	216	756.761	1406.586	1029.486	TP		4:54	5:06	0	2	0	0
17	217	792.912	1428.963	1029.833	TP		5:06	5:16	0	0	0	0
18												

PC

SURV

TUES: 12 AUGUST/03

CC: IAN DICKIE Teek COHINCO
HERB McLEAN SLEPC

APPENDIX C



Photo 1

Typical segregated shale surface on landfill bench top.

**Photo 2**

Panoramic view of top of landfill on August 19, 2003.

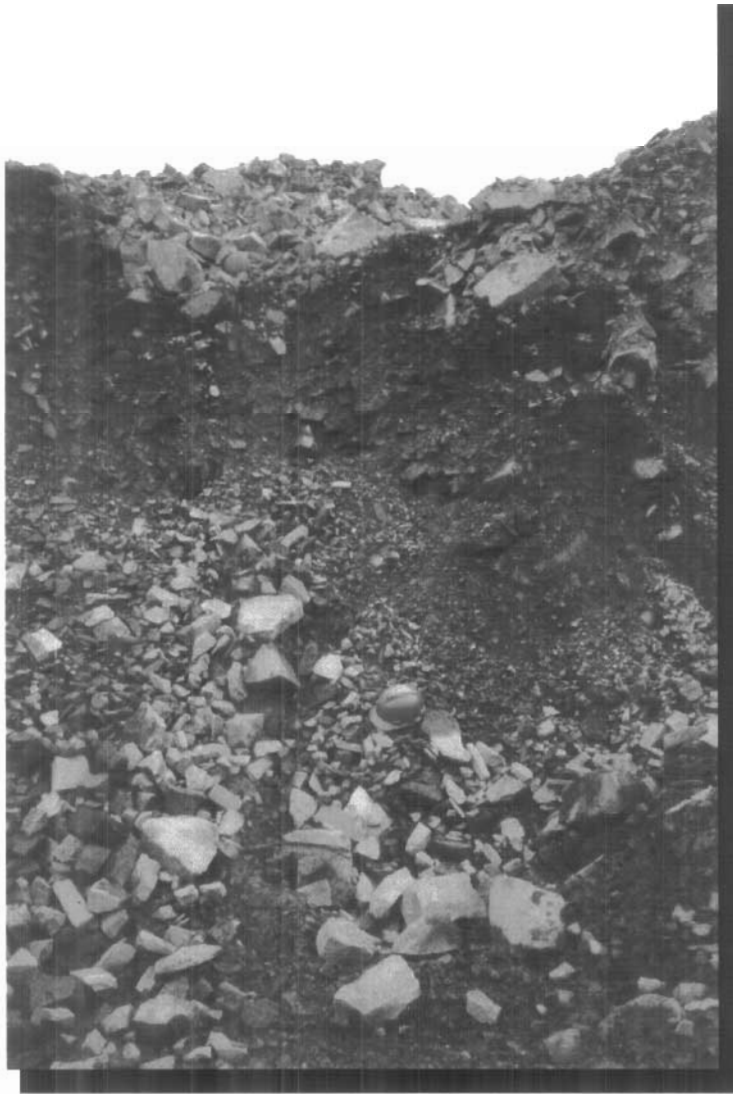


Photo 3
View of cut in shale stockpile at borrow pit.



Photo 4
View of shale stockpile at borrow pit.

**Photo 5**

Graded slope in area of hydrocarbon remediation upslope of Operational Landfill on August 20, 2003. Soils are reworked locally derived soils.

**Photo 6**

Locally derived soils upslope of Operational Landfill on August 20, 2003.

**Photo 7**

Panoramic view of slope above landfill, Looking west on August 19, 2003.

**Photo 8**

Typical view of graded slope downslope of bench at northeast end of operational landfill on August 20, 2003.

**Photo 9**

Rutting in of top of landfill bench downslope of June 2003 hydrocarbon remediation site on August 19, 2003.

**Photo 10**

Ponded water on top of landfill at southwest end on August 20, 2003. Ponding occurs where reworked native materials are mixed with shale (below hydrocarbon clean-up) and where fines have been tracked onto the landfill from access roads.

**Photo 11**

Typical view of graded slope downslope of bench at southwest end looking northeast on August 20, 2003.