#8

TerraMatrix

March 1, 1996

Mr. Rich Stafford
Mr. Ed Kelly
New Mexico Environment Department
Solid Waste Bureau
1190 S. St. Francis Dr.
Santa Fe, NM 87503

Mr. Bob Sweeny
New Mexico Environment Department
Hazardous and Radioactive Material Bureau
2033 Galisteo St.
Santa Fe, NM 87505

Re: Gandy Marley Inc. Triassic Park Facility Landfill Liner Alternatives HELP Analyses

Gentlemen:

TerraMatrix is pleased to submit on behalf of Gandy Marley Inc. the Triassic Park Facility Landfill Liner Alternatives HELP Analysis (Revision 1). This analysis compares Triassic Park's alternative landfill liner design with a standard RCRA Subtitle C Minimum Technology Requirement design using EPA's HELP model. Please find enclosed this report which presents the design alternative, HELP modeling methodology, HELP inputs and results, and conclusions. HELP intput data sheets, summary printouts, and NMED Draft Guidance Document for Performance Demonstration are included as Appendices A, B, and C, respectively.

We hope this information meets your needs and look forward to discussing it with you. If you have any questions or need additional information please contact John Kendall at (303) 763-5140.

Sincerely,

THIS SUBMITTAL CAME IN TWO VOLUMES LABELED BOOK VIII & BOOK IX RESPECTIVELY

TerraMatrix Inc.

John J. Kendall
Senior Engineer

enclosures (1)

cc: Dale Gandy, Gandy Marley Inc.
Alan Krause, TerraMatrix
Rich Mayer, EPA Region VI

Volumes VIII & IX Not Found

Engineering & Environmental Services
165 South Union Boulevard, Suite 400
Lakewood, Colorado 80228
Phone 303.763.5140 Fax 303.763.8003

Steamboat Springs Denver Fort Collins Seattle Santiago

VII

Text copy

TRIASSIC PARK HAZARDOUS WASTE LANDFILL

HELP RUNS

Prepared for:

GANDY MARLEY INC.

Prepared by:

TerraMatrix
Engineering & Environmental Services

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FINAL WATER STORAGE AT END OF YEAR 9

LAYER	(INCHES)	(VOL/VOL)
1	1.5654	0.0652
2	0.0022	0.0109
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	319.6800	0.2220
7	2.5200	0.1050
8	0.0020	0.0100
9	0.0000	0.0000
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELP3\PRECIP.D4
TEMPERATURE DATA FILE:       C:\602\HELP3\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\602\HELP3\SOLAR.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELP3\EVAPO.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELP3\F0-1.D10
OUTPUT DATA FILE:            C:\602\HELP3\F0-1.OUT


TIME:  16:26     DATE:   2/ 2/1996


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   TITLE:  GANDY LANDFILL - ALTERNATIVE 1 - FLOOR - YEARS 0-1

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                     TYPE 1 - VERTICAL PERCOLATION LAYER
                         MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =     60.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2055 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
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                        LAYER  2
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          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                        LAYER  3
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  4
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
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                         LAYER  5
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                         LAYER  6
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER  7
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              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC
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GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.877	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	15.661	INCHES
TOTAL INITIAL WATER	=	15.661	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.284	0.235	0.234	0.213	0.205	0.183
	0.206	2.615	3.145	0.044	0.319	0.312
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000

	0.000	0.000	0.000	0.000	0.000	0.000

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 7

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 7

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.996	(0.0000)	29026.04	91.910
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 7	0.000	(0.000)		
CHANGE IN WATER STORAGE	0.704	(0.0000)	2554.95	8.090

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 4	0.000	
DRAINAGE COLLECTED FROM LAYER 5	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 7	0.000	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.3170

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0969

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	12.5490	0.2092
2	2.5560	0.1065
3	0.5400	0.0450
4	0.0000	0.0000
5	0.5400	0.0450
6	0.0000	0.0000
7	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELP3\PRECIP.D4
TEMPERATURE DATA FILE:       C:\602\HELP3\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\602\HELP3\SOLAR.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELP3\EVAPO.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELP3\F1-5.D10
OUTPUT DATA FILE:            C:\602\HELP3\F1-5.OUT


TIME:  17:16     DATE:   2/ 2/1996


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   TITLE:  GANDY LANDFILL - ALTERNATIVE 1 - FLOOR - YEARS 1-5

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =    840.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2092 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
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LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1065	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 1

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4170	VOL/VOL
FIELD CAPACITY	=	0.0450	VOL/VOL
WILTING POINT	=	0.0180	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.999999978000E-02	CM/SEC
SLOPE	=	2.30	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

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                         LAYER  5
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            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                         LAYER  6
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            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER  7
                         --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.929	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	179.544	INCHES
TOTAL INITIAL WATER	=	179.544	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 4

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.19	0.16	0.28	0.33	0.58	0.56
	1.81	2.26	1.48	0.61	0.96	0.42
STD. DEVIATIONS	0.22	0.04	0.30	0.18	0.69	0.87
	0.81	1.23	1.13	0.94	1.13	0.35
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.210	0.225	0.222	0.177	0.545	0.696
	1.264	2.202	1.439	0.741	0.669	0.522
STD. DEVIATIONS	0.129	0.094	0.163	0.064	0.422	1.035

	1.527	1.172	1.154	0.711	0.554	0.424

ATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
STD. DEVIATIONS	0.0002	0.0001	0.0002	0.0001	0.0001	0.0001
	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0007	0.0005	0.0005	0.0005	0.0006	0.0006
	0.0006	0.0006	0.0006	0.0008	0.0009	0.0009
STD. DEVIATIONS	0.0010	0.0009	0.0010	0.0009	0.0009	0.0009
	0.0009	0.0009	0.0008	0.0010	0.0010	0.0011

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0007	0.0007	0.0007	0.0006	0.0007	0.0006
	0.0006	0.0006	0.0006	0.0006	0.0007	0.0007
STD. DEVIATIONS	0.0008	0.0007	0.0007	0.0007	0.0007	0.0007
	0.0007	0.0008	0.0007	0.0008	0.0007	0.0008

PERCOLATION/LEAKAGE THROUGH LAYER 7

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0015	0.0011	0.0011	0.0011	0.0011	0.0011
	0.0011	0.0011	0.0011	0.0016	0.0019	0.0019
STD. DEVIATIONS	0.0021	0.0021	0.0021	0.0020	0.0019	0.0019
	0.0018	0.0018	0.0017	0.0019	0.0022	0.0023

DAILY AVERAGE HEAD ACROSS LAYER 7

AVERAGES	0.0101	0.0099	0.0095	0.0091	0.0089	0.0087
	0.0085	0.0084	0.0083	0.0085	0.0092	0.0098

STD. DEVIATIONS	0.0108	0.0103	0.0098	0.0097	0.0098	0.0100
	0.0101	0.0103	0.0104	0.0104	0.0104	0.0106

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 4

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.819)	35056.7	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	8.910	(1.5976)	32343.24	92.260
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00113	(0.00155)	4.100	0.01169
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00787	(0.01029)	28.570	0.08150
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.002)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.00784	(0.00795)	28.474	0.08122
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.00000	(0.00000)	0.012	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 7	0.009	(0.009)		
CHANGE IN WATER STORAGE	0.739	(1.0435)	2680.89	7.647

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 4

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00001	0.03780
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000067	0.24487
AVERAGE HEAD ACROSS LAYER 4	0.004	
DRAINAGE COLLECTED FROM LAYER 5	0.00006	0.20508
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.000000	0.00004
AVERAGE HEAD ACROSS LAYER 7	0.024	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.3170
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0969

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FINAL WATER STORAGE AT END OF YEAR 4

LAYER	(INCHES)	(VOL/VOL)
1	178.7180	0.2128
2	2.5200	0.1050
3	0.5400	0.0450
4	0.0000	0.0000
5	0.5401	0.0450
6	0.0000	0.0000
7	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELP3\PRECIP.D4
TEMPERATURE DATA FILE:       C:\602\HELP3\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\602\HELP3\SOLAR.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELP3\EVAPO.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELP3\F5-10.D10
OUTPUT DATA FILE:            C:\602\HELP3\F5-10.OUT


TIME:  14:26     DATE:   2/ 3/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 1 - FLOOR - YEARS 5-10

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   7
         THICKNESS                  =   1080.00   INCHES
         POROSITY                   =      0.4730 VOL/VOL
         FIELD CAPACITY             =      0.2220 VOL/VOL
         WILTING POINT              =      0.1040 VOL/VOL
         INITIAL SOIL WATER CONTENT =      0.2128 VOL/VOL
         EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
```

LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1050	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 1

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4170	VOL/VOL
FIELD CAPACITY	=	0.0450	VOL/VOL
WILTING POINT	=	0.0180	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.999999978000E-02	CM/SEC
SLOPE	=	2.30	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

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                    LAYER  5
                    --------

          TYPE 2 - LATERAL DRAINAGE LAYER
            MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                    LAYER  6
                    --------

          TYPE 4 - FLEXIBLE MEMBRANE LINER
            MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                    LAYER  7
                    --------

          TYPE 3 - BARRIER SOIL LINER
          MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.979	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	233.604	INCHES
TOTAL INITIAL WATER	=	233.604	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 5

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.17	0.29	0.26	0.78	0.63
	1.66	1.91	1.64	0.79	0.84	0.49
STD. DEVIATIONS	0.19	0.04	0.26	0.21	0.74	0.77
	0.78	1.32	1.04	0.91	1.02	0.34
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.219	0.227	0.220	0.174	0.475	0.771
	1.204	1.856	1.550	0.940	0.632	0.611
STD. DEVIATIONS	0.114	0.082	0.141	0.056	0.397	0.912

	1.330	1.275	1.030	0.760	0.487	0.418

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 7

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 7

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 5

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.710)	35073.1	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	8.880	(1.3852)	32234.15	91.906
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 7	0.000	(0.000)		
CHANGE IN WATER STORAGE	0.782	(0.9053)	2838.88	8.094

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 5

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 4	0.000	
DRAINAGE COLLECTED FROM LAYER 5	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 7	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.3170
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0969

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FINAL WATER STORAGE AT END OF YEAR 5

LAYER	(INCHES)	(VOL/VOL)	
1	233.7343	0.2164	0.2128
2	2.5200	0.1050	
3	0.5400	0.0450	
4	0.0000	0.0000	
5	0.5400	0.0450	
6	0.0000	0.0000	
7	0.1800	0.7500	
SNOW WATER	0.000		

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELP3\PRECIP.D4
TEMPERATURE DATA FILE:       C:\602\HELP3\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\602\HELP3\SOLAR.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELP3\EVAPO.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELP3\F10-11.D10
OUTPUT DATA FILE:            C:\602\HELP3\F10-11.OUT


TIME:   9: 5     DATE:   2/ 5/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 1 - FLOOR - YEARS 10-11

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0863 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

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                         LAYER  5
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                         LAYER  6
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2164 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                         LAYER  7
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1050 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                         LAYER  8
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER   1
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```
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  9
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                        LAYER 10
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER 11
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
```

```
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

LAYER 12

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 17

```
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

```
SCS RUNOFF CURVE NUMBER              =    81.80
FRACTION OF AREA ALLOWING RUNOFF     =   100.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =     1.000  ACRES
EVAPORATIVE ZONE DEPTH               =    14.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =     1.208  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =     6.118  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =     0.658  INCHES
INITIAL SNOW WATER                   =     0.000  INCHES
INITIAL WATER IN LAYER MATERIALS     =   335.560  INCHES
TOTAL INITIAL WATER                  =   335.560  INCHES
TOTAL SUBSURFACE INFLOW              =     0.00   INCHES/YEAR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.263	0.194	0.185	0.017	0.002	0.000
	0.011	0.121	0.439	0.006	0.031	0.005
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
ATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.0000	0.0000	0.0000	0.0482	0.0645	0.0479
	0.3671	2.6005	2.6553	0.2655	0.9331	0.2652
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
	0.0005	0.0035	0.0036	0.0004	0.0013	0.0004
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 12

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.273	(0.0000)	4622.42	14.637
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.24728	(0.00000)	26307.623	83.30206
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.010	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 12	0.000	(0.000)		
CHANGE IN WATER STORAGE	0.179	(0.0000)	650.94	2.061

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.51797	1880.22473
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00024
AVERAGE HEAD ACROSS LAYER 4	0.021	
DRAINAGE COLLECTED FROM LAYER 8	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 9	0.000	
DRAINAGE COLLECTED FROM LAYER 10	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 12	0.000	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0863

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0404

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	2.2503	0.0938
2	0.0022	0.0110
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	311.6160	0.2164
7	2.5200	0.1050
8	0.5400	0.0450
9	0.0000	0.0000
10	0.5400	0.0450
11	0.0000	0.0000
12	0.1800	0.7500
SNOW WATER	0.000	

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**                                                                          **
                                                                            **
              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE                 **
**             HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                  **
**                DEVELOPED BY ENVIRONMENTAL LABORATORY                     **
**                  USAE WATERWAYS EXPERIMENT STATION                       **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
**                                                                          **
******************************************************************************
******************************************************************************


PRECIPITATION DATA FILE:     C:\602\HELP3\PRECIP2.D4
TEMPERATURE DATA FILE:       C:\602\HELP3\TEMP2.D7
SOLAR RADIATION DATA FILE:   C:\602\HELP3\SOLAR2.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELP3\EVAPO2.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELP3\F11-31.D10
OUTPUT DATA FILE:            C:\602\HELP3\F11-31.OUT


TIME:  15:45     DATE:   2/ 5/1996


******************************************************************************

    TITLE:  GANDY LANDFILL - ALTERNATIVE 1 - FLOOR - YEARS 11-31

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0938 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0110	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

LAYER 5

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0863	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 6

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 7

THICKNESS	=	1440.00	INCHES
POROSITY	=	0.4730	VOL/VOL
FIELD CAPACITY	=	0.2220	VOL/VOL
WILTING POINT	=	0.1040	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2164	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.520000001000E-03	CM/SEC

LAYER 7

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1050	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 8

```
                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                         LAYER  9
                         --------

               TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER 10
                         --------

               TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                         LAYER 11
                         --------
```

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 12

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 17

THICKNESS	=	0.24	INCHES
POROSITY	=	0.7500	VOL/VOL
FIELD CAPACITY	=	0.7470	VOL/VOL
WILTING POINT	=	0.4000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.7500	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.300000003000E-08	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A POOR STAND OF GRASS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	74.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	24.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.251	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	10.488	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.128	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	335.741	INCHES
TOTAL INITIAL WATER	=	335.741	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 20

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.23	0.30	0.25	0.30	0.59	0.73
	1.41	1.68	1.44	1.26	0.52	0.35
STD. DEVIATIONS	0.23	0.20	0.25	0.36	0.64	0.60
	0.70	0.97	0.90	1.11	0.64	0.26
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.095	0.068	0.050	0.052	0.137	0.202
	0.364	0.353	0.232	0.153	0.067	0.067
STD. DEVIATIONS	0.190	0.064	0.049	0.041	0.158	0.150
	0.169	0.205	0.125	0.118	0.077	0.052
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.2128	0.1741	0.2379	0.2309	0.4466	0.5109
	0.9797	1.3074	1.2152	1.1417	0.4980	0.2818
STD. DEVIATIONS	0.1680	0.1227	0.1878	0.2978	0.4705	0.4642
	0.5890	0.7558	0.7576	0.9659	0.5110	0.2688
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0003	0.0003	0.0003	0.0003	0.0006	0.0007
	0.0013	0.0017	0.0017	0.0015	0.0007	0.0004
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0004	0.0006	0.0006
	0.0008	0.0010	0.0010	0.0013	0.0007	0.0004

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 12

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 20

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.05	(1.776)	32847.9	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.840	(0.3915)	6677.76	20.329
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.23687	(1.51619)	26269.826	79.97421
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.012	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
TERAL DRAINAGE COLLECTED FROM LAYER 8	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 12	0.000	(0.000)		
CHANGE IN WATER STORAGE	-0.027	(0.1840)	-99.72	-0.304

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 20

	(INCHES)	(CU. FT.)
PRECIPITATION	1.41	5118.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.84635	3072.26587
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00035
AVERAGE HEAD ACROSS LAYER 4	0.035	
DRAINAGE COLLECTED FROM LAYER 8	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 9	0.000	
DRAINAGE COLLECTED FROM LAYER 10	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 12	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0942

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0554

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FINAL WATER STORAGE AT END OF YEAR 20

LAYER	(INCHES)	(VOL/VOL)
1	1.7006	0.0709
2	0.0033	0.0166
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0713	0.0863
6	311.6160	0.2164
7	2.5200	0.1050
8	0.5400	0.0450
9	0.0000	0.0000
10	0.5400	0.0450
11	0.0000	0.0000
12	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELP3\PRECIP2.D4
TEMPERATURE DATA FILE:       C:\602\HELP3\TEMP2.D7
SOLAR RADIATION DATA FILE:   C:\602\HELP3\SOLAR2.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELP3\EVAPO2.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELP3\F31-40.D10
OUTPUT DATA FILE:            C:\602\HELP3\F31-40.OUT


TIME:  16: 2     DATE:   2/ 5/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 1 - FLOOR - YEARS 31-40

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   4
          THICKNESS                   =     24.00   INCHES
          POROSITY                    =      0.4370 VOL/VOL
          FIELD CAPACITY              =      0.1050 VOL/VOL
          WILTING POINT               =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT  =      0.0709 VOL/VOL
          EFFECTIVE SAT. HYD. COND.   =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0166	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

LAYER 5

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0863	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 6

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 7

THICKNESS	=	1440.00	INCHES
POROSITY	=	0.4730	VOL/VOL
FIELD CAPACITY	=	0.2220	VOL/VOL
WILTING POINT	=	0.1040	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2164	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.520000001000E-03	CM/SEC

LAYER 7

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1050	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 8

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                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  9
                        --------

                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                        LAYER 10
                        --------

                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER 11
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TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 12

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 17

THICKNESS	=	0.24	INCHES
POROSITY	=	0.7500	VOL/VOL
FIELD CAPACITY	=	0.7470	VOL/VOL
WILTING POINT	=	0.4000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.7500	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.300000003000E-08	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A POOR STAND OF GRASS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	74.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	24.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	1.702	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	10.488	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.128	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	335.192	INCHES
TOTAL INITIAL WATER	=	335.192	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 9

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.32	0.26	0.39	0.67	0.59
	1.41	1.86	1.37	1.12	0.81	0.42
STD. DEVIATIONS	0.15	0.20	0.25	0.45	0.62	0.64
	0.70	1.04	0.94	1.23	0.82	0.33
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.072	0.077	0.063	0.061	0.144	0.151
	0.366	0.393	0.241	0.135	0.102	0.081
STD. DEVIATIONS	0.088	0.054	0.059	0.047	0.115	0.145
	0.180	0.244	0.157	0.126	0.097	0.061
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.1688	0.1836	0.2412	0.2924	0.5048	0.4614
	0.9435	1.4550	1.1491	1.0118	0.7449	0.3745
STD. DEVIATIONS	0.1148	0.1093	0.1638	0.3951	0.4602	0.5086
	0.5944	0.8523	0.7558	1.0200	0.6208	0.3415
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0002	0.0003	0.0003	0.0004	0.0007	0.0006
	0.0013	0.0019	0.0016	0.0013	0.0010	0.0005
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0005	0.0006	0.0007
	0.0008	0.0011	0.0010	0.0014	0.0009	0.0005

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 12

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 9

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.40	(1.399)	34130.1	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.887	(0.2119)	6848.07	20.065
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.53096	(1.25759)	27337.377	80.09763
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.013	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 12	0.000	(0.000)		
CHANGE IN WATER STORAGE	-0.015	(0.0829)	-55.38	-0.162

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 9

	(INCHES)	(CU. FT.)
PRECIPITATION	1.21	4392.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.68906	2501.27344
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00030
AVERAGE HEAD ACROSS LAYER 4	0.028	
DRAINAGE COLLECTED FROM LAYER 8	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 9	0.000	
DRAINAGE COLLECTED FROM LAYER 10	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 12	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.0904
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0543

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FINAL WATER STORAGE AT END OF YEAR 9

LAYER	(INCHES)	(VOL/VOL)
1	1.5654	0.0652
2	0.0022	0.0109
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	311.6160	0.2164
7	2.5200	0.1050
8	0.5400	0.0450
9	0.0000	0.0000
10	0.5400	0.0450
11	0.0000	0.0000
12	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELP3\PRECIP.D4
TEMPERATURE DATA FILE:       C:\602\HELP3\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\602\HELP3\SOLAR.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELP3\EVAPO.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELP3\SO-1.D10
OUTPUT DATA FILE:            C:\602\HELP3\SO-1.OUT


TIME:  16:47     DATE:   2/ 2/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 1 - SLOPE - YEARS 0-1

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   7
        THICKNESS                    =     60.00   INCHES
        POROSITY                     =      0.4730 VOL/VOL
        FIELD CAPACITY               =      0.2220 VOL/VOL
        WILTING POINT                =      0.1040 VOL/VOL
        INITIAL SOIL WATER CONTENT   =      0.2055 VOL/VOL
        EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC
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LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0863	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 1

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4170	VOL/VOL
FIELD CAPACITY	=	0.0450	VOL/VOL
WILTING POINT	=	0.0180	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.999999978000E-02	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 5

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 1

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4170	VOL/VOL
FIELD CAPACITY	=	0.0450	VOL/VOL
WILTING POINT	=	0.0180	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.999999978000E-02	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 6

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 7

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 17

THICKNESS	=	0.24	INCHES
POROSITY	=	0.7500	VOL/VOL
FIELD CAPACITY	=	0.7470	VOL/VOL
WILTING POINT	=	0.4000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.7500	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.300000003000E-08	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 300. FEET.

SCS RUNOFF CURVE NUMBER	=	88.20	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.877	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	15.661	INCHES
TOTAL INITIAL WATER	=	15.661	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.284	0.235	0.234	0.213	0.205	0.183
	0.206	2.615	3.145	0.044	0.319	0.312
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000

	0.000	0.000	0.000	0.000	0.000	0.000

ATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 7

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 7

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.996	(0.0000)	29026.04	91.910
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.00000	(0.00000)	0.000	0.00000
RCOLATION/LEAKAGE THROUGH LAYER 7	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 7	0.000	(0.000)		
CHANGE IN WATER STORAGE	0.704	(0.0000)	2554.95	8.090

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 4	0.000	
DRAINAGE COLLECTED FROM LAYER 5	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 7	0.000	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.3170
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0969

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	12.5490	0.2092
2	2.5560	0.1065
3	0.5400	0.0450
4	0.0000	0.0000
5	0.5400	0.0450
6	0.0000	0.0000
7	0.1800	0.7500
SNOW WATER	0.000	

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**                                                                          **
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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELP3\PRECIP.D4
TEMPERATURE DATA FILE:       C:\602\HELP3\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\602\HELP3\SOLAR.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELP3\EVAPO.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELP3\S1-5.D10
OUTPUT DATA FILE:            C:\602\HELP3\S1-5.OUT


TIME:  14:16     DATE:   2/ 3/1996


******************************************************************************

     TITLE:  GANDY LANDFILL - ALTERNATIVE 1 - SLOPE - YEARS 1-5

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =    840.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2092 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
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                         LAYER  2
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1065 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                         LAYER  3
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                         LAYER  4
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
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                          LAYER  5
                          --------

             TYPE 2 - LATERAL DRAINAGE LAYER
               MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                          LAYER  6
                          --------

             TYPE 4 - FLEXIBLE MEMBRANE LINER
               MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                          LAYER  7
                          --------

               TYPE 3 - BARRIER SOIL LINER
               MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 300. FEET.

SCS RUNOFF CURVE NUMBER	=	88.20	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.929	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	179.544	INCHES
TOTAL INITIAL WATER	=	179.544	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 4

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.19	0.16	0.28	0.33	0.58	0.56
	1.81	2.26	1.48	0.61	0.96	0.42
STD. DEVIATIONS	0.22	0.04	0.30	0.18	0.69	0.87
	0.81	1.23	1.13	0.94	1.13	0.35
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.210	0.225	0.222	0.177	0.545	0.696
	1.264	2.202	1.439	0.741	0.669	0.522
STD. DEVIATIONS	0.129	0.094	0.163	0.064	0.422	1.035

	1.527	1.172	1.154	0.711	0.554	0.424

ATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004
	0.0005	0.0005	0.0005	0.0008	0.0008	0.0008
STD. DEVIATIONS	0.0008	0.0007	0.0008	0.0007	0.0008	0.0007
	0.0007	0.0007	0.0007	0.0009	0.0009	0.0009

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
	0.0002	0.0002	0.0002	0.0003	0.0003	0.0003
STD. DEVIATIONS	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
	0.0003	0.0003	0.0003	0.0004	0.0004	0.0004

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
	0.0002	0.0002	0.0002	0.0003	0.0003	0.0003
STD. DEVIATIONS	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
	0.0003	0.0003	0.0003	0.0004	0.0004	0.0004

PERCOLATION/LEAKAGE THROUGH LAYER 7

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
	0.0003	0.0003	0.0003	0.0005	0.0005	0.0005
STD. DEVIATIONS	0.0005	0.0005	0.0005	0.0005	0.0005	0.0004
	0.0004	0.0004	0.0004	0.0006	0.0006	0.0005

DAILY AVERAGE HEAD ACROSS LAYER 7

AVERAGES	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002

STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 4

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.819)	35056.7	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	8.910	(1.5976)	32343.24	92.260
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00628	(0.00841)	22.797	0.06503
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00272	(0.00353)	9.873	0.02816
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.00272	(0.00350)	9.869	0.02815
.RCOLATION/LEAKAGE THROUGH LAYER 7	0.00000	(0.00000)	0.005	0.00001
AVERAGE HEAD ACROSS TOP OF LAYER 7	0.000	(0.000)		
CHANGE IN WATER STORAGE	0.739	(1.0400)	2680.79	7.647

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 4

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00006	0.21172
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000023	0.08490
AVERAGE HEAD ACROSS LAYER 4	0.001	
DRAINAGE COLLECTED FROM LAYER 5	0.00002	0.08433
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.000000	0.00003
AVERAGE HEAD ACROSS LAYER 7	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.3170
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0969

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FINAL WATER STORAGE AT END OF YEAR 4

LAYER	(INCHES)	(VOL/VOL)
1	178.7180	0.2128
2	2.5200	0.1050
3	0.5400	0.0450
4	0.0000	0.0000
5	0.5400	0.0450
6	0.0000	0.0000
7	0.1800	0.7500
SNOW WATER	0.000	

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****

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                                                                          **
                                                                          **
              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**             HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                  USAE WATERWAYS EXPERIMENT STATION                     **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY             **
**                                                                        **
**                                                                        **
******************************************************************************
******************************************************************************


PRECIPITATION DATA FILE:     C:\602\HELP3\PRECIP.D4
TEMPERATURE DATA FILE:       C:\602\HELP3\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\602\HELP3\SOLAR.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELP3\EVAPO.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELP3\S5-10.D10
OUTPUT DATA FILE:            C:\602\HELP3\S5-10.OUT


TIME:  14:30     DATE:   2/ 3/1996


******************************************************************************

    TITLE:  GANDY LANDFILL - ALTERNATIVE 1 - SLOPE - YEARS 5-10
******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =   1080.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2128 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
```

LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1050	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 1

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4170	VOL/VOL
FIELD CAPACITY	=	0.0450	VOL/VOL
WILTING POINT	=	0.0180	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.999999978000E-02	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

```
                         LAYER  5
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                         LAYER  6
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER  7
                         --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 300. FEET.

SCS RUNOFF CURVE NUMBER	=	88.20	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.979	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	233.604	INCHES
TOTAL INITIAL WATER	=	233.604	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00	
START OF GROWING SEASON (JULIAN DATE)	=	76	
END OF GROWING SEASON (JULIAN DATE)	=	310	
AVERAGE ANNUAL WIND SPEED	=	8.70	MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00	%
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00	%
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00	%
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00	%

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 5

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.17	0.29	0.26	0.78	0.63
	1.66	1.91	1.64	0.79	0.84	0.49
STD. DEVIATIONS	0.19	0.04	0.26	0.21	0.74	0.77
	0.78	1.32	1.04	0.91	1.02	0.34
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.219	0.227	0.220	0.174	0.475	0.771
	1.204	1.856	1.550	0.940	0.632	0.611
STD. DEVIATIONS	0.114	0.082	0.141	0.056	0.397	0.912

	1.330	1.275	1.030	0.760	0.487	0.418

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 7

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 7

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 5

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.710)	35073.1	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	8.880	(1.3852)	32234.15	91.906
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 7	0.000	(0.000)		
CHANGE IN WATER STORAGE	0.782	(0.9053)	2838.88	8.094

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 5

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 4	0.000	
DRAINAGE COLLECTED FROM LAYER 5	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 7	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.3170
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0969

****

****

FINAL WATER STORAGE AT END OF YEAR 5

LAYER	(INCHES)	(VOL/VOL)
1	233.7343	0.2164
2	2.5200	0.1050
3	0.5400	0.0450
4	0.0000	0.0000
5	0.5400	0.0450
6	0.0000	0.0000
7	0.1800	0.7500
SNOW WATER	0.000	

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**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**              HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                 **
**                 DEVELOPED BY ENVIRONMENTAL LABORATORY                    **
**                   USAE WATERWAYS EXPERIMENT STATION                      **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
**                                                                          **
******************************************************************************
******************************************************************************


PRECIPITATION DATA FILE:     C:\602\HELP3\PRECIP.D4
TEMPERATURE DATA FILE:       C:\602\HELP3\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\602\HELP3\SOLAR.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELP3\EVAPO.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELP3\S10-11.D10
OUTPUT DATA FILE:            C:\602\HELP3\S10-11.OUT


TIME:   9: 9     DATE:   2/ 5/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 1 - SLOPE - YEARS 10-11

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0863 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

```
                        LAYER  2
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     25.00   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  3
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                        LAYER  4
                        --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                    =     36.00   INCHES
POROSITY                     =      0.4450 VOL/VOL
FIELD CAPACITY               =      0.3930 VOL/VOL
WILTING POINT                =      0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000001000E-06 CM/SEC
```

```
                         LAYER  5
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                         LAYER  6
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2164 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                         LAYER  7
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1050 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                         LAYER  8
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER   1
```

```
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET
```

LAYER 9

```
TYPE 4 - FLEXIBLE MEMBRANE LINER
  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

LAYER 10

```
TYPE 2 - LATERAL DRAINAGE LAYER
  MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET
```

LAYER 11

```
TYPE 4 - FLEXIBLE MEMBRANE LINER
  MATERIAL TEXTURE NUMBER  35
```

```
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

LAYER 12

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 17

```
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

```
SCS RUNOFF CURVE NUMBER              =    81.80
FRACTION OF AREA ALLOWING RUNOFF     =   100.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =     1.000  ACRES
EVAPORATIVE ZONE DEPTH               =    14.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =     1.208  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =     6.118  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =     0.658  INCHES
INITIAL SNOW WATER                   =     0.000  INCHES
INITIAL WATER IN LAYER MATERIALS     =   335.560  INCHES
TOTAL INITIAL WATER                  =   335.560  INCHES
TOTAL SUBSURFACE INFLOW              =     0.00   INCHES/YEAR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.263	0.194	0.185	0.017	0.002	0.000
	0.011	0.121	0.439	0.006	0.031	0.005
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.0000	0.0000	0.0000	0.0482	0.0645	0.0479
	0.3671	2.6005	2.6553	0.2655	0.9331	0.2652
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
	0.0005	0.0035	0.0036	0.0004	0.0013	0.0004
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 12

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.273	(0.0000)	4622.42	14.637
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.24728	(0.00000)	26307.623	83.30206
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.010	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 12	0.000	(0.000)		
CHANGE IN WATER STORAGE	0.179	(0.0000)	650.94	2.061

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.51797	1880.22473
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00024
AVERAGE HEAD ACROSS LAYER 4	0.021	
DRAINAGE COLLECTED FROM LAYER 8	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 9	0.000	
DRAINAGE COLLECTED FROM LAYER 10	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 12	0.000	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0863

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0404

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	2.2503	0.0938
2	0.0022	0.0110
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	311.6160	0.2164
7	2.5200	0.1050
8	0.5400	0.0450
9	0.0000	0.0000
10	0.5400	0.0450
11	0.0000	0.0000
12	0.1800	0.7500
SNOW WATER	0.000	

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**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**              HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                 **
**                 DEVELOPED BY ENVIRONMENTAL LABORATORY                    **
**                   USAE WATERWAYS EXPERIMENT STATION                      **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
**                                                                          **
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******************************************************************************


PRECIPITATION DATA FILE:     C:\602\HELP3\PRECIP2.D4
TEMPERATURE DATA FILE:       C:\602\HELP3\TEMP2.D7
SOLAR RADIATION DATA FILE:   C:\602\HELP3\SOLAR2.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELP3\EVAPO2.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELP3\S11-31.D10
OUTPUT DATA FILE:            C:\602\HELP3\S11-31.OUT


TIME:  16: 9     DATE:   2/ 5/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 1 - SLOPE - YEARS 11-31

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
        THICKNESS                    =     24.00   INCHES
        POROSITY                     =      0.4370 VOL/VOL
        FIELD CAPACITY               =      0.1050 VOL/VOL
        WILTING POINT                =      0.0470 VOL/VOL
        INITIAL SOIL WATER CONTENT   =      0.0938 VOL/VOL
        EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC
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NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0110	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

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                    LAYER  5
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  6
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2164 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                    LAYER  7
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1050 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  8
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                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                         LAYER  9
                         --------

                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER 10
                         --------

                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                         LAYER 11
                         --------
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TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 12

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 17

THICKNESS	=	0.24	INCHES
POROSITY	=	0.7500	VOL/VOL
FIELD CAPACITY	=	0.7470	VOL/VOL
WILTING POINT	=	0.4000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.7500	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.300000003000E-08	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A POOR STAND OF GRASS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	74.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	24.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.251	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	10.488	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.128	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	335.741	INCHES
TOTAL INITIAL WATER	=	335.741	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 20

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.23	0.30	0.25	0.30	0.59	0.73
	1.41	1.68	1.44	1.26	0.52	0.35
STD. DEVIATIONS	0.23	0.20	0.25	0.36	0.64	0.60
	0.70	0.97	0.90	1.11	0.64	0.26
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.095	0.068	0.050	0.052	0.137	0.202
	0.364	0.353	0.232	0.153	0.067	0.067
STD. DEVIATIONS	0.190	0.064	0.049	0.041	0.158	0.150
	0.169	0.205	0.125	0.118	0.077	0.052
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.2128	0.1741	0.2379	0.2309	0.4466	0.5109
	0.9797	1.3074	1.2152	1.1417	0.4980	0.2818
STD. DEVIATIONS	0.1680	0.1227	0.1878	0.2978	0.4705	0.4642
	0.5890	0.7558	0.7576	0.9659	0.5110	0.2688
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0003	0.0003	0.0003	0.0003	0.0006	0.0007
	0.0013	0.0017	0.0017	0.0015	0.0007	0.0004
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0004	0.0006	0.0006
	0.0008	0.0010	0.0010	0.0013	0.0007	0.0004

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 12

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 20

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.05	(1.776)	32847.9	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.840	(0.3915)	6677.76	20.329
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.23687	(1.51619)	26269.826	79.97421
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.012	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
ATERAL DRAINAGE COLLECTED FROM LAYER 8	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 12	0.000	(0.000)		
CHANGE IN WATER STORAGE	-0.027	(0.1840)	-99.72	-0.304

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 20

	(INCHES)	(CU. FT.)
PRECIPITATION	1.41	5118.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.84635	3072.26587
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00035
AVERAGE HEAD ACROSS LAYER 4	0.035	
DRAINAGE COLLECTED FROM LAYER 8	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 9	0.000	
DRAINAGE COLLECTED FROM LAYER 10	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 12	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0942

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0554

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FINAL WATER STORAGE AT END OF YEAR 20

LAYER	(INCHES)	(VOL/VOL)
1	1.7006	0.0709
2	0.0033	0.0166
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0713	0.0863
6	311.6160	0.2164
7	2.5200	0.1050
8	0.5400	0.0450
9	0.0000	0.0000
10	0.5400	0.0450
11	0.0000	0.0000
12	0.1800	0.7500
SNOW WATER	0.000	

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**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELP3\PRECIP2.D4
TEMPERATURE DATA FILE:       C:\602\HELP3\TEMP2.D7
SOLAR RADIATION DATA FILE:   C:\602\HELP3\SOLAR2.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELP3\EVAPO2.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELP3\S31-40.D10
OUTPUT DATA FILE:            C:\602\HELP3\S31-40.OUT


TIME:  16:22     DATE:   2/ 5/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 1 - SLOPE - YEARS 31-40

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                 LAYER  1
                                 --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0709 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0166	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

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                    LAYER  5
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  6
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2164 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                    LAYER  7
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1050 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  8
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                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                          LAYER  9
                          --------

                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                          LAYER 10
                          --------

                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER   1
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4170 VOL/VOL
FIELD CAPACITY               =      0.0450 VOL/VOL
WILTING POINT                =      0.0180 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999978000E-02 CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                          LAYER 11
                          --------
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```
                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER 12
                         --------

                TYPE 3 - BARRIER SOIL LINER
                MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


          GENERAL DESIGN AND EVAPORATIVE ZONE DATA
          ----------------------------------------

 NOTE:  SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
          SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A
          POOR STAND OF GRASS, A SURFACE SLOPE OF 25.%
          AND A SLOPE LENGTH OF  550. FEET.

SCS RUNOFF CURVE NUMBER              =    74.90
FRACTION OF AREA ALLOWING RUNOFF     =   100.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =     1.000  ACRES
EVAPORATIVE ZONE DEPTH               =    24.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =     1.702  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =    10.488  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =     1.128  INCHES
INITIAL SNOW WATER                   =     0.000  INCHES
INITIAL WATER IN LAYER MATERIALS     =   335.192  INCHES
TOTAL INITIAL WATER                  =   335.192  INCHES
TOTAL SUBSURFACE INFLOW              =     0.00   INCHES/YEAR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 9

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.32	0.26	0.39	0.67	0.59
	1.41	1.86	1.37	1.12	0.81	0.42
STD. DEVIATIONS	0.15	0.20	0.25	0.45	0.62	0.64
	0.70	1.04	0.94	1.23	0.82	0.33
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.072	0.077	0.063	0.061	0.144	0.151
	0.366	0.393	0.241	0.135	0.102	0.081
STD. DEVIATIONS	0.088	0.054	0.059	0.047	0.115	0.145
	0.180	0.244	0.157	0.126	0.097	0.061
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.1688	0.1836	0.2412	0.2924	0.5048	0.4614
	0.9435	1.4550	1.1491	1.0118	0.7449	0.3745
STD. DEVIATIONS	0.1148	0.1093	0.1638	0.3951	0.4602	0.5086
	0.5944	0.8523	0.7558	1.0200	0.6208	0.3415
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0002	0.0003	0.0003	0.0004	0.0007	0.0006
	0.0013	0.0019	0.0016	0.0013	0.0010	0.0005
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0005	0.0006	0.0007
	0.0008	0.0011	0.0010	0.0014	0.0009	0.0005

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 12

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 9

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.40	(1.399)	34130.1	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.887	(0.2119)	6848.07	20.065
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.53096	(1.25759)	27337.377	80.09763
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.013	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
\TERAL DRAINAGE COLLECTED FROM LAYER 8	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 12	0.000	(0.000)		
CHANGE IN WATER STORAGE	-0.015	(0.0829)	-55.38	-0.162

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 9

	(INCHES)	(CU. FT.)
PRECIPITATION	1.21	4392.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.68906	2501.27344
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00030
AVERAGE HEAD ACROSS LAYER 4	0.028	
DRAINAGE COLLECTED FROM LAYER 8	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 9	0.000	
DRAINAGE COLLECTED FROM LAYER 10	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 12	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0904

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0543

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FINAL WATER STORAGE AT END OF YEAR 9

LAYER	(INCHES)	(VOL/VOL)
1	1.5654	0.0652
2	0.0022	0.0109
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	311.6160	0.2164
7	2.5200	0.1050
8	0.5400	0.0450
9	0.0000	0.0000
10	0.5400	0.0450
11	0.0000	0.0000
12	0.1800	0.7500
SNOW WATER	0.000	

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**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\GANDY1.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY1.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY1.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY1.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\FLYR01.D10
OUTPUT DATA FILE:            C:\HELP3\flyr01.OUT


TIME:  13:32     DATE:   2/ 4/1996


******************************************************************************

   TITLE:  gandy alternative 2, year 0-1, floor

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =     60.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2055 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
```

LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0863	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	2.30	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

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                         LAYER  5
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                         LAYER  6
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER  7
                         --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.877	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	14.585	INCHES
TOTAL INITIAL WATER	=	14.585	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.284	0.233	0.233	0.211	0.205	0.183
	0.205	2.616	2.290	0.055	0.405	0.330
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000

	0.000	0.000	0.000	0.000	0.000	0.000

ATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 7

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 7

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.249	(0.0000)	26312.67	83.318
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 7	0.000	(0.000)		
CHANGE IN WATER STORAGE	1.451	(0.0000)	5268.33	16.682

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 4	0.000	
DRAINAGE COLLECTED FROM LAYER 5	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 7	0.000	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2510
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0948

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	12.4790	0.2080
2	3.3735	0.1406
3	0.0020	0.0100
4	0.0000	0.0000
5	0.0020	0.0100
6	0.0000	0.0000
7	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     a:\GANDY1.D4
TEMPERATURE DATA FILE:       a:\GANDY1.D7
SOLAR RADIATION DATA FILE:   a:\GANDY1.D13
EVAPOTRANSPIRATION DATA:     a:\GANDY1.D11
SOIL AND DESIGN DATA FILE:   a:\FLYR15.D10
OUTPUT DATA FILE:            a:\flyr15.OUT


TIME:  13:37     DATE:   2/ 4/1996


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    TITLE:  gandy alternative 2, year 1-5, floor

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =    840.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2080 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
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                        LAYER  2
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1406 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                        LAYER  3
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  4
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
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                         LAYER  5
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                         LAYER  6
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER  7
                         --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.912	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	178.278	INCHES
TOTAL INITIAL WATER	=	178.278	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00	
START OF GROWING SEASON (JULIAN DATE)	=	76	
END OF GROWING SEASON (JULIAN DATE)	=	310	
AVERAGE ANNUAL WIND SPEED	=	8.70	MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00	%
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00	%
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00	%
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00	%

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 4

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.19	0.16	0.28	0.33	0.58	0.56
	1.81	2.26	1.48	0.61	0.96	0.42
STD. DEVIATIONS	0.22	0.04	0.30	0.18	0.69	0.87
	0.81	1.23	1.13	0.94	1.13	0.35
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.175	0.191	0.186	0.180	0.333	0.546
	1.094	2.022	1.154	0.573	0.559	0.282
STD. DEVIATIONS	0.134	0.065	0.114	0.068	0.275	0.737

	1.248	1.270	0.587	0.625	0.606	0.142

.ATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0010	0.0015	0.0019	0.0019	0.0019	0.0016
	0.0015	0.0013	0.0012	0.0011	0.0009	0.0009
STD. DEVIATIONS	0.0007	0.0015	0.0023	0.0024	0.0024	0.0021
	0.0019	0.0016	0.0014	0.0012	0.0010	0.0009

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0114	0.0127	0.0148	0.0142	0.0142	0.0132
	0.0129	0.0123	0.0113	0.0111	0.0103	0.0102
STD. DEVIATIONS	0.0043	0.0070	0.0097	0.0099	0.0100	0.0091
	0.0087	0.0080	0.0071	0.0068	0.0061	0.0058

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0113	0.0127	0.0148	0.0142	0.0142	0.0132
	0.0129	0.0123	0.0113	0.0111	0.0103	0.0102
STD. DEVIATIONS	0.0043	0.0069	0.0097	0.0099	0.0100	0.0091
	0.0087	0.0080	0.0071	0.0068	0.0061	0.0058

PERCOLATION/LEAKAGE THROUGH LAYER 7

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 7

AVERAGES	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001

STD. DEVIATIONS	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 4

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.819)	35056.7	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.295	(0.8248)	26481.94	75.540
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.01666	(0.01903)	60.469	0.17249
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.14862	(0.08970)	539.506	1.53895
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.14861	(0.08960)	539.444	1.53877
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.00000	(0.00000)	0.009	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 7	0.000	(0.000)		
CHANGE IN WATER STORAGE	2.197	(0.3737)	7974.87	22.748

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 4

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00018	0.66923
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000942	3.42011
AVERAGE HEAD ACROSS LAYER 4	0.000	
DRAINAGE COLLECTED FROM LAYER 5	0.00094	3.42008
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.000000	0.00003
AVERAGE HEAD ACROSS LAYER 7	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.2932

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0936

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FINAL WATER STORAGE AT END OF YEAR 4

LAYER	(INCHES)	(VOL/VOL)
1	184.1688	0.2192
2	2.7133	0.1131
3	0.0020	0.0100
4	0.0000	0.0000
5	0.0021	0.0103
6	0.0000	0.0000
7	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\602\in\GANDY1.D4
TEMPERATURE DATA FILE:       C:\HELP3\602\in\GANDY1.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\602\in\GANDY1.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\602\in\GANDY1.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\602\in\FLYR510.D10
OUTPUT DATA FILE:            C:\HELP3\602\out\flyr510.OUT


TIME:  14:15     DATE:   2/ 4/1996


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    TITLE:  gandy alternative 2, year 5-10, floor

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                              LAYER  1
                              --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   7
        THICKNESS                   =   1080.00   INCHES
        POROSITY                    =      0.4730 VOL/VOL
        FIELD CAPACITY              =      0.2220 VOL/VOL
        WILTING POINT               =      0.1040 VOL/VOL
        INITIAL SOIL WATER CONTENT  =      0.2192 VOL/VOL
        EFFECTIVE SAT. HYD. COND.   =  0.520000001000E-03 CM/SEC
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                    LAYER  2
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1131 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  3
                    --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                    LAYER  4
                    --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
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                    LAYER  5
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          TYPE 2 - LATERAL DRAINAGE LAYER
            MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0103 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                    LAYER  6
                    --------

          TYPE 4 - FLEXIBLE MEMBRANE LINER
            MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                    LAYER  7
                    --------

            TYPE 3 - BARRIER SOIL LINER
            MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	3.069	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	239.634	INCHES
TOTAL INITIAL WATER	=	239.634	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 5

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.17	0.29	0.26	0.78	0.63
	1.66	1.91	1.64	0.79	0.84	0.49
STD. DEVIATIONS	0.19	0.04	0.26	0.21	0.74	0.77
	0.78	1.32	1.04	0.91	1.02	0.34
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.163	0.159	0.149	0.118	0.328	0.697
	1.019	1.717	1.276	0.622	0.448	0.363
STD. DEVIATIONS	0.119	0.072	0.096	0.085	0.316	0.764

	1.175	1.383	0.807	0.619	0.573	0.223

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0053	0.0080	0.0050	0.0017	0.0062	0.0108
	0.0200	0.0203	0.0271	0.0174	0.0111	0.0136
STD. DEVIATIONS	0.0076	0.0110	0.0074	0.0030	0.0103	0.0183
	0.0304	0.0334	0.0433	0.0295	0.0115	0.0169

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0163	0.0206	0.0149	0.0069	0.0179	0.0249
	0.0344	0.0332	0.0403	0.0311	0.0296	0.0312
STD. DEVIATIONS	0.0199	0.0272	0.0183	0.0098	0.0222	0.0315
	0.0419	0.0456	0.0526	0.0410	0.0268	0.0343

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0163	0.0207	0.0151	0.0068	0.0179	0.0248
	0.0344	0.0331	0.0403	0.0310	0.0297	0.0311
STD. DEVIATIONS	0.0199	0.0274	0.0185	0.0095	0.0225	0.0314
	0.0418	0.0456	0.0526	0.0410	0.0269	0.0342

PERCOLATION/LEAKAGE THROUGH LAYER 7

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0001	0.0001	0.0001	0.0000	0.0001	0.0002
	0.0003	0.0003	0.0004	0.0002	0.0002	0.0002
STD. DEVIATIONS	0.0001	0.0002	0.0001	0.0000	0.0001	0.0003
	0.0004	0.0005	0.0006	0.0004	0.0002	0.0002

DAILY AVERAGE HEAD ACROSS LAYER 7

AVERAGES	0.0002	0.0003	0.0002	0.0001	0.0002	0.0003
	0.0005	0.0005	0.0006	0.0004	0.0004	0.0004

STD. DEVIATIONS	0.0003	0.0004	0.0003	0.0001	0.0003	0.0004
	0.0006	0.0006	0.0007	0.0006	0.0004	0.0005

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 5

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.710)	35073.1	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.058	(0.6272)	25621.33	73.051
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.14655	(0.20260)	531.967	1.51674
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.30137	(0.34103)	1093.963	3.11910
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.30120	(0.34079)	1093.367	3.11740
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.00000	(0.00000)	0.008	0.00002
AVERAGE HEAD ACROSS TOP OF LAYER 7	0.000	(0.000)		
CHANGE IN WATER STORAGE	2.156	(0.4846)	7826.40	22.315

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 5

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00451	16.37768
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.004662	16.92473
AVERAGE HEAD ACROSS LAYER 4	0.002	
DRAINAGE COLLECTED FROM LAYER 5	0.00449	16.30823
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.000000	0.00003
AVERAGE HEAD ACROSS LAYER 7	0.002	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.2317

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0935

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****

FINAL WATER STORAGE AT END OF YEAR 5

LAYER	(INCHES)	(VOL/VOL)
1	246.6580	0.2284
2	3.5712	0.1488
3	0.0024	0.0122
4	0.0000	0.0000
5	0.0029	0.0144
6	0.0000	0.0000
7	0.1800	0.7500
SNOW WATER	0.000	

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**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
******************************************************************************
******************************************************************************


PRECIPITATION DATA FILE:     C:\HELP3\602\in\GANDY1.D4
TEMPERATURE DATA FILE:       C:\HELP3\602\in\GANDY1.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\602\in\GANDY1.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\602\in\GANDY1.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\602\in\FLYR1011.D10
OUTPUT DATA FILE:            C:\HELP3\602\out\FLYR1011.OUT


TIME:  14:56     DATE:   2/ 4/1996


******************************************************************************

   TITLE:  gandy alternative 2, year 10-11, floor

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0863 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

```
                        LAYER  2
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     25.00   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  3
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                        LAYER  4
                        --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                    =     36.00   INCHES
POROSITY                     =      0.4450 VOL/VOL
FIELD CAPACITY               =      0.3930 VOL/VOL
WILTING POINT                =      0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000001000E-06 CM/SEC
```

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                         LAYER  5
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                         LAYER  6
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2284 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                         LAYER  7
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1488 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                         LAYER  8
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
```

```
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0122 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  9
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                        LAYER 10
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0144 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER 11
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
```

```
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

LAYER 12

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 17

```
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

```
SCS RUNOFF CURVE NUMBER              =    81.80
FRACTION OF AREA ALLOWING RUNOFF     =   100.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =     1.000  ACRES
EVAPORATIVE ZONE DEPTH               =    14.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =     1.208  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =     6.118  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =     0.658  INCHES
INITIAL SNOW WATER                   =     0.000  INCHES
INITIAL WATER IN LAYER MATERIALS     =   352.817  INCHES
TOTAL INITIAL WATER                  =   352.817  INCHES
TOTAL SUBSURFACE INFLOW              =     0.00   INCHES/YEAR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.263	0.194	0.185	0.017	0.002	0.000
	0.011	0.121	0.439	0.006	0.031	0.005
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.0000	0.0000	0.0000	0.0482	0.0645	0.0479
	0.3671	2.6005	2.6553	0.2655	0.9331	0.2652
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0120	0.0183	0.0019	0.0031	0.0450	0.0788
	0.0893	0.0899	0.0863	0.0883	0.0846	0.0865
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

ERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0305	0.0487	0.0086	0.0077	0.0796	0.1066
	0.1155	0.1159	0.1117	0.1149	0.1106	0.1137
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0309	0.0487	0.0090	0.0072	0.0789	0.1065
	0.1155	0.1159	0.1117	0.1149	0.1106	0.1137
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
	0.0005	0.0035	0.0036	0.0004	0.0013	0.0004
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0002	0.0003	0.0000	0.0001	0.0006	0.0011
	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 12

AVERAGES	0.0004	0.0007	0.0001	0.0001	0.0011	0.0015
	0.0016	0.0016	0.0016	0.0016	0.0016	0.0015

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.273	(0.0000)	4622.42	14.637
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.24728	(0.00000)	26307.623	83.30206
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.010	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.68398	(0.00000)	2482.858	7.86187
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.96380	(0.00000)	3498.588	11.07814
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.96338	(0.00000)	3497.067	11.07333
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000	(0.00000)	0.008	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 12	0.001	(0.000)		
CHANGE IN WATER STORAGE	-1.468	(0.0000)	-5329.13	-16.874

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.51797	1880.22473
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00024
AVERAGE HEAD ACROSS LAYER 4	0.021	
DRAINAGE COLLECTED FROM LAYER 8	0.00290	10.54387
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.003741	13.58022
AVERAGE HEAD ACROSS LAYER 9	0.001	
DRAINAGE COLLECTED FROM LAYER 10	0.00374	13.58016
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00003
AVERAGE HEAD ACROSS LAYER 12	0.002	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0863

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0404

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	2.2503	0.0938
2	0.0022	0.0110
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	326.7110	0.2269
7	4.1079	0.1712
8	0.0030	0.0149
9	0.0000	0.0000
10	0.0033	0.0165
11	0.0000	0.0000
12	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\602\in\GANDY2.D4
TEMPERATURE DATA FILE:       C:\HELP3\602\in\GANDY2.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\602\in\GANDY2.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\602\in\GANDY2.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\602\in\FLYR1131.D10
OUTPUT DATA FILE:            C:\HELP3\602\out\FLYR1131.OUT


TIME:  17: 4     DATE:   2/ 4/1996


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   TITLE:  gandy alternative 2, year 11-31, floor

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                              LAYER  1
                              --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
        THICKNESS                    =     24.00   INCHES
        POROSITY                     =      0.4370 VOL/VOL
        FIELD CAPACITY               =      0.1050 VOL/VOL
        WILTING POINT                =      0.0470 VOL/VOL
        INITIAL SOIL WATER CONTENT   =      0.0938 VOL/VOL
        EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0110	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

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                    LAYER  5
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  6
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2269 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                    LAYER  7
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1712 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  8
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                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0149 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                         LAYER  9
                         --------

                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER 10
                         --------

                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0165 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                         LAYER 11
                         --------
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                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06    INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50    HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00    HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER 12
                         --------

                TYPE 3 - BARRIER SOIL LINER
                MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24    INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


          GENERAL DESIGN AND EVAPORATIVE ZONE DATA
          ----------------------------------------

 NOTE:  SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
          SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A
          POOR STAND OF GRASS, A SURFACE SLOPE OF 25.%
          AND A SLOPE LENGTH OF  550. FEET.

SCS RUNOFF CURVE NUMBER              =     74.90
FRACTION OF AREA ALLOWING RUNOFF     =    100.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =      1.000  ACRES
EVAPORATIVE ZONE DEPTH               =     24.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =      2.251  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =     10.488  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =      1.128  INCHES
INITIAL SNOW WATER                   =      0.000  INCHES
INITIAL WATER IN LAYER MATERIALS     =    351.376  INCHES
TOTAL INITIAL WATER                  =    351.376  INCHES
TOTAL SUBSURFACE INFLOW              =      0.00   INCHES/YEAR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 20

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.23	0.30	0.25	0.30	0.59	0.73
	1.41	1.68	1.44	1.26	0.52	0.35
STD. DEVIATIONS	0.23	0.20	0.25	0.36	0.64	0.60
	0.70	0.97	0.90	1.11	0.64	0.26
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.095	0.068	0.050	0.052	0.137	0.202
	0.364	0.353	0.232	0.153	0.067	0.067
STD. DEVIATIONS	0.190	0.064	0.049	0.041	0.158	0.150
	0.169	0.205	0.125	0.118	0.077	0.052
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.2128	0.1741	0.2379	0.2309	0.4466	0.5109
	0.9797	1.3074	1.2152	1.1417	0.4980	0.2818
STD. DEVIATIONS	0.1680	0.1227	0.1878	0.2978	0.4705	0.4642
	0.5890	0.7558	0.7576	0.9659	0.5110	0.2688
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0166	0.0141	0.0126	0.0122	0.0139	0.0140
	0.0139	0.0162	0.0144	0.0132	0.0120	0.0118

STD. DEVIATIONS	0.0321	0.0273	0.0249	0.0240	0.0266	0.0271
	0.0275	0.0322	0.0283	0.0266	0.0250	0.0254

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0258	0.0225	0.0220	0.0211	0.0228	0.0223
	0.0223	0.0241	0.0224	0.0217	0.0201	0.0201
STD. DEVIATIONS	0.0430	0.0377	0.0372	0.0361	0.0393	0.0391
	0.0394	0.0431	0.0400	0.0390	0.0366	0.0371

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0258	0.0225	0.0220	0.0211	0.0228	0.0223
	0.0223	0.0240	0.0224	0.0217	0.0201	0.0202
STD. DEVIATIONS	0.0430	0.0378	0.0372	0.0361	0.0393	0.0391
	0.0395	0.0430	0.0401	0.0391	0.0366	0.0371

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0003	0.0003	0.0003	0.0003	0.0006	0.0007
	0.0013	0.0017	0.0017	0.0015	0.0007	0.0004
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0004	0.0006	0.0006
	0.0008	0.0010	0.0010	0.0013	0.0007	0.0004

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
STD. DEVIATIONS	0.0004	0.0004	0.0003	0.0003	0.0004	0.0004
	0.0004	0.0004	0.0004	0.0004	0.0003	0.0003

DAILY AVERAGE HEAD ACROSS LAYER 12

AVERAGES	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
STD. DEVIATIONS	0.0006	0.0006	0.0005	0.0005	0.0005	0.0005
	0.0005	0.0006	0.0006	0.0005	0.0005	0.0005

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 20

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.05	(1.776)	32847.9	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.840	(0.3915)	6677.76	20.329
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.23687	(1.51619)	26269.826	79.97421
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.012	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.16506	(0.31953)	599.169	1.82407
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.26723	(0.46361)	970.043	2.95314
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.26729	(0.46368)	970.273	2.95384
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000	(0.00000)	0.006	0.00002
AVERAGE HEAD ACROSS TOP OF LAYER 12	0.000	(0.001)		
CHANGE IN WATER STORAGE	-0.460	(0.8694)	-1669.16	-5.081

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 20

	(INCHES)	(CU. FT.)
PRECIPITATION	1.41	5118.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.84635	3072.26587
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00035
AVERAGE HEAD ACROSS LAYER 4	0.035	
DRAINAGE COLLECTED FROM LAYER 8	0.00459	16.65179
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.004702	17.06832
AVERAGE HEAD ACROSS LAYER 9	0.002	
DRAINAGE COLLECTED FROM LAYER 10	0.00470	17.06759
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00003
AVERAGE HEAD ACROSS LAYER 12	0.002	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0942

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0554

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FINAL WATER STORAGE AT END OF YEAR 20

LAYER	(INCHES)	(VOL/VOL)
1	1.7006	0.0709
2	0.0033	0.0166
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0713	0.0863
6	319.6800	0.2220
7	2.5200	0.1050
8	0.0020	0.0100
9	0.0000	0.0000
10	0.0020	0.0100
11	0.0000	0.0000
12	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\602\in\GANDY2.D4
TEMPERATURE DATA FILE:       C:\HELP3\602\in\GANDY2.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\602\in\GANDY2.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\602\in\GANDY2.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\602\in\FLYR3140.D10
OUTPUT DATA FILE:            C:\HELP3\602\out\FLYR3140.OUT


TIME:  17:53     DATE:   2/ 4/1996


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    TITLE:  gandy alternative 2, year 31-40, floor

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                              LAYER  1
                              --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
        THICKNESS                   =     24.00   INCHES
        POROSITY                    =      0.4370 VOL/VOL
        FIELD CAPACITY              =      0.1050 VOL/VOL
        WILTING POINT               =      0.0470 VOL/VOL
        INITIAL SOIL WATER CONTENT  =      0.0709 VOL/VOL
        EFFECTIVE SAT. HYD. COND.   =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0166	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

```
                    LAYER  5
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  6
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2220 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                    LAYER  7
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1050 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  8
                    --------
```

```
                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                          LAYER  9
                          --------

                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                          LAYER 10
                          --------

                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                          LAYER 11
                          --------
```

```
                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
    THICKNESS                    =      0.06   INCHES
    POROSITY                     =      0.0000 VOL/VOL
    FIELD CAPACITY               =      0.0000 VOL/VOL
    WILTING POINT                =      0.0000 VOL/VOL
    INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
    EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
    FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
    FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
    FML PLACEMENT QUALITY        =  3 - GOOD


                          LAYER 12
                          --------

                TYPE 3 - BARRIER SOIL LINER
                MATERIAL TEXTURE NUMBER  17
    THICKNESS                    =      0.24   INCHES
    POROSITY                     =      0.7500 VOL/VOL
    FIELD CAPACITY               =      0.7470 VOL/VOL
    WILTING POINT                =      0.4000 VOL/VOL
    INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
    EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


            GENERAL DESIGN AND EVAPORATIVE ZONE DATA
            ----------------------------------------

  NOTE:  SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
           SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A
           POOR STAND OF GRASS, A SURFACE SLOPE OF 25.%
           AND A SLOPE LENGTH OF  550. FEET.

  SCS RUNOFF CURVE NUMBER              =     74.90
  FRACTION OF AREA ALLOWING RUNOFF     =    100.0    PERCENT
  AREA PROJECTED ON HORIZONTAL PLANE   =      1.000  ACRES
  EVAPORATIVE ZONE DEPTH               =     24.0    INCHES
  INITIAL WATER IN EVAPORATIVE ZONE    =      1.702  INCHES
  UPPER LIMIT OF EVAPORATIVE STORAGE   =     10.488  INCHES
  LOWER LIMIT OF EVAPORATIVE STORAGE   =      1.128  INCHES
  INITIAL SNOW WATER                   =      0.000  INCHES
  INITIAL WATER IN LAYER MATERIALS     =    342.180  INCHES
  TOTAL INITIAL WATER                  =    342.180  INCHES
  TOTAL SUBSURFACE INFLOW              =      0.00   INCHES/YEAR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 9

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.32	0.26	0.39	0.67	0.59
	1.41	1.86	1.37	1.12	0.81	0.42
STD. DEVIATIONS	0.15	0.20	0.25	0.45	0.62	0.64
	0.70	1.04	0.94	1.23	0.82	0.33
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.072	0.077	0.063	0.061	0.144	0.151
	0.366	0.393	0.241	0.135	0.102	0.081
STD. DEVIATIONS	0.088	0.054	0.059	0.047	0.115	0.145
	0.180	0.244	0.157	0.126	0.097	0.061
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.1688	0.1836	0.2412	0.2924	0.5048	0.4614
	0.9435	1.4550	1.1491	1.0118	0.7449	0.3745
STD. DEVIATIONS	0.1148	0.1093	0.1638	0.3951	0.4602	0.5086
	0.5944	0.8523	0.7558	1.0200	0.6208	0.3415
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0002	0.0003	0.0003	0.0004	0.0007	0.0006
	0.0013	0.0019	0.0016	0.0013	0.0010	0.0005
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0005	0.0006	0.0007
	0.0008	0.0011	0.0010	0.0014	0.0009	0.0005

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 12

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 9

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.40	(1.399)	34130.1	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.887	(0.2119)	6848.07	20.065
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.53096	(1.25759)	27337.377	80.09763
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.013	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
ATERAL DRAINAGE COLLECTED FROM LAYER 8	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 12	0.000	(0.000)		
CHANGE IN WATER STORAGE	-0.015	(0.0829)	-55.38	-0.162

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 9

	(INCHES)	(CU. FT.)
PRECIPITATION	1.21	4392.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.68906	2501.27344
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00030
AVERAGE HEAD ACROSS LAYER 4	0.028	
DRAINAGE COLLECTED FROM LAYER 8	0.00000	0.00003
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000000	0.00170
AVERAGE HEAD ACROSS LAYER 9	0.000	
DRAINAGE COLLECTED FROM LAYER 10	0.00000	0.00109
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00002
AVERAGE HEAD ACROSS LAYER 12	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0904

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0543

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FINAL WATER STORAGE AT END OF YEAR 9

LAYER	(INCHES)	(VOL/VOL)
1	1.5654	0.0652
2	0.0022	0.0109
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	319.6800	0.2220
7	2.5200	0.1050
8	0.0020	0.0100
9	0.0000	0.0000
10	0.0020	0.0100
11	0.0000	0.0000
12	0.1800	0.7500
SNOW WATER	0.000	

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**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
******************************************************************************
******************************************************************************


PRECIPITATION DATA FILE:     a:\GANDY1.D4
TEMPERATURE DATA FILE:       a:\GANDY1.D7
SOLAR RADIATION DATA FILE:   a:\GANDY1.D13
EVAPOTRANSPIRATION DATA:     a:\GANDY1.D11
SOIL AND DESIGN DATA FILE:   a:\SLYR01.D10
OUTPUT DATA FILE:            a:\slyr01.OUT


TIME:  15:18     DATE:   2/ 4/1996


******************************************************************************

    TITLE:  gandy alternative 2, year 0-1, slope

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =     60.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2055 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
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LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0863	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 5

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 6

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 7

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 17

THICKNESS	=	0.24	INCHES
POROSITY	=	0.7500	VOL/VOL
FIELD CAPACITY	=	0.7470	VOL/VOL
WILTING POINT	=	0.4000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.7500	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.300000003000E-08	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 33.% AND A SLOPE LENGTH OF 316. FEET.

SCS RUNOFF CURVE NUMBER	=	89.00	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.877	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	14.585	INCHES
TOTAL INITIAL WATER	=	14.585	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.284	0.233	0.233	0.211	0.205	0.183
	0.205	2.616	2.290	0.055	0.405	0.330
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000

	0.000	0.000	0.000	0.000	0.000	0.000

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 7

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 7

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.249	(0.0000)	26312.67	83.318
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 7	0.000	(0.000)		
CHANGE IN WATER STORAGE	1.451	(0.0000)	5268.33	16.682

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 4	0.000	
DRAINAGE COLLECTED FROM LAYER 5	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 7	0.000	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2510
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0948

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	12.4790	0.2080
2	3.3735	0.1406
3	0.0020	0.0100
4	0.0000	0.0000
5	0.0020	0.0100
6	0.0000	0.0000
7	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
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PRECIPITATION DATA FILE:     a:\GANDY1.D4
TEMPERATURE DATA FILE:       a:\GANDY1.D7
SOLAR RADIATION DATA FILE:   a:\GANDY1.D13
EVAPOTRANSPIRATION DATA:     a:\GANDY1.D11
SOIL AND DESIGN DATA FILE:   a:\SLYR15.D10
OUTPUT DATA FILE:            a:\SLYR15.OUT


TIME:  15:26     DATE:   2/ 4/1996


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   TITLE:  gandy alternative 2, year 1-5, slope

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                              LAYER  1
                              --------

              TYPE 1 - VERTICAL PERCOLATION LAYER
                  MATERIAL TEXTURE NUMBER   7
        THICKNESS                   =    840.00   INCHES
        POROSITY                    =      0.4730 VOL/VOL
        FIELD CAPACITY              =      0.2220 VOL/VOL
        WILTING POINT               =      0.1040 VOL/VOL
        INITIAL SOIL WATER CONTENT  =      0.2080 VOL/VOL
        EFFECTIVE SAT. HYD. COND.   =  0.520000001000E-03 CM/SEC
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                        LAYER  2
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1406 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                        LAYER  3
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                        LAYER  4
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
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                         LAYER  5
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                   =      0.20   INCHES
POROSITY                    =      0.8500 VOL/VOL
FIELD CAPACITY              =      0.0100 VOL/VOL
WILTING POINT               =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =   10.0000000000     CM/SEC
SLOPE                       =     33.00   PERCENT
DRAINAGE LENGTH             =    316.0    FEET


                         LAYER  6
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                   =      0.06   INCHES
POROSITY                    =      0.0000 VOL/VOL
FIELD CAPACITY              =      0.0000 VOL/VOL
WILTING POINT               =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY         =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY       =  3 - GOOD


                         LAYER  7
                         --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                   =      0.24   INCHES
POROSITY                    =      0.7500 VOL/VOL
FIELD CAPACITY              =      0.7470 VOL/VOL
WILTING POINT               =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.300000003000E-08 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 33.% AND A SLOPE LENGTH OF 316. FEET.

SCS RUNOFF CURVE NUMBER	=	89.00	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.912	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	178.278	INCHES
TOTAL INITIAL WATER	=	178.278	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 4

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.19	0.16	0.28	0.33	0.58	0.56
	1.81	2.26	1.48	0.61	0.96	0.42
STD. DEVIATIONS	0.22	0.04	0.30	0.18	0.69	0.87
	0.81	1.23	1.13	0.94	1.13	0.35
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.175	0.191	0.186	0.180	0.333	0.546
	1.094	2.022	1.154	0.573	0.559	0.282
STD. DEVIATIONS	0.134	0.065	0.114	0.068	0.275	0.737

	1.248	1.270	0.587	0.625	0.606	0.142

ATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0062	0.0078	0.0094	0.0091	0.0090	0.0081
	0.0078	0.0072	0.0065	0.0062	0.0056	0.0054
STD. DEVIATIONS	0.0033	0.0059	0.0086	0.0088	0.0088	0.0079
	0.0074	0.0067	0.0058	0.0054	0.0047	0.0044

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0062	0.0064	0.0073	0.0070	0.0071	0.0066
	0.0066	0.0064	0.0060	0.0060	0.0056	0.0056
STD. DEVIATIONS	0.0017	0.0026	0.0035	0.0035	0.0035	0.0033
	0.0032	0.0030	0.0027	0.0026	0.0024	0.0023

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0062	0.0064	0.0073	0.0070	0.0071	0.0066
	0.0066	0.0064	0.0060	0.0060	0.0056	0.0056
STD. DEVIATIONS	0.0017	0.0026	0.0035	0.0035	0.0035	0.0033
	0.0032	0.0030	0.0027	0.0026	0.0024	0.0023

PERCOLATION/LEAKAGE THROUGH LAYER 7

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 7

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 4

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.819)	35056.7	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.295	(0.8248)	26481.94	75.540
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.08837	(0.07549)	320.778	0.91502
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.07691	(0.03325)	279.199	0.79642
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.07691	(0.03325)	279.197	0.79642
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.00000	(0.00000)	0.002	0.00001
AVERAGE HEAD ACROSS TOP OF LAYER 7	0.000	(0.000)		
CHANGE IN WATER STORAGE	2.197	(0.3738)	7974.81	22.748

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 4

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00073	2.65448
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000395	1.43488
AVERAGE HEAD ACROSS LAYER 4	0.000	
DRAINAGE COLLECTED FROM LAYER 5	0.00040	1.43488
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.000000	0.00001
AVERAGE HEAD ACROSS LAYER 7	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.2932

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0936

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FINAL WATER STORAGE AT END OF YEAR 4

LAYER	(INCHES)	(VOL/VOL)
1	184.1688	0.2192
2	2.7133	0.1131
3	0.0020	0.0100
4	0.0000	0.0000
5	0.0020	0.0100
6	0.0000	0.0000
7	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\602\in\GANDY1.D4
TEMPERATURE DATA FILE:       C:\HELP3\602\in\GANDY1.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\602\in\GANDY1.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\602\in\GANDY1.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\602\in\SLYR510.D10
OUTPUT DATA FILE:            C:\HELP3\602\out\SLYR510.OUT


TIME:  15:58     DATE:   2/ 5/1996


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     TITLE:  gandy alternative 2, year 5-10, slope

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =   1080.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2192 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
```

LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1131	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 5

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 6

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 7

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 17

THICKNESS	=	0.24	INCHES
POROSITY	=	0.7500	VOL/VOL
FIELD CAPACITY	=	0.7470	VOL/VOL
WILTING POINT	=	0.4000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.7500	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.300000003000E-08	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 33.% AND A SLOPE LENGTH OF 316. FEET.

SCS RUNOFF CURVE NUMBER	=	89.00	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	3.069	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	239.634	INCHES
TOTAL INITIAL WATER	=	239.634	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 5

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.17	0.29	0.26	0.78	0.63
	1.66	1.91	1.64	0.79	0.84	0.49
STD. DEVIATIONS	0.19	0.04	0.26	0.21	0.74	0.77
	0.78	1.32	1.04	0.91	1.02	0.34
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.163	0.159	0.149	0.118	0.328	0.697
	1.019	1.717	1.276	0.622	0.448	0.363
STD. DEVIATIONS	0.119	0.072	0.096	0.085	0.316	0.764

	1.175	1.383	0.807	0.619	0.573	0.223

.ATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0153	0.0213	0.0141	0.0056	0.0172	0.0269
	0.0431	0.0427	0.0547	0.0379	0.0300	0.0340
STD. DEVIATIONS	0.0203	0.0288	0.0193	0.0093	0.0251	0.0402
	0.0602	0.0654	0.0808	0.0585	0.0290	0.0404

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0064	0.0073	0.0058	0.0031	0.0069	0.0089
	0.0114	0.0108	0.0128	0.0105	0.0107	0.0108
STD. DEVIATIONS	0.0071	0.0093	0.0063	0.0037	0.0072	0.0098
	0.0123	0.0133	0.0149	0.0118	0.0091	0.0108

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0064	0.0073	0.0058	0.0031	0.0069	0.0089
	0.0114	0.0108	0.0128	0.0105	0.0107	0.0108
STD. DEVIATIONS	0.0071	0.0093	0.0063	0.0037	0.0072	0.0098
	0.0123	0.0133	0.0149	0.0118	0.0091	0.0108

PERCOLATION/LEAKAGE THROUGH LAYER 7

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 7

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 5

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.710)	35073.1	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.058	(0.6272)	25621.33	73.051
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.34270	(0.43682)	1243.990	3.54685
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.10530	(0.10554)	382.231	1.08981
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.10530	(0.10554)	382.230	1.08981
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.00000	(0.00000)	0.002	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 7	0.000	(0.000)		
CHANGE IN WATER STORAGE	2.156	(0.4848)	7825.53	22.312

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 5

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00796	28.89790
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.001304	4.73336
AVERAGE HEAD ACROSS LAYER 4	0.000	
DRAINAGE COLLECTED FROM LAYER 5	0.00130	4.73336
PERCOLATION/LEAKAGE THROUGH LAYER 7	0.000000	0.00001
AVERAGE HEAD ACROSS LAYER 7	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.2317

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0935

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FINAL WATER STORAGE AT END OF YEAR 5

LAYER	(INCHES)	(VOL/VOL)
1	246.6580	0.2284
2	3.5712	0.1488
3	0.0020	0.0102
4	0.0000	0.0000
5	0.0020	0.0100
6	0.0000	0.0000
7	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**              HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                 **
**                 DEVELOPED BY ENVIRONMENTAL LABORATORY                    **
**                   USAE WATERWAYS EXPERIMENT STATION                      **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     a:\GANDY1.D4
TEMPERATURE DATA FILE:       a:\GANDY1.D7
SOLAR RADIATION DATA FILE:   a:\GANDY1.D13
EVAPOTRANSPIRATION DATA:     a:\GANDY1.D11
SOIL AND DESIGN DATA FILE:   a:\SLYR1011.D10
OUTPUT DATA FILE:            a:\SLYR1011.OUT


TIME:  16: 5     DATE:   2/ 4/1996


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    TITLE:  gandy alternative 2, year 10-11, slope

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0863 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

```
                        LAYER  2
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     25.00   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  3
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                        LAYER  4
                        --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                    =     36.00   INCHES
POROSITY                     =      0.4450 VOL/VOL
FIELD CAPACITY               =      0.3930 VOL/VOL
WILTING POINT                =      0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000001000E-06 CM/SEC
```

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                         LAYER  5
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                         LAYER  6
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2284 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                         LAYER  7
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1488 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                         LAYER  8
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
```

```
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0102 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET
```

LAYER 9

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

```
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

LAYER 10

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

```
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET
```

LAYER 11

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

```
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

LAYER 12

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 17

```
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

```
SCS RUNOFF CURVE NUMBER              =    81.80
FRACTION OF AREA ALLOWING RUNOFF     =   100.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =     1.000  ACRES
EVAPORATIVE ZONE DEPTH               =    14.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =     1.208  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =     6.118  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =     0.658  INCHES
INITIAL SNOW WATER                   =     0.000  INCHES
INITIAL WATER IN LAYER MATERIALS     =   352.816  INCHES
TOTAL INITIAL WATER                  =   352.816  INCHES
TOTAL SUBSURFACE INFLOW              =     0.00   INCHES/YEAR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.263	0.194	0.185	0.017	0.002	0.000
	0.011	0.121	0.439	0.006	0.031	0.005
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.0000	0.0000	0.0000	0.0482	0.0645	0.0479
	0.3671	2.6005	2.6553	0.2655	0.9331	0.2652
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0388	0.0620	0.0096	0.0097	0.1187	0.1773
	0.1960	0.1969	0.1895	0.1943	0.1866	0.1914
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0032	0.0047	0.0011	0.0011	0.0068	0.0083
	0.0088	0.0089	0.0086	0.0088	0.0085	0.0087
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0032	0.0047	0.0011	0.0011	0.0068	0.0083
	0.0088	0.0089	0.0086	0.0088	0.0085	0.0087
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
	0.0005	0.0035	0.0036	0.0004	0.0013	0.0004
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0002	0.0004	0.0001	0.0001	0.0006	0.0009
	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 12

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.273	(0.0000)	4622.42	14.637
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.24728	(0.00000)	26307.623	83.30206
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.010	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	1.57089	(0.00000)	5702.313	18.05615
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.07748	(0.00000)	281.253	0.89058
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.07748	(0.00000)	281.253	0.89058
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000	(0.00000)	0.001	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 12	0.000	(0.000)		
CHANGE IN WATER STORAGE	-1.469	(0.0000)	-5332.78	-16.886

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.51797	1880.22473
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00024
AVERAGE HEAD ACROSS LAYER 4	0.021	
DRAINAGE COLLECTED FROM LAYER 8	0.00636	23.08509
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000286	1.03899
AVERAGE HEAD ACROSS LAYER 9	0.001	
DRAINAGE COLLECTED FROM LAYER 10	0.00029	1.03899
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 12	0.000	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0863

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0404

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	2.2503	0.0938
2	0.0022	0.0110
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	326.7110	0.2269
7	4.1079	0.1712
8	0.0020	0.0100
9	0.0000	0.0000
10	0.0020	0.0100
11	0.0000	0.0000
12	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**              HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                 **
**              DEVELOPED BY ENVIRONMENTAL LABORATORY                       **
**              USAE WATERWAYS EXPERIMENT STATION                           **
**              FOR USEPA RISK REDUCTION ENGINEERING LABORATORY             **
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PRECIPITATION DATA FILE:      a:\GANDY2.D4
TEMPERATURE DATA FILE:        a:\GANDY2.D7
SOLAR RADIATION DATA FILE:    a:\GANDY2.D13
EVAPOTRANSPIRATION DATA:      a:\GANDY2.D11
SOIL AND DESIGN DATA FILE:    a:\SLYR1131.D10
OUTPUT DATA FILE:             a:\SLYR1131.OUT


TIME:  16:19     DATE:   2/ 4/1996


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    TITLE:  gandy alternative 2, year 11-31, slope

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
        THICKNESS                    =     24.00   INCHES
        POROSITY                     =      0.4370 VOL/VOL
        FIELD CAPACITY               =      0.1050 VOL/VOL
        WILTING POINT                =      0.0470 VOL/VOL
        INITIAL SOIL WATER CONTENT   =      0.0938 VOL/VOL
        EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0110	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

LAYER 5

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0863	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 6

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 7

THICKNESS	=	1440.00	INCHES
POROSITY	=	0.4730	VOL/VOL
FIELD CAPACITY	=	0.2220	VOL/VOL
WILTING POINT	=	0.1040	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2269	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.520000001000E-03	CM/SEC

LAYER 7

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1712	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 8

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                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                          LAYER  9
                          --------

                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                          LAYER 10
                          --------

                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                          LAYER 11
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                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                          LAYER 12
                          --------

                TYPE 3 - BARRIER SOIL LINER
                MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


            GENERAL DESIGN AND EVAPORATIVE ZONE DATA
            ----------------------------------------

 NOTE:  SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
          SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A
          POOR STAND OF GRASS, A SURFACE SLOPE OF 25.%
          AND A SLOPE LENGTH OF  550. FEET.

SCS RUNOFF CURVE NUMBER              =     74.90
FRACTION OF AREA ALLOWING RUNOFF     =    100.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =      1.000  ACRES
EVAPORATIVE ZONE DEPTH               =     24.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =      2.251  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =     10.488  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =      1.128  INCHES
INITIAL SNOW WATER                   =      0.000  INCHES
INITIAL WATER IN LAYER MATERIALS     =    351.373  INCHES
TOTAL INITIAL WATER                  =    351.373  INCHES
TOTAL SUBSURFACE INFLOW              =      0.00   INCHES/YEAR
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EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 20

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.23	0.30	0.25	0.30	0.59	0.73
	1.41	1.68	1.44	1.26	0.52	0.35
STD. DEVIATIONS	0.23	0.20	0.25	0.36	0.64	0.60
	0.70	0.97	0.90	1.11	0.64	0.26
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.095	0.068	0.050	0.052	0.137	0.202
	0.364	0.353	0.232	0.153	0.067	0.067
STD. DEVIATIONS	0.190	0.064	0.049	0.041	0.158	0.150
	0.169	0.205	0.125	0.118	0.077	0.052
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.2128	0.1741	0.2379	0.2309	0.4466	0.5109
	0.9797	1.3074	1.2152	1.1417	0.4980	0.2818
STD. DEVIATIONS	0.1680	0.1227	0.1878	0.2978	0.4705	0.4642
	0.5890	0.7558	0.7576	0.9659	0.5110	0.2688
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0401	0.0345	0.0324	0.0312	0.0345	0.0342
	0.0341	0.0381	0.0347	0.0329	0.0301	0.0300

STD. DEVIATIONS	0.0717	0.0618	0.0590	0.0572	0.0629	0.0632
	0.0638	0.0722	0.0653	0.0626	0.0586	0.0595

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0024	0.0021	0.0022	0.0021	0.0022	0.0021
	0.0021	0.0022	0.0021	0.0021	0.0019	0.0020
STD. DEVIATIONS	0.0033	0.0029	0.0029	0.0028	0.0030	0.0030
	0.0030	0.0033	0.0031	0.0030	0.0028	0.0029

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0024	0.0021	0.0022	0.0021	0.0022	0.0021
	0.0021	0.0022	0.0021	0.0021	0.0019	0.0020
STD. DEVIATIONS	0.0033	0.0029	0.0029	0.0028	0.0030	0.0030
	0.0030	0.0033	0.0031	0.0030	0.0028	0.0029

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0003	0.0003	0.0003	0.0003	0.0006	0.0007
	0.0013	0.0017	0.0017	0.0015	0.0007	0.0004
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0004	0.0006	0.0006
	0.0008	0.0010	0.0010	0.0013	0.0007	0.0004

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
STD. DEVIATIONS	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003
	0.0003	0.0004	0.0003	0.0003	0.0003	0.0003

DAILY AVERAGE HEAD ACROSS LAYER 12

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 20

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.05	(1.776)	32847.9	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.840	(0.3915)	6677.76	20.329
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.23687	(1.51619)	26269.826	79.97421
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.012	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
TERAL DRAINAGE COLLECTED FROM LAYER 8	0.40678	(0.74711)	1476.624	4.49534
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.02546	(0.03576)	92.410	0.28133
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.02546	(0.03576)	92.409	0.28133
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 12	0.000	(0.000)		
CHANGE IN WATER STORAGE	-0.460	(0.8692)	-1668.75	-5.080

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 20

	(INCHES)	(CU. FT.)
PRECIPITATION	1.41	5118.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.84635	3072.26587
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00035
AVERAGE HEAD ACROSS LAYER 4	0.035	
DRAINAGE COLLECTED FROM LAYER 8	0.00895	32.49166
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000341	1.23697
AVERAGE HEAD ACROSS LAYER 9	0.001	
DRAINAGE COLLECTED FROM LAYER 10	0.00034	1.23697
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 12	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0942

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0554

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FINAL WATER STORAGE AT END OF YEAR 20

LAYER	(INCHES)	(VOL/VOL)
1	1.7006	0.0709
2	0.0033	0.0166
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0713	0.0863
6	319.6800	0.2220
7	2.5200	0.1050
8	0.0020	0.0100
9	0.0000	0.0000
10	0.0020	0.0100
11	0.0000	0.0000
12	0.1800	0.7500
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:      a:\GANDY2.D4
TEMPERATURE DATA FILE:        a:\GANDY2.D7
SOLAR RADIATION DATA FILE:    a:\GANDY2.D13
EVAPOTRANSPIRATION DATA:      a:\GANDY2.D11
SOIL AND DESIGN DATA FILE:    a:\SLYR3140.D10
OUTPUT DATA FILE:             a:\SLYR3140.OUT


TIME:  16:39     DATE:   2/ 4/1996


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     TITLE:  gandy alternative 2, year 31-40, slope

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0709 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0166	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

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                    LAYER  5
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          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  6
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2220 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                    LAYER  7
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1050 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  8
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```
                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                         LAYER  9
                         --------

                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER 10
                         --------

                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                         LAYER 11
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```
                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                          LAYER 12
                          --------

                TYPE 3 - BARRIER SOIL LINER
                MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


          GENERAL DESIGN AND EVAPORATIVE ZONE DATA
          ----------------------------------------

 NOTE:  SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
          SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A
          POOR STAND OF GRASS, A SURFACE SLOPE OF 25.%
          AND A SLOPE LENGTH OF  550. FEET.

SCS RUNOFF CURVE NUMBER              =    74.90
FRACTION OF AREA ALLOWING RUNOFF     =   100.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =     1.000  ACRES
EVAPORATIVE ZONE DEPTH               =    24.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =     1.702  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =    10.488  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =     1.128  INCHES
INITIAL SNOW WATER                   =     0.000  INCHES
INITIAL WATER IN LAYER MATERIALS     =   342.180  INCHES
TOTAL INITIAL WATER                  =   342.180  INCHES
TOTAL SUBSURFACE INFLOW              =     0.00   INCHES/YEAR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 9

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.32	0.26	0.39	0.67	0.59
	1.41	1.86	1.37	1.12	0.81	0.42
STD. DEVIATIONS	0.15	0.20	0.25	0.45	0.62	0.64
	0.70	1.04	0.94	1.23	0.82	0.33
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.072	0.077	0.063	0.061	0.144	0.151
	0.366	0.393	0.241	0.135	0.102	0.081
STD. DEVIATIONS	0.088	0.054	0.059	0.047	0.115	0.145
	0.180	0.244	0.157	0.126	0.097	0.061
.ATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.1688	0.1836	0.2412	0.2924	0.5048	0.4614
	0.9435	1.4550	1.1491	1.0118	0.7449	0.3745
STD. DEVIATIONS	0.1148	0.1093	0.1638	0.3951	0.4602	0.5086
	0.5944	0.8523	0.7558	1.0200	0.6208	0.3415
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0002	0.0003	0.0003	0.0004	0.0007	0.0006
	0.0013	0.0019	0.0016	0.0013	0.0010	0.0005
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0005	0.0006	0.0007
	0.0008	0.0011	0.0010	0.0014	0.0009	0.0005

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 12

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 9

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.40	(1.399)	34130.1	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.887	(0.2119)	6848.07	20.065
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.53096	(1.25759)	27337.377	80.09763
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.013	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
ATERAL DRAINAGE COLLECTED FROM LAYER 8	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 12	0.000	(0.000)		
CHANGE IN WATER STORAGE	-0.015	(0.0829)	-55.38	-0.162

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 9

	(INCHES)	(CU. FT.)
PRECIPITATION	1.21	4392.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.68906	2501.27344
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00030
AVERAGE HEAD ACROSS LAYER 4	0.028	
DRAINAGE COLLECTED FROM LAYER 8	0.00000	0.00047
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000000	0.00126
AVERAGE HEAD ACROSS LAYER 9	0.000	
DRAINAGE COLLECTED FROM LAYER 10	0.00000	0.00126
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 12	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0904

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0543

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FINAL WATER STORAGE AT END OF YEAR 9

LAYER	(INCHES)	(VOL/VOL)
1	1.5654	0.0652
2	0.0022	0.0109
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	319.6800	0.2220
7	2.5200	0.1050
8	0.0020	0.0100
9	0.0000	0.0000
10	0.0020	0.0100
11	0.0000	0.0000
12	0.1800	0.7500
SNOW WATER	0.000	

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**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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******************************************************************************


PRECIPITATION DATA FILE:      C:\HELP3\GANDY\IN\GANW1.D4
TEMPERATURE DATA FILE:        C:\HELP3\GANDY\IN\GANW1.D7
SOLAR RADIATION DATA FILE:    C:\HELP3\GANDY\IN\GANW1.D13
EVAPOTRANSPIRATION DATA:      C:\HELP3\GANDY\IN\GANW1.D11
SOIL AND DESIGN DATA FILE:    C:\HELP3\GANDY\IN\GF01.D10
OUTPUT DATA FILE:             C:\HELP3\GANDY\IN\GF01.OUT


TIME:  11:45     DATE:   2/ 4/1996


******************************************************************************

    TITLE:  GANDY, ALT #3, FLOOR, (YRS 0-1)

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =     60.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2055 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
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                        LAYER  2
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                        LAYER  3
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  4
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
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                        LAYER  5
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              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


                        LAYER  6
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  7
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

LAYER 8

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.877	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	19.925	INCHES
TOTAL INITIAL WATER	=	19.925	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %

AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00

RUNOFF

TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

EVAPOTRANSPIRATION

TOTALS	0.284	0.233	0.233	0.211	0.205	0.183
	0.205	2.616	2.290	0.055	0.405	0.330
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 6

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 8

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 5

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 8

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.249	(0.0000)	26312.67	83.318
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 5	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 6	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 8	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 8	0.000	(0.000)		

'ANGE IN WATER STORAGE 1.451 (0.0000) 5268.33 16.682

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 5	0.000	
DRAINAGE COLLECTED FROM LAYER 6	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 8	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 8	0.000	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2510
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0948

****

****

FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	12.4790	0.2080
2	3.3735	0.1406
3	0.0020	0.0100
4	0.0000	0.0000
5	0.1800	0.7500
6	0.0020	0.0100
7	0.0000	0.0000
8	5.3400	0.4450
SNOW WATER	0.000	

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**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\GANDY\IN\GANW1.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY\IN\GANW1.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY\IN\GANW1.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY\IN\GANW1.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\GANDY\IN\GF25.D10
OUTPUT DATA FILE:            C:\HELP3\GANDY\OUT\GF25.OUT


TIME:  15: 2     DATE:   2/ 4/1996


******************************************************************************

   TITLE:  GANDY, ALT #3, FLOOR, (YRS 2-5)

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                 LAYER  1
                                 --------

                     TYPE 1 - VERTICAL PERCOLATION LAYER
                         MA      Path: C:\GANDY\ALT3
     File: GS25    .OUT   18,535 .a..  2-04-96  5:52:58 pm       Page 1
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**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\GANDY\IN\GANW1.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY\IN\GANW1.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY\IN\GANW1.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY\IN\GANW1.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\GANDY\IN\GS25.D10
OUTPUT DATA FILE:            C:\HELP3\GANDY\OUT\GS25.OUT


TIME:  17:49     DATE:   2/ 4/1996


******************************************************************************

   TITLE:  GANDY, ALT #3, SLOPE, (YRS 2-5)

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =    840.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2080 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
```

LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1406	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

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                        LAYER  5
                        --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


                        LAYER  6
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                        LAYER  7
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

LAYER 8

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.912	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	183.618	INCHES
TOTAL INITIAL WATER	=	183.618	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %

AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 4

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.19	0.16	0.28	0.33	0.58	0.56
	1.81	2.26	1.48	0.61	0.96	0.42
STD. DEVIATIONS	0.22	0.04	0.30	0.18	0.69	0.87
	0.81	1.23	1.13	0.94	1.13	0.35

RUNOFF

TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

EVAPOTRANSPIRATION

TOTALS	0.175	0.191	0.186	0.180	0.333	0.546
	1.094	2.022	1.154	0.573	0.559	0.282
STD. DEVIATIONS	0.134	0.065	0.114	0.068	0.275	0.737
	1.248	1.270	0.587	0.625	0.606	0.142

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0124	0.0142	0.0168	0.0162	0.0161	0.0148
	0.0144	0.0136	0.0125	0.0122	0.0112	0.0110
STD. DEVIATIONS	0.0050	0.0084	0.0121	0.0123	0.0123	0.0111
	0.0106	0.0096	0.0085	0.0080	0.0071	0.0067

PERCOLATION/LEAKAGE THROUGH LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 6

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 8

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 5

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 8

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 4

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.819)	35056.7	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.295	(0.8248)	26481.94	75.540
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.16528	(0.10855)	599.966	1.71142
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.00000	(0.00000)	0.009	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 5	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 6	0.00000	(0.00000)	0.008	0.00002
PERCOLATION/LEAKAGE THROUGH LAYER 8	0.00000	(0.00000)	0.001	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 8	0.000	(0.000)		

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\NGE IN WATER STORAGE        2.197   (  0.3738)       7974.81     22.748
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PEAK DAILY VALUES FOR YEARS 1 THROUGH 4

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00113	4.08933
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.000000	0.00002
AVERAGE HEAD ACROSS LAYER 5	0.000	
DRAINAGE COLLECTED FROM LAYER 6	0.00000	0.00002
PERCOLATION/LEAKAGE THROUGH LAYER 8	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 8	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2932
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0936

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****

FINAL WATER STORAGE AT END OF YEAR 4

LAYER	(INCHES)	(VOL/VOL)
1	184.1688	0.2192
2	2.7133	0.1131
3	0.0020	0.0100
4	0.0000	0.0000
5	0.1800	0.7500
6	0.0020	0.0100
7	0.0000	0.0000
8	5.3400	0.4450
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\GANDY\IN\GANW1.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY\IN\GANW1.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY\IN\GANW1.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY\IN\GANW1.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\GANDY\IN\GS610.D10
OUTPUT DATA FILE:            C:\HELP3\GANDY\OUT\GS610.OUT


TIME:   7:25     DATE:   2/ 5/1996


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   TITLE:  GANDY, ALT #3, SLOPE, (YRS 6-10)

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =   1080.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2192 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
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                        LAYER  2
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1131 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                        LAYER  3
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                        LAYER  4
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
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                         LAYER  5
                         --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


                         LAYER  6
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                         LAYER  7
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

LAYER 8

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	3.069	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	244.974	INCHES
TOTAL INITIAL WATER	=	244.974	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00	
START OF GROWING SEASON (JULIAN DATE)	=	76	
END OF GROWING SEASON (JULIAN DATE)	=	310	
AVERAGE ANNUAL WIND SPEED	=	8.70	MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00	%
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00	%
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00	%

AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 5

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.17	0.29	0.26	0.78	0.63
	1.66	1.91	1.64	0.79	0.84	0.49
STD. DEVIATIONS	0.19	0.04	0.26	0.21	0.74	0.77
	0.78	1.32	1.04	0.91	1.02	0.34

UNOFF

TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

EVAPOTRANSPIRATION

TOTALS	0.163	0.159	0.149	0.118	0.328	0.697
	1.019	1.717	1.276	0.622	0.448	0.363
STD. DEVIATIONS	0.119	0.072	0.096	0.085	0.316	0.764
	1.175	1.383	0.807	0.619	0.573	0.223

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0216	0.0286	0.0199	0.0087	0.0241	0.0359
	0.0545	0.0535	0.0674	0.0484	0.0407	0.0448
STD. DEVIATIONS	0.0272	0.0381	0.0256	0.0130	0.0322	0.0497
	0.0722	0.0785	0.0954	0.0702	0.0380	0.0512

PERCOLATION/LEAKAGE THROUGH LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 6

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 8

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 5

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 8

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 5

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.710)	35073.1	100.00
NOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.058	(0.6272)	25621.33	73.051
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.44799	(0.54140)	1626.205	4.63662
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.00000	(0.00000)	0.007	0.00002
AVERAGE HEAD ACROSS TOP OF LAYER 5	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 6	0.00000	(0.00000)	0.006	0.00002
PERCOLATION/LEAKAGE THROUGH LAYER 8	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 8	0.000	(0.000)		

'ANGE IN WATER STORAGE 2.156 (0.4848) 7825.54 22.312

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 5

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00926	33.63027
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.000000	0.00002
AVERAGE HEAD ACROSS LAYER 5	0.000	
DRAINAGE COLLECTED FROM LAYER 6	0.00000	0.00002
PERCOLATION/LEAKAGE THROUGH LAYER 8	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 8	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.2317

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0935

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FINAL WATER STORAGE AT END OF YEAR 5

LAYER	(INCHES)	(VOL/VOL)
1	246.6580	0.2284
2	3.5712	0.1488
3	0.0021	0.0103
4	0.0000	0.0000
5	0.1800	0.7500
6	0.0020	0.0100
7	0.0000	0.0000
8	5.3400	0.4450
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\GANDY\IN\GANW1.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY\IN\GANW1.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY\IN\GANW1.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY\IN\GANW1.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\GANDY\IN\GF11.D10
OUTPUT DATA FILE:            C:\HELP3\GANDY\OUT\GF11.OUT


TIME:   7:37     DATE:   2/ 5/1996


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     TITLE:  GANDY, ALT #3, FLOOR, (YR 11)

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0863 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

```
                    LAYER  5
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  6
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2284 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                    LAYER  7
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1488 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  8
                    --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
```

```
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0166 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  9
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                        LAYER 10
                        --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


                        LAYER 11
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
```

```
FIELD CAPACITY              =      0.0100 VOL/VOL
WILTING POINT               =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  10.0000000000     CM/SEC
SLOPE                       =      2.30   PERCENT
DRAINAGE LENGTH             =    550.0    FEET
```

LAYER 12

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

```
THICKNESS                   =      0.06   INCHES
POROSITY                    =      0.0000 VOL/VOL
FIELD CAPACITY              =      0.0000 VOL/VOL
WILTING POINT               =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY         =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY       =  3 - GOOD
```

LAYER 13

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

```
THICKNESS                   =     12.00   INCHES
POROSITY                    =      0.4450 VOL/VOL
FIELD CAPACITY              =      0.3930 VOL/VOL
WILTING POINT               =      0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.4450 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.100000001000E-06 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	81.80	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	1.208	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.118	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	0.658	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	358.157	INCHES
TOTAL INITIAL WATER	=	358.157	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00

81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.263	0.194	0.185	0.017	0.002	0.000
	0.011	0.121	0.439	0.006	0.031	0.005
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.0000	0.0000	0.0000	0.0482	0.0645	0.0479
	0.3671	2.6005	2.6553	0.2655	0.9331	0.2652
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

ERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 8

TOTALS	0.0432	0.0667	0.0109	0.0101	0.1241	0.1853
	0.2048	0.2058	0.1980	0.2032	0.1952	0.2002
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 11

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 13

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
	0.0005	0.0035	0.0036	0.0004	0.0013	0.0004

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 10

AVERAGES	0.0006	0.0010	0.0001	0.0001	0.0017	0.0026
	0.0028	0.0028	0.0028	0.0028	0.0027	0.0027
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 13

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
'NOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.273	(0.0000)	4622.42	14.637
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.24728	(0.00000)	26307.623	83.30206
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.010	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	1.64736	(0.00000)	5979.925	18.93520
PERCOLATION/LEAKAGE THROUGH LAYER 10	0.00000	(0.00000)	0.009	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 10	0.002	(0.000)		

```
 \TERAL DRAINAGE COLLECTED      0.00000 (  0.00000)        0.001    0.00000
  FROM LAYER 11

 PERCOLATION/LEAKAGE THROUGH    0.00000 (  0.00000)        0.008     0.00003
   LAYER 13

 AVERAGE HEAD ACROSS TOP        0.000 (    0.000)
   OF LAYER 13

 CHANGE IN WATER STORAGE       -1.468   (  0.0000)      -5329.24    -16.875
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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.51797	1880.22473
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00024
AVERAGE HEAD ACROSS LAYER 4	0.021	
DRAINAGE COLLECTED FROM LAYER 8	0.00665	24.12404
PERCOLATION/LEAKAGE THROUGH LAYER 10	0.000000	0.00003
AVERAGE HEAD ACROSS LAYER 10	0.003	
DRAINAGE COLLECTED FROM LAYER 11	0.00000	0.00001
PERCOLATION/LEAKAGE THROUGH LAYER 13	0.000000	0.00002
AVERAGE HEAD ACROSS LAYER 13	0.000	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0863

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0404

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	2.2503	0.0938
2	0.0022	0.0110
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	326.7110	0.2269
7	4.1079	0.1712
8	0.0043	0.0214
9	0.0000	0.0000
10	0.1800	0.7500
11	0.0020	0.0100
12	0.0000	0.0000
13	5.3400	0.4450
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\GANDY\IN\GANW2.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY\IN\GANW2.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY\IN\GANW2.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY\IN\GANW2.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\GANDY\IN\GF1231.D10
OUTPUT DATA FILE:            C:\HELP3\GANDY\OUT\GF1231.OUT


TIME:   7:42     DATE:   2/ 5/1996


******************************************************************************

    TITLE:  GANDY, ALT #3, FLOOR, (YR 12-31)

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0938 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0110	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

```
                    LAYER  5
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  6
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2269 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                    LAYER  7
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1712 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  8
                    --------
```

```
                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0214 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                          LAYER  9
                          --------

                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                          LAYER 10
                          --------

                  TYPE 3 - BARRIER SOIL LINER
                  MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


                          LAYER 11
                          --------

                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
```

```
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET
```

LAYER 12

```
TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

LAYER 13

```
TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER   0
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4450 VOL/VOL
FIELD CAPACITY               =      0.3930 VOL/VOL
WILTING POINT                =      0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000001000E-06 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

```
NOTE:  SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
       SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A
       POOR STAND OF GRASS, A SURFACE SLOPE OF 25.%
```

AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	74.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	24.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.251	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	10.488	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.128	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	356.716	INCHES
TOTAL INITIAL WATER	=	356.716	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC

41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 20

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.23	0.30	0.25	0.30	0.59	0.73
	1.41	1.68	1.44	1.26	0.52	0.35
STD. DEVIATIONS	0.23	0.20	0.25	0.36	0.64	0.60
	0.70	0.97	0.90	1.11	0.64	0.26
JNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.095	0.068	0.050	0.052	0.137	0.202
	0.364	0.353	0.232	0.153	0.067	0.067
STD. DEVIATIONS	0.190	0.064	0.049	0.041	0.158	0.150
	0.169	0.205	0.125	0.118	0.077	0.052
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.2128	0.1741	0.2379	0.2309	0.4466	0.5109
	0.9797	1.3074	1.2152	1.1417	0.4980	0.2818

STD. DEVIATIONS	0.1680	0.1227	0.1878	0.2978	0.4705	0.4642
	0.5890	0.7558	0.7576	0.9659	0.5110	0.2688

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 8

TOTALS	0.0425	0.0367	0.0346	0.0333	0.0366	0.0363
	0.0363	0.0403	0.0368	0.0350	0.0321	0.0320
STD. DEVIATIONS	0.0748	0.0648	0.0619	0.0599	0.0658	0.0661
	0.0669	0.0752	0.0684	0.0656	0.0614	0.0623

PERCOLATION/LEAKAGE THROUGH LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 11

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 13

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0003	0.0003	0.0003	0.0003	0.0006	0.0007

	0.0013	0.0017	0.0017	0.0015	0.0007	0.0004
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0004	0.0006	0.0006
	0.0008	0.0010	0.0010	0.0013	0.0007	0.0004

DAILY AVERAGE HEAD ACROSS LAYER 10

AVERAGES	0.0006	0.0006	0.0005	0.0005	0.0005	0.0005
	0.0005	0.0005	0.0005	0.0005	0.0005	0.0004
STD. DEVIATIONS	0.0010	0.0010	0.0008	0.0008	0.0009	0.0009
	0.0009	0.0010	0.0010	0.0009	0.0009	0.0008

DAILY AVERAGE HEAD ACROSS LAYER 13

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 20

	INCHES		CU. FEET	PERCENT
ECIPITATION	9.05	(1.776)	32847.9	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.840	(0.3915)	6677.76	20.329
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.23687	(1.51619)	26269.826	79.97421
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.012	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.43235	(0.78242)	1569.442	4.77791
PERCOLATION/LEAKAGE THROUGH LAYER 10	0.00000	(0.00000)	0.006	0.00002

AVERAGE HEAD ACROSS TOP OF LAYER 10	0.000 (	0.001)		
LATERAL DRAINAGE COLLECTED FROM LAYER 11	0.00000 (	0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 13	0.00000 (	0.00000)	0.006	0.00002
AVERAGE HEAD ACROSS TOP OF LAYER 13	0.000 (	0.000)		
CHANGE IN WATER STORAGE	-0.460 (	0.8693)	-1669.16	-5.081

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 20

	(INCHES)	(CU. FT.)
PRECIPITATION	1.41	5118.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.84635	3072.26587
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00035
AVERAGE HEAD ACROSS LAYER 4	0.035	
DRAINAGE COLLECTED FROM LAYER 8	0.00929	33.72390
PERCOLATION/LEAKAGE THROUGH LAYER 10	0.000000	0.00003
AVERAGE HEAD ACROSS LAYER 10	0.004	
DRAINAGE COLLECTED FROM LAYER 11	0.00000	0.00001
PERCOLATION/LEAKAGE THROUGH LAYER 13	0.000000	0.00002
AVERAGE HEAD ACROSS LAYER 13	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.0942
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0554

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FINAL WATER STORAGE AT END OF YEAR 20

LAYER	(INCHES)	(VOL/VOL)
1	1.7006	0.0709
2	0.0033	0.0166
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0713	0.0863
6	319.6800	0.2220
7	2.5200	0.1050
8	0.0020	0.0100
9	0.0000	0.0000
10	0.1800	0.7500
11	0.0020	0.0100
12	0.0000	0.0000
13	5.3400	0.4450
SNOW WATER	0.000	

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**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
**                                                                          **
******************************************************************************
******************************************************************************


PRECIPITATION DATA FILE:     C:\HELP3\GANDY\IN\GANW2.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY\IN\GANW2.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY\IN\GANW2.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY\IN\GANW2.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\GANDY\IN\GS3240.D10
OUTPUT DATA FILE:            C:\HELP3\GANDY\OUT\GS3240.OUT


TIME:   8:25     DATE:   2/ 5/1996


******************************************************************************

    TITLE:  GANDY, ALT #3, SLOPE, (YR 32-40)

******************************************************************************


    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
        THICKNESS                   =     24.00   INCHES
        POROSITY                    =      0.4370 VOL/VOL
        FIELD CAPACITY              =      0.1050 VOL/VOL
        WILTING POINT               =      0.0470 VOL/VOL
        INITIAL SOIL WATER CONTENT  =      0.0709 VOL/VOL
        EFFECTIVE SAT. HYD. COND.   =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0166	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

```
                    LAYER  5
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  6
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2220 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                    LAYER  7
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1050 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  8
                    --------
```

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 9

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 10

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 17

THICKNESS	=	0.24	INCHES
POROSITY	=	0.7500	VOL/VOL
FIELD CAPACITY	=	0.7470	VOL/VOL
WILTING POINT	=	0.4000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.7500	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.300000003000E-08	CM/SEC

LAYER 11

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

```
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET
```

LAYER 12

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

```
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

LAYER 13

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

```
THICKNESS                    =     12.00   INCHES
POROSITY                     =      0.4450 VOL/VOL
FIELD CAPACITY               =      0.3930 VOL/VOL
WILTING POINT                =      0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000001000E-06 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A POOR STAND OF GRASS, A SURFACE SLOPE OF 25.%

AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	74.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	24.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	1.702	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	10.488	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.128	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	347.520	INCHES
TOTAL INITIAL WATER	=	347.520	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC

41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 9

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.32	0.26	0.39	0.67	0.59
	1.41	1.86	1.37	1.12	0.81	0.42
STD. DEVIATIONS	0.15	0.20	0.25	0.45	0.62	0.64
	0.70	1.04	0.94	1.23	0.82	0.33
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.072	0.077	0.063	0.061	0.144	0.151
	0.366	0.393	0.241	0.135	0.102	0.081
STD. DEVIATIONS	0.088	0.054	0.059	0.047	0.115	0.145
	0.180	0.244	0.157	0.126	0.097	0.061
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.1688	0.1836	0.2412	0.2924	0.5048	0.4614
	0.9435	1.4550	1.1491	1.0118	0.7449	0.3745

STD. DEVIATIONS	0.1148	0.1093	0.1638	0.3951	0.4602	0.5086
	0.5944	0.8523	0.7558	1.0200	0.6208	0.3415

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 8

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 11

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 13

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0002	0.0003	0.0003	0.0004	0.0007	0.0006

	0.0013	0.0019	0.0016	0.0013	0.0010	0.0005
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0005	0.0006	0.0007
	0.0008	0.0011	0.0010	0.0014	0.0009	0.0005

DAILY AVERAGE HEAD ACROSS LAYER 10

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 13

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 9

	INCHES		CU. FEET	PERCENT
ECIPITATION	9.40	(1.399)	34130.1	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.887	(0.2119)	6848.07	20.065
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.53096	(1.25759)	27337.377	80.09763
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.013	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 10	0.00000	(0.00000)	0.000	0.00000

AVERAGE HEAD ACROSS TOP OF LAYER 10	0.000 (	0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 11	0.00000 (	0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 13	0.00000 (	0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 13	0.000 (	0.000)		
CHANGE IN WATER STORAGE	-0.015 (	0.0829)	-55.38	-0.162

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 9

	(INCHES)	(CU. FT.)
PRECIPITATION	1.21	4392.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.68906	2501.27344
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00030
AVERAGE HEAD ACROSS LAYER 4	0.028	
DRAINAGE COLLECTED FROM LAYER 8	0.00000	0.00173
PERCOLATION/LEAKAGE THROUGH LAYER 10	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 10	0.000	
DRAINAGE COLLECTED FROM LAYER 11	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 13	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 13	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.0904
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0543

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FINAL WATER STORAGE AT END OF YEAR 9

LAYER	(INCHES)	(VOL/VOL)
1	1.5654	0.0652
2	0.0022	0.0109
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	319.6800	0.2220
7	2.5200	0.1050
8	0.0020	0.0100
9	0.0000	0.0000
10	0.1800	0.7500
11	0.0020	0.0100
12	0.0000	0.0000
13	5.3400	0.4450
SNOW WATER	0.000	

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**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
******************************************************************************
******************************************************************************


PRECIPITATION DATA FILE:     C:\HELP3\GANDY\IN\GANW1.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY\IN\GANW1.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY\IN\GANW1.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY\IN\GANW1.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\GANDY\IN\GS01.D10
OUTPUT DATA FILE:            C:\HELP3\GANDY\OUT\GS01.OUT


TIME:  17:15     DATE:   2/ 4/1996


******************************************************************************

    TITLE:  GANDY, ALT #3, SLOPE, (YRS 0-1)

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =     60.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2055 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
```

```
                         LAYER  2
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                  =     24.00   INCHES
POROSITY                   =      0.4370 VOL/VOL
FIELD CAPACITY             =      0.1050 VOL/VOL
WILTING POINT              =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.  = 0.170000002000E-02 CM/SEC


                         LAYER  3
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                  =      0.20   INCHES
POROSITY                   =      0.8500 VOL/VOL
FIELD CAPACITY             =      0.0100 VOL/VOL
WILTING POINT              =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.  =   10.0000000000     CM/SEC
SLOPE                      =     33.00   PERCENT
DRAINAGE LENGTH            =    316.0    FEET


                         LAYER  4
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                  =      0.06   INCHES
POROSITY                   =      0.0000 VOL/VOL
FIELD CAPACITY             =      0.0000 VOL/VOL
WILTING POINT              =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.  = 0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY        =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS   =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY      = 3 - GOOD
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                         LAYER  5
                         --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                  =      0.24   INCHES
POROSITY                   =      0.7500 VOL/VOL
FIELD CAPACITY             =      0.7470 VOL/VOL
WILTING POINT              =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.  = 0.300000003000E-08 CM/SEC


                         LAYER  6
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                  =      0.20   INCHES
POROSITY                   =      0.8500 VOL/VOL
FIELD CAPACITY             =      0.0100 VOL/VOL
WILTING POINT              =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.  =   10.0000000000     CM/SEC
SLOPE                      =     33.00   PERCENT
DRAINAGE LENGTH            =    316.0    FEET


                         LAYER  7
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                  =      0.06   INCHES
POROSITY                   =      0.0000 VOL/VOL
FIELD CAPACITY             =      0.0000 VOL/VOL
WILTING POINT              =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.  = 0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY        =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS   =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY      = 3 - GOOD
```

LAYER 8

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.877	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	19.925	INCHES
TOTAL INITIAL WATER	=	19.925	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00	
START OF GROWING SEASON (JULIAN DATE)	=	76	
END OF GROWING SEASON (JULIAN DATE)	=	310	
AVERAGE ANNUAL WIND SPEED	=	8.70	MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00	%
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00	%
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00	%

AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00

RUNOFF

TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

EVAPOTRANSPIRATION

TOTALS	0.284	0.233	0.233	0.211	0.205	0.183
	0.205	2.616	2.290	0.055	0.405	0.330
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 6

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 8

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 5

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 8

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.249	(0.0000)	26312.67	83.318
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 5	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 6	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 8	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 8	0.000	(0.000)		

CHANGE IN WATER STORAGE 1.451 (0.0000) 5268.33 16.682

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**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\GANDY\IN\GANW1.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY\IN\GANW1.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY\IN\GANW1.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY\IN\GANW1.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\GANDY\IN\GS25.D10
OUTPUT DATA FILE:            C:\HELP3\GANDY\OUT\GS25.OUT


TIME:  17:49     DATE:   2/ 4/1996


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    TITLE:  GANDY, ALT #3, SLOPE, (YRS 2-5)

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =    840.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2080 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
```

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                         LAYER  2
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
             MATERIAL TEXTURE NUMBER   4
THICKNESS                   =     24.00   INCHES
POROSITY                    =      0.4370 VOL/VOL
FIELD CAPACITY              =      0.1050 VOL/VOL
WILTING POINT               =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.1406 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.170000002000E-02 CM/SEC


                         LAYER  3
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                   =      0.20   INCHES
POROSITY                    =      0.8500 VOL/VOL
FIELD CAPACITY              =      0.0100 VOL/VOL
WILTING POINT               =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =   10.0000000000     CM/SEC
SLOPE                       =     33.00   PERCENT
DRAINAGE LENGTH             =    316.0    FEET


                         LAYER  4
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                   =      0.06   INCHES
POROSITY                    =      0.0000 VOL/VOL
FIELD CAPACITY              =      0.0000 VOL/VOL
WILTING POINT               =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY         =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY       =  3 - GOOD
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                         LAYER  5
                         --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                   =      0.24   INCHES
POROSITY                    =      0.7500 VOL/VOL
FIELD CAPACITY              =      0.7470 VOL/VOL
WILTING POINT               =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.300000003000E-08 CM/SEC


                         LAYER  6
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                   =      0.20   INCHES
POROSITY                    =      0.8500 VOL/VOL
FIELD CAPACITY              =      0.0100 VOL/VOL
WILTING POINT               =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =   10.0000000000     CM/SEC
SLOPE                       =     33.00   PERCENT
DRAINAGE LENGTH             =    316.0    FEET


                         LAYER  7
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                   =      0.06   INCHES
POROSITY                    =      0.0000 VOL/VOL
FIELD CAPACITY              =      0.0000 VOL/VOL
WILTING POINT               =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY         =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY       =  3 - GOOD
```

LAYER 8

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.912	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	183.618	INCHES
TOTAL INITIAL WATER	=	183.618	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00	
START OF GROWING SEASON (JULIAN DATE)	=	76	
END OF GROWING SEASON (JULIAN DATE)	=	310	
AVERAGE ANNUAL WIND SPEED	=	8.70	MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00	%
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00	%
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00	%

AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 4

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.19	0.16	0.28	0.33	0.58	0.56
	1.81	2.26	1.48	0.61	0.96	0.42
STD. DEVIATIONS	0.22	0.04	0.30	0.18	0.69	0.87
	0.81	1.23	1.13	0.94	1.13	0.35

RUNOFF

TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

EVAPOTRANSPIRATION

TOTALS	0.175	0.191	0.186	0.180	0.333	0.546
	1.094	2.022	1.154	0.573	0.559	0.282
STD. DEVIATIONS	0.134	0.065	0.114	0.068	0.275	0.737
	1.248	1.270	0.587	0.625	0.606	0.142

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0124	0.0142	0.0168	0.0162	0.0161	0.0148
	0.0144	0.0136	0.0125	0.0122	0.0112	0.0110
STD. DEVIATIONS	0.0050	0.0084	0.0121	0.0123	0.0123	0.0111
	0.0106	0.0096	0.0085	0.0080	0.0071	0.0067

PERCOLATION/LEAKAGE THROUGH LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 6

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 8

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 5

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 8

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 4

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.819)	35056.7	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.295	(0.8248)	26481.94	75.540
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.16528	(0.10855)	599.966	1.71142
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.00000	(0.00000)	0.009	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 5	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 6	0.00000	(0.00000)	0.008	0.00002
PERCOLATION/LEAKAGE THROUGH LAYER 8	0.00000	(0.00000)	0.001	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 8	0.000	(0.000)		

IANGE IN WATER STORAGE	2.197	(0.3738)	7974.81	22.748

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 4

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00113	4.08933
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.000000	0.00002
AVERAGE HEAD ACROSS LAYER 5	0.000	
DRAINAGE COLLECTED FROM LAYER 6	0.00000	0.00002
PERCOLATION/LEAKAGE THROUGH LAYER 8	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 8	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.2932

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0936

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FINAL WATER STORAGE AT END OF YEAR 4

LAYER	(INCHES)	(VOL/VOL)
1	184.1688	0.2192
2	2.7133	0.1131
3	0.0020	0.0100
4	0.0000	0.0000
5	0.1800	0.7500
6	0.0020	0.0100
7	0.0000	0.0000
8	5.3400	0.4450
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\GANDY\IN\GANW1.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY\IN\GANW1.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY\IN\GANW1.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY\IN\GANW1.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\GANDY\IN\GS610.D10
OUTPUT DATA FILE:            C:\HELP3\GANDY\OUT\GS610.OUT


TIME:   7:25     DATE:   2/ 5/1996


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    TITLE:  GANDY, ALT #3, SLOPE, (YRS 6-10)

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   7
          THICKNESS                   =   1080.00   INCHES
          POROSITY                    =      0.4730 VOL/VOL
          FIELD CAPACITY              =      0.2220 VOL/VOL
          WILTING POINT               =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT  =      0.2192 VOL/VOL
          EFFECTIVE SAT. HYD. COND.   =  0.520000001000E-03 CM/SEC
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                         LAYER  2
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1131 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                         LAYER  3
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                         LAYER  4
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
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                         LAYER  5
                         --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                   =      0.24   INCHES
POROSITY                    =      0.7500 VOL/VOL
FIELD CAPACITY              =      0.7470 VOL/VOL
WILTING POINT               =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.300000003000E-08 CM/SEC


                         LAYER  6
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                   =      0.20   INCHES
POROSITY                    =      0.8500 VOL/VOL
FIELD CAPACITY              =      0.0100 VOL/VOL
WILTING POINT               =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =   10.0000000000     CM/SEC
SLOPE                       =     33.00   PERCENT
DRAINAGE LENGTH             =    316.0    FEET


                         LAYER  7
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                   =      0.06   INCHES
POROSITY                    =      0.0000 VOL/VOL
FIELD CAPACITY              =      0.0000 VOL/VOL
WILTING POINT               =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY         =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY       =  3 - GOOD
```

LAYER 8

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	3.069	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	244.974	INCHES
TOTAL INITIAL WATER	=	244.974	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %

AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 5

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.17	0.29	0.26	0.78	0.63
	1.66	1.91	1.64	0.79	0.84	0.49
STD. DEVIATIONS	0.19	0.04	0.26	0.21	0.74	0.77
	0.78	1.32	1.04	0.91	1.02	0.34

RUNOFF

TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

EVAPOTRANSPIRATION

TOTALS	0.163	0.159	0.149	0.118	0.328	0.697
	1.019	1.717	1.276	0.622	0.448	0.363
STD. DEVIATIONS	0.119	0.072	0.096	0.085	0.316	0.764
	1.175	1.383	0.807	0.619	0.573	0.223

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0216	0.0286	0.0199	0.0087	0.0241	0.0359
	0.0545	0.0535	0.0674	0.0484	0.0407	0.0448
STD. DEVIATIONS	0.0272	0.0381	0.0256	0.0130	0.0322	0.0497
	0.0722	0.0785	0.0954	0.0702	0.0380	0.0512

PERCOLATION/LEAKAGE THROUGH LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 6

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 8

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 5

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 8

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 5

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.710)	35073.1	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.058	(0.6272)	25621.33	73.051
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.44799	(0.54140)	1626.205	4.63662
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.00000	(0.00000)	0.007	0.00002
AVERAGE HEAD ACROSS TOP OF LAYER 5	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 6	0.00000	(0.00000)	0.006	0.00002
PERCOLATION/LEAKAGE THROUGH LAYER 8	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 8	0.000	(0.000)		

CHANGE IN WATER STORAGE	2.156	(0.4848)	7825.54	22.312

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 5

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00926	33.63027
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.000000	0.00002
AVERAGE HEAD ACROSS LAYER 5	0.000	
DRAINAGE COLLECTED FROM LAYER 6	0.00000	0.00002
PERCOLATION/LEAKAGE THROUGH LAYER 8	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 8	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.2317

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0935

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FINAL WATER STORAGE AT END OF YEAR 5

LAYER	(INCHES)	(VOL/VOL)
1	246.6580	0.2284
2	3.5712	0.1488
3	0.0021	0.0103
4	0.0000	0.0000
5	0.1800	0.7500
6	0.0020	0.0100
7	0.0000	0.0000
8	5.3400	0.4450
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\GANDY\IN\GANW1.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY\IN\GANW1.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY\IN\GANW1.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY\IN\GANW1.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\GANDY\IN\GS11.D10
OUTPUT DATA FILE:            C:\HELP3\GANDY\OUT\GS11.OUT


TIME:   8: 3     DATE:   2/ 5/1996


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   TITLE:  GANDY, ALT #3, SLOPE, (YR 11)

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                              LAYER  1
                              --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0863 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

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                         LAYER  2
                         --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                  =      0.20   INCHES
POROSITY                   =      0.8500 VOL/VOL
FIELD CAPACITY             =      0.0100 VOL/VOL
WILTING POINT              =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.  =   10.0000000000     CM/SEC
SLOPE                      =     25.00   PERCENT
DRAINAGE LENGTH            =    550.0    FEET


                         LAYER  3
                         --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                  =      0.06   INCHES
POROSITY                   =      0.0000 VOL/VOL
FIELD CAPACITY             =      0.0000 VOL/VOL
WILTING POINT              =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.  =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY        =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS   =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY      =  3 - GOOD


                         LAYER  4
                         --------

             TYPE 3 - BARRIER SOIL LINER
             MATERIAL TEXTURE NUMBER   0
THICKNESS                  =     36.00   INCHES
POROSITY                   =      0.4450 VOL/VOL
FIELD CAPACITY             =      0.3930 VOL/VOL
WILTING POINT              =      0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT =      0.4450 VOL/VOL
EFFECTIVE SAT. HYD. COND.  =  0.100000001000E-06 CM/SEC
```

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                    LAYER  5
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  6
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2284 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                    LAYER  7
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1488 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  8
                    --------

          TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
```

```
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0103 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                        LAYER  9
                        --------

             TYPE 4 - FLEXIBLE MEMBRANE LINER
               MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                        LAYER 10
                        --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


                        LAYER 11
                        --------

             TYPE 2 - LATERAL DRAINAGE LAYER
               MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
```

```
FIELD CAPACITY              =      0.0100 VOL/VOL
WILTING POINT               =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =   10.0000000000     CM/SEC
SLOPE                       =     33.00   PERCENT
DRAINAGE LENGTH             =    316.0    FEET
```

LAYER 12

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

```
THICKNESS                   =      0.06   INCHES
POROSITY                    =      0.0000 VOL/VOL
FIELD CAPACITY              =      0.0000 VOL/VOL
WILTING POINT               =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY         =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY       =  3 - GOOD
```

LAYER 13

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

```
THICKNESS                   =     12.00   INCHES
POROSITY                    =      0.4450 VOL/VOL
FIELD CAPACITY              =      0.3930 VOL/VOL
WILTING POINT               =      0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.4450 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.100000001000E-06 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	81.80	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	1.208	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.118	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	0.658	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	358.156	INCHES
TOTAL INITIAL WATER	=	358.156	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00

81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.263	0.194	0.185	0.017	0.002	0.000
	0.011	0.121	0.439	0.006	0.031	0.005
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.0000	0.0000	0.0000	0.0482	0.0645	0.0479
	0.3671	2.6005	2.6553	0.2655	0.9331	0.2652
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 8

TOTALS	0.0421	0.0667	0.0107	0.0108	0.1255	0.1856
	0.2048	0.2058	0.1980	0.2032	0.1951	0.2001
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 11

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 13

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
	0.0005	0.0035	0.0036	0.0004	0.0013	0.0004

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 10

AVERAGES	0.0002	0.0004	0.0001	0.0001	0.0006	0.0009
	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 13

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
NOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.273	(0.0000)	4622.42	14.637
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.24728	(0.00000)	26307.623	83.30206
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.010	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	1.64838	(0.00000)	5983.636	18.94695
PERCOLATION/LEAKAGE THROUGH LAYER 10	0.00000	(0.00000)	0.001	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 10	0.001	(0.000)		

LATERAL DRAINAGE COLLECTED FROM LAYER 11	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 13	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 13	0.000	(0.000)		
CHANGE IN WATER STORAGE	-1.469	(0.0000)	-5332.89	-16.886

****

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.51797	1880.22473
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00024
AVERAGE HEAD ACROSS LAYER 4	0.021	
DRAINAGE COLLECTED FROM LAYER 8	0.00665	24.12408
PERCOLATION/LEAKAGE THROUGH LAYER 10	0.000000	0.00001
AVERAGE HEAD ACROSS LAYER 10	0.001	
DRAINAGE COLLECTED FROM LAYER 11	0.00000	0.00001
PERCOLATION/LEAKAGE THROUGH LAYER 13	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 13	0.000	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.0863
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0404

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	2.2503	0.0938
2	0.0022	0.0110
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	326.7110	0.2269
7	4.1079	0.1712
8	0.0020	0.0100
9	0.0000	0.0000
10	0.1800	0.7500
11	0.0020	0.0100
12	0.0000	0.0000
13	5.3400	0.4450
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\HELP3\GANDY\IN\GANW2.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY\IN\GANW2.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY\IN\GANW2.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY\IN\GANW2.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\GANDY\IN\GS1231.D10
OUTPUT DATA FILE:            C:\HELP3\GANDY\OUT\GS1231.OUT


TIME:   8:11     DATE:   2/ 5/1996


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     TITLE:  GANDY, ALT #3, SLOPE, (YR 12-31)

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0938 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0110	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

```
                    LAYER  5
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  6
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2269 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                    LAYER  7
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1712 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  8
                    --------
```

```
                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                          LAYER  9
                          --------

               TYPE 4 - FLEXIBLE MEMBRANE LINER
                 MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                          LAYER 10
                          --------

                TYPE 3 - BARRIER SOIL LINER
                MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


                          LAYER 11
                          --------

               TYPE 2 - LATERAL DRAINAGE LAYER
                 MATERIAL TEXTURE NUMBER  20
```

```
THICKNESS                   =      0.20   INCHES
POROSITY                    =      0.8500 VOL/VOL
FIELD CAPACITY              =      0.0100 VOL/VOL
WILTING POINT               =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =   10.0000000000     CM/SEC
SLOPE                       =     33.00   PERCENT
DRAINAGE LENGTH             =    316.0    FEET
```

LAYER 12

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

```
THICKNESS                   =      0.06   INCHES
POROSITY                    =      0.0000 VOL/VOL
FIELD CAPACITY              =      0.0000 VOL/VOL
WILTING POINT               =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY         =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY       =  3 - GOOD
```

LAYER 13

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

```
THICKNESS                   =     12.00   INCHES
POROSITY                    =      0.4450 VOL/VOL
FIELD CAPACITY              =      0.3930 VOL/VOL
WILTING POINT               =      0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.4450 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.100000001000E-06 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A POOR STAND OF GRASS, A SURFACE SLOPE OF 25.%

AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	74.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	24.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.251	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	10.488	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.128	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	356.713	INCHES
TOTAL INITIAL WATER	=	356.713	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC

41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 20

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.23	0.30	0.25	0.30	0.59	0.73
	1.41	1.68	1.44	1.26	0.52	0.35
STD. DEVIATIONS	0.23	0.20	0.25	0.36	0.64	0.60
	0.70	0.97	0.90	1.11	0.64	0.26
UNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.095	0.068	0.050	0.052	0.137	0.202
	0.364	0.353	0.232	0.153	0.067	0.067
STD. DEVIATIONS	0.190	0.064	0.049	0.041	0.158	0.150
	0.169	0.205	0.125	0.118	0.077	0.052
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.2128	0.1741	0.2379	0.2309	0.4466	0.5109
	0.9797	1.3074	1.2152	1.1417	0.4980	0.2818

STD. DEVIATIONS	0.1680	0.1227	0.1878	0.2978	0.4705	0.4642
	0.5890	0.7558	0.7576	0.9659	0.5110	0.2688

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 8

TOTALS	0.0425	0.0366	0.0345	0.0333	0.0367	0.0363
	0.0362	0.0404	0.0368	0.0350	0.0321	0.0320
STD. DEVIATIONS	0.0749	0.0647	0.0618	0.0599	0.0658	0.0661
	0.0668	0.0754	0.0683	0.0656	0.0614	0.0623

PERCOLATION/LEAKAGE THROUGH LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 11

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 13

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0003	0.0003	0.0003	0.0003	0.0006	0.0007

	0.0013	0.0017	0.0017	0.0015	0.0007	0.0004
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0004	0.0006	0.0006
	0.0008	0.0010	0.0010	0.0013	0.0007	0.0004

DAILY AVERAGE HEAD ACROSS LAYER 10

AVERAGES	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
STD. DEVIATIONS	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003
	0.0003	0.0004	0.0003	0.0003	0.0003	0.0003

DAILY AVERAGE HEAD ACROSS LAYER 13

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 20

	INCHES		CU. FEET	PERCENT
.ECIPITATION	9.05	(1.776)	32847.9	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.840	(0.3915)	6677.76	20.329
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.23687	(1.51619)	26269.826	79.97421
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.012	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.43224	(0.78228)	1569.033	4.77667
PERCOLATION/LEAKAGE THROUGH LAYER 10	0.00000	(0.00000)	0.000	0.00000

AVERAGE HEAD ACROSS TOP OF LAYER 10	0.000 (	0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 11	0.00000 (	0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 13	0.00000 (	0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 13	0.000 (	0.000)		
CHANGE IN WATER STORAGE	-0.460 (	0.8692)	-1668.75	-5.080

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 20

	(INCHES)	(CU. FT.)
PRECIPITATION	1.41	5118.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.84635	3072.26587
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00035
AVERAGE HEAD ACROSS LAYER 4	0.035	
DRAINAGE COLLECTED FROM LAYER 8	0.00929	33.72864
PERCOLATION/LEAKAGE THROUGH LAYER 10	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 10	0.001	
DRAINAGE COLLECTED FROM LAYER 11	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 13	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 13	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.0942
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0554

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FINAL WATER STORAGE AT END OF YEAR 20

LAYER	(INCHES)	(VOL/VOL)
1	1.7006	0.0709
2	0.0033	0.0166
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0713	0.0863
6	319.6800	0.2220
7	2.5200	0.1050
8	0.0020	0.0100
9	0.0000	0.0000
10	0.1800	0.7500
11	0.0020	0.0100
12	0.0000	0.0000
13	5.3400	0.4450
SNOW WATER	0.000	

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**                                                                          **
                                                                            **
              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE                 **
**             HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                  **
**                DEVELOPED BY ENVIRONMENTAL LABORATORY                     **
**                  USAE WATERWAYS EXPERIMENT STATION                       **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
**                                                                          **
******************************************************************************
******************************************************************************


PRECIPITATION DATA FILE:     C:\HELP3\GANDY\IN\GANW2.D4
TEMPERATURE DATA FILE:       C:\HELP3\GANDY\IN\GANW2.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\GANDY\IN\GANW2.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\GANDY\IN\GANW2.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\GANDY\IN\GS3240.D10
OUTPUT DATA FILE:            C:\HELP3\GANDY\OUT\GS3240.OUT


TIME:   8:25     DATE:   2/ 5/1996


******************************************************************************

    TITLE:  GANDY, ALT #3, SLOPE, (YR 32-40)

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0709 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

```
    NOTE:  SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY  1.80
             FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.


                          LAYER  2
                          --------

              TYPE 2 - LATERAL DRAINAGE LAYER
                MATERIAL TEXTURE NUMBER  20
  THICKNESS                   =      0.20   INCHES
  POROSITY                    =      0.8500 VOL/VOL
  FIELD CAPACITY              =      0.0100 VOL/VOL
  WILTING POINT               =      0.0050 VOL/VOL
  INITIAL SOIL WATER CONTENT  =      0.0166 VOL/VOL
  EFFECTIVE SAT. HYD. COND.   =   10.0000000000     CM/SEC
  SLOPE                       =     25.00   PERCENT
  DRAINAGE LENGTH             =    550.0    FEET


                          LAYER  3
                          --------

              TYPE 4 - FLEXIBLE MEMBRANE LINER
                MATERIAL TEXTURE NUMBER  35
  THICKNESS                   =      0.06   INCHES
  POROSITY                    =      0.0000 VOL/VOL
  FIELD CAPACITY              =      0.0000 VOL/VOL
  WILTING POINT               =      0.0000 VOL/VOL
  INITIAL SOIL WATER CONTENT  =      0.0000 VOL/VOL
  EFFECTIVE SAT. HYD. COND.   =  0.199999996000E-12 CM/SEC
  FML PINHOLE DENSITY         =      0.50   HOLES/ACRE
  FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
  FML PLACEMENT QUALITY       =  3 - GOOD


                          LAYER  4
                          --------

                TYPE 3 - BARRIER SOIL LINER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                   =     36.00   INCHES
  POROSITY                    =      0.4450 VOL/VOL
  FIELD CAPACITY              =      0.3930 VOL/VOL
  WILTING POINT               =      0.2770 VOL/VOL
  INITIAL SOIL WATER CONTENT  =      0.4450 VOL/VOL
  EFFECTIVE SAT. HYD. COND.   =  0.100000001000E-06 CM/SEC
```

```
                         LAYER  5
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                   =     24.00   INCHES
POROSITY                    =      0.4370 VOL/VOL
FIELD CAPACITY              =      0.1050 VOL/VOL
WILTING POINT               =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.170000002000E-02 CM/SEC


                         LAYER  6
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                   =   1440.00   INCHES
POROSITY                    =      0.4730 VOL/VOL
FIELD CAPACITY              =      0.2220 VOL/VOL
WILTING POINT               =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.2220 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.520000001000E-03 CM/SEC


                         LAYER  7
                         --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                   =     24.00   INCHES
POROSITY                    =      0.4370 VOL/VOL
FIELD CAPACITY              =      0.1050 VOL/VOL
WILTING POINT               =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.1050 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.170000002000E-02 CM/SEC


                         LAYER  8
                         --------
```

```
                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                         LAYER  9
                         --------

                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER 10
                         --------

                  TYPE 3 - BARRIER SOIL LINER
                  MATERIAL TEXTURE NUMBER  17
THICKNESS                    =      0.24   INCHES
POROSITY                     =      0.7500 VOL/VOL
FIELD CAPACITY               =      0.7470 VOL/VOL
WILTING POINT                =      0.4000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.7500 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.300000003000E-08 CM/SEC


                         LAYER 11
                         --------

                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
```

```
THICKNESS                   =      0.20   INCHES
POROSITY                    =      0.8500 VOL/VOL
FIELD CAPACITY              =      0.0100 VOL/VOL
WILTING POINT               =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =   10.0000000000     CM/SEC
SLOPE                       =     33.00   PERCENT
DRAINAGE LENGTH             =    316.0    FEET
```

LAYER 12

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

```
THICKNESS                   =      0.06   INCHES
POROSITY                    =      0.0000 VOL/VOL
FIELD CAPACITY              =      0.0000 VOL/VOL
WILTING POINT               =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY         =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY       =  3 - GOOD
```

LAYER 13

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

```
THICKNESS                   =     12.00   INCHES
POROSITY                    =      0.4450 VOL/VOL
FIELD CAPACITY              =      0.3930 VOL/VOL
WILTING POINT               =      0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.4450 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.100000001000E-06 CM/SEC
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A POOR STAND OF GRASS, A SURFACE SLOPE OF 25.%

AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	74.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	24.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	1.702	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	10.488	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.128	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	347.520	INCHES
TOTAL INITIAL WATER	=	347.520	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC

41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 9

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.32	0.26	0.39	0.67	0.59
	1.41	1.86	1.37	1.12	0.81	0.42
STD. DEVIATIONS	0.15	0.20	0.25	0.45	0.62	0.64
	0.70	1.04	0.94	1.23	0.82	0.33
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.072	0.077	0.063	0.061	0.144	0.151
	0.366	0.393	0.241	0.135	0.102	0.081
STD. DEVIATIONS	0.088	0.054	0.059	0.047	0.115	0.145
	0.180	0.244	0.157	0.126	0.097	0.061
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.1688	0.1836	0.2412	0.2924	0.5048	0.4614
	0.9435	1.4550	1.1491	1.0118	0.7449	0.3745

STD. DEVIATIONS	0.1148	0.1093	0.1638	0.3951	0.4602	0.5086
	0.5944	0.8523	0.7558	1.0200	0.6208	0.3415

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 8

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 11

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 13

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0002	0.0003	0.0003	0.0004	0.0007	0.0006

	0.0013	0.0019	0.0016	0.0013	0.0010	0.0005
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0005	0.0006	0.0007
	0.0008	0.0011	0.0010	0.0014	0.0009	0.0005

DAILY AVERAGE HEAD ACROSS LAYER 10

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 13

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 9

	INCHES		CU. FEET	PERCENT
ECIPITATION	9.40	(1.399)	34130.1	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.887	(0.2119)	6848.07	20.065
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.53096	(1.25759)	27337.377	80.09763
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.013	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 10	0.00000	(0.00000)	0.000	0.00000

AVERAGE HEAD ACROSS TOP OF LAYER 10	0.000 (	0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 11	0.00000 (	0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 13	0.00000 (	0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 13	0.000 (	0.000)		
CHANGE IN WATER STORAGE	-0.015 (	0.0829)	-55.38	-0.162

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 9

	(INCHES)	(CU. FT.)
PRECIPITATION	1.21	4392.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.68906	2501.27344
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00030
AVERAGE HEAD ACROSS LAYER 4	0.028	
DRAINAGE COLLECTED FROM LAYER 8	0.00000	0.00173
PERCOLATION/LEAKAGE THROUGH LAYER 10	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 10	0.000	
DRAINAGE COLLECTED FROM LAYER 11	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 13	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 13	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0904

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0543

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FINAL WATER STORAGE AT END OF YEAR 9

LAYER	(INCHES)	(VOL/VOL)
1	1.5654	0.0652
2	0.0022	0.0109
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	319.6800	0.2220
7	2.5200	0.1050
8	0.0020	0.0100
9	0.0000	0.0000
10	0.1800	0.7500
11	0.0020	0.0100
12	0.0000	0.0000
13	5.3400	0.4450
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELPMOD\INPUTS\GANDY1.D4
TEMPERATURE DATA FILE:       C:\602\HELPMOD\INPUTS\GANDY1.D7
SOLAR RADIATION DATA FILE:   C:\602\HELPMOD\INPUTS\GANDY1.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELPMOD\INPUTS\GANDY1.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELPMOD\INPUTS\SOIL&D.D10
OUTPUT DATA FILE:            C:\602\HELPMOD\OUTPUTS\GANDY01.OUT


TIME:  17:37     DATE:   2/ 2/1996


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     TITLE:  GANDY LANDFILL - ALTERNATIVE 4 - FLOOR - YEAR 0-1

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                  LAYER  1
                                  --------

                     TYPE 1 - VERTICAL PERCOLATION LAYER
                         MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =     60.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2055 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
```

LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0863	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	2.30	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 5

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	2.30	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 6

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.877	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES

LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	14.405	INCHES
TOTAL INITIAL WATER	=	14.405	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.284	0.233	0.233	0.211	0.205	0.183
	0.205	2.616	2.290	0.055	0.405	0.330
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
LATERAL DRAINAGE COLLECTED FROM LAYER 3						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 6

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 6

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00

'UNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.249	(0.0000)	26312.67	83.318
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.00000	(0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 6	0.000	(0.000)		
CHANGE IN WATER STORAGE	1.451	(0.0000)	5268.33	16.682

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 4	0.000	
DRAINAGE COLLECTED FROM LAYER 5	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 6	0.000	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2510
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0948

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	12.4790	0.2080
2	3.3735	0.1406
3	0.0020	0.0100
4	0.0000	0.0000
5	0.0020	0.0100
6	0.0000	0.0000
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELPMOD\INPUTS\GANDY1.D4
TEMPERATURE DATA FILE:       C:\602\HELPMOD\INPUTS\GANDY1.D7
SOLAR RADIATION DATA FILE:   C:\602\HELPMOD\INPUTS\GANDY1.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELPMOD\INPUTS\GANDY1.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELPMOD\INPUTS\FLOOR25.D10
OUTPUT DATA FILE:            C:\602\HELPMOD\OUTPUTS\FLOOR25.OUT


TIME:  12:17     DATE:   2/ 4/1996


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   TITLE:  GANDY LANDFILL - ALTERNATIVE 4 - FLOOR - YEAR 2-5
******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =    840.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2080 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
```

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                        LAYER  2
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1406 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                        LAYER  3
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  4
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

LAYER 5

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	2.30	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 6

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.912	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES

LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	178.098	INCHES
TOTAL INITIAL WATER	=	178.098	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 4

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.19	0.16	0.28	0.33	0.58	0.56
	1.81	2.26	1.48	0.61	0.96	0.42
STD. DEVIATIONS	0.22	0.04	0.30	0.18	0.69	0.87
	0.81	1.23	1.13	0.94	1.13	0.35
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
VAPOTRANSPIRATION						
TOTALS	0.175	0.191	0.186	0.180	0.333	0.546
	1.094	2.022	1.154	0.573	0.559	0.282
STD. DEVIATIONS	0.134	0.065	0.114	0.068	0.275	0.737
	1.248	1.270	0.587	0.625	0.606	0.142
LATERAL DRAINAGE COLLECTED FROM LAYER 3						
TOTALS	0.0010	0.0015	0.0019	0.0019	0.0019	0.0016
	0.0015	0.0013	0.0012	0.0011	0.0009	0.0009
STD. DEVIATIONS	0.0007	0.0015	0.0023	0.0024	0.0024	0.0021
	0.0019	0.0016	0.0014	0.0012	0.0010	0.0009
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0114	0.0127	0.0148	0.0142	0.0142	0.0132
	0.0129	0.0123	0.0113	0.0111	0.0103	0.0102

STD. DEVIATIONS	0.0043	0.0070	0.0097	0.0099	0.0100	0.0091
	0.0087	0.0080	0.0071	0.0068	0.0061	0.0058

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0019	0.0023	0.0029	0.0028	0.0027	0.0025
	0.0024	0.0022	0.0020	0.0019	0.0017	0.0016
STD. DEVIATIONS	0.0010	0.0018	0.0026	0.0026	0.0026	0.0024
	0.0022	0.0020	0.0017	0.0016	0.0014	0.0013

PERCOLATION/LEAKAGE THROUGH LAYER 6

TOTALS	0.0095	0.0104	0.0120	0.0115	0.0115	0.0107
	0.0106	0.0101	0.0093	0.0092	0.0086	0.0085
STD. DEVIATIONS	0.0033	0.0052	0.0072	0.0073	0.0073	0.0067
	0.0065	0.0060	0.0054	0.0052	0.0047	0.0045

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 6

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 4

	INCHES	CU. FEET	PERCENT
PRECIPITATION	9.66 (0.819)	35056.7	100.00

NOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.295	(0.8248)	26481.94	75.540
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.01666	(0.01903)	60.469	0.17249
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.14862	(0.08970)	539.506	1.53895
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.02678	(0.02257)	97.220	0.27732
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.12184	(0.06719)	442.286	1.26163
AVERAGE HEAD ACROSS TOP OF LAYER 6	0.000	(0.000)		
CHANGE IN WATER STORAGE	2.197	(0.3738)	7974.81	22.748

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 4

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00018	0.66923
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000942	3.42011
AVERAGE HEAD ACROSS LAYER 4	0.000	
DRAINAGE COLLECTED FROM LAYER 5	0.00022	0.79589
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.000723	2.62422
AVERAGE HEAD ACROSS LAYER 6	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2932
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0936

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FINAL WATER STORAGE AT END OF YEAR 4

LAYER	(INCHES)	(VOL/VOL)
1	184.1688	0.2192
2	2.7133	0.1131
3	0.0020	0.0100
4	0.0000	0.0000
5	0.0020	0.0100
6	0.0000	0.0000
SNOW WATER	0.000	

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**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELPMOD\INPUTS\GANDY1.D4
TEMPERATURE DATA FILE:       C:\602\HELPMOD\INPUTS\GANDY1.D7
SOLAR RADIATION DATA FILE:   C:\602\HELPMOD\INPUTS\GANDY1.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELPMOD\INPUTS\GANDY1.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELPMOD\INPUTS\FLOOR510.D10
OUTPUT DATA FILE:            C:\602\HELPMOD\OUTPUTS\FLOOR510.OUT


TIME:  13: 0     DATE:   2/ 4/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 4 - FLOOR - YEAR 5-10

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   7
          THICKNESS                    =   1080.00   INCHES
          POROSITY                     =      0.4730 VOL/VOL
          FIELD CAPACITY               =      0.2220 VOL/VOL
          WILTING POINT                =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT   =      0.2192 VOL/VOL
          EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC
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LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1131	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	2.30	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 5

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	2.30	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 6

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	87.90	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	3.069	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES

LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	239.454	INCHES
TOTAL INITIAL WATER	=	239.454	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 5

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.17	0.29	0.26	0.78	0.63
	1.66	1.91	1.64	0.79	0.84	0.49
STD. DEVIATIONS	0.19	0.04	0.26	0.21	0.74	0.77
	0.78	1.32	1.04	0.91	1.02	0.34
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
VAPOTRANSPIRATION						
TOTALS	0.163	0.159	0.149	0.118	0.328	0.697
	1.019	1.717	1.276	0.622	0.448	0.363
STD. DEVIATIONS	0.119	0.072	0.096	0.085	0.316	0.764
	1.175	1.383	0.807	0.619	0.573	0.223
LATERAL DRAINAGE COLLECTED FROM LAYER 3						
TOTALS	0.0053	0.0080	0.0050	0.0017	0.0062	0.0108
	0.0200	0.0203	0.0271	0.0174	0.0111	0.0136
STD. DEVIATIONS	0.0076	0.0110	0.0074	0.0030	0.0103	0.0183
	0.0304	0.0334	0.0433	0.0295	0.0115	0.0169
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0163	0.0206	0.0149	0.0069	0.0179	0.0249
	0.0344	0.0332	0.0403	0.0311	0.0296	0.0312

STD. DEVIATIONS	0.0199	0.0272	0.0183	0.0098	0.0222	0.0315
	0.0419	0.0456	0.0526	0.0410	0.0268	0.0343

LATERAL DRAINAGE COLLECTED FROM LAYER 5

TOTALS	0.0036	0.0047	0.0032	0.0013	0.0041	0.0063
	0.0098	0.0097	0.0124	0.0087	0.0066	0.0077
STD. DEVIATIONS	0.0047	0.0063	0.0043	0.0022	0.0056	0.0090
	0.0134	0.0148	0.0183	0.0133	0.0064	0.0091

PERCOLATION/LEAKAGE THROUGH LAYER 6

TOTALS	0.0128	0.0159	0.0118	0.0056	0.0139	0.0186
	0.0245	0.0234	0.0279	0.0223	0.0231	0.0235
STD. DEVIATIONS	0.0153	0.0209	0.0141	0.0076	0.0167	0.0225
	0.0286	0.0309	0.0346	0.0278	0.0205	0.0252

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0001	0.0001	0.0001	0.0000	0.0001	0.0002
	0.0003	0.0003	0.0004	0.0002	0.0002	0.0002
STD. DEVIATIONS	0.0001	0.0002	0.0001	0.0000	0.0001	0.0003
	0.0004	0.0005	0.0006	0.0004	0.0002	0.0002

DAILY AVERAGE HEAD ACROSS LAYER 6

AVERAGES	0.0001	0.0001	0.0000	0.0000	0.0001	0.0001
	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001
STD. DEVIATIONS	0.0001	0.0001	0.0001	0.0000	0.0001	0.0001
	0.0002	0.0002	0.0003	0.0002	0.0001	0.0001

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 5

	INCHES	CU. FEET	PERCENT
PRECIPITATION	9.66 (0.710)	35073.1	100.00

NOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.058	(0.6272)	25621.33	73.051
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.14655	(0.20260)	531.967	1.51674
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.30137	(0.34103)	1093.963	3.11910
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.07804	(0.09796)	283.277	0.80768
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.22328	(0.24368)	810.514	2.31093
AVERAGE HEAD ACROSS TOP OF LAYER 6	0.000	(0.000)		
CHANGE IN WATER STORAGE	2.156	(0.4847)	7825.99	22.313

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 5

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00451	16.37768
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.004662	16.92473
AVERAGE HEAD ACROSS LAYER 4	0.002	
DRAINAGE COLLECTED FROM LAYER 5	0.00171	6.19629
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.002867	10.40542
AVERAGE HEAD ACROSS LAYER 6	0.001	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2317
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0935

****

****

FINAL WATER STORAGE AT END OF YEAR 5

LAYER	(INCHES)	(VOL/VOL)
1	246.6580	0.2284
2	3.5712	0.1488
3	0.0024	0.0122
4	0.0000	0.0000
5	0.0022	0.0112
6	0.0000	0.0000
SNOW WATER	0.000	

****
****

```
******************************************************************************
******************************************************************************
**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**              HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                 **
**                 DEVELOPED BY ENVIRONMENTAL LABORATORY                    **
**                   USAE WATERWAYS EXPERIMENT STATION                      **
**            FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                          **
**                                                                          **
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******************************************************************************


PRECIPITATION DATA FILE:     C:\602\HELPMOD\INPUTS\GANDY1.D4
TEMPERATURE DATA FILE:       C:\602\HELPMOD\INPUTS\GANDY1.D7
SOLAR RADIATION DATA FILE:   C:\602\HELPMOD\INPUTS\GANDY1.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELPMOD\INPUTS\GANDY1.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELPMOD\INPUTS\FLR11.D10
OUTPUT DATA FILE:            C:\602\HELPMOD\INPUTS\FLR11.OUT


TIME:  13:25     DATE:   2/ 4/1996


******************************************************************************

    TITLE:  GANDY LANDFILL - ALTERNATIVE 4 - FLOOR - YEAR 11

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
          THICKNESS                  =     24.00   INCHES
          POROSITY                   =      0.4370 VOL/VOL
          FIELD CAPACITY             =      0.1050 VOL/VOL
          WILTING POINT              =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.0863 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.170000002000E-02 CM/SEC
```

```
                        LAYER  2
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     25.00   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  3
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                        LAYER  4
                        --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                    =     36.00   INCHES
POROSITY                     =      0.4450 VOL/VOL
FIELD CAPACITY               =      0.3930 VOL/VOL
WILTING POINT                =      0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000001000E-06 CM/SEC
```

```
                        LAYER  5
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                        LAYER  6
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2284 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                        LAYER  7
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1488 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                        LAYER  8
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
```

```
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0122 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER  9
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                        LAYER 10
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0112 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                        LAYER 11
                        --------

            TYPE 4 - FLEXIBLE MEMBRANE LINER
              MATERIAL TEXTURE NUMBER  35
```

```
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

```
SCS RUNOFF CURVE NUMBER              =     81.80
FRACTION OF AREA ALLOWING RUNOFF     =    100.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =      1.000  ACRES
EVAPORATIVE ZONE DEPTH               =     14.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =      1.208  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =      6.118  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =      0.658  INCHES
INITIAL SNOW WATER                   =      0.000  INCHES
INITIAL WATER IN LAYER MATERIALS     =    352.636  INCHES
TOTAL INITIAL WATER                  =    352.636  INCHES
TOTAL SUBSURFACE INFLOW              =      0.00   INCHES/YEAR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

```
MAXIMUM LEAF AREA INDEX                  =  0.00
START OF GROWING SEASON (JULIAN DATE)    =    76
END OF GROWING SEASON (JULIAN DATE)      =   310
AVERAGE ANNUAL WIND SPEED                =  8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY    = 49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY    = 40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY    = 53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY    = 52.00 %
```

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00

RUNOFF

TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

EVAPOTRANSPIRATION

TOTALS	0.263	0.194	0.185	0.017	0.002	0.000
	0.011	0.121	0.439	0.006	0.031	0.005
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

LATERAL DRAINAGE COLLECTED FROM LAYER 2

TOTALS	0.0000	0.0000	0.0000	0.0482	0.0645	0.0479
	0.3671	2.6005	2.6553	0.2655	0.9331	0.2652
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

.ATERAL DRAINAGE COLLECTED FROM LAYER 8

TOTALS	0.0120	0.0183	0.0019	0.0031	0.0450	0.0788
	0.0893	0.0899	0.0863	0.0883	0.0846	0.0865
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0305	0.0487	0.0086	0.0077	0.0796	0.1066
	0.1155	0.1159	0.1117	0.1149	0.1106	0.1137
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0074	0.0164	0.0022	0.0020	0.0238	0.0352
	0.0391	0.0393	0.0378	0.0388	0.0372	0.0382

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 11

TOTALS	0.0233	0.0323	0.0064	0.0057	0.0554	0.0713
	0.0764	0.0766	0.0739	0.0761	0.0733	0.0755
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
	0.0005	0.0035	0.0036	0.0004	0.0013	0.0004
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0002	0.0003	0.0000	0.0001	0.0006	0.0011
	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 11

AVERAGES	0.0001	0.0003	0.0000	0.0000	0.0003	0.0005
	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00

NOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.273	(0.0000)	4622.42	14.637
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.24728	(0.00000)	26307.623	83.30206
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.010	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.68398	(0.00000)	2482.858	7.86187
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.96380	(0.00000)	3498.588	11.07814
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.31726	(0.00000)	1151.657	3.64668
PERCOLATION/LEAKAGE THROUGH LAYER 11	0.64634	(0.00000)	2346.223	7.42922
AVERAGE HEAD ACROSS TOP OF LAYER 11	0.000	(0.000)		
CHANGE IN WATER STORAGE	-1.468	(0.0000)	-5329.90	-16.877

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****

PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.51797	1880.22473
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00024
AVERAGE HEAD ACROSS LAYER 4	0.021	
DRAINAGE COLLECTED FROM LAYER 8	0.00290	10.54387
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.003741	13.58022
AVERAGE HEAD ACROSS LAYER 9	0.001	
DRAINAGE COLLECTED FROM LAYER 10	0.00127	4.60598
PERCOLATION/LEAKAGE THROUGH LAYER 11	0.002472	8.97422
AVERAGE HEAD ACROSS LAYER 11	0.001	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0863

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0404

****

****

FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	2.2503	0.0938
2	0.0022	0.0110
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	326.7110	0.2269
7	4.1079	0.1712
8	0.0030	0.0149
9	0.0000	0.0000
10	0.0024	0.0122
11	0.0000	0.0000
SNOW WATER	0.000	

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**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
******************************************************************************
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PRECIPITATION DATA FILE:     C:\602\helpmod\inputs\GANDY2.D4
TEMPERATURE DATA FILE:       C:\602\helpmod\inputs\GANDY2.D7
SOLAR RADIATION DATA FILE:   c:\602\helpmod\inputs\GANDY2.D13
EVAPOTRANSPIRATION DATA:     C:\602\helpmod\inputs\GANDY2.D11
SOIL AND DESIGN DATA FILE:   C:\602\helpmod\inputs\flr1231.D10
OUTPUT DATA FILE:            C:\602\helpmod\inputs\flr1231.OUT


TIME:  21:23     DATE:   2/ 5/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 4 - FLOOR - YEAR 12-31

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
          THICKNESS                   =     24.00   INCHES
          POROSITY                    =      0.4370 VOL/VOL
          FIELD CAPACITY              =      0.1050 VOL/VOL
          WILTING POINT               =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT  =      0.0938 VOL/VOL
          EFFECTIVE SAT. HYD. COND.   =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0110	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

```
                    LAYER  5
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  6
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2269 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                    LAYER  7
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1712 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  8
                    --------
```

```
                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0149 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                         LAYER  9
                         --------

                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER 10
                         --------

                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0122 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                         LAYER 11
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TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A POOR STAND OF GRASS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	74.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	24.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.251	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	10.488	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.128	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	351.195	INCHES
TOTAL INITIAL WATER	=	351.195	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %

AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 20

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.23	0.30	0.25	0.30	0.59	0.73
	1.41	1.68	1.44	1.26	0.52	0.35
STD. DEVIATIONS	0.23	0.20	0.25	0.36	0.64	0.60
	0.70	0.97	0.90	1.11	0.64	0.26

RUNOFF

TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

EVAPOTRANSPIRATION

TOTALS	0.095	0.068	0.050	0.052	0.137	0.202
	0.364	0.353	0.232	0.153	0.067	0.067
STD. DEVIATIONS	0.190	0.064	0.049	0.041	0.158	0.150
	0.169	0.205	0.125	0.118	0.077	0.052

LATERAL DRAINAGE COLLECTED FROM LAYER 2

TOTALS	0.2128	0.1741	0.2379	0.2309	0.4466	0.5109
	0.9797	1.3074	1.2152	1.1417	0.4980	0.2818
STD. DEVIATIONS	0.1680	0.1227	0.1878	0.2978	0.4705	0.4642
	0.5890	0.7558	0.7576	0.9659	0.5110	0.2688

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 8

TOTALS	0.0166	0.0141	0.0126	0.0122	0.0139	0.0140
	0.0139	0.0162	0.0144	0.0132	0.0120	0.0118
STD. DEVIATIONS	0.0321	0.0273	0.0249	0.0240	0.0266	0.0271
	0.0275	0.0322	0.0283	0.0266	0.0250	0.0254

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0258	0.0225	0.0220	0.0211	0.0228	0.0223
	0.0223	0.0241	0.0224	0.0217	0.0201	0.0201
STD. DEVIATIONS	0.0430	0.0377	0.0372	0.0361	0.0393	0.0391
	0.0394	0.0431	0.0400	0.0390	0.0366	0.0371

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0080	0.0069	0.0063	0.0061	0.0067	0.0067

	0.0067	0.0075	0.0068	0.0064	0.0058	0.0058
STD. DEVIATIONS	0.0143	0.0124	0.0117	0.0113	0.0125	0.0125
	0.0127	0.0143	0.0130	0.0124	0.0116	0.0118

PERCOLATION/LEAKAGE THROUGH LAYER 11

TOTALS	0.0178	0.0156	0.0157	0.0150	0.0161	0.0156
	0.0157	0.0166	0.0156	0.0153	0.0143	0.0143
STD. DEVIATIONS	0.0288	0.0254	0.0256	0.0248	0.0269	0.0266
	0.0268	0.0288	0.0271	0.0267	0.0251	0.0254

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0003	0.0003	0.0003	0.0003	0.0006	0.0007
	0.0013	0.0017	0.0017	0.0015	0.0007	0.0004
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0004	0.0006	0.0006
	0.0008	0.0010	0.0010	0.0013	0.0007	0.0004

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
STD. DEVIATIONS	0.0004	0.0004	0.0003	0.0003	0.0004	0.0004
	0.0004	0.0004	0.0004	0.0004	0.0003	0.0003

DAILY AVERAGE HEAD ACROSS LAYER 11

AVERAGES	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 20

	INCHES	CU. FEET	PERCENT

ECIPITATION	9.05	(1.776)	32847.9	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.840	(0.3915)	6677.76	20.329
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.23687	(1.51619)	26269.826	79.97421
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.012	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.16506	(0.31953)	599.169	1.82407
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.26723	(0.46361)	970.043	2.95314
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000	(0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.07968	(0.14794)	289.247	0.88056
PERCOLATION/LEAKAGE THROUGH LAYER 11	0.18757	(0.31591)	680.876	2.07282
ERAGE HEAD ACROSS TOP OF LAYER 11	0.000	(0.000)		
CHANGE IN WATER STORAGE	-0.460	(0.8693)	-1669.00	-5.081

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 20

	(INCHES)	(CU. FT.)
PRECIPITATION	1.41	5118.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.84635	3072.26587
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00035
AVERAGE HEAD ACROSS LAYER 4	0.035	
DRAINAGE COLLECTED FROM LAYER 8	0.00459	16.65179
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.004702	17.06832
AVERAGE HEAD ACROSS LAYER 9	0.002	
DRAINAGE COLLECTED FROM LAYER 10	0.00178	6.44865
PERCOLATION/LEAKAGE THROUGH LAYER 11	0.002925	10.61929
AVERAGE HEAD ACROSS LAYER 11	0.001	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.0942
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0554

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FINAL WATER STORAGE AT END OF YEAR 20

LAYER	(INCHES)	(VOL/VOL)
1	1.7006	0.0709
2	0.0033	0.0166
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0713	0.0863
6	319.6800	0.2220
7	2.5200	0.1050
8	0.0020	0.0100
9	0.0000	0.0000
10	0.0020	0.0100
11	0.0000	0.0000
SNOW WATER	0.000	

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**                                                                          **
**                                                                          **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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******************************************************************************


PRECIPITATION DATA FILE:      C:\602\helpmod\inputs\GANDY2.D4
TEMPERATURE DATA FILE:        C:\602\helpmod\inputs\GANDY2.D7
SOLAR RADIATION DATA FILE:    C:\602\helpmod\inputs\GANDY2.D13
EVAPOTRANSPIRATION DATA:      C:\602\helpmod\inputs\GANDY2.D11
SOIL AND DESIGN DATA FILE:    C:\602\helpmod\inputs\flr3240.D10
OUTPUT DATA FILE:             C:\602\helpmod\inputs\flr3240.OUT


TIME:  21:37     DATE:   2/ 5/1996


******************************************************************************

   TITLE:  GANDY LANDFILL - ALTERNATIVE 4 - FLOOR - YEAR 32-40

******************************************************************************


     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
          THICKNESS                   =     24.00   INCHES
          POROSITY                    =      0.4370 VOL/VOL
          FIELD CAPACITY              =      0.1050 VOL/VOL
          WILTING POINT               =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT  =      0.0709 VOL/VOL
          EFFECTIVE SAT. HYD. COND.   =  0.170000002000E-02 CM/SEC
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NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0166	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

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                        LAYER  5
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC

                        LAYER  6
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2220 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC

                        LAYER  7
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1050 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC

                        LAYER  8
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                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                         LAYER  9
                         --------

                TYPE 4 - FLEXIBLE MEMBRANE LINER
                  MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER 10
                         --------

                TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =      2.30   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                         LAYER 11
                         --------
```

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A POOR STAND OF GRASS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	74.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	24.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	1.702	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	10.488	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.128	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	342.000	INCHES
TOTAL INITIAL WATER	=	342.000	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %

AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 9

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.32	0.26	0.39	0.67	0.59
	1.41	1.86	1.37	1.12	0.81	0.42
STD. DEVIATIONS	0.15	0.20	0.25	0.45	0.62	0.64
	0.70	1.04	0.94	1.23	0.82	0.33

RUNOFF

TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

EVAPOTRANSPIRATION

TOTALS	0.072	0.077	0.063	0.061	0.144	0.151
	0.366	0.393	0.241	0.135	0.102	0.081
STD. DEVIATIONS	0.088	0.054	0.059	0.047	0.115	0.145
	0.180	0.244	0.157	0.126	0.097	0.061

LATERAL DRAINAGE COLLECTED FROM LAYER 2

TOTALS	0.1688	0.1836	0.2412	0.2924	0.5048	0.4614
	0.9435	1.4550	1.1491	1.0118	0.7449	0.3745
STD. DEVIATIONS	0.1148	0.1093	0.1638	0.3951	0.4602	0.5086
	0.5944	0.8523	0.7558	1.0200	0.6208	0.3415

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 8

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 11

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0002	0.0003	0.0003	0.0004	0.0007	0.0006
	0.0013	0.0019	0.0016	0.0013	0.0010	0.0005
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0005	0.0006	0.0007
	0.0008	0.0011	0.0010	0.0014	0.0009	0.0005

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 11

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 9

	INCHES	CU. FEET	PERCENT

ECIPITATION	9.40 (1.399)	34130.1	100.00
RUNOFF	0.000 (0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.887 (0.2119)	6848.07	20.065
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.53096 (1.25759)	27337.377	80.09763
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000 (0.00000)	0.013	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001 (0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.00000 (0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.00000 (0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000 (0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.00000 (0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 11	0.00000 (0.00000)	0.000	0.00000
ERAGE HEAD ACROSS TOP OF LAYER 11	0.000 (0.000)		
CHANGE IN WATER STORAGE	-0.015 (0.0829)	-55.38	-0.162

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 9

	(INCHES)	(CU. FT.)
PRECIPITATION	1.21	4392.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.68906	2501.27344
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00030
AVERAGE HEAD ACROSS LAYER 4	0.028	
DRAINAGE COLLECTED FROM LAYER 8	0.00000	0.00003
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000000	0.00170
AVERAGE HEAD ACROSS LAYER 9	0.000	
DRAINAGE COLLECTED FROM LAYER 10	0.00000	0.00001
PERCOLATION/LEAKAGE THROUGH LAYER 11	0.000000	0.00169
AVERAGE HEAD ACROSS LAYER 11	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.0904
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0543

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****

FINAL WATER STORAGE AT END OF YEAR 9

LAYER	(INCHES)	(VOL/VOL)
1	1.5654	0.0652
2	0.0022	0.0109
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	319.6800	0.2220
7	2.5200	0.1050
8	0.0020	0.0100
9	0.0000	0.0000
10	0.0020	0.0100
11	0.0000	0.0000
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELPMOD\INPUTS\GANDY1.D4
TEMPERATURE DATA FILE:       C:\602\HELPMOD\INPUTS\GANDY1.D7
SOLAR RADIATION DATA FILE:   C:\602\HELPMOD\INPUTS\GANDY1.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELPMOD\INPUTS\GANDY1.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELPMOD\INPUTS\SLOPE01.D10
OUTPUT DATA FILE:            C:\602\HELPMOD\OUTPUTS\SLOPE01.OUT


TIME:   8:26     DATE:   2/ 5/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 4 - SLOPE - YEAR 0-1

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                     TYPE 1 - VERTICAL PERCOLATION LAYER
                         MATERIAL TEXTURE NUMBER   7
          THICKNESS                   =     60.00   INCHES
          POROSITY                    =      0.4730 VOL/VOL
          FIELD CAPACITY              =      0.2220 VOL/VOL
          WILTING POINT               =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT  =      0.2055 VOL/VOL
          EFFECTIVE SAT. HYD. COND.   =  0.520000001000E-03 CM/SEC
```

LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0863	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 33.% AND A SLOPE LENGTH OF 316. FEET.

SCS RUNOFF CURVE NUMBER	=	89.00	
FRACTION OF AREA ALLOWING RUNOFF	=	0.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.877	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	14.403	INCHES
TOTAL INITIAL WATER	=	14.403	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.284	0.233	0.233	0.211	0.205	0.183
	0.205	2.616	2.290	0.055	0.405	0.330

STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	7.249	(0.0000)	26312.67	83.318
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00000	(0.00000)	0.000	0.00000

PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
CHANGE IN WATER STORAGE	1.451	(0.0000)	5268.33	16.682

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.00000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00000
AVERAGE HEAD ACROSS LAYER 4	0.000	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2510
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0948

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	12.4790	0.2080
2	3.3735	0.1406
3	0.0020	0.0100
4	0.0000	0.0000
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELPMOD\INPUTS\GANDY1.D4
TEMPERATURE DATA FILE:       C:\602\HELPMOD\INPUTS\GANDY1.D7
SOLAR RADIATION DATA FILE:   C:\602\HELPMOD\INPUTS\GANDY1.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELPMOD\INPUTS\GANDY1.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELPMOD\INPUTS\SLOPE15.D10
OUTPUT DATA FILE:            C:\602\HELPMOD\OUTPUTS\SLOPE15.OUT


TIME:  10:29     DATE:   2/ 4/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 4 - SLOPE - YEAR 1-5

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =     60.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2080 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
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                    LAYER  2
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
             MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1406 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  3
                    --------

           TYPE 2 - LATERAL DRAINAGE LAYER
             MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET


                    LAYER  4
                    --------

           TYPE 4 - FLEXIBLE MEMBRANE LINER
             MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
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GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 33.% AND A SLOPE LENGTH OF 316. FEET.

SCS RUNOFF CURVE NUMBER	=	89.00	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.912	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	15.856	INCHES
TOTAL INITIAL WATER	=	15.856	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 5

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.17	0.29	0.26	0.78	0.63
	1.66	1.91	1.64	0.79	0.84	0.49
STD. DEVIATIONS	0.19	0.04	0.26	0.21	0.74	0.77
	0.78	1.32	1.04	0.91	1.02	0.34
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.004	0.007
	0.009	0.026	0.007	0.020	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.010	0.015
	0.015	0.027	0.015	0.045	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.197	0.169	0.167	0.151	0.318	0.565
	0.950	1.746	1.251	0.447	0.499	0.287

STD. DEVIATIONS	0.127	0.072	0.090	0.071	0.310	0.590
	1.091	1.333	0.754	0.501	0.518	0.318

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.2965	0.2487	0.2361	0.2116	0.1576	0.1152
	0.0930	0.0892	0.1434	0.1072	0.1965	0.3728
STD. DEVIATIONS	0.2064	0.1585	0.1269	0.1077	0.0775	0.0775
	0.0870	0.0853	0.1419	0.1249	0.0699	0.1248

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0386	0.0357	0.0371	0.0348	0.0305	0.0255
	0.0219	0.0198	0.0263	0.0199	0.0273	0.0481
STD. DEVIATIONS	0.0213	0.0160	0.0144	0.0129	0.0105	0.0098
	0.0113	0.0116	0.0156	0.0152	0.0047	0.0085

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002
STD. DEVIATIONS	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	0.0001	0.0001	0.0001	0.0001	0.0000	0.0001

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 5

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.710)	35073.1	100.00
RUNOFF	0.074	(0.0688)	267.09	0.762
EVAPOTRANSPIRATION	6.747	(0.4747)	24493.11	69.835
LATERAL DRAINAGE COLLECTED FROM LAYER 3	2.26773	(0.97787)	8231.855	23.47059

PERCOLATION/LEAKAGE THROUGH LAYER 4	0.36542 (0.11656)	1326.478	3.78204
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000 (0.000)		
CHANGE IN WATER STORAGE	0.208 (0.7643)	754.52	2.151

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 5

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.088	318.5861
DRAINAGE COLLECTED FROM LAYER 3	0.02311	83.90590
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.002223	8.06898
AVERAGE HEAD ACROSS LAYER 4	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2556
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0959

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FINAL WATER STORAGE AT END OF YEAR 5

LAYER	(INCHES)	(VOL/VOL)
1	12.4497	0.2075
2	4.4437	0.1852
3	0.0022	0.0112
4	0.0000	0.0000
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
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PRECIPITATION DATA FILE:      C:\602\HELPMOD\INPUTS\GANDY1.D4
TEMPERATURE DATA FILE:        C:\602\HELPMOD\INPUTS\GANDY1.D7
SOLAR RADIATION DATA FILE:    C:\602\HELPMOD\INPUTS\GANDY1.D13
EVAPOTRANSPIRATION DATA:      C:\602\HELPMOD\INPUTS\GANDY1.D11
SOIL AND DESIGN DATA FILE:    C:\602\HELPMOD\INPUTS\SLOPE510.D10
OUTPUT DATA FILE:             C:\602\HELPMOD\INPUTS\SLOPE510.OUT


TIME:  13: 6     DATE:   2/ 4/1996


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     TITLE:  GANDY LANDFILL - ALTERNATIVE 4 - SLOPE - YEAR 5-10

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   7
          THICKNESS                  =   1080.00   INCHES
          POROSITY                   =      0.4730 VOL/VOL
          FIELD CAPACITY             =      0.2220 VOL/VOL
          WILTING POINT              =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.2231 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.520000001000E-03 CM/SEC
```

LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1174	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 7 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 33.% AND A SLOPE LENGTH OF 316. FEET.

SCS RUNOFF CURVE NUMBER	=	89.00	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	14.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	3.123	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.622	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.456	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	243.768	INCHES
TOTAL INITIAL WATER	=	243.768	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 5

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.17	0.29	0.26	0.78	0.63
	1.66	1.91	1.64	0.79	0.84	0.49
STD. DEVIATIONS	0.19	0.04	0.26	0.21	0.74	0.77
	0.78	1.32	1.04	0.91	1.02	0.34
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.004	0.007
	0.013	0.020	0.006	0.021	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.010	0.015
	0.017	0.025	0.013	0.047	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.209	0.161	0.182	0.169	0.406	0.688
	0.773	1.711	1.012	0.642	0.582	0.372

STD. DEVIATIONS	0.133	0.068	0.104	0.052	0.329	0.839
	0.886	1.377	0.923	0.662	0.515	0.270

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.0209	0.0334	0.0245	0.0462	0.0598	0.0902
	0.0796	0.0860	0.0946	0.0663	0.0682	0.0555
STD. DEVIATIONS	0.0152	0.0197	0.0139	0.0530	0.0759	0.1082
	0.0906	0.0714	0.0688	0.0537	0.0289	0.0317

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0091	0.0128	0.0111	0.0135	0.0143	0.0171
	0.0175	0.0203	0.0216	0.0187	0.0201	0.0177
STD. DEVIATIONS	0.0049	0.0057	0.0045	0.0112	0.0125	0.0178
	0.0145	0.0129	0.0125	0.0085	0.0041	0.0059

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
	0.0000	0.0001	0.0001	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 5

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.66	(0.710)	35073.1	100.00
RUNOFF	0.072	(0.0565)	261.54	0.746
EVAPOTRANSPIRATION	6.906	(0.9062)	25067.75	71.473
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.72521	(0.53676)	2632.505	7.50578

PERCOLATION/LEAKAGE THROUGH LAYER 4	0.19395	(0.09378)	704.021	2.00730
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.000	(0.000)		
CHANGE IN WATER STORAGE	1.765	(1.4080)	6407.25	18.268

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 5

	(INCHES)	(CU. FT.)
PRECIPITATION	1.17	4247.100
RUNOFF	0.088	318.5988
DRAINAGE COLLECTED FROM LAYER 3	0.01224	44.43594
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.001613	5.85425
AVERAGE HEAD ACROSS LAYER 4	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2321
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0925

****

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FINAL WATER STORAGE AT END OF YEAR 5

LAYER	(INCHES)	(VOL/VOL)
1	248.8101	0.2304
2	3.7809	0.1575
3	0.0020	0.0101
4	0.0000	0.0000
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\HELPMOD\INPUTS\GANDY1.D4
TEMPERATURE DATA FILE:       C:\602\HELPMOD\INPUTS\GANDY1.D7
SOLAR RADIATION DATA FILE:   C:\602\HELPMOD\INPUTS\GANDY1.D13
EVAPOTRANSPIRATION DATA:     C:\602\HELPMOD\INPUTS\GANDY1.D11
SOIL AND DESIGN DATA FILE:   C:\602\HELPMOD\INPUTS\SLP11.D10
OUTPUT DATA FILE:            C:\602\HELPMOD\OUTPUTS\SLP11.OUT


TIME:   9: 1     DATE:   2/ 5/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 4 - SLOPE - YEAR 11

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
        THICKNESS                    =     24.00   INCHES
        POROSITY                     =      0.4370 VOL/VOL
        FIELD CAPACITY               =      0.1050 VOL/VOL
        WILTING POINT                =      0.0470 VOL/VOL
        INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
        EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC
```

```
                    LAYER  2
                    --------

          TYPE 2 - LATERAL DRAINAGE LAYER
            MATERIAL TEXTURE NUMBER  20
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0100 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     25.00   PERCENT
DRAINAGE LENGTH              =    550.0    FEET


                    LAYER  3
                    --------

          TYPE 4 - FLEXIBLE MEMBRANE LINER
            MATERIAL TEXTURE NUMBER  35
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                    LAYER  4
                    --------

           TYPE 3 - BARRIER SOIL LINER
           MATERIAL TEXTURE NUMBER   0
THICKNESS                    =     36.00   INCHES
POROSITY                     =      0.4450 VOL/VOL
FIELD CAPACITY               =      0.3930 VOL/VOL
WILTING POINT                =      0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4450 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000001000E-06 CM/SEC
```

LAYER 5

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0863	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 6

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 7

THICKNESS	=	1440.00	INCHES
POROSITY	=	0.4730	VOL/VOL
FIELD CAPACITY	=	0.2220	VOL/VOL
WILTING POINT	=	0.1040	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2284	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.520000001000E-03	CM/SEC

LAYER 7

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1488	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 8

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

```
THICKNESS                    =      0.20   INCHES
POROSITY                     =      0.8500 VOL/VOL
FIELD CAPACITY               =      0.0100 VOL/VOL
WILTING POINT                =      0.0050 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1020 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =   10.0000000000     CM/SEC
SLOPE                        =     33.00   PERCENT
DRAINAGE LENGTH              =    316.0    FEET
```

LAYER 9

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

```
THICKNESS                    =      0.06   INCHES
POROSITY                     =      0.0000 VOL/VOL
FIELD CAPACITY               =      0.0000 VOL/VOL
WILTING POINT                =      0.0000 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0000 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.199999996000E-12 CM/SEC
FML PINHOLE DENSITY          =      0.50   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD
```

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH BARE GROUND CONDITIONS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

```
SCS RUNOFF CURVE NUMBER              =     81.80
FRACTION OF AREA ALLOWING RUNOFF     =    100.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =      1.000  ACRES
EVAPORATIVE ZONE DEPTH               =     14.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =      1.208  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =      6.118  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =      0.658  INCHES
INITIAL SNOW WATER                   =      0.000  INCHES
INITIAL WATER IN LAYER MATERIALS     =    352.652  INCHES
TOTAL INITIAL WATER                  =    352.652  INCHES
TOTAL SUBSURFACE INFLOW              =      0.00   INCHES/YEAR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	0.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.00	0.19	0.02	0.56	0.02	0.00
	1.03	2.57	2.89	0.42	0.89	0.11
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.263	0.194	0.185	0.017	0.002	0.000
	0.011	0.121	0.439	0.006	0.031	0.005
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.0000	0.0000	0.0000	0.0482	0.0645	0.0479
	0.3671	2.6005	2.6553	0.2655	0.9331	0.2652
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						
TOTALS	0.0571	0.0620	0.0096	0.0097	0.1187	0.1773
	0.1960	0.1969	0.1895	0.1943	0.1866	0.1914

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0033	0.0047	0.0011	0.0011	0.0068	0.0083
	0.0088	0.0089	0.0086	0.0088	0.0085	0.0087
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
	0.0005	0.0035	0.0036	0.0004	0.0013	0.0004
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0004	0.0004	0.0001	0.0001	0.0006	0.0009
	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	INCHES		CU. FEET	PERCENT
PRECIPITATION	8.70	(0.000)	31581.0	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.273	(0.0000)	4622.42	14.637
LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.24728	(0.00000)	26307.623	83.30206

PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000 (	0.00000)	0.010	0.00003
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001 (	0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	1.58916 (	0.00000)	5768.663	18.26624
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.07756 (	0.00000)	281.550	0.89152
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.001 (	0.000)		
CHANGE IN WATER STORAGE	-1.487 (	0.0000)	-5399.36	-17.097

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	0.87	3158.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.51797	1880.22473
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00024
AVERAGE HEAD ACROSS LAYER 4	0.021	
DRAINAGE COLLECTED FROM LAYER 8	0.02024	73.48558
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000348	1.26447
AVERAGE HEAD ACROSS LAYER 9	0.006	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0863

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0404

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	2.2503	0.0938
2	0.0022	0.0110
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0712	0.0863
6	326.7110	0.2269
7	4.1079	0.1712
8	0.0020	0.0100
9	0.0000	0.0000
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:     C:\602\helpmod\inputs\GANDY2.D4
TEMPERATURE DATA FILE:       C:\602\helpmod\inputs\GANDY2.D7
SOLAR RADIATION DATA FILE:   C:\602\helpmod\inputs\GANDY2.D13
EVAPOTRANSPIRATION DATA:     C:\602\helpmod\inputs\GANDY2.D11
SOIL AND DESIGN DATA FILE:   C:\602\helpmod\inputs\slp1231.D10
OUTPUT DATA FILE:            C:\602\helpmod\outputs\slp1231.OUT


TIME:  22:18     DATE:   2/ 5/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 4 - SLOPE - YEAR 12-31

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
             WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                 TYPE 1 - VERTICAL PERCOLATION LAYER
                     MATERIAL TEXTURE NUMBER   4
        THICKNESS                    =     24.00   INCHES
        POROSITY                     =      0.4370 VOL/VOL
        FIELD CAPACITY               =      0.1050 VOL/VOL
        WILTING POINT                =      0.0470 VOL/VOL
        INITIAL SOIL WATER CONTENT   =      0.0938 VOL/VOL
        EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0110	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

LAYER 5

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0863	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 6

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 7

THICKNESS	=	1440.00	INCHES
POROSITY	=	0.4730	VOL/VOL
FIELD CAPACITY	=	0.2220	VOL/VOL
WILTING POINT	=	0.1040	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2269	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.520000001000E-03	CM/SEC

LAYER 7

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 4

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4370	VOL/VOL
FIELD CAPACITY	=	0.1050	VOL/VOL
WILTING POINT	=	0.0470	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1712	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.170000002000E-02	CM/SEC

LAYER 8

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 9

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A POOR STAND OF GRASS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	74.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	24.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.251	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	10.488	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.128	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	351.191	INCHES
TOTAL INITIAL WATER	=	351.191	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 20

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.23	0.30	0.25	0.30	0.59	0.73
	1.41	1.68	1.44	1.26	0.52	0.35
STD. DEVIATIONS	0.23	0.20	0.25	0.36	0.64	0.60
	0.70	0.97	0.90	1.11	0.64	0.26
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.095	0.068	0.050	0.052	0.137	0.202
	0.364	0.353	0.232	0.153	0.067	0.067
STD. DEVIATIONS	0.190	0.064	0.049	0.041	0.158	0.150
	0.169	0.205	0.125	0.118	0.077	0.052
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.2128	0.1741	0.2379	0.2309	0.4466	0.5109
	0.9797	1.3074	1.2152	1.1417	0.4980	0.2818
STD. DEVIATIONS	0.1680	0.1227	0.1878	0.2978	0.4705	0.4642
	0.5890	0.7558	0.7576	0.9659	0.5110	0.2688
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						

TOTALS	0.0401	0.0345	0.0324	0.0312	0.0345	0.0342
	0.0341	0.0381	0.0347	0.0329	0.0301	0.0300
STD. DEVIATIONS	0.0717	0.0618	0.0590	0.0572	0.0629	0.0632
	0.0638	0.0722	0.0653	0.0626	0.0586	0.0595

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0024	0.0021	0.0022	0.0021	0.0022	0.0021
	0.0021	0.0022	0.0021	0.0021	0.0019	0.0020
STD. DEVIATIONS	0.0033	0.0029	0.0029	0.0028	0.0030	0.0030
	0.0030	0.0033	0.0031	0.0030	0.0028	0.0029

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0003	0.0003	0.0003	0.0003	0.0006	0.0007
	0.0013	0.0017	0.0017	0.0015	0.0007	0.0004
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0004	0.0006	0.0006
	0.0008	0.0010	0.0010	0.0013	0.0007	0.0004

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
STD. DEVIATIONS	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003
	0.0003	0.0004	0.0003	0.0003	0.0003	0.0003

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 20

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.05	(1.776)	32847.9	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.840	(0.3915)	6677.76	20.329

LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.23687 (	1.51619)	26269.826	79.97421
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000 (	0.00000)	0.012	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001 (	0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.40678 (	0.74711)	1476.624	4.49534
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.02546 (	0.03576)	92.410	0.28133
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000 (	0.000)		
CHANGE IN WATER STORAGE	-0.460 (	0.8692)	-1668.75	-5.080

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 20

	(INCHES)	(CU. FT.)
PRECIPITATION	1.41	5118.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.84635	3072.26587
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00035
AVERAGE HEAD ACROSS LAYER 4	0.035	
DRAINAGE COLLECTED FROM LAYER 8	0.00895	32.49166
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000341	1.23697
AVERAGE HEAD ACROSS LAYER 9	0.001	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0942

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0554

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FINAL WATER STORAGE AT END OF YEAR 20

LAYER	(INCHES)	(VOL/VOL)
1	1.7006	0.0709
2	0.0033	0.0166
3	0.0000	0.0000
4	16.0200	0.4450
5	2.0713	0.0863
6	319.6800	0.2220
7	2.5200	0.1050
8	0.0020	0.0100
9	0.0000	0.0000
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE               **
**               HELP MODEL VERSION 3.03  (31 DECEMBER 1994)                **
**                  DEVELOPED BY ENVIRONMENTAL LABORATORY                   **
**                    USAE WATERWAYS EXPERIMENT STATION                     **
**             FOR USEPA RISK REDUCTION ENGINEERING LABORATORY              **
**                                                                          **
**                                                                          **
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PRECIPITATION DATA FILE:      C:\602\helpmod\inputs\GANDY2.D4
TEMPERATURE DATA FILE:        C:\602\helpmod\inputs\GANDY2.D7
SOLAR RADIATION DATA FILE:    C:\602\helpmod\inputs\GANDY2.D13
EVAPOTRANSPIRATION DATA:      C:\602\helpmod\inputs\GANDY2.D11
SOIL AND DESIGN DATA FILE:    C:\602\helpmod\inputs\slp3240.D10
OUTPUT DATA FILE:             C:\602\helpmod\outputs\slp3240.OUT


TIME:  22:27     DATE:   2/ 5/1996


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    TITLE:  GANDY LANDFILL - ALTERNATIVE 4 - SLOPE - YEAR 32-40

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     NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER
              WERE SPECIFIED BY THE USER.


                                LAYER  1
                                --------

                   TYPE 1 - VERTICAL PERCOLATION LAYER
                       MATERIAL TEXTURE NUMBER   4
          THICKNESS                    =     24.00   INCHES
          POROSITY                     =      0.4370 VOL/VOL
          FIELD CAPACITY               =      0.1050 VOL/VOL
          WILTING POINT                =      0.0470 VOL/VOL
          INITIAL SOIL WATER CONTENT   =      0.0709 VOL/VOL
          EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC
```

NOTE: SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY 1.80
FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

LAYER 2

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0166	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	25.00	PERCENT
DRAINAGE LENGTH	=	550.0	FEET

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 4

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 0

THICKNESS	=	36.00	INCHES
POROSITY	=	0.4450	VOL/VOL
FIELD CAPACITY	=	0.3930	VOL/VOL
WILTING POINT	=	0.2770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

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                    LAYER  5
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          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.0863 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  6
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   7
THICKNESS                    =   1440.00   INCHES
POROSITY                     =      0.4730 VOL/VOL
FIELD CAPACITY               =      0.2220 VOL/VOL
WILTING POINT                =      0.1040 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.2220 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC


                    LAYER  7
                    --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   4
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4370 VOL/VOL
FIELD CAPACITY               =      0.1050 VOL/VOL
WILTING POINT                =      0.0470 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1050 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.170000002000E-02 CM/SEC


                    LAYER  8
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TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	33.00	PERCENT
DRAINAGE LENGTH	=	316.0	FEET

LAYER 9

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.50	HOLES/ACRE
FML INSTALLATION DEFECTS	=	3.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 4 WITH A POOR STAND OF GRASS, A SURFACE SLOPE OF 25.% AND A SLOPE LENGTH OF 550. FEET.

SCS RUNOFF CURVE NUMBER	=	74.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	24.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	1.702	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	10.488	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.128	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	341.998	INCHES
TOTAL INITIAL WATER	=	341.998	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

MAXIMUM LEAF AREA INDEX	=	1.00
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
AVERAGE ANNUAL WIND SPEED	=	8.70 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	49.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	40.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	53.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	52.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.24	0.28	0.27	0.37	0.77	0.91
1.38	2.17	1.72	0.99	0.33	0.27

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
41.40	45.90	52.80	61.90	70.30	79.00
81.40	79.20	72.30	61.70	49.10	42.50

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR ROSWELL NEW MEXICO

STATION LATITUDE = 33.24 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 9

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.18	0.32	0.26	0.39	0.67	0.59
	1.41	1.86	1.37	1.12	0.81	0.42
STD. DEVIATIONS	0.15	0.20	0.25	0.45	0.62	0.64
	0.70	1.04	0.94	1.23	0.82	0.33
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.072	0.077	0.063	0.061	0.144	0.151
	0.366	0.393	0.241	0.135	0.102	0.081
STD. DEVIATIONS	0.088	0.054	0.059	0.047	0.115	0.145
	0.180	0.244	0.157	0.126	0.097	0.061
LATERAL DRAINAGE COLLECTED FROM LAYER 2						
TOTALS	0.1688	0.1836	0.2412	0.2924	0.5048	0.4614
	0.9435	1.4550	1.1491	1.0118	0.7449	0.3745
STD. DEVIATIONS	0.1148	0.1093	0.1638	0.3951	0.4602	0.5086
	0.5944	0.8523	0.7558	1.0200	0.6208	0.3415
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED FROM LAYER 8						

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ACROSS LAYER 4

AVERAGES	0.0002	0.0003	0.0003	0.0004	0.0007	0.0006
	0.0013	0.0019	0.0016	0.0013	0.0010	0.0005
STD. DEVIATIONS	0.0002	0.0002	0.0002	0.0005	0.0006	0.0007
	0.0008	0.0011	0.0010	0.0014	0.0009	0.0005

DAILY AVERAGE HEAD ACROSS LAYER 9

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 9

	INCHES		CU. FEET	PERCENT
PRECIPITATION	9.40	(1.399)	34130.1	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	1.887	(0.2119)	6848.07	20.065

LATERAL DRAINAGE COLLECTED FROM LAYER 2	7.53096 (	1.25759)	27337.377	80.09763
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000 (	0.00000)	0.013	0.00004
AVERAGE HEAD ACROSS TOP OF LAYER 4	0.001 (	0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.00000 (	0.00000)	0.000	0.00000
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.00000 (	0.00000)	0.000	0.00000
AVERAGE HEAD ACROSS TOP OF LAYER 9	0.000 (	0.000)		
CHANGE IN WATER STORAGE	-0.015 (	0.0829)	-55.38	-0.162

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 9

	(INCHES)	(CU. FT.)
PRECIPITATION	1.21	4392.300
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 2	0.68906	2501.27344
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00030
AVERAGE HEAD ACROSS LAYER 4	0.028	
DRAINAGE COLLECTED FROM LAYER 8	0.00000	0.00047
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000000	0.00126
AVERAGE HEAD ACROSS LAYER 9	0.000	
SNOW WATER	0.61	2221.2896

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0904

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0543

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