INDEPENDENT PETROLEUM
ASSOCIATION OF NEW MEXICO

OCD CASE NOS. 14784 AND 14785

IPANM Petition to amend Title 19, Chapter 15, part 17 (The PIT Rule)

May 14 – 18, 2012

IPANM exhibit 7
HELP Models Runs
- Twenty-Five (25) pages -

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE       **
**                HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)        **
**                   DEVELOPED BY ENVIRONMENTAL LABORATORY          **
**                     USAE WATERWAYS EXPERIMENT STATION            **
**              FOR USEPA RISK REDUCTION ENGINEERING LABORATORY      **
**                                                                  **
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PRECIPITATION DATA FILE:     C:\HELP3\EXAMPLES\ARTES.D4
TEMPERATURE DATA FILE:       C:\HELP3\EXAMPLES\ARTES.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\EXAMPLES\ARTES.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\EXAMPLES\ARTES.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\EXAMPLES\LINER.D10
OUTPUT DATA FILE:            C:\HELP3\EXAMPLES\ARTESIA.OUT

TIME:  13:30     DATE:   3/ 5/2012

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     TITLE:  4'COVER, LINER, 48" EVAP ZONE, SE NEW MEXICO

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

                                LAYER  1
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                TYPE 1 - VERTICAL PERCOLATION LAYER
                    MATERIAL TEXTURE NUMBER   7
          THICKNESS                     =      6.00   INCHES
          POROSITY                      =      0.4730 VOL/VOL
          FIELD CAPACITY                =      0.2220 VOL/VOL
          WILTING POINT                 =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT    =      0.1335 VOL/VOL
          EFFECTIVE SAT. HYD. COND.     =  0.520000001000E-03 CM/SEC
        NOTE:  SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY  2.49
               FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.


                                LAYER  2
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TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 8

THICKNESS	=	42.00	INCHES
POROSITY	=	0.4630	VOL/VOL
FIELD CAPACITY	=	0.2320	VOL/VOL
WILTING POINT	=	0.1160	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.369999994000E-03	CM/SEC

LAYER 3

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 9

THICKNESS	=	150.00	INCHES
POROSITY	=	0.5010	VOL/VOL
FIELD CAPACITY	=	0.2840	VOL/VOL
WILTING POINT	=	0.1350	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2840	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.190000006000E-03	CM/SEC

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 36

THICKNESS	=	0.02	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.	=	0.399999993000E-12	CM/SEC
FML PINHOLE DENSITY	=	1.00	HOLES/ACRE
FML INSTALLATION DEFECTS	=	4.00	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 A POOR STAND OF GRASS, A SURFACE SLOPE OF 1.% AND A SLOPE LENGTH OF 75. FEET.

SCS RUNOFF CURVE NUMBER	=	83.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	0.500	ACRES
EVAPORATIVE ZONE DEPTH	=	48.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	6.891	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	22.284	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	5.496	INCHES
INITIAL SNOW WATER	=	0.000	INCHES

INITIAL WATER IN LAYER MATERIALS	=	49.491	INCHES
TOTAL INITIAL WATER	=	49.491	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ARTESIA NEW MEXICO

STATION LATITUDE	=	32.85 DEGREES
MAXIMUM LEAF AREA INDEX	=	1.60
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
EVAPORATIVE ZONE DEPTH	=	48.0 INCHES
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
0.39	0.43	0.28	0.51	1.22	1.85
1.38	2.20	2.52	1.30	0.71	0.55

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
AND STATION LATITUDE = 32.85 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 50

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.43 1.37	0.45 2.04	0.25 2.40	0.49 1.69	1.16 0.92	1.67 0.60
STD. DEVIATIONS	0.43 0.83	0.35 1.56	0.25 1.51	0.55 1.46	1.04 1.06	1.22 0.55
RUNOFF						
TOTALS	0.000 0.002	0.000 0.010	0.000 0.064	0.001 0.022	0.011 0.011	0.029 0.004
STD. DEVIATIONS	0.000 0.010	0.000 0.041	0.000 0.126	0.003 0.047	0.038 0.043	0.067 0.021
EVAPOTRANSPIRATION						
TOTALS	0.559 1.631	0.745 1.825	0.755 1.766	0.650 1.101	1.528 0.638	1.619 0.487
STD. DEVIATIONS	0.197 1.089	0.248 1.359	0.423 0.903	0.447 0.410	1.013 0.228	1.100 0.203
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0029 0.0044	0.0026 0.0042	0.0031 0.0038	0.0032 0.0036	0.0039 0.0032	0.0042 0.0031
STD. DEVIATIONS	0.0131 0.0188	0.0112 0.0180	0.0122 0.0163	0.0126 0.0159	0.0151 0.0144	0.0169 0.0140

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ON TOP OF LAYER 4						
AVERAGES	0.1479 0.2418	0.1397 0.2259	0.1518 0.2082	0.1687 0.1913	0.2009 0.1756	0.2294 0.1613
STD. DEVIATIONS	0.7454 1.1584	0.6897 1.0950	0.6622 1.0163	0.6975 0.9424	0.8548 0.8729	1.0380 0.8076

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 50

	INCHES	CU. FEET	PERCENT
PRECIPITATION	13.48 (3.036)	24461.5	100.00
RUNOFF	0.152 (0.1655)	275.97	1.128

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EVAPOTRANSPIRATION	13.304	(2.8563)	24146.67	98.713
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.04210	(0.16515)	76.406	0.31235
AVERAGE HEAD ON TOP OF LAYER 4	0.187	(0.801)		
CHANGE IN WATER STORAGE	-0.021	(1.9594)	-37.56	-0.154

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 50

	(INCHES)	(CU. FT.)
PRECIPITATION	3.02	5481.300
RUNOFF	0.582	1055.7036
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.003952	7.17204
AVERAGE HEAD ON TOP OF LAYER 4	7.829	
SNOW WATER	1.42	2576.4106
MAXIMUM VEG. SOIL WATER (VOL/VOL)		0.2742
MINIMUM VEG. SOIL WATER (VOL/VOL)		0.1145

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FINAL WATER STORAGE AT END OF YEAR 50

LAYER	(INCHES)	(VOL/VOL)
1	0.6408	0.1068
2	5.2154	0.1242
3	42.5999	0.2840
4	0.0000	0.0000
SNOW WATER	0.000	

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**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE                   **
**                 HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)                   **
**                    DEVELOPED BY ENVIRONMENTAL LABORATORY                     **
**                      USAE WATERWAYS EXPERIMENT STATION                       **
**                FOR USEPA RISK REDUCTION ENGINEERING LABORATORY               **
**                                                                              **
**                                                                              **
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PRECIPITATION DATA FILE:     C:\HELP3\EXAMPLES\CARLSB.D4
TEMPERATURE DATA FILE:       C:\HELP3\EXAMPLES\CARLSB.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\EXAMPLES\CARLSB.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\EXAMPLES\CARLSB.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\EXAMPLES\LINER.D10
OUTPUT DATA FILE:            C:\HELP3\EXAMPLES\CARLSB.OUT

TIME:  13:30      DATE:   3/ 5/2012

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

     TITLE:  4'COVER, LINER, 48" EVAP ZONE, SE NEW MEXICO

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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                     =      6.00   INCHES
          POROSITY                      =      0.4730 VOL/VOL
          FIELD CAPACITY                =      0.2220 VOL/VOL
          WILTING POINT                 =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT    =      0.1335 VOL/VOL
          EFFECTIVE SAT. HYD. COND.     = 0.520000001000E-03 CM/SEC
        NOTE:  SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY  2.49
                 FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

                                LAYER  2
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TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 8

THICKNESS	=	42.00	INCHES
POROSITY	=	0.4630	VOL/VOL
FIELD CAPACITY	=	0.2320	VOL/VOL
WILTING POINT	=	0.1160	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.369999994000E-03	CM/SEC

LAYER 3

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 9

THICKNESS	=	150.00	INCHES
POROSITY	=	0.5010	VOL/VOL
FIELD CAPACITY	=	0.2840	VOL/VOL
WILTING POINT	=	0.1350	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2840	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.190000006000E-03	CM/SEC

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 36

THICKNESS	=	0.02	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.	=	0.399999993000E-12	CM/SEC
FML PINHOLE DENSITY	=	1.00	HOLES/ACRE
FML INSTALLATION DEFECTS	=	4.00	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 A POOR STAND OF GRASS, A SURFACE SLOPE OF 1.% AND A SLOPE LENGTH OF 75. FEET.

SCS RUNOFF CURVE NUMBER	=	83.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	0.500	ACRES
EVAPORATIVE ZONE DEPTH	=	48.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	6.891	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	22.284	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	5.496	INCHES
INITIAL SNOW WATER	=	0.000	INCHES

7

INITIAL WATER IN LAYER MATERIALS	=	49.491	INCHES
TOTAL INITIAL WATER	=	49.491	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
CARLSBAD NEW MEXICO

STATION LATITUDE	=	33.42	DEGREES
MAXIMUM LEAF AREA INDEX	=	1.60	
START OF GROWING SEASON (JULIAN DATE)	=	76	
END OF GROWING SEASON (JULIAN DATE)	=	310	
EVAPORATIVE ZONE DEPTH	=	48.0	INCHES
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
0.43	0.51	0.24	0.55	1.26	1.65
1.77	2.05	2.91	1.38	0.75	0.63

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
AND STATION LATITUDE = 32.42 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 50

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.47 1.73	0.54 1.90	0.22 2.77	0.53 1.80	1.20 0.97	1.50 0.69
STD. DEVIATIONS	0.48 1.06	0.41 1.46	0.22 1.75	0.59 1.55	1.07 1.12	1.09 0.63
RUNOFF						
TOTALS	0.000 0.003	0.000 0.006	0.000 0.110	0.001 0.030	0.012 0.014	0.017 0.007
STD. DEVIATIONS	0.000 0.010	0.000 0.031	0.000 0.194	0.006 0.062	0.042 0.053	0.043 0.035
EVAPOTRANSPIRATION						
TOTALS	0.588 1.878	0.769 1.804	0.827 1.815	0.738 1.201	1.746 0.669	1.547 0.500
STD. DEVIATIONS	0.230 1.185	0.226 1.330	0.442 0.947	0.499 0.430	1.127 0.273	1.068 0.207
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0042 0.0060	0.0039 0.0059	0.0046 0.0053	0.0048 0.0052	0.0055 0.0047	0.0057 0.0045
STD. DEVIATIONS	0.0186 0.0248	0.0161 0.0251	0.0178 0.0229	0.0184 0.0223	0.0214 0.0204	0.0225 0.0198

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ON TOP OF LAYER 4						
AVERAGES	0.2351 0.3510	0.2342 0.3470	0.2507 0.3216	0.2774 0.2976	0.3132 0.2750	0.3366 0.2540
STD. DEVIATIONS	1.1445 1.6046	1.0692 1.6362	1.0445 1.5273	1.1164 1.4233	1.3019 1.3253	1.4610 1.2330

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 50

	INCHES	CU. FEET	PERCENT
PRECIPITATION	14.33 (3.153)	26003.5	100.00
RUNOFF	0.200 (0.2257)	363.58	1.398

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EVAPOTRANSPIRATION	14.080 (3.0099)	25555.95	98.279
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.06037 (0.23385)	109.567	0.42135
AVERAGE HEAD ON TOP OF LAYER 4	0.291 (1.217)		
CHANGE IN WATER STORAGE	-0.014 (2.2571)	-25.59	-0.098

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 50

	(INCHES)	(CU. FT.)
PRECIPITATION	3.49	6334.350
RUNOFF	0.828	1503.3167
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.005243	9.51571
AVERAGE HEAD ON TOP OF LAYER 4	10.987	
SNOW WATER	1.66	3013.5054
MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2939	
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.1145	

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FINAL WATER STORAGE AT END OF YEAR 50

LAYER	(INCHES)	(VOL/VOL)
1	0.7658	0.1276
2	5.4203	0.1291
3	42.5999	0.2840
4	0.0000	0.0000
SNOW WATER	0.000	

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**                                                                              **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE                   **
**                HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)                    **
**                DEVELOPED BY ENVIRONMENTAL LABORATORY                         **
**                USAE WATERWAYS EXPERIMENT STATION                             **
**              FOR USEPA RISK REDUCTION ENGINEERING LABORATORY                 **
**                                                                              **
**                                                                              **
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PRECIPITATION DATA FILE:     C:\HELP3\EXAMPLES\MALJA.D4
TEMPERATURE DATA FILE:       C:\HELP3\EXAMPLES\MALJA.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\EXAMPLES\MALJA.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\EXAMPLES\MALJA.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\EXAMPLES\LINER.D10
OUTPUT DATA FILE:            C:\HELP3\EXAMPLES\MALJA.OUT

TIME:  13:31     DATE:   3/ 5/2012

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

    TITLE:  4'COVER, LINER, 48" EVAP ZONE, SE NEW MEXICO

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

     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                    =      6.00   INCHES
      POROSITY                     =      0.4730 VOL/VOL
      FIELD CAPACITY               =      0.2220 VOL/VOL
      WILTING POINT                =      0.1040 VOL/VOL
      INITIAL SOIL WATER CONTENT   =      0.1335 VOL/VOL
      EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC
    NOTE:  SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY  2.49
            FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

                                  LAYER  2
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11

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 8

THICKNESS	=	42.00	INCHES
POROSITY	=	0.4630	VOL/VOL
FIELD CAPACITY	=	0.2320	VOL/VOL
WILTING POINT	=	0.1160	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.369999994000E-03	CM/SEC

LAYER 3

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 9

THICKNESS	=	150.00	INCHES
POROSITY	=	0.5010	VOL/VOL
FIELD CAPACITY	=	0.2840	VOL/VOL
WILTING POINT	=	0.1350	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2840	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.190000006000E-03	CM/SEC

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 36

THICKNESS	=	0.02	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.	=	0.399999993000E-12	CM/SEC
FML PINHOLE DENSITY	=	1.00	HOLES/ACRE
FML INSTALLATION DEFECTS	=	4.00	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 A POOR STAND OF GRASS, A SURFACE SLOPE OF 1.% AND A SLOPE LENGTH OF 75. FEET.

SCS RUNOFF CURVE NUMBER	=	83.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	0.500	ACRES
EVAPORATIVE ZONE DEPTH	=	48.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	6.891	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	22.284	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	5.496	INCHES
INITIAL SNOW WATER	=	0.000	INCHES

INITIAL WATER IN LAYER MATERIALS	=	49.491	INCHES
TOTAL INITIAL WATER	=	49.491	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
MALJAMAR NEW MEXICO

STATION LATITUDE	=	32.85 DEGREES
MAXIMUM LEAF AREA INDEX	=	1.60
START OF GROWING SEASON (JULIAN DATE)	=	76
END OF GROWING SEASON (JULIAN DATE)	=	310
EVAPORATIVE ZONE DEPTH	=	48.0 INCHES
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
0.43	0.47	0.39	0.51	1.81	1.77
2.28	2.80	3.07	1.18	0.67	0.67

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
AND STATION LATITUDE = 32.85 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 50

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.47	0.50	0.34	0.49	1.71	1.62
	2.22	2.60	2.92	1.55	0.87	0.73
STD. DEVIATIONS	0.48	0.38	0.35	0.55	1.54	1.18
	1.35	1.99	1.84	1.34	1.00	0.67
RUNOFF						
TOTALS	0.000	0.000	0.000	0.001	0.057	0.025
	0.012	0.035	0.134	0.015	0.007	0.009
STD. DEVIATIONS	0.000	0.000	0.000	0.003	0.156	0.058
	0.031	0.100	0.226	0.036	0.030	0.044
EVAPOTRANSPIRATION						
TOTALS	0.558	0.758	0.891	0.724	1.942	1.851
	2.342	2.282	2.072	1.201	0.644	0.482
STD. DEVIATIONS	0.211	0.229	0.448	0.477	1.197	1.274
	1.445	1.499	1.033	0.432	0.250	0.164
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0013	0.0012	0.0014	0.0017	0.0022	0.0022
	0.0021	0.0019	0.0017	0.0016	0.0014	0.0013
STD. DEVIATIONS	0.0059	0.0051	0.0057	0.0072	0.0099	0.0094
	0.0091	0.0084	0.0076	0.0073	0.0066	0.0063

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ON TOP OF LAYER 4						
AVERAGES	0.0539	0.0523	0.0550	0.0769	0.1033	0.1024
	0.0936	0.0847	0.0765	0.0689	0.0620	0.0556
STD. DEVIATIONS	0.2728	0.2521	0.2462	0.3511	0.5254	0.5138
	0.4714	0.4313	0.3947	0.3606	0.3289	0.2993

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 50

	INCHES	CU. FEET	PERCENT
PRECIPITATION	16.04 (3.625)	29114.1	100.00
RUNOFF	0.294 (0.2952)	534.10	1.835

EVAPOTRANSPIRATION	15.747	(3.3935)	28580.05	98.166
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.02004	(0.08337)	36.367	0.12491
AVERAGE HEAD ON TOP OF LAYER 4	0.074	(0.344)		
CHANGE IN WATER STORAGE	-0.020	(2.0264)	-36.47	-0.125

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 50

	(INCHES)	(CU. FT.)
PRECIPITATION	3.68	6679.200
RUNOFF	0.936	1698.3551
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.002187	3.96892
AVERAGE HEAD ON TOP OF LAYER 4	3.763	
SNOW WATER	1.78	3229.8108
MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2549	
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.1145	

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FINAL WATER STORAGE AT END OF YEAR 50

LAYER	(INCHES)	(VOL/VOL)
1	0.6557	0.1093
2	5.2306	0.1245
3	42.5999	0.2840
4	0.0000	0.0000
SNOW WATER	0.000	

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**                                                                              **
**              HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE                   **
**                HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)                    **
**                   DEVELOPED BY ENVIRONMENTAL LABORATORY                      **
**                    USAE WATERWAYS EXPERIMENT STATION                         **
**              FOR USEPA RISK REDUCTION ENGINEERING LABORATORY                 **
**                                                                              **
**                                                                              **
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PRECIPITATION DATA FILE:     C:\HELP3\EXAMPLES\ROSWEL.D4
TEMPERATURE DATA FILE:       C:\HELP3\EXAMPLES\ROSWEL.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\EXAMPLES\ROSWEL.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\EXAMPLES\ROSWEL.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\EXAMPLES\LINER.D10
OUTPUT DATA FILE:            C:\HELP3\EXAMPLES\ROSWEL.OUT

TIME:  13:32     DATE:   3/ 5/2012

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     TITLE:  4'COVER, LINER, 48" EVAP ZONE, SE NEW MEXICO

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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                    =      6.00   INCHES
          POROSITY                     =      0.4730 VOL/VOL
          FIELD CAPACITY               =      0.2220 VOL/VOL
          WILTING POINT                =      0.1040 VOL/VOL
          INITIAL SOIL WATER CONTENT   =      0.1335 VOL/VOL
          EFFECTIVE SAT. HYD. COND.    =  0.520000001000E-03 CM/SEC
        NOTE:  SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY  2.49
               FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

                                  LAYER  2
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TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 8

THICKNESS	=	42.00	INCHES
POROSITY	=	0.4630	VOL/VOL
FIELD CAPACITY	=	0.2320	VOL/VOL
WILTING POINT	=	0.1160	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.369999994000E-03	CM/SEC

LAYER 3

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 9

THICKNESS	=	150.00	INCHES
POROSITY	=	0.5010	VOL/VOL
FIELD CAPACITY	=	0.2840	VOL/VOL
WILTING POINT	=	0.1350	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2840	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.190000006000E-03	CM/SEC

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 36

THICKNESS	=	0.02	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.	=	0.399999993000E-12	CM/SEC
FML PINHOLE DENSITY	=	1.00	HOLES/ACRE
FML INSTALLATION DEFECTS	=	4.00	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 A POOR STAND OF GRASS, A SURFACE SLOPE OF 1.% AND A SLOPE LENGTH OF 75. FEET.

SCS RUNOFF CURVE NUMBER	=	83.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	0.500	ACRES
EVAPORATIVE ZONE DEPTH	=	48.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	6.891	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	22.284	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	5.496	INCHES
INITIAL SNOW WATER	=	0.000	INCHES

INITIAL WATER IN LAYER MATERIALS	=	49.491	INCHES
TOTAL INITIAL WATER	=	49.491	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
ROSWELL NEW MEXICO

STATION LATITUDE	=	33.30	DEGREES
MAXIMUM LEAF AREA INDEX	=	1.60	
START OF GROWING SEASON (JULIAN DATE)	=	76	
END OF GROWING SEASON (JULIAN DATE)	=	310	
EVAPORATIVE ZONE DEPTH	=	48.0	INCHES
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
0.39	0.43	0.28	0.51	1.22	1.85
1.38	2.20	2.52	1.30	0.71	0.55

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
AND STATION LATITUDE = 33.30 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 50

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.43	0.45	0.25	0.49	1.16	1.67
	1.37	2.04	2.40	1.69	0.92	0.60
STD. DEVIATIONS	0.43	0.35	0.25	0.55	1.04	1.22
	0.83	1.56	1.51	1.46	1.06	0.55
RUNOFF						
TOTALS	0.000	0.000	0.000	0.001	0.011	0.029
	0.002	0.010	0.064	0.022	0.011	0.004
STD. DEVIATIONS	0.000	0.000	0.000	0.003	0.038	0.067
	0.010	0.041	0.126	0.047	0.043	0.021
EVAPOTRANSPIRATION						
TOTALS	0.549	0.745	0.780	0.663	1.539	1.614
	1.629	1.825	1.762	1.095	0.625	0.473
STD. DEVIATIONS	0.196	0.245	0.429	0.454	1.015	1.096
	1.089	1.362	0.899	0.404	0.226	0.202
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0033	0.0029	0.0034	0.0036	0.0041	0.0043
	0.0046	0.0046	0.0042	0.0040	0.0036	0.0035
STD. DEVIATIONS	0.0146	0.0125	0.0135	0.0136	0.0160	0.0172
	0.0195	0.0199	0.0182	0.0176	0.0161	0.0156

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ON TOP OF LAYER 4						
AVERAGES	0.1722	0.1625	0.1738	0.1891	0.2185	0.2421
	0.2586	0.2591	0.2397	0.2210	0.2034	0.1873
STD. DEVIATIONS	0.8496	0.7873	0.7516	0.7723	0.9078	1.0508
	1.1915	1.2381	1.1511	1.0689	0.9916	0.9189

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 50

	INCHES	CU. FEET	PERCENT
PRECIPITATION	13.48 (3.036)	24461.5	100.00
RUNOFF	0.152 (0.1656)	276.03	1.128

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EVAPOTRANSPIRATION	13.299 (2.8547)	24137.44	98.675
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.04617 (0.18014)	83.791	0.34254
AVERAGE HEAD ON TOP OF LAYER 4	0.211 (0.885)		
CHANGE IN WATER STORAGE	-0.020 (1.9657)	-35.78	-0.146

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 50

	(INCHES)	(CU. FT.)
PRECIPITATION	3.02	5481.300
RUNOFF	0.582	1055.7036
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.004172	7.57157
AVERAGE HEAD ON TOP OF LAYER 4	8.360	
SNOW WATER	1.42	2577.6738
MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2748	
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.1145	

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FINAL WATER STORAGE AT END OF YEAR 50

LAYER	(INCHES)	(VOL/VOL)
1	0.6502	0.1084
2	5.2552	0.1251
3	42.5999	0.2840
4	0.0000	0.0000
SNOW WATER	0.000	

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**                                                                  **
**          HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE           **
**            HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)            **
**             DEVELOPED BY ENVIRONMENTAL LABORATORY                **
**               USAE WATERWAYS EXPERIMENT STATION                  **
**          FOR USEPA RISK REDUCTION ENGINEERING LABORATORY         **
**                                                                  **
**                                                                  **
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PRECIPITATION DATA FILE:     C:\HELP3\EXAMPLES\HOBBS.D4
TEMPERATURE DATA FILE:       C:\HELP3\EXAMPLES\HOBBS.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\EXAMPLES\HOBBS.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\EXAMPLES\HOBBS.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\EXAMPLES\LINER.D10
OUTPUT DATA FILE:            C:\HELP3\EXAMPLES\HOBBS.OUT

TIME:  13:32     DATE:   3/ 5/2012

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     TITLE:  4'COVER, LINER, 48" EVAP ZONE, SE NEW MEXICO

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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                      =      6.00   INCHES
      POROSITY                       =    0.4730 VOL/VOL
      FIELD CAPACITY                 =    0.2220 VOL/VOL
      WILTING POINT                  =    0.1040 VOL/VOL
      INITIAL SOIL WATER CONTENT     =    0.1335 VOL/VOL
      EFFECTIVE SAT. HYD. COND.      = 0.520000001000E-03 CM/SEC
    NOTE:  SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY  2.49
             FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.

                                LAYER  2
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TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 8

THICKNESS	=	42.00	INCHES
POROSITY	=	0.4630	VOL/VOL
FIELD CAPACITY	=	0.2320	VOL/VOL
WILTING POINT	=	0.1160	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1450	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.369999994000E-03	CM/SEC

LAYER 3

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 9

THICKNESS	=	150.00	INCHES
POROSITY	=	0.5010	VOL/VOL
FIELD CAPACITY	=	0.2840	VOL/VOL
WILTING POINT	=	0.1350	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2840	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.190000006000E-03	CM/SEC

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 36

THICKNESS	=	0.02	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.	=	0.399999993000E-12	CM/SEC
FML PINHOLE DENSITY	=	1.00	HOLES/ACRE
FML INSTALLATION DEFECTS	=	4.00	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 A POOR STAND OF GRASS, A SURFACE SLOPE OF 1.% AND A SLOPE LENGTH OF 75. FEET.

SCS RUNOFF CURVE NUMBER	=	83.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	0.500	ACRES
EVAPORATIVE ZONE DEPTH	=	48.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	6.891	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	22.284	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	5.496	INCHES
INITIAL SNOW WATER	=	0.000	INCHES

INITIAL WATER IN LAYER MATERIALS	=	49.491	INCHES
TOTAL INITIAL WATER	=	49.491	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
HOBBS NEW MEXICO

STATION LATITUDE	=	32.72	DEGREES
MAXIMUM LEAF AREA INDEX	=	1.60	
START OF GROWING SEASON (JULIAN DATE)	=	76	
END OF GROWING SEASON (JULIAN DATE)	=	310	
EVAPORATIVE ZONE DEPTH	=	48.0	INCHES
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
0.51	0.67	0.47	0.79	2.60	2.05
2.40	2.52	3.15	1.46	0.87	0.71

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
AND STATION LATITUDE = 32.72 DEGREES

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 50

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.56	0.71	0.42	0.76	2.46	1.89
	2.35	2.35	3.00	1.91	1.12	0.77
STD. DEVIATIONS	0.57	0.55	0.42	0.85	2.22	1.39
	1.43	1.80	1.89	1.65	1.29	0.71
RUNOFF						
TOTALS	0.000	0.000	0.000	0.014	0.193	0.049
	0.017	0.020	0.146	0.038	0.024	0.012
STD. DEVIATIONS	0.001	0.000	0.001	0.043	0.432	0.099
	0.040	0.068	0.242	0.079	0.079	0.053
EVAPOTRANSPIRATION						
TOTALS	0.631	0.830	1.011	0.908	2.651	2.466
	2.476	2.176	2.036	1.279	0.734	0.548
STD. DEVIATIONS	0.221	0.295	0.464	0.587	1.480	1.690
	1.511	1.502	1.042	0.474	0.302	0.260
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0036	0.0032	0.0039	0.0046	0.0053	0.0057
	0.0060	0.0056	0.0050	0.0048	0.0042	0.0040
STD. DEVIATIONS	0.0124	0.0106	0.0118	0.0131	0.0161	0.0175
	0.0182	0.0171	0.0155	0.0151	0.0137	0.0132

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ON TOP OF LAYER 4						
AVERAGES	0.1623	0.1543	0.1702	0.2154	0.2534	0.2848
	0.2889	0.2652	0.2411	0.2188	0.1982	0.1797
STD. DEVIATIONS	0.6904	0.6392	0.6261	0.7301	0.9201	1.0911
	1.1004	1.0205	0.9460	0.8761	0.8105	0.7489

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 50

	INCHES	CU. FEET	PERCENT
PRECIPITATION	18.30 (4.137)	33222.9	100.00
RUNOFF	0.513 (0.5070)	930.31	2.800

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EVAPOTRANSPIRATION	17.746 (3.7837)	32209.00	96.948
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.05590 (0.16092)	101.452	0.30537
AVERAGE HEAD ON TOP OF LAYER 4	0.219 (0.776)		
CHANGE IN WATER STORAGE	-0.010 (2.3981)	-17.92	-0.054

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 50

	(INCHES)	(CU. FT.)
PRECIPITATION	4.06	7368.900
RUNOFF	1.742	3162.2058
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.003859	7.00470
AVERAGE HEAD ON TOP OF LAYER 4	7.607	
SNOW WATER	1.93	3510.3135
MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2778	
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.1145	

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FINAL WATER STORAGE AT END OF YEAR 50

LAYER	(INCHES)	(VOL/VOL)
1	0.8498	0.1416
2	5.5472	0.1321
3	42.6001	0.2840
4	0.0000	0.0000
SNOW WATER	0.000	

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