Technically Complete, March 11, 2016

ATTACHMENT B

TO APPENDIX III-D.6

HELP MODEL OUTPUTS

1. SUMMARY TABLE OF HELP MODEL RUNS

3-2-2015

STATE OF TEXAS
MICHAEL W. ODEN
67165
REGISTERED
PROFESSIONAL ENGINEER

This document is released for the purpose of permitting only under the authority of Michael W. Oden, P.E. #67165. It is not to be used for bidding or construction. Texas Registered Engineering Firm F-5650.

Table III-D.6-B.1
HELP Model Runs
Summary Table

HELP Model Output Location	Operating Conditions	Liner Configuration Identification in Model Name	Leachate Collection Layer Slope	Waste Thickness	Drainage Length	Model Run Time	Leachate Recirculation	Introduced Leachate	Maximum Head on Liner	Peak Daily Leachate Generation Rate
			(percent)	(Feet)	(feet)	(years)	(percent)	(gallons/ acre-day)	(in)	(gal/ac-day)
Attachment D.6-B-2a	Open	A	2.5	10	461	1	100	0	0.004	66.36
Attachment D.6-B-2b	Open	B	2.5	10	614	1	100	0	0.003	54.66
Attachment D.6-B-2c	Open	C	2.0	10	461	1	100	0	0.005	57.20
Attachment D.6-B-2d	Open	D	2.0	10	614	1	100	0	0.005	46.20
Attachment D.6-B-3	Intermediate	A	2.5	190	461	5	100	0	0.009	44.19
Attachment D.6-B-4	Closed	A	2.5	380	461	30	100	0	0	0.00
Attachment D.6-B-5a	Open	A	2.5	20	461	1	100	744	0.004	66.35
Attachment D.6-B-5b	Intermediate	A	2.5	50	461	30	100	744	0.009	44.21
Attachment D.6-B-5c	Intermediate	A	2.5	100	461	30	100	744	0.009	44.21

ATTACHMENT B

TO APPENDIX III-D.6

HELP MODEL OUTPUTS

2. OPEN CONDITIONS

- **A. LEACHATE COLLECTION SYSTEM CONFIGURATION A**
- B. LEACHATE COLLECTION SYSTEM CONFIGURATION B
- C. LEACHATE COLLECTION SYSTEM CONFIGURATION C
- D. LEACHATE COLLECTION SYSTEM CONFIGURATION D

3-2-2015

STATE OF TEXAS
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Slope: 2.5%
Drainage Length: 461 FT

```
******************************************************************************
******************************************************************************
**                                                                          **
**                                                                          **
**              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              **
**                                                                          **
**                                                                          **
******************************************************************************
******************************************************************************


PRECIPITATION DATA FILE:     c:\help3\pesc\PRECIP.D4
TEMPERATURE DATA FILE:       c:\help3\pesc\TEMP.D7
SOLAR RADIATION DATA FILE:   c:\help3\pesc\SOL.D13
EVAPOTRANSPIRATION DATA:     c:\help3\pesc\EVAP_OPN.D11
SOIL AND DESIGN DATA FILE:   c:\help3\pesc\OPEN_A.D10
OUTPUT DATA FILE:            c:\help3\pesc\OPEN_A.OUT


TIME:   7:43     DATE:   1/29/2015


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

     TITLE:  PESCADITO-OPEN CONDITIONS

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


     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   0
          THICKNESS                    =      6.00   INCHES
          POROSITY                     =      0.4520 VOL/VOL
          FIELD CAPACITY               =      0.4110 VOL/VOL
          WILTING POINT                =      0.3110 VOL/VOL
          INITIAL SOIL WATER CONTENT   =      0.4110 VOL/VOL
          EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC
```

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

            TYPE 1 - VERTICAL PERCOLATION LAYER
                MATERIAL TEXTURE NUMBER  18
  THICKNESS                    =    120.00   INCHES
  POROSITY                     =      0.6710 VOL/VOL
  FIELD CAPACITY               =      0.2920 VOL/VOL
  WILTING POINT                =      0.0770 VOL/VOL
  INITIAL SOIL WATER CONTENT   =      0.2000 VOL/VOL
  EFFECTIVE SAT. HYD. COND.    =  0.100000005000E-02 CM/SEC
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM LAYER # 4
         IS RECIRCULATED INTO THIS LAYER.


                         LAYER  3
                         --------

            TYPE 1 - VERTICAL PERCOLATION LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                    =     24.00   INCHES
  POROSITY                     =      0.4510 VOL/VOL
  FIELD CAPACITY               =      0.4110 VOL/VOL
  WILTING POINT                =      0.3110 VOL/VOL
  INITIAL SOIL WATER CONTENT   =      0.4110 VOL/VOL
  EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC


                         LAYER  4
                         --------

              TYPE 2 - LATERAL DRAINAGE LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                    =      0.26   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.    =   3.71399999000     CM/SEC
  SLOPE                        =      2.50   PERCENT
  DRAINAGE LENGTH              =    461.0    FEET
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM THIS
         LAYER IS RECIRCULATED INTO LAYER #  2.
```

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                         LAYER  5
                         --------

              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          =      3.00    HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00    HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD


                         LAYER  6
                         --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                    =     24.00    INCHES
POROSITY                     =      0.4510 VOL/VOL
FIELD CAPACITY               =      0.4110 VOL/VOL
WILTING POINT                =      0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4510 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000001000E-06 CM/SEC


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

 NOTE:  SCS RUNOFF CURVE NUMBER WAS USER-SPECIFIED.

SCS RUNOFF CURVE NUMBER              =     85.00
FRACTION OF AREA ALLOWING RUNOFF     =      0.0     PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =      1.000   ACRES
EVAPORATIVE ZONE DEPTH               =     60.0     INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =     13.266   INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =     38.946   INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =      6.024   INCHES
INITIAL SNOW WATER                   =      0.000   INCHES
INITIAL WATER IN LAYER MATERIALS     =     47.157   INCHES
TOTAL INITIAL WATER                  =     47.157   INCHES
TOTAL SUBSURFACE INFLOW              =      0.00    INCHES/YEAR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
BROWNSVILLE TEXAS

STATION LATITUDE	=	27.34	DEGREES
MAXIMUM LEAF AREA INDEX	=	0.00	
START OF GROWING SEASON (JULIAN DATE)	=	0	
END OF GROWING SEASON (JULIAN DATE)	=	367	
EVAPORATIVE ZONE DEPTH	=	60.0	INCHES
AVERAGE ANNUAL WIND SPEED	=	11.60	MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	76.00	%
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	75.00	%
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	74.00	%
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	76.00	%

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.82	0.86	0.88	1.37	2.65	2.68
1.93	2.29	3.09	2.41	1.07	0.91

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
56.50	61.00	68.80	76.00	82.00	86.50
87.90	87.90	82.90	75.40	65.50	57.70

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS
AND STATION LATITUDE = 27.34 DEGREES

****

ANNUAL TOTALS FOR YEAR 1

	INCHES	CU. FEET	PERCENT
PRECIPITATION	16.30	59169.004	100.00
RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	18.102	65712.023	111.06
RECIRCULATION INTO LAYER 2	0.006864	24.915	0.04
DRAINAGE COLLECTED FROM LAYER 4	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 4	0.006864	24.915	0.04
PERC./LEAKAGE THROUGH LAYER 6	0.000001	0.003	0.00
AVG. HEAD ON TOP OF LAYER 5	0.0000		
CHANGE IN WATER STORAGE	-1.802	-6543.026	-11.06
SOIL WATER AT START OF YEAR	47.157	171178.500	
SOIL WATER AT END OF YEAR	45.354	164635.484	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.004	0.00

****

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.49	0.35	0.01	0.00	3.60
	0.00	2.82	3.54	2.89	0.72	1.56
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                  0.935     0.421     0.361     0.294     0.267     3.495
                          0.706     1.974     4.407     2.932     0.879     1.432

  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 RECIRCULATED INTO LAYER  2
-------------------------------------------
  TOTALS                  0.0064    0.0003    0.0001    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  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 RECIRCULATED FROM LAYER  4
-------------------------------------------
  TOTALS                  0.0064    0.0003    0.0001    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
```

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-------------------------------------------------------------------------------
                AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)
-------------------------------------------------------------------------------


  DAILY AVERAGE HEAD ON TOP OF LAYER  5
  -------------------------------------
    AVERAGES                0.0002   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

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

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

     AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS    1 THROUGH    1
-------------------------------------------------------------------------------
                                      INCHES            CU. FEET       PERCENT
                                  -------------------  -------------  ---------
 PRECIPITATION                     16.30     (   0.000)     59169.0     100.00

 RUNOFF                             0.000    (  0.0000)         0.00      0.000

 EVAPOTRANSPIRATION                18.102    (  0.0000)     65712.02    111.058

 DRAINAGE RECIRCULATED              0.00686 (  0.00000)       24.915    0.04211
   INTO LAYER  2

 LATERAL DRAINAGE COLLECTED         0.00000 (  0.00000)        0.000    0.00000
   FROM LAYER  4

 DRAINAGE RECIRCULATED              0.00686 (  0.00000)       24.915    0.04211
   FROM LAYER  4

 PERCOLATION/LEAKAGE THROUGH        0.00000 (  0.00000)        0.003    0.00000
   LAYER  6

 AVERAGE HEAD ON TOP                0.000 (    0.000)
   OF LAYER  5

 CHANGE IN WATER STORAGE           -1.802    (  0.0000)     -6543.03    -11.058

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Pescadito Landfill – Open Conditions: Scenario A

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

              PEAK DAILY VALUES FOR YEARS    1 THROUGH    1
  ---------------------------------------------------------------------------
                                              (INCHES)       (CU. FT.)
                                             ----------    -------------
     PRECIPITATION                             1.32          4791.600

     RUNOFF                                    0.000            0.0000

     DRAINAGE RECIRCULATED INTO LAYER  2       0.00244          8.87097

     DRAINAGE COLLECTED FROM LAYER  4          0.00000          0.00000

     DRAINAGE RECIRCULATED FROM LAYER  4       0.00244          8.87097

     PERCOLATION/LEAKAGE THROUGH LAYER  6      0.000000         0.00006

     AVERAGE HEAD ON TOP OF LAYER  5           0.002

     MAXIMUM HEAD ON TOP OF LAYER  5           0.004

     LOCATION OF MAXIMUM HEAD IN LAYER  4
           (DISTANCE FROM DRAIN)               0.0 FEET

     SNOW WATER                                0.00             0.0000


     MAXIMUM VEG. SOIL WATER (VOL/VOL)                  0.2345

     MINIMUM VEG. SOIL WATER (VOL/VOL)                  0.1839

      ***  Maximum heads are computed using McEnroe's equations.  ***

           Reference:  Maximum Saturated Depth over Landfill Liner
                       by Bruce M. McEnroe, University of Kansas
                       ASCE Journal of Environmental Engineering
                       Vol. 119, No. 2, March 1993, pp. 262-270.

*******************************************************************************
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Pescadito Landfill – Open Conditions: Scenario A

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	1.5392	0.2565
2	23.1312	0.1928
3	9.8571	0.4107
4	0.0026	0.0100
5	0.0000	0.0000
6	10.8240	0.4510
SNOW WATER	0.000	

****
****

ATTACHMENT B

TO APPENDIX III-D.6

HELP MODEL OUTPUTS

2. OPEN CONDITIONS

A. LEACHATE COLLECTION SYSTEM CONFIGURATION A

B. LEACHATE COLLECTION SYSTEM CONFIGURATION B

C. LEACHATE COLLECTION SYSTEM CONFIGURATION C

D. LEACHATE COLLECTION SYSTEM CONFIGURATION D

3-2-2015

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Pescadito Landfill – Open Conditions
Scenario B

Slope: 2.5 %
Drainage Length: 614 FT

```
******************************************************************************
******************************************************************************
**                                                                          **
**                                                                          **
**              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              **
**                                                                          **
**                                                                          **
******************************************************************************
******************************************************************************


PRECIPITATION DATA FILE:     c:\help3\pesc\PRECIP.D4
TEMPERATURE DATA FILE:       c:\help3\pesc\TEMP.D7
SOLAR RADIATION DATA FILE:   c:\help3\pesc\SOL.D13
EVAPOTRANSPIRATION DATA:     c:\help3\pesc\EVAP_OPN.D11
SOIL AND DESIGN DATA FILE:   c:\help3\pesc\OPEN_b.D10
OUTPUT DATA FILE:            c:\help3\pesc\OPEN_b.OUT


TIME:   7:54     DATE:   1/29/2015


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

     TITLE:  PESCADITO-OPEN CONDITIONS

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

     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   0
          THICKNESS                    =      6.00   INCHES
          POROSITY                     =      0.4520 VOL/VOL
          FIELD CAPACITY               =      0.4110 VOL/VOL
          WILTING POINT                =      0.3110 VOL/VOL
          INITIAL SOIL WATER CONTENT   =      0.4110 VOL/VOL
          EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC
```

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

            TYPE 1 - VERTICAL PERCOLATION LAYER
                MATERIAL TEXTURE NUMBER  18
  THICKNESS                    =    120.00   INCHES
  POROSITY                     =      0.6710 VOL/VOL
  FIELD CAPACITY               =      0.2920 VOL/VOL
  WILTING POINT                =      0.0770 VOL/VOL
  INITIAL SOIL WATER CONTENT   =      0.2000 VOL/VOL
  EFFECTIVE SAT. HYD. COND.    =  0.100000005000E-02 CM/SEC
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM LAYER # 4
         IS RECIRCULATED INTO THIS LAYER.


                         LAYER  3
                         --------

            TYPE 1 - VERTICAL PERCOLATION LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                    =     24.00   INCHES
  POROSITY                     =      0.4510 VOL/VOL
  FIELD CAPACITY               =      0.4110 VOL/VOL
  WILTING POINT                =      0.3110 VOL/VOL
  INITIAL SOIL WATER CONTENT   =      0.4110 VOL/VOL
  EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC


                         LAYER  4
                         --------

              TYPE 2 - LATERAL DRAINAGE LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                    =      0.26   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.    =   3.71399999000     CM/SEC
  SLOPE                        =      2.50   PERCENT
  DRAINAGE LENGTH              =    614.0    FEET
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM THIS
         LAYER IS RECIRCULATED INTO LAYER #  2.


                         LAYER  5
                         --------

              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         =      3.00   HOLES/ACRE
FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY       =  3 - GOOD

                        LAYER  6
                        --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                   =     24.00   INCHES
POROSITY                    =      0.4510 VOL/VOL
FIELD CAPACITY              =      0.4110 VOL/VOL
WILTING POINT               =      0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.4510 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.100000001000E-06 CM/SEC

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

 NOTE:  SCS RUNOFF CURVE NUMBER WAS USER-SPECIFIED.

SCS RUNOFF CURVE NUMBER             =     85.00
FRACTION OF AREA ALLOWING RUNOFF    =      0.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE  =      1.000  ACRES
EVAPORATIVE ZONE DEPTH              =     60.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE   =     13.266  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE  =     38.946  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE  =      6.024  INCHES
INITIAL SNOW WATER                  =      0.000  INCHES
INITIAL WATER IN LAYER MATERIALS    =     47.157  INCHES
TOTAL INITIAL WATER                 =     47.157  INCHES
TOTAL SUBSURFACE INFLOW             =      0.00   INCHES/YEAR

           EVAPOTRANSPIRATION AND WEATHER DATA
           -----------------------------------

 NOTE:  EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
          BROWNSVILLE          TEXAS

     STATION LATITUDE                        =  27.34 DEGREES
     MAXIMUM LEAF AREA INDEX                 =   0.00
     START OF GROWING SEASON (JULIAN DATE)   =      0
     END OF GROWING SEASON (JULIAN DATE)     =    367
     EVAPORATIVE ZONE DEPTH                  =  60.0  INCHES
     AVERAGE ANNUAL WIND SPEED               =  11.60 MPH
```

Pescadito Landfill – Open Conditions

Scenario B

```
AVERAGE 1ST QUARTER RELATIVE HUMIDITY  =  76.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY  =  75.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY  =  74.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY  =  76.00 %
```

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.82	0.86	0.88	1.37	2.65	2.68
1.93	2.29	3.09	2.41	1.07	0.91

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
56.50	61.00	68.80	76.00	82.00	86.50
87.90	87.90	82.90	75.40	65.50	57.70

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR BROWNSVILLE TEXAS AND STATION LATITUDE = 27.34 DEGREES

****

ANNUAL TOTALS FOR YEAR 1

	INCHES	CU. FEET	PERCENT
PRECIPITATION	16.30	59169.004	100.00
RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	18.102	65709.180	111.05
RECIRCULATION INTO LAYER 2	0.006863	24.914	0.04
DRAINAGE COLLECTED FROM LAYER 4	0.0000	0.000	0.00

RECIRCULATION FROM LAYER 4	0.006863	24.914	0.04
PERC./LEAKAGE THROUGH LAYER 6	0.000001	0.005	0.00
AVG. HEAD ON TOP OF LAYER 5	0.0000		
CHANGE IN WATER STORAGE	-1.802	-6540.187	-11.05
SOIL WATER AT START OF YEAR	47.157	171178.500	
SOIL WATER AT END OF YEAR	45.355	164638.312	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.009	0.00

****

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.49	0.35	0.01	0.00	3.60
	0.00	2.82	3.54	2.89	0.72	1.56
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	0.935	0.421	0.361	0.294	0.267	3.495
	0.706	1.974	4.407	2.933	0.877	1.432
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 RECIRCULATED INTO LAYER 2

```
-------------------------------------------
  TOTALS                  0.0057   0.0008   0.0002   0.0001   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  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 RECIRCULATED FROM LAYER  4
-------------------------------------------
  TOTALS                  0.0057   0.0008   0.0002   0.0001   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 ON TOP OF LAYER  5
-------------------------------------
  AVERAGES                0.0002   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

*******************************************************************************
```

Pescadito Landfill – Open Conditions
Scenario B

```
*******************************************************************************

     AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS    1 THROUGH    1
-------------------------------------------------------------------------------
                                      INCHES            CU. FEET       PERCENT
                                  -------------------  -------------  ---------
 PRECIPITATION                     16.30     (   0.000)     59169.0     100.00

 RUNOFF                             0.000    (  0.0000)        0.00      0.000

 EVAPOTRANSPIRATION                18.102    (  0.0000)     65709.18    111.053

 DRAINAGE RECIRCULATED              0.00686 (  0.00000)      24.914     0.04211
   INTO LAYER  2

 LATERAL DRAINAGE COLLECTED         0.00000 (  0.00000)       0.000     0.00000
   FROM LAYER  4

 DRAINAGE RECIRCULATED              0.00686 (  0.00000)      24.914     0.04211
   FROM LAYER  4

 PERCOLATION/LEAKAGE THROUGH        0.00000 (  0.00000)       0.005     0.00001
   LAYER  6

 AVERAGE HEAD ON TOP                0.000 (    0.000)
   OF LAYER  5

 CHANGE IN WATER STORAGE           -1.802    (  0.0000)     -6540.19    -11.053
*******************************************************************************

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

              PEAK DAILY VALUES FOR YEARS    1 THROUGH    1
  ---------------------------------------------------------------------------
                                                (INCHES)      (CU. FT.)
                                               ----------   -------------
     PRECIPITATION                               1.32          4791.600

     RUNOFF                                      0.000            0.0000

     DRAINAGE RECIRCULATED INTO LAYER  2         0.00201          7.30717

     DRAINAGE COLLECTED FROM LAYER  4            0.00000          0.00000

     DRAINAGE RECIRCULATED FROM LAYER  4         0.00201          7.30717

     PERCOLATION/LEAKAGE THROUGH LAYER  6        0.000000         0.00006

     AVERAGE HEAD ON TOP OF LAYER  5             0.002

     MAXIMUM HEAD ON TOP OF LAYER  5             0.003
```

Pescadito Landfill – Open Conditions
Scenario B

```
LOCATION OF MAXIMUM HEAD IN LAYER  4
      (DISTANCE FROM DRAIN)                203.3 FEET

SNOW WATER                                   0.00            0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL)                      0.2345

MINIMUM VEG. SOIL WATER (VOL/VOL)                      0.1840

 ***  Maximum heads are computed using McEnroe's equations.  ***

      Reference:  Maximum Saturated Depth over Landfill Liner
                  by Bruce M. McEnroe, University of Kansas
                  ASCE Journal of Environmental Engineering
                  Vol. 119, No. 2, March 1993, pp. 262-270.

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

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

                 FINAL WATER STORAGE AT END OF YEAR    1
    ---------------------------------------------------------------------
                  LAYER        (INCHES)       (VOL/VOL)
                  -----        --------       ---------
                    1           1.5392         0.2565

                    2          23.1320         0.1928

                    3           9.8571         0.4107

                    4           0.0026         0.0100

                    5           0.0000         0.0000

                    6          10.8240         0.4510

                SNOW WATER      0.000

*******************************************************************************
*******************************************************************************
```

ATTACHMENT B

TO APPENDIX III-D.6

HELP MODEL OUTPUTS

2. OPEN CONDITIONS

A. LEACHATE COLLECTION SYSTEM CONFIGURATION A
B. LEACHATE COLLECTION SYSTEM CONFIGURATION B
C. LEACHATE COLLECTION SYSTEM CONFIGURATION C
D. LEACHATE COLLECTION SYSTEM CONFIGURATION D

3-2-2015

STATE OF TEXAS
MICHAEL W. ODEN
67165
REGISTERED
PROFESSIONAL ENGINEER

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CB&I

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


PRECIPITATION DATA FILE:     C:\HELP3\pesc\PRECIP.D4
TEMPERATURE DATA FILE:       C:\HELP3\pesc\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\pesc\SOL.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\pesc\EVAP_OPN.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\pesc\OPEN_C.D10
OUTPUT DATA FILE:            C:\HELP3\pesc\OPEN_C.OUT


TIME:   7:59     DATE:   2/ 5/2015


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

     TITLE:  PESCADITO-OPEN CONDITIONS

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


     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   0
          THICKNESS                  =      6.00   INCHES
          POROSITY                   =      0.4520 VOL/VOL
          FIELD CAPACITY             =      0.4110 VOL/VOL
          WILTING POINT              =      0.3110 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.4110 VOL/VOL
```

```
  EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC

                          LAYER  2
                          --------

            TYPE 1 - VERTICAL PERCOLATION LAYER
                MATERIAL TEXTURE NUMBER  18
  THICKNESS                    =    120.00   INCHES
  POROSITY                     =      0.6710 VOL/VOL
  FIELD CAPACITY               =      0.2920 VOL/VOL
  WILTING POINT                =      0.0770 VOL/VOL
  INITIAL SOIL WATER CONTENT   =      0.2000 VOL/VOL
  EFFECTIVE SAT. HYD. COND.    =  0.100000005000E-02 CM/SEC
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM LAYER # 4
         IS RECIRCULATED INTO THIS LAYER.

                          LAYER  3
                          --------

            TYPE 1 - VERTICAL PERCOLATION LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                    =     24.00   INCHES
  POROSITY                     =      0.4510 VOL/VOL
  FIELD CAPACITY               =      0.4110 VOL/VOL
  WILTING POINT                =      0.3110 VOL/VOL
  INITIAL SOIL WATER CONTENT   =      0.4110 VOL/VOL
  EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC

                          LAYER  4
                          --------

              TYPE 2 - LATERAL DRAINAGE LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                    =      0.26   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.    =   3.71399999000     CM/SEC
  SLOPE                        =      2.00   PERCENT
  DRAINAGE LENGTH              =    461.0    FEET
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM THIS
         LAYER IS RECIRCULATED INTO LAYER #  2.
```

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

              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          =      3.00    HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00    HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD

                         LAYER  6
                         --------

               TYPE 3 - BARRIER SOIL LINER
               MATERIAL TEXTURE NUMBER   0
THICKNESS                    =     24.00    INCHES
POROSITY                     =      0.4510 VOL/VOL
FIELD CAPACITY               =      0.4110 VOL/VOL
WILTING POINT                =      0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4510 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000001000E-06 CM/SEC

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

 NOTE:  SCS RUNOFF CURVE NUMBER WAS USER-SPECIFIED.

SCS RUNOFF CURVE NUMBER              =     85.00
FRACTION OF AREA ALLOWING RUNOFF     =      0.0     PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =      1.000   ACRES
EVAPORATIVE ZONE DEPTH               =     60.0     INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =     13.266   INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =     38.946   INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =      6.024   INCHES
INITIAL SNOW WATER                   =      0.000   INCHES
INITIAL WATER IN LAYER MATERIALS     =     47.157   INCHES
TOTAL INITIAL WATER                  =     47.157   INCHES
TOTAL SUBSURFACE INFLOW              =      0.00    INCHES/YEAR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
BROWNSVILLE TEXAS

STATION LATITUDE	=	27.34	DEGREES
MAXIMUM LEAF AREA INDEX	=	0.00	
START OF GROWING SEASON (JULIAN DATE)	=	0	
END OF GROWING SEASON (JULIAN DATE)	=	367	
EVAPORATIVE ZONE DEPTH	=	60.0	INCHES
AVERAGE ANNUAL WIND SPEED	=	11.60	MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	76.00	%
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	75.00	%
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	74.00	%
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	76.00	%

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.82	0.86	0.88	1.37	2.65	2.68
1.93	2.29	3.09	2.41	1.07	0.91

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
56.50	61.00	68.80	76.00	82.00	86.50
87.90	87.90	82.90	75.40	65.50	57.70

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS
AND STATION LATITUDE = 27.34 DEGREES

```
*******************************************************************************

                    MONTHLY TOTALS (IN INCHES) FOR YEAR    1
-------------------------------------------------------------------------------

                                 JAN/JUL FEB/AUG MAR/SEP APR/OCT MAY/NOV JUN/DEC
                                 ------- ------- ------- ------- ------- -------

PRECIPITATION                     0.32    0.49    0.35    0.01    0.00    3.60
                                  0.00    2.82    3.54    2.89    0.72    1.56

RUNOFF                            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                0.935   0.421   0.361   0.294   0.267   3.495
                                  0.706   1.974   4.423   2.927   0.881   1.432

LATERAL DRAINAGE RECIRCULATED     0.0054  0.0009  0.0004  0.0001  0.0000  0.0000
  INTO LAYER  2                   0.0000  0.0000  0.0000  0.0000  0.0000  0.0000

LATERAL DRAINAGE COLLECTED        0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
  FROM LAYER  4                   0.0000  0.0000  0.0000  0.0000  0.0000  0.0000

LATERAL DRAINAGE RECIRCULATED     0.0054  0.0009  0.0004  0.0001  0.0000  0.0000
  FROM LAYER  4                   0.0000  0.0000  0.0000  0.0000  0.0000  0.0000

PERCOLATION/LEAKAGE THROUGH       0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
  LAYER  6                        0.0000  0.0000  0.0000  0.0000  0.0000  0.0000

-------------------------------------------------------------------------------
                  MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)
-------------------------------------------------------------------------------

AVERAGE DAILY HEAD ON             0.000   0.000   0.000   0.000   0.000   0.000
  TOP OF LAYER  5                 0.000   0.000   0.000   0.000   0.000   0.000

STD. DEVIATION OF DAILY           0.000   0.000   0.000   0.000   0.000   0.000
  HEAD ON TOP OF LAYER  5         0.000   0.000   0.000   0.000   0.000   0.000

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


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

                         ANNUAL TOTALS FOR YEAR    1
-------------------------------------------------------------------------------
                                       INCHES          CU. FEET      PERCENT
                                     --------        ----------     -------
  PRECIPITATION                        16.30          59169.004     100.00
```

RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	18.116	65760.953	111.14
RECIRCULATION INTO LAYER 2	0.006863	24.914	0.04
DRAINAGE COLLECTED FROM LAYER 4	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 4	0.006863	24.914	0.04
PERC./LEAKAGE THROUGH LAYER 6	0.000001	0.004	0.00
AVG. HEAD ON TOP OF LAYER 5	0.0000		
CHANGE IN WATER STORAGE	-1.816	-6591.962	-11.14
SOIL WATER AT START OF YEAR	47.157	171178.500	
SOIL WATER AT END OF YEAR	45.341	164586.547	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.010	0.00

****

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.49	0.35	0.01	0.00	3.60
	0.00	2.82	3.54	2.89	0.72	1.56
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                  0.935    0.421    0.361    0.294    0.267    3.495
                          0.706    1.974    4.423    2.927    0.881    1.432

  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 RECIRCULATED INTO LAYER  2
-------------------------------------------
  TOTALS                  0.0054   0.0009   0.0004   0.0001   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  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 RECIRCULATED FROM LAYER  4
-------------------------------------------
  TOTALS                  0.0054   0.0009   0.0004   0.0001   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 ON TOP OF LAYER  5
-------------------------------------
  AVERAGES                0.0002   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

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

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

     AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS    1 THROUGH    1
-------------------------------------------------------------------------------
                                      INCHES            CU. FEET       PERCENT
                                  -------------------  -------------  ---------
 PRECIPITATION                    16.30    (   0.000)     59169.0      100.00

 RUNOFF                            0.000   (  0.0000)         0.00       0.000

 EVAPOTRANSPIRATION               18.116   (  0.0000)     65760.95     111.141

 DRAINAGE RECIRCULATED             0.00686 (  0.00000)       24.914     0.04211
   INTO LAYER  2

 LATERAL DRAINAGE COLLECTED        0.00000 (  0.00000)        0.000     0.00000
   FROM LAYER  4

 DRAINAGE RECIRCULATED             0.00686 (  0.00000)       24.914     0.04211
   FROM LAYER  4

 PERCOLATION/LEAKAGE THROUGH       0.00000 (  0.00000)        0.004     0.00001
   LAYER  6

 AVERAGE HEAD ON TOP               0.000 (    0.000)
   OF LAYER  5

 CHANGE IN WATER STORAGE          -1.816   (  0.0000)     -6591.96     -11.141

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

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

                PEAK DAILY VALUES FOR YEARS    1 THROUGH    1
   ---------------------------------------------------------------------
                                                (INCHES)      (CU. FT.)
                                               ----------   -------------
      PRECIPITATION                              1.32          4791.600

      RUNOFF                                     0.000            0.0000

      DRAINAGE RECIRCULATED INTO LAYER  2        0.00211          7.64722

      DRAINAGE COLLECTED FROM LAYER  4           0.00000          0.00000

      DRAINAGE RECIRCULATED FROM LAYER  4        0.00211          7.64722

      PERCOLATION/LEAKAGE THROUGH LAYER  6       0.000000         0.00006
```

```
AVERAGE HEAD ON TOP OF LAYER  5            0.002

MAXIMUM HEAD ON TOP OF LAYER  5            0.005

LOCATION OF MAXIMUM HEAD IN LAYER  4
      (DISTANCE FROM DRAIN)                0.0 FEET

SNOW WATER                                 0.00            0.0000


MAXIMUM VEG. SOIL WATER (VOL/VOL)                  0.2345

MINIMUM VEG. SOIL WATER (VOL/VOL)                  0.1838

 ***  Maximum heads are computed using McEnroe's equations.  ***

      Reference:  Maximum Saturated Depth over Landfill Liner
                  by Bruce M. McEnroe, University of Kansas
                  ASCE Journal of Environmental Engineering
                  Vol. 119, No. 2, March 1993, pp. 262-270.

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

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

                 FINAL WATER STORAGE AT END OF YEAR    1
 ----------------------------------------------------------------------
                 LAYER        (INCHES)       (VOL/VOL)
                 -----        --------       ---------
                   1           1.5392         0.2565

                   2          23.1177         0.1926

                   3           9.8571         0.4107

                   4           0.0026         0.0100

                   5           0.0000         0.0000

                   6          10.8240         0.4510

               SNOW WATER      0.000

*******************************************************************************
*******************************************************************************
```

ATTACHMENT B

TO APPENDIX III-D.6

HELP MODEL OUTPUTS

2. OPEN CONDITIONS

A. LEACHATE COLLECTION SYSTEM CONFIGURATION A
B. LEACHATE COLLECTION SYSTEM CONFIGURATION B
C. LEACHATE COLLECTION SYSTEM CONFIGURATION C
D. LEACHATE COLLECTION SYSTEM CONFIGURATION D

3-2-2015

STATE OF TEXAS
MICHAEL W. ODEN
67165
REGISTERED
PROFESSIONAL ENGINEER

This document is released for the purpose of permitting only under the authority of Michael W. Oden, P.E. #67165. It is not to be used for bidding or construction. Texas Registered Engineering Firm F-5650.

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


PRECIPITATION DATA FILE:     C:\HELP3\pesc\PRECIP.D4
TEMPERATURE DATA FILE:       C:\HELP3\pesc\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\pesc\SOL.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\pesc\EVAP_OPN.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\pesc\OPEN_d.D10
OUTPUT DATA FILE:            C:\HELP3\pesc\OPEN_d.OUT

TIME:   8: 3     DATE:   2/ 5/2015

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

     TITLE:  PESCADITO-OPEN CONDITIONS

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

     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   0
          THICKNESS                  =      6.00   INCHES
          POROSITY                   =      0.4520 VOL/VOL
          FIELD CAPACITY             =      0.4110 VOL/VOL
          WILTING POINT              =      0.3110 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.4110 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.999999975000E-05 CM/SEC
```

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

              TYPE 1 - VERTICAL PERCOLATION LAYER
                  MATERIAL TEXTURE NUMBER  18
  THICKNESS                    =    120.00   INCHES
  POROSITY                     =      0.6710 VOL/VOL
  FIELD CAPACITY               =      0.2920 VOL/VOL
  WILTING POINT                =      0.0770 VOL/VOL
  INITIAL SOIL WATER CONTENT   =      0.2000 VOL/VOL
  EFFECTIVE SAT. HYD. COND.    =  0.100000005000E-02 CM/SEC
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM LAYER # 4
         IS RECIRCULATED INTO THIS LAYER.


                         LAYER  3
                         --------

              TYPE 1 - VERTICAL PERCOLATION LAYER
                  MATERIAL TEXTURE NUMBER   0
  THICKNESS                    =     24.00   INCHES
  POROSITY                     =      0.4510 VOL/VOL
  FIELD CAPACITY               =      0.4110 VOL/VOL
  WILTING POINT                =      0.3110 VOL/VOL
  INITIAL SOIL WATER CONTENT   =      0.4110 VOL/VOL
  EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC


                         LAYER  4
                         --------

               TYPE 2 - LATERAL DRAINAGE LAYER
                  MATERIAL TEXTURE NUMBER   0
  THICKNESS                    =      0.26   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.    =   3.71399999000     CM/SEC
  SLOPE                        =      2.00   PERCENT
  DRAINAGE LENGTH              =    614.0    FEET
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM THIS
         LAYER IS RECIRCULATED INTO LAYER #  2.


                         LAYER  5
                         --------

               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         =      3.00   HOLES/ACRE
FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY       =  3 - GOOD

                        LAYER  6
                        --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                   =     24.00   INCHES
POROSITY                    =      0.4510 VOL/VOL
FIELD CAPACITY              =      0.4110 VOL/VOL
WILTING POINT               =      0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.4510 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.100000001000E-06 CM/SEC

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

 NOTE:  SCS RUNOFF CURVE NUMBER WAS USER-SPECIFIED.

SCS RUNOFF CURVE NUMBER             =     85.00
FRACTION OF AREA ALLOWING RUNOFF    =      0.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE  =      1.000  ACRES
EVAPORATIVE ZONE DEPTH              =     60.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE   =     13.266  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE  =     38.946  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE  =      6.024  INCHES
INITIAL SNOW WATER                  =      0.000  INCHES
INITIAL WATER IN LAYER MATERIALS    =     47.157  INCHES
TOTAL INITIAL WATER                 =     47.157  INCHES
TOTAL SUBSURFACE INFLOW             =      0.00   INCHES/YEAR

           EVAPOTRANSPIRATION AND WEATHER DATA
           -----------------------------------

 NOTE:  EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
          BROWNSVILLE           TEXAS

     STATION LATITUDE                          =  27.34 DEGREES
     MAXIMUM LEAF AREA INDEX                   =   0.00
     START OF GROWING SEASON (JULIAN DATE)     =      0
     END OF GROWING SEASON (JULIAN DATE)       =    367
     EVAPORATIVE ZONE DEPTH                    =  60.0  INCHES
     AVERAGE ANNUAL WIND SPEED                 =  11.60 MPH
```

```
AVERAGE 1ST QUARTER RELATIVE HUMIDITY  =  76.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY  =  75.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY  =  74.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY  =  76.00 %
```

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.82	0.86	0.88	1.37	2.65	2.68
1.93	2.29	3.09	2.41	1.07	0.91

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
56.50	61.00	68.80	76.00	82.00	86.50
87.90	87.90	82.90	75.40	65.50	57.70

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS
AND STATION LATITUDE = 27.34 DEGREES

****

MONTHLY TOTALS (IN INCHES) FOR YEAR 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.32	0.49	0.35	0.01	0.00	3.60
	0.00	2.82	3.54	2.89	0.72	1.56
RUNOFF	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	0.935	0.421	0.361	0.294	0.267	3.495
	0.706	1.974	4.407	2.932	0.858	1.432

LATERAL DRAINAGE RECIRCULATED	0.0048	0.0009	0.0006	0.0003	0.0001	0.0001
INTO LAYER 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0048	0.0009	0.0006	0.0003	0.0001	0.0001
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.001	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000

****

****

ANNUAL TOTALS FOR YEAR 1

	INCHES	CU. FEET	PERCENT
PRECIPITATION	16.30	59169.004	100.00
RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	18.082	65637.367	110.93
RECIRCULATION INTO LAYER 2	0.006863	24.911	0.04
DRAINAGE COLLECTED FROM LAYER 4	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 4	0.006863	24.911	0.04
PERC./LEAKAGE THROUGH LAYER 6	0.000002	0.007	0.00
AVG. HEAD ON TOP OF LAYER 5	0.0000		
CHANGE IN WATER STORAGE	-1.782	-6468.416	-10.93

SOIL WATER AT START OF YEAR	47.157	171178.500	
SOIL WATER AT END OF YEAR	45.375	164710.094	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.048	0.00

****

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.49	0.35	0.01	0.00	3.60
	0.00	2.82	3.54	2.89	0.72	1.56
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	0.935	0.421	0.361	0.294	0.267	3.495
	0.706	1.974	4.407	2.932	0.858	1.432
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 RECIRCULATED INTO LAYER 2						
TOTALS	0.0048	0.0009	0.0006	0.0003	0.0001	0.0001
	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 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 RECIRCULATED FROM LAYER  4
-------------------------------------------
  TOTALS                  0.0048   0.0009   0.0006   0.0003   0.0001   0.0001
                          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 ON TOP OF LAYER  5
-------------------------------------
  AVERAGES                0.0002   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

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

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

    AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS    1 THROUGH    1
-------------------------------------------------------------------------------
                                   INCHES            CU. FEET        PERCENT
                              --------------------  -------------   ---------
 PRECIPITATION                 16.30    (   0.000)     59169.0      100.00

 RUNOFF                         0.000   (  0.0000)        0.00       0.000

 EVAPOTRANSPIRATION            18.082   (  0.0000)     65637.37     110.932

 DRAINAGE RECIRCULATED          0.00686 (  0.00000)      24.911     0.04210
```

```
  INTO LAYER  2

LATERAL DRAINAGE COLLECTED      0.00000 (  0.00000)        0.000     0.00000
  FROM LAYER  4

DRAINAGE RECIRCULATED           0.00686 (  0.00000)       24.911     0.04210
  FROM LAYER  4

PERCOLATION/LEAKAGE THROUGH     0.00000 (  0.00000)        0.007     0.00001
  LAYER  6

AVERAGE HEAD ON TOP             0.000 (    0.000)
  OF LAYER  5

CHANGE IN WATER STORAGE        -1.782   (  0.0000)     -6468.42    -10.932
******************************************************************************

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

              PEAK DAILY VALUES FOR YEARS    1 THROUGH    1
  ---------------------------------------------------------------------
                                            (INCHES)      (CU. FT.)
                                           ----------    -------------
     PRECIPITATION                           1.32          4791.600

     RUNOFF                                  0.000            0.0000

     DRAINAGE RECIRCULATED INTO LAYER  2     0.00170          6.17618

     DRAINAGE COLLECTED FROM LAYER  4        0.00000          0.00000

     DRAINAGE RECIRCULATED FROM LAYER  4     0.00170          6.17618

     PERCOLATION/LEAKAGE THROUGH LAYER  6    0.000000         0.00006

     AVERAGE HEAD ON TOP OF LAYER  5         0.002

     MAXIMUM HEAD ON TOP OF LAYER  5         0.005

     LOCATION OF MAXIMUM HEAD IN LAYER  4
           (DISTANCE FROM DRAIN)             0.0 FEET

     SNOW WATER                              0.00             0.0000


     MAXIMUM VEG. SOIL WATER (VOL/VOL)                 0.2345

     MINIMUM VEG. SOIL WATER (VOL/VOL)                 0.1841

      ***  Maximum heads are computed using McEnroe's equations.  ***
```

Reference: Maximum Saturated Depth over Landfill Liner
by Bruce M. McEnroe, University of Kansas
ASCE Journal of Environmental Engineering
Vol. 119, No. 2, March 1993, pp. 262-270.

****

****

FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	1.5392	0.2565
2	23.1517	0.1929
3	9.8571	0.4107
4	0.0026	0.0100
5	0.0000	0.0000
6	10.8240	0.4510
SNOW WATER	0.000	

****
****

Technically Complete, March 11, 2016

ATTACHMENT B

TO APPENDIX III-D.6

HELP MODEL OUTPUTS

3. INTERMEDIATE CONDITIONS

3-2-2015

STATE OF TEXAS
MICHAEL W. ODEN
67165
REGISTERED
PROFESSIONAL ENGINEER

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CBI

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



PRECIPITATION DATA FILE:     C:\HELP3\pesc\PRECIP.D4
TEMPERATURE DATA FILE:       C:\HELP3\pesc\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\pesc\SOL.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\pesc\EVAP_INT.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\pesc\INT.D10
OUTPUT DATA FILE:            C:\HELP3\pesc\INT.OUT

TIME:   8:28     DATE:   2/ 5/2015

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

     TITLE:  Pescadito Intermediate Conditions

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

     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   0
          THICKNESS                  =     12.00   INCHES
          POROSITY                   =      0.4510 VOL/VOL
          FIELD CAPACITY             =      0.4110 VOL/VOL
          WILTING POINT              =      0.3110 VOL/VOL
          INITIAL SOIL WATER CONTENT =      0.4110 VOL/VOL
          EFFECTIVE SAT. HYD. COND.  =  0.999999975000E-05 CM/SEC


                                LAYER  2
                                --------

                     TYPE 1 - VERTICAL PERCOLATION LAYER
```

```
                MATERIAL TEXTURE NUMBER  18
  THICKNESS                    =   2280.00   INCHES
  POROSITY                     =      0.6710 VOL/VOL
  FIELD CAPACITY               =      0.2920 VOL/VOL
  WILTING POINT                =      0.0770 VOL/VOL
  INITIAL SOIL WATER CONTENT   =      0.1928 VOL/VOL
  EFFECTIVE SAT. HYD. COND.    =  0.100000005000E-02 CM/SEC
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM LAYER # 4
         IS RECIRCULATED INTO THIS LAYER.


                         LAYER  3
                         --------

            TYPE 1 - VERTICAL PERCOLATION LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                    =     24.00   INCHES
  POROSITY                     =      0.4510 VOL/VOL
  FIELD CAPACITY               =      0.4110 VOL/VOL
  WILTING POINT                =      0.3110 VOL/VOL
  INITIAL SOIL WATER CONTENT   =      0.4109 VOL/VOL
  EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC


                         LAYER  4
                         --------

              TYPE 2 - LATERAL DRAINAGE LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                    =      0.25   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.    =   3.85999990000     CM/SEC
  SLOPE                        =      2.50   PERCENT
  DRAINAGE LENGTH              =    461.0    FEET
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM THIS
         LAYER IS RECIRCULATED INTO LAYER #  2.


                         LAYER  5
                         --------

              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          =      3.00   HOLES/ACRE
FML INSTALLATION DEFECTS     =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY        =  3 - GOOD

                        LAYER  6
                        --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4510 VOL/VOL
FIELD CAPACITY               =      0.4110 VOL/VOL
WILTING POINT                =      0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4510 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000001000E-06 CM/SEC

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

 NOTE:  SCS RUNOFF CURVE NUMBER WAS USER-SPECIFIED.

SCS RUNOFF CURVE NUMBER              =     85.00
FRACTION OF AREA ALLOWING RUNOFF     =     75.0     PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =      1.000   ACRES
EVAPORATIVE ZONE DEPTH               =     60.0     INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =     14.186   INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =     37.620   INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =      7.428   INCHES
INITIAL SNOW WATER                   =      0.000   INCHES
INITIAL WATER IN LAYER MATERIALS     =    465.204   INCHES
TOTAL INITIAL WATER                  =    465.204   INCHES
TOTAL SUBSURFACE INFLOW              =      0.00    INCHES/YEAR

           EVAPOTRANSPIRATION AND WEATHER DATA
           -----------------------------------

 NOTE:  EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
          BROWNSVILLE           TEXAS

     STATION LATITUDE                          =  27.34 DEGREES
     MAXIMUM LEAF AREA INDEX                   =   1.00
     START OF GROWING SEASON (JULIAN DATE)     =      0
     END OF GROWING SEASON (JULIAN DATE)       =    367
     EVAPORATIVE ZONE DEPTH                    =  60.0  INCHES
     AVERAGE ANNUAL WIND SPEED                 =  11.60 MPH
     AVERAGE 1ST QUARTER RELATIVE HUMIDITY     =  76.00 %
     AVERAGE 2ND QUARTER RELATIVE HUMIDITY     =  75.00 %
     AVERAGE 3RD QUARTER RELATIVE HUMIDITY     =  74.00 %
     AVERAGE 4TH QUARTER RELATIVE HUMIDITY     =  76.00 %
```

Pescadito Landfill – Intermediate Conditions: Scenario A

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.82	0.86	0.88	1.37	2.65	2.68
1.93	2.29	3.09	2.41	1.07	0.91

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
56.50	61.00	68.80	76.00	82.00	86.50
87.90	87.90	82.90	75.40	65.50	57.70

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS
AND STATION LATITUDE = 27.34 DEGREES

****

MONTHLY TOTALS (IN INCHES) FOR YEAR 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.32	0.49	0.35	0.01	0.00	3.60
	0.00	2.82	3.54	2.89	0.72	1.56
RUNOFF	0.000	0.000	0.000	0.000	0.000	1.474
	0.000	0.231	0.544	0.473	0.000	0.000
EVAPOTRANSPIRATION	1.249	0.467	0.436	0.448	0.613	2.935
	0.621	2.369	3.115	2.498	0.754	1.569
LATERAL DRAINAGE RECIRCULATED	0.0043	0.0002	0.0000	0.0000	0.0000	0.0000
INTO LAYER 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0043	0.0002	0.0000	0.0000	0.0000	0.0000

```
  FROM LAYER  4                    0.0000  0.0000  0.0000  0.0000  0.0000  0.0000

PERCOLATION/LEAKAGE THROUGH        0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
  LAYER  6                         0.0000  0.0000  0.0000  0.0000  0.0000  0.0000


-------------------------------------------------------------------------------
                    MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)
-------------------------------------------------------------------------------


AVERAGE DAILY HEAD ON              0.000   0.000   0.000   0.000   0.000   0.000
  TOP OF LAYER  5                  0.000   0.000   0.000   0.000   0.000   0.000

STD. DEVIATION OF DAILY            0.000   0.000   0.000   0.000   0.000   0.000
  HEAD ON TOP OF LAYER  5          0.000   0.000   0.000   0.000   0.000   0.000

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

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

                          ANNUAL TOTALS FOR YEAR     1
-------------------------------------------------------------------------------
                                        INCHES          CU. FEET      PERCENT
                                       --------        ----------     -------
  PRECIPITATION                         16.30          59169.004     100.00

  RUNOFF                                 2.722          9880.656      16.70

  EVAPOTRANSPIRATION                    17.074         61977.477     104.75

  RECIRCULATION INTO LAYER  2            0.004464         16.203       0.03

  DRAINAGE COLLECTED FROM LAYER  4       0.0000            0.000       0.00

  RECIRCULATION FROM LAYER  4            0.004464         16.203       0.03

  PERC./LEAKAGE THROUGH LAYER  6         0.000001          0.002       0.00

  AVG. HEAD ON TOP OF LAYER  5           0.0000

  CHANGE IN WATER STORAGE               -3.496        -12689.048     -21.45

  SOIL WATER AT START OF YEAR          465.204       1688690.870

  SOIL WATER AT END OF YEAR            461.708       1676001.870

  SNOW WATER AT START OF YEAR            0.000            0.000       0.00

  SNOW WATER AT END OF YEAR              0.000            0.000       0.00

  ANNUAL WATER BUDGET BALANCE            0.0000          -0.082       0.00
```

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                    MONTHLY TOTALS (IN INCHES) FOR YEAR    2
-------------------------------------------------------------------------------

                                JAN/JUL FEB/AUG MAR/SEP APR/OCT MAY/NOV JUN/DEC
                                ------- ------- ------- ------- ------- -------

PRECIPITATION                    0.00    2.53    1.70    0.01    4.17    3.37
                                 1.02    1.46    7.20    3.49    0.29    0.94

RUNOFF                           0.000   0.128   0.359   0.000   2.145   1.293
                                 0.252   0.019   2.315   0.671   0.000   0.000

EVAPOTRANSPIRATION               0.036   1.535   2.110   0.120   1.384   2.709
                                 0.792   1.147   5.027   2.390   0.876   0.933

LATERAL DRAINAGE RECIRCULATED    0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
  INTO LAYER  2                  0.0000  0.0000  0.0000  0.0000  0.0000  0.0000

LATERAL DRAINAGE COLLECTED       0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
  FROM LAYER  4                  0.0000  0.0000  0.0000  0.0000  0.0000  0.0000

LATERAL DRAINAGE RECIRCULATED    0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
  FROM LAYER  4                  0.0000  0.0000  0.0000  0.0000  0.0000  0.0000

PERCOLATION/LEAKAGE THROUGH      0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
  LAYER  6                       0.0000  0.0000  0.0000  0.0000  0.0000  0.0000


-------------------------------------------------------------------------------
                    MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)
-------------------------------------------------------------------------------


AVERAGE DAILY HEAD ON            0.000   0.000   0.000   0.000   0.000   0.000
  TOP OF LAYER  5                0.000   0.000   0.000   0.000   0.000   0.000

STD. DEVIATION OF DAILY          0.000   0.000   0.000   0.000   0.000   0.000
  HEAD ON TOP OF LAYER  5        0.000   0.000   0.000   0.000   0.000   0.000

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

                         ANNUAL TOTALS FOR YEAR     2
-------------------------------------------------------------------------------
                                          INCHES          CU. FEET      PERCENT
                                         --------        ----------     -------
  PRECIPITATION                           26.18          95033.414     100.00

  RUNOFF                                   7.182         26072.006      27.43

  EVAPOTRANSPIRATION                      19.060         69186.531      72.80

  RECIRCULATION INTO LAYER  2              0.000000          0.000       0.00

  DRAINAGE COLLECTED FROM LAYER  4         0.0000            0.000       0.00

  RECIRCULATION FROM LAYER  4              0.000000          0.000       0.00

  PERC./LEAKAGE THROUGH LAYER  6           0.000000          0.000       0.00

  AVG. HEAD ON TOP OF LAYER  5             0.0000

  CHANGE IN WATER STORAGE                 -0.062          -225.103      -0.24

  SOIL WATER AT START OF YEAR            461.708       1676001.870

  SOIL WATER AT END OF YEAR              461.646       1675776.750

  SNOW WATER AT START OF YEAR              0.000            0.000       0.00

  SNOW WATER AT END OF YEAR                0.000            0.000       0.00

  ANNUAL WATER BUDGET BALANCE              0.0000          -0.019       0.00

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                   MONTHLY TOTALS (IN INCHES) FOR YEAR     3
-------------------------------------------------------------------------------

                            JAN/JUL FEB/AUG MAR/SEP APR/OCT MAY/NOV JUN/DEC
                            ------- ------- ------- ------- ------- -------

PRECIPITATION                0.20    1.92    0.63    0.00    1.32    7.54
                             1.52    1.27    3.38    0.62    0.29    0.61

RUNOFF                       0.000   0.348   0.000   0.000   0.110   2.926
                             0.081   0.000   0.670   0.094   0.000   0.000

EVAPOTRANSPIRATION           0.188   1.529   0.674   0.019   1.211   4.478
                             1.561   1.141   2.809   0.588   0.107   0.563
```

LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 3

	INCHES	CU. FEET	PERCENT
PRECIPITATION	19.30	70059.008	100.00
RUNOFF	4.229	15352.104	21.91
EVAPOTRANSPIRATION	14.868	53970.105	77.04
RECIRCULATION INTO LAYER 2	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 4	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 4	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 6	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 5	0.0000		
CHANGE IN WATER STORAGE	0.203	736.679	1.05
SOIL WATER AT START OF YEAR	461.646	1675776.750	

SOIL WATER AT END OF YEAR	461.849	1676513.370	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.121	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 4

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	1.06	1.72	1.42	0.22	5.20	1.02
	1.57	0.80	4.29	3.33	0.29	1.23
RUNOFF	0.000	0.005	0.161	0.000	1.816	0.097
	0.337	0.079	0.496	1.132	0.000	0.000
EVAPOTRANSPIRATION	1.066	1.915	1.267	0.223	3.387	0.926
	1.244	0.742	3.441	2.370	0.387	1.151
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 4

	INCHES	CU. FEET	PERCENT
PRECIPITATION	22.15	80404.516	100.00
RUNOFF	4.123	14966.297	18.61
EVAPOTRANSPIRATION	18.120	65774.766	81.80
RECIRCULATION INTO LAYER 2	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 4	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 4	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 6	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 5	0.0000		
CHANGE IN WATER STORAGE	-0.093	-336.546	-0.42
SOIL WATER AT START OF YEAR	461.849	1676513.370	
SOIL WATER AT END OF YEAR	461.757	1676176.870	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.003	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 5

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.77	0.26	1.35	0.00	3.51	0.42
	1.71	1.62	2.89	0.70	0.59	0.20
RUNOFF	0.000	0.000	0.106	0.000	1.403	0.000
	0.184	0.151	0.666	0.000	0.000	0.000

EVAPOTRANSPIRATION	0.831	0.364	1.234	0.022	2.089	0.151
	1.808	1.475	2.142	0.581	0.633	0.368
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 5

	INCHES	CU. FEET	PERCENT
PRECIPITATION	14.02	50892.621	100.00
RUNOFF	2.510	9110.605	17.90
EVAPOTRANSPIRATION	11.699	42466.410	83.44
RECIRCULATION INTO LAYER 2	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 4	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 4	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 6	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 5	0.0000		
CHANGE IN WATER STORAGE	-0.189	-684.391	-1.34

SOIL WATER AT START OF YEAR	461.757	1676176.870	
SOIL WATER AT END OF YEAR	461.568	1675492.500	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.000	0.00

****

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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	0.47	1.38	1.09	0.05	2.84	3.19
	1.16	1.59	4.26	2.21	0.44	0.91
STD. DEVIATIONS	0.43	0.97	0.57	0.10	2.13	2.81
	0.70	0.75	1.72	1.43	0.21	0.53
RUNOFF						
TOTALS	0.000	0.096	0.125	0.000	1.095	1.158
	0.171	0.096	0.938	0.474	0.000	0.000
STD. DEVIATIONS	0.000	0.151	0.148	0.000	0.986	1.195
	0.134	0.096	0.773	0.459	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.674	1.162	1.144	0.166	1.737	2.240
	1.205	1.375	3.307	1.685	0.552	0.917
STD. DEVIATIONS	0.537	0.700	0.648	0.178	1.062	1.718
	0.501	0.613	1.075	1.006	0.307	0.476
LATERAL DRAINAGE RECIRCULATED INTO LAYER 2						
TOTALS	0.0009	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0019	0.0001	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  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 RECIRCULATED FROM LAYER  4
--------------------------------------------
  TOTALS                  0.0009   0.0000   0.0000   0.0000   0.0000   0.0000
                          0.0000   0.0000   0.0000   0.0000   0.0000   0.0000

  STD. DEVIATIONS         0.0019   0.0001   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 ON TOP OF 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         0.0001   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                 19.59    (   4.794)     71111.7     100.00

 RUNOFF                         4.153   (  1.8663)     15076.33     21.201

 EVAPOTRANSPIRATION            16.164   (  2.9435)     58675.06     82.511
```

DRAINAGE RECIRCULATED INTO LAYER 2	0.00089	(0.00200)	3.241	0.00456
LATERAL DRAINAGE COLLECTED FROM LAYER 4	0.00000	(0.00000)	0.000	0.00000
DRAINAGE RECIRCULATED FROM LAYER 4	0.00089	(0.00200)	3.241	0.00456
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.00000	(0.00000)	0.000	0.00000
AVERAGE HEAD ON TOP OF LAYER 5	0.000	(0.000)		
CHANGE IN WATER STORAGE	-0.727	(1.5544)	-2639.68	-3.712

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 5

	(INCHES)	(CU. FT.)
PRECIPITATION	2.72	9873.601
RUNOFF	1.654	6003.0620
DRAINAGE RECIRCULATED INTO LAYER 2	0.00163	5.90765
DRAINAGE COLLECTED FROM LAYER 4	0.00000	0.00000
DRAINAGE RECIRCULATED FROM LAYER 4	0.00163	5.90765
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.000000	0.00004
AVERAGE HEAD ON TOP OF LAYER 5	0.001	
MAXIMUM HEAD ON TOP OF LAYER 5	0.009	
LOCATION OF MAXIMUM HEAD IN LAYER 4 (DISTANCE FROM DRAIN)	0.0 FEET	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2364
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.1744

```
***  Maximum heads are computed using McEnroe's equations.  ***

     Reference:  Maximum Saturated Depth over Landfill Liner
                 by Bruce M. McEnroe, University of Kansas
                 ASCE Journal of Environmental Engineering
                 Vol. 119, No. 2, March 1993, pp. 262-270.

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                 FINAL WATER STORAGE AT END OF YEAR    5
    ---------------------------------------------------------------------
                 LAYER        (INCHES)       (VOL/VOL)
                 -----        --------       ---------
                   1            3.3576         0.2798

                   2          437.5269         0.1919

                   3            9.8571         0.4107

                   4            0.0025         0.0100

                   5            0.0000         0.0000

                   6           10.8240         0.4510

               SNOW WATER       0.000

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Technically Complete, March 11, 2016

Technically Complete, March 11, 2016

ATTACHMENT B

TO APPENDIX III-D.6

HELP MODEL OUTPUTS

4. CLOSED CONDITIONS

3-2-2015

STATE OF TEXAS
MICHAEL W. ODEN
67165
REGISTERED
PROFESSIONAL ENGINEER

This document is released for the purpose of permitting only under the authority of Michael W. Oden, P.E. #67165. It is not to be used for bidding or construction. Texas Registered Engineering Firm F-5650.

Pescadito Landfill – Closed Conditions: Scenario A

Slope: 2.0 %
Drainage Length: 614 FT

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


PRECIPITATION DATA FILE:     C:\HELP3\pesc\PRECIP.D4
TEMPERATURE DATA FILE:       C:\HELP3\pesc\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\pesc\SOL.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\pesc\EVAP_CL.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\pesc\CLS_A.D10
OUTPUT DATA FILE:            C:\HELP3\pesc\cls_a.OUT

TIME:   9:29     DATE:   2/ 6/2015

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

     TITLE:  Pescadito Closed Conditions

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

     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   0
          THICKNESS                    =      7.00   INCHES
          POROSITY                     =      0.4510 VOL/VOL
          FIELD CAPACITY               =      0.4110 VOL/VOL
          WILTING POINT                =      0.3110 VOL/VOL
          INITIAL SOIL WATER CONTENT   =      0.4110 VOL/VOL
          EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC


                                  LAYER  2
                                  --------

                     TYPE 1 - VERTICAL PERCOLATION LAYER
                         MATERIAL TEXTURE NUMBER   0
```

```
THICKNESS                    =     30.00   INCHES
POROSITY                     =      0.4510 VOL/VOL
FIELD CAPACITY               =      0.4110 VOL/VOL
WILTING POINT                =      0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4110 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC

                        LAYER  3
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER  18
THICKNESS                    =   4560.00   INCHES
POROSITY                     =      0.6710 VOL/VOL
FIELD CAPACITY               =      0.2920 VOL/VOL
WILTING POINT                =      0.0770 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.1919 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000005000E-02 CM/SEC
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM LAYER # 5
         IS RECIRCULATED INTO THIS LAYER.

                        LAYER  4
                        --------

          TYPE 1 - VERTICAL PERCOLATION LAYER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4510 VOL/VOL
FIELD CAPACITY               =      0.4110 VOL/VOL
WILTING POINT                =      0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4107 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC

                        LAYER  5
                        --------

            TYPE 2 - LATERAL DRAINAGE LAYER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                    =      0.24   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.    =   4.10099983000     CM/SEC
SLOPE                        =      2.50   PERCENT
DRAINAGE LENGTH              =    461.0    FEET
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM THIS
         LAYER IS RECIRCULATED INTO LAYER #  3.

                        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          =      3.00   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                    =     24.00   INCHES
POROSITY                     =      0.4510 VOL/VOL
FIELD CAPACITY               =      0.4110 VOL/VOL
WILTING POINT                =      0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4510 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000001000E-06 CM/SEC

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

 NOTE:  SCS RUNOFF CURVE NUMBER WAS USER-SPECIFIED.

SCS RUNOFF CURVE NUMBER              =     85.00
FRACTION OF AREA ALLOWING RUNOFF     =    100.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =      1.000  ACRES
EVAPORATIVE ZONE DEPTH               =     60.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =     19.621  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =     32.120  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =     13.278  INCHES
INITIAL SNOW WATER                   =      0.000  INCHES
INITIAL WATER IN LAYER MATERIALS     =    910.954  INCHES
TOTAL INITIAL WATER                  =    910.954  INCHES
TOTAL SUBSURFACE INFLOW              =      0.00   INCHES/YEAR

           EVAPOTRANSPIRATION AND WEATHER DATA
           -----------------------------------

 NOTE:  EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
          BROWNSVILLE           TEXAS

     STATION LATITUDE                        =  27.34 DEGREES
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MAXIMUM LEAF AREA INDEX                    =   2.00
START OF GROWING SEASON (JULIAN DATE)      =      0
END OF GROWING SEASON (JULIAN DATE)        =    367
EVAPORATIVE ZONE DEPTH                     =  60.0  INCHES
AVERAGE ANNUAL WIND SPEED                  =  11.60 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY      =  76.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY      =  75.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY      =  74.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY      =  76.00 %
```

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.82	0.86	0.88	1.37	2.65	2.68
1.93	2.29	3.09	2.41	1.07	0.91

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
56.50	61.00	68.80	76.00	82.00	86.50
87.90	87.90	82.90	75.40	65.50	57.70

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS
AND STATION LATITUDE = 27.34 DEGREES

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MONTHLY TOTALS (IN INCHES) FOR YEAR 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.32	0.49	0.35	0.01	0.00	3.60
	0.00	2.82	3.54	2.89	0.72	1.56

RUNOFF	0.000	0.000	0.000	0.000	0.000	1.546
	0.000	0.141	0.693	0.606	0.000	0.000
EVAPOTRANSPIRATION	1.450	2.294	2.714	0.900	0.000	2.054
	0.000	2.452	2.926	2.386	0.681	1.548
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 1

	INCHES	CU. FEET	PERCENT
PRECIPITATION	16.30	59169.004	100.00
RUNOFF	2.987	10841.753	18.32
EVAPOTRANSPIRATION	19.404	70436.203	119.04
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		

CHANGE IN WATER STORAGE	-6.091	-22109.014	-37.37
SOIL WATER AT START OF YEAR	910.954	3306763.500	
SOIL WATER AT END OF YEAR	904.864	3284654.500	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.058	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 2

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.00	2.53	1.70	0.01	4.17	3.37
	1.02	1.46	7.20	3.49	0.29	0.94
RUNOFF	0.000	0.138	0.436	0.000	2.807	1.676
	0.317	0.000	3.067	0.933	0.000	0.000
EVAPOTRANSPIRATION	0.096	1.519	2.070	0.077	0.890	2.166
	0.703	1.178	4.415	1.922	0.925	0.799
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 2

	INCHES	CU. FEET	PERCENT
PRECIPITATION	26.18	95033.414	100.00
RUNOFF	9.375	34030.039	35.81
EVAPOTRANSPIRATION	16.761	60843.480	64.02
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	0.044	159.965	0.17
SOIL WATER AT START OF YEAR	904.864	3284654.500	
SOIL WATER AT END OF YEAR	904.908	3284814.500	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.069	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 3

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.20	1.92	0.63	0.00	1.32	7.54
	1.52	1.27	3.38	0.62	0.29	0.61
RUNOFF	0.000	0.411	0.000	0.000	0.153	3.852

```
                                  0.048    0.000    0.766    0.118    0.000    0.000

EVAPOTRANSPIRATION                0.290    1.546    0.643    0.000    1.167    3.687
                                  1.446    1.168    2.696    0.549    0.157    0.538

LATERAL DRAINAGE RECIRCULATED     0.0000   0.0000   0.0000   0.0000   0.0000   0.0000
  INTO LAYER  3                   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000

LATERAL DRAINAGE COLLECTED        0.0000   0.0000   0.0000   0.0000   0.0000   0.0000
  FROM LAYER  5                   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000

LATERAL DRAINAGE RECIRCULATED     0.0000   0.0000   0.0000   0.0000   0.0000   0.0000
  FROM LAYER  5                   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000

PERCOLATION/LEAKAGE THROUGH       0.0000   0.0000   0.0000   0.0000   0.0000   0.0000
  LAYER  7                        0.0000   0.0000   0.0000   0.0000   0.0000   0.0000


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                   MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)
-------------------------------------------------------------------------------


AVERAGE DAILY HEAD ON             0.000    0.000    0.000    0.000    0.000    0.000
  TOP OF LAYER  6                 0.000    0.000    0.000    0.000    0.000    0.000

STD. DEVIATION OF DAILY           0.000    0.000    0.000    0.000    0.000    0.000
  HEAD ON TOP OF LAYER  6         0.000    0.000    0.000    0.000    0.000    0.000

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                         ANNUAL TOTALS FOR YEAR     3
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                                        INCHES          CU. FEET      PERCENT
                                       --------        ----------     -------
  PRECIPITATION                         19.30          70059.008     100.00

  RUNOFF                                 5.348         19414.209      27.71

  EVAPOTRANSPIRATION                    13.887         50408.910      71.95

  RECIRCULATION INTO LAYER  3            0.000000          0.000       0.00

  DRAINAGE COLLECTED FROM LAYER  5       0.0000            0.000       0.00

  RECIRCULATION FROM LAYER  5            0.000000          0.000       0.00

  PERC./LEAKAGE THROUGH LAYER  7         0.000000          0.000       0.00

  AVG. HEAD ON TOP OF LAYER  6           0.0000
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CHANGE IN WATER STORAGE	0.065	235.737	0.34
SOIL WATER AT START OF YEAR	904.908	3284814.500	
SOIL WATER AT END OF YEAR	904.973	3285050.250	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.154	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 4

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	1.06	1.72	1.42	0.22	5.20	1.02
	1.57	0.80	4.29	3.33	0.29	1.23
RUNOFF	0.000	0.012	0.183	0.000	2.389	0.125
	0.421	0.082	0.586	1.516	0.000	0.000
EVAPOTRANSPIRATION	0.979	1.994	1.237	0.203	2.828	0.839
	1.205	0.718	3.249	1.631	0.853	0.884
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000

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  HEAD ON TOP OF LAYER  6          0.000    0.000    0.000    0.000    0.000    0.000
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                         ANNUAL TOTALS FOR YEAR     4
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                                          INCHES          CU. FEET      PERCENT
                                         --------        ----------     -------
  PRECIPITATION                           22.15          80404.516     100.00
  RUNOFF                                   5.313         19287.629      23.99
  EVAPOTRANSPIRATION                      16.620         60330.008      75.03
  RECIRCULATION INTO LAYER  3              0.000000          0.000       0.00
  DRAINAGE COLLECTED FROM LAYER  5         0.0000            0.000       0.00
  RECIRCULATION FROM LAYER  5              0.000000          0.000       0.00
  PERC./LEAKAGE THROUGH LAYER  7           0.000000          0.000       0.00
  AVG. HEAD ON TOP OF LAYER  6             0.0000
  CHANGE IN WATER STORAGE                  0.217           786.973       0.98
  SOIL WATER AT START OF YEAR            904.973       3285050.250
  SOIL WATER AT END OF YEAR              905.189       3285837.250
  SNOW WATER AT START OF YEAR              0.000             0.000       0.00
  SNOW WATER AT END OF YEAR                0.000             0.000       0.00
  ANNUAL WATER BUDGET BALANCE              0.0000           -0.097       0.00
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                  MONTHLY TOTALS (IN INCHES) FOR YEAR     5
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                          JAN/JUL FEB/AUG MAR/SEP APR/OCT MAY/NOV JUN/DEC
                          ------- ------- ------- ------- ------- -------
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PRECIPITATION	0.77	0.26	1.35	0.00	3.51	0.42
	1.71	1.62	2.89	0.70	0.59	0.20
RUNOFF	0.000	0.000	0.070	0.000	1.882	0.000
	0.211	0.176	0.805	0.000	0.000	0.000
EVAPOTRANSPIRATION	1.036	0.416	1.281	0.000	1.628	0.143
	1.733	1.488	2.047	0.464	0.703	0.361
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 5

	INCHES	CU. FEET	PERCENT
PRECIPITATION	14.02	50892.621	100.00
RUNOFF	3.144	11411.556	22.42
EVAPOTRANSPIRATION	11.298	41013.430	80.59
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00

PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	-0.422	-1532.514	-3.01
SOIL WATER AT START OF YEAR	905.189	3285837.250	
SOIL WATER AT END OF YEAR	904.767	3284304.750	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.151	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 6

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.88	1.39	0.71	2.86	0.19	4.18
	1.61	2.56	4.85	3.49	1.70	0.85
RUNOFF	0.041	0.398	0.000	1.685	0.000	2.397
	0.495	0.568	1.881	1.593	0.572	0.000
EVAPOTRANSPIRATION	0.350	1.480	0.710	1.175	0.190	1.491
	1.407	1.817	2.712	2.290	0.847	0.925
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 6

	INCHES	CU. FEET	PERCENT
PRECIPITATION	25.27	91730.102	100.00
RUNOFF	9.631	34958.809	38.11
EVAPOTRANSPIRATION	15.394	55878.734	60.92
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	0.246	892.656	0.97
SOIL WATER AT START OF YEAR	904.767	3284304.750	
SOIL WATER AT END OF YEAR	905.013	3285197.500	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.097	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 7

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.53	0.84	0.18	0.00	1.84	4.13

	0.98	1.79	6.42	4.31	2.12	1.13
RUNOFF	0.000	0.015	0.000	0.000	0.312	1.585
	0.267	0.034	2.229	1.755	0.091	0.000
EVAPOTRANSPIRATION	0.776	0.825	0.180	0.000	1.219	2.854
	0.713	1.756	3.961	2.677	1.661	1.126
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 7

	INCHES	CU. FEET	PERCENT
PRECIPITATION	24.27	88100.094	100.00
RUNOFF	6.288	22823.758	25.91
EVAPOTRANSPIRATION	17.748	64425.820	73.13
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00

AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	0.234	850.338	0.97
SOIL WATER AT START OF YEAR	905.013	3285197.500	
SOIL WATER AT END OF YEAR	905.247	3286047.750	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.180	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 8

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.61	1.49	0.34	2.35	0.73	0.44
	7.47	0.96	2.83	0.51	0.37	0.36
RUNOFF	0.000	0.172	0.000	1.041	0.000	0.000
	5.067	0.000	0.725	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.903	1.506	0.340	1.309	0.730	0.440
	2.403	0.859	2.189	0.526	0.302	0.345
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000

TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 8

	INCHES	CU. FEET	PERCENT
PRECIPITATION	18.46	67009.797	100.00
RUNOFF	7.006	25430.369	37.95
EVAPOTRANSPIRATION	11.852	43021.004	64.20
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	-0.397	-1441.454	-2.15
SOIL WATER AT START OF YEAR	905.247	3286047.750	
SOIL WATER AT END OF YEAR	904.850	3284606.250	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.121	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 9

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.61	0.78	0.09	0.53	0.52	3.57
	0.85	4.09	2.09	0.88	3.26	0.51

RUNOFF	0.000	0.000	0.000	0.034	0.000	1.165
	0.287	2.561	1.125	0.042	0.786	0.013
EVAPOTRANSPIRATION	0.625	0.847	0.091	0.496	0.520	2.405
	0.563	1.529	0.965	0.838	1.036	0.834
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 9

	INCHES	CU. FEET	PERCENT
PRECIPITATION	17.78	64541.402	100.00
RUNOFF	6.013	21825.824	33.82
EVAPOTRANSPIRATION	10.749	39018.785	60.46
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00

AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	1.018	3696.910	5.73
SOIL WATER AT START OF YEAR	904.850	3284606.250	
SOIL WATER AT END OF YEAR	905.869	3288303.250	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.118	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 10

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.95	0.33	1.00	3.20	0.00	5.40
	2.27	0.69	3.75	4.04	1.04	1.08
RUNOFF	0.000	0.000	0.000	1.042	0.000	3.199
	1.447	0.000	1.212	1.143	0.000	0.095
EVAPOTRANSPIRATION	1.223	1.159	1.000	1.816	0.342	1.252
	1.772	0.690	1.509	2.451	1.507	0.916
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 10

	INCHES	CU. FEET	PERCENT
PRECIPITATION	23.75	86212.500	100.00
RUNOFF	8.137	29538.715	34.26
EVAPOTRANSPIRATION	15.635	56756.836	65.83
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	-0.023	-83.084	-0.10
SOIL WATER AT START OF YEAR	905.869	3288303.250	
SOIL WATER AT END OF YEAR	905.846	3288220.000	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.031	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 11

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	1.55	0.97	0.05	0.98	1.85	0.95
	3.52	4.21	2.13	0.31	0.90	0.53

RUNOFF	0.000	0.000	0.000	0.123	0.693	0.182
	1.431	1.827	0.522	0.000	0.163	0.000
EVAPOTRANSPIRATION	1.242	1.787	0.614	0.863	1.157	0.769
	1.811	2.661	1.607	0.263	0.724	0.591
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 11

	INCHES	CU. FEET	PERCENT
PRECIPITATION	17.95	65158.516	100.00
RUNOFF	4.940	17931.537	27.52
EVAPOTRANSPIRATION	14.089	51141.980	78.49
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00

AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	-1.079	-3915.145	-6.01
SOIL WATER AT START OF YEAR	905.846	3288220.000	
SOIL WATER AT END OF YEAR	904.767	3284305.000	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.145	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 12

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.42	0.97	0.43	1.23	0.18	2.64
	0.63	0.92	5.10	1.74	4.50	0.29
RUNOFF	0.000	0.013	0.000	0.536	0.000	0.214
	0.035	0.048	1.829	0.411	1.190	0.000
EVAPOTRANSPIRATION	0.391	0.899	0.171	1.039	0.180	2.335
	0.403	1.154	2.351	2.249	1.661	1.013
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000

TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 12

	INCHES	CU. FEET	PERCENT
PRECIPITATION	19.05	69151.516	100.00
RUNOFF	4.276	15523.011	22.45
EVAPOTRANSPIRATION	13.848	50266.750	72.69
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	0.926	3361.694	4.86
SOIL WATER AT START OF YEAR	904.767	3284305.000	
SOIL WATER AT END OF YEAR	905.693	3287666.750	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.064	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 13

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.13	0.38	0.23	2.90	3.47	2.21
	0.34	1.36	1.78	2.05	0.47	1.46

RUNOFF	0.000	0.000	0.000	1.675	1.847	0.989
	0.000	0.585	0.308	0.558	0.000	0.289
EVAPOTRANSPIRATION	0.947	0.473	0.246	1.225	1.004	1.354
	0.826	0.775	1.423	1.091	0.921	0.565
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 13

	INCHES	CU. FEET	PERCENT
PRECIPITATION	16.78	60911.418	100.00
RUNOFF	6.252	22693.486	37.26
EVAPOTRANSPIRATION	10.849	39380.582	64.65
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00

AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	-0.320	-1162.513	-1.91
SOIL WATER AT START OF YEAR	905.693	3287666.750	
SOIL WATER AT END OF YEAR	905.373	3286504.250	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.138	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 14

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.46	0.03	0.15	0.09	1.16	3.05
	1.02	1.49	3.45	4.35	0.45	0.75
RUNOFF	0.000	0.000	0.000	0.000	0.241	1.532
	0.106	0.176	0.788	1.496	0.000	0.095
EVAPOTRANSPIRATION	0.909	0.187	0.149	0.091	0.919	1.518
	0.914	1.314	1.989	2.819	1.156	0.516
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 14

	INCHES	CU. FEET	PERCENT
PRECIPITATION	16.45	59713.508	100.00
RUNOFF	4.435	16098.339	26.96
EVAPOTRANSPIRATION	12.481	45305.445	75.87
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	-0.466	-1690.485	-2.83
SOIL WATER AT START OF YEAR	905.373	3286504.250	
SOIL WATER AT END OF YEAR	904.907	3284813.750	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0001	0.211	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 15

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.20	0.44	0.39	0.00	3.65	3.26
	0.46	1.27	3.68	1.28	0.81	1.65

RUNOFF	0.000	0.000	0.000	0.000	2.195	2.060
	0.000	0.343	0.717	0.104	0.053	0.052
EVAPOTRANSPIRATION	0.340	0.433	0.397	0.000	1.454	1.201
	0.460	0.927	2.583	0.982	0.996	0.971
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 15

	INCHES	CU. FEET	PERCENT
PRECIPITATION	17.09	62036.699	100.00
RUNOFF	5.524	20053.098	32.32
EVAPOTRANSPIRATION	10.744	39001.687	62.87
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		

CHANGE IN WATER STORAGE	0.821	2981.944	4.81
SOIL WATER AT START OF YEAR	904.907	3284813.750	
SOIL WATER AT END OF YEAR	905.729	3287795.500	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.028	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 16

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.98	0.34	0.05	2.63	0.17	0.64
	3.69	3.76	2.83	1.49	1.75	0.14
RUNOFF	0.013	0.000	0.000	1.456	0.000	0.121
	1.932	2.642	0.210	0.146	0.703	0.000
EVAPOTRANSPIRATION	1.076	1.135	0.107	1.174	0.170	0.433
	1.844	1.118	2.194	1.592	0.686	0.668
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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STD. DEVIATION OF DAILY          0.000   0.000   0.000   0.000   0.000   0.000
  HEAD ON TOP OF LAYER  6        0.000   0.000   0.000   0.000   0.000   0.000

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                         ANNUAL TOTALS FOR YEAR    16
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                                         INCHES          CU. FEET      PERCENT
                                        --------        ----------     -------
  PRECIPITATION                          18.47          67046.102     100.00

  RUNOFF                                  7.223         26219.689      39.11

  EVAPOTRANSPIRATION                     12.197         44274.699      66.04

  RECIRCULATION INTO LAYER  3             0.000000          0.000       0.00

  DRAINAGE COLLECTED FROM LAYER  5        0.0000            0.000       0.00

  RECIRCULATION FROM LAYER  5             0.000000          0.000       0.00

  PERC./LEAKAGE THROUGH LAYER  7          0.000000          0.000       0.00

  AVG. HEAD ON TOP OF LAYER  6            0.0000

  CHANGE IN WATER STORAGE                -0.950         -3448.323      -5.14

  SOIL WATER AT START OF YEAR           905.729       3287795.500

  SOIL WATER AT END OF YEAR             904.779       3284347.250

  SNOW WATER AT START OF YEAR             0.000            0.000       0.00

  SNOW WATER AT END OF YEAR               0.000            0.000       0.00

  ANNUAL WATER BUDGET BALANCE             0.0000           0.038       0.00

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                   MONTHLY TOTALS (IN INCHES) FOR YEAR    17
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                            JAN/JUL FEB/AUG MAR/SEP APR/OCT MAY/NOV JUN/DEC
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PRECIPITATION                0.53    0.75    0.42    0.22    3.01    3.82
                             2.92    2.98    3.29    2.33    0.31    1.35

RUNOFF                       0.000   0.146   0.000   0.000   0.738   1.161
```

	0.999	0.481	0.783	0.306	0.000	0.180
EVAPOTRANSPIRATION	0.533	0.613	0.420	0.220	2.272	2.637
	1.462	2.776	2.500	2.234	0.187	0.497
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 17

	INCHES	CU. FEET	PERCENT
PRECIPITATION	21.93	79605.914	100.00
RUNOFF	4.794	17402.455	21.86
EVAPOTRANSPIRATION	16.351	59353.051	74.56
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		

CHANGE IN WATER STORAGE	0.785	2850.560	3.58
SOIL WATER AT START OF YEAR	904.779	3284347.250	
SOIL WATER AT END OF YEAR	905.564	3287197.750	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.151	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 18

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.00	0.35	2.93	1.97	0.22	1.21
	0.26	1.06	6.22	4.07	0.41	1.75
RUNOFF	0.000	0.000	0.265	0.415	0.000	0.420
	0.000	0.073	2.947	1.808	0.000	0.068
EVAPOTRANSPIRATION	0.796	0.350	2.376	1.844	0.220	0.549
	0.501	0.987	3.209	2.142	0.595	1.009
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000

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  HEAD ON TOP OF LAYER  6          0.000    0.000    0.000    0.000    0.000    0.000
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                         ANNUAL TOTALS FOR YEAR   18
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                                          INCHES          CU. FEET      PERCENT
                                         --------        ----------     -------
  PRECIPITATION                           20.45          74233.492     100.00

  RUNOFF                                   5.995         21762.812      29.32

  EVAPOTRANSPIRATION                      14.578         52917.887      71.29

  RECIRCULATION INTO LAYER  3              0.000000          0.000       0.00

  DRAINAGE COLLECTED FROM LAYER  5         0.0000            0.000       0.00

  RECIRCULATION FROM LAYER  5              0.000000          0.000       0.00

  PERC./LEAKAGE THROUGH LAYER  7           0.000000          0.000       0.00

  AVG. HEAD ON TOP OF LAYER  6             0.0000

  CHANGE IN WATER STORAGE                 -0.123          -447.325      -0.60

  SOIL WATER AT START OF YEAR            905.564       3287197.750

  SOIL WATER AT END OF YEAR              905.441       3286750.500

  SNOW WATER AT START OF YEAR              0.000            0.000       0.00

  SNOW WATER AT END OF YEAR                0.000            0.000       0.00

  ANNUAL WATER BUDGET BALANCE              0.0000           0.121       0.00
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                   MONTHLY TOTALS (IN INCHES) FOR YEAR   19
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                            JAN/JUL FEB/AUG MAR/SEP APR/OCT MAY/NOV JUN/DEC
                            ------- ------- ------- ------- ------- -------

PRECIPITATION                 0.88    1.31    1.22    1.00    2.36    0.53
                              4.12    0.75    1.44    3.92    1.22    0.44

RUNOFF                        0.000   0.705   0.000   0.411   1.387   0.000
                              2.412   0.000   0.237   0.774   0.146   0.000
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EVAPOTRANSPIRATION	1.073	0.743	1.562	0.589	0.973	0.530
	1.604	0.853	1.203	2.730	1.324	0.538
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 19

	INCHES	CU. FEET	PERCENT
PRECIPITATION	19.19	69659.695	100.00
RUNOFF	6.073	22043.518	31.64
EVAPOTRANSPIRATION	13.723	49813.195	71.51
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	-0.605	-2196.965	-3.15

SOIL WATER AT START OF YEAR	905.441	3286750.500	
SOIL WATER AT END OF YEAR	904.836	3284553.500	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.055	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 20

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.69	0.16	0.81	1.98	0.27	0.06
	2.09	0.97	5.25	0.91	0.00	0.83
RUNOFF	0.000	0.000	0.000	0.480	0.000	0.000
	0.733	0.338	3.061	0.000	0.000	0.120
EVAPOTRANSPIRATION	0.712	0.205	0.761	1.549	0.270	0.060
	1.354	0.635	1.833	1.228	0.038	0.684
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

Technically Complete, March 11, 2016

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ANNUAL TOTALS FOR YEAR 20

	INCHES	CU. FEET	PERCENT
PRECIPITATION	14.02	50892.605	100.00
RUNOFF	4.732	17176.068	33.75
EVAPOTRANSPIRATION	9.330	33868.066	66.55
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	-0.042	-151.545	-0.30
SOIL WATER AT START OF YEAR	904.836	3284553.500	
SOIL WATER AT END OF YEAR	904.794	3284402.000	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.016	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 21

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.83	0.60	0.07	1.08	2.41	1.31
	0.72	1.05	2.27	2.36	0.62	2.34
RUNOFF	0.002	0.000	0.000	0.013	1.118	0.272
	0.109	0.085	0.097	0.726	0.000	0.565

EVAPOTRANSPIRATION	0.488	0.964	0.073	1.067	1.292	1.012
	0.580	1.002	2.194	1.635	0.463	0.936
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 21

	INCHES	CU. FEET	PERCENT
PRECIPITATION	15.66	56845.797	100.00
RUNOFF	2.986	10840.327	19.07
EVAPOTRANSPIRATION	11.703	42483.559	74.73
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	0.970	3521.880	6.20

SOIL WATER AT START OF YEAR	904.794	3284402.000	
SOIL WATER AT END OF YEAR	905.764	3287924.000	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.030	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 22

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	1.77	0.83	0.78	0.97	0.55	3.16
	0.42	0.87	4.52	1.86	0.58	1.38
RUNOFF	0.356	0.108	0.109	0.000	0.082	1.074
	0.000	0.000	2.058	0.944	0.000	0.485
EVAPOTRANSPIRATION	1.051	2.081	0.670	0.971	0.468	1.604
	0.903	0.870	2.145	1.233	0.580	0.364
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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                         ANNUAL TOTALS FOR YEAR    22
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                                          INCHES          CU. FEET      PERCENT
                                         --------        ----------     -------
  PRECIPITATION                           17.69          64214.723     100.00

  RUNOFF                                   5.216         18934.424      29.49

  EVAPOTRANSPIRATION                      12.939         46968.883      73.14

  RECIRCULATION INTO LAYER  3              0.000000          0.000       0.00

  DRAINAGE COLLECTED FROM LAYER  5         0.0000            0.000       0.00

  RECIRCULATION FROM LAYER  5              0.000000          0.000       0.00

  PERC./LEAKAGE THROUGH LAYER  7           0.000000          0.000       0.00

  AVG. HEAD ON TOP OF LAYER  6             0.0000

  CHANGE IN WATER STORAGE                 -0.465         -1688.491      -2.63

  SOIL WATER AT START OF YEAR            905.764       3287924.000

  SOIL WATER AT END OF YEAR              905.299       3286235.500

  SNOW WATER AT START OF YEAR              0.000            0.000       0.00

  SNOW WATER AT END OF YEAR                0.000            0.000       0.00

  ANNUAL WATER BUDGET BALANCE              0.0000          -0.093       0.00
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                  MONTHLY TOTALS (IN INCHES) FOR YEAR    23
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                          JAN/JUL FEB/AUG MAR/SEP APR/OCT MAY/NOV JUN/DEC
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PRECIPITATION              0.09    0.12    0.00    2.07    2.69    2.12
                           2.18    0.67    1.64    1.89    1.07    1.96

RUNOFF                     0.000   0.000   0.000   0.580   1.334   0.918
                           0.340   0.000   0.121   0.407   0.042   0.128

EVAPOTRANSPIRATION         0.613   0.128   0.000   1.488   1.358   1.200
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	1.220	1.292	1.068	1.934	0.966	0.848
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 23

	INCHES	CU. FEET	PERCENT
PRECIPITATION	16.50	59895.016	100.00
RUNOFF	3.870	14046.564	23.45
EVAPOTRANSPIRATION	12.116	43979.414	73.43
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	0.515	1868.839	3.12
SOIL WATER AT START OF YEAR	905.299	3286235.500	

Technically Complete, March 11, 2016

SOIL WATER AT END OF YEAR	905.814	3288104.250	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0001	0.196	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 24

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	1.46	2.05	1.84	3.96	0.00	0.79
	0.00	4.21	4.56	2.34	0.00	0.97
RUNOFF	0.105	0.106	0.000	1.604	0.000	0.227
	0.000	1.261	2.024	0.387	0.000	0.000
EVAPOTRANSPIRATION	1.169	2.642	2.374	2.301	0.055	0.563
	0.000	2.482	2.912	1.515	0.528	0.802
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

STD. DEVIATION OF DAILY HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 24

	INCHES	CU. FEET	PERCENT
PRECIPITATION	22.18	80513.406	100.00
RUNOFF	5.714	20741.791	25.76
EVAPOTRANSPIRATION	17.344	62959.625	78.20
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	-0.878	-3187.993	-3.96
SOIL WATER AT START OF YEAR	905.814	3288104.250	
SOIL WATER AT END OF YEAR	904.936	3284916.250	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.017	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 25

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.74	2.84	1.00	0.48	1.15	1.06
	0.33	3.80	4.09	1.21	0.51	0.12

RUNOFF	0.000	0.180	0.000	0.000	0.000	0.126
	0.000	1.258	1.095	0.108	0.000	0.000
EVAPOTRANSPIRATION	0.908	2.067	1.593	0.480	1.147	0.937
	0.330	2.461	2.395	1.330	0.964	0.120
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 25

	INCHES	CU. FEET	PERCENT
PRECIPITATION	17.33	62907.898	100.00
RUNOFF	2.767	10045.407	15.97
EVAPOTRANSPIRATION	14.730	53471.387	85.00
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		

CHANGE IN WATER STORAGE	-0.168	-608.840	-0.97
SOIL WATER AT START OF YEAR	904.936	3284916.250	
SOIL WATER AT END OF YEAR	904.768	3284307.500	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.055	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 26

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.41	0.78	1.13	0.00	5.86	2.48
	0.42	4.51	3.21	4.27	0.60	0.48
RUNOFF	0.000	0.000	0.112	0.000	3.506	0.586
	0.000	1.190	0.532	0.981	0.000	0.000
EVAPOTRANSPIRATION	0.409	0.781	0.996	0.022	1.992	2.256
	0.420	2.692	3.289	2.486	1.263	0.535
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

STD. DEVIATION OF DAILY HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 26

	INCHES	CU. FEET	PERCENT
PRECIPITATION	24.15	87664.516	100.00
RUNOFF	6.906	25067.752	28.60
EVAPOTRANSPIRATION	17.141	62222.379	70.98
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	0.103	374.432	0.43
SOIL WATER AT START OF YEAR	904.768	3284307.500	
SOIL WATER AT END OF YEAR	904.871	3284681.750	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.052	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 27

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.61	0.15	1.18	0.55	4.62	5.08
	0.74	2.32	1.13	1.30	0.92	0.88
RUNOFF	0.000	0.000	0.000	0.000	1.814	3.157

```
                                  0.040   0.503   0.000   0.000   0.000   0.000

EVAPOTRANSPIRATION                0.697   0.166   1.180   0.541   2.805   1.933
                                  0.694   1.823   1.130   1.300   0.551   1.033

LATERAL DRAINAGE RECIRCULATED     0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
  INTO LAYER  3                   0.0000  0.0000  0.0000  0.0000  0.0000  0.0000

LATERAL DRAINAGE COLLECTED        0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
  FROM LAYER  5                   0.0000  0.0000  0.0000  0.0000  0.0000  0.0000

LATERAL DRAINAGE RECIRCULATED     0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
  FROM LAYER  5                   0.0000  0.0000  0.0000  0.0000  0.0000  0.0000

PERCOLATION/LEAKAGE THROUGH       0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
  LAYER  7                        0.0000  0.0000  0.0000  0.0000  0.0000  0.0000


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                   MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)
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AVERAGE DAILY HEAD ON             0.000   0.000   0.000   0.000   0.000   0.000
  TOP OF LAYER  6                 0.000   0.000   0.000   0.000   0.000   0.000

STD. DEVIATION OF DAILY           0.000   0.000   0.000   0.000   0.000   0.000
  HEAD ON TOP OF LAYER  6         0.000   0.000   0.000   0.000   0.000   0.000

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                         ANNUAL TOTALS FOR YEAR   27
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                                        INCHES        CU. FEET      PERCENT
                                       --------      ----------     -------
  PRECIPITATION                         19.48        70712.398     100.00

  RUNOFF                                 5.514       20015.164      28.31

  EVAPOTRANSPIRATION                    13.854       50288.336      71.12

  RECIRCULATION INTO LAYER  3            0.000000        0.000       0.00

  DRAINAGE COLLECTED FROM LAYER  5       0.0000          0.000       0.00

  RECIRCULATION FROM LAYER  5            0.000000        0.000       0.00

  PERC./LEAKAGE THROUGH LAYER  7         0.000000        0.000       0.00

  AVG. HEAD ON TOP OF LAYER  6           0.0000
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CHANGE IN WATER STORAGE	0.113	408.774	0.58
SOIL WATER AT START OF YEAR	904.871	3284681.750	
SOIL WATER AT END OF YEAR	904.984	3285090.500	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.126	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 28

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.61	0.08	1.35	0.25	3.33	1.24
	3.11	4.58	0.68	5.11	0.10	0.89
RUNOFF	0.000	0.000	0.345	0.000	2.025	0.347
	1.805	2.308	0.000	1.701	0.000	0.000
EVAPOTRANSPIRATION	0.809	0.097	0.992	0.263	1.305	0.893
	1.238	2.300	0.718	2.773	0.735	0.399
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000

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  HEAD ON TOP OF LAYER  6        0.000    0.000    0.000    0.000    0.000    0.000
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                         ANNUAL TOTALS FOR YEAR    28
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                                          INCHES          CU. FEET      PERCENT
                                         --------        ----------     -------
  PRECIPITATION                           21.33          77427.898     100.00
  RUNOFF                                   8.532         30971.973      40.00
  EVAPOTRANSPIRATION                      12.522         45456.320      58.71
  RECIRCULATION INTO LAYER  3              0.000000          0.000       0.00
  DRAINAGE COLLECTED FROM LAYER  5         0.0000            0.000       0.00
  RECIRCULATION FROM LAYER  5              0.000000          0.000       0.00
  PERC./LEAKAGE THROUGH LAYER  7           0.000000          0.000       0.00
  AVG. HEAD ON TOP OF LAYER  6             0.0000
  CHANGE IN WATER STORAGE                  0.275           999.668       1.29
  SOIL WATER AT START OF YEAR            904.984       3285090.500
  SOIL WATER AT END OF YEAR              905.259       3286090.250
  SNOW WATER AT START OF YEAR              0.000             0.000       0.00
  SNOW WATER AT END OF YEAR                0.000             0.000       0.00
  ANNUAL WATER BUDGET BALANCE              0.0000           -0.059       0.00
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                   MONTHLY TOTALS (IN INCHES) FOR YEAR    29
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                          JAN/JUL  FEB/AUG  MAR/SEP  APR/OCT  MAY/NOV  JUN/DEC
                          -------  -------  -------  -------  -------  -------

PRECIPITATION              1.03     2.62     0.33     0.01     4.10     0.36
                           0.48     4.29     6.12     4.97     1.23     0.79

RUNOFF                     0.008    0.665    0.000    0.000    2.303    0.000
                           0.000    1.202    2.544    2.981    0.309    0.130
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EVAPOTRANSPIRATION	1.096	1.933	0.763	0.017	1.797	0.360
	0.480	3.088	3.307	1.694	1.217	0.464
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 29

	INCHES	CU. FEET	PERCENT
PRECIPITATION	26.33	95577.930	100.00
RUNOFF	10.143	36817.441	38.52
EVAPOTRANSPIRATION	16.214	58856.520	61.58
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	-0.026	-96.156	-0.10

SOIL WATER AT START OF YEAR	905.259	3286090.250	
SOIL WATER AT END OF YEAR	905.233	3285994.250	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.125	0.00

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MONTHLY TOTALS (IN INCHES) FOR YEAR 30

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.50	1.84	1.70	0.71	0.70	0.72
	3.04	6.28	2.40	2.63	1.61	1.72
RUNOFF	0.000	0.000	0.139	0.037	0.000	0.000
	1.027	3.113	1.090	0.693	0.025	0.185
EVAPOTRANSPIRATION	0.957	1.413	1.477	1.190	0.626	0.794
	1.469	3.711	1.305	1.668	1.228	1.173
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
INTO LAYER 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 6	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 30

	INCHES	CU. FEET	PERCENT
PRECIPITATION	23.85	86575.508	100.00
RUNOFF	6.311	22907.777	26.46
EVAPOTRANSPIRATION	17.012	61752.781	71.33
RECIRCULATION INTO LAYER 3	0.000000	0.000	0.00
DRAINAGE COLLECTED FROM LAYER 5	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 5	0.000000	0.000	0.00
PERC./LEAKAGE THROUGH LAYER 7	0.000000	0.000	0.00
AVG. HEAD ON TOP OF LAYER 6	0.0000		
CHANGE IN WATER STORAGE	0.528	1914.922	2.21
SOIL WATER AT START OF YEAR	905.233	3285994.250	
SOIL WATER AT END OF YEAR	905.760	3287909.000	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.028	0.00

****

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 30

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.66	0.98	0.79	1.08	1.97	2.35
	1.65	2.31	3.57	2.49	0.96	0.97

```
  STD. DEVIATIONS          0.44      0.81      0.69      1.17      1.76      1.81
                           1.61      1.57      1.65      1.44      0.97      0.57

RUNOFF
------
  TOTALS                   0.018     0.102     0.055     0.371     0.894     0.964
                           0.651     0.700     1.135     0.741     0.136     0.080

  STD. DEVIATIONS          0.067     0.193     0.113     0.575     1.059     1.079
                           1.073     0.923     0.941     0.735     0.291     0.142

EVAPOTRANSPIRATION
------------------
  TOTALS                   0.798     1.089     0.906     0.764     1.033     1.342
                           1.015     1.619     2.267     1.688     0.848     0.733

  STD. DEVIATIONS          0.329     0.730     0.755     0.657     0.767     0.892
                           0.603     0.836     0.906     0.743     0.418     0.307

LATERAL DRAINAGE RECIRCULATED INTO 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

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

LATERAL DRAINAGE RECIRCULATED 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

-------------------------------------------------------------------------------
```

Technically Complete, March 11, 2016

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ON TOP OF 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

AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 30

	INCHES		CU. FEET	PERCENT
PRECIPITATION	19.78	(3.525)	71796.6	100.00
RUNOFF	5.848	(1.9349)	21228.51	29.568
EVAPOTRANSPIRATION	14.104	(2.5333)	51196.53	71.308
DRAINAGE RECIRCULATED INTO LAYER 3	0.00000	(0.00000)	0.000	0.00000
LATERAL DRAINAGE COLLECTED FROM LAYER 5	0.00000	(0.00000)	0.000	0.00000
DRAINAGE RECIRCULATED 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 ON TOP OF LAYER 6	0.000	(0.000)		
CHANGE IN WATER STORAGE	-0.173	(1.2492)	-628.49	-0.875

PEAK DAILY VALUES FOR YEARS 1 THROUGH 30

	(INCHES)	(CU. FT.)
PRECIPITATION	4.24	15391.199
RUNOFF	3.577	12983.0488

```
DRAINAGE RECIRCULATED INTO LAYER  3        0.00000          0.00000

DRAINAGE COLLECTED FROM LAYER  5           0.00000          0.00000

DRAINAGE RECIRCULATED FROM LAYER  5        0.00000          0.00000

PERCOLATION/LEAKAGE THROUGH LAYER  7       0.000000         0.00000

AVERAGE HEAD ON TOP OF LAYER  6            0.000

MAXIMUM HEAD ON TOP OF LAYER  6            0.000

LOCATION OF MAXIMUM HEAD IN LAYER  5
      (DISTANCE FROM DRAIN)                0.0 FEET

SNOW WATER                                 0.00             0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL)                   0.3270

MINIMUM VEG. SOIL WATER (VOL/VOL)                   0.2213

 ***  Maximum heads are computed using McEnroe's equations.  ***

      Reference:  Maximum Saturated Depth over Landfill Liner
                  by Bruce M. McEnroe, University of Kansas
                  ASCE Journal of Environmental Engineering
                  Vol. 119, No. 2, March 1993, pp. 262-270.
*******************************************************************************

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

                 FINAL WATER STORAGE AT END OF YEAR   30
    ---------------------------------------------------------------------
                 LAYER        (INCHES)       (VOL/VOL)
                 -----        --------       ---------
                   1            2.7658         0.3951

                   2            9.2417         0.3081

                   3          873.0695         0.1915

                   4            9.8568         0.4107

                   5            0.0024         0.0100

                   6            0.0000         0.0000

                   7           10.8240         0.4510

                SNOW WATER       0.000
 ******************************************************************************
*******************************************************************************
```

Technically Complete, March 11, 2016

Technically Complete, March 11, 2016

ATTACHMENT B

TO APPENDIX III-D.6

HELP MODEL OUTPUTS

5. **ANALYSES WITH INTRODUCED CONTAMINATED WATER**
   - A. **OPEN CONDITIONS – 20 FEET OF WASTE**
   - B. INTERMEDIATE CONDITIONS – 50 FEET OF WASTE
   - C. INTERMEDIATE CONDITIONS – 100 FEET OF WASTE

STATE OF TEXAS
MICHAEL W. ODEN
67165
REGISTERED
PROFESSIONAL ENGINEER

3-2-2015

This document is released for the purpose of permitting only under the authority of Michael W. Oden, P.E. #67165. It is not to be used for bidding or construction. Texas Registered Engineering Firm F-5650.

Slope: 2.5 %
Drainage Length: 461 FT

Pescadito Landfill – Open Conditions: Scenario A
w/Leachate Introduced

```
******************************************************************************
******************************************************************************
**                                                                          **
**                                                                          **
**              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              **
**                                                                          **
**                                                                          **
******************************************************************************
******************************************************************************


PRECIPITATION DATA FILE:     C:\HELP3\pesc\PRECIP.D4
TEMPERATURE DATA FILE:       C:\HELP3\pesc\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\pesc\SOL.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\pesc\EVAP_OPN.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\pesc\OPEN2010.D10
OUTPUT DATA FILE:            C:\HELP3\pesc\open2010.OUT


TIME:  12:21     DATE:   2/ 4/2015


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

     TITLE:  PESCADITO-OPEN CONDITIONS

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


     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   0
          THICKNESS                    =      6.00   INCHES
          POROSITY                     =      0.4520 VOL/VOL
          FIELD CAPACITY               =      0.4110 VOL/VOL
          WILTING POINT                =      0.3110 VOL/VOL
          INITIAL SOIL WATER CONTENT   =      0.4110 VOL/VOL
          EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC
```

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

            TYPE 1 - VERTICAL PERCOLATION LAYER
                MATERIAL TEXTURE NUMBER  18
  THICKNESS                    =    240.00   INCHES
  POROSITY                     =      0.6710 VOL/VOL
  FIELD CAPACITY               =      0.2920 VOL/VOL
  WILTING POINT                =      0.0770 VOL/VOL
  INITIAL SOIL WATER CONTENT   =      0.2000 VOL/VOL
  EFFECTIVE SAT. HYD. COND.    =  0.100000005000E-02 CM/SEC
  SUBSURFACE INFLOW            =     10.00   INCHES/YR
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM LAYER # 4
         IS RECIRCULATED INTO THIS LAYER.

                         LAYER  3
                         --------

            TYPE 1 - VERTICAL PERCOLATION LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                    =     24.00   INCHES
  POROSITY                     =      0.4510 VOL/VOL
  FIELD CAPACITY               =      0.4110 VOL/VOL
  WILTING POINT                =      0.3110 VOL/VOL
  INITIAL SOIL WATER CONTENT   =      0.4110 VOL/VOL
  EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC

                         LAYER  4
                         --------

              TYPE 2 - LATERAL DRAINAGE LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                    =      0.26   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.    =   3.71399999000     CM/SEC
  SLOPE                        =      2.50   PERCENT
  DRAINAGE LENGTH              =    461.0    FEET
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM THIS
         LAYER IS RECIRCULATED INTO LAYER #  2.

                         LAYER  5
                         --------

              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         =      3.00   HOLES/ACRE
FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY       =  3 - GOOD

                        LAYER  6
                        --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                   =     24.00   INCHES
POROSITY                    =      0.4510 VOL/VOL
FIELD CAPACITY              =      0.4110 VOL/VOL
WILTING POINT               =      0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT  =      0.4510 VOL/VOL
EFFECTIVE SAT. HYD. COND.   =  0.100000001000E-06 CM/SEC


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

 NOTE:  SCS RUNOFF CURVE NUMBER WAS USER-SPECIFIED.

SCS RUNOFF CURVE NUMBER             =     85.00
FRACTION OF AREA ALLOWING RUNOFF    =      0.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE  =      1.000  ACRES
EVAPORATIVE ZONE DEPTH              =     60.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE   =     13.266  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE  =     38.946  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE  =      6.024  INCHES
INITIAL SNOW WATER                  =      0.000  INCHES
INITIAL WATER IN LAYER MATERIALS    =     71.157  INCHES
TOTAL INITIAL WATER                 =     71.157  INCHES
TOTAL SUBSURFACE INFLOW             =     10.00   INCHES/YEAR


           EVAPOTRANSPIRATION AND WEATHER DATA
           -----------------------------------

 NOTE:  EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
          BROWNSVILLE           TEXAS

     STATION LATITUDE                        =  27.34 DEGREES
     MAXIMUM LEAF AREA INDEX                 =   0.00
     START OF GROWING SEASON (JULIAN DATE)   =      0
     END OF GROWING SEASON (JULIAN DATE)     =    367
     EVAPORATIVE ZONE DEPTH                  =  60.0  INCHES
     AVERAGE ANNUAL WIND SPEED               =  11.60 MPH
     AVERAGE 1ST QUARTER RELATIVE HUMIDITY   =  76.00 %
```

Pescadito Landfill – Open Conditions: Scenario A
w/Leachate Introduced

AVERAGE 2ND QUARTER RELATIVE HUMIDITY = 75.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY = 74.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 76.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.82	0.86	0.88	1.37	2.65	2.68
1.93	2.29	3.09	2.41	1.07	0.91

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
56.50	61.00	68.80	76.00	82.00	86.50
87.90	87.90	82.90	75.40	65.50	57.70

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS
AND STATION LATITUDE = 27.34 DEGREES

****

MONTHLY TOTALS (IN INCHES) FOR YEAR 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.32	0.49	0.35	0.01	0.00	3.60
	0.00	2.82	3.54	2.89	0.72	1.56
RUNOFF	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	0.621	0.377	0.337	0.279	0.256	3.491
	0.706	1.974	4.411	2.946	1.381	1.257
SUBSURFACE INFLOW INTO	0.8493	0.7671	0.8493	0.8219	0.8493	0.8219

LAYER 2	0.8493	0.8493	0.8219	0.8493	0.8219	0.8493
LATERAL DRAINAGE RECIRCULATED	0.0064	0.0003	0.0001	0.0000	0.0000	0.0000
INTO LAYER 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0064	0.0003	0.0001	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000

****

****

ANNUAL TOTALS FOR YEAR 1

	INCHES	CU. FEET	PERCENT
PRECIPITATION	16.30	59169.004	100.00
RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	18.037	65476.051	110.66
SUBSURFACE INFLOW INTO LAYER 2	10.000000	36300.000	61.35
RECIRCULATION INTO LAYER 2	0.006864	24.915	0.04
DRAINAGE COLLECTED FROM LAYER 4	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 4	0.006864	24.915	0.04
PERC./LEAKAGE THROUGH LAYER 6	0.000001	0.003	0.00
AVG. HEAD ON TOP OF LAYER 5	0.0000		
CHANGE IN WATER STORAGE	8.263	29992.893	50.69

SOIL WATER AT START OF YEAR	71.157	258298.484	
SOIL WATER AT END OF YEAR	79.419	288291.375	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.059	0.00

****

****

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.49	0.35	0.01	0.00	3.60
	0.00	2.82	3.54	2.89	0.72	1.56
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	0.621	0.377	0.337	0.279	0.256	3.491
	0.706	1.974	4.411	2.946	1.381	1.257
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
SUBSURFACE INFLOW INTO LAYER 2						
TOTALS	0.8493	0.7671	0.8493	0.8219	0.8493	0.8219
	0.8493	0.8493	0.8219	0.8493	0.8219	0.8493
LATERAL DRAINAGE RECIRCULATED INTO LAYER 2						
TOTALS	0.0064	0.0003	0.0001	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  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 RECIRCULATED FROM LAYER  4
--------------------------------------------
  TOTALS                  0.0064   0.0003   0.0001   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 ON TOP OF LAYER  5
-------------------------------------
  AVERAGES                0.0002   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

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


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

    AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS    1 THROUGH    1
-------------------------------------------------------------------------------
                                   INCHES            CU. FEET        PERCENT
                              -------------------  -------------   ---------
 PRECIPITATION                 16.30    (   0.000)     59169.0      100.00
```

Pescadito Landfill – Open Conditions: Scenario A w/Leachate Introduced

RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	18.037	(0.0000)	65476.05	110.659
SUBSURFACE INFLOW INTO LAYER 2	10.00000		36300.000	61.34969
DRAINAGE RECIRCULATED INTO LAYER 2	0.00686	(0.00000)	24.915	0.04211
LATERAL DRAINAGE COLLECTED FROM LAYER 4	0.00000	(0.00000)	0.000	0.00000
DRAINAGE RECIRCULATED FROM LAYER 4	0.00686	(0.00000)	24.915	0.04211
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.00000	(0.00000)	0.003	0.00000
AVERAGE HEAD ON TOP OF LAYER 5	0.000	(0.000)		
CHANGE IN WATER STORAGE	8.263	(0.0000)	29992.89	50.690

****

****

PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	1.32	4791.600
RUNOFF	0.000	0.0000
DRAINAGE RECIRCULATED INTO LAYER 2	0.00244	8.87097
DRAINAGE COLLECTED FROM LAYER 4	0.00000	0.00000
DRAINAGE RECIRCULATED FROM LAYER 4	0.00244	8.87097
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.000000	0.00006
AVERAGE HEAD ON TOP OF LAYER 5	0.002	
MAXIMUM HEAD ON TOP OF LAYER 5	0.004	
LOCATION OF MAXIMUM HEAD IN LAYER 4 (DISTANCE FROM DRAIN)	0.0 FEET	
SNOW WATER	0.00	0.0000

Pescadito Landfill – Open Conditions: Scenario A
w/Leachate Introduced

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.2582

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.2119

*** Maximum heads are computed using McEnroe's equations. ***

Reference: Maximum Saturated Depth over Landfill Liner
by Bruce M. McEnroe, University of Kansas
ASCE Journal of Environmental Engineering
Vol. 119, No. 2, March 1993, pp. 262-270.

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	1.5898	0.2650
2	57.1455	0.2381
3	9.8571	0.4107
4	0.0027	0.0100
5	0.0000	0.0000
6	10.8240	0.4510
SNOW WATER	0.000	

****
****

ATTACHMENT B

TO APPENDIX III-D.6

HELP MODEL OUTPUTS

5. SENSITIVITY ANALYSES WITH INTRODUCED LEACHATE

A. OPEN CONDITIONS

B. INTERMEDIATE CONDITIONS – 50 FEET OF WASTE

C. INTERMEDIATE CONDITIONS – 100 FEET OF WASTE

3-2-2015

STATE OF TEXAS
MICHAEL W. ODEN
67165
REGISTERED
PROFESSIONAL ENGINEER

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CBI

Pescadito Landfill – Intermediate Conditions (50 ft of Waste): Scenario A w/Leachate Introduced

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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\pesc\PRECIP.D4
TEMPERATURE DATA FILE:       C:\HELP3\pesc\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\pesc\SOL.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\pesc\EVAP_INT.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\pesc\INT5010.D10
OUTPUT DATA FILE:            C:\HELP3\pesc\INT5010.OUT

TIME:  20:28     DATE:   3/ 1/2015


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     TITLE:  Pescadito Intermediate Conditions

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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   0
          THICKNESS                    =     12.00   INCHES
          POROSITY                     =      0.4510 VOL/VOL
          FIELD CAPACITY               =      0.4110 VOL/VOL
          WILTING POINT                =      0.3110 VOL/VOL
          INITIAL SOIL WATER CONTENT   =      0.4110 VOL/VOL
          EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC

                                  LAYER  2
                                  --------

                     TYPE 1 - VERTICAL PERCOLATION LAYER
                         MATERIAL TEXTURE NUMBER  18
          THICKNESS                    =    600.00   INCHES
          POROSITY                     =      0.6710 VOL/VOL
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  FIELD CAPACITY              =      0.2920 VOL/VOL
  WILTING POINT               =      0.0770 VOL/VOL
  INITIAL SOIL WATER CONTENT  =      0.2381 VOL/VOL
  EFFECTIVE SAT. HYD. COND.   =  0.100000005000E-02 CM/SEC
  SUBSURFACE INFLOW           =     10.00   INCHES/YR
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM LAYER # 4
         IS RECIRCULATED INTO THIS LAYER.


                          LAYER  3
                          --------

            TYPE 1 - VERTICAL PERCOLATION LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                   =     24.00   INCHES
  POROSITY                    =      0.4510 VOL/VOL
  FIELD CAPACITY              =      0.4110 VOL/VOL
  WILTING POINT               =      0.3110 VOL/VOL
  INITIAL SOIL WATER CONTENT  =      0.4109 VOL/VOL
  EFFECTIVE SAT. HYD. COND.   =  0.999999975000E-05 CM/SEC


                          LAYER  4
                          --------

              TYPE 2 - LATERAL DRAINAGE LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                   =      0.25   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.   =   3.85999990000     CM/SEC
  SLOPE                       =      2.50   PERCENT
  DRAINAGE LENGTH             =    461.0    FEET
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM THIS
         LAYER IS RECIRCULATED INTO LAYER #  2.

                          LAYER  5
                          --------

              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         =      3.00   HOLES/ACRE
  FML INSTALLATION DEFECTS    =      3.00   HOLES/ACRE
  FML PLACEMENT QUALITY       =  3 - GOOD

                          LAYER  6
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Pescadito Landfill – Intermediate Conditions (50 ft of Waste): Scenario A w/Leachate Introduced

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                TYPE 3 - BARRIER SOIL LINER
                MATERIAL TEXTURE NUMBER   0
THICKNESS                    =     24.00   INCHES
POROSITY                     =      0.4510 VOL/VOL
FIELD CAPACITY               =      0.4110 VOL/VOL
WILTING POINT                =      0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT   =      0.4510 VOL/VOL
EFFECTIVE SAT. HYD. COND.    =  0.100000001000E-06 CM/SEC

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

NOTE:  SCS RUNOFF CURVE NUMBER WAS USER-SPECIFIED.

SCS RUNOFF CURVE NUMBER              =     85.00
FRACTION OF AREA ALLOWING RUNOFF     =     75.0    PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =      1.000  ACRES
EVAPORATIVE ZONE DEPTH               =     60.0    INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =     16.361  INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =     37.620  INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =      7.428  INCHES
INITIAL SNOW WATER                   =      0.000  INCHES
INITIAL WATER IN LAYER MATERIALS     =    168.480  INCHES
TOTAL INITIAL WATER                  =    168.480  INCHES
TOTAL SUBSURFACE INFLOW              =     10.00   INCHES/YEAR

           EVAPOTRANSPIRATION AND WEATHER DATA
           -----------------------------------

NOTE:  EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
         BROWNSVILLE           TEXAS

     STATION LATITUDE                          =  27.34 DEGREES
     MAXIMUM LEAF AREA INDEX                   =   1.00
     START OF GROWING SEASON (JULIAN DATE)     =      0
     END OF GROWING SEASON (JULIAN DATE)       =    367
     EVAPORATIVE ZONE DEPTH                    =  60.0  INCHES
     AVERAGE ANNUAL WIND SPEED                 =  11.60 MPH
     AVERAGE 1ST QUARTER RELATIVE HUMIDITY     =  76.00 %
     AVERAGE 2ND QUARTER RELATIVE HUMIDITY     =  75.00 %
     AVERAGE 3RD QUARTER RELATIVE HUMIDITY     =  74.00 %
     AVERAGE 4TH QUARTER RELATIVE HUMIDITY     =  76.00 %

NOTE:  PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
         COEFFICIENTS FOR    BROWNSVILLE         TEXAS
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Pescadito Landfill – Intermediate Conditions (50 ft of Waste): Scenario A w/Leachate Introduced

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.82	0.86	0.88	1.37	2.65	2.68
1.93	2.29	3.09	2.41	1.07	0.91

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
56.50	61.00	68.80	76.00	82.00	86.50
87.90	87.90	82.90	75.40	65.50	57.70

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING COEFFICIENTS FOR BROWNSVILLE TEXAS AND STATION LATITUDE = 27.34 DEGREES

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MONTHLY TOTALS (IN INCHES) FOR YEAR 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.32	0.49	0.35	0.01	0.00	3.60
	0.00	2.82	3.54	2.89	0.72	1.56
RUNOFF	0.000	0.000	0.000	0.000	0.000	1.476
	0.000	0.250	0.585	0.456	0.000	0.000
EVAPOTRANSPIRATION	1.249	0.464	0.433	0.444	0.616	3.062
	0.937	1.843	3.570	2.550	0.746	1.583
SUBSURFACE INFLOW INTO	0.8493	0.7671	0.8493	0.8219	0.8493	0.8219
LAYER 2	0.8493	0.8493	0.8219	0.8493	0.8219	0.8493
LATERAL DRAINAGE RECIRCULATED	0.0043	0.0002	0.0000	0.0000	0.0000	0.0000
INTO LAYER 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0043	0.0002	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Pescadito Landfill – Intermediate Conditions (50 ft of Waste): Scenario A w/Leachate Introduced

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MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 1

	INCHES	CU. FEET	PERCENT
PRECIPITATION	16.30	59169.004	100.00
RUNOFF	2.767	10045.228	16.98
EVAPOTRANSPIRATION	17.497	63514.484	107.34
SUBSURFACE INFLOW INTO LAYER 2	10.000000	36300.000	61.35
RECIRCULATION INTO LAYER 2	0.004464	16.203	0.03
DRAINAGE COLLECTED FROM LAYER 4	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 4	0.004464	16.203	0.03
PERC./LEAKAGE THROUGH LAYER 6	0.000001	0.002	0.00
AVG. HEAD ON TOP OF LAYER 5	0.0000		
CHANGE IN WATER STORAGE	6.036	21909.334	37.03
SOIL WATER AT START OF YEAR	168.480	611582.750	
SOIL WATER AT END OF YEAR	174.516	633492.125	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.043	0.00

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Pescadito Landfill – Intermediate Conditions (50 ft of Waste): Scenario A w/Leachate Introduced

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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                  0.32      0.49      0.35      0.01      0.00      3.60
                            0.00      2.82      3.54      2.89      0.72      1.56

    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     1.476
                            0.000     0.250     0.585     0.456     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                  1.249     0.464     0.433     0.444     0.616     3.062
                            0.937     1.843     3.570     2.550     0.746     1.583

    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

  SUBSURFACE INFLOW INTO LAYER  2
  -------------------------------
    TOTALS                  0.8493    0.7671    0.8493    0.8219    0.8493    0.8219
                            0.8493    0.8493    0.8219    0.8493    0.8219    0.8493

  LATERAL DRAINAGE RECIRCULATED INTO LAYER  2
  -------------------------------------------
    TOTALS                  0.0043    0.0002    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  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
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Pescadito Landfill – Intermediate Conditions (50 ft of Waste): Scenario A w/Leachate Introduced

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LATERAL DRAINAGE RECIRCULATED FROM LAYER  4
-------------------------------------------
  TOTALS                  0.0043   0.0002   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 ON TOP OF LAYER  5
-------------------------------------
  AVERAGES                0.0001   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                 16.30     (   0.000)     59169.0      100.00

RUNOFF                         2.767    (  0.0000)     10045.23      16.977

EVAPOTRANSPIRATION            17.497    (  0.0000)     63514.48     107.344

SUBSURFACE INFLOW INTO        10.00000                 36300.000    61.34969
  LAYER  2

DRAINAGE RECIRCULATED          0.00446 (  0.00000)       16.203     0.02738
  INTO LAYER  2

LATERAL DRAINAGE COLLECTED     0.00000 (  0.00000)        0.000     0.00000
  FROM LAYER  4
```

Pescadito Landfill – Intermediate Conditions (50 ft of Waste): Scenario A w/Leachate Introduced

DRAINAGE RECIRCULATED FROM LAYER 4	0.00446 (0.00000)	16.203	0.02738
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.00000 (0.00000)	0.002	0.00000
AVERAGE HEAD ON TOP OF LAYER 5	0.000 (0.000)		
CHANGE IN WATER STORAGE	6.036 (0.0000)	21909.33	37.028

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	1.32	4791.600
RUNOFF	0.703	2553.2390
DRAINAGE RECIRCULATED INTO LAYER 2	0.00163	5.90765
DRAINAGE COLLECTED FROM LAYER 4	0.00000	0.00000
DRAINAGE RECIRCULATED FROM LAYER 4	0.00163	5.90765
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.000000	0.00004
AVERAGE HEAD ON TOP OF LAYER 5	0.001	
MAXIMUM HEAD ON TOP OF LAYER 5	0.009	
LOCATION OF MAXIMUM HEAD IN LAYER 4 (DISTANCE FROM DRAIN)	0.0 FEET	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.2727

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.2025

*** Maximum heads are computed using McEnroe's equations. ***

Reference: Maximum Saturated Depth over Landfill Liner
by Bruce M. McEnroe, University of Kansas
ASCE Journal of Environmental Engineering
Vol. 119, No. 2, March 1993, pp. 262-270.

Pescadito Landfill – Intermediate Conditions (50 ft of Waste): Scenario A w/Leachate Introduced

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                 FINAL WATER STORAGE AT END OF YEAR    1
    ---------------------------------------------------------------------
                  LAYER        (INCHES)       (VOL/VOL)
                  -----        --------       ---------
                    1            3.3673         0.2806

                    2          150.4648         0.2508

                    3            9.8571         0.4107

                    4            0.0026         0.0100

                    5            0.0000         0.0000

                    6           10.8240         0.4510

                SNOW WATER       0.000

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Technically Complete, March 11, 2016

ATTACHMENT B

TO APPENDIX III-D.6

HELP MODEL OUTPUTS

5. SENSITIVITY ANALYSES WITH INTRODUCED LEACHATE

A. OPEN CONDITIONS

B. INTERMEDIATE CONDITIONS – 50 FEET OF WASTE

C. INTERMEDIATE CONDITIONS – 100 FEET OF WASTE

3-2-2015

STATE OF TEXAS
MICHAEL W. ODEN
67165
REGISTERED
PROFESSIONAL ENGINEER

Michael W. Oden

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Pescadito Landfill – Intermediate Conditions (100 ft of Waste): Scenario A w/Leachate Introduced

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

PRECIPITATION DATA FILE:     C:\HELP3\pesc\PRECIP.D4
TEMPERATURE DATA FILE:       C:\HELP3\pesc\TEMP.D7
SOLAR RADIATION DATA FILE:   C:\HELP3\pesc\SOL.D13
EVAPOTRANSPIRATION DATA:     C:\HELP3\pesc\EVAP_INT.D11
SOIL AND DESIGN DATA FILE:   C:\HELP3\pesc\INT10010.D10
OUTPUT DATA FILE:            C:\HELP3\pesc\INT10010.OUT

TIME:  20:40     DATE:   3/ 1/2015


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

     TITLE:  Pescadito Intermediate Conditions

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

     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   0
          THICKNESS                    =     12.00   INCHES
          POROSITY                     =      0.4510 VOL/VOL
          FIELD CAPACITY               =      0.4110 VOL/VOL
          WILTING POINT                =      0.3110 VOL/VOL
          INITIAL SOIL WATER CONTENT   =      0.4110 VOL/VOL
          EFFECTIVE SAT. HYD. COND.    =  0.999999975000E-05 CM/SEC


                                  LAYER  2
                                  --------

                     TYPE 1 - VERTICAL PERCOLATION LAYER
                         MATERIAL TEXTURE NUMBER  18
          THICKNESS                    =   1200.00   INCHES
```

```
  POROSITY                      =      0.6710 VOL/VOL
  FIELD CAPACITY                =      0.2920 VOL/VOL
  WILTING POINT                 =      0.0770 VOL/VOL
  INITIAL SOIL WATER CONTENT    =      0.2508 VOL/VOL
  EFFECTIVE SAT. HYD. COND.     =  0.100000005000E-02 CM/SEC
  SUBSURFACE INFLOW             =     10.00   INCHES/YR
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM LAYER # 4
         IS RECIRCULATED INTO THIS LAYER.


                          LAYER  3
                          --------

            TYPE 1 - VERTICAL PERCOLATION LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                     =     24.00   INCHES
  POROSITY                      =      0.4510 VOL/VOL
  FIELD CAPACITY                =      0.4110 VOL/VOL
  WILTING POINT                 =      0.3110 VOL/VOL
  INITIAL SOIL WATER CONTENT    =      0.4109 VOL/VOL
  EFFECTIVE SAT. HYD. COND.     =  0.999999975000E-05 CM/SEC


                          LAYER  4
                          --------

              TYPE 2 - LATERAL DRAINAGE LAYER
                MATERIAL TEXTURE NUMBER   0
  THICKNESS                     =      0.25   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.     =   3.85999990000     CM/SEC
  SLOPE                         =      2.50   PERCENT
  DRAINAGE LENGTH               =    461.0    FEET
NOTE:  100.00 PERCENT OF THE DRAINAGE COLLECTED FROM THIS
         LAYER IS RECIRCULATED INTO LAYER #  2.


                          LAYER  5
                          --------

              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           =      3.00   HOLES/ACRE
```

```
FML INSTALLATION DEFECTS      =      3.00   HOLES/ACRE
FML PLACEMENT QUALITY         =  3 - GOOD


                        LAYER  6
                        --------

              TYPE 3 - BARRIER SOIL LINER
              MATERIAL TEXTURE NUMBER   0
THICKNESS                     =     24.00   INCHES
POROSITY                      =      0.4510 VOL/VOL
FIELD CAPACITY                =      0.4110 VOL/VOL
WILTING POINT                 =      0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT    =      0.4510 VOL/VOL
EFFECTIVE SAT. HYD. COND.     =  0.100000001000E-06 CM/SEC


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

NOTE:  SCS RUNOFF CURVE NUMBER WAS USER-SPECIFIED.

SCS RUNOFF CURVE NUMBER              =     85.00
FRACTION OF AREA ALLOWING RUNOFF     =     75.0     PERCENT
AREA PROJECTED ON HORIZONTAL PLANE   =      1.000   ACRES
EVAPORATIVE ZONE DEPTH               =     60.0     INCHES
INITIAL WATER IN EVAPORATIVE ZONE    =     16.970   INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE   =     37.620   INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE   =      7.428   INCHES
INITIAL SNOW WATER                   =      0.000   INCHES
INITIAL WATER IN LAYER MATERIALS     =    326.580   INCHES
TOTAL INITIAL WATER                  =    326.580   INCHES
TOTAL SUBSURFACE INFLOW              =     10.00    INCHES/YEAR


           EVAPOTRANSPIRATION AND WEATHER DATA
           -----------------------------------

NOTE:  EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
         BROWNSVILLE           TEXAS

     STATION LATITUDE                          =  27.34 DEGREES
     MAXIMUM LEAF AREA INDEX                   =   1.00
     START OF GROWING SEASON (JULIAN DATE)     =      0
     END OF GROWING SEASON (JULIAN DATE)       =    367
     EVAPORATIVE ZONE DEPTH                    =  60.0  INCHES
     AVERAGE ANNUAL WIND SPEED                 =  11.60 MPH
     AVERAGE 1ST QUARTER RELATIVE HUMIDITY     =  76.00 %
     AVERAGE 2ND QUARTER RELATIVE HUMIDITY     =  75.00 %
     AVERAGE 3RD QUARTER RELATIVE HUMIDITY     =  74.00 %
     AVERAGE 4TH QUARTER RELATIVE HUMIDITY     =  76.00 %
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Pescadito Landfill – Intermediate Conditions (100 ft of Waste): Scenario A w/Leachate Introduced

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.82	0.86	0.88	1.37	2.65	2.68
1.93	2.29	3.09	2.41	1.07	0.91

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
56.50	61.00	68.80	76.00	82.00	86.50
87.90	87.90	82.90	75.40	65.50	57.70

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR BROWNSVILLE TEXAS
AND STATION LATITUDE = 27.34 DEGREES

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MONTHLY TOTALS (IN INCHES) FOR YEAR 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.32	0.49	0.35	0.01	0.00	3.60
	0.00	2.82	3.54	2.89	0.72	1.56
RUNOFF	0.000	0.000	0.000	0.000	0.000	1.476
	0.000	0.242	0.538	0.442	0.000	0.000
EVAPOTRANSPIRATION	1.249	0.464	0.434	0.445	0.619	3.140
	0.854	1.751	3.657	2.545	0.739	1.566
SUBSURFACE INFLOW INTO LAYER 2	0.8493	0.7671	0.8493	0.8219	0.8493	0.8219
	0.8493	0.8493	0.8219	0.8493	0.8219	0.8493
LATERAL DRAINAGE RECIRCULATED INTO LAYER 2	0.0043	0.0002	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LATERAL DRAINAGE RECIRCULATED	0.0043	0.0002	0.0000	0.0000	0.0000	0.0000
FROM LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.000	0.000	0.000	0.000	0.000	0.000
TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 5	0.000	0.000	0.000	0.000	0.000	0.000

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ANNUAL TOTALS FOR YEAR 1

	INCHES	CU. FEET	PERCENT
PRECIPITATION	16.30	59169.004	100.00
RUNOFF	2.698	9793.375	16.55
EVAPOTRANSPIRATION	17.462	63387.918	107.13
SUBSURFACE INFLOW INTO LAYER 2	10.000000	36300.000	61.35
RECIRCULATION INTO LAYER 2	0.004464	16.203	0.03
DRAINAGE COLLECTED FROM LAYER 4	0.0000	0.000	0.00
RECIRCULATION FROM LAYER 4	0.004464	16.203	0.03
PERC./LEAKAGE THROUGH LAYER 6	0.000001	0.002	0.00
AVG. HEAD ON TOP OF LAYER 5	0.0000		
CHANGE IN WATER STORAGE	6.140	22287.699	37.67
SOIL WATER AT START OF YEAR	326.580	1185485.750	
SOIL WATER AT END OF YEAR	332.720	1207773.500	

Pescadito Landfill – Intermediate Conditions (100 ft of Waste): Scenario A w/Leachate Introduced

SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.009	0.00

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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	0.32	0.49	0.35	0.01	0.00	3.60
	0.00	2.82	3.54	2.89	0.72	1.56
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	1.476
	0.000	0.242	0.538	0.442	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	1.249	0.464	0.434	0.445	0.619	3.140
	0.854	1.751	3.657	2.545	0.739	1.566
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
SUBSURFACE INFLOW INTO LAYER 2						
TOTALS	0.8493	0.7671	0.8493	0.8219	0.8493	0.8219
	0.8493	0.8493	0.8219	0.8493	0.8219	0.8493
LATERAL DRAINAGE RECIRCULATED INTO LAYER 2						
TOTALS	0.0043	0.0002	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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LATERAL DRAINAGE COLLECTED FROM LAYER   4
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  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 RECIRCULATED FROM LAYER   4
---------------------------------------------
  TOTALS                  0.0043   0.0002   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


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              AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)
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DAILY AVERAGE HEAD ON TOP OF LAYER   5
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  AVERAGES                0.0001   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                 16.30     (   0.000)     59169.0      100.00

 RUNOFF                         2.698    (  0.0000)      9793.37      16.552

 EVAPOTRANSPIRATION            17.462    (  0.0000)     63387.92     107.130
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Pescadito Landfill – Intermediate Conditions (100 ft of Waste): Scenario A w/Leachate Introduced

SUBSURFACE INFLOW INTO LAYER 2	10.00000		36300.000	61.34969
DRAINAGE RECIRCULATED INTO LAYER 2	0.00446	(0.00000)	16.203	0.02738
LATERAL DRAINAGE COLLECTED FROM LAYER 4	0.00000	(0.00000)	0.000	0.00000
DRAINAGE RECIRCULATED FROM LAYER 4	0.00446	(0.00000)	16.203	0.02738
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.00000	(0.00000)	0.002	0.00000
AVERAGE HEAD ON TOP OF LAYER 5	0.000	(0.000)		
CHANGE IN WATER STORAGE	6.140	(0.0000)	22287.70	37.668

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(INCHES)	(CU. FT.)
PRECIPITATION	1.32	4791.600
RUNOFF	0.703	2553.3096
DRAINAGE RECIRCULATED INTO LAYER 2	0.00163	5.90765
DRAINAGE COLLECTED FROM LAYER 4	0.00000	0.00000
DRAINAGE RECIRCULATED FROM LAYER 4	0.00163	5.90765
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.000000	0.00004
AVERAGE HEAD ON TOP OF LAYER 5	0.001	
MAXIMUM HEAD ON TOP OF LAYER 5	0.009	
LOCATION OF MAXIMUM HEAD IN LAYER 4 (DISTANCE FROM DRAIN)	0.0 FEET	
SNOW WATER	0.00	0.0000

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.2828

Pescadito Landfill – Intermediate Conditions (100 ft of Waste): Scenario A w/Leachate Introduced

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.2006

*** Maximum heads are computed using McEnroe's equations. ***

Reference: Maximum Saturated Depth over Landfill Liner
by Bruce M. McEnroe, University of Kansas
ASCE Journal of Environmental Engineering
Vol. 119, No. 2, March 1993, pp. 262-270.

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(INCHES)	(VOL/VOL)
1	3.3672	0.2806
2	308.6690	0.2572
3	9.8571	0.4107
4	0.0026	0.0100
5	0.0000	0.0000
6	10.8240	0.4510
SNOW WATER	0.000	

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