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9 October 2009

Mr. Javier Polanco, P.E.  
Environmental Engineer  
Solid Resources Processing and Construction Division  
Bureau of Sanitation  
Department of Public Works  
City of Los Angeles  
1149 South Broadway, Suite 800  
Los Angeles, California 90015

**Subject: Response to City of Los Angeles Local Enforcement Agency (LEA)  
Comments on “Revision IV, Volume IV of IV, Replacement,  
Amendment to Final Closure Plan, Lopez Canyon Sanitary Landfill,  
July 31, 2008.”**

Dear Mr. Polanco:

This letter has been prepared by Geosyntec Consultants (Geosyntec) to address the City of Los Angeles Local Enforcement Agency (LEA) comments regarding the document titled “Revision IV, Volume IV of IV, Replacement, Amendment to Final Closure Plan, Lopez Canyon Sanitary Landfill, July 31, 2008.” The remainder of this letter provides the LEA’s comments in italics, followed by our corresponding response.

*Comment #1:*

*Please examine Table 2-2 in the document "Revision IV, Volume IV of IV, Replacement, Amendment to Final Closure Plan, Lopez Canyon Sanitary Landfill, July 31, 2008". In Table 2-2, Calculated Cumulative Annual Infiltration, the infiltration through the evapotranspirative soil cover (Disposal Area C -Deck Area) is significantly more than the prescriptive cover infiltration rate.*

*Response #1:*

The infiltration rate estimated using UNSAT-H through the Title 27 prescriptive cover for the deck of Disposal Area C is approximately  $6.27 \times 10^{-1}$  cm/year while that through the Evapotranspirative (ET) soil cover is approximately  $1.09 \times 10^0$  cm/year. The reported infiltration rate through the ET soil cover is based on several highly

Mr. Javier Polanco, P.E.

9 October 2009

Page 2

conservative input parameters selected by Geosyntec for the unsaturated flow modeling and represents cases of shallow rooting depth combined with sparse vegetative cover. Although there is an apparent minor difference in infiltration rates between the Title 27 prescriptive and the ET soil cover, the ultimate infiltration rates are extremely low and are significantly below the generally accepted infiltration rate threshold of 3mm/year (0.3 cm/year) [Benson et al, 2001].

*Comment #2:*

*The infiltration rate for the slope area for the evapotranspirative cover is being shown to be equal to the deck. The LEA thinks this is incorrect unless the model is assuming that the slope is assumed flat in the quantitative algorithms in the percolation rate model. (The actual infiltration rate should be lower on the slopes because much of the water will be runoff) Please clarify if the model makes this assumption.*

*Response #2:*

UNSAT-H is a one-dimensional model that simulates the dynamic processes of infiltration, drainage, redistribution, surface evaporation, and uptake of water from soil by plants using finite-difference approximations to solve the one-dimensional vertical form of Richard's equation, which governs unsaturated moisture movement.

*Comment #3:*

*The "Cumulative Annual Infiltration" rate (assuming this is for the overall deck and slope areas of Disposal Area C) was calculated by summing/aggregating the individual permeability rates for both the deck area and the slope area; this does not make mathematical sense. A straight summation or aggregation of the individual rates of the different areas is not the correct calculation methodology.*

*Response #3:*

See Response to Comment # 5 below.

Mr. Javier Polanco, P.E.  
9 October 2009  
Page 3

*Comment #4:*

*Please also note that in Table 2-2, Calculated Cumulative Annual Infiltration, that the surface area of 21 acres is claimed for both the deck and the slope, this is incorrect; LEA reviewers measured the respective areas on a drawing using a planimeter and the surface area of the deck area and slope areas are significantly different. Also note that on a separate drawing, Figure 1-3, different acreage values are claimed for the deck and slope areas, please check this, and revise the tables and calculations to be consistent with the appropriate values.*

*Response #4*

Topographical errors noted on Table 2-2 regarding the surface area of slopes and deck of Disposal Area "C" have been corrected. A revised copy of Table 2-2 is attached to this response to comment letter.

*Comment #5*

*Mathematically, even if a weighted average methodology (based on surface area acreage as a normalizing factor) were utilized to calculate a weighted average permeability rate for the overall combined deck and slope areas of Disposal Area C, the calculated value would be incorrect (surface area weighting values are incorrect).*

*Response #5:*

Based on our telephone conversation with Mr. Eugene Tseng of the Local Enforcement Agency (LEA) on 4 August, 2009, infiltration rates presented on Table 2-2 of the document titled "Revision IV, Volume IV of IV, Replacement, Amendment to Final Closure Plan, Lopez Canyon Sanitary Landfill, July 31, 2008." were revised to present the infiltration rate using weighted average methodology. The calculated infiltration rates using weighted average methodology and with the corrected slope and deck areas are presented in Table 2-2a.

The total estimated annual infiltration amount through the Title 27 Prescriptive cover for the deck and slopes of Disposal Area "C" is approximately 3,407,252 gallons. The total estimated annual infiltration amount through the ET soil cover for the deck and slopes of Disposal Area "C" is approximately 411,340 gallons, which is approximately eight (8) times less infiltration than that through the Title 27 Prescriptive final cover.

Mr. Javier Polanco, P.E.  
9 October 2009  
Page 4

Based on the total infiltration amounts through the Title 27 Prescriptive cover and the ET soil cover estimated using weighted average method and presented in Table 2-2a, the ET soil cover demonstrably outperforms the Title 27 Prescriptive cover.

*Comment #6:*

*The LEA believes that it is faulty reasoning to reach a "conclusion" that the cumulative infiltration rate (combined rate for deck and slope areas) is adequate because the cumulative annual infiltration for the evapotranspirative soil cover is "less" than the infiltration rate through the Title 27 prescriptive cover design. With the proposed use of an ET cover materials/design that has a higher infiltration rate than that of the prescriptive cover, the performance standard requirement is already not met for the deck area that will be the area that receives the most infiltration and is larger in surface area than the slopes.*

*Response #6:*

See Response to Comment # 5

*Comment #7*

*"Overall performance" of an alternative proposed cover isn't an analysis that should be based only on a total cumulative (or weighted average) percolation rate. Cover performance should also be looked at on a "localized" level, as part of an overall "critical flaws" analysis (weakest link in a chain). In this specific case, what is the impact of the greater infiltration (greater than the prescriptive standard) in the deck areas of Disposal Area C (with almost twice the acreage of the slope area) impact the performance of the final ET cover, and can this be considered to be equivalent or better than a prescriptive cover? The LEA is requesting additional data, analysis, and/or reasoning to enable that conclusion.*

Based on our telephone conversation with Mr. Eugene Tseng of the LEA on 4 August, 2009, UNSAT-H sensitivity analyses were performed to demonstrate the ET soil cover performance with vegetation coverage and root depth variation to simulate vegetation growth expected at the site. Results of the UNSAT-H sensitivity analyses are summarized in Table 2-2b and UNSAT-H input and output files are attached hereto.

As previously mentioned, Geosyntec selected conservative input values for the unsaturated flow modeling. Based on anticipated conditions once the vegetation becomes established, meaning as at least 75 percent vegetation coverage, as opposed to

Mr. Javier Polanco, P.E.  
9 October 2009  
Page 5

the conservative 45 percent initially assumed for modeling purposes, and a 4.5-ft root depth as opposed to the conservative 1.5-ft root depth initially used, the anticipated infiltration rate through the ET soil cover ( $6.10 \times 10^{-1}$  cm/yr) is less than that through the Title 27 Prescriptive final cover ( $6.27 \times 10^{-1}$  cm/yr).

*Please revisit the input data, reasoning, calculations, and analysis in determining if the proposed ET cover meets the equivalent performance standard of the prescriptive cover.*

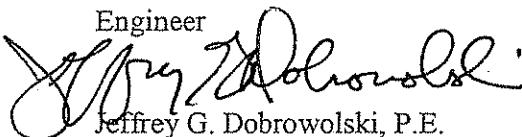
Based on the results of the sensitivity analyses summarized in Table 2-2b and the total infiltration quantities using the weighted average method as shown on Table 2-2c, the ET soil cover for the deck of Disposal Area "C" out performs the Title 27 prescriptive cover. Total infiltration through the Title 27 Prescriptive final cover is approximately 24.607 cm/year, corresponding to approximately 3.4 million gallons/year. Total infiltration through the proposed ET soil cover is approximately 1.7 cm/year, corresponding to approximately 295,000 gallons/year. Consequently, the ET final soil cover provides more than 12 times less infiltration than the Title 27 Prescriptive final cover.

Please contact the undersigned at 714.969.0800 if you have any questions or require additional information.

Sincerely,

  
Yonas Zemuy

Engineer

  
Jeffrey G. Dobrowolski, P.E.

Associate

Attachments

Reference:

C.H. Benson, Bolen, M.M., A.C. Roesler, and W.H. Albright. 2001. Alternative Cover Assessment Program: Phase II report. Geo Eng. Rep. 01-10. Available online at [www.acap.dri.edu/ACAPPhase2Rpt.pdf](http://www.acap.dri.edu/ACAPPhase2Rpt.pdf) (verified 29 June 2004). Univ. of Wisconsin, Madison.

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TABLE 2-2

CALCULATED CUMULATIVE ANNUAL INFILTRATION - REVISED  
 LOPEZ CANYON SANITARY LANDFILL  
 LAKEVIEW TERRACE, CALIFORNIA

Landfill Portion	Surface Area (acres) <sup>1</sup>	Title 27 Prescriptive Cover	Infiltration through Title 27 Prescriptive Cover (cm <sup>2</sup> )	Infiltration through Evapotranspirative Soil Cover (cm <sup>2</sup> )
Disposal Area C – Deck	22.6	Composite Cover with geomembrane	0.627	1.09
Disposal Area C – Slopes	12.7	Compacted Clay Cover	23.98	1.09
<b>CUMULATIVE ANNUAL INFILTRATION (cm/year)</b>			<b>24.607</b>	<b>2.18</b>

Notes:

- 1) Table 2-2 was revised to present to address topographical error regarding the surface area noted by the LEA
- 2) Cumulative annual infiltration for the modeled 10 years period

TABLE 2-2a

CALCULATED CUMULATIVE ANNUAL INFILTRATION  
USING WEIGHTED AVERAGE METHODOLOGY  
LOPEZ CANYON SANITARY LANDFILL  
LAKEVIEW TERRACE, CALIFORNIA

Landfill Portion	Title 27 Prescriptive Cover	Surface Area (acres)	Surface Area (ft <sup>2</sup> )	Infiltration through Title 27 Prescriptive Cover (cm/year)	Infiltration through Title 27 Prescriptive Cover (gallons/yr)	Infiltration through Evapotranspirative Soil Cover (cm/yr)	Infiltration through Evapotranspirative Soil Cover (gallons/yr)
Disposal Area C – Deck	Composite Cover with geomembrane	22.6	≈ 984,448	0.627	≈ 151,487	1.09	≈ 263,351
Disposal Area C – Slopes	Compacted Clay Cover	12.7	≈ 553,208	23.98	≈ 3,255,765	1.09	≈ 147,989
<b>CUMULATIVE ANNUAL INFILTRATION</b>		<b>35.3</b>	<b>1,537,656</b>	<b>24.607</b>	<b>≈ 3,407,252</b>	<b>2.18</b>	<b>≈ 411,340</b>

TABLE 2-2b

CALCULATED CUMULATIVE ANNUAL INFILTRATION – SENSITIVITY ANALYSIS  
 LOPEZ CANYON SANITARY LANDFILL  
 LAKEVIEW TERRACE, CALIFORNIA

Landfill Portion	Surface Area (acres)	Evapotranspirative Soil Cover					
		Vegetation coverage (%)	Root depth (ft)	Infiltration through ET Soil Cover (cm)	Vegetation coverage (%)	Root depth (ft)	Infiltration through ET Soil Cover (cm)
Disposal Area C – Deck	22.6	45	1.5	1.09	45	4.0	1.01
		75	1.5	1.09	75	4.0	1.00
		80	1.5	1.09	80	4.0	1.00
		100	1.5	1.09	100	4.0	1.00
		45	3.5	1.08	45	4.5	0.670
		75	3.5	1.08	75	4.5	0.610
		80	3.5	1.08	80	4.5	0.600
		100	3.5	1.08	100	4.5	0.059

TABLE 2-2c

CALCULATED CUMULATIVE REVISED ANNUAL INFILTRATION  
USING WEIGHTED AVERAGE METHODOLOGY  
LOPEZ CANYON SANITARY LANDFILL  
LAKEVIEW TERRACE, CALIFORNIA

Landfill Portion	Title 27 Prescriptive Cover	Surface Area (acres)	Surface Area (ft <sup>2</sup> )	Infiltration through Title 27 Prescriptive Cover (cm/year)	Infiltration through Title 27 Prescriptive Cover (gallons/yr)	Infiltration through Evapotranspirative Soil Cover (cm/yr)	Infiltration through Evapotranspirative Soil Cover (gallons/yr)
Disposal Area C – Deck	Composite Cover with geomembrane	22.6	≈ 984,448	0.627	≈ 151,487	0.610	≈ 147,380
Disposal Area C – Slopes	Compacted Clay Cover	12.7	≈ 553,208	23.98	≈ 3,255,765	1.09	≈ 147,989
<b>CUMULATIVE ANNUAL INFILTRATION</b>		<b>35.3</b>	<b>1,537,656</b>	<b>24.607</b>	<b>≈ 3,407,252</b>	<b>1.70</b>	<b>≈ 295,369</b>

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Disposal Area C + DECK-- White Paper

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Disposal Area C + DECK-- White Paper

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NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

## wht4-100-1.5-bsum300.out

Created using BSUM300 Version 3.01; all units are cm  
 First file in series is wht4-100-1.51952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
<hr/>									
Initial storage =							34.133		
1	41.580	159.772	5.720	9.455	25.550	0.036	35.010	58684	-0.05842
2	89.992	160.134	13.051	9.864	67.875	0.017	34.422	96249	-0.22676
3	44.933	177.794	8.918	8.325	30.548	0.012	31.580	58032	-0.02718
4	37.123	173.348	5.509	9.136	21.490	0.009	32.578	56208	-0.01908
5	38.081	174.139	6.346	6.035	27.951	0.008	30.375	61718	-0.05683
6	48.133	169.834	6.484	10.726	28.733	0.007	32.575	57987	-0.01603
7	50.724	179.057	10.408	8.358	34.338	0.006	30.259	63363	-0.07108
8	29.972	180.951	3.451	4.982	21.033	0.005	30.771	53411	-0.01190
9	28.829	180.446	3.859	7.074	17.568	0.005	31.118	55498	-0.02453
10	50.292	241.574	7.393	6.472	38.105	0.005	29.631	83536	-0.19590
SUM=	459.6591797.049	71.141	80.428	313.190	0.109				-0.70772
<hr/>									



wht4-100-3.5.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

1,1,	IPLANT, NGRAV
365,1,365,	IFDEND, IDTBEG, IDTEND
1952,10,0,1,1,	IYS, NYEARS, ISTEAD, IFLIST, NFLIST
0,0,	NPRINT, STOPHR
0,4,1,2.0d-5,	ISMETH, INMAX, ISWDIF, DMAXBA
0.25d+0,1.0d-08,0,0,	DELMAX, DELMIN, OUTTIM
1.25,1.0d-05,0.0,0.0,0.0,	RFACT, RAINIF, DHTOL, DHMAX, DHFACT
4,3,0,0,	KOPT, KEST, WTF
0,1,2,1,	ITOPBC, IEVOPT, NFHOUR, LOWER
1.0d-05,1.0d+06,0.0,0.0,	HIRRI, HDRY, HTOP, RHA
1,0,1,	IETOPT, ICLOUD, ISHOPT
1,1,0,	IRAIN, HPR
0,0,0,0.0,0.0,0,	IHYS, AIRTOL, HYSTOL, HYSMXH, HYFILE
0,0,0,0,	IHEAT, ICONVH, DMAXHE
0,0,0,0.0,0.0,	UPPERH, TSMEAN, TSAMP, QHCTOP
0,0,0,0.0,	LOWERH, QLEAK, TGRAD
1,0.66d+0,291.0d+0,0.256d+0,	IVAPOR, TORT, TSOIL, VAPDIF
3,51,	MATN, NPT
1, 0.00, 1, 0.10, 1, 0.30, 1, 0.70,	
1, 1.50, 1, 3.10, 1, 5.10, 1, 7.62,	
1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,	
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,	
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,	
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,	
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,	
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,	
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,	
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,	
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,	
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,	
3, 152.10, 3, 152.30, 3, 152.40,	

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-05(0.180)

2,0.180,0.0311,1.1931,0.5,  
SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 3E-05(0.10800)

2,0.1080,0.0311,1.1931,0.5,  
SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-06(0.0180)

2,0.01800,0.0311,1.1931,0.5,  
0, NDAY (toss.out file for day 3.65000E+02) ver 3.00

329054.0, 329054.0, 329054.0, 329054.0,	Initial Conditions
329054.0, 329100.0, 329100.0, 329100.0,	Initial Conditions
56300.0, 15200.0, 5298.0, 2211.0,	Initial Conditions
1375.0, 887.0, 590.0, 402.0,	Initial Conditions
620.0, 987.0, 1635.0, 2850.0,	Initial Conditions
3476.0, 4274.0, 5298.0, 6628.0,	Initial Conditions
4586.0, 3251.0, 2353.0, 1734.0,	Initial Conditions
1456.0, 1228.0, 1041.0, 887.0,	Initial Conditions
935.0, 987.0, 1041.0, 1100.0,	Initial Conditions
1100.0, 1100.0, 1100.0, 1100.0,	Initial Conditions
652.0, 402.0, 255.0, 164.0,	Initial Conditions
164.0, 164.0, 164.0, 164.0,	Initial Conditions
164.0, 164.0, 164.0,	Initial Conditions

1, 1, 1, 1, 287, 195,  
LEAF, NFROOT, NUPTAK, NFPET, NSOW, NHRVST

0.00,  
6,

BARE  
NDLAI

wht4-100-3.5.inp

0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 365, 365, 365, 365, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365,  
365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,

P:\PRJ4\CAWP\HL0800\White-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

## wht4-100-3.5-bsum300.out

Created using BSUM300 Version 3.01; all units are cm  
 First file in series is wht4-100-3.51952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
<hr/>									
Initial storage =						34.133			
1	41.580	159.772	8.911	9.564	25.555	0.036	31.708	58763	-0.06098
2	89.992	160.134	13.399	10.014	68.070	0.017	30.476	98297	-0.27597
3	44.933	177.794	8.879	8.479	30.573	0.012	27.492	57550	-0.02610
4	37.123	173.348	5.388	9.260	21.505	0.009	28.476	56387	-0.02161
5	38.081	174.139	6.237	6.158	27.981	0.008	26.254	64031	-0.07929
6	48.133	169.834	6.333	10.867	28.757	0.007	28.444	58744	-0.02051
7	50.724	179.057	10.146	8.547	34.453	0.006	26.095	65757	-0.07818
8	29.972	180.951	3.399	5.055	21.032	0.005	26.587	52855	-0.01066
9	28.829	180.446	3.791	7.168	17.571	0.005	26.907	55190	-0.02517
10	50.292	241.574	7.248	6.594	38.168	0.004	25.388	82964	-0.20284
SUM=	459.6591797.049	73.729	81.703	313.665	0.108				-0.80131

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wht4-100-4.0.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

1,1, IPLANT,NGRAV  
365,1,365, IFDEND, IDTBEG, IDTEND  
1952,10,0,1,1, IYS, NYEARS, ISTEAD, IFLIST, NFLIST  
0,0, NPRINT, STOPHR  
0,4,1,2.0d-5, ISMETH, INMAX, ISWDIF, DMAXBA  
0.25d+0,1.0d-08,0.0, DELMAX, DELMIN, OUTTIM  
1.25,1.0d-05,0.0,0.0,0.0, RFACT, RAINIF, DHTOL, DHMAX, DHFACT  
4,3,0,0, KOPT, KEST, WTF  
0,1,2,1, ITOPBC, IEVOPT, NFHOUR, LOWER  
1.0d-05,1.0d+06,0.0,0.0, HIRRI, HDRY, HTOP, RHA  
1,0,1, IETOPT, ICLOUD, ISHOPT  
1,1,0, IRAIN,HPR  
0,0,0,0.0,0.0,0, IHYS,AIRTOL,HYSTOL,HYSMXH,HYFILE  
0,0,0,0, IHEAT,ICONVH,DMAXHE  
0,0,0,0.0,0.0, UPPERH, TSMEAN, TSAMP, QHCTOP  
0,0,0,0,0, LOWERH, QHLEAK, TGRAD  
1,0,66d+0,291.0d+0,0.256d+0, IVAPOR,TORT,TSOIL,VAPDIF  
3,51, MATN, NPT  
1, 0.00, 1, 0.10, 1, 0.30, 1, 0.70,  
1, 1.50, 1, 3.10, 1, 5.10, 1, 7.62,  
1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,  
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,  
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,  
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,  
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,  
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,  
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,  
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,  
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,  
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,  
3, 152.10, 3, 152.30, 3, 152.40,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931, Ksat 5E-05(0.180)  
SOIL CONDUCTIVITY DATA, SOIL

2,0.180,0.0311,1.1931,0.5, SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931, Ksat 3E-05(0.10800)  
SOIL CONDUCTIVITY DATA, SOIL

2,0.1080,0.0311,1.1931,0.5, SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931, Ksat 5E-06(0.0180)  
SOIL CONDUCTIVITY DATA, SOIL

2,0.01800,0.0311,1.1931,0.5, 0, NDAY (toss.out file for day 3.65000E+02) Ver 3.00

329054.0, 329054.0, 329054.0, 329054.0, Initial Conditions

329054.0, 329100.0, 329100.0, 329100.0, Initial Conditions

56300.0, 15200.0, 5298.0, 2211.0, Initial Conditions

1375.0, 887.0, 590.0, 402.0, Initial Conditions

620.0, 987.0, 1635.0, 2850.0, Initial Conditions

3476.0, 4274.0, 5298.0, 6628.0, Initial Conditions

4586.0, 3251.0, 2353.0, 1734.0, Initial Conditions

1456.0, 1228.0, 1041.0, 887.0, Initial Conditions

935.0, 987.0, 1041.0, 1100.0, Initial Conditions

1100.0, 1100.0, 1100.0, 1100.0, Initial Conditions

652.0, 402.0, 255.0, 164.0, Initial Conditions

164.0, 164.0, 164.0, 164.0, Initial Conditions

164.0, 164.0, 164.0, 164.0, Initial Conditions

1, 1, 1, 1, 287, 195,

LEAF,NROOT,NUPTAK,NFPET,NSOW,NHRVST

0.00, BARE

6, NDLAI

wht4-100-4.0.inp

0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365, 365,  
365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,

P:\PRJ4\CAWP\HL0800\white-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

## wht4-100-4.0-bsum300.out

Created using BSUM300 version 3.01; all units are cm

First file in series is wht4-100-4.01952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
<hr/>									
Initial storage =							34.133		
1	41.580	159.772	9.961	9.592	25.558	0.036	30.627	59064	-0.06175
2	89.992	160.134	13.635	10.048	68.103	0.017	29.080	98968	-0.26209
3	44.933	177.794	8.943	8.512	30.592	0.011	25.973	56895	-0.01990
4	37.123	173.348	5.422	9.286	21.512	0.009	26.892	56763	-0.02364
5	38.081	174.139	6.278	6.184	27.960	0.007	24.616	61873	-0.07191
6	48.133	169.834	6.349	10.893	28.758	0.006	26.763	58473	-0.02060
7	50.724	179.057	10.132	8.600	34.428	0.005	24.374	62643	-0.05122
8	29.972	180.951	3.402	5.071	21.051	0.004	24.835	54169	-0.01649
9	28.829	180.446	3.791	7.190	17.571	0.003	25.131	55463	-0.02323
10	50.292	241.574	7.225	6.623	38.192	0.003	23.587	88018	-0.20761
SUM=	459.6591797.049	75.139	81.999	313.725	0.100				-0.75844

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wht4-100-4.5.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

IPLANT,NGRAV  
IFDEND, IDTBEG, IDTEND  
IYS,NYEARS,ISTEAD,IFLIST,NFLIST  
NPRINT,STOPHR  
ISMETH,INMAX,ISWDIF,DMAXBA  
DELMAX,DELMIN,OUTTIM  
RFACT,RAINIF,DHTOL,DHMAX,DHFACT  
KOPT,KEST,WTF  
ITOPBC,IEVOPT,NFHOUR,LOWER  
HIRRI,HDRY,HTOP,RHA  
IETOPT,ICLOUD,ISHOPT  
IRAIN,HPR  
IHYS,AIRTOL,HYSTOL,HYSMXH,HYFILE  
IHEAT,ICONVH,DMAXHE  
UPPERH,TSMEAN,TSAMP,QHCTOP  
LOWERH,QHLEAK,TGRAD  
IVAPOR,TORT,TSOIL,VAPDIF  
MATN, NPT  
1, 0.00, 1, 0.10, 1, 0.30, 1, 0.70,  
1, 1.50, 1, 3.10, 1, 5.10, 1, 7.62,  
1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,  
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,  
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,  
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,  
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,  
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,  
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,  
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,  
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,  
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,  
3, 152.10, 3, 152.30, 3, 152.40,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,

Ksat 5E-05(0.180)

SOIL CONDUCTIVITY DATA, SOIL

2,0.180,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,

Ksat 3E-05(0.10800)

SOIL CONDUCTIVITY DATA, SOIL

2,0.1080,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,

Ksat 5E-06(0.0180)

2,0.01800,0.0311,1.1931,0.5,

0, NDAY (toss.out file for day 3.65000E+02) ver 3.00

329054.0,	329054.0,	329054.0,	329054.0,	Initial Conditions
329054.0,	329100.0,	329100.0,	329100.0,	Initial Conditions
56300.0,	15200.0,	5298.0,	2211.0,	Initial Conditions
1375.0,	887.0,	590.0,	402.0,	Initial Conditions
620.0,	987.0,	1635.0,	2850.0,	Initial Conditions
3476.0,	4274.0,	5298.0,	6628.0,	Initial Conditions
4586.0,	3251.0,	2353.0,	1734.0,	Initial Conditions
1456.0,	1228.0,	1041.0,	887.0,	Initial Conditions
935.0,	987.0,	1041.0,	1100.0,	Initial Conditions
1100.0,	1100.0,	1100.0,	1100.0,	Initial Conditions
652.0,	402.0,	255.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions

1, 1, 1, 1, 287, 195,  
LEAF,NFROOT,NUPTAK,NFPET,NSOW,NHRVST

0.0,

6,

BARE  
NDLAI

wht4-100-4.5.inp

0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 365, 365, 365, 365, 365, 365, 365, 365,  
365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,

P:\PRJ4\CAWP\HL0800\White-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

wht4-100-4.5-bsum300.out  
 Created using BSUM300 Version 3.01; all units are cm  
 First file in series is wht41952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
Initial storage =							34.133		
1	41.580	159.772	11.068	9.613	25.554	0.033	29.500	58561	-0.05643
2	89.992	160.134	14.271	10.077	68.170	0.011	27.258	99917	-0.29477
3	44.933	177.794	9.220	8.546	30.597	0.005	23.850	59264	-0.02700
4	37.123	173.348	5.472	9.314	21.508	0.003	24.698	56661	-0.02141
5	38.081	174.139	6.244	6.212	27.988	0.002	22.413	62581	-0.08027
6	48.133	169.834	6.308	10.924	28.761	0.001	24.574	58769	-0.02150
7	50.724	179.057	10.035	8.645	34.490	0.001	22.200	62876	-0.07348
8	29.972	180.951	3.364	5.087	21.045	0.001	22.685	52195	-0.00897
9	28.829	180.446	3.751	7.209	17.575	0.001	23.000	55671	-0.02090
10	50.292	241.574	7.154	6.649	38.193	0.000	21.485	87128	-0.18926
SUM=	459.6591797.049	76.886	82.274	313.881	0.059				-0.79400

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wht4-45-3.5.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

1,1, IPLANT,NGRAV  
365,1,365, IFDEND, IDTBEG, IDTEND  
1952,10,0,1,1, IYS, NYEARS, ISTEAD, IFLIST, NFLIST  
0,0, NPRINT, STOPHR  
0,4,1,2.0d-5, ISMETH, INMAX, ISWDIF, DMAXBA  
0.25d+0,1.0d-08,0.0, DELMAX, DELMIN, OUTTIM  
1.25,1.0d-05,0.0,0.0,0.0, RFACT, RAINIF, DHTOL, DHMAX, DHFACT  
4,3,0,0, KOPT, KEST, WTF  
0,1,2,1, ITOPBC, IEVOPT, NFHOUR, LOWER  
1.0d-05,1.0d+06,0.0,0.0, HIRRI, HDRY, HTOP, RHA  
1,0,1, IETOPT, ICLOUD, ISHOPT  
1,1,0, IRAIN, HPR  
0,0,0,0.0,0.0,0, IHYS, AIRTOL, HYSTOL, HYSMXH, HYFILE  
0,0,0,0, IHEAT, ICONVH, DMAXHE  
0,0,0,0.0,0.0, UPPERH, TSMEAN, TSAMP, QHCTOP  
0,0,0,0,0, LOWERH, QHLEAK, TGRAD  
1,0,66d+0,291.0d+0,0.256d+0, IVAPOR, TORT, TSOIL, VAPDIF  
3,51, MATN, NPT  
1, 0.00, 1, 0.10, 1, 0.30, 1, 0.70,  
1, 1.50, 1, 3.10, 1, 5.10, 1, 7.62,  
1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,  
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,  
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,  
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,  
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,  
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,  
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,  
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,  
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,  
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,  
3, 152.10, 3, 152.30, 3, 152.40,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-05(0.180)

2,0.180,0.0311,1.1931,0.5,  
SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 3E-05(0.10800)

2,0.1080,0.0311,1.1931,0.5,  
SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-06(0.0180)

2,0.01800,0.0311,1.1931,0.5,  
0, NDAY (toss.out file for day 3.65000E+02) ver 3.00

329054.0,	329054.0,	329054.0,	329054.0,	Initial Conditions
329054.0,	329100.0,	329100.0,	329100.0,	Initial Conditions
56300.0,	15200.0,	5298.0,	2211.0,	Initial Conditions
1375.0,	887.0,	590.0,	402.0,	Initial Conditions
620.0,	987.0,	1635.0,	2850.0,	Initial Conditions
3476.0,	4274.0,	5298.0,	6628.0,	Initial Conditions
4586.0,	3251.0,	2353.0,	1734.0,	Initial Conditions
1456.0,	1228.0,	1041.0,	887.0,	Initial Conditions
935.0,	987.0,	1041.0,	1100.0,	Initial Conditions
1100.0,	1100.0,	1100.0,	1100.0,	Initial Conditions
652.0,	402.0,	255.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions

1, 1, 1, 1, 287, 195,  
LEAF, NFROOT, NUPTAK, NFPET, NSOW, NHRVST

0.55,  
6,

BARE  
NDLAI

wht4-45-3.5.inp

0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
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365, 365, 365, 365, 365, 365, 365, 365,  
365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,

P:\PRJ4\CAWP\HL0800\White-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

## wht4-45-3.5-bsum300.out

Created using BSUM300 Version 3.01; all units are cm

First file in series is wht4-45-3.51952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
<hr/>									
Initial storage =							34.133		
1	41.580	159.772	5.958	10.367	25.507	0.036	33.905	58704	-0.06041
2	89.992	160.134	10.894	12.108	68.007	0.017	33.115	105566	-0.24218
3	44.933	177.794	8.978	10.099	30.586	0.012	28.399	59467	-0.02641
4	37.123	173.348	4.755	10.439	21.432	0.009	28.905	56145	-0.01817
5	38.081	173.864	5.338	7.198	27.987	0.008	26.522	62019	-0.06603
6	48.133	169.834	4.958	12.326	28.652	0.007	28.732	58778	-0.02034
7	50.724	179.057	7.734	10.709	34.559	0.006	26.498	61509	-0.04993
8	29.972	180.951	2.746	5.713	21.065	0.005	26.956	53336	-0.01575
9	28.829	180.197	2.784	8.077	17.591	0.005	27.358	55090	-0.02825
10	50.292	241.574	5.774	7.867	38.455	0.004	25.716	82514	-0.16597
SUM=	459.659	1796.526	59.918	94.903	313.841	0.108			-0.69344

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wht4-45-4.0.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

IPLANT,NGRAV  
1,1,  
365,1,365,  
1952,10,0,1,1,  
0,0,  
0.4,1,2.0d-5,  
0.25d+0,1.0d-08,0.0,  
1.25,1.0d-05,0.0,0.0,0.0,  
4,3,0,0,  
0,1,2,1,  
1.0d-05,1.0d+06,0.0,0.0,  
1,0,1,  
1,1,0,  
0,0,0,0.0,0.0,  
0,0,0,0,  
0,0,0,0.0,0,  
0,0,0,0.0,  
1,0.66d+0,291.0d+0,0.256d+0,  
3,51,  
1, 0.00, 1, 0.10, 1, 0.30, 1, 0.70,  
1, 1.50, 1, 3.10, 1, 5.10, 1, 7.62,  
1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,  
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,  
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,  
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,  
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,  
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,  
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,  
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,  
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,  
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,  
3, 152.10, 3, 152.30, 3, 152.40,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-05(0.180)

2,0.180,0.0311,1.1931,0.5,  
SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 3E-05(0.10800)

2,0.1080,0.0311,1.1931,0.5,  
SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-06(0.0180)

2,0.01800,0.0311,1.1931,0.5,  
0, NDAY (toss.out file for day 3.65000E+02) Ver 3.00

329054.0,	329054.0,	329054.0,	329054.0,	Initial Conditions
329054.0,	329100.0,	329100.0,	329100.0,	Initial Conditions
56300.0,	15200.0,	5298.0,	2211.0,	Initial Conditions
1375.0,	887.0,	590.0,	402.0,	Initial Conditions
620.0,	987.0,	1635.0,	2850.0,	Initial Conditions
3476.0,	4274.0,	5298.0,	6628.0,	Initial Conditions
4586.0,	3251.0,	2353.0,	1734.0,	Initial Conditions
1456.0,	1228.0,	1041.0,	887.0,	Initial Conditions
935.0,	987.0,	1041.0,	1100.0,	Initial Conditions
1100.0,	1100.0,	1100.0,	1100.0,	Initial Conditions
652.0,	402.0,	255.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions

1, 1, 1, 1, 287, 195,  
LEAF,NFRONT,NUPTAK,NFPET,NSOW,NHRVST

0.55,  
6,

BARE  
NDLAI

wht4-45-4.0.inp

0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365,  
365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,

P:\PRJ4\CAWP\HL0800\White-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLA  
IDLAI, VLA  
AA,B1,B2  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

## wht4-45-4.0-bsum300.out

Created using BSUM300 Version 3.01; all units are cm  
 First file in series is wht4-45-4.01952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
<hr/>									
Initial storage =							34.133		
1	41.580	159.772	6.456	10.383	25.511	0.036	33.389	58854	-0.06260
2	89.992	160.134	11.225	12.157	68.055	0.017	32.166	102033	-0.23854
3	44.933	177.794	9.237	10.139	30.605	0.011	27.134	57918	-0.02717
4	37.123	173.348	4.955	10.466	21.426	0.009	27.421	56849	-0.02124
5	38.081	173.864	5.433	7.228	27.970	0.007	24.932	60779	-0.06736
6	48.133	169.834	4.993	12.358	28.658	0.006	27.070	58658	-0.02020
7	50.724	179.057	7.711	10.766	34.545	0.005	24.815	61790	-0.04780
8	29.972	180.951	2.799	5.726	21.057	0.004	25.217	53133	-0.01504
9	28.829	180.197	2.794	8.100	17.588	0.003	25.585	54480	-0.02520
10	50.292	241.574	5.783	7.896	38.471	0.003	23.908	80181	-0.18244
SUM=	459.659	1796.526	61.387	95.218	313.886	0.101			-0.70758

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wht4-45-4.5.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

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1,1,          IPLANT,NGRAV
365,1,365,    IFDEND, IDTBEG, IDTEND
1952,10,0,1,1, IYS, NYEARS, ISTEAD, IFLIST, NFLIST
0,0,          NPRINT, STOPHR
0,4,1,2.0d-5, ISMETH, INMAX, ISWDIF, DMAXBA
0.25d+0,1.0d-08,0.0, DELMAX, DELMIN, OUTTIM
1.25,1.0d-05,0.0,0.0,0.0, RFACT, RAINIF, DHTOL, DHMAX, DHFACT
4,3,0.0,      KOPT, KEST, WTF
0,1,2,1,      ITOPBC, IEVOPT, NFHOUR, LOWER
1.0d-05,1.0d+06,0.0,0.0, HIRRI, HDRY, HTOP, RHA
1,0,1,        IETOPT, ICLLOUD, ISHOPT
1,1,0,        IRAIN, HPR
0,0,0,0.0,0.0, IHYS, AIRTOL, HYSTOL, HYSMXH, HYFILE
0,0,0.0,      IHEAT, ICONVH, DMAXHE
0,0,0,0.0,0.0, UPPERH, TSMEAN, TSAMP, QHCTOP
0,0,0,0.0,      LOWERH, QHLEAK, TGRAD
1,0.66d+0,291.0d+0,0.256d+0, IVAPOR, TORT, TSOIL, VAPDIF
3,51,          MATN, NPT
1,     0.00,   1,     0.10,  1,     0.30,   1,     0.70,
1,     1.50,   1,     3.10,  1,     5.10,   1,     7.62,
1,    11.43,   2,    15.24,  2,    19.05,   2,    22.86,
2,    26.67,   2,    30.48,  2,    34.29,   2,    38.10,
2,    41.91,   2,    45.72,  2,    49.53,   2,    53.34,
2,    57.15,   2,    60.96,  2,    64.77,   2,    68.58,
2,    72.39,   2,    76.20,  2,    80.01,   2,    83.82,
2,    87.63,   3,    91.44,  3,    95.25,   3,    99.06,
3,   102.87,   3,   106.68,  3,   110.49,   3,   114.30,
3,   118.11,   3,   121.92,  3,   125.73,   3,   129.54,
3,   133.35,   3,   137.16,  3,   140.97,   3,   144.78,
3,   147.30,   3,   149.30,  3,   150.90,   3,   151.70,
3,   152.10,   3,   152.30,  3,   152.40,

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SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-05(0.180)

2,0.180,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 3E-05(0.10800)

2,0.1080,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-06(0.0180)

2,0.01800,0.0311,1.1931,0.5,

0, NDAY (toss.out file for day 3.65000E+02) ver 3.00

329054.0,	329054.0,	329054.0,	329054.0,	Initial Conditions
329054.0,	329100.0,	329100.0,	329100.0,	Initial Conditions
56300.0,	15200.0,	5298.0,	2211.0,	Initial Conditions
1375.0,	887.0,	590.0,	402.0,	Initial Conditions
620.0,	987.0,	1635.0,	2850.0,	Initial Conditions
3476.0,	4274.0,	5298.0,	6628.0,	Initial Conditions
4586.0,	3251.0,	2353.0,	1734.0,	Initial Conditions
1456.0,	1228.0,	1041.0,	887.0,	Initial Conditions
935.0,	987.0,	1041.0,	1100.0,	Initial Conditions
1100.0,	1100.0,	1100.0,	1100.0,	Initial Conditions
652.0,	402.0,	255.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,		Initial Conditions

1, 1, 1, 1, 287, 195,  
LEAF, NFROOT, NUPTAK, NFPET, NSOW, NHRVST

0.55,  
6,

BARE  
NDLAI

wht4-45-4.5.inp

0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 365, 365, 365, 365, 365, 365, 365, 365,  
365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,  
P:\PRJ4\CAWP\HL0800\White-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

wht4-45-4.5-bsum300.out  
 Created using BSUM300 Version 3.01; all units are cm  
 First file in series is wht4-45-4.51952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
Initial storage =							34.133		
1	41.580	159.772	6.923	10.400	25.512	0.034	32.905	60734	-0.06171
2	89.992	160.134	11.614	12.217	68.034	0.013	31.245	102404	-0.22640
3	44.933	177.794	9.663	10.175	30.630	0.007	25.727	57569	-0.02363
4	37.123	173.348	5.289	10.487	21.436	0.004	25.653	56309	-0.01932
5	38.081	173.864	5.578	7.255	27.983	0.003	22.986	61681	-0.07010
6	48.133	169.834	5.067	12.390	28.652	0.002	25.028	58344	-0.02027
7	50.724	179.057	7.665	10.815	34.570	0.001	22.766	63833	-0.06487
8	29.972	180.951	2.828	5.739	21.051	0.001	23.133	53146	-0.01357
9	28.829	180.197	2.758	8.121	17.597	0.001	23.510	54564	-0.02539
10	50.292	241.574	5.699	7.923	38.480	0.001	21.843	77172	-0.14419
SUM=	459.659	1796.526	63.084	95.523	313.944	0.067			-0.66945

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wht4-75-1.5.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

1,1, IPLANT,NGRAV  
365,1,365, IFDEND, IDTBEG, IDTEND  
1952,10,0,1,1, IYS,NYEARS,ISTEAD,IFLIST,NFLIST  
0,0, NPRINT,STOPHR  
0,4,1,2.0d-5, ISMETH,INMAX,ISWDIF,DMAXBA  
0.25d+0,1.0d-08,0.0, DELMAX,DELMIN,OUTTIM  
1.25,1.0d-05,0.0,0.0,0.0, RFACT,RAINIF,DHTOL,DHMAX,DHFACT  
4,3,0,0, KOPT,KEST,WTF  
0,1,2,1, ITOPBC,IEVOPT,NFHOUR,LOWER  
1.0d-05,1.0d+06,0.0,0.0, HIRRI,HDRY,HTOP,RHA  
1,0,1, IETOPT,ICLOUD,ISHOPT  
1,1,0, IRAIN,HPR  
0,0,0,0,0,0,0,0, IHYS,AIRTEL,HYSTOL,HYSMXH,HYFILE  
0,0,0,0, IHEAT,ICONVH,DMAXHE  
0,0,0,0,0,0, UPPERH,TSMEAN,TSAMP,QHCTOP  
0,0,0,0,0, LOWERH,QHLEAK,TGRAD  
1,0.66d+0,291.0d+0,0.256d+0, IVAPOR,TORT,TSOIL,VAPDIF  
3,51, MATN,NPT  
1, 0.00, 1, 0.10, 1, 0.30, 1, 0.70,  
1, 1.50, 1, 3.10, 1, 5.10, 1, 7.62,  
1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,  
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,  
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,  
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,  
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,  
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,  
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,  
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,  
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,  
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,  
3, 152.10, 3, 152.30, 3, 152.40,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931, Ksat 5E-05(0.180)  
SOIL CONDUCTIVITY DATA, SOIL

2,0.180,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931, Ksat 3E-05(0.10800)  
SOIL CONDUCTIVITY DATA, SOIL

2,0.1080,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931, Ksat 5E-06(0.0180)  
SOIL CONDUCTIVITY DATA, SOIL

2,0.01800,0.0311,1.1931,0.5,

0, NDAY (toss.out file for day 3.65000E+02) ver 3.00

329054.0,	329054.0,	329054.0,	Initial Conditions
329054.0,	329100.0,	329100.0,	Initial Conditions
56300.0,	15200.0,	5298.0,	Initial Conditions
1375.0,	887.0,	590.0,	Initial Conditions
620.0,	987.0,	1635.0,	Initial Conditions
3476.0,	4274.0,	5298.0,	Initial Conditions
4586.0,	3251.0,	2353.0,	Initial Conditions
1456.0,	1228.0,	1041.0,	Initial Conditions
935.0,	987.0,	1041.0,	Initial Conditions
1100.0,	1100.0,	1100.0,	Initial Conditions
652.0,	402.0,	255.0,	Initial Conditions
164.0,	164.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	Initial Conditions

1, 1, 1, 287, 195,  
LEAF,NFRONT,NUPTAK,NFPET,NSOW,NHRVST

0.25,  
6,

BARE  
NDLAI

wht4-75-1.5.inp

0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,

P:\PRJ4\CAWP\HL0800\White-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

## wht4-75-1.5-bsum300.out

Created using BSUM300 version 3.01; all units are cm  
 First file in series is wht4-75-1.51952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
<hr/>									
Initial storage =							34.133		
1	41.580	159.772	5.139	9.826	25.523	0.036	35.244	58049	-0.05641
2	89.992	160.134	12.176	10.676	68.014	0.017	34.610	101637	-0.25616
3	44.933	177.794	8.394	8.996	30.536	0.012	31.635	58702	-0.03005
4	37.123	173.348	5.012	9.664	21.457	0.009	32.638	56959	-0.02231
5	38.081	174.014	5.931	6.450	27.963	0.008	30.434	62471	-0.06673
6	48.133	169.834	5.879	11.338	28.718	0.007	32.644	58531	-0.01954
7	50.724	179.057	9.465	9.258	34.365	0.006	30.329	64131	-0.05564
8	29.972	180.951	3.138	5.279	21.034	0.005	30.856	52806	-0.00992
9	28.829	180.333	3.491	7.461	17.545	0.005	31.210	55827	-0.02651
10	50.292	241.574	6.783	7.017	38.155	0.005	29.724	82286	-0.18180
<hr/>									
SUM=	459.6591796.811	65.407	85.967	313.310	0.109				-0.72507

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wht4-75-3.5.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

1,1,  
365,1,365,  
1952,10,0,1,1,  
0,0,  
0,4,1,2.0d-5,  
0.25d+0,1.0d-08,0.0,  
1.25,1.0d-05,0.0,0.0,0.0,  
4,3,0,0,  
0,1,2,1,  
1.0d-05,1.0d+06,0.0,0.0,  
1,0,1,  
1,1,0,  
0,0,0,0.0,0.0,0,  
0,0,0,0,  
0,0,0,0.0,0,  
0,0,0,0,  
1,0,66d+0,291.0d+0,0.256d+0,  
3,51,  
1, 0.00, 1, 0.10, 1, 0.30, 1, 0.70,  
1, 1.50, 1, 3.10, 1, 5.10, 1, 7.62,  
1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,  
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,  
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,  
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,  
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,  
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,  
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,  
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,  
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,  
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,  
3, 152.10, 3, 152.30, 3, 152.40,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-05(0.180)

2,0.180,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 3E-05(0.10800)

2,0.1080,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-06(0.0180)

2,0.01800,0.0311,1.1931,0.5,

0, NDAY (toss.out file for day 3.65000E+02) Ver 3.00

329054.0,	329054.0,	329054.0,	329054.0,	Initial Conditions
329054.0,	329100.0,	329100.0,	329100.0,	Initial Conditions
56300.0,	15200.0,	5298.0,	2211.0,	Initial Conditions
1375.0,	887.0,	590.0,	402.0,	Initial Conditions
620.0,	987.0,	1635.0,	2850.0,	Initial Conditions
3476.0,	4274.0,	5298.0,	6628.0,	Initial Conditions
4586.0,	3251.0,	2353.0,	1734.0,	Initial Conditions
1456.0,	1228.0,	1041.0,	887.0,	Initial Conditions
935.0,	987.0,	1041.0,	1100.0,	Initial Conditions
1100.0,	1100.0,	1100.0,	1100.0,	Initial Conditions
652.0,	402.0,	255.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions

1, 1, 1, 1, 287, 195,  
LEAF,NFRONT,NUPTAK,NFPET,NSOW,NHRVST

0.25,  
6,

BARE  
NDLAI

wht4-75-3.5.inp  
0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 365, 365, 365, 365, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365, 365,  
365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,  
P:\PRJ4\CAWP\HL0800\white-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

## wht4-75-3.5-bsum300.out

Created using BSUM300 Version 3.01; all units are cm  
 First file in series is wht4-75-3.51952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
<hr/>									
Initial storage =							34.133		
1	41.580	159.772	7.875	9.922	25.529	0.036	32.411	58449	-0.05944
2	89.992	160.134	12.687	10.840	68.211	0.017	30.919	97177	-0.27158
3	44.933	177.794	8.539	9.139	30.596	0.012	27.596	60145	-0.02947
4	37.123	173.348	4.937	9.786	21.461	0.009	28.546	56603	-0.02012
5	38.081	174.014	5.831	6.577	27.965	0.008	26.319	61440	-0.07248
6	48.133	169.834	5.745	11.477	28.723	0.007	28.523	59087	-0.02280
7	50.724	179.057	9.171	9.483	34.475	0.006	26.181	64770	-0.06841
8	29.972	180.951	3.075	5.346	21.047	0.005	26.692	52686	-0.01231
9	28.829	180.333	3.403	7.555	17.560	0.005	27.024	55444	-0.02502
10	50.292	241.574	6.587	7.145	38.249	0.004	25.520	85909	-0.18974
<hr/>									
SUM=	459.659	1796.811	67.849	87.270	313.816	0.108			-0.77138

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wht4-75-4.0.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

1,1,	IPLANT,NGRAV
365,1,365,	IFDEND, IDTBEG, IDTEND
1952,10,0,1,1,	IYS, NYEARS, ISTEAD, IFLIST, NFLIST
0,0,	NPRINT, STOPHR
0,4,1,2.0d-5,	ISMETH, INMAX, ISWDIF, DMAXBA
0.25d+0,1.0d-08,0.0,	DELMAX, DELMIN, OUTTIM
1.25,1.0d-05,0.0,0.0,0.0,	RFACT, RAINIF, DHTOL, DHMAX, DHFACT
4,3,0.0,	KOPT, KEST, WTF
0,1,2,1,	ITOPBC, IEVOPT, NFHOUR, LOWER
1.0d-05,1.0d+06,0.0,0.0,	HIRRI, HDRY, HTOP, RHA
1,0,1,	IETOPT, ICLOUD, ISHOPT
1,1,0,	IRAIN, HPR
0,0,0,0.0,0.0,0,	IHYS, AIRTOL, HYSTOL, HYSMXH, HYFILE
0,0,0,0,	IHEAT, ICONVH, DMAXHE
0,0,0,0.0,0.0,	UPPERH, TSMEAN, TSAMP, QHCTOP
0,0,0,0.0,	LOWERH, QHLEAK, TGRAD
1,0,66d+0,291.0d+0,0.256d+0,	IVAPOR, TORT, TSOIL, VAPDIF
3,51,	MATN, NPT
1, 0.00, 1, 0.10, 1, 0.30, 1, 0.70,	
1, 1.50, 1, 3.10, 1, 5.10, 1, 7.62,	
1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,	
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,	
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,	
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,	
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,	
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,	
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,	
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,	
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,	
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,	
3, 152.10, 3, 152.30, 3, 152.40,	

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-05(0.180)

2,0.180,0.0311,1.1931,0.5,  
SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 3E-05(0.10800)

2,0.1080,0.0311,1.1931,0.5,  
SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-06(0.0180)

2,0.01800,0.0311,1.1931,0.5,  
0, NDAY (toss.out file for day 3.65000E+02) ver 3.00

329054.0, 329054.0, 329054.0, 329054.0,	Initial Conditions
329054.0, 329100.0, 329100.0, 329100.0,	Initial Conditions
56300.0, 15200.0, 5298.0, 2211.0,	Initial Conditions
1375.0, 887.0, 590.0, 402.0,	Initial Conditions
620.0, 987.0, 1635.0, 2850.0,	Initial Conditions
3476.0, 4274.0, 5298.0, 6628.0,	Initial Conditions
4586.0, 3251.0, 2353.0, 1734.0,	Initial Conditions
1456.0, 1228.0, 1041.0, 887.0,	Initial Conditions
935.0, 987.0, 1041.0, 1100.0,	Initial Conditions
1100.0, 1100.0, 1100.0, 1100.0,	Initial Conditions
652.0, 402.0, 255.0, 164.0,	Initial Conditions
164.0, 164.0, 164.0, 164.0,	Initial Conditions
164.0, 164.0, 164.0, 164.0,	Initial Conditions

1, 1, 1, 1, 287, 195,  
LEAF, NFROOT, NUPTAK, NFPET, NSOW, NHRVST

0.25,	BARE
6,	NDLAI

wht4-75-4.0.inp

0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365,  
365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,  
P:\PRJ4\CAWP\HL0800\white-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

## wht4-75-4.0-bsum300.out

Created using BSUM300 Version 3.01; all units are cm  
 First file in series is wht4-75-4.01952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
<hr/>									
Initial storage =							34.133		
1	41.580	159.772	8.731	9.944	25.528	0.036	31.533	58736	-0.05923
2	89.992	160.134	13.150	10.892	68.062	0.017	29.674	104324	-0.26897
3	44.933	177.794	8.747	9.178	30.580	0.011	26.114	57748	-0.02467
4	37.123	173.348	4.999	9.813	21.461	0.009	26.973	56254	-0.01805
5	38.081	174.014	5.851	6.605	27.969	0.007	24.688	63179	-0.06447
6	48.133	169.834	5.758	11.508	28.718	0.006	26.850	58375	-0.01870
7	50.724	179.057	9.159	9.534	34.499	0.005	24.461	66441	-0.08395
8	29.972	180.951	3.090	5.361	21.051	0.004	24.942	53375	-0.01444
9	28.829	180.333	3.404	7.578	17.557	0.003	25.251	54969	-0.02197
10	50.292	241.574	6.558	7.171	38.255	0.003	23.726	82329	-0.17028
<hr/>									
SUM=	459.659	1796.811	69.447	87.585	313.679	0.100			-0.74472

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wht4-75-4.5.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

1,1, IPLANT,NGRAV  
365,1,365, IFDEND, IDTBEG, IDTEND  
1952,10,0,1,1, IYS, NYEARS, ISTEAD, IFLIST, NFLIST  
0,0, NPRINT, STOPHR  
0,4,1,2.0d-5, ISMETH, INMAX, ISWDIF, DMAXBA  
0.25d+0,1.0d-08,0,0, DELMAX, DELMIN, OUTTIM  
1.25,1.0d-05,0.0,0.0,0.0, RFACT, RAINIF, DHTOL, DHMAX, DHFACT  
4,3,0,0, KOPT, KEST, WTF  
0,1,2,1, ITOPBC, IEVOPT, NFHOUR, LOWER  
0,1,2,1, HIRRI, HDRY, HTOP, RHA  
1.0d-05,1.0d+06,0.0,0.0, IETOPT, ICLOUD, ISHOPT  
1,0,1, IRAIN, HPR  
1,1,0, IHYS, AIRTOL, HYSTOL, HYSMXH, HYFILE  
0,0,0,0, IHEAT, ICONVH, DMAXHE  
0,0,0,0,0,0, UPPERH, TSMEAN, TSAMP, QHCTOP  
0,0,0,0,0, LOWERH, QHLEAK, TGRAD  
1,0,66d+0,291.0d+0,0.256d+0, IVAPOR, TORT, TSOIL, VAPDIF  
3,51, MATN, NPT  
1, 0.00, 1, 0.10, 1, 0.30, 1, 0.70,  
1, 1.50, 1, 3.10, 1, 5.10, 1, 7.62,  
1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,  
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,  
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,  
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,  
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,  
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,  
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,  
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,  
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,  
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,  
3, 152.10, 3, 152.30, 3, 152.40,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-05(0.180)

2,0.180,0.0311,1.1931,0.5,  
SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 3E-05(0.10800)

2,0.1080,0.0311,1.1931,0.5,  
SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-06(0.0180)

2,0.01800,0.0311,1.1931,0.5,  
0, NDAY (toss.out file for day 3.65000E+02) ver 3.00

329054.0,	329054.0,	329054.0,	329054.0,	Initial Conditions
329054.0,	329100.0,	329100.0,	329100.0,	Initial Conditions
56300.0,	15200.0,	5298.0,	2211.0,	Initial Conditions
1375.0,	887.0,	590.0,	402.0,	Initial Conditions
620.0,	987.0,	1635.0,	2850.0,	Initial Conditions
3476.0,	4274.0,	5298.0,	6628.0,	Initial Conditions
4586.0,	3251.0,	2353.0,	1734.0,	Initial Conditions
1456.0,	1228.0,	1041.0,	887.0,	Initial Conditions
935.0,	987.0,	1041.0,	1100.0,	Initial Conditions
1100.0,	1100.0,	1100.0,	1100.0,	Initial Conditions
652.0,	402.0,	255.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions

1, 1, 1, 287, 195,  
LEAF, NFROOT, NUPTAK, NFPET, NSOW, NHRVST

0.25,  
6,

BARE  
NDLAI

wht4-75-4.5.inp

0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 365, 365, 365, 365, 365, 365, 365, 365,  
365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,

P:\PRJ4\CAWP\HL0800\white-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

## wht4-75-4.5-bsum300.out

Created using BSUM300 Version 3.01; all units are cm  
 First file in series is wht51952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
<hr/>									
	Initial storage =						34.133		
1	41.580	159.772	9.568	9.964	25.529	0.034	30.678	58448	-0.06117
2	89.992	160.134	13.757	10.934	68.081	0.012	28.163	106253	-0.27629
3	44.933	177.794	9.156	9.208	30.591	0.006	24.159	57583	-0.02393
4	37.123	173.348	5.157	9.844	21.449	0.003	24.846	56174	-0.01680
5	38.081	174.014	5.866	6.634	27.972	0.002	22.522	62989	-0.06821
6	48.133	169.834	5.722	11.537	28.730	0.001	24.683	58194	-0.01869
7	50.724	179.057	9.086	9.584	34.499	0.001	22.306	64412	-0.06899
8	29.972	180.951	3.059	5.375	21.044	0.001	22.809	52904	-0.00962
9	28.829	180.333	3.355	7.596	17.576	0.001	23.136	55200	-0.02566
10	50.292	241.574	6.493	7.197	38.273	0.000	21.633	83623	-0.16833
<hr/>									
SUM=	459.659	1796.811	71.220	87.873	313.743	0.061			-0.73769

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wht4-80-1.5.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

1,1, IPLANT,NGRAV  
365,1,365, IFDEND, IDTBEG, IDTEND  
1952,10,0,1,1, IYS, NYEARS, ISTEAD, IFLIST, NFLIST  
0,0, NPRINT, STOPHR  
0,4,1,2.0d-5, ISMETH, INMAX, ISWDIF, DMAXBA  
0.25d+0,1.0d-08,0,0, DELMAX, DELMIN, OUTTIM  
1.25,1.0d-05,0.0,0.0,0.0, RFACT, RAINIF, DHTOL, DHMAX, DHFACT  
4,3,0,0, KOPT, KEST, WTF  
0,1,2,1, ITOPBC, IEVOPT, NFHOUR, LOWER  
1.0d-05,1.0d+06,0.0,0.0, HIRRI, HDRY, HTOP, RHA  
1,0,1, IETOPT, ICLOUD, ISHOPT  
1,1,0, IRAIN, HPR  
0,0,0,0.0,0.0,0, IHYS, AIRTOL, HYSTOL, HYSMXH, HYFILE  
0,0,0,0, IHEAT, ICONVH, DMAXHE  
0,0,0,0.0,0.0, UPPERH, TSMEAN, TSAMP, QHCTOP  
0,0,0,0,0, LOWERH, QHLEAK, TGRAD  
1,0,66d+0,291.0d+0,0.256d+0, IVAPOR, TORT, TSOIL, VAPDIF  
3,51, MATN, NPT  
1, 0.00, 1, 0.10, 1, 0.30, 1, 0.70,  
1, 1.50, 1, 3.10, 1, 5.10, 1, 7.62,  
1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,  
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,  
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,  
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,  
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,  
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,  
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,  
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,  
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,  
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,  
3, 152.10, 3, 152.30, 3, 152.40,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931, Ksat 5E-05(0.180)  
SOIL CONDUCTIVITY DATA, SOIL

2,0.180,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931, Ksat 3E-05(0.10800)  
SOIL CONDUCTIVITY DATA, SOIL

2,0.1080,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931, Ksat 5E-06(0.0180)  
SOIL CONDUCTIVITY DATA, SOIL

2,0.01800,0.0311,1.1931,0.5,

0, NDAY (toss.out file for day 3.65000E+02) Ver 3.00

329054.0,	329054.0,	329054.0,	329054.0,	Initial Conditions
329054.0,	329100.0,	329100.0,	329100.0,	Initial Conditions
56300.0,	15200.0,	5298.0,	2211.0,	Initial Conditions
1375.0,	887.0,	590.0,	402.0,	Initial Conditions
620.0,	987.0,	1635.0,	2850.0,	Initial Conditions
3476.0,	4274.0,	5298.0,	6628.0,	Initial Conditions
4586.0,	3251.0,	2353.0,	1734.0,	Initial Conditions
1456.0,	1228.0,	1041.0,	887.0,	Initial Conditions
935.0,	987.0,	1041.0,	1100.0,	Initial Conditions
1100.0,	1100.0,	1100.0,	1100.0,	Initial Conditions
652.0,	402.0,	255.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions

1, 1, 1, 1, 287, 195,  
LEAF, NFROOT, NUPTAK, NFPET, NSOW, NHRVST

0.20,

6,

BARE

NDLAI

wht4-80-1.5.inp  
0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
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1, 1, 1, 1, 1, 1, 1, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365,  
365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,  
P:\PRJ4\CAWP\HL0800\white-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

## wht4-80-1.5-bsum300.out

Created using BSUM300 Version 3.01; all units are cm  
 First file in series is wht4-80-1.51952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	store	Timestp	MasBalErr
<hr/>									
Initial storage =							34.133		
1	41.580	159.772	5.268	9.753	25.523	0.036	35.187	58688	-0.05446
2	89.992	160.134	12.424	10.515	67.917	0.017	34.557	98907	-0.25039
3	44.933	177.794	8.459	8.852	30.568	0.012	31.620	57334	-0.02028
4	37.123	173.348	5.098	9.557	21.484	0.009	32.621	57616	-0.02591
5	38.081	174.039	6.033	6.367	27.947	0.008	30.419	62597	-0.07161
6	48.133	169.834	5.996	11.216	28.728	0.007	32.626	58765	-0.02188
7	50.724	179.057	9.665	9.066	34.367	0.006	30.310	63186	-0.06319
8	29.972	180.951	3.209	5.220	21.024	0.005	30.833	53001	-0.00977
9	28.829	180.355	3.556	7.387	17.551	0.005	31.185	55395	-0.02238
10	50.292	241.574	6.894	6.904	38.166	0.005	29.693	83225	-0.18547
SUM=	459.659	1796.859	66.602	84.837	313.275	0.109			-0.72535

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wht4-80-3.5.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

1,1,  
365,1,365,  
1952,10,0,1,1,  
0,0,  
0,4,1,2.0d-5,  
0.25d+0,1.0d-08,0.0,  
1.25,1.0d-05,0.0,0.0,0.0,  
4,3,0,0,  
0,1,2,1,  
1.0d-05,1.0d+06,0.0,0.0,  
1,0,1,  
1,1,0,  
0,0,0,0.0,0.0,0,  
0,0,0,0,  
0,0,0,0.0,0.0,  
0,0,0,0,0,  
1,0.66d+0,291.0d+0,0.256d+0,  
3,51,  
1, 0.00, 1, 0.10, 1, 0.30, 1, 0.70,  
1, 1.50, 1, 3.10, 1, 5.10, 1, 7.62,  
1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,  
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,  
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,  
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,  
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,  
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,  
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,  
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,  
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,  
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,  
3, 152.10, 3, 152.30, 3, 152.40,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-05(0.180)

2,0.180,0.0311,1.1931,0.5,  
SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 3E-05(0.10800)

2,0.1080,0.0311,1.1931,0.5,  
SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-06(0.0180)

2,0.01800,0.0311,1.1931,0.5,  
0, NDAY (toss.out file for day 3.65000E+02) ver 3.00

329054.0,	329054.0,	329054.0,	329054.0,	Initial Conditions
329054.0,	329100.0,	329100.0,	329100.0,	Initial Conditions
56300.0,	15200.0,	5298.0,	2211.0,	Initial Conditions
1375.0,	887.0,	590.0,	402.0,	Initial Conditions
620.0,	987.0,	1635.0,	2850.0,	Initial Conditions
3476.0,	4274.0,	5298.0,	6628.0,	Initial Conditions
4586.0,	3251.0,	2353.0,	1734.0,	Initial Conditions
1456.0,	1228.0,	1041.0,	887.0,	Initial Conditions
935.0,	987.0,	1041.0,	1100.0,	Initial Conditions
1100.0,	1100.0,	1100.0,	1100.0,	Initial Conditions
652.0,	402.0,	255.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions

1, 1, 1, 1, 287, 195,  
LEAF, NFROOT, NUPTAK, NFPET, NSOW, NHRVST

0.20,  
6,

BARE  
NDLAI

wht4-80-3.5.inp  
0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 365, 365, 365, 365, 365, 365,  
365, 365, 365, 365, 365, 365, 365, 365,  
365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,  
P:\PRJ4\CAWP\HL0800\white-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
NTROOT  
HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

wht4-80-3.5-bsum300.out  
 Created using BSUM300 Version 3.01; all units are cm  
 First file in series is wht4-80-3.51952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
Initial storage =							34.133		
1	41.580	159.772	8.112	9.853	25.530	0.036	32.240	57752	-0.05790
2	89.992	160.134	12.938	10.685	68.073	0.017	30.807	103139	-0.28828
3	44.933	177.794	8.605	9.007	30.571	0.012	27.565	58114	-0.01948
4	37.123	173.348	5.022	9.681	21.469	0.009	28.527	56457	-0.02049
5	38.081	174.039	5.917	6.489	27.969	0.008	26.301	63490	-0.07608
6	48.133	169.834	5.867	11.351	28.727	0.007	28.503	58580	-0.02097
7	50.724	179.057	9.390	9.295	34.442	0.006	26.163	64534	-0.06946
8	29.972	180.951	3.151	5.289	21.036	0.005	26.669	53389	-0.01420
9	28.829	180.355	3.477	7.481	17.561	0.005	26.997	55075	-0.02269
10	50.292	241.574	6.698	7.029	38.254	0.004	25.478	80818	-0.17384
SUM=	459.659	1796.859	69.175	86.161	313.633	0.108			-0.76338

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wht4-80-4.0.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

IPLANT,NGRAV  
IFDEND, IDTBEG, IDTEND  
IYS,NYEARS,ISTEAD,IFLIST,NFLIST  
NPRINT,STOPHR  
ISMETH,INMAX,ISWDIF,DMAXBA  
DELMAX,DELMIN,OUTTIM  
RFACT,RAINIF,DHTOL,DHMAX,DHFACT  
KOFT,KEST,WTF  
ITOPBC,IEVOPT,NFHOUR,LOWER  
HIRRI,HDRY,HTOP,RHA  
IETOPT,ICLOUD,ISHOPT  
IRAIN,HPR  
IHYS,AIRTOl,HYSTOL,HYSMXH,HYFILE  
IHEAT,ICONVH,DMAXHE  
UPPERH,TSMEAN,TSAMP,QHCTOP  
LOWERH,QHLEAK,TGRAD  
IVAPOR,TORT,TSOIL,VAPDIF  
MATN, NPT  
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1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,  
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,  
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,  
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,  
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,  
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,  
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,  
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,  
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,  
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,  
3, 152.10, 3, 152.30, 3, 152.40,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,

SOIL CONDUCTIVITY DATA, SOIL

Ksat 5E-05(0.180)

2,0.180,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,

SOIL CONDUCTIVITY DATA, SOIL

Ksat 3E-05(0.10800)

2,0.1080,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,

SOIL CONDUCTIVITY DATA, SOIL

Ksat 5E-06(0.0180)

2,0.01800,0.0311,1.1931,0.5,

0, NDAY (toss.out file for day 3.65000E+02) ver 3.00

329054.0,	329054.0,	329054.0,	329054.0,	Initial Conditions
329054.0,	329100.0,	329100.0,	329100.0,	Initial Conditions
56300.0,	15200.0,	5298.0,	2211.0,	Initial Conditions
1375.0,	887.0,	590.0,	402.0,	Initial Conditions
620.0,	987.0,	1635.0,	2850.0,	Initial Conditions
3476.0,	4274.0,	5298.0,	6628.0,	Initial Conditions
4586.0,	3251.0,	2353.0,	1734.0,	Initial Conditions
1456.0,	1228.0,	1041.0,	887.0,	Initial Conditions
935.0,	987.0,	1041.0,	1100.0,	Initial Conditions
1100.0,	1100.0,	1100.0,	1100.0,	Initial Conditions
652.0,	402.0,	255.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions

1, 1, 1, 1, 287, 195,

LEAF,NFRONT,NUPTAK,NFPET,NSOW,NHRVST

0.20,

6,

BARE

NDLAI

wht4-80-4.0.inp  
0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1,  
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365, 365, 365, 365, 365, 365, 365, 365,  
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1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,  
P:\PRJ4\CAWP\HL0800\White-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
NTROOT  
NTROOT  
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HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

## wht4-80-4.0-bsum300.out

Created using BSUM300 version 3.01; all units are cm  
 First file in series is wht4-80-4.01952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
<hr/>									
	Initial storage =						34.133		
1	41.580	159.772	9.014	9.874	25.534	0.036	31.315	58206	-0.05925
2	89.992	160.134	13.279	10.726	68.051	0.017	29.500	98214	-0.26648
3	44.933	177.794	8.753	9.042	30.582	0.011	26.070	57742	-0.02515
4	37.123	173.348	5.073	9.712	21.470	0.009	26.950	56400	-0.02052
5	38.081	174.039	5.909	6.510	28.021	0.007	24.665	63068	-0.08038
6	48.133	169.834	5.876	11.381	28.737	0.006	26.819	58917	-0.02115
7	50.724	179.057	9.350	9.343	34.482	0.005	24.440	63322	-0.07589
8	29.972	180.951	3.155	5.304	21.045	0.004	24.916	53079	-0.01214
9	28.829	180.355	3.480	7.505	17.559	0.003	25.222	56210	-0.02410
10	50.292	241.574	6.704	7.065	38.225	0.003	23.690	81535	-0.17129
<hr/>									
SUM=	459.659	1796.859	70.593	86.460	313.705	0.100			-0.75635



wht4-80-4.5.inp

LPZwht07-01-- Disposal Area C + DECK -- LOPEZ CANYON SANITARY LANDFILL -- Monocover  
Disposal Area C + DECK-- White Paper

1,1, IPLANT,NGRAV  
365,1,365, IFDEND, IDTBEG, IDTEND  
1952,10,0,1,1, IYS, NYEARS, ISTEAD, IFLIST, NFLIST  
0,0, NPRINT, STOPHR  
0,4,1,2,0d-5, ISMETH, INMAX, ISWDIF, DMAXBA  
0.25d+0,1.0d-08,0.0, DELMAX, DELMIN, OUTTIM  
1.25,1.0d-05,0.0,0.0,0.0, RFACT, RAINIF, DHTOL, DHMAX, DHFACT  
4,3,0,0, KOPT, KEST, WTF  
0,1,2,1, ITOPBC, IEVOPT, NFHOUR, LOWER  
1.0d-05,1.0d+06,0.0,0.0, HIRRI, HDRY, HTOP, RHA  
1,0,1, IETOPT, ICLOUD, ISHOPT  
1,1,0, IRAIN, HPR  
0,0,0,0.0,0.0,0, IHYS, AIRTOL, HYSTOL, HYSMXH, HYFILE  
0,0,0,0, IHEAT, ICONVH, DMAXHE  
0,0,0,0,0,0, UPPERH, TSMEAN, TSAMP, QHCTOP  
0,0,0,0,0, LOWERH, QHLEAK, TGRAD  
1,0,66d+0,291.0d+0,0.256d+0, IVAPOR, TORT, TSOIL, VAPDIF  
3,51, MATN, NPT  
1, 0.00, 1, 0.10, 1, 0.30, 1, 0.70,  
1, 1.50, 1, 3.10, 1, 5.10, 1, 7.62,  
1, 11.43, 2, 15.24, 2, 19.05, 2, 22.86,  
2, 26.67, 2, 30.48, 2, 34.29, 2, 38.10,  
2, 41.91, 2, 45.72, 2, 49.53, 2, 53.34,  
2, 57.15, 2, 60.96, 2, 64.77, 2, 68.58,  
2, 72.39, 2, 76.20, 2, 80.01, 2, 83.82,  
2, 87.63, 3, 91.44, 3, 95.25, 3, 99.06,  
3, 102.87, 3, 106.68, 3, 110.49, 3, 114.30,  
3, 118.11, 3, 121.92, 3, 125.73, 3, 129.54,  
3, 133.35, 3, 137.16, 3, 140.97, 3, 144.78,  
3, 147.30, 3, 149.30, 3, 150.90, 3, 151.70,  
3, 152.10, 3, 152.30, 3, 152.40,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-05(0.180)

2,0.180,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL. Ksat 3E-05(0.10800)

2,0.1080,0.0311,1.1931,0.5,

SOIL WATER CONTENT DATA, SAMPLED IN JAN-2005

0.4758,0.0000,0.0311,1.1931,  
SOIL CONDUCTIVITY DATA, SOIL Ksat 5E-06(0.0180)

2,0.01800,0.0311,1.1931,0.5,

0, NDAY (toss.out file for day 3.65000E+02) Ver 3.00

329054.0,	329054.0,	329054.0,	329054.0,	Initial Conditions
329054.0,	329100.0,	329100.0,	329100.0,	Initial Conditions
56300.0,	15200.0,	5298.0,	2211.0,	Initial Conditions
1375.0,	887.0,	590.0,	402.0,	Initial Conditions
620.0,	987.0,	1635.0,	2850.0,	Initial Conditions
3476.0,	4274.0,	5298.0,	6628.0,	Initial Conditions
4586.0,	3251.0,	2353.0,	1734.0,	Initial Conditions
1456.0,	1228.0,	1041.0,	887.0,	Initial Conditions
935.0,	987.0,	1041.0,	1100.0,	Initial Conditions
1100.0,	1100.0,	1100.0,	1100.0,	Initial Conditions
652.0,	402.0,	255.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions
164.0,	164.0,	164.0,	164.0,	Initial Conditions

1, 1, 1, 1, 287, 195,

LEAF, NFROOT, NUPTAK, NFPET, NSOW, NHRVST

0.20,

6,

BARE  
NDLAI

wht4-80-4.5.inp  
0,1.00,100,1.00,195,1.00,196,0.00,  
282,0.00,287,1.00,  
1.00,0.13,0.020,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
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1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 1, 1, 1, 1, 1, 1, 1, 1,  
1, 1, 365, 365, 365, 365, 365, 365, 365, 365,  
365,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
1.500E+04, 3.400E+03, 1.000E+01,  
0.0, 0.52, 0.5, 0.1, 2.7,  
0.2, 539.0, 3.0, 1017.0,  
P:\PRJ4\CAWP\HL0800\white-Paper\UNSAT-H\  
LPZ  
CSV

IDLAI, VLAI  
IDLAI, VLAI  
AA,B1,B2  
NTROOT  
NTROOT  
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HW, HD, HN  
HW, HD, HN  
HW, HD, HN  
ANKENY (RMA) PARAMETERS  
ALBEDO,ALT,ZU,PMB

## wht4-80-4.5-bsum300.out

Created using BSUM300 Version 3.01; all units are cm  
 First file in series is wht4-80-4.51952.res

Year	Precip	PET	Transp	Evap	Runoff	Drain	Store	Timestp	MasBalErr
<hr/>									
Initial storage =							34.133		
1	41.580	159.772	9.911	9.896	25.529	0.034	30.403	58339	-0.05996
2	89.992	160.134	13.894	10.760	68.133	0.012	27.903	110633	-0.30547
3	44.933	177.794	9.142	9.078	30.562	0.006	24.067	58473	-0.01851
4	37.123	173.348	5.209	9.742	21.451	0.003	24.803	56443	-0.01763
5	38.081	174.039	5.948	6.546	27.968	0.002	22.491	62517	-0.07161
6	48.133	169.834	5.840	11.412	28.737	0.001	24.654	58330	-0.01989
7	50.724	179.057	9.277	9.390	34.498	0.001	22.280	65681	-0.06808
8	29.972	180.951	3.119	5.319	21.054	0.001	22.777	53333	-0.01783
9	28.829	180.355	3.439	7.524	17.563	0.001	23.102	54699	-0.02242
10	50.292	241.574	6.629	7.092	38.255	0.000	21.600	82041	-0.18291
<hr/>									
SUM=	459.659	1796.859	72.407	86.759	313.749	0.060			-0.78432