
Grid Contour Vol/Area Report

Sat Aug 24 00:51:14 2024

Grid Input

Grid File Name: C:\Users\ RURAL AGRICULTURAL SETTLEMENT\SITE POINTS\ Alabata Site Visit 26-06-2024.grd

Minimum Contour: 65

Maximum Contour: 130

Contour Interval: 5

Contour Areas

Contour Value	Planar Area Above Contour	Planar Area Below Contour	Planar Area Between Contour	Surface Area	Surface Area Above Contour	Surface Area Below Contour
65	30894913.64	0	254885.5723	30896655.84	0	254898.6827
70	30640028.07	254885.5723	1105113.244	30641757.15	254898.6827	1105204.774
75	29534914.83	1359998.817	1733782.274	29536552.38	1360103.456	1733954.929
80	27801132.55	3093781.09	1558937.231	27802597.45	3094058.386	1559133.362
85	26242195.32	4652718.322	1510896.508	26243464.09	4653191.747	1511101.835
90	24731298.81	6163614.83	1574858.367	24732362.25	6164293.583	1575071.517
95	23156440.45	7738473.197	1774374.038	23157290.74	7739365.099	1774582.894
100	21382066.41	9512847.235	2137610.538	21382707.84	9513947.993	2137801.931
105	19244455.87	11650457.77	2753008.057	19244905.91	11651749.92	2753180.638
110	16491447.81	14403465.83	3678969.225	16491725.27	14404930.56	3679080.352
115	12812478.59	18082435.05	3983334.402	12812644.92	18084010.91	3983400.843
120	8829144.187	22065769.46	4598612.001	8829244.079	22067411.76	4598670.02
125	4230532.186	26664381.46	4230532.186	4230574.058	26666081.78	4230574.058
130	0	30894913.64	n/a	0	30896655.84	n/a

Contour Volumes

Contour Value	Volume Above Contour	Volume Below Contour	Volume Between Contour
65	1303552828	0	154185902.5
70	1149366925	288665.7363	150784490.6
75	998582434.6	3978743.33	143288982.7
80	855293451.9	15164328.87	135059033.2
85	720234418.7	34579863.85	127435101.9
90	592799316.8	61619330.16	119774443.6
95	473024873.2	96319454.78	111459044.1
100	361565829	139334978.9	101759352.7
105	259806476.3	192050194.3	89683765.12
110	170122711.2	256840997.4	73456437.92
115	96666273.25	337859127.7	54260761.82
120	42405511.43	438072934.1	33044711.74
125	9360799.697	559502790.6	9360799.697
130	0	704616559.1	n/a

Gridding Report

Sat Aug 24 00:21:00 2024

Elapsed time for gridding:

0.14 seconds

Data Source

Source Data File Name: C:\Users\PASTOR ADESHINA JOHN\Documents\01- PHD_NJFU\02_NJFU PAPERS ET AL\A_PUBLISHED- NJFU\02_RECENT MANUSCRIPT_2024\1B_Ornamental Horticulture_A Review\07_RURAL AGRICULTURAL SETTLEMENT\SITE POINTS\Alabata Site Visit 26-03-2021.csv

X Column: E
Y Column: F
Z Column: G

Filtered Data Counts

Active Data: 20

Original Data: 153

Excluded Data: 0

Deleted Duplicates: 133

Retained Duplicates: 8

Artificial Data: 0

Superseded Data: 0

Exclusion Filtering

Exclusion Filter String: Not In Use

Duplicate Filtering

Duplicate Points to Keep: First

X Duplicate Tolerance: 0.00094

Y Duplicate Tolerance: 0.00046

Deleted Duplicates: 133

Retained Duplicates: 8

Artificial Data: 0

X	Y	Z	ID	Status
546930.57	810100.8	66.75	83	Retained
546930.57	810100.8	66.75	84	Deleted
546930.57	810100.8	66.75	85	Deleted
546930.57	810100.8	66.75	86	Deleted
546930.57	810100.8	66.75	87	Deleted
546930.57	810100.8	66.75	88	Deleted
546930.57	810100.8	66.75	89	Deleted
546930.57	810100.8	66.75	90	Deleted
546930.57	810100.8	66.75	91	Deleted
546930.57	810100.8	66.75	92	Deleted
546930.57	810100.8	66.75	93	Deleted
546930.57	810100.8	66.75	94	Deleted
546930.57	810100.8	66.75	95	Deleted
546930.57	810100.8	66.75	96	Deleted
546930.57	810100.8	66.75	97	Deleted
547301.03	810665.37	72.22	98	Retained
547301.03	810665.37	72.22	99	Deleted
547301.03	810665.37	72.22	100	Deleted
547301.03	810665.37	72.22	101	Deleted
547301.03	810665.37	72.22	102	Deleted
547301.03	810665.37	72.22	103	Deleted
547301.03	810665.37	72.22	104	Deleted
547301.03	810665.37	72.22	105	Deleted

547301.03	810665.37	72.22	106	Deleted
547301.03	810665.37	72.22	107	Deleted
547301.03	810665.37	72.22	108	Deleted
547301.03	810665.37	72.22	109	Deleted
547301.03	810665.37	72.22	110	Deleted
547301.03	810665.37	72.22	111	Deleted
547301.03	810665.37	72.22	112	Deleted
547301.03	810665.37	72.22	113	Deleted
547301.03	810665.37	72.22	114	Deleted
547301.03	810665.37	72.22	115	Deleted
547301.03	810665.37	72.22	116	Deleted
547301.03	810665.37	72.22	117	Deleted
547301.03	810665.37	72.22	118	Deleted
547301.03	810665.37	72.22	119	Deleted
547301.03	810665.37	72.22	120	Deleted
547301.03	810665.37	72.22	121	Deleted
547301.03	810665.37	72.22	122	Deleted
547301.03	810665.37	72.22	123	Deleted
547301.03	810665.37	72.22	124	Deleted
547301.03	810665.37	72.22	125	Deleted
547301.03	810665.37	72.22	126	Deleted
547301.03	810665.37	72.22	127	Deleted
547301.03	810665.37	72.22	128	Deleted
547301.03	810665.37	72.22	129	Deleted
547301.03	810665.37	72.22	130	Deleted
547301.03	810665.37	72.22	131	Deleted
547301.03	810665.37	72.22	132	Deleted
547301.03	810665.37	72.22	133	Deleted
547301.03	810665.37	72.22	134	Deleted
547301.03	810665.37	72.22	135	Deleted
547869.57	811044.33	103.14	31	Retained
547869.57	811044.33	103.14	32	Deleted

547869.57	811044.33	103.14	33	Deleted
547869.57	811044.33	103.14	34	Deleted
547869.57	811044.33	103.14	35	Deleted
547869.57	811044.33	103.14	36	Deleted
547869.57	811044.33	103.14	37	Deleted
547869.57	811044.33	103.14	38	Deleted
547869.57	811044.33	103.14	39	Deleted
547869.57	811044.33	103.14	40	Deleted
547869.57	811044.33	103.14	41	Deleted
547869.57	811044.33	103.14	42	Deleted
547869.57	811044.33	103.14	43	Deleted
547869.57	811044.33	103.14	44	Deleted
547869.57	811044.33	103.14	45	Deleted
547869.57	811044.33	103.14	46	Deleted
547869.57	811044.33	103.14	47	Deleted
547869.57	811044.33	103.14	48	Deleted
547869.57	811044.33	103.14	49	Deleted
547869.57	811044.33	103.14	50	Deleted
547869.57	811044.33	103.14	51	Deleted
547869.57	811044.33	103.14	52	Deleted
547869.57	811044.33	103.14	53	Deleted
547869.57	811044.33	103.14	54	Deleted
547869.57	811044.33	103.14	55	Deleted
547869.57	811044.33	103.14	56	Deleted
547869.57	811044.33	103.14	57	Deleted
547869.57	811044.33	103.14	58	Deleted
547869.57	811044.33	103.14	59	Deleted
547869.57	811044.33	103.14	60	Deleted
547869.57	811044.33	103.14	61	Deleted
547869.57	811044.33	103.14	62	Deleted
547869.57	811044.33	103.14	63	Deleted
547869.57	811044.33	103.14	64	Deleted
547869.57	811044.33	103.14	65	Deleted

547869.57	811044.33	103.14	66	Deleted
547869.57	811044.33	103.14	67	Deleted
547869.57	811044.33	103.14	68	Deleted
547869.57	811044.33	103.14	69	Deleted
547869.57	811044.33	103.14	70	Deleted
547869.57	811044.33	103.14	71	Deleted
547869.57	811044.33	103.14	72	Deleted
547869.57	811044.33	103.14	73	Deleted
547869.57	811044.33	103.14	74	Deleted
547869.57	811044.33	103.14	75	Deleted
547869.57	811044.33	103.14	76	Deleted
547869.57	811044.33	103.14	77	Deleted

More ...

Breakline Filtering

Breakline Filtering: Not In Use

Z Data Transform

Transformation method: Linear (use Z values directly)

No untransformable data were found.

Data Counts

Active Data: 20

Univariate Statistics

	X	Y	Z	
Count:		20	20	20
1%-tile:	546930.572	807230.112	66.75	
5%-tile:	546930.572	807230.112	66.75	
10%-tile:	547301.031	807272.272	72.22	
25%-tile:	547981.478	807577.236	104.4	
50%-tile:	554606.844	807928.41	123.62	
75%-tile:	554621.521	810240.954	128.42	
90%-tile:	554733.04	811083.85	129.23	
95%-tile:	554780.729	811116.072	129.55	
99%-tile:	554780.729	811116.072	129.55	
Minimum:		546930.572	807230.112	66.75
Maximum:		554824.104	811144.065	129.6
Mean:		552243.01705	808783.85635	115.0165
Median:		554608.2955	807978.551	123.745
Geometric Mean:		552233.132408	808782.472372	113.17088622
Harmonic Mean:		552223.222361	808781.089465	110.92289395
Root Mean Square:		552252.876014	808785.241396	116.513187945
Trim Mean (10%):		552107.170368	808659.634842	114.248947368
Interquartile Mean:	552829.768455	808285.925818	120.284545455	
Midrange:		550877.338	809187.0885	98.175
Winsorized Mean:		552254.60235	808781.3425	115.2555
TriMean:		552954.17175	808418.7525	120.015
Variance:	11462300.5272	2358323.61254	364.765992368	
Standard Deviation:		3385.60194459	1535.683435	19.098847933
Interquartile Range:	6640.043	2663.718	24.02	

Range:		7893.532	3913.953	62.85
Mean Difference:		3395.10403684	1669.49105789	19.2511052632
Median Abs. Deviation:		102.471	490.616	5.435
Average Abs. Deviation:		2433.19935	1188.15735	12.2895
Quartile Dispersion:	0.00602215213093	0.00164648785411	0.103169830771	
Relative Mean Diff.:	0.00614784421355	0.00206419928487	0.167376900385	
Standard Error:	757.043609285	343.389255259	4.27063222702	
Coef. of Variation:	0.00613063785337	0.00189875629063	0.166053113536	
Skewness:		-0.599357645161	0.580603612544	-1.36415031012
Kurtosis:	1.30801044716	1.43612078732	3.60481390328	
Sum:		11044860.341	16175677.127	2300.33
Sum Absolute:		11044860.341	16175677.127	2300.33
Sum Squares:		6.09966478132e+12	1.3082671334e+13	271506.4593
Mean Square:		304983239066	654133566700	13575.322965

Inter-Variable Covariance

	X	Y	Z
X:	11462301	-4998275.8	56239.883
Y:	-4998275.8	2358323.6	-21259.084
Z:	56239.883	-21259.084	364.76599

Inter-Variable Correlation

	X	Y	Z
X:	1.000	-0.961	0.870
Y:	-0.961	1.000	-0.725
Z:	0.870	-0.725	1.000

Inter-Variable Rank Correlation

	X	Y	Z
X:	1.000	-0.417	0.886
Y:	-0.417	1.000	-0.442
Z:	0.886	-0.442	1.000

Principal Component Analysis

	PC1	PC2	PC3
X:	0.403962133562	0.403962133562	-0.012869382426
Y:	0.914513367386	0.914513367386	-0.0182635998839
Z:	0.021906517744	0.021906517744	-0.0182635998839
Lambda:	13671001.7292	149957.999444	29.1770624121

Planar Regression: $Z = AX + BY + C$

Fitted Parameters

	A	B	C
Parameter Value:		0.0128708632461	0.0182642621981
Standard Error:		0.00140582038918	0.00309930297798

Inter-Parameter Correlations

	A	B	C
A:	1.000	0.961	-0.977
B:	0.961	1.000	-0.998
C:	-0.977	-0.998	1.000

ANOVA Table

Source	df	Sum of Squares	Mean Square	F
Regression:	2	6375.91285524	3187.95642762	97.7123207498
Residual:	17	554.64099976	32.6259411624	
Total:	19	6930.553855		

Coefficient of Multiple Determination (R^2): 0.919971619677

Nearest Neighbor Statistics

	Separation	Delta Z	
1%-tile:	42.654018908	0.009999999999999	
5%-tile:	42.654018908	0.009999999999999	
10%-tile:	42.654018908	0.009999999999999	
25%-tile:	45.1625719817	0.22	
50%-tile:	57.5452708135	0.42	
75%-tile:	101.497406671	3.06	
90%-tile:	675.268975124	5.47	
95%-tile:	675.268975124	5.47	
99%-tile:	675.268975124	5.47	
Minimum:		42.654018908	0.009999999999999
Maximum:		842.965958041	23.81
Mean:		169.856750545	2.686
Median:		65.2700830058	0.44
Geometric Mean:		92.8253851363	0.603710786333
Harmonic Mean:		69.6527679987	0.0827217128789
Root Mean Square:		293.991871826	5.87334317063
Trim Mean (10%):		134.429950151	1.57421052632
Interquartile Mean:	67.8068895241	0.799090909091	
Midrange:		442.809988474	11.91
Winsorized Mean:		161.471901399	1.769
TriMean:		65.43763007	1.03
Variance:	60610.4263094	28.7174357895	
Standard Deviation:		246.191848584	5.35886515873
Interquartile Range:	56.3348346897	2.84	
Range:		800.311939133	23.8
Mean Difference:		204.812023456	4.09884210526
Median Abs. Deviation:		21.9775368636	0.4
Average Abs. Deviation:		121.461191084	2.474

Quartile Dispersion:	0.384118661458	0.865853658537	
Relative Mean Diff.:	1.20579266234	1.52600227299	
Standard Error:	55.0501708941	1.19827867772	
Coef. of Variation:	1.44940867993	1.99510988784	
Skewness:		1.81552683855	3.0269669117
Kurtosis:	4.60400054091	12.1083222464	
Sum:		3397.1350109	53.72
Sum Absolute:		3397.1350109	53.72
Sum Squares:		1728624.41399	689.9232
Mean Square:		86431.2206997	34.49616

Complete Spatial Randomness

Lambda:	6.47355758434e-07
Clark and Evans:	0.273328120475
Skellam:	7.03110407273

Gridding Rules

Gridding Method:	Kriging
Kriging Type:	Point

Polynomial Drift Order:	0
Kriging std. deviation grid:	no

Semi-Variogram Model

Component Type:	Linear
Anisotropy Angle:	0
Anisotropy Ratio:	1

Variogram Slope: 0.126897

Search Parameters

No Search (use all data): true

Output Grid

Grid File Name: C:\Users\PASTOR ADESHINA JOHN\Documents\01- PHD_NJFU\02_NJFU PAPERS ET AL\A_PUBLISHED- NJFU\02_RECENT MANUSCRIPT_2024\1B_Ornamental Horticulture_A Review\07_RURAL AGRICULTURAL SETTLEMENT\SITE POINTS\Alabata Site Visit 26-03-2021.grd

Grid Size (X*Y): 100 x 50
Total Nodes: 5000
Filled Nodes: 5000
NoData Nodes: 0
NoData Value: 1.70141E+38

Grid Geometry

X Minimum: 546930.572
X Maximum: 554824.1041
X Spacing: 79.732647474747

Y Minimum: 807230.112
Y Maximum: 811144.065
Y Spacing: 79.876591836734

Univariate Grid Statistics

Z

Count:	5000
1%-tile:	69.9345469591
5%-tile:	75.2829292298
10%-tile:	79.743313133
25%-tile:	94.7568458797
50%-tile:	111.63546376
75%-tile:	121.395198684
90%-tile:	126.366021768
95%-tile:	127.955659926
99%-tile:	128.982839394
Minimum:	66.7722218246
Maximum:	129.5180856
Mean:	107.167147658
Median:	111.637901565
Geometric Mean:	105.710697848
Harmonic Mean:	104.131597593
Root Mean Square:	108.491766256
Trim Mean (10%):	107.91481581
Interquartile Mean:	110.447974499
Midrange:	98.1451537122
Winsorized Mean:	107.508455051
TriMean:	109.855743021
Variance:	285.72295258
Standard Deviation:	16.903341462
Interquartile Range:	26.6383528039
Range:	62.7458637753
Mean Difference:	18.9922151195
Median Abs. Deviation:	11.7298115096
Average Abs. Deviation:	13.8789162522

Quartile Dispersion:	0.123238958289	
Relative Mean Diff.:	0.177220496528	
Standard Error:	0.239049347449	
Coef. of Variation:	0.157728761391	
Skewness:		-0.628801365122
Kurtosis:	2.22417772849	
Sum:		535835.738292
Sum Absolute:		535835.738292
Sum Squares:		58852316.7262
Mean Square:		11770.4633452

Grid Information

Sat Aug 24 20:22:14 2024

Grid File Name:	TerrainSlope.grd
Grid Size (X*Y):	100 x 50
Total Nodes:	5000
Filled Nodes:	4704
NoData Nodes:	296
NoData Value:	1.70141E+38

Grid Geometry

X Minimum:	546930.572
X Maximum:	554824.1041
X Spacing:	79.732647474747
Y Minimum:	807230.112

Y Maximum: 811144.065
Y Spacing: 79.876591836734

Univariate Grid Statistics

Z	

Count:	4704
1%-tile:	0.00219561126633
5%-tile:	0.00282717138348
10%-tile:	0.00352626035902
25%-tile:	0.00535359980637
50%-tile:	0.0071484450605
75%-tile:	0.00949575693315
90%-tile:	0.0141482836466
95%-tile:	0.0195440448671
99%-tile:	0.0392338365851
Minimum:	0.000969108190137
Maximum:	0.0456921869438
Mean:	0.0085886409558
Median:	0.00714854310781
Geometric Mean:	0.007233687387
Harmonic Mean:	0.00624339993278
Root Mean Square:	0.0106034360195
Trim Mean (10%):	0.00772564125451
Interquartile Mean:	0.00723465196158
Midrange:	0.023330647567
Winsorized Mean:	0.00774425359898

TriMean:	0.00728656171513
Variance:	3.86763239599e-05
Standard Deviation:	0.00621902918146
Interquartile Range:	0.00414215712678
Range:	0.0447230787537
Mean Difference:	0.00549210854114
Median Abs. Deviation:	0.00204312472319
Average Abs. Deviation:	0.003554654813
Quartile Dispersion:	0.278945222978
Relative Mean Diff.:	0.639461885694

Standard Error:	9.06752868456e-05
Coef. of Variation:	0.724099332301
Skewness:	3.00542426907
Kurtosis:	14.4638254994

Sum:	40.4009670561
Sum Absolute:	40.4009670561
Sum Squares:	0.528884151895
Mean Square:	0.00011243285542

Grid Volume Computations

Sat Aug 24 21:05:10 2024

Upper Surface

Grid File Name: TerrainSlope.grd

Grid Size: 50 rows x 100 columns

X Minimum: 546930.572

X Maximum: 554824.1041

X Spacing: 79.732647474747

Y Minimum: 807230.112

Y Maximum: 811144.065

Y Spacing: 79.876591836734

Z Minimum: 0.00096910819013662

Z Maximum: 0.045692186943825

Lower Surface

Level Surface defined by $Z = 0$

Volumes

Z Scale Factor: 1

Total Volumes by:

Trapezoidal Rule: 257304.55335127

Simpson's Rule: 258513.03175463

Simpson's 3/8 Rule: 258364.51256342

Cut & Fill Volumes

Positive Volume [Cut]: 257304.55335127

Negative Volume [Fill]: 0

Net Volume [Cut-Fill]: 257304.55335127

Areas

Planar Areas

Positive Planar Area [Cut]: 29035232.178977

Negative Planar Area [Fill]: 0

NoData Planar Area: 1859681.4644136

Total Planar Area: 30894913.643391

Surface Areas

Positive Surface Area [Cut]: 29035232.181716

Negative Surface Area [Fill]: 0