EX CANAL

RETENTION BASIN

FUTURE SCHOOL SITE

FUTURE PHASE

200 EAST ST

120 EAST ST

WEST ST

990 No

940 No

840 NORTH

ROYAL LAND DR

EX SUBDIVISION

EX SUBDIVISION

EX SCHOOL

NOT A PART
EX FARMLAND

BOARD OF EDUCATION OF NEBO SCHOOL DISTRICT
29042.0061

CASCADE SHADOWS INC
29041.0176

LPT FAMILY PLANNING LC
29042.0042

HBJJ HOLDINGS LLC
29042.0066

BOARD OF EDUCATION OF NEBO SCHOOL DISTRICT
29041.0001

AREA 117 OVERALL=0.08 AC ROADS=0.05 AC LANDSCAPE=0.03 AC

AREA 118 OVERALL=0.28 AC ROADS=0.17 AC LANDSCAPE=0.11 AC

AREA 119 OVERALL=0.22 AC ROADS=0.14 AC LANDSCAPE=0.08 AC

AREA 120 OVERALL=0.28 AC ROADS=0.22 AC LANDSCAPE=0.06 AC

AREA 116 OVERALL=0.374 AC ROADS=0.078AC LOTS=0.298 AC LANDSCAPE=0.018 AC

AREA 115 OVERALL=0.046 AC ROADS=0.0306 AC LANDSCAPE=0.023AC

AREA 114 OVERALL=1.552 AC ROADS=0.252 AC LOTS=1.242 AC LANDSCAPE=0.058 AC

AREA 113 OVERALL=1.118 AC ROADS=0.098 AC LOTS=0.986 AC LANDSCAPE=0.034

AREA 110 OVERALL=1.416 AC ROADS=0.175 AC LOTS=1.199 AC LANDSCAPE=0.042 AC

AREA 109 OVERALL=0.2444AC ROADS=0.053 AC LANDSCAPE=0.003

AREA 108 OVERALL=0.173 AC ROADS=0.147 AC LANDSCAPE=0.025 AC

AREA 106 OVERALL=0.042AC ROADS=0.039 AC LANDSCAPE=0.003

AREA 105 OVERALL=2.37 AC ROADS=0.29 AC LOTS=1.92 AC LANDSCAPE=0.08AC

AREA 102 OVERALL=0.042AC ROADS=0.039 AC LANDSCAPE=0.003

AREA 104 OVERALL=0.111 AC ROADS=0.101 AC LANDSCAPE=0.02 AC

AREA 103 OVERALL=0.39AC ROADS=0.33AC LOTS=0.64AC LANDSCAPE=0.06 AC

AREA 101 OVERALL=0.65 AC ROADS=0.20AC LOTS=0.39 AC LANDSCAPE=0.06 AC

AREA 112 OVERALL= 0.124 AC ROADS=0.097 AC LANDSCAPE=0.027 AC

AREA 111 OVERALL=1.065 AC ROADS=0.241 AC LOTS=0.959 AC LANDSCAPE=0.065 AC

AREA 107 OVERALL=1.156 AC ROADS=0.185 AC LOTS=0.945AC LANDSCAPE=0.046 AC

1	10269 sf. 0.24 ac.	2	10269 sf. 0.24 ac.
3	10001 sf. 0.23 ac.	4	10001 sf. 0.23 ac.
5	11162 sf. 0.26 ac.	6	10000 sf. 0.23 ac.
7	10001 sf. 0.23 ac.	8	10091 sf. 0.23 ac.
9	10138 sf. 0.23 ac.	10	10001 sf. 0.23 ac.
11	10000 sf. 0.23 ac.	12	11165 sf. 0.26 ac.
13	14018 sf. 0.32 ac.	14	13966 sf. 0.32 ac.
16	11851 sf. 0.27 ac.	17	12061 sf. 0.28 ac.
18	10366 sf. 0.24 ac.	19	11193 sf. 0.26 ac.
20	10199 sf. 0.23 ac.	21	10474 sf. 0.24 ac.
22	10653 sf. 0.24 ac.	23	10702 sf. 0.25 ac.
24	10588 sf. 0.24 ac.	25	10968 sf. 0.25 ac.
26	10863 sf. 0.25 ac.	27	10196 sf. 0.23 ac.
28	10774 sf. 0.25 ac.	29	10751 sf. 0.25 ac.
30	10808 sf. 0.25 ac.	31	10898 sf. 0.25 ac.
32	10906 sf. 0.25 ac.	33	10333 sf. 0.24 ac.
34	12186 sf. 0.28 ac.	35	10953 sf. 0.25 ac.
36	10841 sf. 0.25 ac.	37	10327 sf. 0.24 ac.

APPLE HOLLOW @ THE ORCHARDS COMMON AREA

GRIGGS, RETE
34-651-0115

WILCOX, DILLON and KEARA
34-651-0116

APPLE HOLLOW @ THE ORCHARDS COMMON AREA

HANSEN, TREVOR and TIFFANY
48-517-0201

HERNANDEZ-AVAN, MANUEL
48-517-0200

ROSEN,LIND, ANDREW
48-517-0203

CARTER, WESTON and JERIKA
48-517-0204

OSBORN, TYLER and ASHLEY
48-517-0205

LAURITZEN, MARYANN
48-517-0206

SORENSEN, JAREN and KAITLYN
48-517-0207

BIRD, RICHARD and AMBER
48-517-0208

HOOPER, RILEY and SADI
48-517-0209

LEGEND

SEWER LINE
SEWER APPARATUS
STORM LINE
DRAINAGE SWELL
STORM APPARATUS
WATER LINE
WATER APPARATUS
FIRE HYDRANT
IRRIGATION LINE
IRRIGATION APPARATUS
DRAINAGE AREA (DRAINAGE REPORT)

EXISTING SEWER LINE
EXISTING STORM LINE
EXISTING DRAINAGE SWELL
EXISTING WATER LINE
EXISTING IRRIGATION LINE
EXISTING FENCE
EXISTING CONTOURS (2FT)
10' FINISH CONTOUR
2' FINISH CONTOUR
10' FINISH CONTOUR
PHASE LINE
BOUNDARY LINE
CURB & GUTTER
PUE
SETBACK
30% SLOPE AND GREATER
PROPOSED OPEN SPACE
DRAINAGE DIRECTION

60 0 60 120
SCALE IN FEET
1"=60' (24x36 SHEET)

NOTE:
The Developer and the General Contractor understand that it is his/her responsibility to ensure that all improvements installed within this development are constructed in full compliance with all State and Santiquin City Codes, Ordinances and Standards. These plans are not all inclusive of all minimum codes, ordinances and standards. This fact does not relieve the Developer or General Contractor from full compliance with all minimum State and Santaquin City Codes, Ordinances and Standards'.

blue Stakes of UTAH 811

NO.	DESCRIPTION	DATE	APP'D

ORIG. DATE: 2-8-21
SURVEY BY:
DRAWN BY : GPW
DESIGNED BY : GPW
CHECKED BY : GPW
SCALE : 1"=60'

GATEWAY CONSULTING, Inc
P.O. BOX 951005 SOUTH JORDAN, UT 84095
PH: (801) 694-5848
paul@gatewayconsultingllc.com
CIVIL ENGINEERING • CONSULTING • LAND PLANNING
CONSTRUCTION MANAGEMENT

STRATTON ACRES PHASE 1

SITE PLAN

5-11-2022

SANTAQUIN CITY

REVISION(S) NOT FOR CONSTRUCTION

SHEET NO. DRAIN

HEC-HMS 4.2.1 [Y:\Dropbox\Eric Simonson Santaquin (STRATTON ACRES)\stratton_acres_ph1\stratton_acres_ph1.hms]

File Edit View Components Parameters Compute Results Tools Help

--None Selected-- Run: Run 1

stratton acres ph1
- Basin Models
  - Basin 1
    - Subbasin-102
      - J115
    - P113
    - Subbasin-103
      - J116
    - P115
    - Subbasin-101
      - J117
    - P116
    - Subbasin-104
      - J120
    - P118
    - Subbasin-105
      - J119
    - P117
      - J118
    - P114
    - Subbasin-106
      - J114
    - P112
    - Subbasin-120
      - J124
    - P122
      - J123
    - P125
      - J113
    - P111

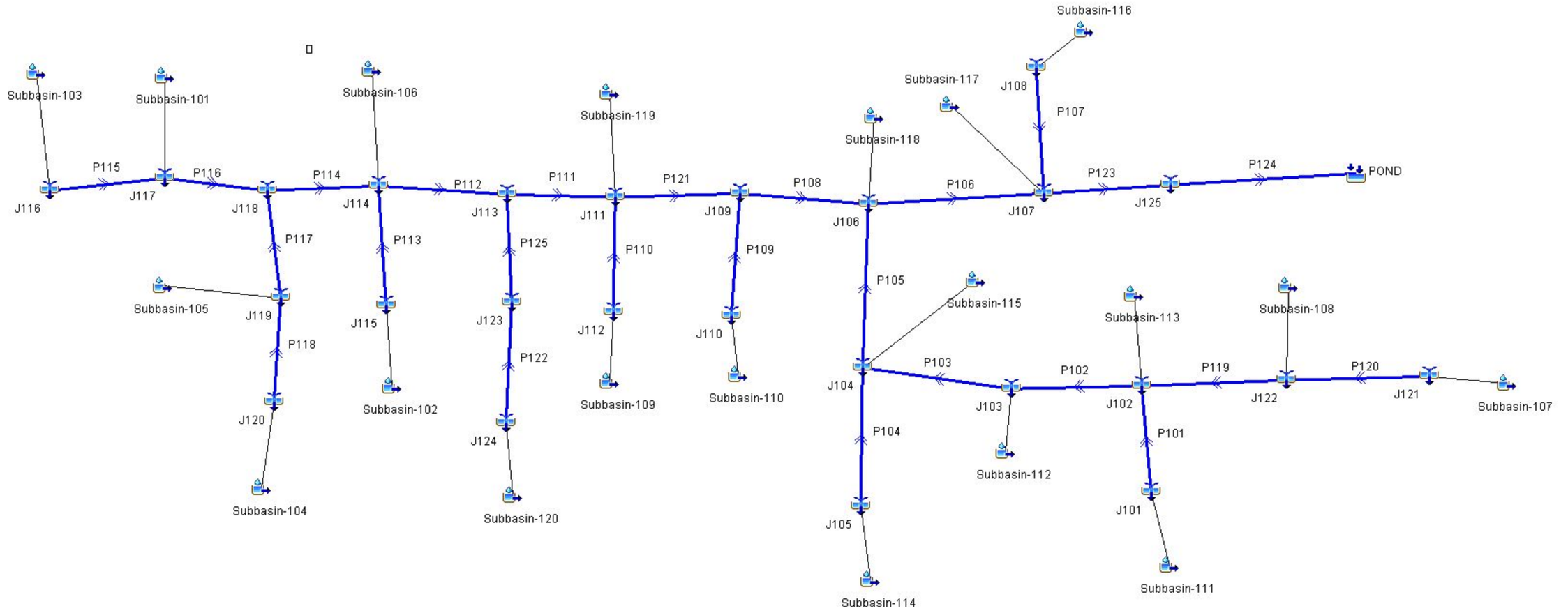
Components Compute Results

Reach Routing Options

Basin Name: Basin 1
Element Name: P101

Description:	
Downstream:	J102
Routing Method:	Kinematic Wave
Loss/Gain Method:	--None--

Basin Model [Basin 1] Current Run [Run 1]



NOTE 40755: Kinematic wave volume check for reach "P123".
Inflow (cu m): 46,391.694 Initial storage (cu m): 0
Outflow (cu m): 46,391.8896 Final storage (cu m): 0
Percent error: -0
NOTE 40755: Kinematic wave volume check for reach "P124".
Inflow (cu m): 46,397.1268 Initial storage (cu m): 0
Outflow (cu m): 46,397.1191 Final storage (cu m): 0
Percent error: 0

April 8, 2022

Mr. Kameron Spencer
Stratton Acres LLC
847 Draper Meadow Ln
Draper, UT 84020

RE: Infiltration Test Results
Stratton Acres/School Site
About 1040 North 200 East
Santaquin, Utah
CMT Job No. 18257

Mr. Spencer,

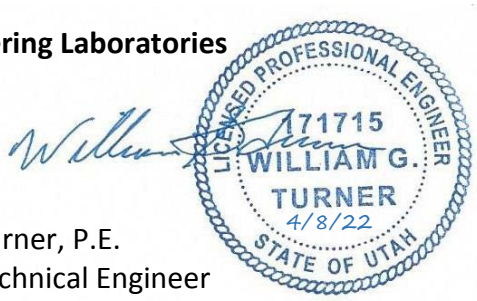
As you requested and authorized, CMT performed an infiltration test at the site on Thursday, April 7, 2022. The location of the test was approximately 39.9942 degrees latitude and -111.7805 degrees longitude.

At the time of the infiltration test, a test pit was excavated to a depth of about 5 feet at the approximate location of the proposed detention basin. The soils observed in the test pit visually consisted of about 4.5 feet of brown sandy gravel overlying brown Silty Clay (CL). The infiltration test was performed by digging a shallow hole with a shovel at a depth of about 3 feet within the test pit, filling the hole water and measuring the rate of water drop with time. This procedure (filling the hole with water and measuring the water drop rate) was repeated until two successive readings were the same. The infiltration rate obtained was 4 minutes per inch. A factor of safety should be applied in design to account for some potential siltation.

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties, either expressed or implied.

If you have any questions, please call.

Sincerely,
CMT Engineering Laboratories



William G. Turner, P.E.
Senior Geotechnical Engineer

Conveyance Summary Table

Project Description: Stratton Acres PH1
5/12/2022

Project #
Prepared By: GPW

CULVERT #	Type	Mannings	Width or Diameter	Depth	Side slopes	Length	Slope	Full Velocity	Maximum Capacity	Peak Design Flowrate						notes
										2-year		10-year		100-year		
			(feet)	(feet)	(hz/1 vt)	(feet)	(%)	(ft/sec)	(cfs)	(cfs)	(% Full)	(cfs)	(% Full)	(cfs)	(% Full)	
P101	Circular	0.012	1.25			57	0.50%	4.04	4.96					0.90	18.1%	
P102	Circular	0.012	1.5			63	0.65%	5.21	9.20					1.80	19.6%	
P103	Circular	0.012	1.5			179	0.83%	5.88	10.40					1.80	17.3%	
P104	Circular	0.012	1.25			23	0.50%	4.04	4.96					1.00	20.2%	
P105	Circular	0.012	1.5			51	0.50%	4.57	8.07					2.90	35.9%	
P106	Circular	0.012	1.5			114	2.70%	10.61	18.75					8.10	43.2%	
P107	Circular	0.012	1.25			26	0.50%	4.04	4.96					0.30	6.0%	
P108	Circular	0.012	1.5			236	1.70%	8.42	14.88					5.10	34.3%	
P109	Circular	0.012	1.25			26	0.90%	5.42	6.66					0.70	10.5%	
P110	Circular	0.012	1.25			26	1.20%	6.26	7.69					0.90	11.7%	
P111	Circular	0.012	1.5			305	2.00%	9.13	16.14					3.30	20.5%	
P112	Circular	0.012	1.5			52	0.90%	6.13	10.82					3.00	27.7%	
P113	Circular	0.012	1.25			30	1.50%	7.00	8.59					1.50	17.5%	
P114	Circular	0.012	1.5			208	0.50%	4.57	8.07					1.60	19.8%	
P115	Circular	0.012	1.25			60	0.50%	4.04	4.96					0.80	16.1%	
P116	Circular	0.012	1.5			58	1.90%	8.90	15.73					1.50	9.5%	
P117	Circular	0.012	1.5			26	0.50%	4.57	8.07					0.40	5.0%	
P118	Circular	0.012	1.25			27	0.50%	4.04	4.96					0.30	6.0%	
P119	Circular	0.012	1.5			54	1.80%	8.66	15.31					0.90	5.9%	
P120	Circular	0.012	1.25			54	1.80%	7.67	9.41					0.80	8.5%	
P121	Circular	0.012	1.5			298	1.20%	7.07	12.50					4.40	35.2%	
P122	Circular	0.012	1.25			30	0.50%	4.04	4.96					0.40	8.1%	
P123	Circular	0.012	2			285	1.30%	8.92	28.02					8.50	30.3%	
P124	Circular	0.012	2			47	0.50%	5.53	17.38					8.50	48.9%	
P125	Circular	0.012	1.5			27	0.50%	4.57	8.07					0.40	5.0%	

Strtton ph1
ON-SITE RETENTION 100 YEAR STORM - RATIONAL FORMULA
5/11/2022

100 year storm
Total area 539,675 SF
Total area = 12.39 ACRES

SOIL PERC RATE (MIN/IN)= 20 geotec report=4
PERC RATE (FT/SEC)= 6.94444E-05
DESINGED POND VOL (CF) 81401
POND SF= 38053
CFS PERC RATE= **2.64**
POND EXCESS CAPACITY (CF)= 61,299

retention soil released Q (cfs)= 2.64

Tc (min)= 10
WEIGHTED 'C' = 0.40 SINGLE FAMILY
Perc. Rate at Retenion Pond (CFS)= 2.643
Allowed discharge rate (CFS)= 2.643

LAPSED TIME (MIN.)	ACCUM. RAINFALL (IN/HR.)	CA	ACCUM. FLOW (CF)	ALLOWED DISCHARGE (CF)	REQUIRED STORAGE (CF)	NOAA rainfall data (100 YEAR)
15	3.99	4.96	17,786.97	2,378	15,409	0.997
30	2.68	4.96	23,906.26	4,757	19,150	1.34
60	1.66	4.96	29,615.22	9,513	20,102	1.66
120	0.93	4.96	33,004.92	19,027	13,978	1.85
180	0.63	4.96	33,896.94	28,540	5,357	1.9
360	0.34	4.96	36,573.02	57,080	-20,506	2.05
720	0.20	4.96	42,638.79	114,159	-71,520	2.39
1440	0.12	4.96	51,915.84	228,318	-176,402	2.91

POND VOL

ELEV:	AREA (SF)	*VOL (CF)*	RUNNING VOL	
4802	38053	19027	19027	POND FF
4803	40686	40686	59713	(100 YR STORM)
4804	43376	21688	81401	TOPB BANK

HEC-HMS DRAINAGE AREA INPUT SHEET

roject Description: stratton acres
5/12/2022

Project #
Prepared By: GPW

Sheet
Of

DRAINAGE BASIN	HEC-HMS INPUT INFORMATION			SCS CURVE NUMBER CALCULATION PARAMETERS											LAG TIME CALCULATION PARAMETERS				
	CN	Area	Lag	Overall Area	LOT		Landscaping		roadway (hard surface)		natural		<LAND USE 5>		Width	Delta Z	Slope	S	Lag
	(weighted)	*(Sq. Miles)*	*(minutes)*	*(AC)*	*Area*	*81*	*Area*	*70*	*Area*	*98*	*Area*	*66.6*	*Area*	*<SCS #>*	*(feet)*	*(feet)*	*(ft/ft)*		*(hours)*
101	85	0.001016	10	0.65	0.39	48.6	0.06	6.5	0.2	30.2					100	2	0.02	1.7350	0.17
102	83	0.003703	23	2.37	1.92	65.6	0.08	2.4	0.37	15.3					400	9	0.0225	2.0073	0.39
103	85	0.001547	18	0.99	0.64	52.4	0.06	4.2	0.29	28.7					250	4	0.016	1.7215	0.30
104	93	0.000188	2	0.12			0.02	11.7	0.1	81.7					10	1	0.1	0.7143	0.03
105	96	0.000066	1	0.04			0.003	5.0	0.039	91.0					10	1	0.1	0.4167	0.02
106	94	0.000269	1	0.172			0.025	10.2	0.147	83.8					10	1	0.1	0.6462	0.02
107	83	0.001806	22	1.156	0.945	66.2	0.046	2.8	0.165	14.0					355	8	0.022535	2.0498	0.37
108	92	0.000381	2	0.244			0.053	15.2	0.191	76.7					10	1	0.1	0.8793	0.03
109	83	0.002213	22	1.416	1.199	68.6	0.042	2.1	0.175	12.1					340	7	0.020588	2.0810	0.37
110	82	0.001738	22	1.112	0.986	71.8	0.028	1.8	0.098	8.6					330	7	0.021212	2.1623	0.36
111	84	0.001977	23	1.265	0.959	61.4	0.065	3.6	0.241	18.7					350	6	0.017143	1.9512	0.38
112	92	0.000194	2	0.124			0.027	15.2	0.097	76.7					10	1	0.1	0.8810	0.03
113	92	0.000286	2	0.183			0.039	14.9	0.144	77.1					10	1	0.1	0.8657	0.03
114	83	0.002425	22	1.552	1.242	64.8	0.058	2.6	0.252	15.9					340	6	0.017647	1.9977	0.37
115	92	0.000180	2	0.115			0.025	15.2	0.09	76.7					10	1	0.1	0.8798	0.03
116	84	0.000584	15	0.374	0.28	60.6	0.016	3.0	0.078	20.4					167	2	0.011976	1.8942	0.25
117	88	0.000125	14	0.08			0.03	26.3	0.05	61.3					167	2	0.011976	1.4286	0.23
118	81	0.000438	16	0.28			0.17	42.5	0.11	38.5					167	2	0.011976	2.3457	0.27
119	88	0.000344	14	0.22			0.08	25.5	0.14	62.4					167	2	0.011976	1.3872	0.23
120	92	0.000438	12	0.28			0.06	15.0	0.22	77.0					167	2	0.011976	0.8696	0.20