

THE LAKEVIEW PLAZA

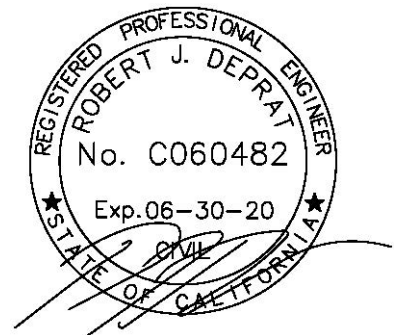
PRELIMINARY HYDROLOGY REPORT

LAKESHORE DRIVE
LAKE ELSINORE, CA

FOR
AB GROUP

PREPARED BY:
BLUE PEAK ENGINEERING, INC. 18543
YORBA LINDA BLVD. #235 YORBA LINDA,
CA 92886

(714) 749-3077



Purpose

This report has been prepared to show the attenuation of post developed drainage in relation to the predeveloped drainage to offsite properties for flood protection purposes.

Description of Watershed

The property is comprised of 5 parcels within a mixed used zone of the City of Lake Elsinore. The subject site is located within 500 feet north of Elsinore Lake. The property is limited at the north by Ryan Avenue, at the east side by Manning Street, and at the west by Iowa Street (a projected Street). Site access will be provided from Lake Shore Drive.

The parcels are attached and formed a trapezoidal shaped vacant and undeveloped land. The entire property is a part of a south facing descending slope with steeper flank at the north. The slope angle toward the south/southwest becoming more gentle and flattened.

The average elevation of the site is about 1300 feet above the main sea level. Maximum height of slope is 90 feet. Property sheet flow is toward south southeast.

Methodology

Peak flows are determined using the Rational Method as described in the Riverside County Flood Control Manual.

RAINFALL DATA



NOAA Atlas 14, Volume 6, Version 2
Location name: Lake Elsinore, California, USA*
Latitude: 33.6828°, Longitude: -117.3611°
Elevation: 1307.75 ft**

* source: ESRI Maps

** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.082 (0.069-0.099)	0.111 (0.093-0.134)	0.150 (0.125-0.181)	0.183 (0.151-0.223)	0.228 (0.182-0.289)	0.265 (0.207-0.342)	0.303 (0.230-0.402)	0.343 (0.253-0.468)	0.399 (0.282-0.569)	0.443 (0.302-0.656)
10-min	0.117 (0.098-0.141)	0.159 (0.133-0.192)	0.215 (0.179-0.260)	0.262 (0.217-0.319)	0.327 (0.262-0.414)	0.380 (0.296-0.491)	0.434 (0.330-0.576)	0.491 (0.363-0.672)	0.571 (0.404-0.816)	0.635 (0.433-0.940)
15-min	0.142 (0.119-0.171)	0.192 (0.161-0.232)	0.260 (0.217-0.314)	0.316 (0.262-0.386)	0.396 (0.316-0.501)	0.459 (0.359-0.593)	0.525 (0.399-0.696)	0.594 (0.439-0.812)	0.691 (0.489-0.987)	0.768 (0.524-1.14)
30-min	0.219 (0.184-0.264)	0.297 (0.248-0.358)	0.401 (0.335-0.485)	0.489 (0.404-0.596)	0.611 (0.488-0.773)	0.709 (0.554-0.916)	0.810 (0.617-1.08)	0.917 (0.678-1.25)	1.07 (0.754-1.52)	1.19 (0.809-1.76)
60-min	0.349 (0.293-0.421)	0.473 (0.396-0.570)	0.639 (0.533-0.773)	0.778 (0.644-0.950)	0.974 (0.778-1.23)	1.13 (0.882-1.46)	1.29 (0.983-1.71)	1.46 (1.08-2.00)	1.70 (1.20-2.43)	1.89 (1.29-2.80)
2-hr	0.536 (0.450-0.646)	0.696 (0.583-0.840)	0.914 (0.763-1.11)	1.10 (0.908-1.34)	1.36 (1.08-1.72)	1.56 (1.22-2.02)	1.78 (1.36-2.36)	2.01 (1.49-2.75)	2.33 (1.65-3.33)	2.59 (1.77-3.84)
3-hr	0.669 (0.561-0.806)	0.860 (0.720-1.04)	1.12 (0.935-1.36)	1.34 (1.11-1.63)	1.65 (1.32-2.08)	1.89 (1.48-2.45)	2.15 (1.64-2.86)	2.42 (1.79-3.32)	2.81 (1.99-4.01)	3.12 (2.12-4.61)
6-hr	0.963 (0.807-1.16)	1.24 (1.04-1.50)	1.62 (1.35-1.96)	1.93 (1.60-2.36)	2.37 (1.89-2.99)	2.71 (2.12-3.51)	3.07 (2.34-4.07)	3.44 (2.55-4.71)	3.97 (2.81-5.66)	4.38 (2.99-6.49)
12-hr	1.25 (1.05-1.51)	1.69 (1.42-2.04)	2.27 (1.89-2.74)	2.73 (2.26-3.33)	3.36 (2.68-4.24)	3.83 (3.00-4.96)	4.32 (3.29-5.73)	4.82 (3.56-6.58)	5.48 (3.88-7.83)	6.00 (4.09-8.88)
24-hr	1.66 (1.47-1.91)	2.39 (2.11-2.76)	3.32 (2.92-3.85)	4.06 (3.54-4.74)	5.03 (4.25-6.06)	5.75 (4.77-7.07)	6.47 (5.24-8.15)	7.19 (5.67-9.30)	8.14 (6.16-11.0)	8.85 (6.49-12.3)
2-day	1.98 (1.75-2.29)	2.97 (2.62-3.43)	4.22 (3.71-4.89)	5.21 (4.55-6.09)	6.53 (5.52-7.87)	7.51 (6.23-9.24)	8.49 (6.88-10.7)	9.47 (7.47-12.3)	10.8 (8.16-14.5)	11.8 (8.62-16.4)
3-day	2.16 (1.91-2.50)	3.29 (2.90-3.80)	4.73 (4.16-5.48)	5.88 (5.14-6.87)	7.42 (6.28-8.94)	8.58 (7.11-10.6)	9.74 (7.89-12.3)	10.9 (8.61-14.1)	12.5 (9.46-16.8)	13.7 (10.0-19.1)
4-day	2.34 (2.07-2.70)	3.58 (3.16-4.13)	5.18 (4.56-6.00)	6.47 (5.66-7.56)	8.21 (6.95-9.90)	9.53 (7.90-11.7)	10.9 (8.80-13.7)	12.2 (9.64-15.8)	14.1 (10.6-18.9)	15.5 (11.3-21.5)
7-day	2.65 (2.34-3.06)	4.05 (3.57-4.68)	5.90 (5.19-6.83)	7.42 (6.48-8.67)	9.51 (8.05-11.5)	11.1 (9.24-13.7)	12.8 (10.4-16.1)	14.5 (11.5-18.8)	16.9 (12.8-22.8)	18.8 (13.8-26.2)
10-day	2.80 (2.48-3.23)	4.26 (3.76-4.92)	6.22 (5.48-7.21)	7.86 (6.87-9.18)	10.2 (8.59-12.2)	12.0 (9.92-14.7)	13.8 (11.2-17.4)	15.8 (12.5-20.5)	18.6 (14.1-25.0)	20.8 (15.2-28.9)
20-day	3.33 (2.95-3.85)	5.04 (4.45-5.82)	7.41 (6.52-8.58)	9.44 (8.24-11.0)	12.4 (10.5-14.9)	14.7 (12.2-18.1)	17.2 (14.0-21.7)	19.9 (15.7-25.8)	23.8 (18.0-32.1)	27.0 (19.7-37.5)
30-day	3.93 (3.48-4.54)	5.87 (5.19-6.79)	8.62 (7.59-9.98)	11.0 (9.61-12.8)	14.5 (12.3-17.5)	17.3 (14.4-21.3)	20.4 (16.5-25.7)	23.8 (18.8-30.8)	28.7 (21.7-38.6)	32.7 (24.0-45.5)
45-day	4.60 (4.07-5.31)	6.75 (5.96-7.80)	9.82 (8.65-11.4)	12.5 (11.0-14.6)	16.6 (14.0-20.0)	19.9 (16.5-24.5)	23.6 (19.1-29.7)	27.6 (21.8-35.7)	33.5 (25.4-45.2)	38.5 (28.2-53.6)
60-day	5.32 (4.70-6.14)	7.64 (6.75-8.83)	11.0 (9.69-12.8)	14.0 (12.2-16.3)	18.5 (15.6-22.3)	22.3 (18.5-27.4)	26.4 (21.4-33.3)	31.0 (24.5-40.1)	37.9 (28.7-51.0)	43.6 (32.0-60.8)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

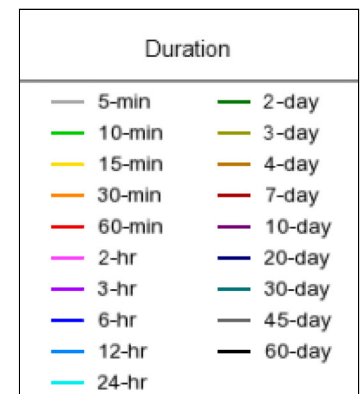
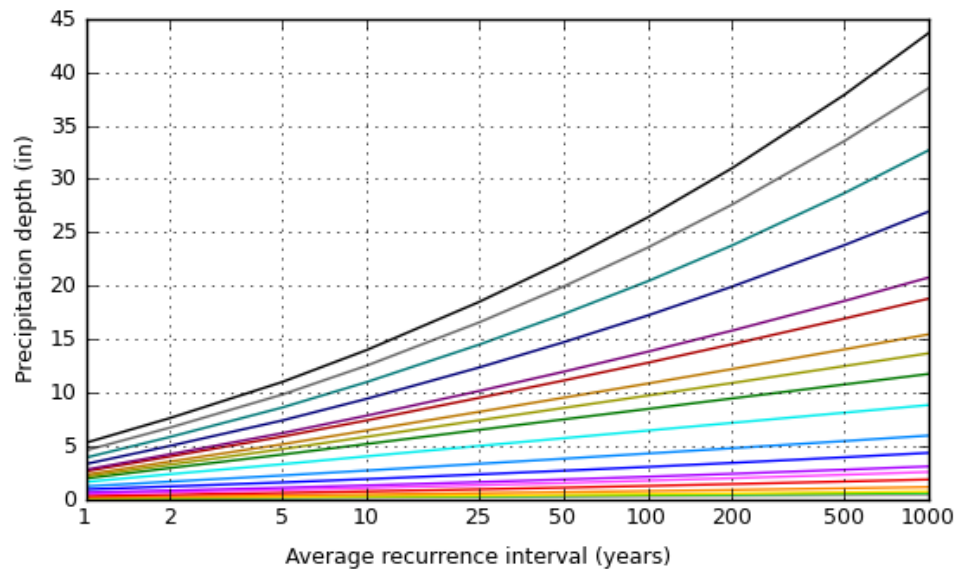
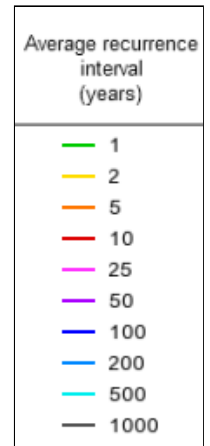
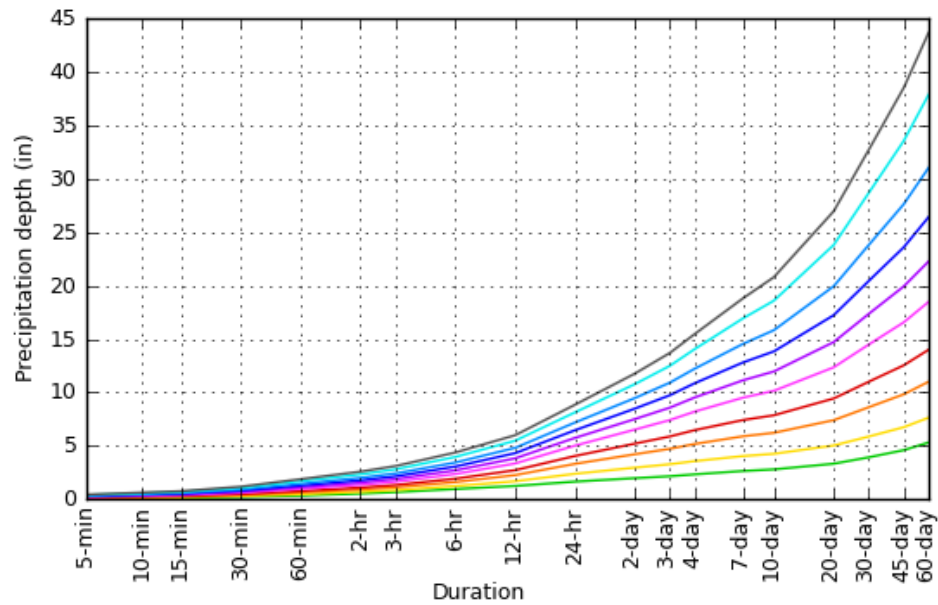
Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves

Latitude: 33.6828°, Longitude: -117.3611°



NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Mon Jul 22 18:29:48 2019

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Large scale terrain



Large scale map



Large scale aerial



NOAA Atlas 14, Volume 6, Version 2
Location name: Lake Elsinore, California, USA*
Latitude: 33.6828°, Longitude: -117.3611°
Elevation: 1307.75 ft**

* source: ESRI Maps

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NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.984 (0.828-1.19)	1.33 (1.12-1.61)	1.80 (1.50-2.17)	2.20 (1.81-2.68)	2.74 (2.18-3.47)	3.18 (2.48-4.10)	3.64 (2.76-4.82)	4.12 (3.04-5.62)	4.79 (3.38-6.83)	5.32 (3.62-7.87)
10-min	0.702 (0.588-0.846)	0.954 (0.798-1.15)	1.29 (1.07-1.56)	1.57 (1.30-1.91)	1.96 (1.57-2.48)	2.28 (1.78-2.95)	2.60 (1.98-3.46)	2.95 (2.18-4.03)	3.43 (2.42-4.90)	3.81 (2.60-5.64)
15-min	0.568 (0.476-0.684)	0.768 (0.644-0.928)	1.04 (0.868-1.26)	1.26 (1.05-1.54)	1.58 (1.26-2.00)	1.84 (1.44-2.37)	2.10 (1.60-2.78)	2.38 (1.76-3.25)	2.76 (1.96-3.95)	3.07 (2.10-4.55)
30-min	0.438 (0.368-0.528)	0.594 (0.496-0.716)	0.802 (0.670-0.970)	0.978 (0.808-1.19)	1.22 (0.976-1.55)	1.42 (1.11-1.83)	1.62 (1.23-2.15)	1.83 (1.36-2.51)	2.13 (1.51-3.05)	2.37 (1.62-3.51)
60-min	0.349 (0.293-0.421)	0.473 (0.396-0.570)	0.639 (0.533-0.773)	0.778 (0.644-0.950)	0.974 (0.778-1.23)	1.13 (0.882-1.46)	1.29 (0.983-1.71)	1.46 (1.08-2.00)	1.70 (1.20-2.43)	1.89 (1.29-2.80)
2-hr	0.268 (0.225-0.323)	0.348 (0.292-0.420)	0.457 (0.382-0.552)	0.548 (0.454-0.670)	0.678 (0.542-0.858)	0.782 (0.610-1.01)	0.890 (0.678-1.18)	1.01 (0.743-1.37)	1.17 (0.826-1.67)	1.30 (0.884-1.92)
3-hr	0.223 (0.187-0.268)	0.286 (0.240-0.345)	0.373 (0.311-0.451)	0.446 (0.369-0.544)	0.548 (0.438-0.694)	0.631 (0.493-0.816)	0.717 (0.545-0.951)	0.808 (0.597-1.10)	0.935 (0.661-1.34)	1.04 (0.707-1.54)
6-hr	0.161 (0.135-0.194)	0.207 (0.174-0.250)	0.270 (0.225-0.327)	0.322 (0.267-0.393)	0.395 (0.316-0.500)	0.453 (0.354-0.585)	0.512 (0.390-0.680)	0.575 (0.425-0.786)	0.662 (0.468-0.946)	0.731 (0.499-1.08)
12-hr	0.104 (0.087-0.125)	0.140 (0.118-0.169)	0.188 (0.157-0.227)	0.226 (0.187-0.276)	0.278 (0.222-0.352)	0.318 (0.249-0.412)	0.358 (0.273-0.476)	0.400 (0.295-0.546)	0.455 (0.322-0.650)	0.498 (0.339-0.737)
24-hr	0.069 (0.061-0.080)	0.100 (0.088-0.115)	0.138 (0.122-0.160)	0.169 (0.148-0.197)	0.209 (0.177-0.252)	0.240 (0.199-0.295)	0.269 (0.218-0.339)	0.299 (0.236-0.388)	0.339 (0.257-0.457)	0.369 (0.270-0.514)
2-day	0.041 (0.036-0.048)	0.062 (0.055-0.071)	0.088 (0.077-0.102)	0.109 (0.095-0.127)	0.136 (0.115-0.164)	0.156 (0.130-0.192)	0.177 (0.143-0.223)	0.197 (0.156-0.255)	0.224 (0.170-0.302)	0.245 (0.180-0.341)
3-day	0.030 (0.027-0.035)	0.046 (0.040-0.053)	0.066 (0.058-0.076)	0.082 (0.071-0.095)	0.103 (0.087-0.124)	0.119 (0.099-0.147)	0.135 (0.110-0.170)	0.152 (0.120-0.196)	0.174 (0.131-0.234)	0.190 (0.139-0.265)
4-day	0.024 (0.022-0.028)	0.037 (0.033-0.043)	0.054 (0.048-0.063)	0.067 (0.059-0.079)	0.086 (0.072-0.103)	0.099 (0.082-0.122)	0.113 (0.092-0.143)	0.127 (0.100-0.165)	0.146 (0.111-0.197)	0.161 (0.118-0.224)
7-day	0.016 (0.014-0.018)	0.024 (0.021-0.028)	0.035 (0.031-0.041)	0.044 (0.039-0.052)	0.057 (0.048-0.068)	0.066 (0.055-0.082)	0.076 (0.062-0.096)	0.087 (0.068-0.112)	0.101 (0.076-0.136)	0.112 (0.082-0.156)
10-day	0.012 (0.010-0.013)	0.018 (0.016-0.021)	0.026 (0.023-0.030)	0.033 (0.029-0.038)	0.042 (0.036-0.051)	0.050 (0.041-0.061)	0.058 (0.047-0.073)	0.066 (0.052-0.085)	0.077 (0.059-0.104)	0.087 (0.063-0.121)
20-day	0.007 (0.006-0.008)	0.010 (0.009-0.012)	0.015 (0.014-0.018)	0.020 (0.017-0.023)	0.026 (0.022-0.031)	0.031 (0.025-0.038)	0.036 (0.029-0.045)	0.042 (0.033-0.054)	0.050 (0.038-0.067)	0.056 (0.041-0.078)
30-day	0.005 (0.005-0.006)	0.008 (0.007-0.009)	0.012 (0.011-0.014)	0.015 (0.013-0.018)	0.020 (0.017-0.024)	0.024 (0.020-0.030)	0.028 (0.023-0.036)	0.033 (0.026-0.043)	0.040 (0.030-0.054)	0.045 (0.033-0.063)
45-day	0.004 (0.004-0.005)	0.006 (0.006-0.007)	0.009 (0.008-0.011)	0.012 (0.010-0.014)	0.015 (0.013-0.018)	0.018 (0.015-0.023)	0.022 (0.018-0.028)	0.026 (0.020-0.033)	0.031 (0.024-0.042)	0.036 (0.026-0.050)
60-day	0.004 (0.003-0.004)	0.005 (0.005-0.006)	0.008 (0.007-0.009)	0.010 (0.008-0.011)	0.013 (0.011-0.015)	0.015 (0.013-0.019)	0.018 (0.015-0.023)	0.022 (0.017-0.028)	0.026 (0.020-0.035)	0.030 (0.022-0.042)

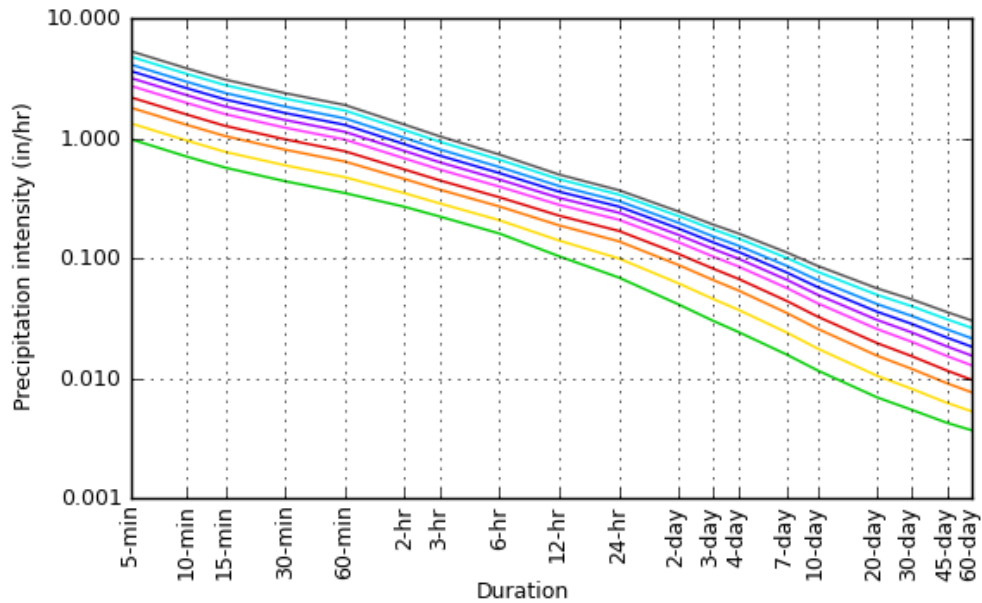
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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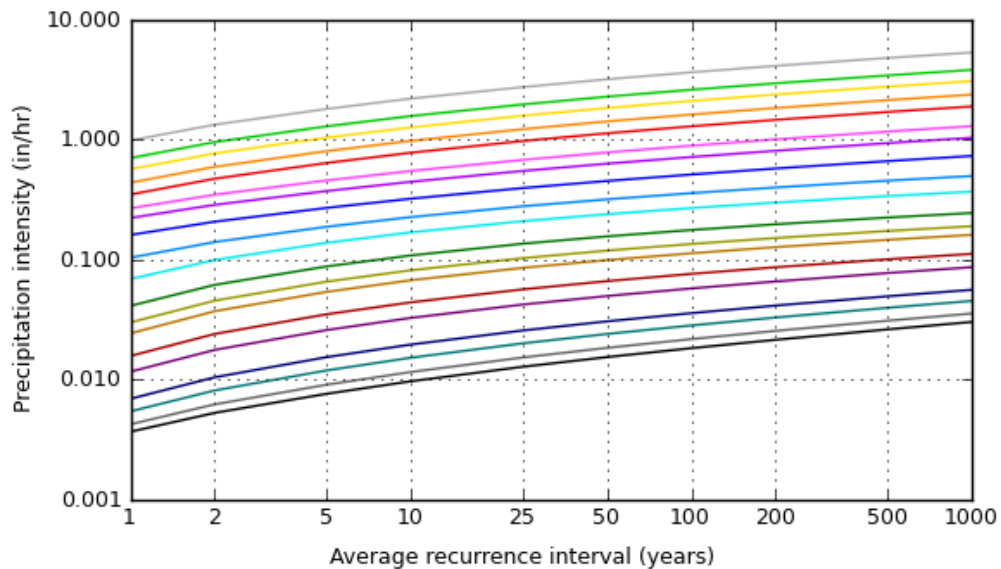
PF graphical

PDS-based intensity-duration-frequency (IDF) curves

Latitude: 33.6828°, Longitude: -117.3611°



Average recurrence interval (years)
1
2
5
10
25
50
100
200
500
1000



Duration
5-min
10-min
15-min
30-min
60-min
2-hr
3-hr
6-hr
12-hr
24-hr
2-day
3-day
4-day
7-day
10-day
20-day
30-day
45-day
60-day

NOAA Atlas 14, Volume 6, Version 2

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Large scale terrain



Large scale map



Large scale aerial

PRE-DEVELOPMENT HYDROLOGY

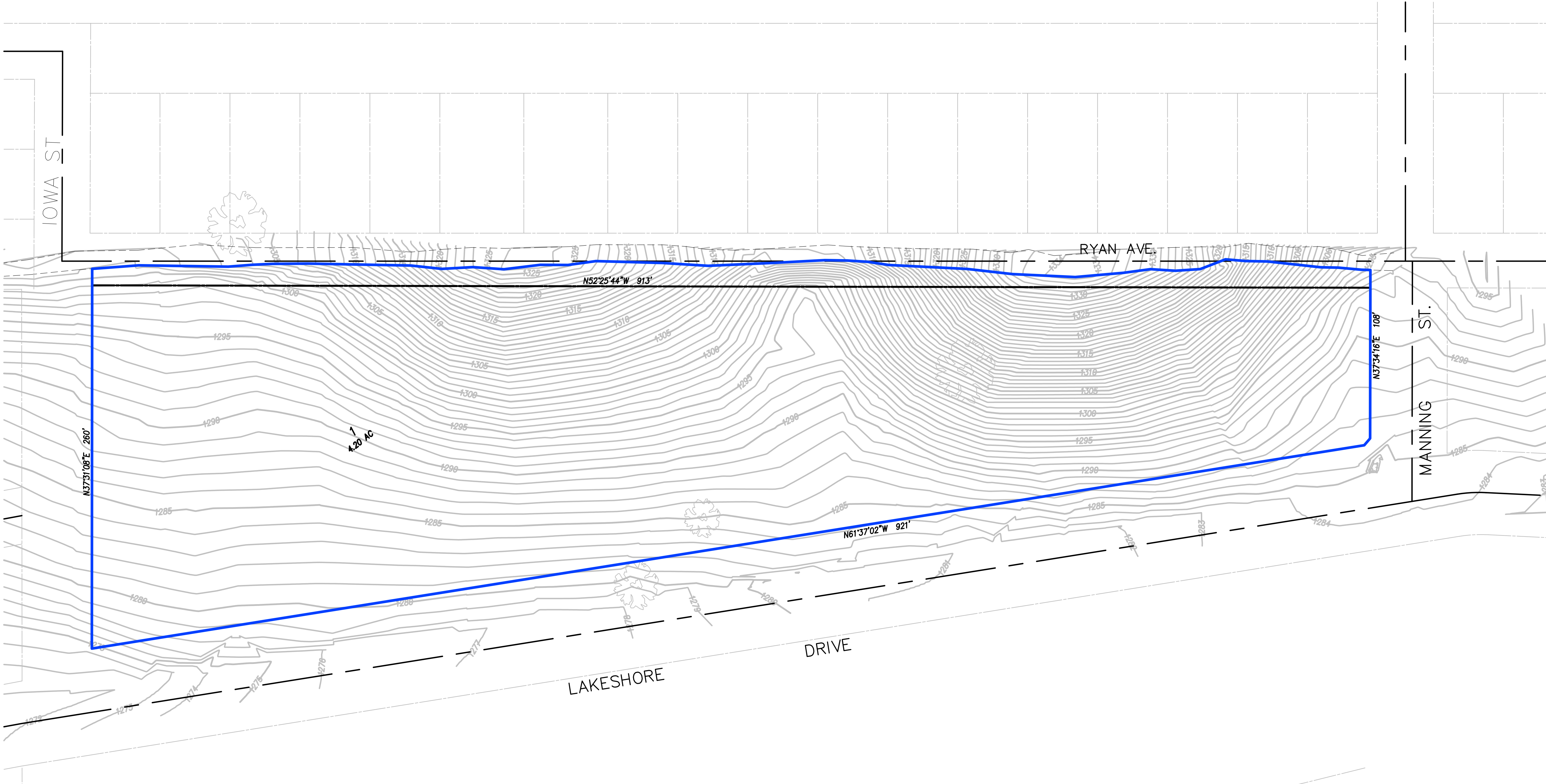
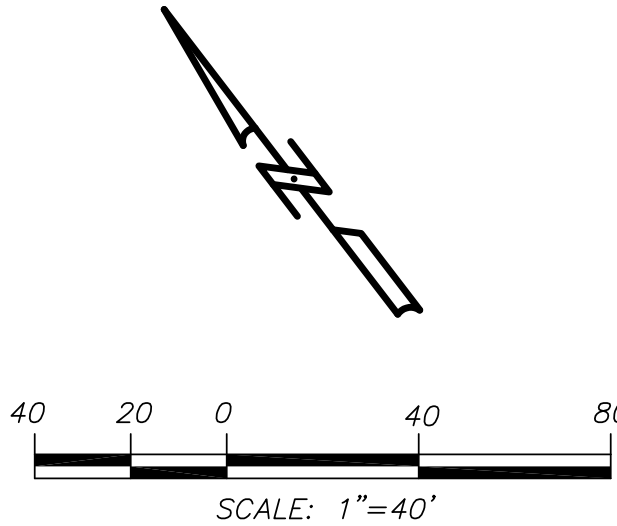
The Lakeview Plaza

PRE-DEVELOPED DRAINAGE AREA

LOT 14-17 APN NO. 375-092-002,003,004,005 &006

LAKE SHORE DRIVE

LAKE ELSINORE, CA



BLUE PEAK
ENGINEERING, INC.
18543 YORBA LINDA BL., #235
YORBA LINDA, CA 92886
714.749.3077

**DRAWING ISSUE RECORD**

DATE	DESCRIPTION
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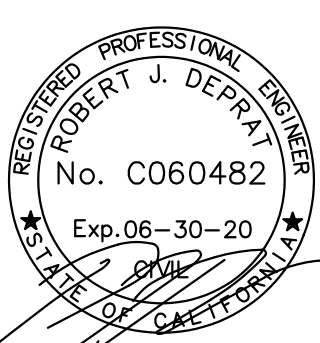
REVISION RECORD

NO.	DATE	DESCRIPTION
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PROJECT NAME

LAKEVIEW PLAZA
LAKESHORE DRIVE
LAKE ELSINORE, CALIFORNIA

PROFESSIONAL SEAL



SHEET TITLE

SHEET NUMBER

DATE: 7/19/19

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Hydrology Studio v 3.0.0.11

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Hydrology Studio v 3.0.0.11

07-23-2019



Hydrograph by Return Period

Project Name:

Hydrology Studio v 3.0.0.11

07-23-2019

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Outflow (cfs)							
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
1	NRCS Runoff	DA-1	0.673	2.096		4.349	6.355	9.139	11.28	13.45

Hydrograph 2-yr Summary

Project Name:

Hydrology Studio v 3.0.0.11

07-23-2019

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	DA-1	2.096	10.00	11,657	----		

Hydrograph 10-yr Summary

Project Name:

Hydrology Studio v 3.0.0.11

07-23-2019

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	DA-1	6.355	9.98	30,680	----		

Hydrograph 100-yr Summary

Project Name:

Hydrology Studio v 3.0.0.11

07-23-2019

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	DA-1	13.45	9.98	62,541	----		

IDF Report

IDF filename: LAKE ELSINORE.idf

Hydrology Studio v 3.0.0.11

07-23-2019

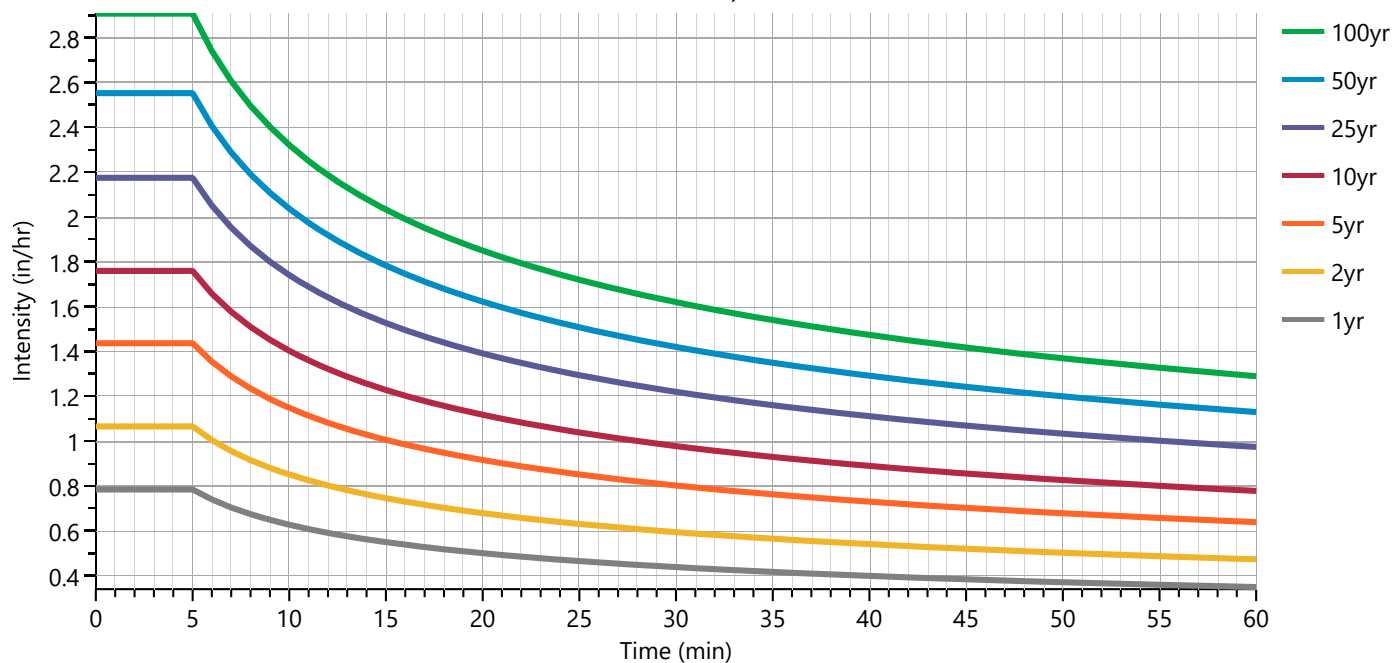
Equation Coefficients	Intensity = B / (Tc + D)^E (in/hr)								
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
B	1.3402	1.8232	0.0000	2.4547	3.0167	3.6973	4.3727	4.9725	
D	0.1000	0.1000	0.0000	0.1000	0.1000	0.1000	0.1000	0.1000	
E	0.3285	0.3294	0.0000	0.3286	0.3309	0.3257	0.3304	0.3294	

Minimum Tc = 5 minutes

Tc (min)	Intensity Values (in/hr)								
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
Cf	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
5	0.78	1.07	0	1.44	1.76	2.17	2.55	2.91	
10	0.63	0.85	0	1.15	1.40	1.74	2.04	2.32	
15	0.55	0.75	0	1.01	1.23	1.53	1.78	2.03	
20	0.50	0.68	0	0.92	1.12	1.39	1.62	1.85	
25	0.46	0.63	0	0.85	1.04	1.29	1.51	1.72	
30	0.44	0.59	0	0.80	0.98	1.22	1.42	1.62	
35	0.42	0.56	0	0.76	0.93	1.16	1.35	1.54	
40	0.40	0.54	0	0.73	0.89	1.11	1.29	1.47	
45	0.38	0.52	0	0.70	0.86	1.07	1.24	1.42	
50	0.37	0.50	0	0.68	0.83	1.03	1.20	1.37	
55	0.36	0.49	0	0.66	0.80	1.00	1.16	1.33	
60	0.35	0.47	0	0.64	0.78	0.97	1.13	1.29	

Cf = Correction Factor applied to Rational Method runoff coefficient.

California, USA



Precipitation Report

Precipitation filename: ELSINORE.pcp

Hydrology Studio v 3.0.0.11

07-23-2019

	Active	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Active		✓	✓		✓	✓	✓	✓	✓
SCS Storms	> SCS Dimensionless Storms								
SCS 6hr		0.96	1.24	0	1.62	1.93	2.37	2.71	3.07
Type I, 24-hr	✓	1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Type IA, 24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Type II, 24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Type II FL, 24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Type III, 24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Synthetic Storms	> IDF-Based Synthetic Storms								
1-hr		0.35	0.47	0	0.64	0.78	0.97	1.13	1.29
2-hr		0.56	0.75	0	1.02	1.24	1.55	1.80	2.05
3-hr		0.73	0.99	0	1.34	1.62	2.04	2.36	2.70
6-hr		1.16	1.57	0	2.13	2.58	3.26	3.75	4.29
12-hr		1.85	2.50	0	3.39	4.11	5.21	5.97	6.83
24-hr		2.95	3.99	0	5.40	6.53	8.31	9.50	10.87
Huff Distribution	> 1st Quartile (0 to 6 hrs)								
1-hr		0.35	0.47	0	0.64	0.78	0.97	1.13	1.29
2-hr		0.54	0.70	0	0.91	1.10	1.36	1.56	1.78
3-hr		0.67	0.86	0	1.12	1.34	1.65	1.89	2.15
6-hr		0.96	1.24	0	1.62	1.93	2.37	2.71	3.07
Huff Distribution	> 2nd Quartile (>6 to 12 hrs)								
8-hr		0	0	0	0	0	0	0	0
12-hr		1.25	1.69	0	2.27	2.73	3.36	3.83	4.32
Huff Distribution	> 3rd Quartile (>12 to 24 hrs)								
18-hr		0	0	0	0	0	0	0	0
24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Custom Storms	> Custom Storm Distributions								
My Custom Storm 1		0	0	0	0	0	0	0	0
My Custom Storm 2		0	0	0	0	0	0	0	0
My Custom Storm 3		0	0	0	0	0	0	0	0
My Custom Storm 4		0	0	0	0	0	0	0	0
My Custom Storm 5		0	0	0	0	0	0	0	0
My Custom Storm 6		0	0	0	0	0	0	0	0
My Custom Storm 7		0	0	0	0	0	0	0	0
My Custom Storm 8		0	0	0	0	0	0	0	0
My Custom Storm 9		0	0	0	0	0	0	0	0
My Custom Storm 10		0	0	0	0	0	0	0	0

Precipitation Report Cont'd

Precipitation filename: ELSINORE.pcp

Hydrology Studio v 3.0.0.11

07-23-2019

	Active	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Active		✓	✓		✓	✓	✓	✓	✓
Huff Indiana	> Indianapolis								
30-min		0.22	0.30	0	0.40	0.49	0.61	0.71	0.81
1-hr		0.35	0.47	0	0.64	0.78	0.97	1.13	1.29
2-hr		0.54	0.70	0	0.91	1.10	1.36	1.56	1.78
3-hr		0.67	0.86	0	1.12	1.34	1.65	1.89	2.15
6-hr		0.96	1.24	0	1.62	1.93	2.37	2.71	3.07
12-hr		1.25	1.69	0	2.27	2.73	3.36	3.83	4.32
24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Huff Indiana	> Evansville								
30-min		0.22	0.30	0	0.40	0.49	0.61	0.71	0.81
1-hr		0.35	0.47	0	0.64	0.78	0.97	1.13	1.29
2-hr		0.54	0.70	0	0.91	1.10	1.36	1.56	1.78
3-hr		0.67	0.86	0	1.12	1.34	1.65	1.89	2.15
6-hr		0.96	1.24	0	1.62	1.93	2.37	2.71	3.07
12-hr		1.25	1.69	0	2.27	2.73	3.36	3.83	4.32
24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Huff Indiana	> Fort Wayne								
30-min		0.22	0.30	0	0.40	0.49	0.61	0.71	0.81
1-hr		0.35	0.47	0	0.64	0.78	0.97	1.13	1.29
2-hr		0.54	0.70	0	0.91	1.10	1.36	1.56	1.78
3-hr		0.67	0.86	0	1.12	1.34	1.65	1.89	2.15
6-hr		0.96	1.24	0	1.62	1.93	2.37	2.71	3.07
12-hr		1.25	1.69	0	2.27	2.73	3.36	3.83	4.32
24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Huff Indiana	> South Bend								
30-min		0.22	0.30	0	0.40	0.49	0.61	0.71	0.81
1-hr		0.35	0.47	0	0.64	0.78	0.97	1.13	1.29
2-hr		0.54	0.70	0	0.91	1.10	1.36	1.56	1.78
3-hr		0.67	0.86	0	1.12	1.34	1.65	1.89	2.15
6-hr		0.96	1.24	0	1.62	1.93	2.37	2.71	3.07
12-hr		1.25	1.69	0	2.27	2.73	3.36	3.83	4.32
24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
NRCS Storms	> NRCS Dimensionless Storms								
NRCS MSE3, 24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
NRCS MSE4, 24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47

POST DEVELOPMENT HYDROLOGY

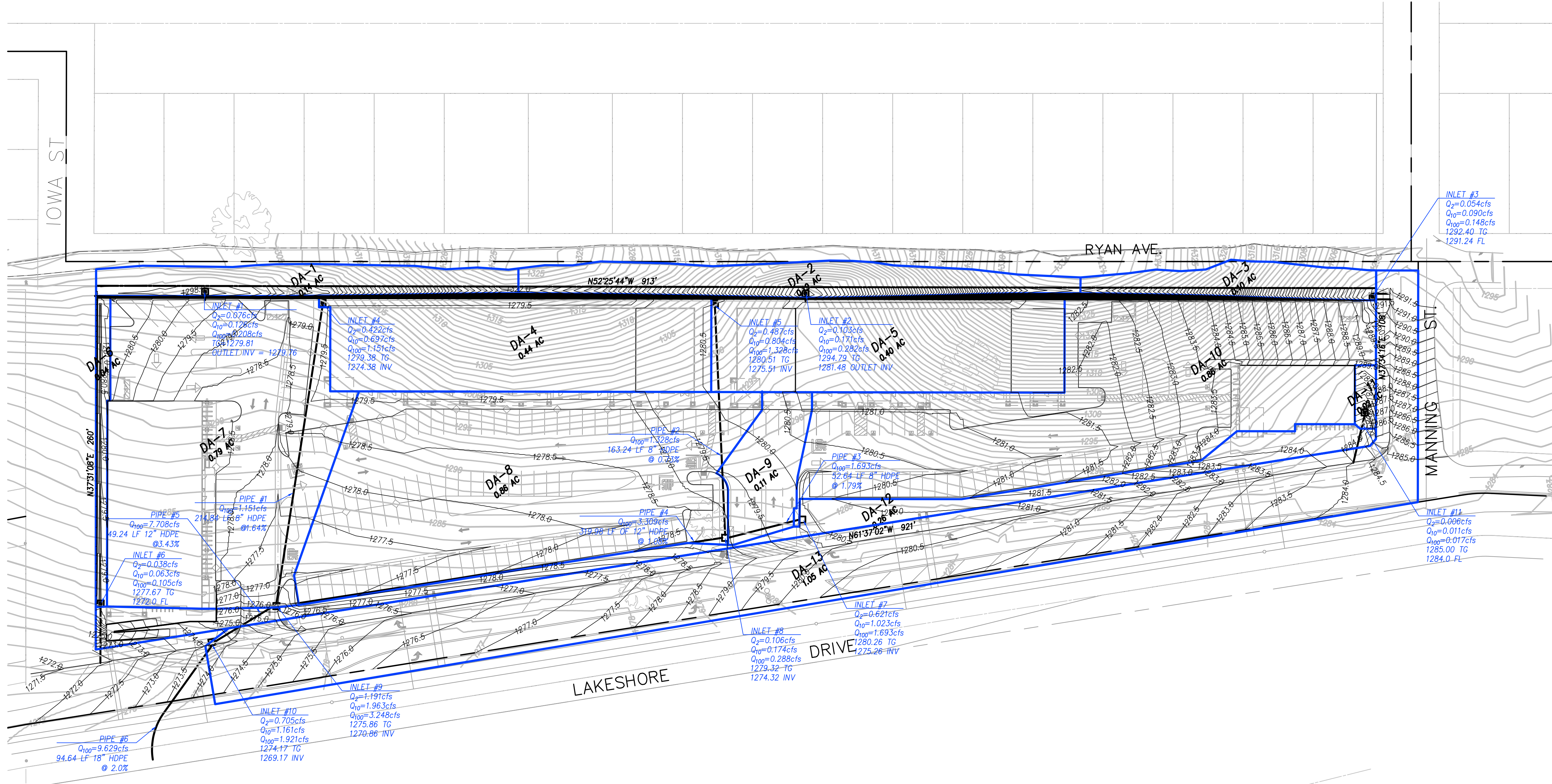
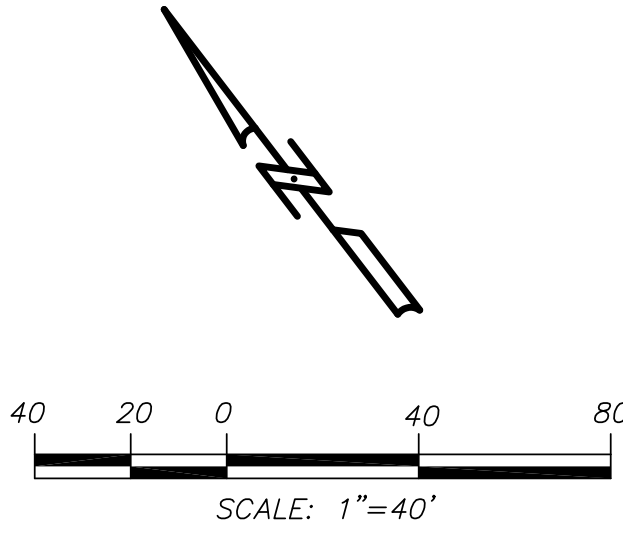
The Lakeview Plaza

POST-DEVELOPED DRAINAGE AREAS

LOT 14-17 APN NO. 375-092-002,003,004,005 &006

LAKESHORE DRIVE

LAKE ELSINORE, CA

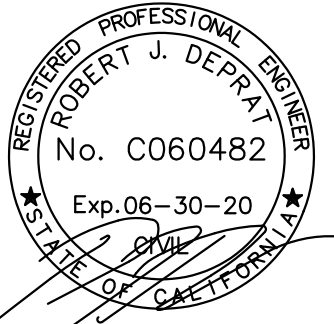
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REVISION RECORD		
NO.	DATE	DESCRIPTION

PROJECT NAME

**LAKEVIEW PLAZA
LAKESHORE DRIVE
LAKE ELSINORE, CALIFORNIA**

PROFESSIONAL SEAL



SHEET TITLE

SHEET NUMBER

DATE: 7/19/19

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Hydrology Studio v 3.0.0.11

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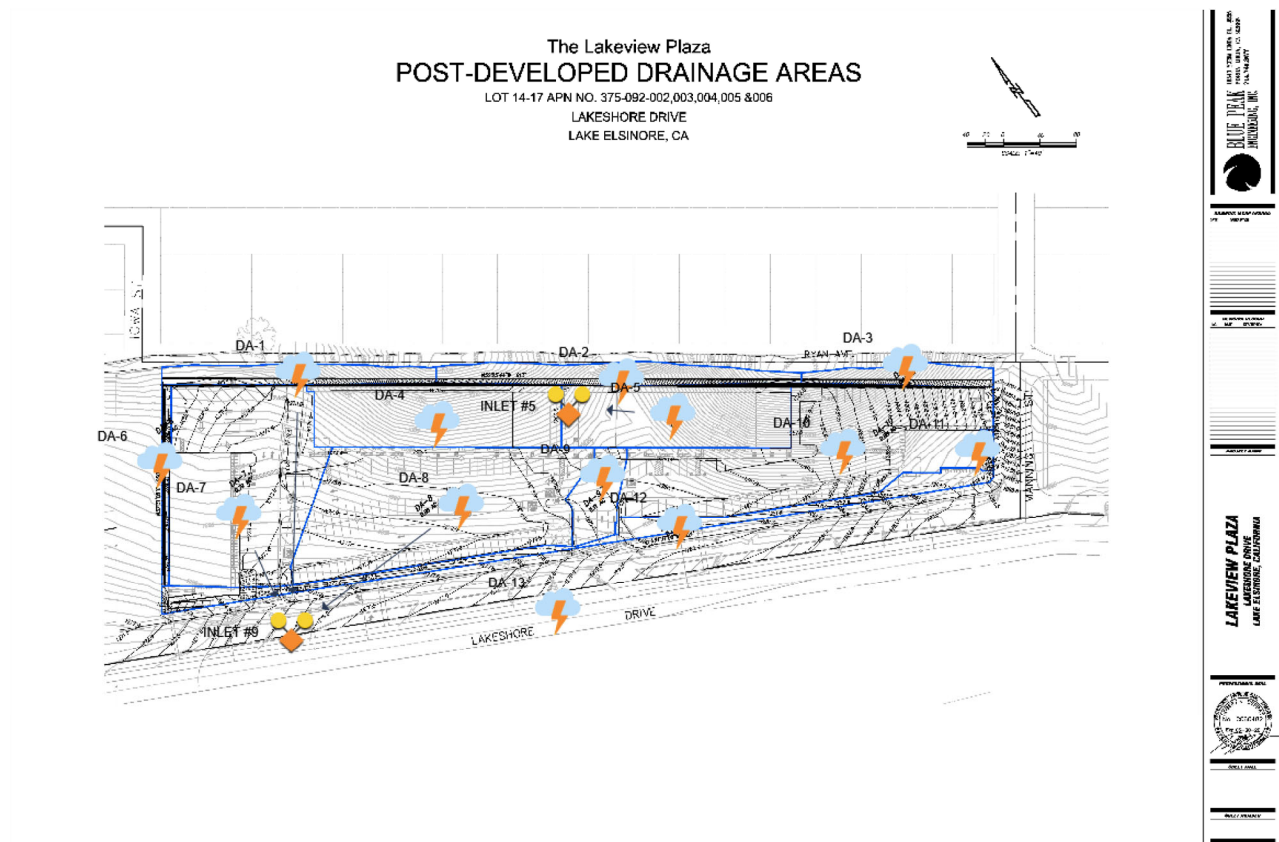
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Basin Model

Hydrology Studio v 3.0.0.11

Project Name:

07-23-2019



Hydrograph by Return Period

Project Name:

Hydrology Studio v 3.0.0.11

07-23-2019

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Outflow (cfs)							
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
1	Rational	DA-1	0.056	0.076		0.103	0.126	0.155	0.182	0.208
2	Rational	DA-2	0.076	0.103		0.139	0.171	0.211	0.247	0.282
3	Rational	DA-3	0.040	0.054		0.073	0.090	0.111	0.130	0.148
4	Rational	DA-4	0.311	0.422		0.569	0.697	0.861	1.011	1.151
5	Rational	DA-5	0.283	0.384		0.517	0.633	0.783	0.919	1.047
6	Rational	DA-6	0.028	0.038		0.052	0.063	0.078	0.092	0.105
7	Rational	DA-7	0.420	0.570		0.769	0.940	1.167	1.364	1.555
8	Rational	DA-8	0.457	0.621		0.837	1.023	1.271	1.485	1.693
9	Rational	DA-9	0.078	0.106		0.142	0.174	0.215	0.253	0.288
10	Rational	DA-10	0.457	0.621		0.837	1.023	1.271	1.485	1.693
11	Rational	DA-11	0.005	0.006		0.009	0.011	0.013	0.015	0.017
12	Rational	DA-12	0.061	0.083		0.112	0.137	0.170	0.199	0.227
13	Rational	DA-13	0.519	0.705		0.951	1.161	1.443	1.685	1.921
14	Junction	INLET #9	0.877	1.191		1.607	1.963	2.438	2.849	3.248
15	Junction	INLET #5	0.359	0.487		0.657	0.804	0.994	1.166	1.328

Hydrograph 2-yr Summary

Project Name:

Hydrology Studio v 3.0.0.11

07-23-2019

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	Rational	DA-1	0.076	0.08	22.8	----		
2	Rational	DA-2	0.103	0.08	31.0	----		
3	Rational	DA-3	0.054	0.08	16.3	----		
4	Rational	DA-4	0.422	0.08	127	----		
5	Rational	DA-5	0.384	0.08	115	----		
6	Rational	DA-6	0.038	0.08	11.5	----		
7	Rational	DA-7	0.570	0.20	411	----		
8	Rational	DA-8	0.621	0.20	447	----		
9	Rational	DA-9	0.106	0.08	31.7	----		
10	Rational	DA-10	0.621	0.20	447	----		
11	Rational	DA-11	0.006	0.08	1.92	----		
12	Rational	DA-12	0.083	0.08	24.9	----		
13	Rational	DA-13	0.705	0.25	634	----		
14	Junction	INLET #9	1.191	0.20	880	1, 7, 8		
15	Junction	INLET #5	0.487	0.08	146	2, 5		

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.11

07-23-2019

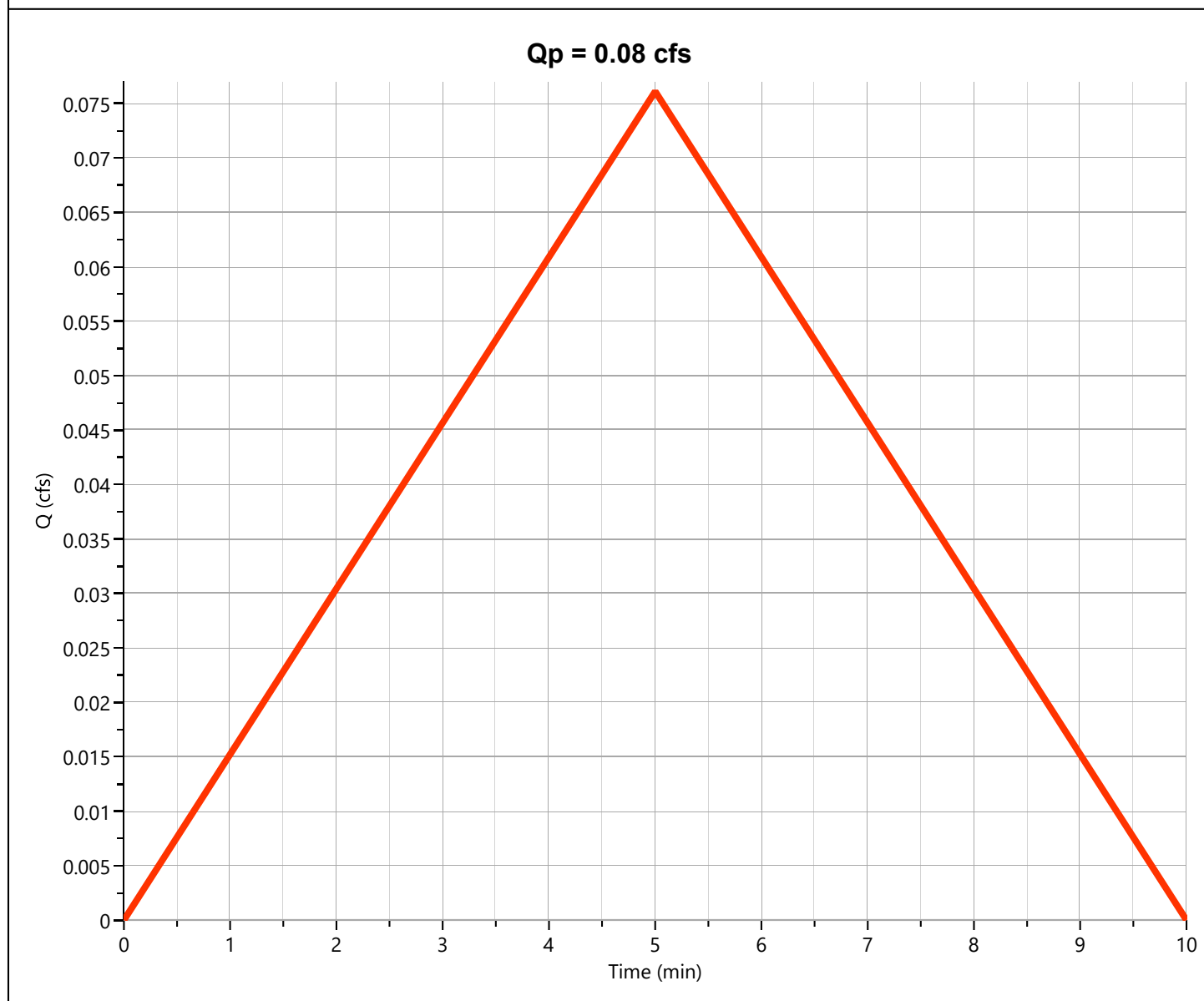
DA-1

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 0.076 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 22.8 cuft
Drainage Area	= 0.14 ac	Runoff Coeff.	= 0.51*
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.07 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1

* Composite C Worksheet

AREA (ac)	C	DESCRIPTION
0.09	0.30	
0.05	0.90	
0.14	0.51	



Hydrograph Report

Project Name:

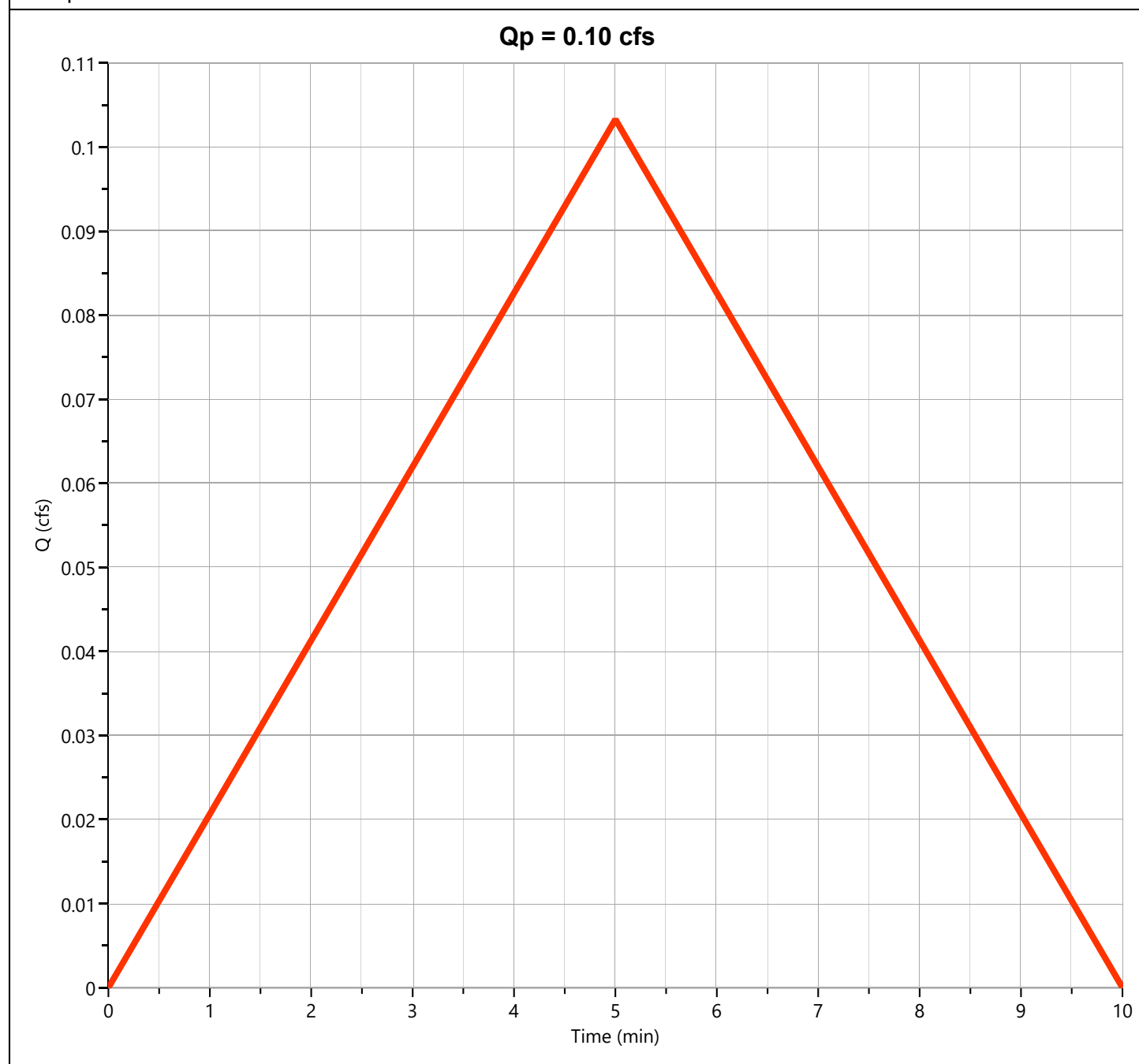
Hydrology Studio v 3.0.0.11

07-23-2019

DA-2

Hyd. No. 2

Hydrograph Type	= Rational	Peak Flow	= 0.103 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 31.0 cuft
Drainage Area	= 0.19 ac	Runoff Coeff.	= 0.51
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.07 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

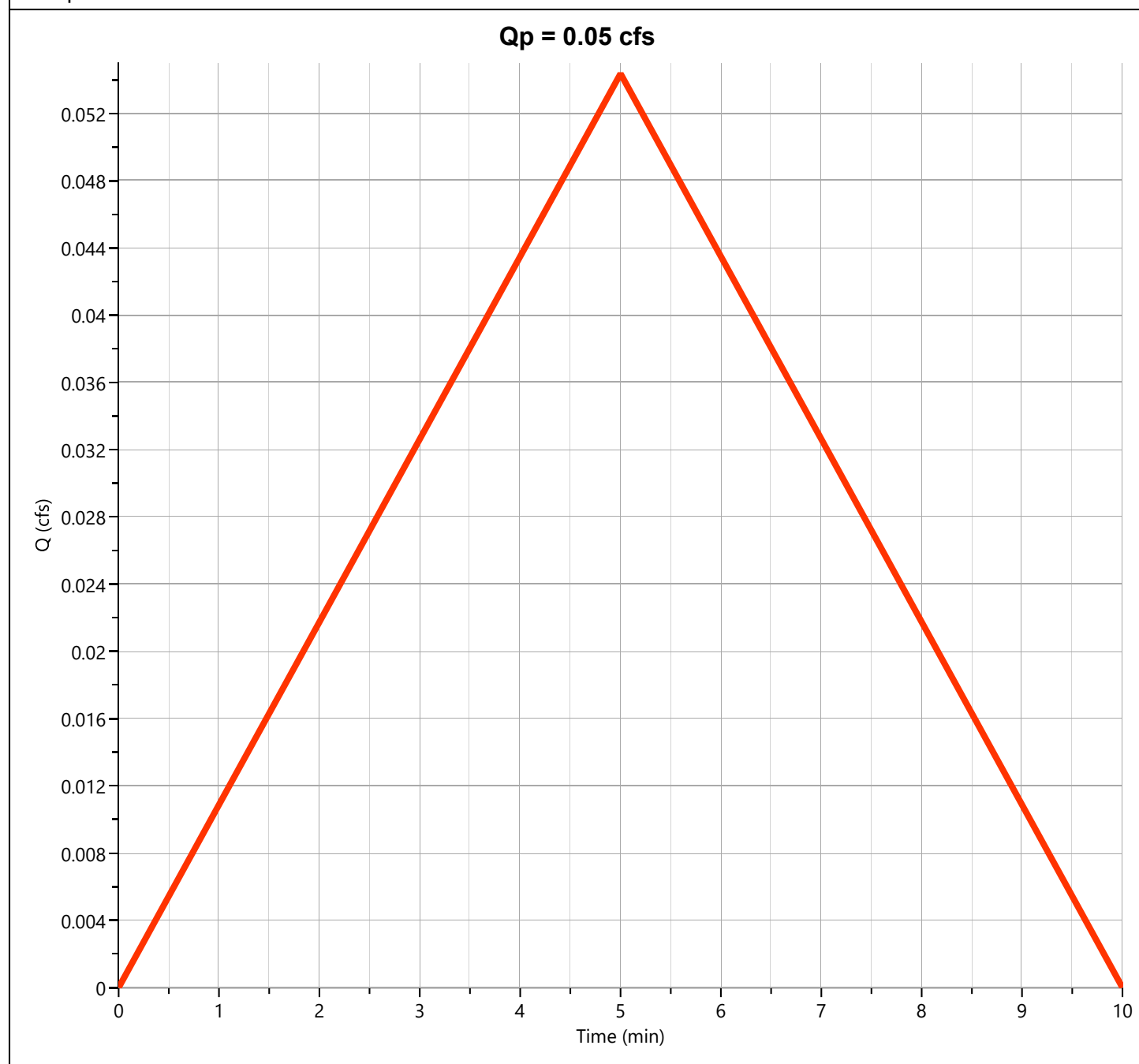
Hydrology Studio v 3.0.0.11

07-23-2019

DA-3

Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 0.054 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 16.3 cuft
Drainage Area	= 0.1 ac	Runoff Coeff.	= 0.51
Tc Method	= User	Time of Conc. (Tc)	= 0.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.07 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

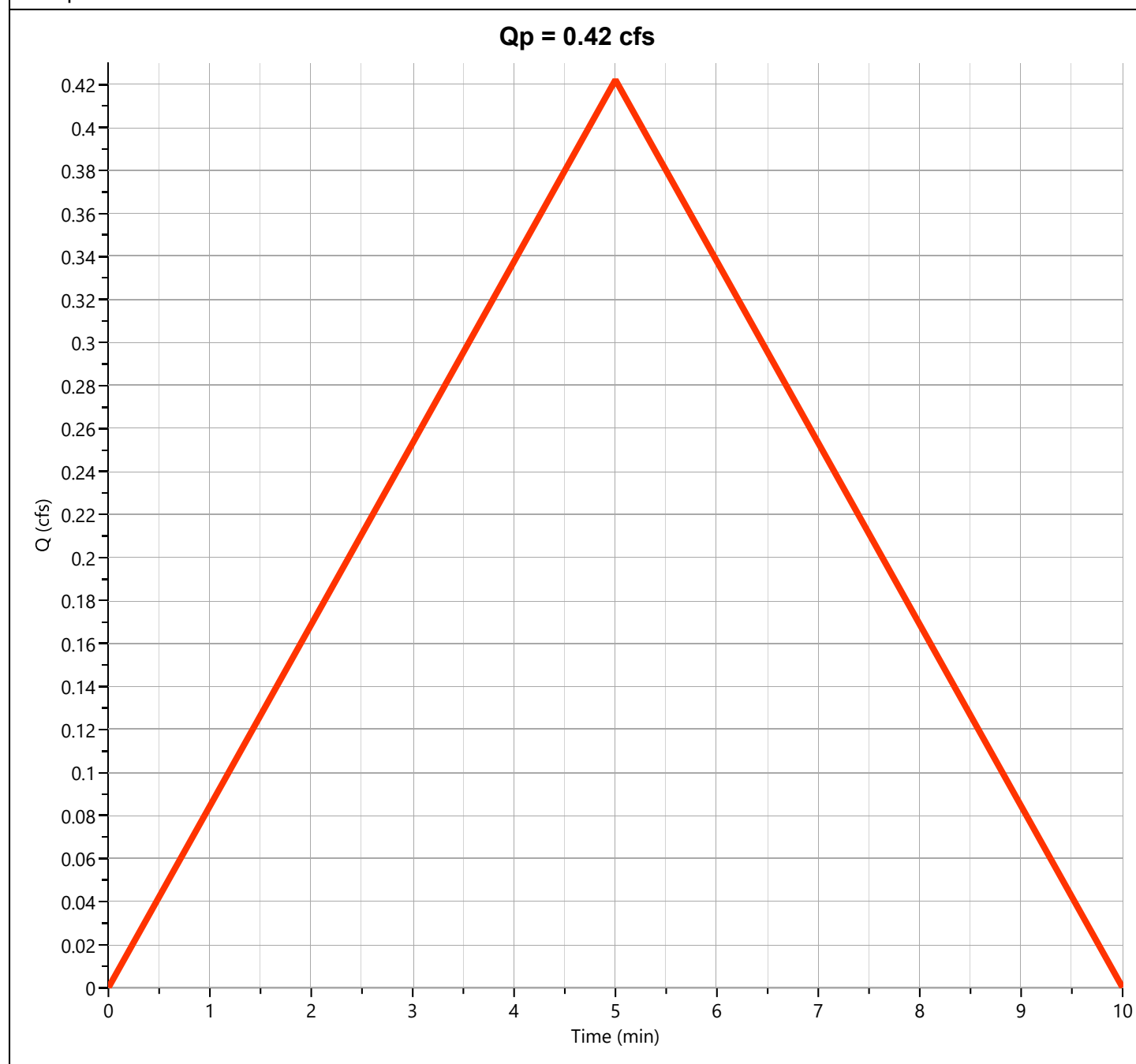
Hydrology Studio v 3.0.0.11

07-23-2019

DA-4

Hyd. No. 4

Hydrograph Type	= Rational	Peak Flow	= 0.422 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 127 cuft
Drainage Area	= 0.44 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.07 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

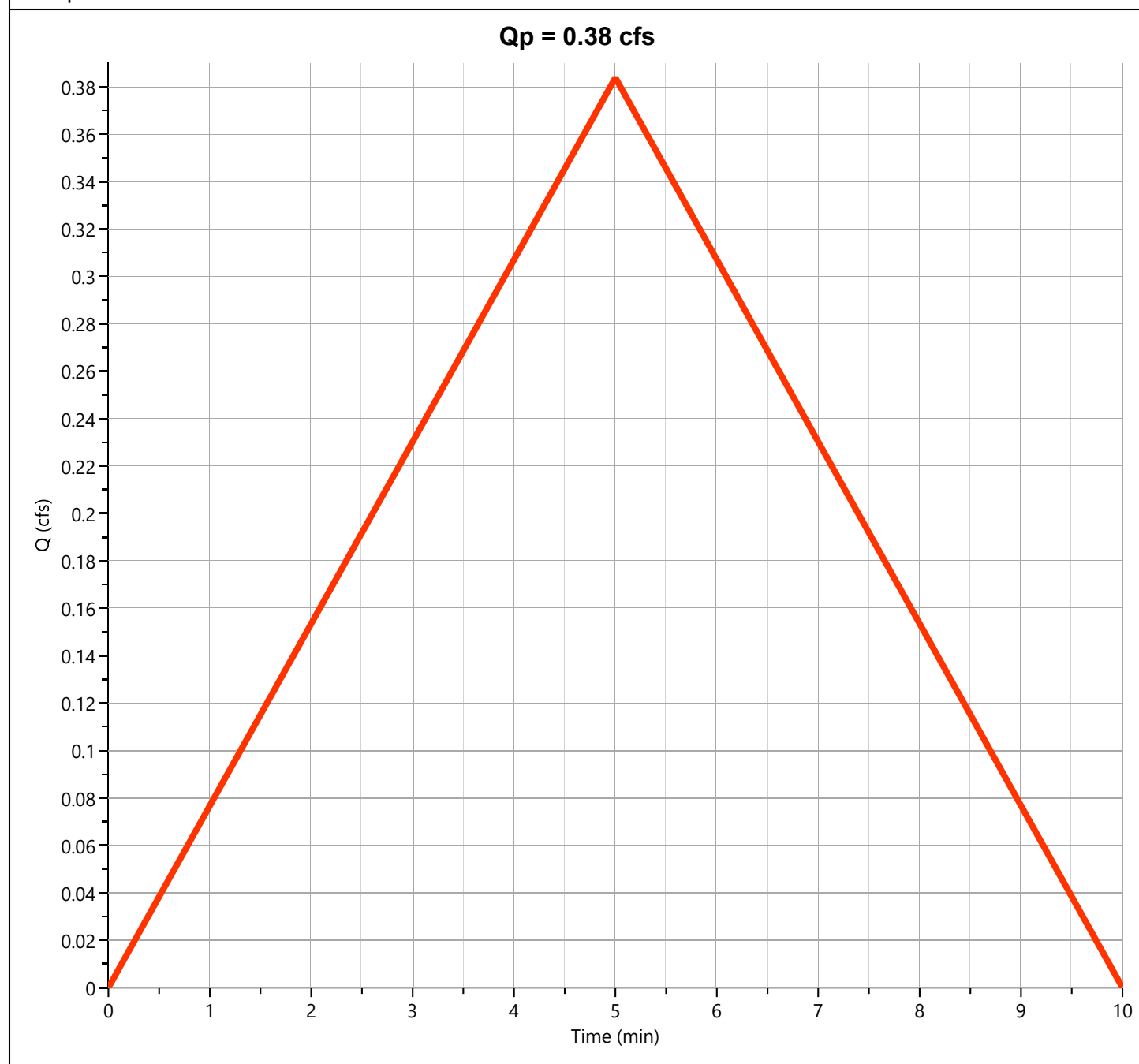
Hydrology Studio v 3.0.0.11

07-23-2019

DA-5

Hyd. No. 5

Hydrograph Type	= Rational	Peak Flow	= 0.384 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 115 cuft
Drainage Area	= 0.4 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.07 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

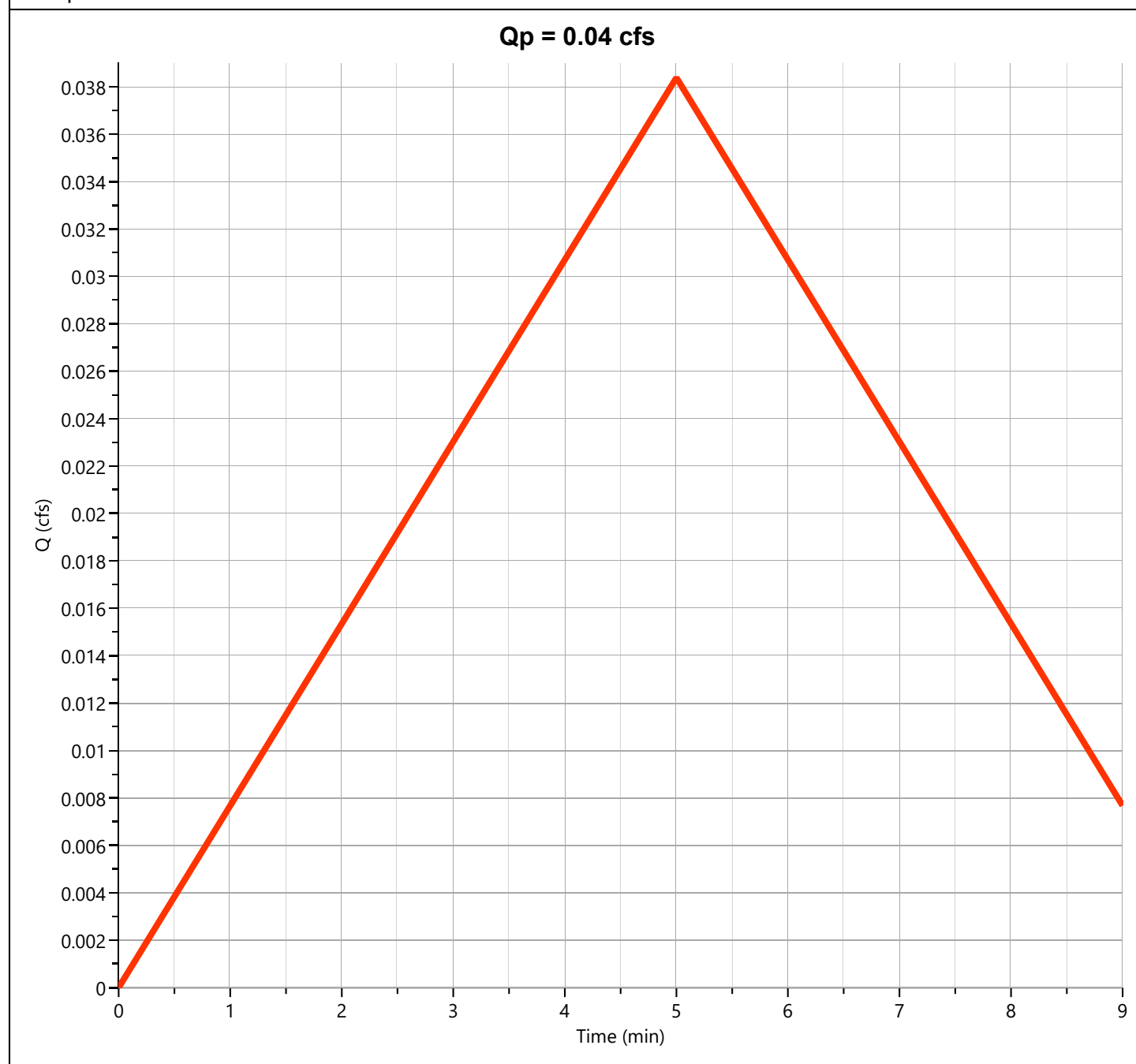
Hydrology Studio v 3.0.0.11

07-23-2019

DA-6

Hyd. No. 6

Hydrograph Type	= Rational	Peak Flow	= 0.038 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 11.5 cuft
Drainage Area	= 0.04 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.07 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

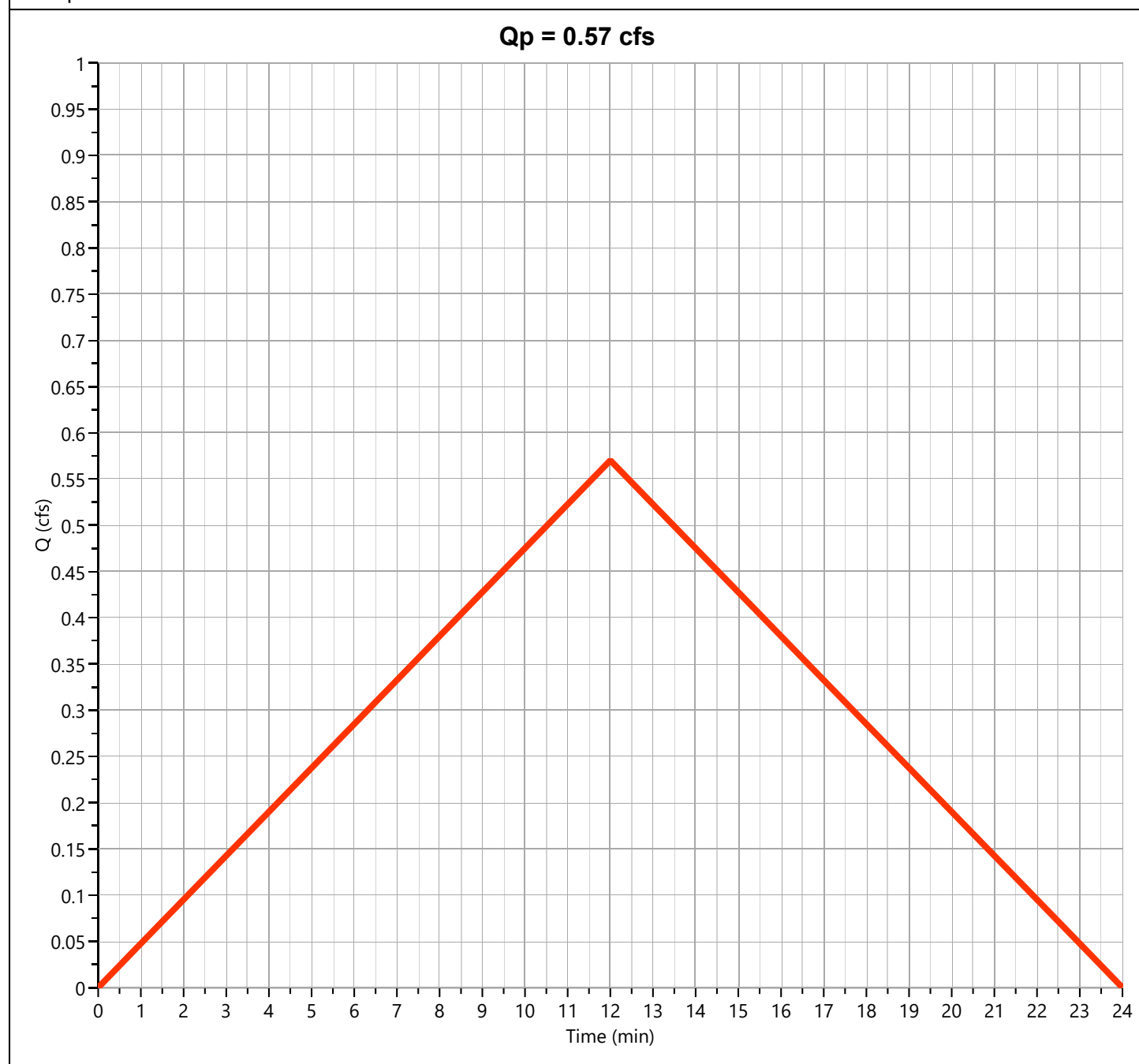
Hydrology Studio v 3.0.0.11

07-23-2019

DA-7

Hyd. No. 7

Hydrograph Type	= Rational	Peak Flow	= 0.570 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Runoff Volume	= 411 cuft
Drainage Area	= 0.79 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 12.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 0.80 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

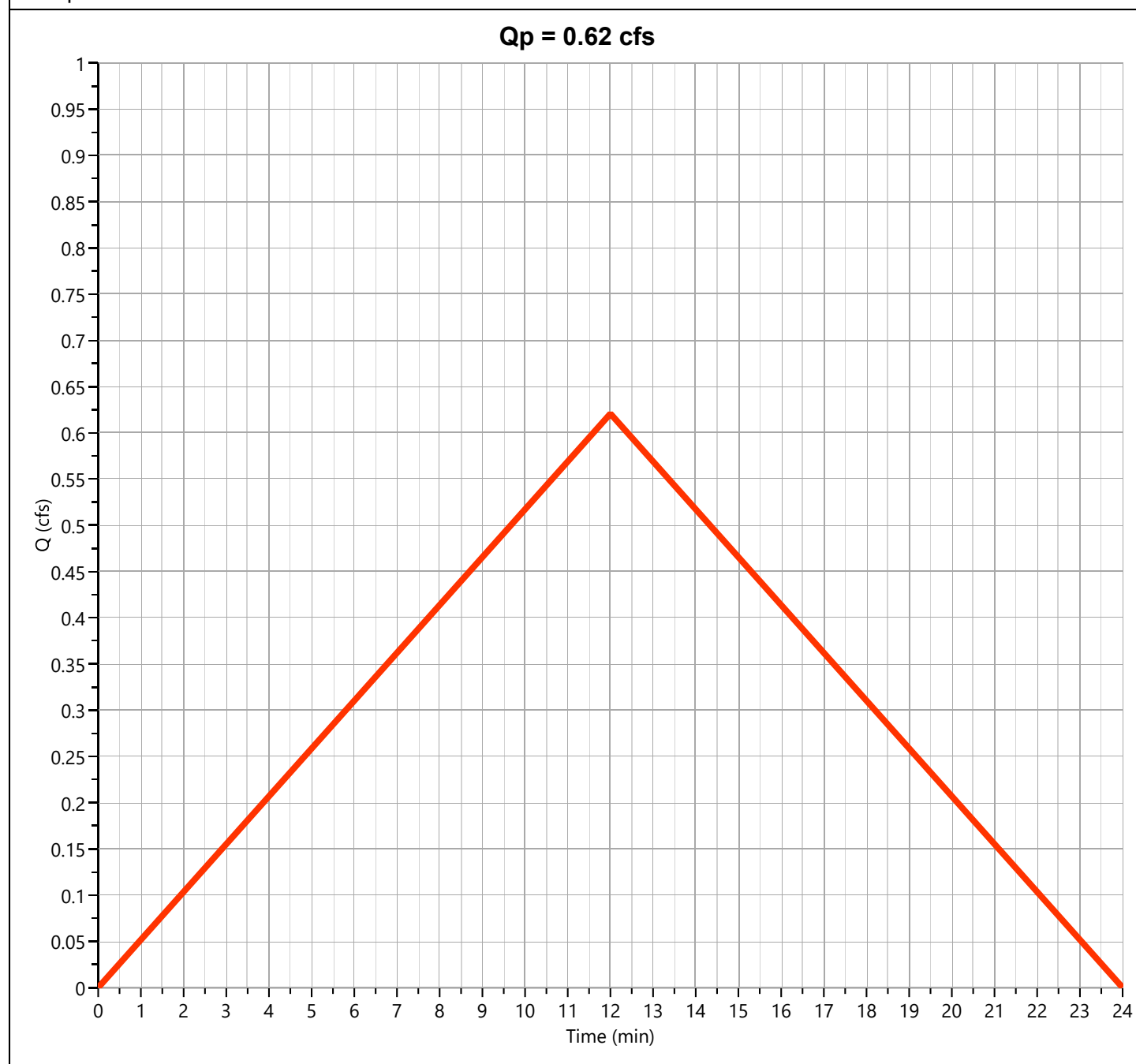
Hydrology Studio v 3.0.0.11

07-23-2019

DA-8

Hyd. No. 8

Hydrograph Type	= Rational	Peak Flow	= 0.621 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Runoff Volume	= 447 cuft
Drainage Area	= 0.86 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 12.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 0.80 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

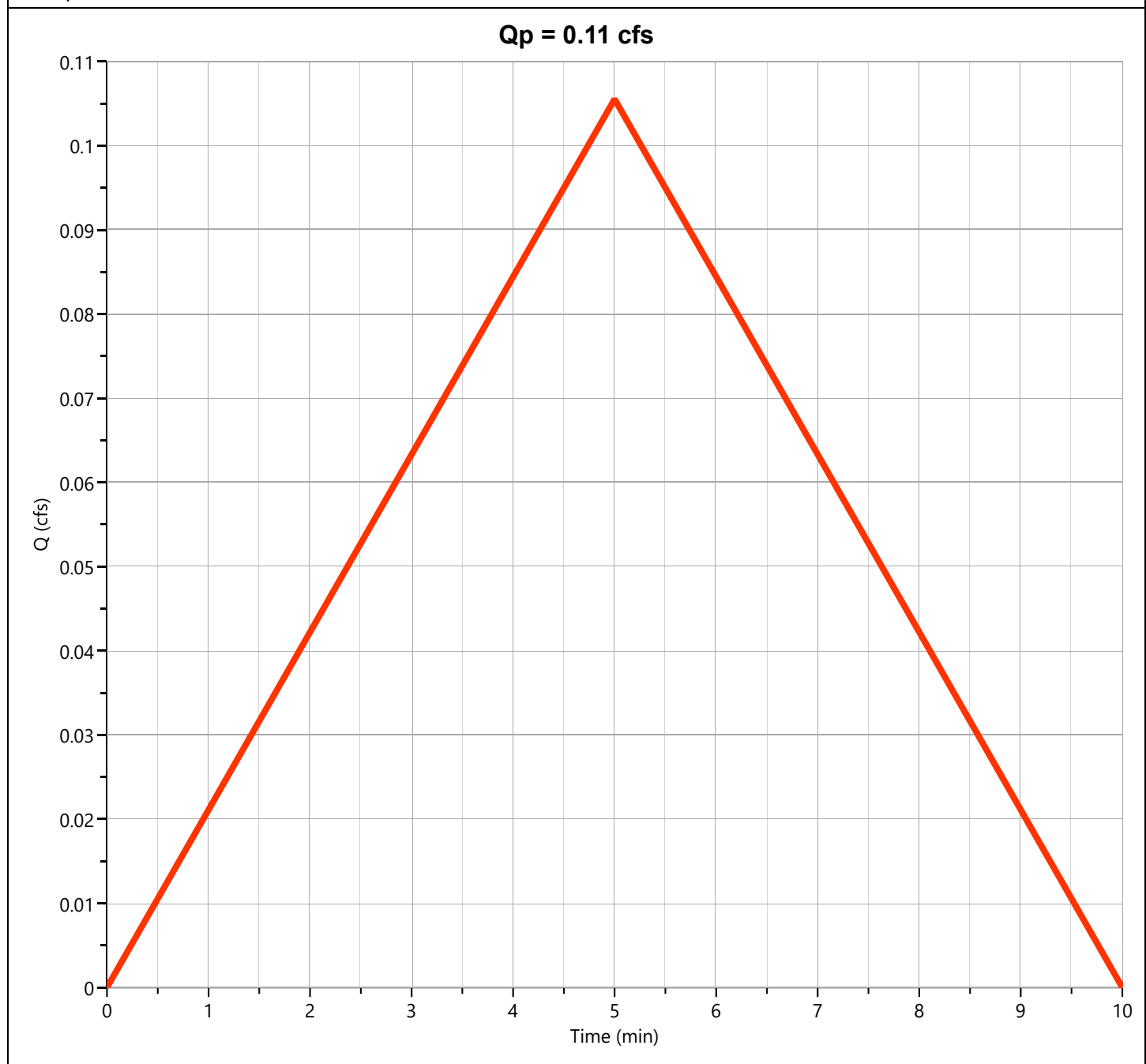
Hydrology Studio v 3.0.0.11

07-23-2019

DA-9

Hyd. No. 9

Hydrograph Type	= Rational	Peak Flow	= 0.106 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 31.7 cuft
Drainage Area	= 0.11 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.07 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

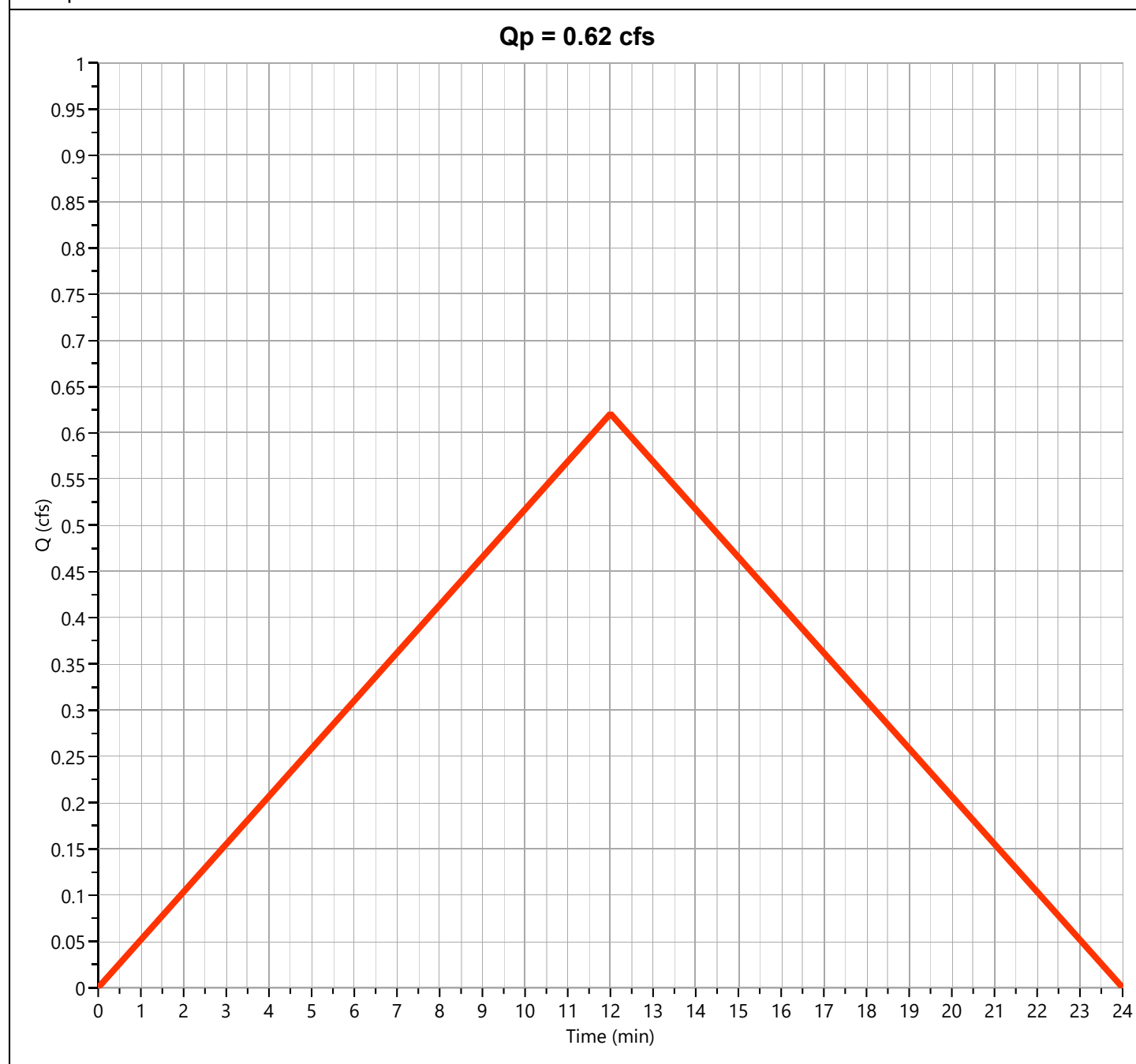
Hydrology Studio v 3.0.0.11

07-23-2019

DA-10

Hyd. No. 10

Hydrograph Type	= Rational	Peak Flow	= 0.621 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Runoff Volume	= 447 cuft
Drainage Area	= 0.86 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 12.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 0.80 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

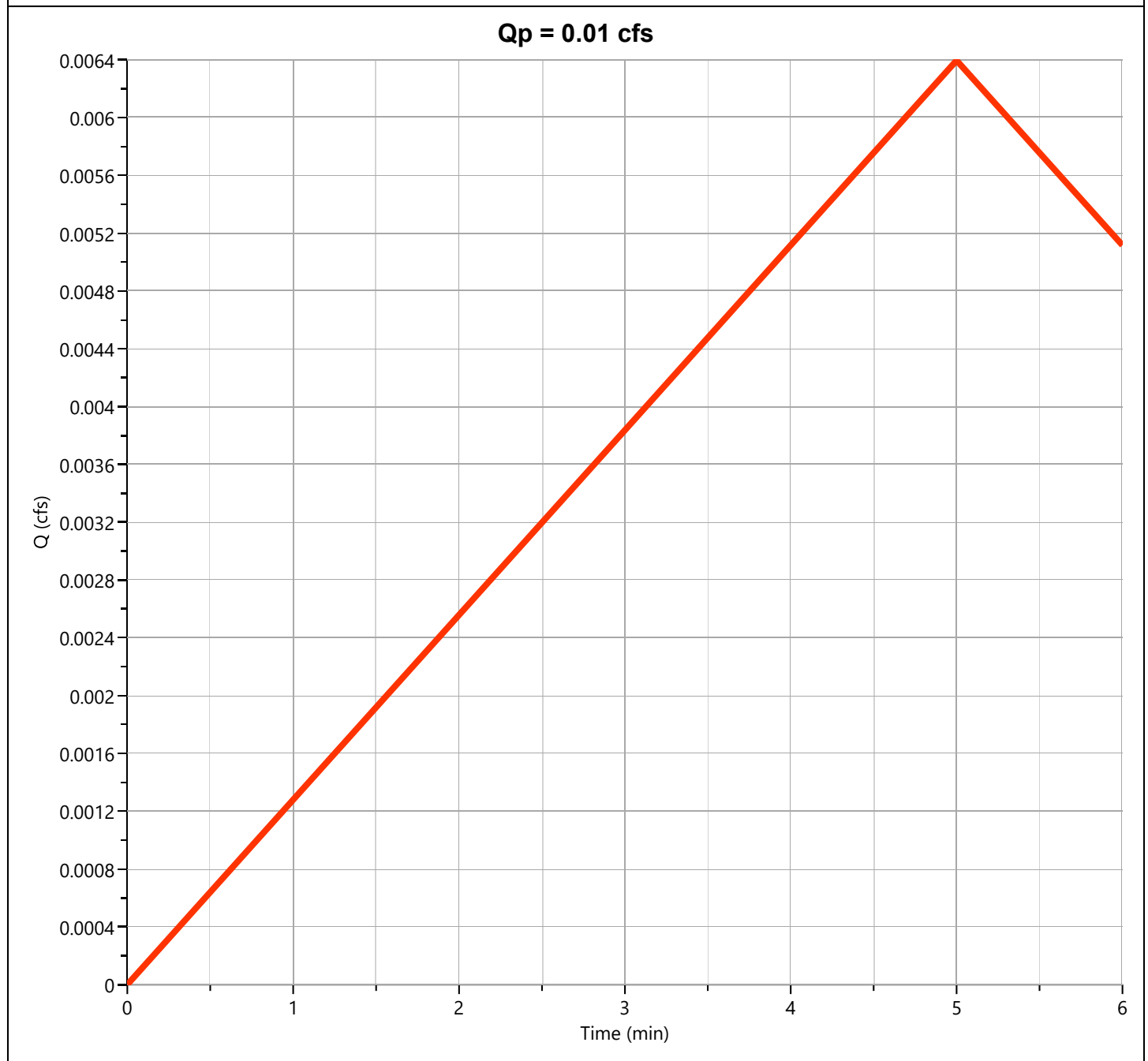
Hydrology Studio v 3.0.0.11

07-23-2019

DA-11

Hyd. No. 11

Hydrograph Type	= Rational	Peak Flow	= 0.006 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 1.92 cuft
Drainage Area	= 0.02 ac	Runoff Coeff.	= 0.3
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.07 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

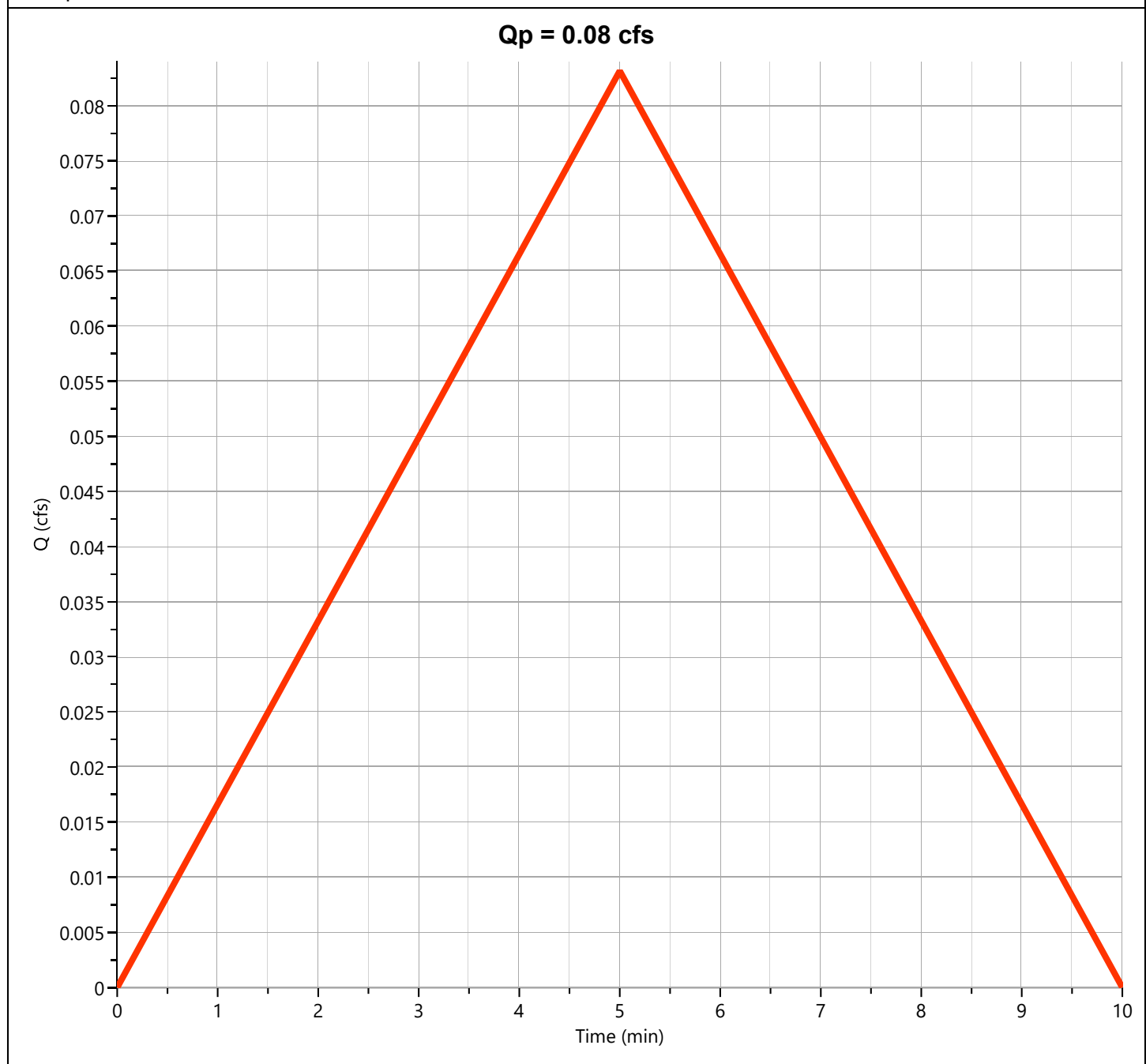
Hydrology Studio v 3.0.0.11

07-23-2019

DA-12

Hyd. No. 12

Hydrograph Type	= Rational	Peak Flow	= 0.083 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 24.9 cuft
Drainage Area	= 0.26 ac	Runoff Coeff.	= 0.3
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.07 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

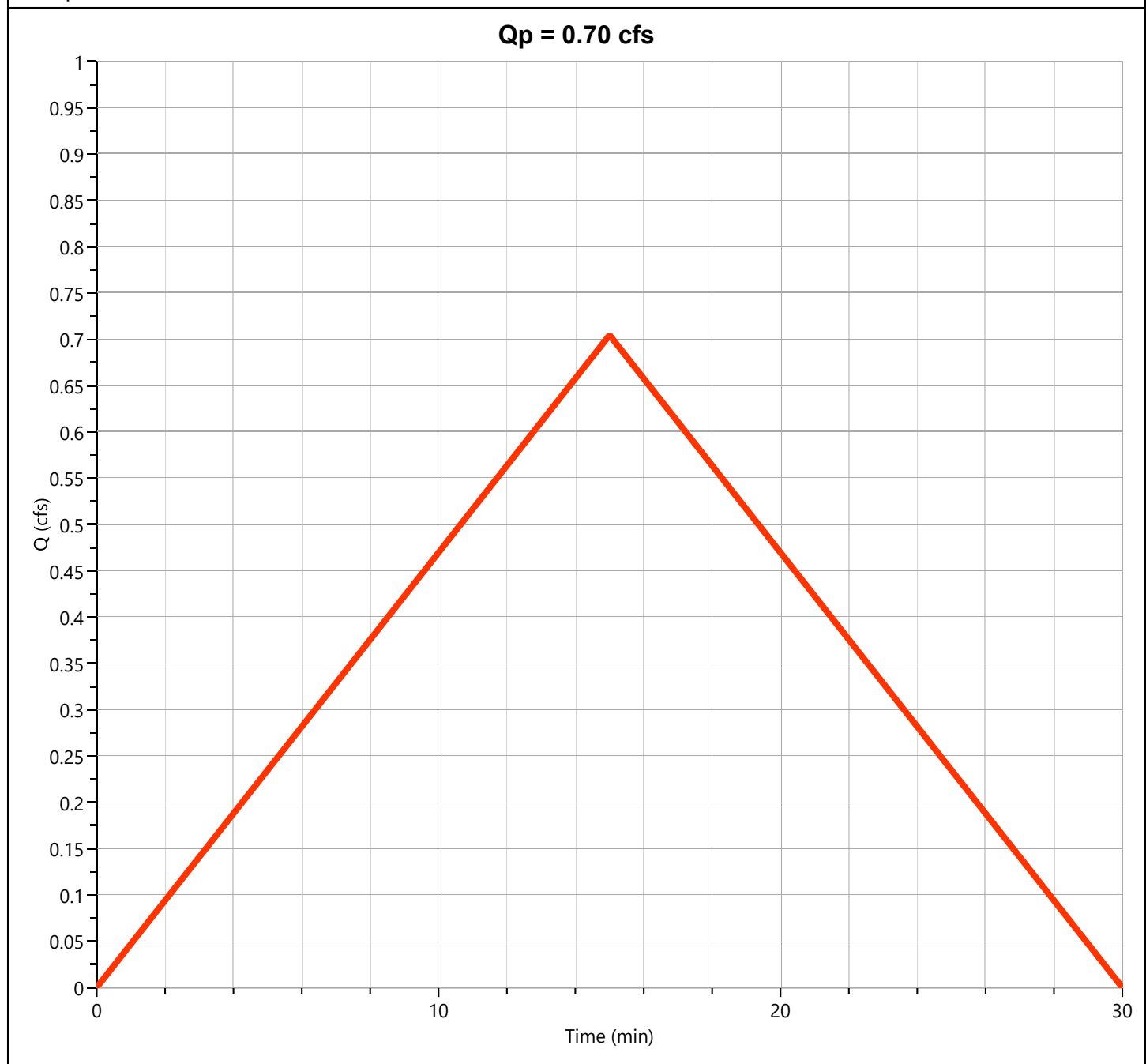
Hydrology Studio v 3.0.0.11

07-23-2019

DA-13

Hyd. No. 13

Hydrograph Type	= Rational	Peak Flow	= 0.705 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.25 hrs
Time Interval	= 1 min	Runoff Volume	= 634 cuft
Drainage Area	= 1.05 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 15.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 0.75 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

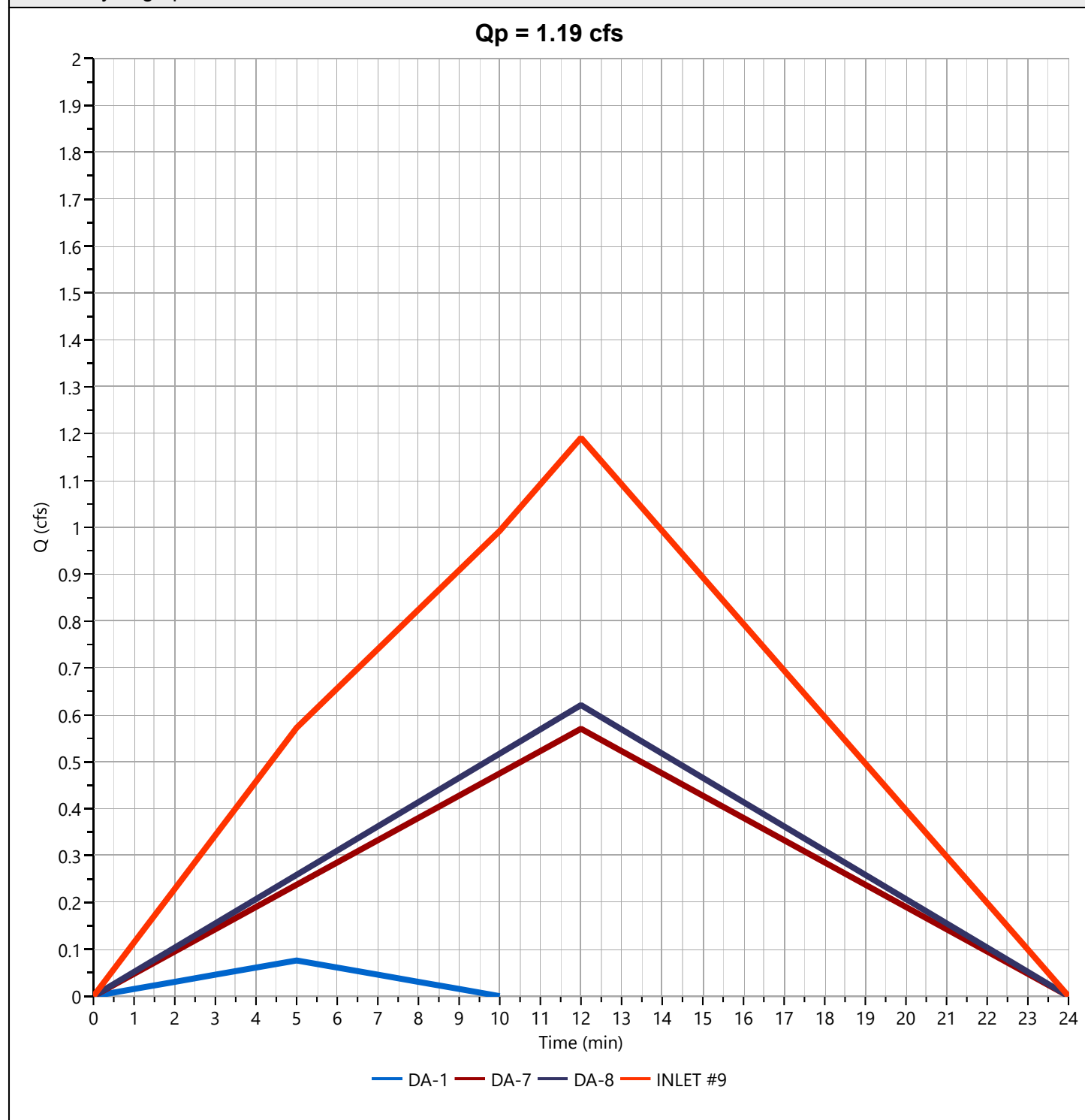
Hydrology Studio v 3.0.0.11

07-23-2019

INLET #9

Hyd. No. 14

Hydrograph Type	= Junction	Peak Flow	= 1.191 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Hydrograph Volume	= 880 cuft
Inflow Hydrographs	= 1, 7, 8	Total Contrib. Area	= 1.79 ac



Hydrograph Report

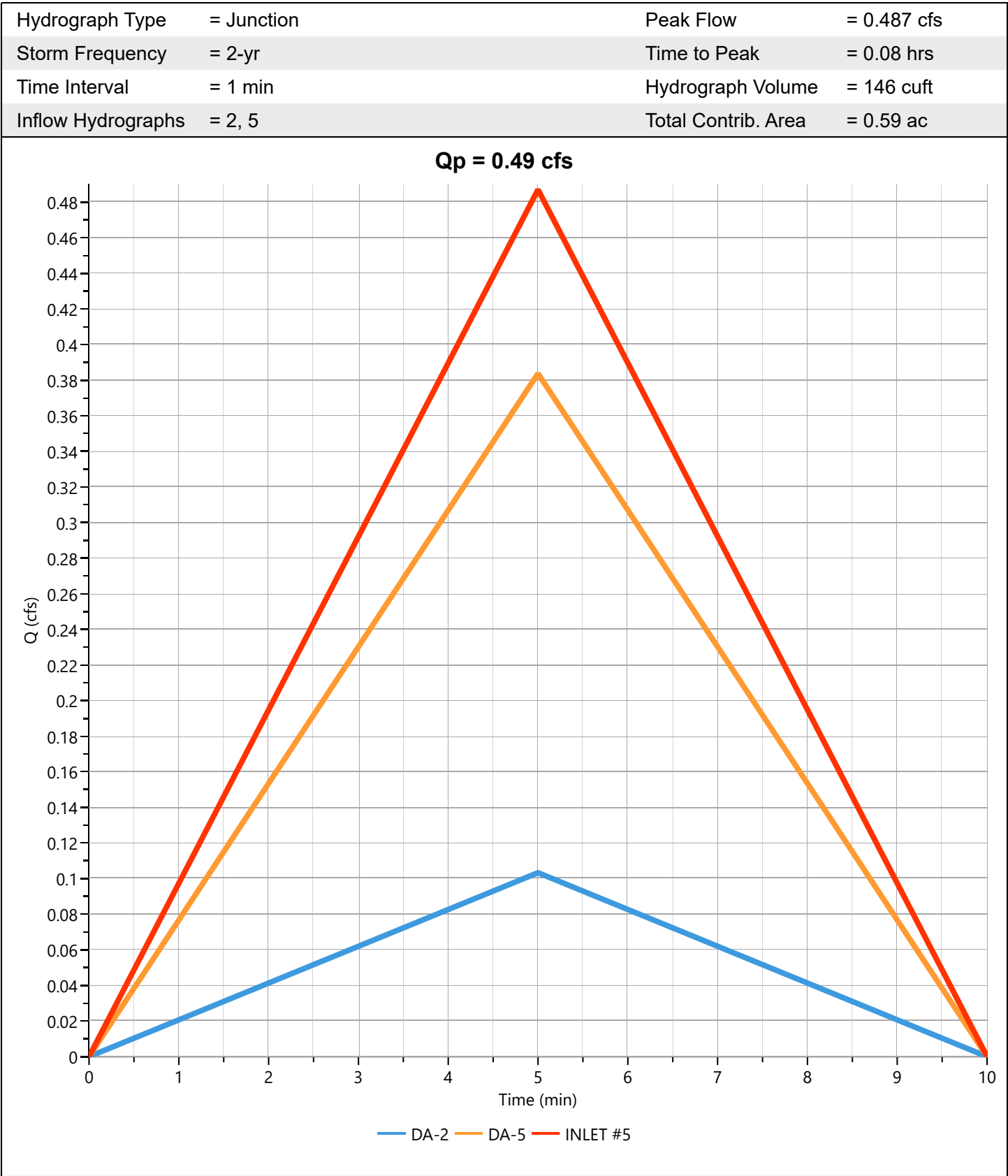
Project Name:

Hydrology Studio v 3.0.0.11

07-23-2019

INLET #5

Hyd. No. 15



Hydrograph 10-yr Summary

Project Name:

Hydrology Studio v 3.0.0.11

07-23-2019

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	Rational	DA-1	0.126	0.08	37.7	----		
2	Rational	DA-2	0.171	0.08	51.2	----		
3	Rational	DA-3	0.090	0.08	26.9	----		
4	Rational	DA-4	0.697	0.08	209	----		
5	Rational	DA-5	0.633	0.08	190	----		
6	Rational	DA-6	0.063	0.08	19.0	----		
7	Rational	DA-7	0.940	0.20	677	----		
8	Rational	DA-8	1.023	0.20	737	----		
9	Rational	DA-9	0.174	0.08	52.3	----		
10	Rational	DA-10	1.023	0.20	737	----		
11	Rational	DA-11	0.011	0.08	3.17	----		
12	Rational	DA-12	0.137	0.08	41.2	----		
13	Rational	DA-13	1.161	0.25	1,045	----		
14	Junction	INLET #9	1.963	0.20	1,451	1, 7, 8		
15	Junction	INLET #5	0.804	0.08	241	2, 5		

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.11

07-23-2019

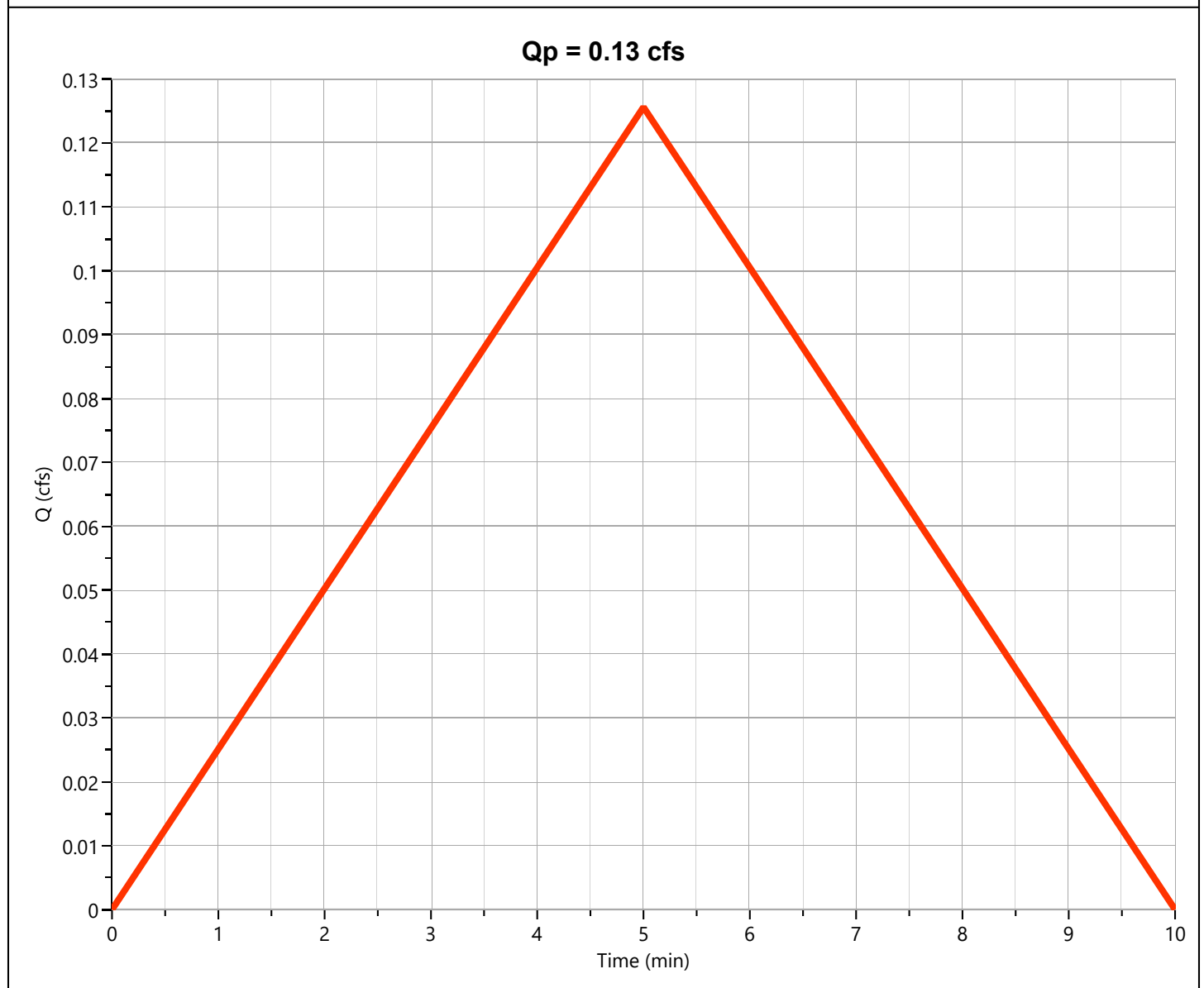
DA-1

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 0.126 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 37.7 cuft
Drainage Area	= 0.14 ac	Runoff Coeff.	= 0.51*
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.76 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1

*** Composite C Worksheet**

AREA (ac)	C	DESCRIPTION
0.09	0.30	
0.05	0.90	
0.14	0.51	



Hydrograph Report

Project Name:

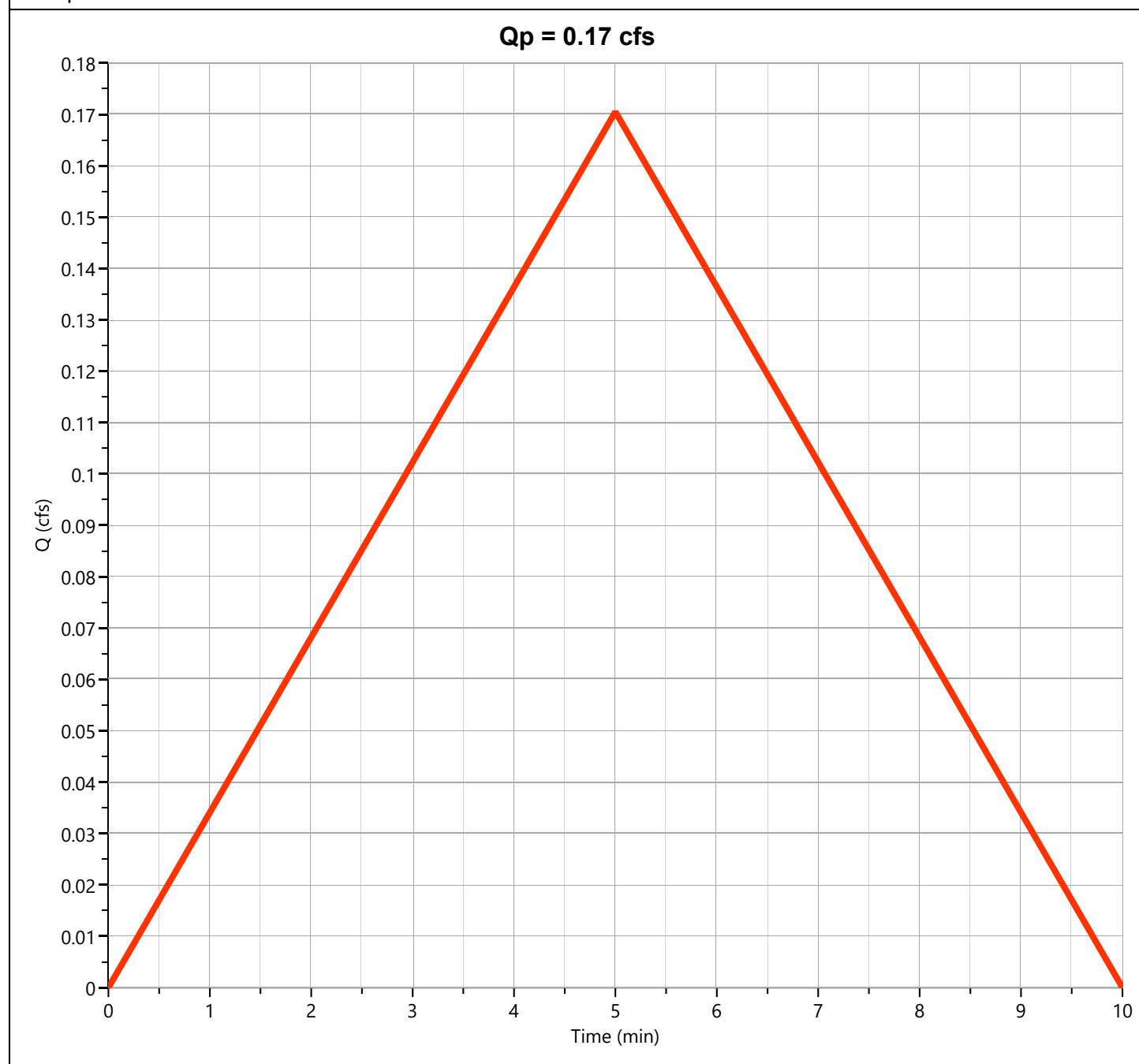
Hydrology Studio v 3.0.0.11

07-23-2019

DA-2

Hyd. No. 2

Hydrograph Type	= Rational	Peak Flow	= 0.171 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 51.2 cuft
Drainage Area	= 0.19 ac	Runoff Coeff.	= 0.51
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.76 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

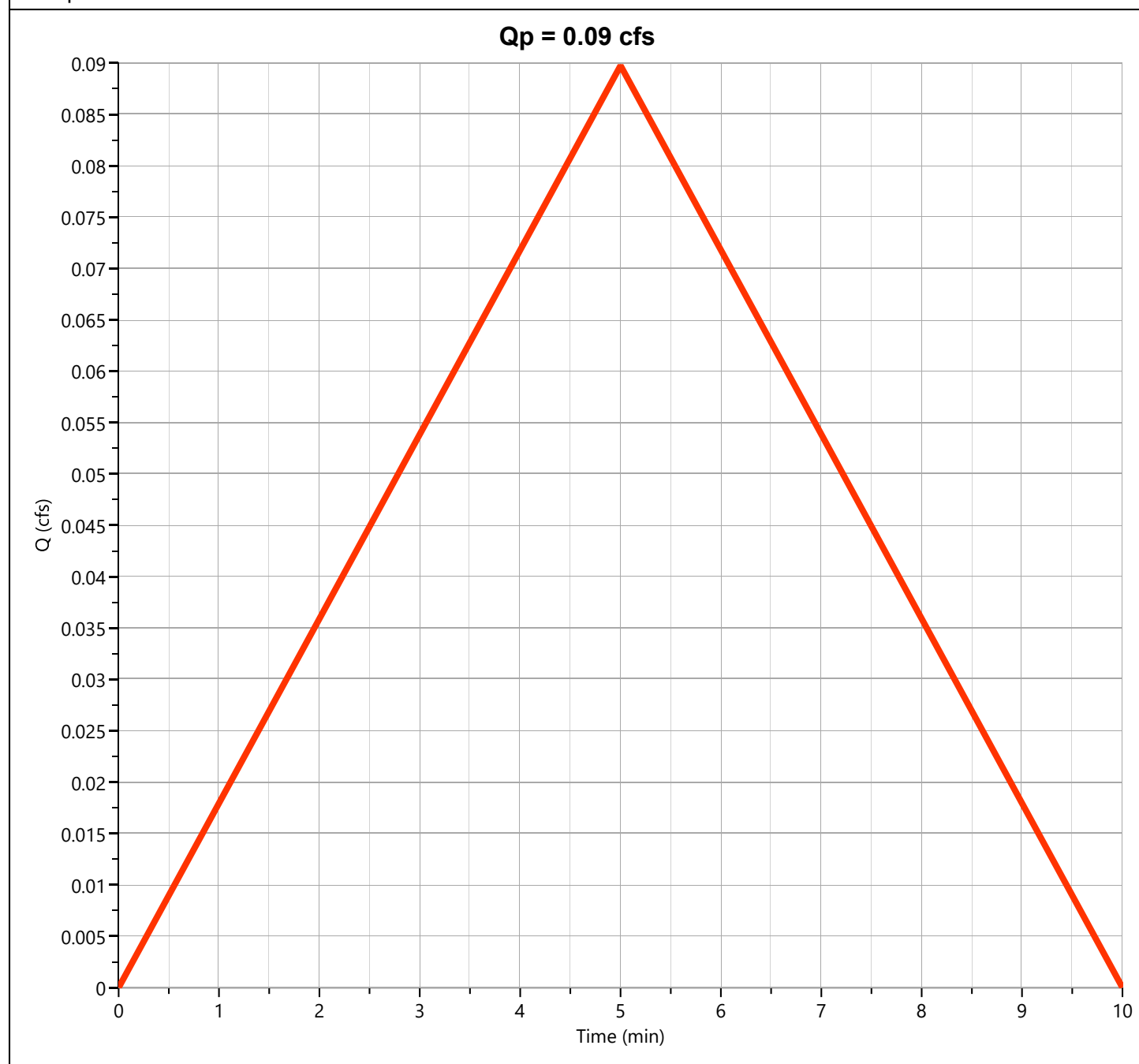
Hydrology Studio v 3.0.0.11

07-23-2019

DA-3

Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 0.090 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 26.9 cuft
Drainage Area	= 0.1 ac	Runoff Coeff.	= 0.51
Tc Method	= User	Time of Conc. (Tc)	= 0.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.76 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

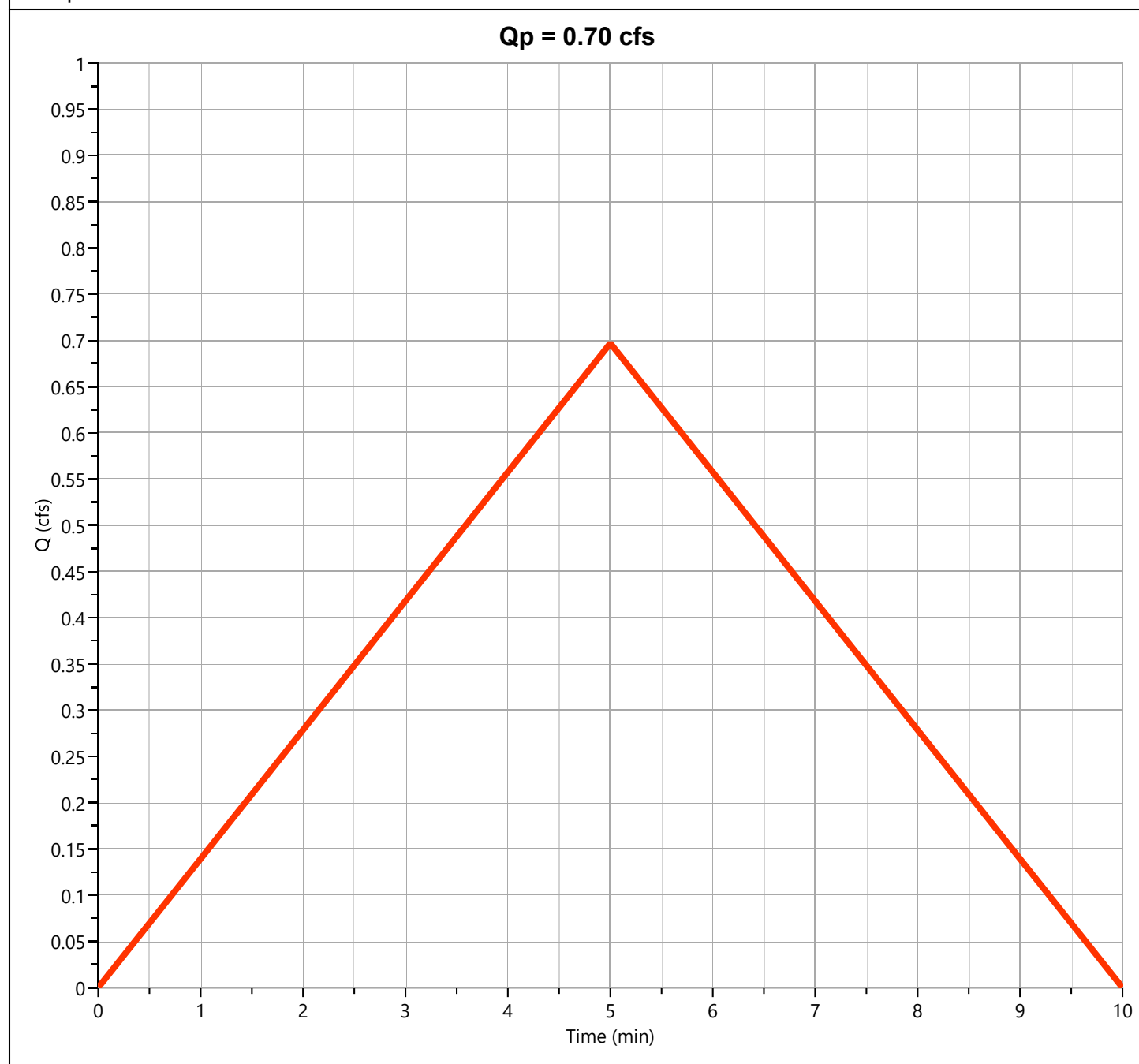
Hydrology Studio v 3.0.0.11

07-23-2019

DA-4

Hyd. No. 4

Hydrograph Type	= Rational	Peak Flow	= 0.697 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 209 cuft
Drainage Area	= 0.44 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.76 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

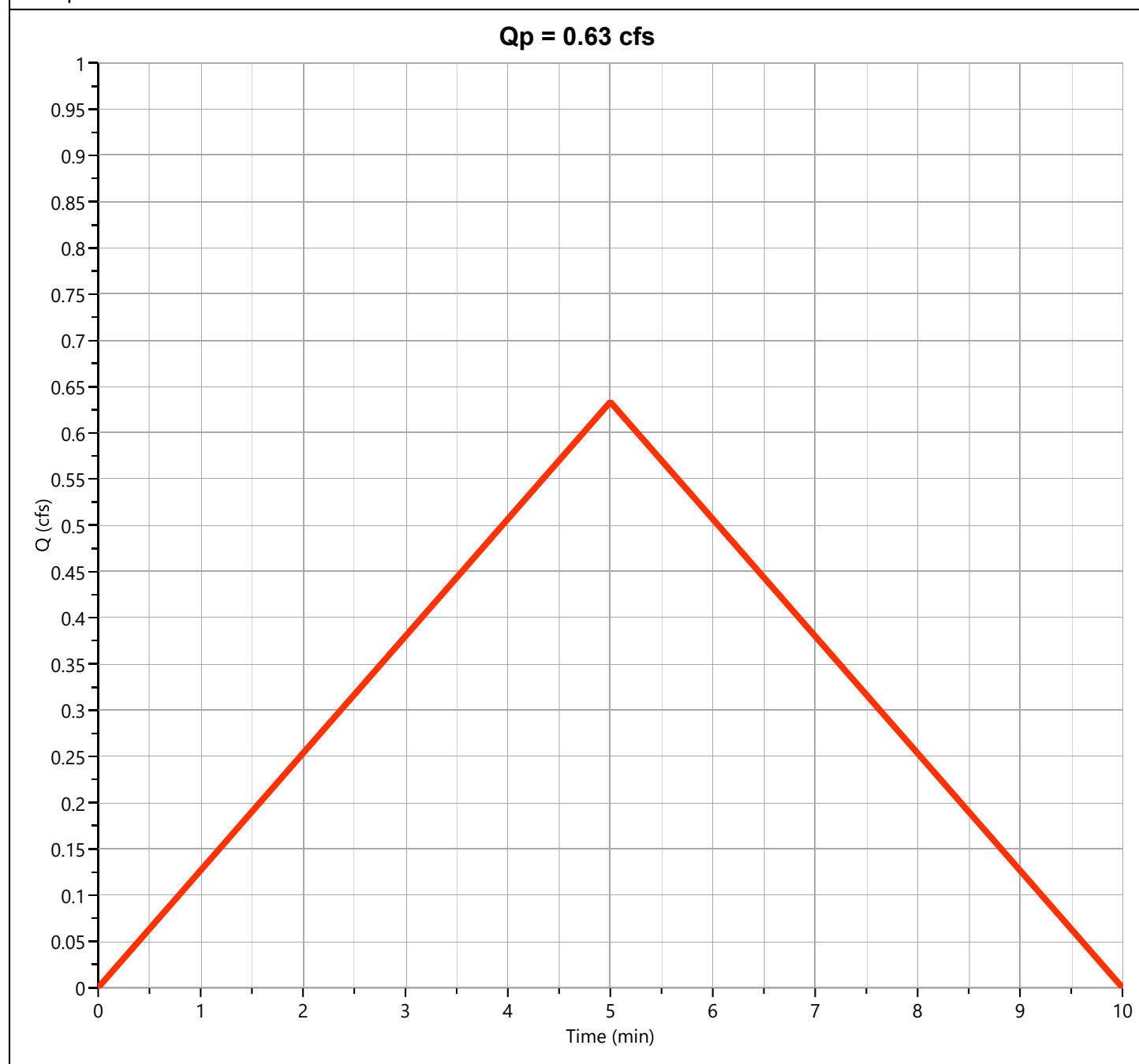
Hydrology Studio v 3.0.0.11

07-23-2019

DA-5

Hyd. No. 5

Hydrograph Type	= Rational	Peak Flow	= 0.633 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 190 cuft
Drainage Area	= 0.4 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.76 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

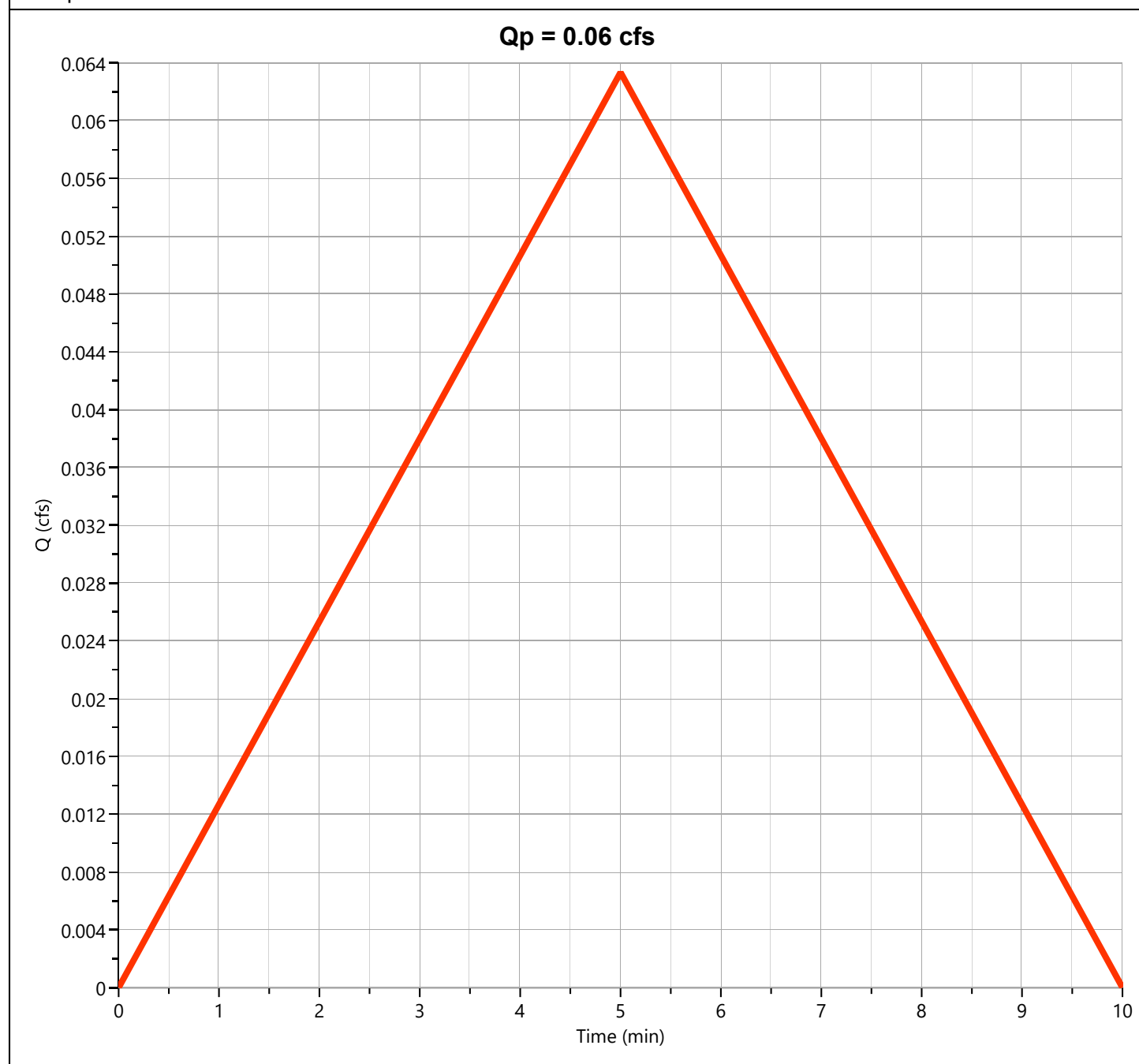
Hydrology Studio v 3.0.0.11

07-23-2019

DA-6

Hyd. No. 6

Hydrograph Type	= Rational	Peak Flow	= 0.063 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 19.0 cuft
Drainage Area	= 0.04 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.76 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

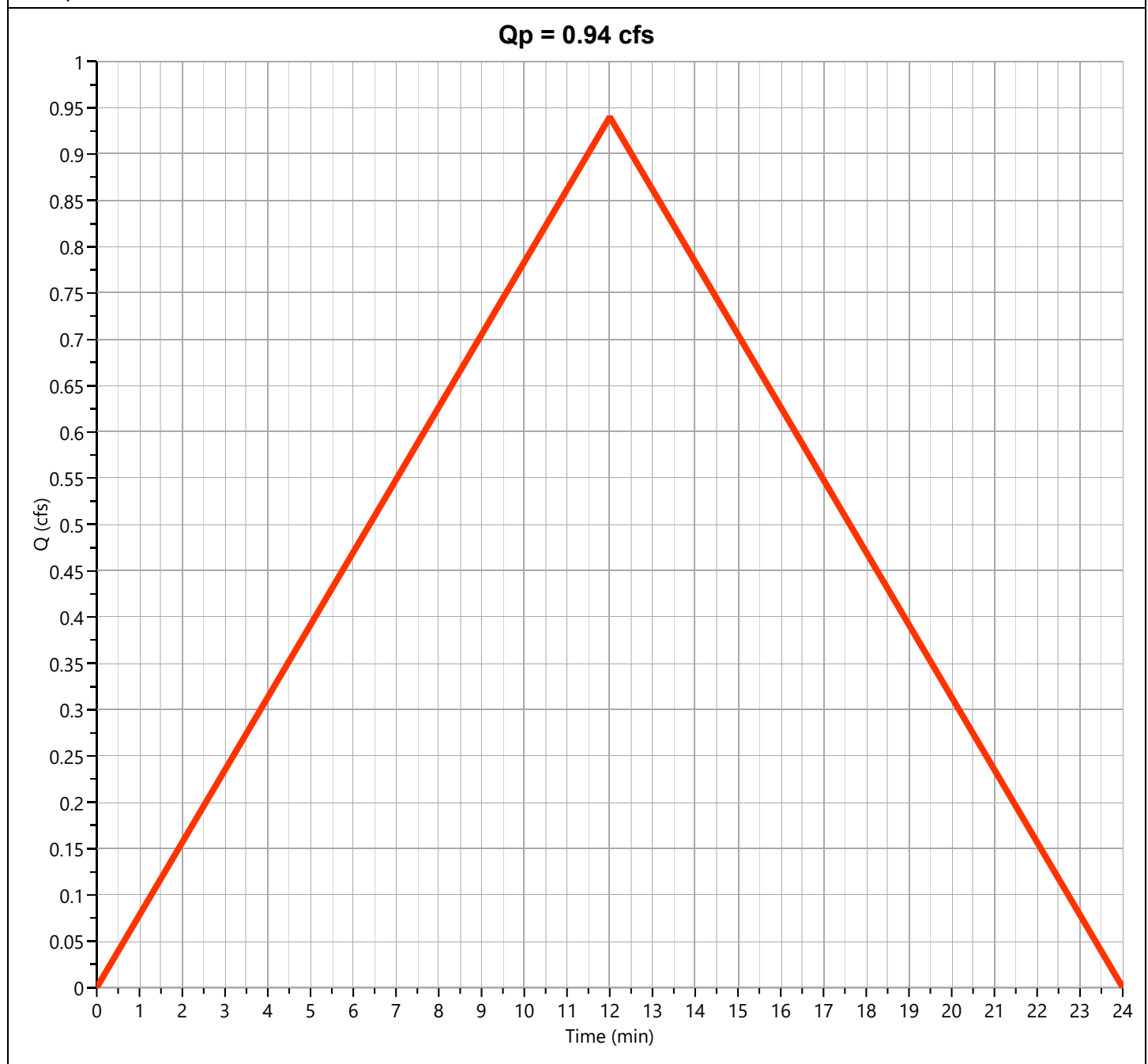
Hydrology Studio v 3.0.0.11

07-23-2019

DA-7

Hyd. No. 7

Hydrograph Type	= Rational	Peak Flow	= 0.940 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Runoff Volume	= 677 cuft
Drainage Area	= 0.79 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 12.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.32 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

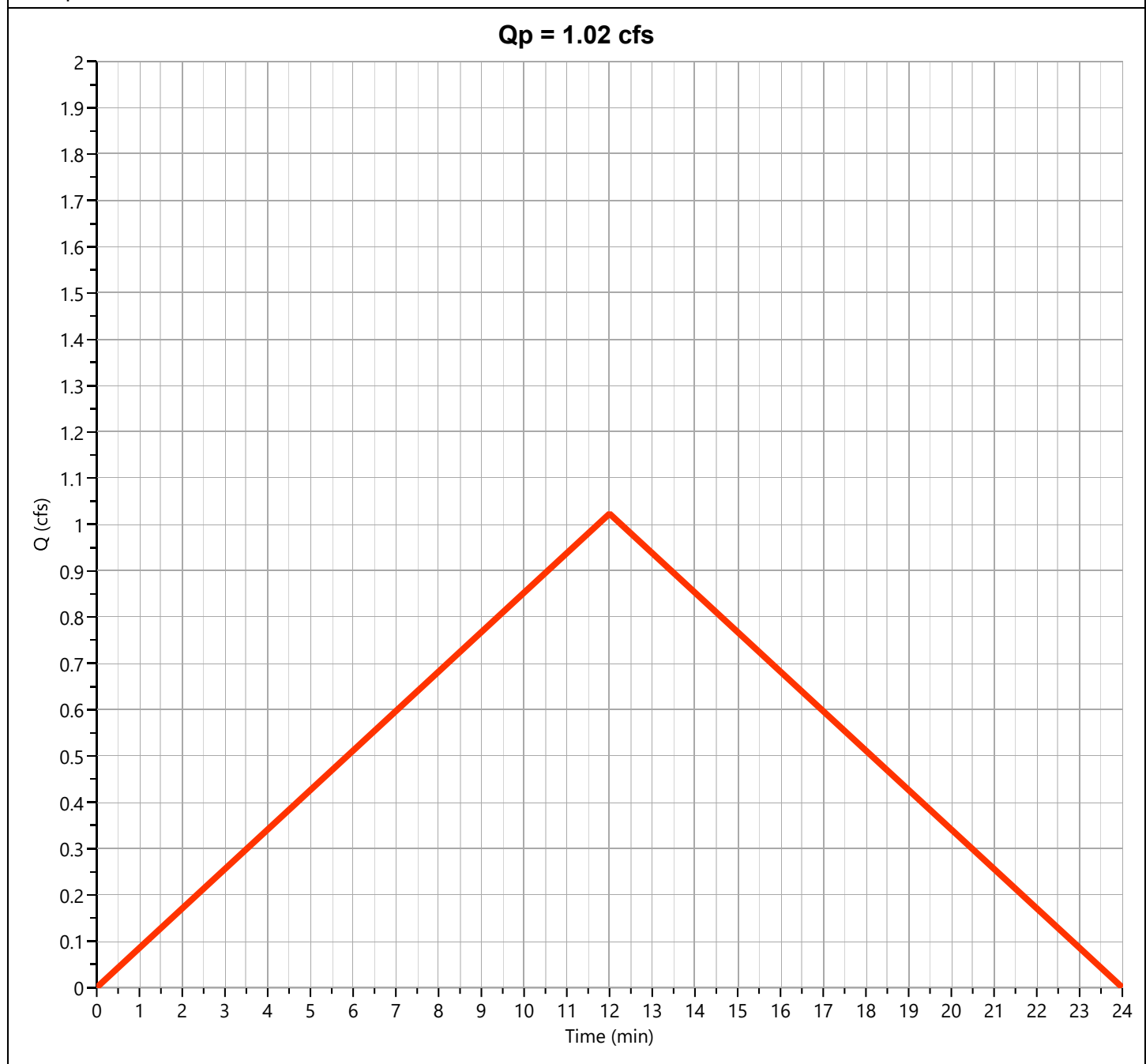
Hydrology Studio v 3.0.0.11

07-23-2019

DA-8

Hyd. No. 8

Hydrograph Type	= Rational	Peak Flow	= 1.023 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Runoff Volume	= 737 cuft
Drainage Area	= 0.86 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 12.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.32 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

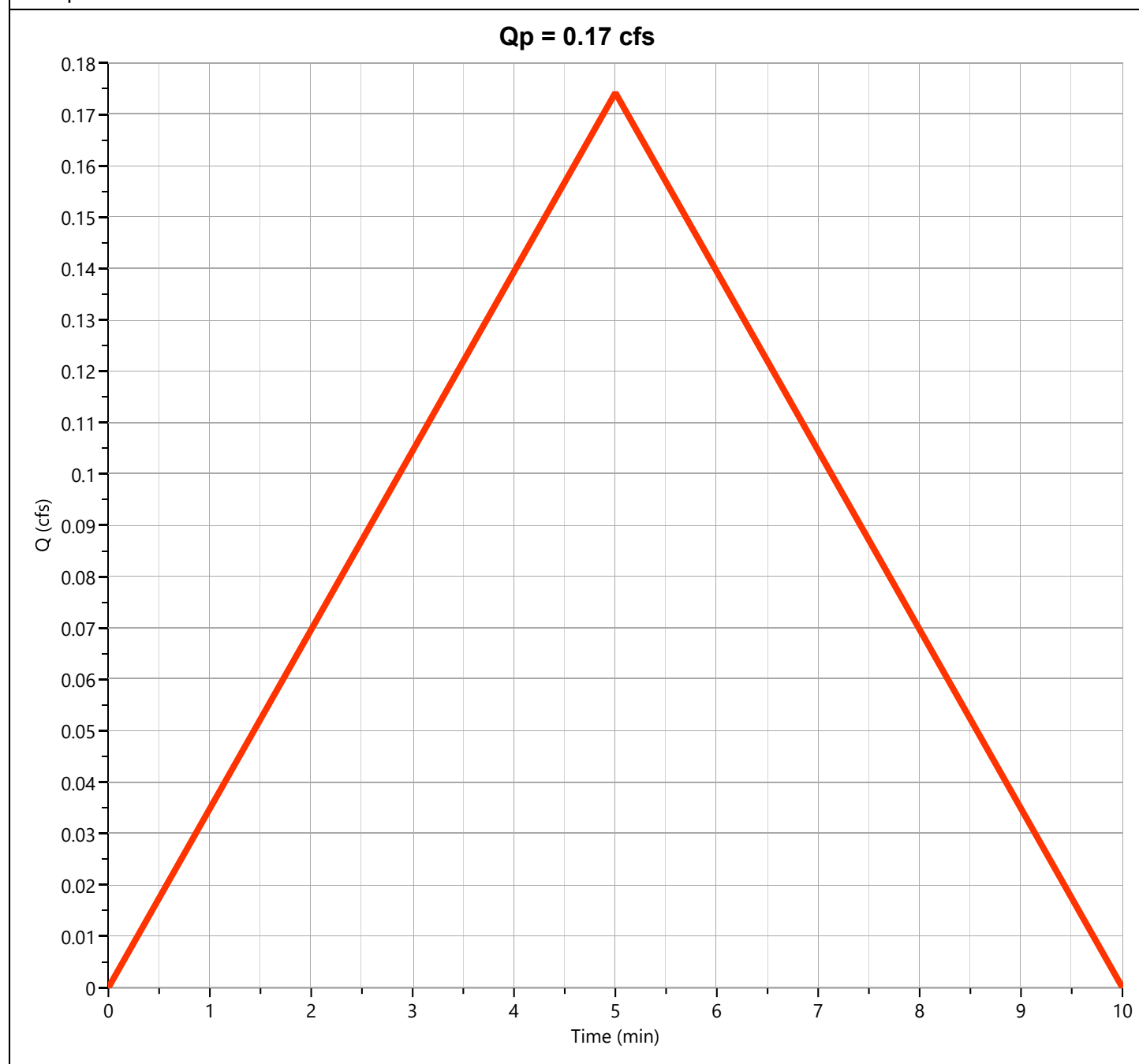
Hydrology Studio v 3.0.0.11

07-23-2019

DA-9

Hyd. No. 9

Hydrograph Type	= Rational	Peak Flow	= 0.174 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 52.3 cuft
Drainage Area	= 0.11 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.76 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

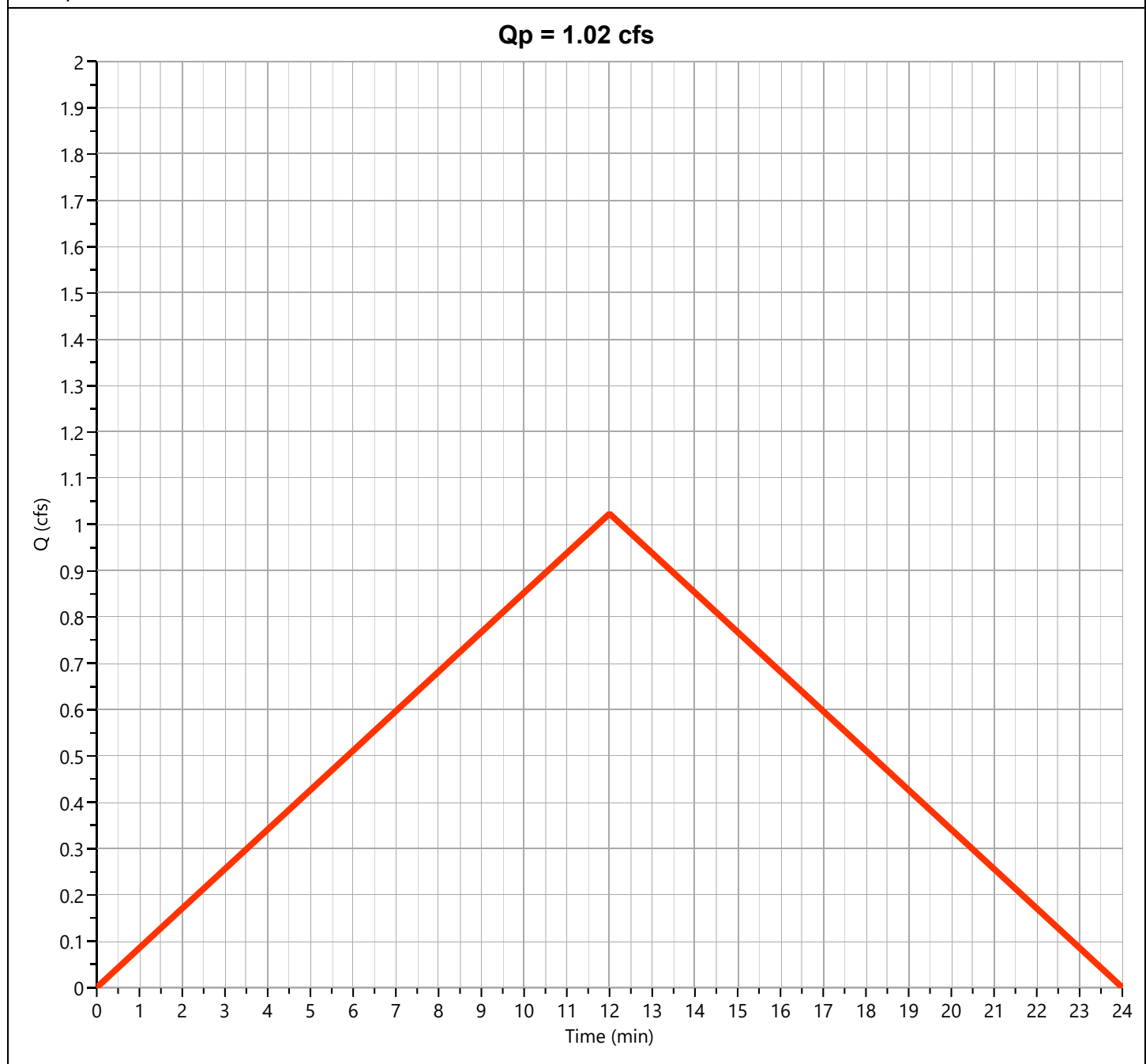
Hydrology Studio v 3.0.0.11

07-23-2019

DA-10

Hyd. No. 10

Hydrograph Type	= Rational	Peak Flow	= 1.023 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Runoff Volume	= 737 cuft
Drainage Area	= 0.86 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 12.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.32 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

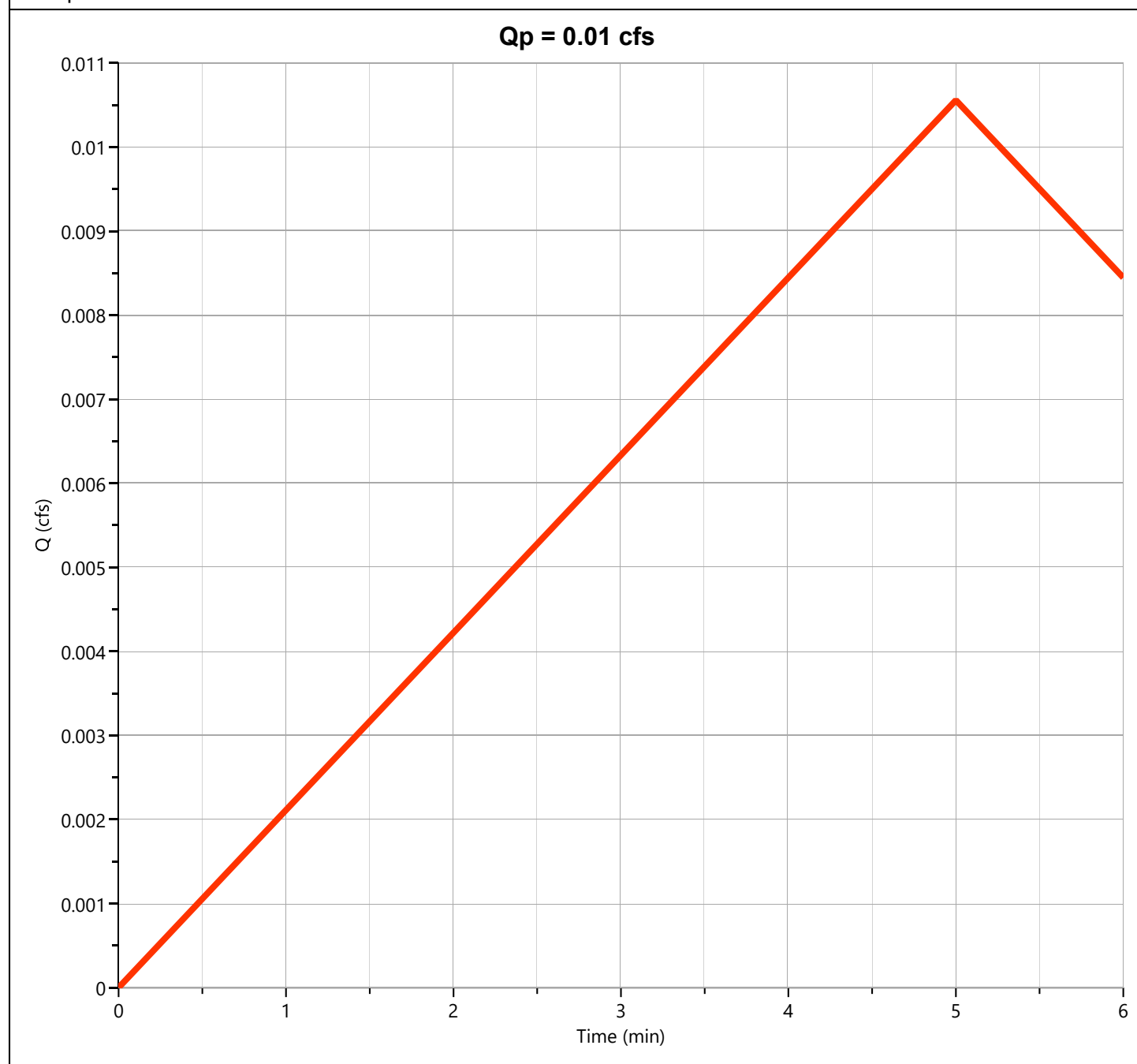
Hydrology Studio v 3.0.0.11

07-23-2019

DA-11

Hyd. No. 11

Hydrograph Type	= Rational	Peak Flow	= 0.011 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 3.17 cuft
Drainage Area	= 0.02 ac	Runoff Coeff.	= 0.3
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.76 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

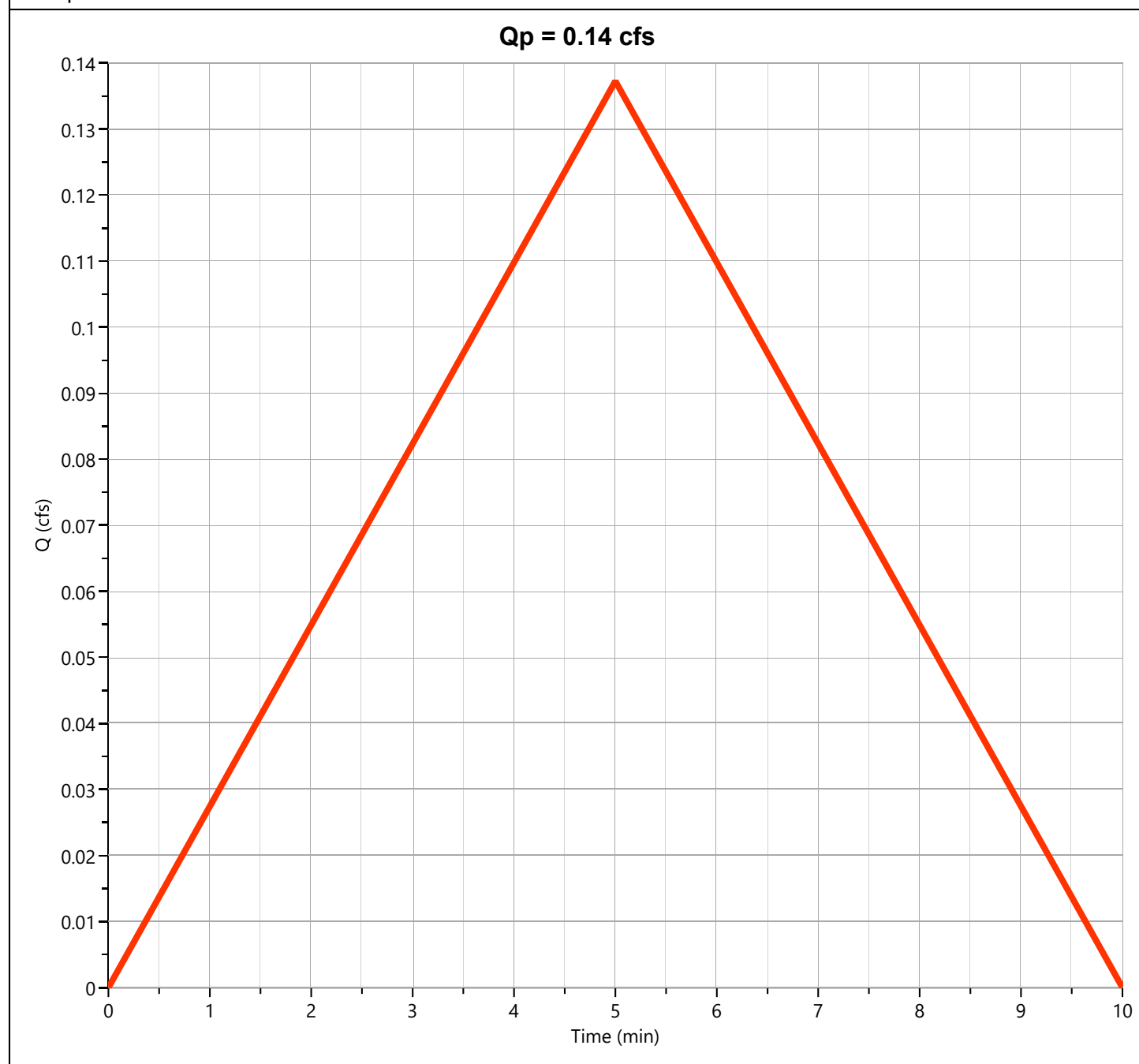
Hydrology Studio v 3.0.0.11

07-23-2019

DA-12

Hyd. No. 12

Hydrograph Type	= Rational	Peak Flow	= 0.137 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 41.2 cuft
Drainage Area	= 0.26 ac	Runoff Coeff.	= 0.3
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.76 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

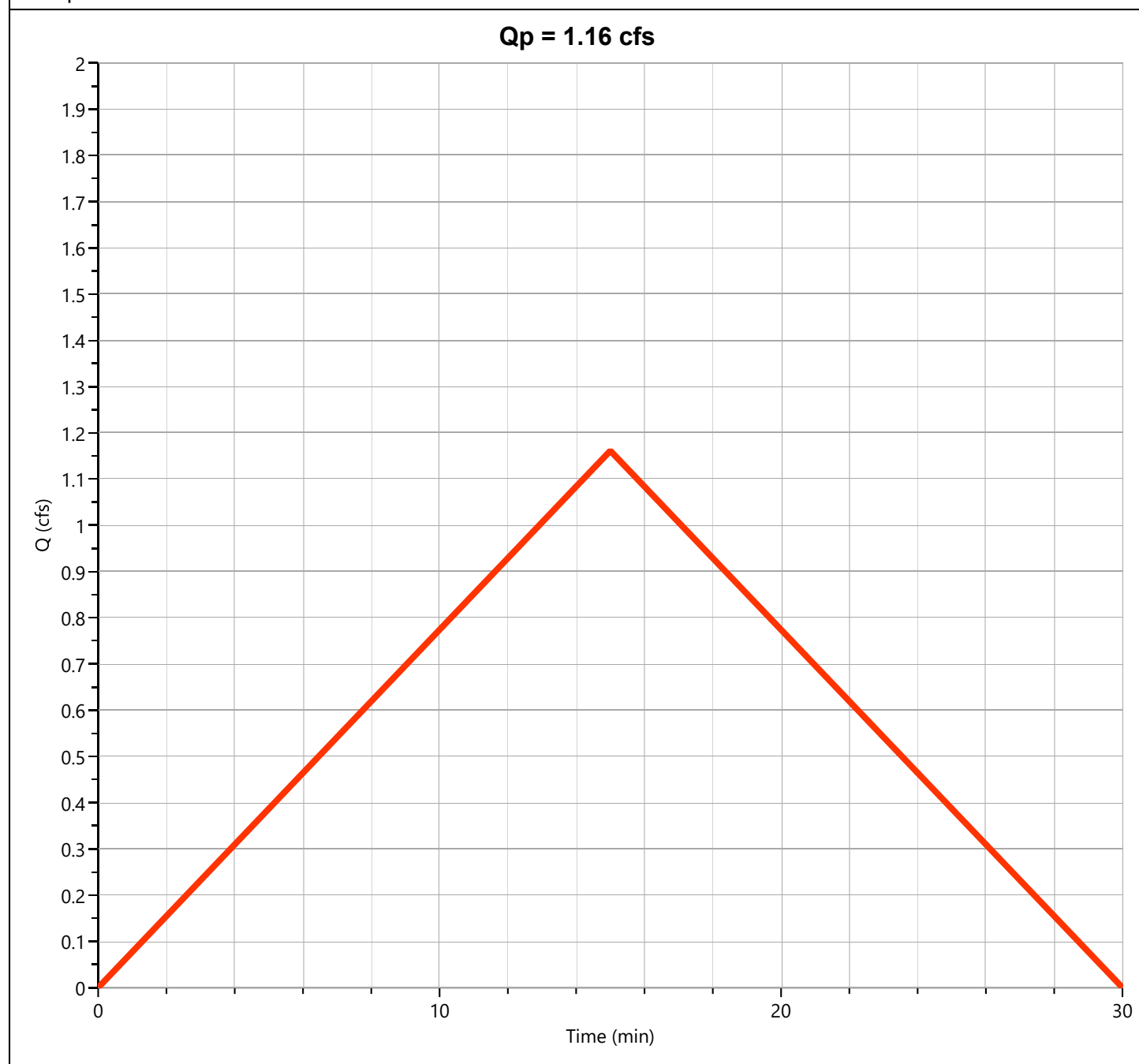
Hydrology Studio v 3.0.0.11

07-23-2019

DA-13

Hyd. No. 13

Hydrograph Type	= Rational	Peak Flow	= 1.161 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.25 hrs
Time Interval	= 1 min	Runoff Volume	= 1,045 cuft
Drainage Area	= 1.05 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 15.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 1.23 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

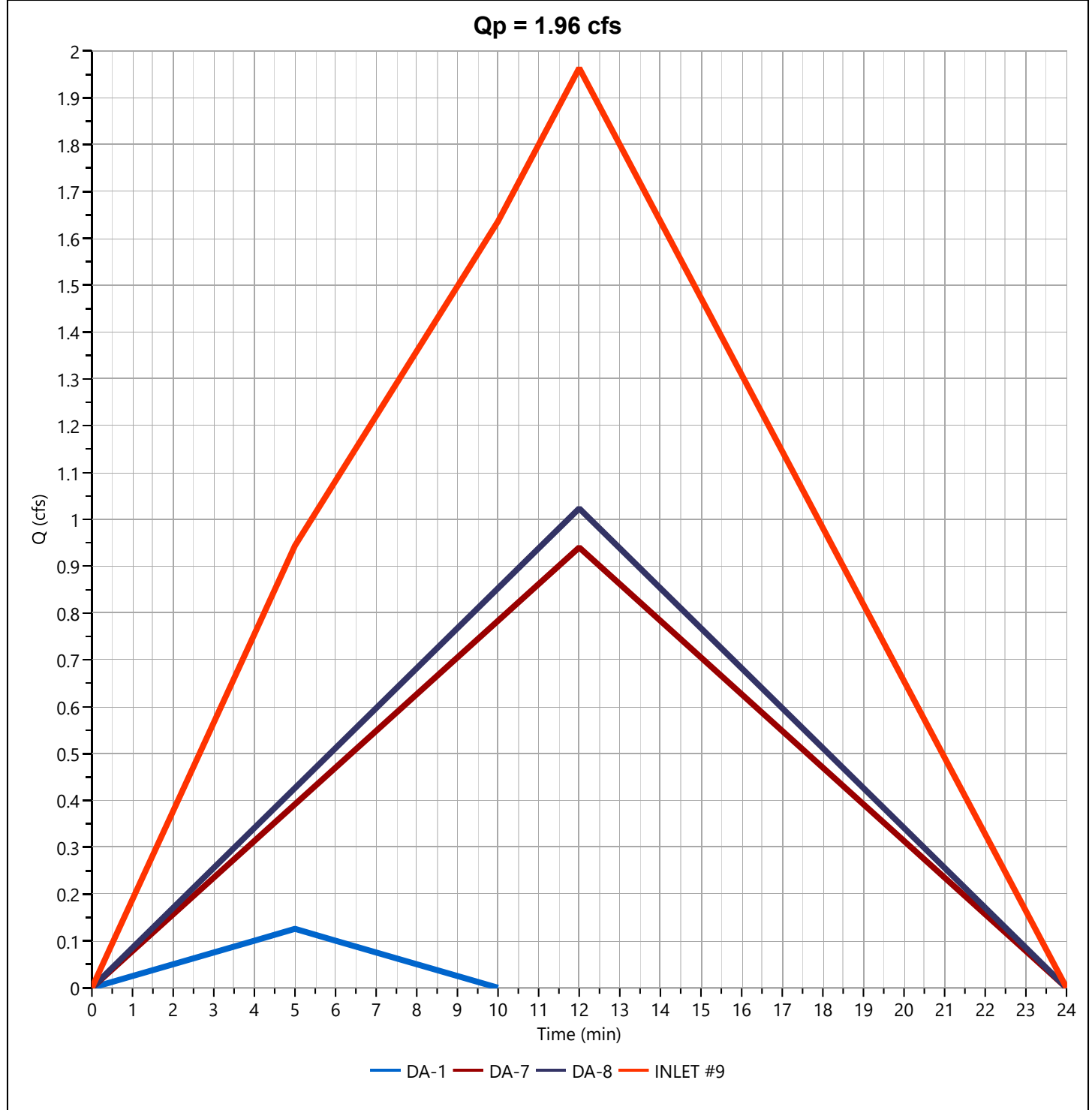
Hydrology Studio v 3.0.0.11

07-23-2019

INLET #9

Hyd. No. 14

Hydrograph Type	= Junction	Peak Flow	= 1.963 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,451 cuft
Inflow Hydrographs	= 1, 7, 8	Total Contrib. Area	= 1.79 ac



Hydrograph Report

Project Name:

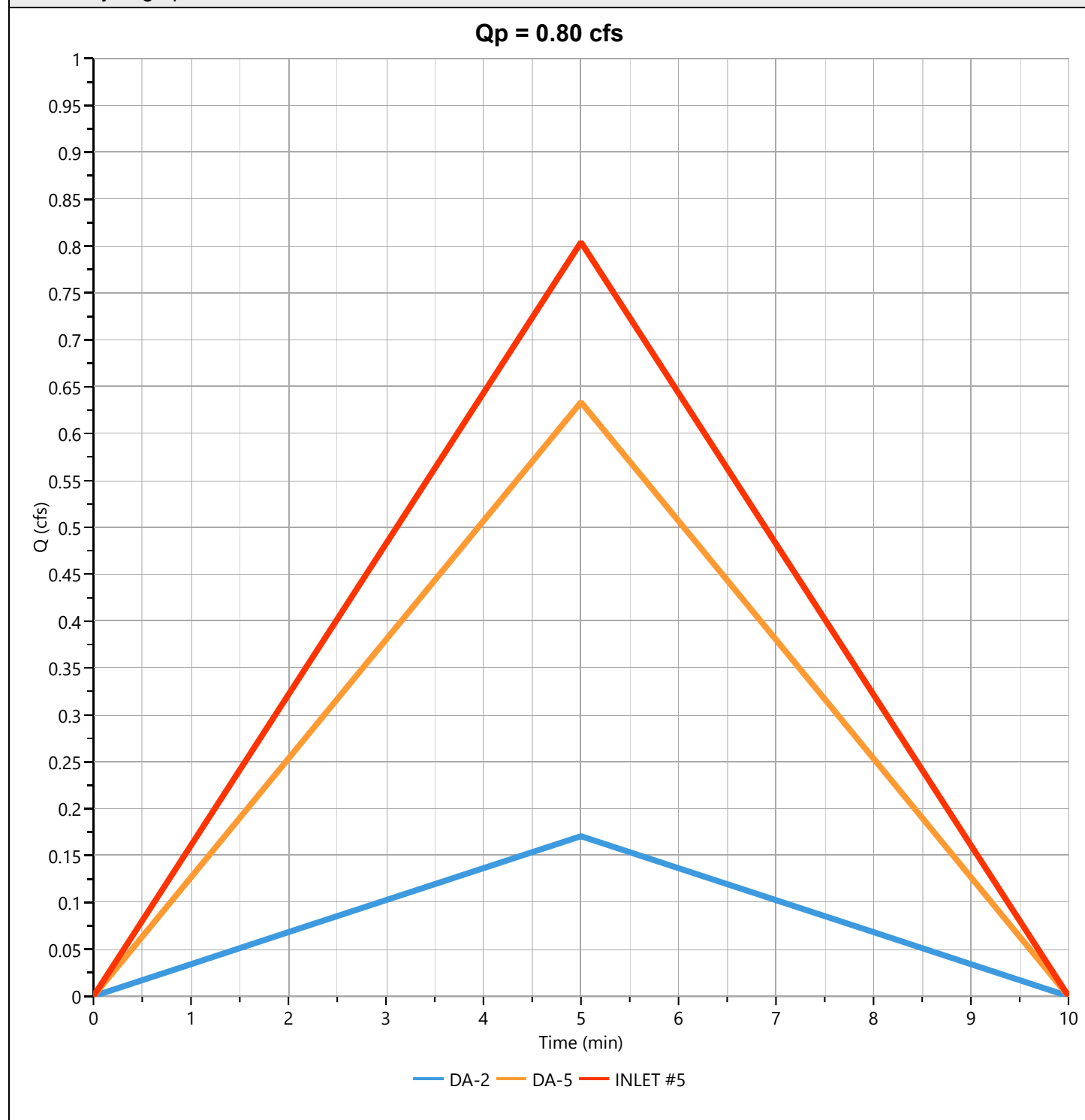
Hydrology Studio v 3.0.0.11

07-23-2019

INLET #5

Hyd. No. 15

Hydrograph Type	= Junction	Peak Flow	= 0.804 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Hydrograph Volume	= 241 cuft
Inflow Hydrographs	= 2, 5	Total Contrib. Area	= 0.59 ac



Hydrograph 100-yr Summary

Project Name:

Hydrology Studio v 3.0.0.11

07-23-2019

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	Rational	DA-1	0.208	0.08	62.3	----		
2	Rational	DA-2	0.282	0.08	84.5	----		
3	Rational	DA-3	0.148	0.08	44.5	----		
4	Rational	DA-4	1.151	0.08	345	----		
5	Rational	DA-5	1.047	0.08	314	----		
6	Rational	DA-6	0.105	0.08	31.4	----		
7	Rational	DA-7	1.555	0.20	1,120	----		
8	Rational	DA-8	1.693	0.20	1,219	----		
9	Rational	DA-9	0.288	0.08	86.3	----		
10	Rational	DA-10	1.693	0.20	1,219	----		
11	Rational	DA-11	0.017	0.08	5.23	----		
12	Rational	DA-12	0.227	0.08	68.0	----		
13	Rational	DA-13	1.921	0.25	1,729	----		
14	Junction	INLET #9	3.248	0.20	2,401	1, 7, 8		
15	Junction	INLET #5	1.328	0.08	399	2, 5		

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.11

07-23-2019

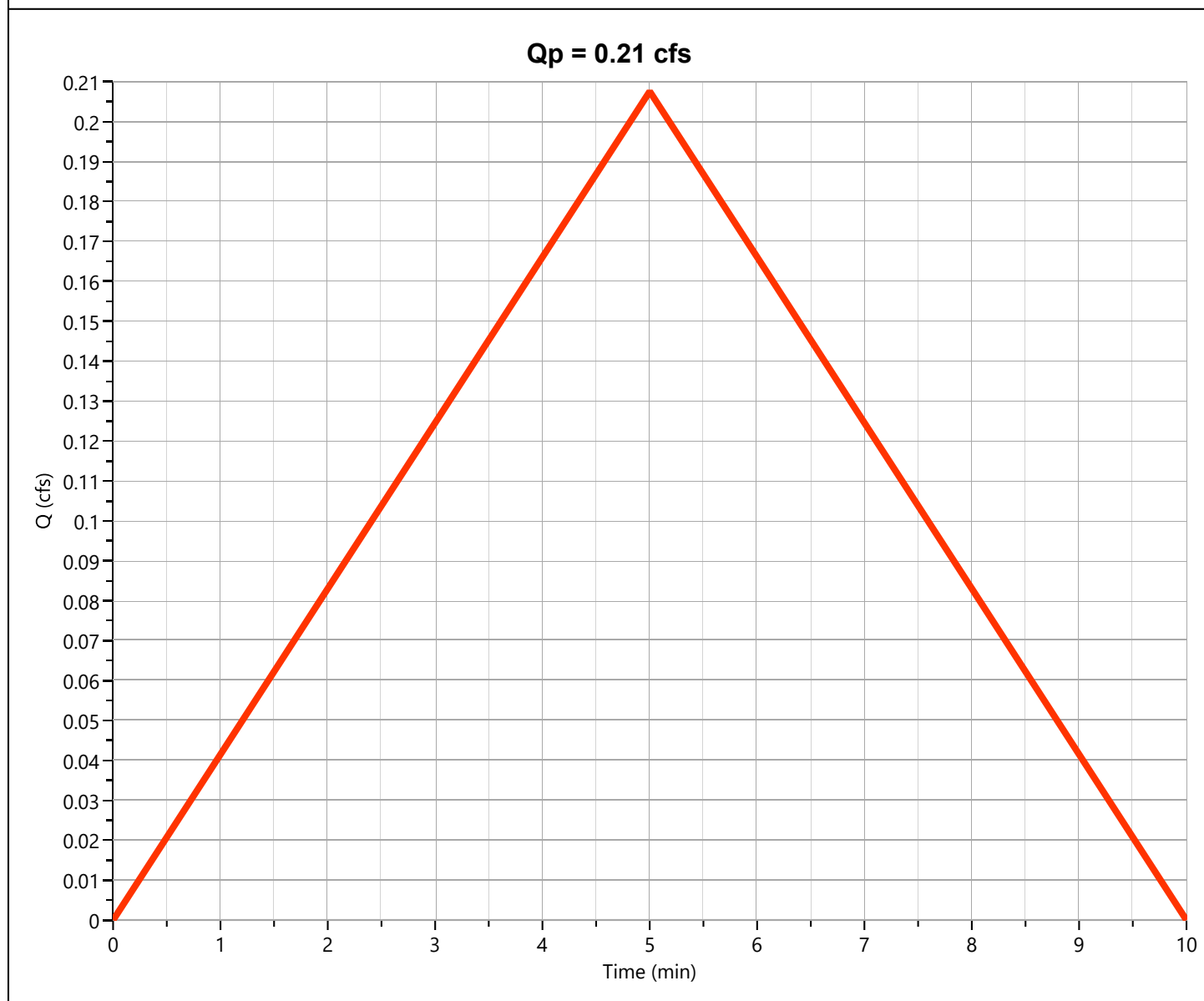
DA-1

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 0.208 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 62.3 cuft
Drainage Area	= 0.14 ac	Runoff Coeff.	= 0.51*
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.91 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1

* Composite C Worksheet

AREA (ac)	C	DESCRIPTION
0.09	0.30	
0.05	0.90	
0.14	0.51	



Hydrograph Report

Project Name:

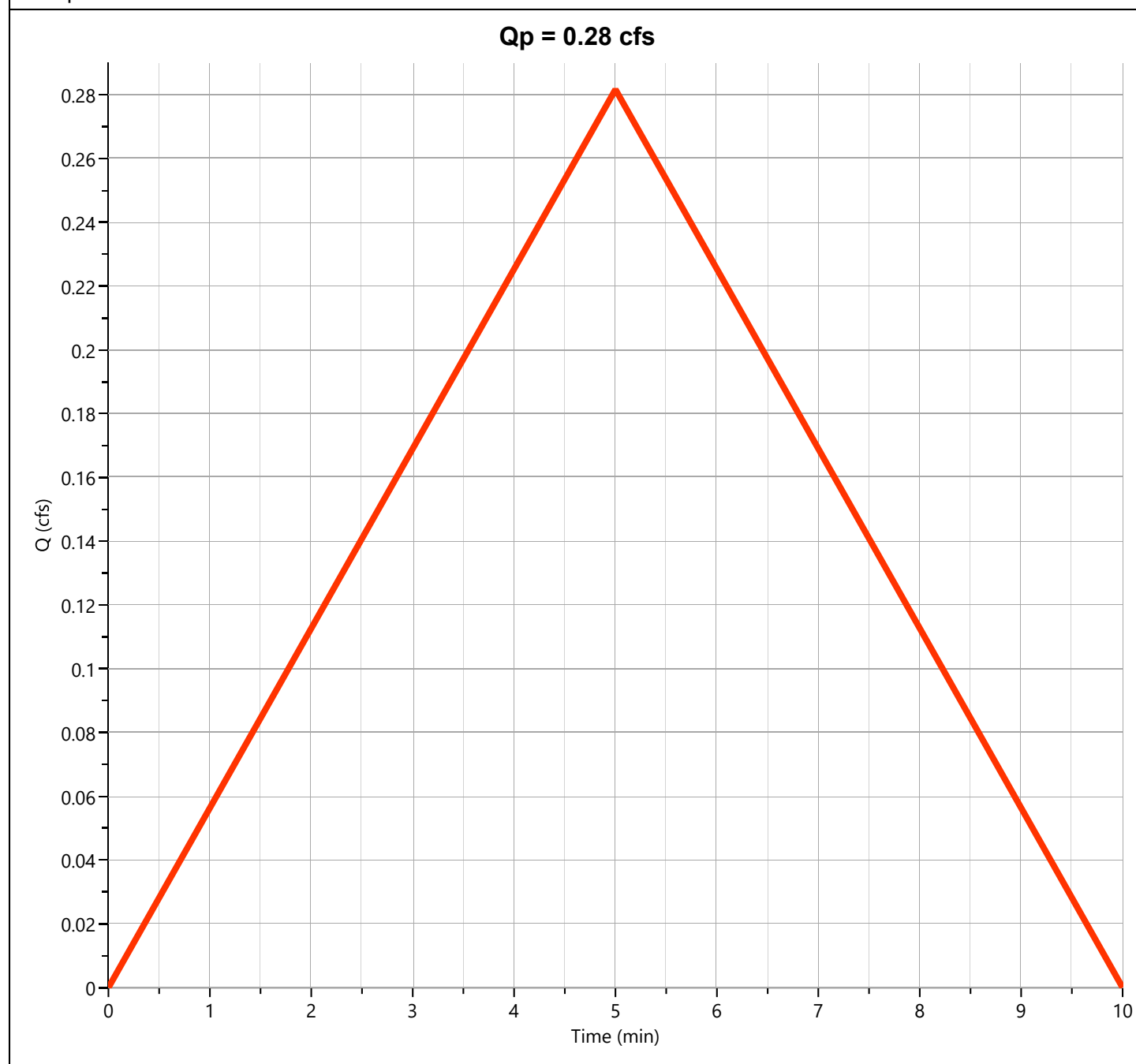
Hydrology Studio v 3.0.0.11

07-23-2019

DA-2

Hyd. No. 2

Hydrograph Type	= Rational	Peak Flow	= 0.282 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 84.5 cuft
Drainage Area	= 0.19 ac	Runoff Coeff.	= 0.51
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.91 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

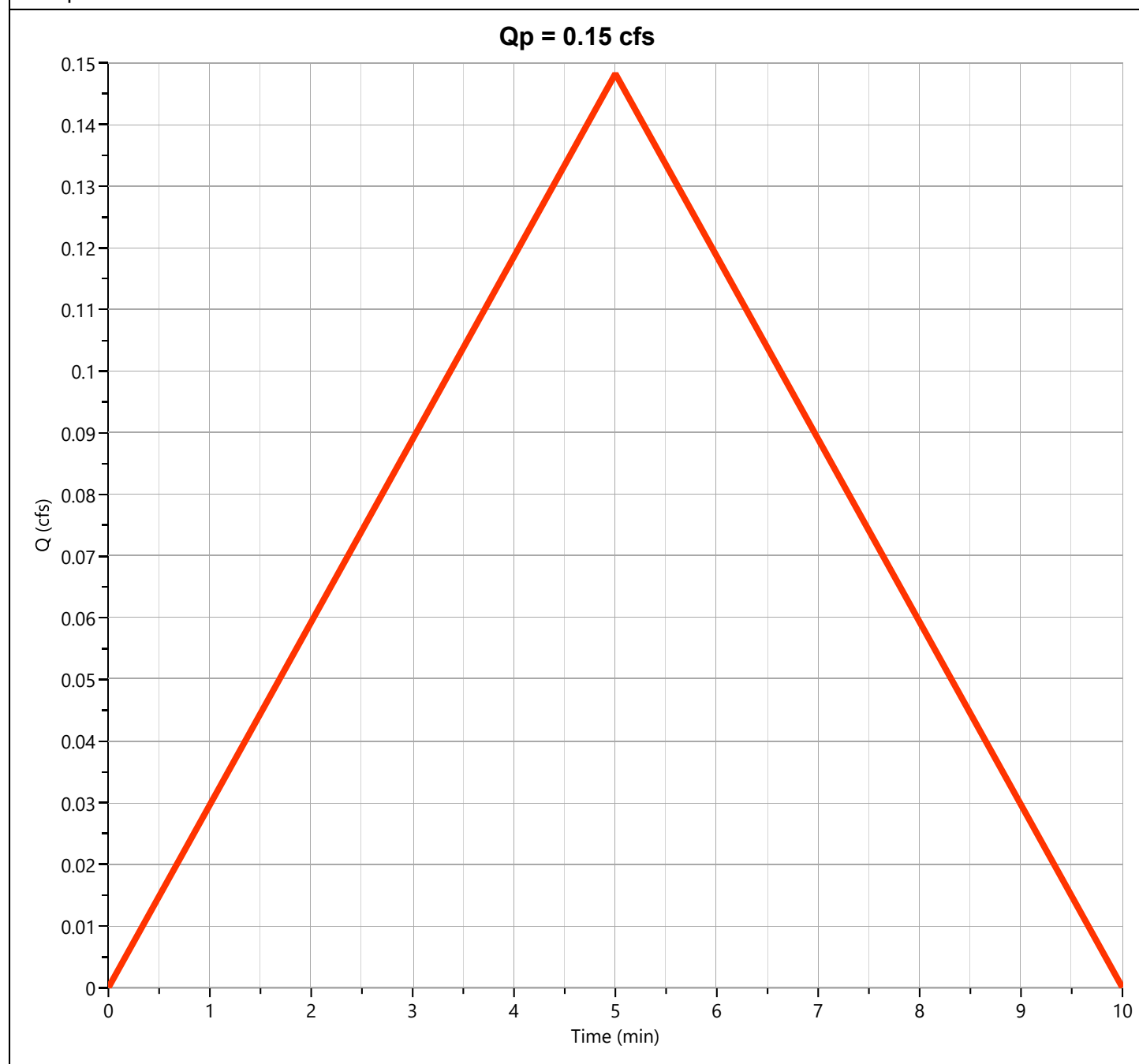
Hydrology Studio v 3.0.0.11

07-23-2019

DA-3

Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 0.148 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 44.5 cuft
Drainage Area	= 0.1 ac	Runoff Coeff.	= 0.51
Tc Method	= User	Time of Conc. (Tc)	= 0.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.91 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

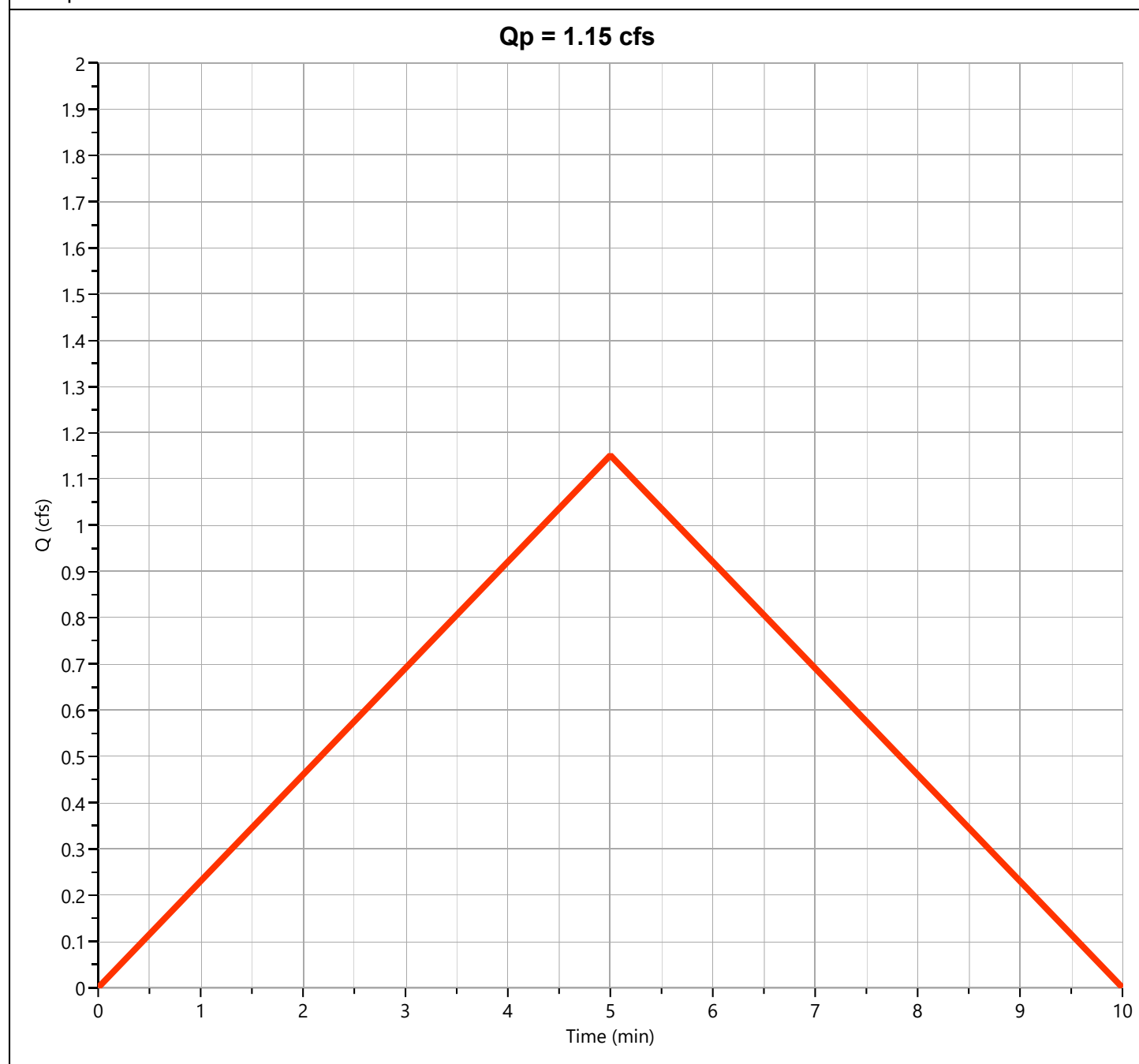
Hydrology Studio v 3.0.0.11

07-23-2019

DA-4

Hyd. No. 4

Hydrograph Type	= Rational	Peak Flow	= 1.151 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 345 cuft
Drainage Area	= 0.44 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.91 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

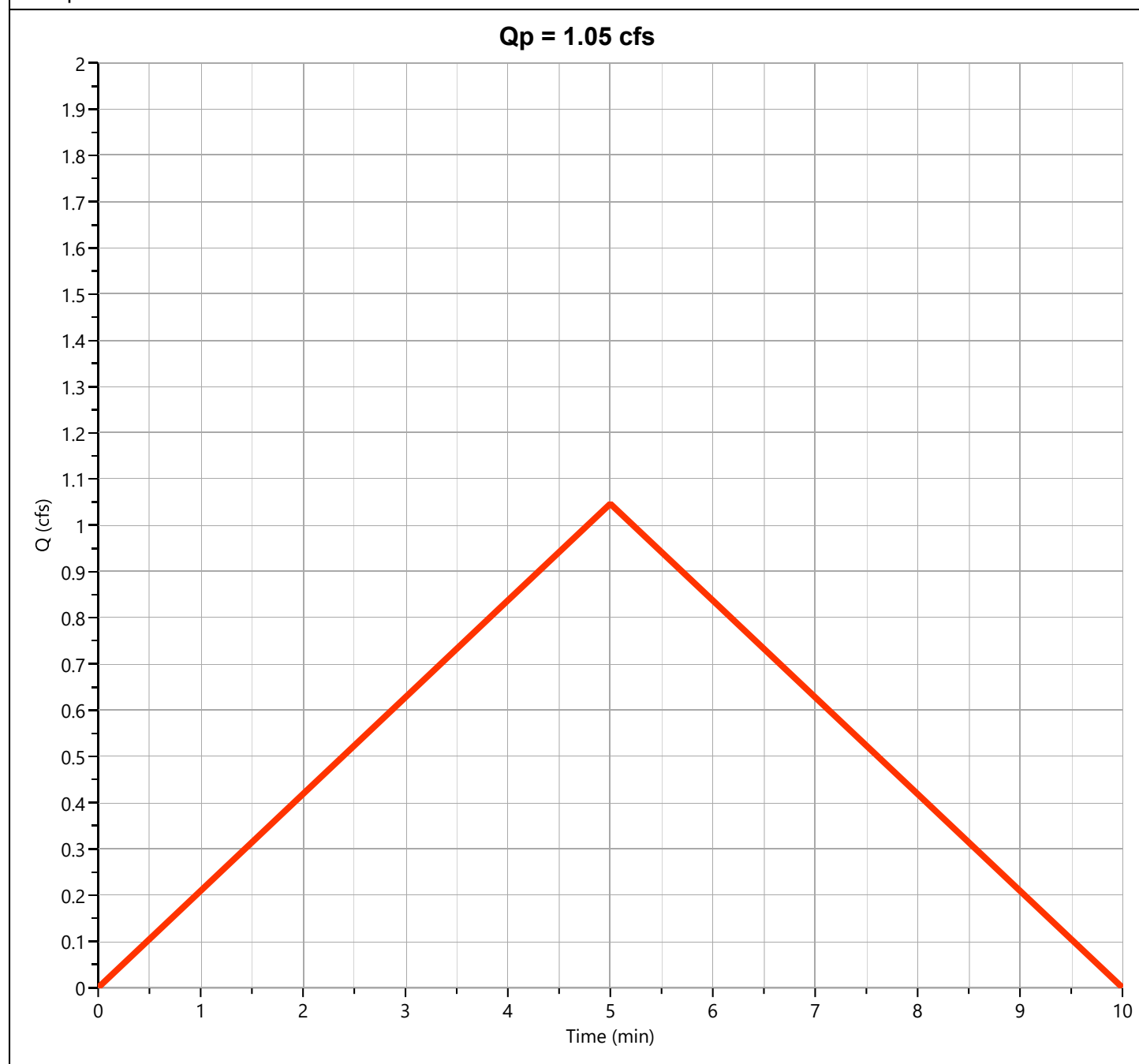
Hydrology Studio v 3.0.0.11

07-23-2019

DA-5

Hyd. No. 5

Hydrograph Type	= Rational	Peak Flow	= 1.047 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 314 cuft
Drainage Area	= 0.4 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.91 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

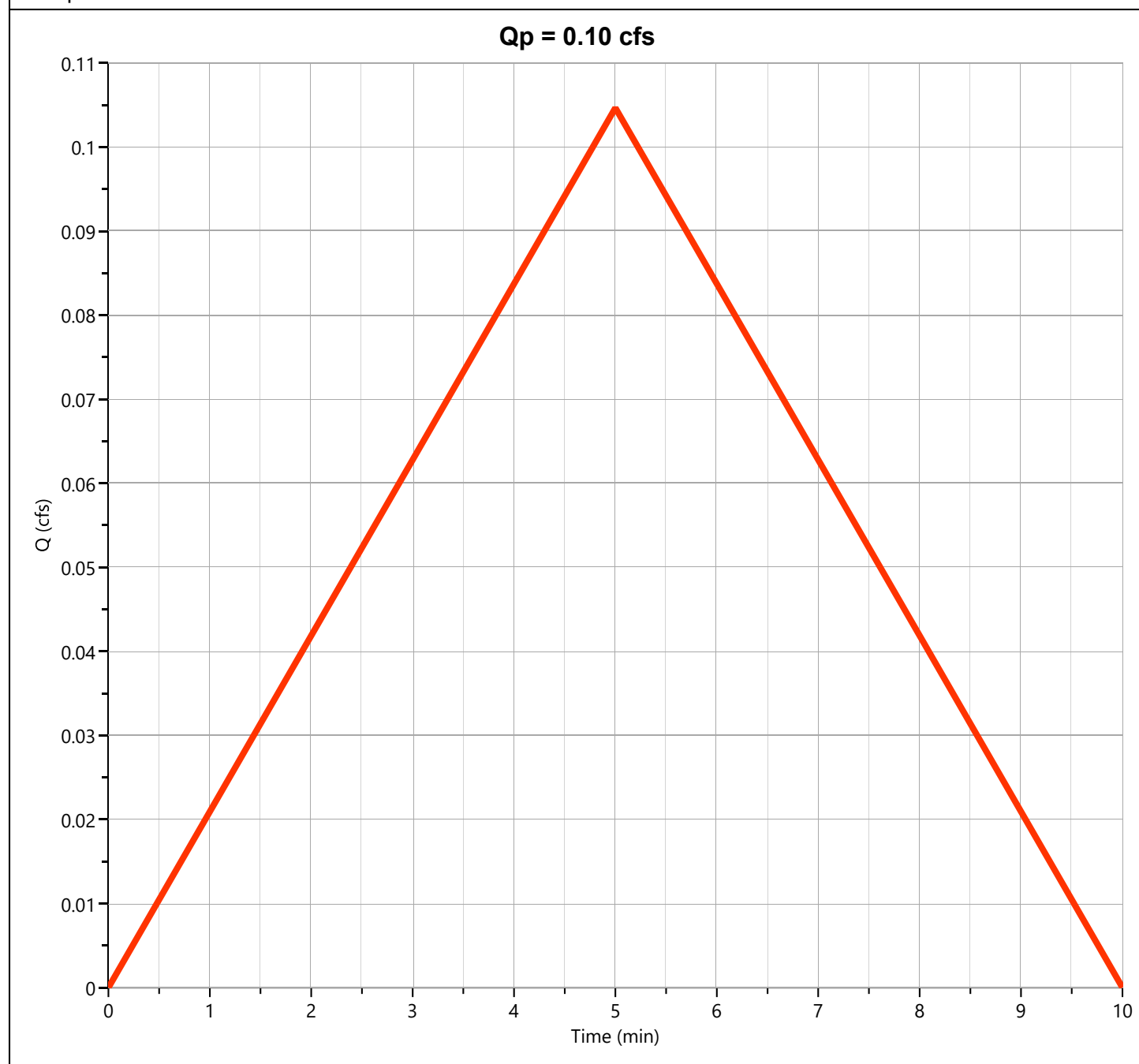
Hydrology Studio v 3.0.0.11

07-23-2019

DA-6

Hyd. No. 6

Hydrograph Type	= Rational	Peak Flow	= 0.105 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 31.4 cuft
Drainage Area	= 0.04 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.91 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

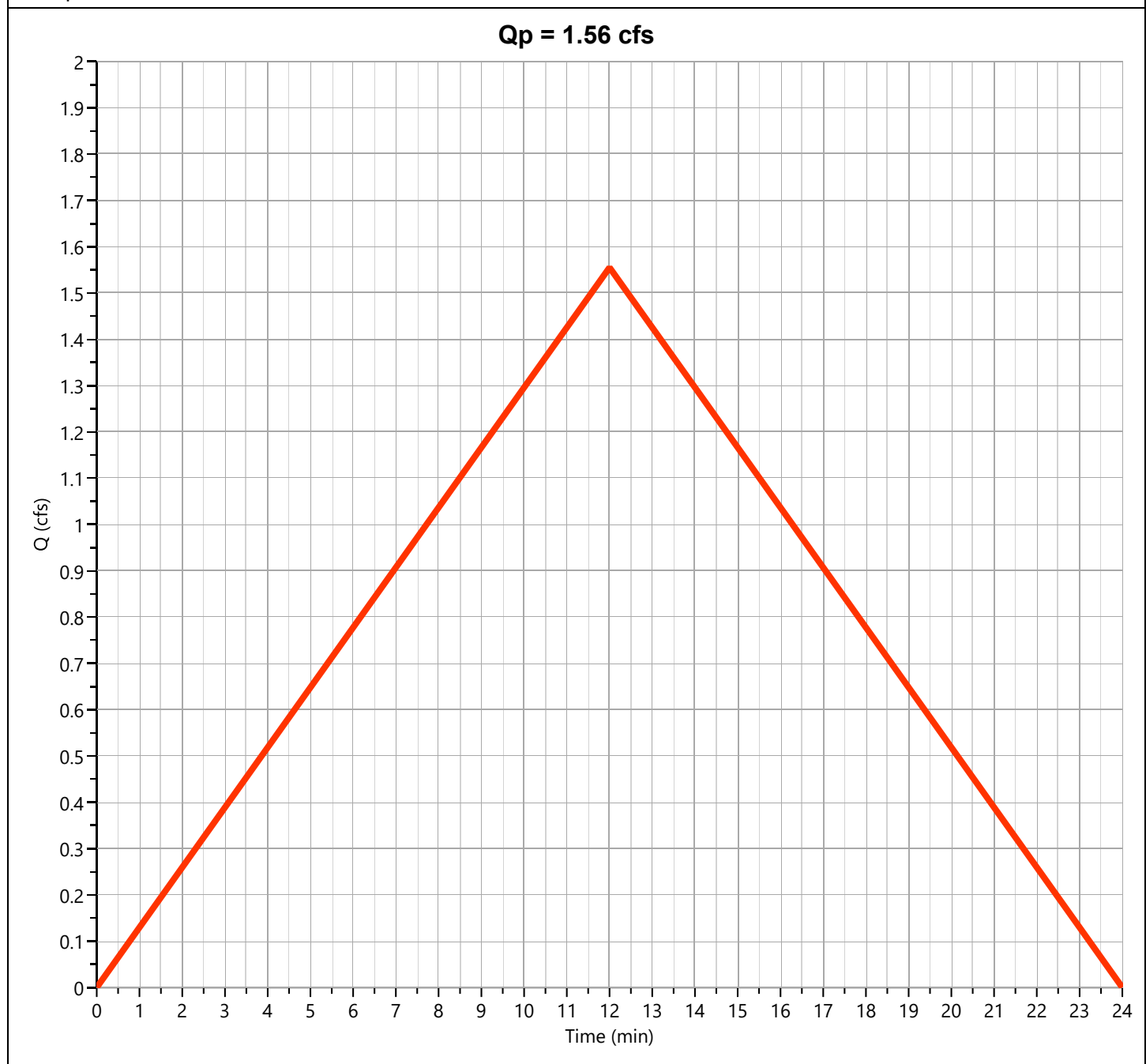
Hydrology Studio v 3.0.0.11

07-23-2019

DA-7

Hyd. No. 7

Hydrograph Type	= Rational	Peak Flow	= 1.555 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Runoff Volume	= 1,120 cuft
Drainage Area	= 0.79 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 12.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.19 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

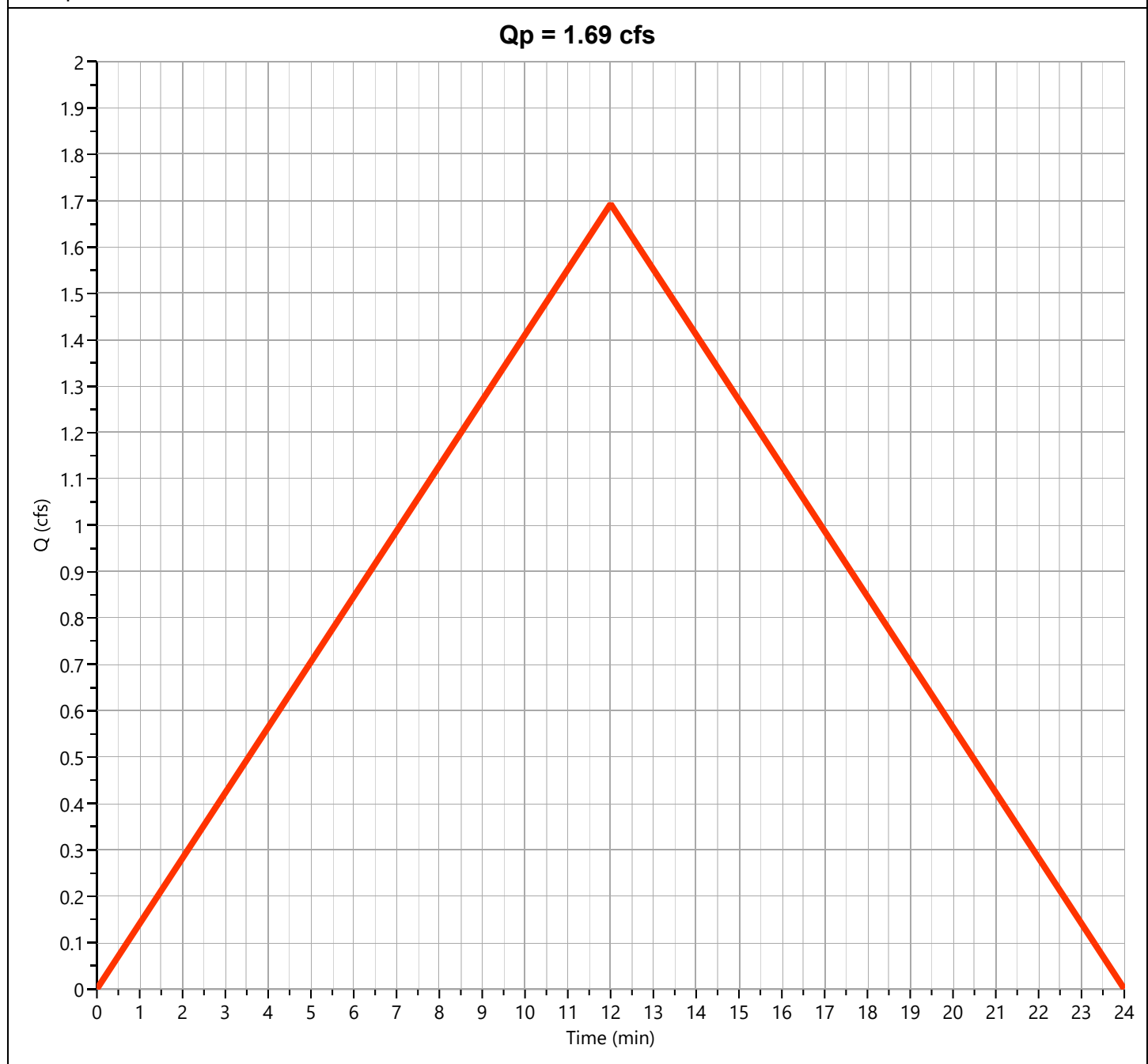
Hydrology Studio v 3.0.0.11

07-23-2019

DA-8

Hyd. No. 8

Hydrograph Type	= Rational	Peak Flow	= 1.693 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Runoff Volume	= 1,219 cuft
Drainage Area	= 0.86 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 12.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.19 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

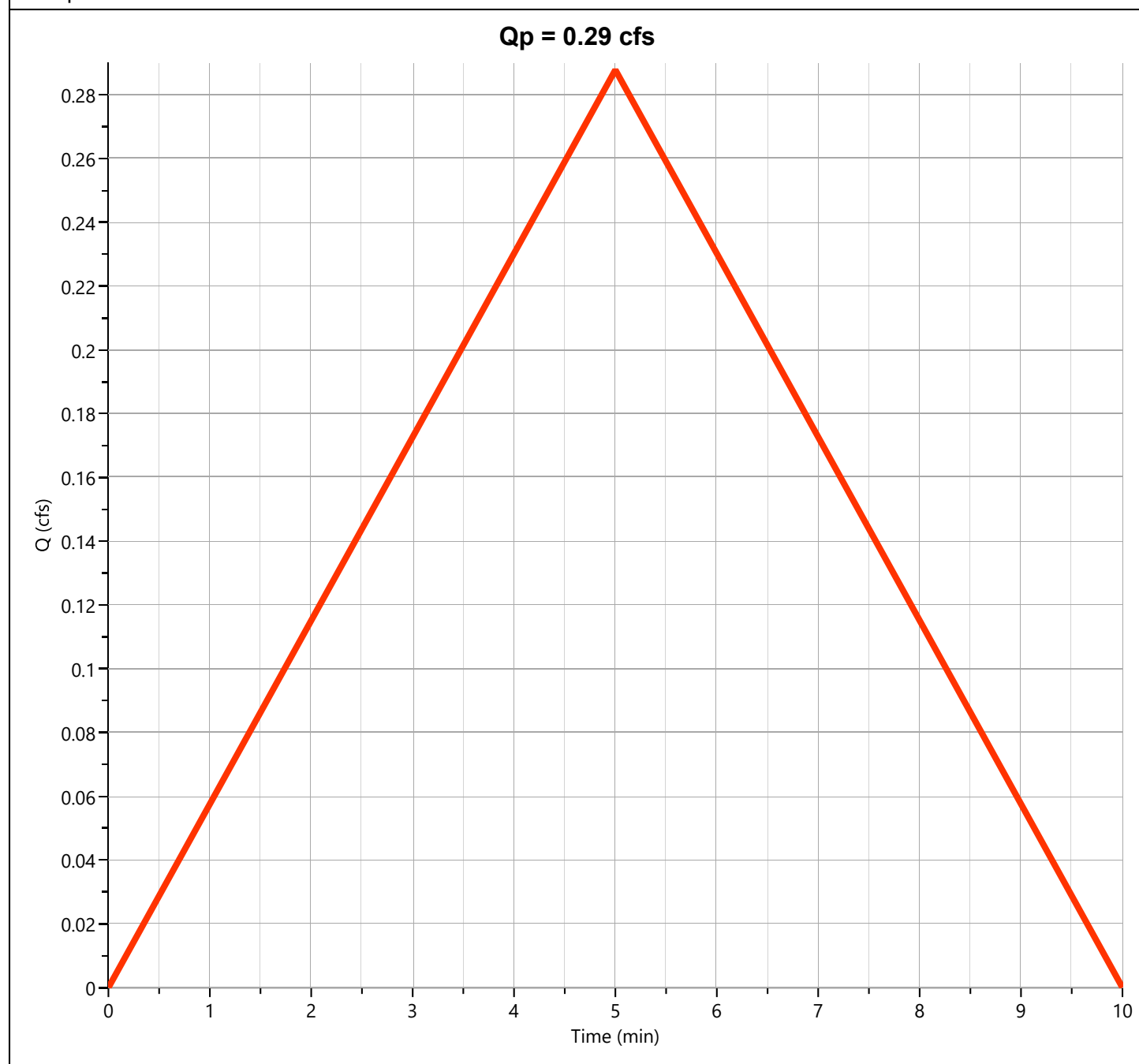
Hydrology Studio v 3.0.0.11

07-23-2019

DA-9

Hyd. No. 9

Hydrograph Type	= Rational	Peak Flow	= 0.288 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 86.3 cuft
Drainage Area	= 0.11 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.91 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

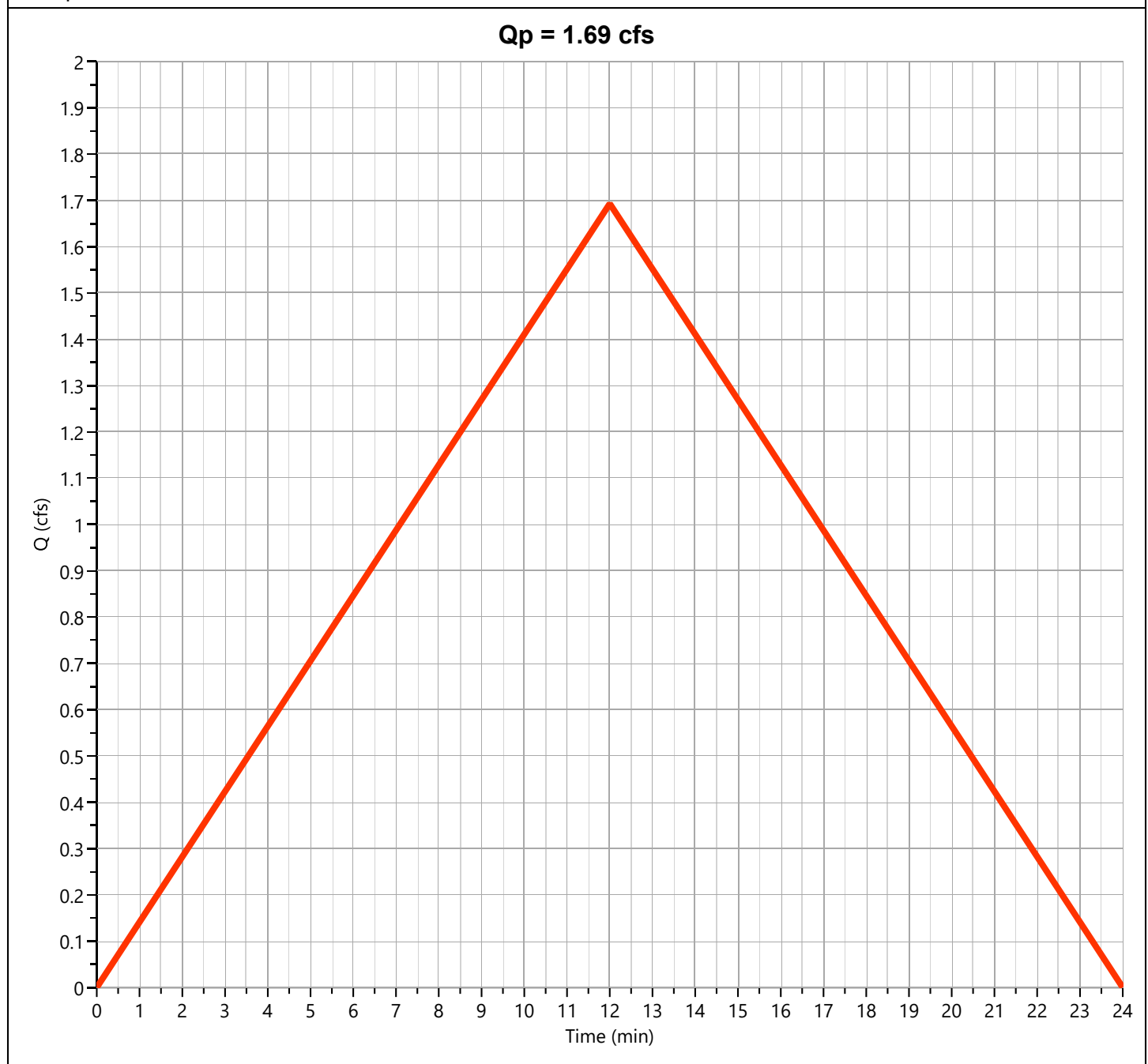
Hydrology Studio v 3.0.0.11

07-23-2019

DA-10

Hyd. No. 10

Hydrograph Type	= Rational	Peak Flow	= 1.693 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Runoff Volume	= 1,219 cuft
Drainage Area	= 0.86 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 12.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.19 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

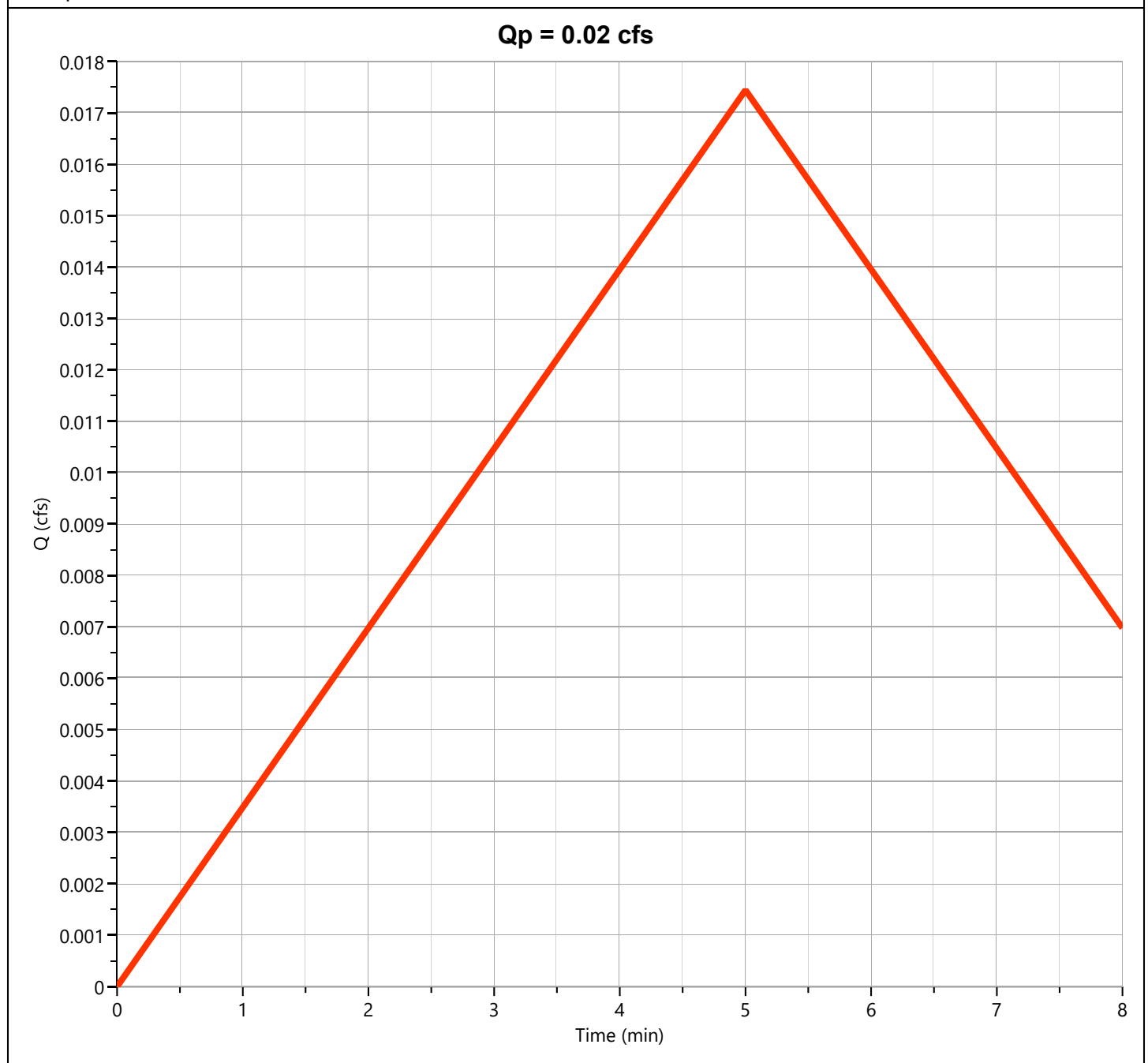
Hydrology Studio v 3.0.0.11

07-23-2019

DA-11

Hyd. No. 11

Hydrograph Type	= Rational	Peak Flow	= 0.017 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 5.23 cuft
Drainage Area	= 0.02 ac	Runoff Coeff.	= 0.3
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.91 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

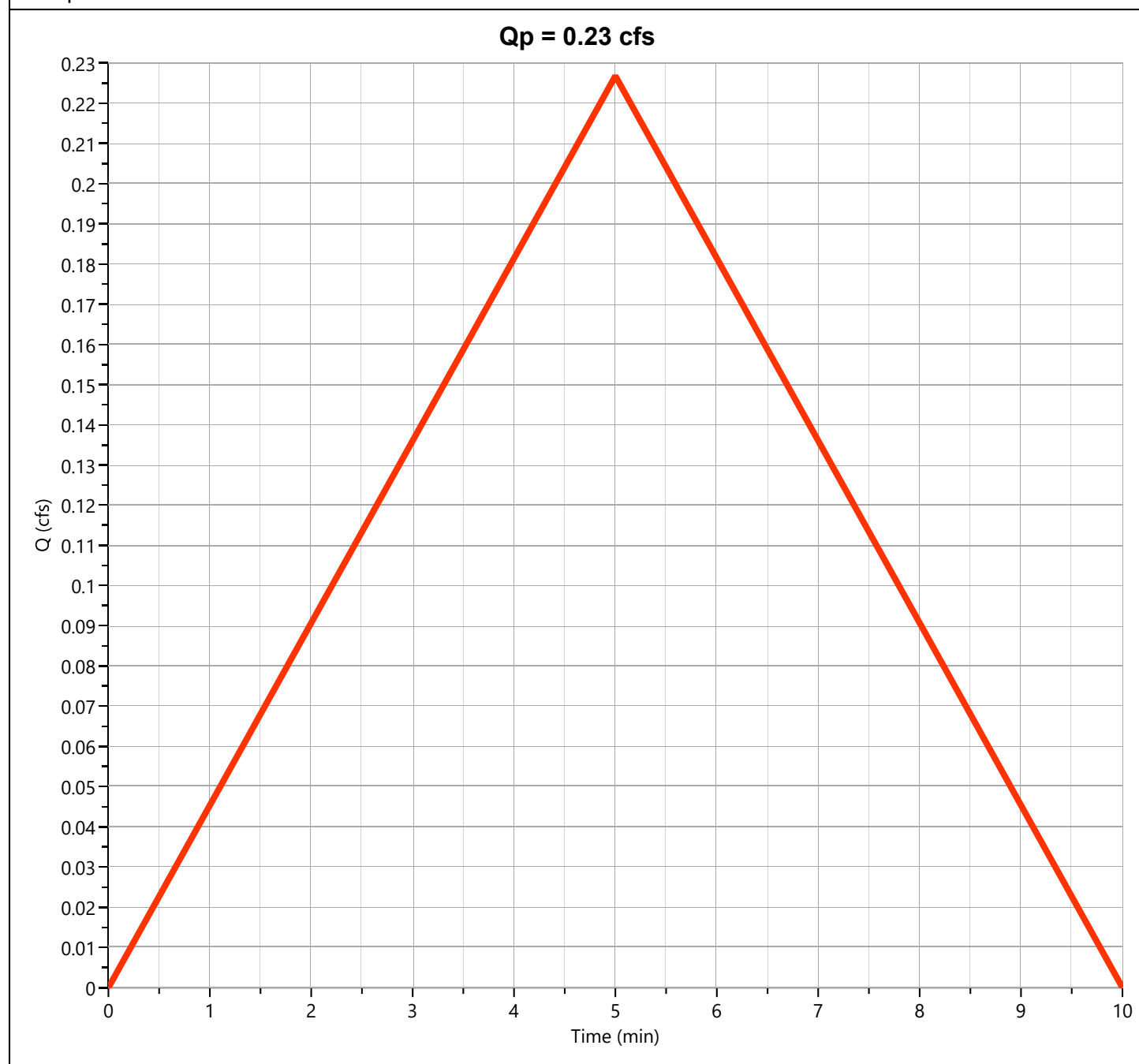
Hydrology Studio v 3.0.0.11

07-23-2019

DA-12

Hyd. No. 12

Hydrograph Type	= Rational	Peak Flow	= 0.227 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 68.0 cuft
Drainage Area	= 0.26 ac	Runoff Coeff.	= 0.3
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.91 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

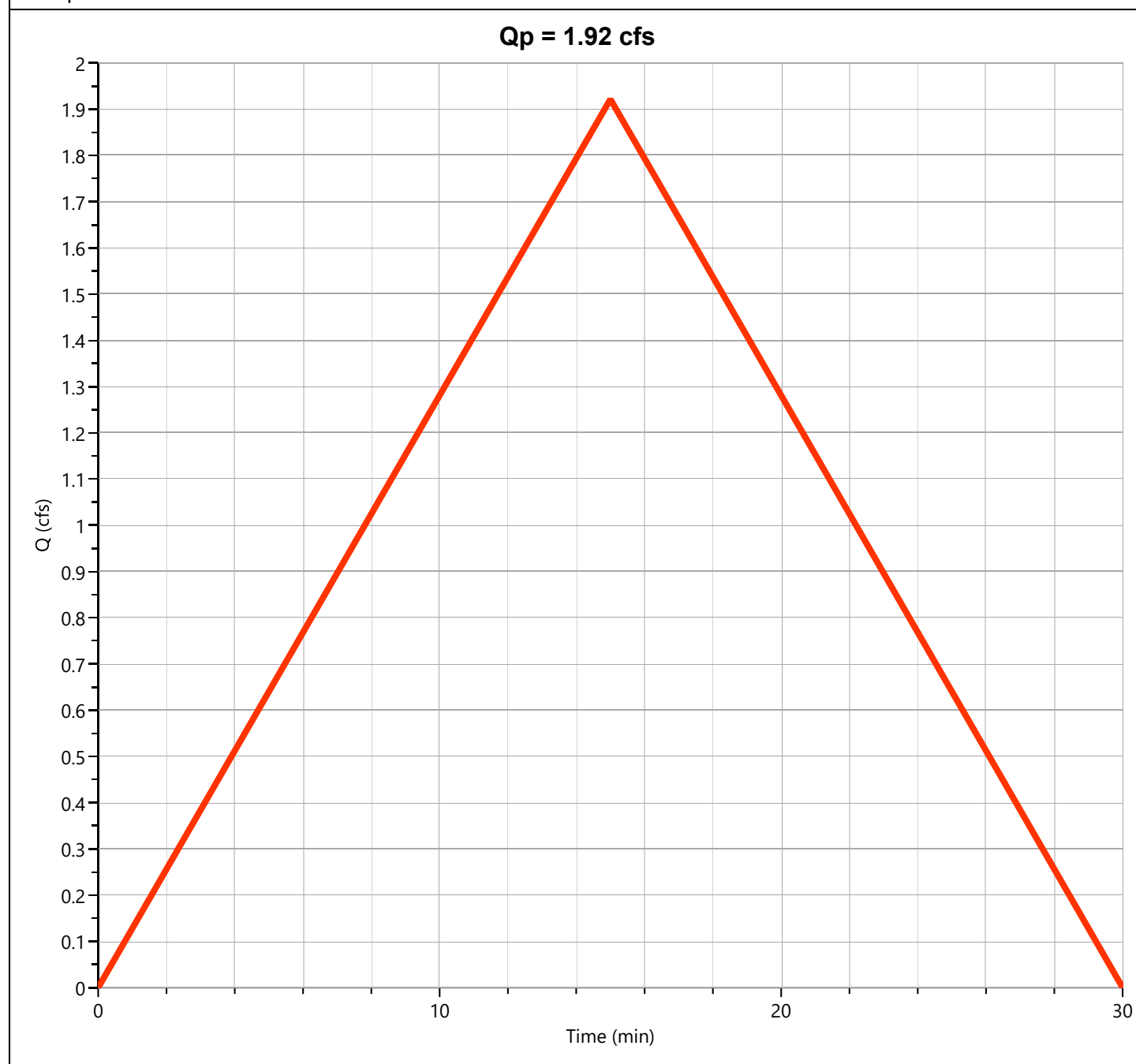
Hydrology Studio v 3.0.0.11

07-23-2019

DA-13

Hyd. No. 13

Hydrograph Type	= Rational	Peak Flow	= 1.921 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.25 hrs
Time Interval	= 1 min	Runoff Volume	= 1,729 cuft
Drainage Area	= 1.05 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 15.0 min
IDF Curve	= LAKE ELSINORE.idf	Intensity	= 2.03 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1



Hydrograph Report

Project Name:

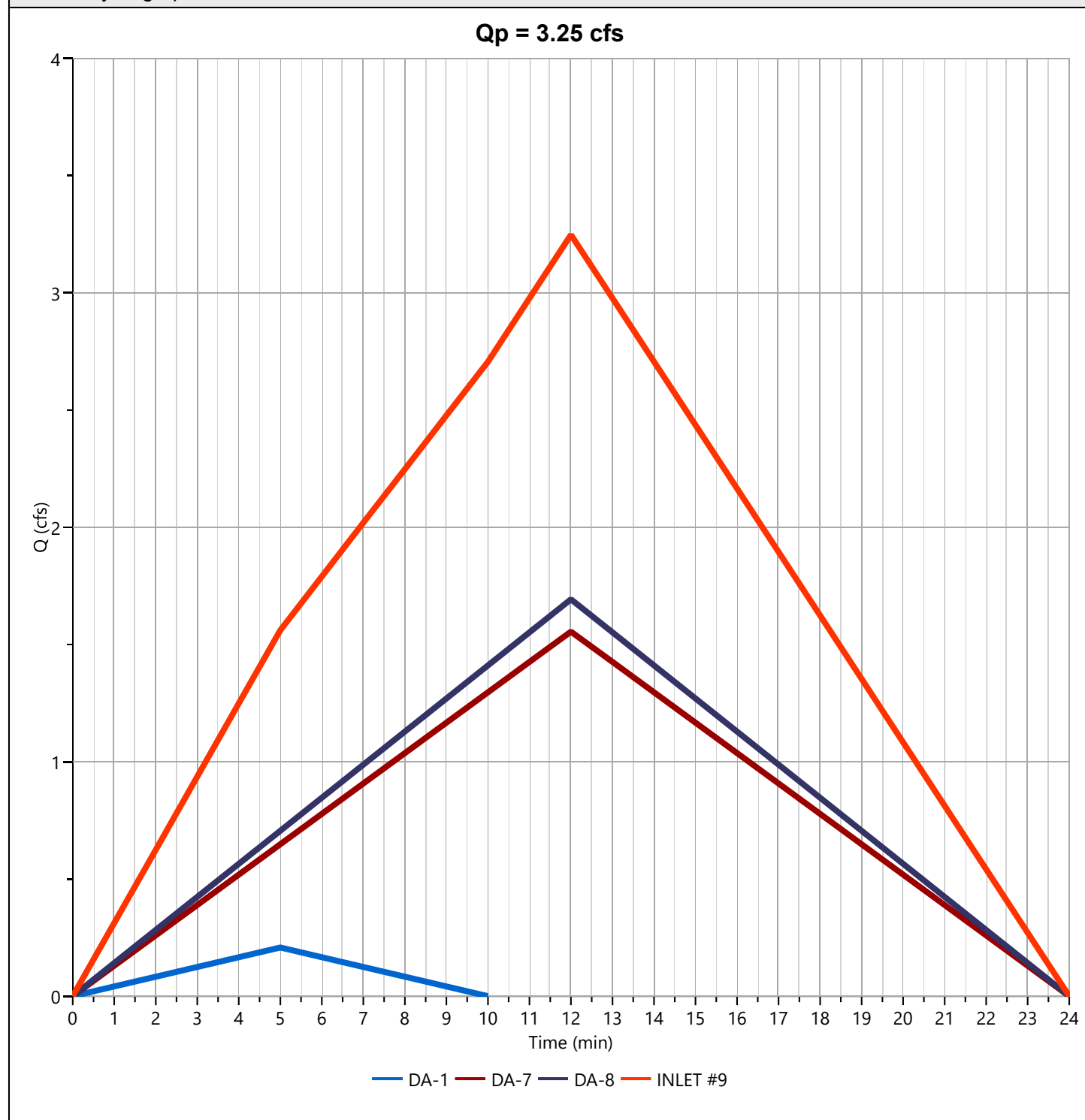
Hydrology Studio v 3.0.0.11

07-23-2019

INLET #9

Hyd. No. 14

Hydrograph Type	= Junction	Peak Flow	= 3.248 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Hydrograph Volume	= 2,401 cuft
Inflow Hydrographs	= 1, 7, 8	Total Contrib. Area	= 1.79 ac



Hydrograph Report

Project Name:

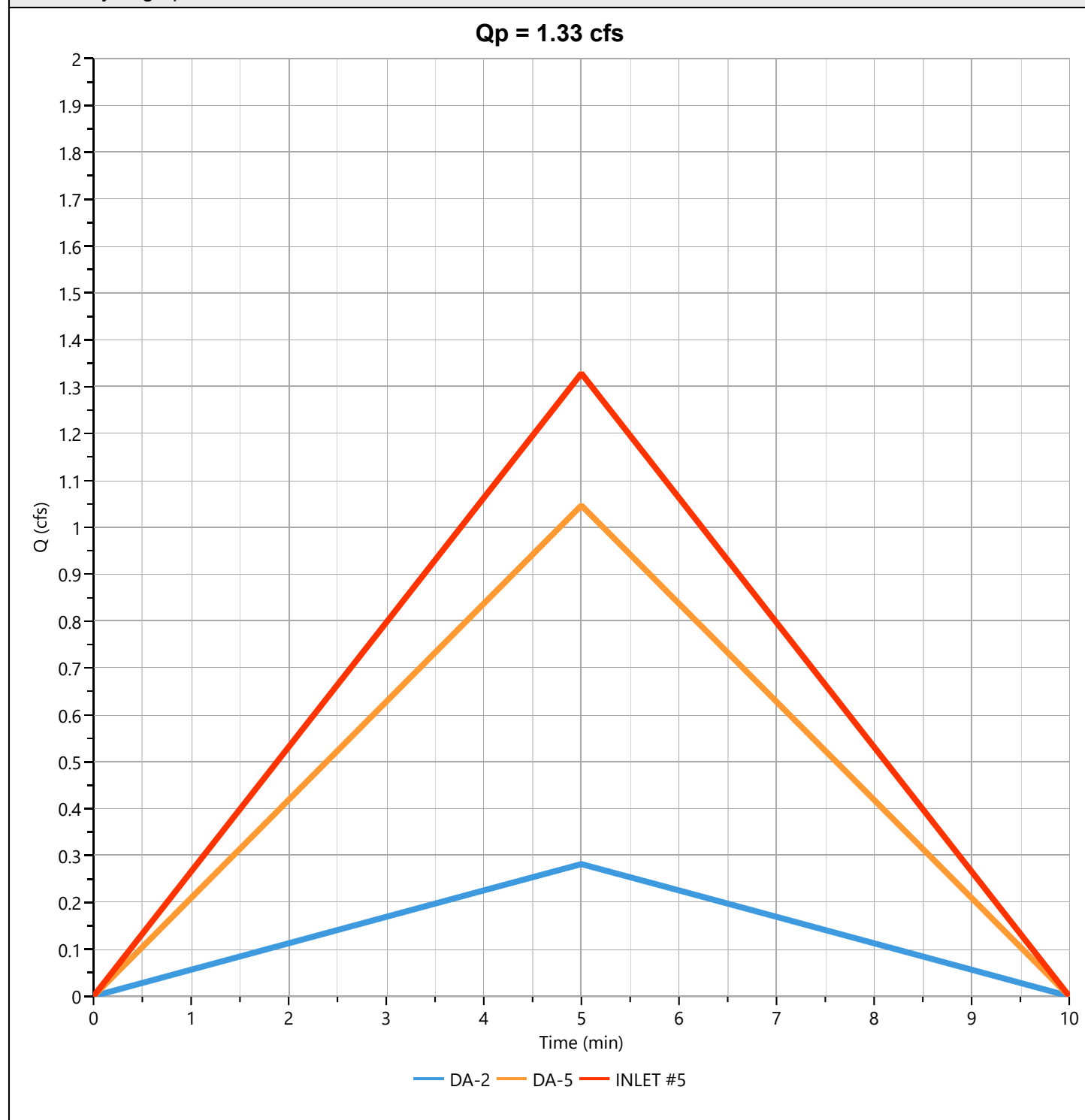
Hydrology Studio v 3.0.0.11

07-23-2019

INLET #5

Hyd. No. 15

Hydrograph Type	= Junction	Peak Flow	= 1.328 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Hydrograph Volume	= 399 cuft
Inflow Hydrographs	= 2, 5	Total Contrib. Area	= 0.59 ac



IDF Report

IDF filename: LAKE ELSINORE.idf

Hydrology Studio v 3.0.0.11

07-23-2019

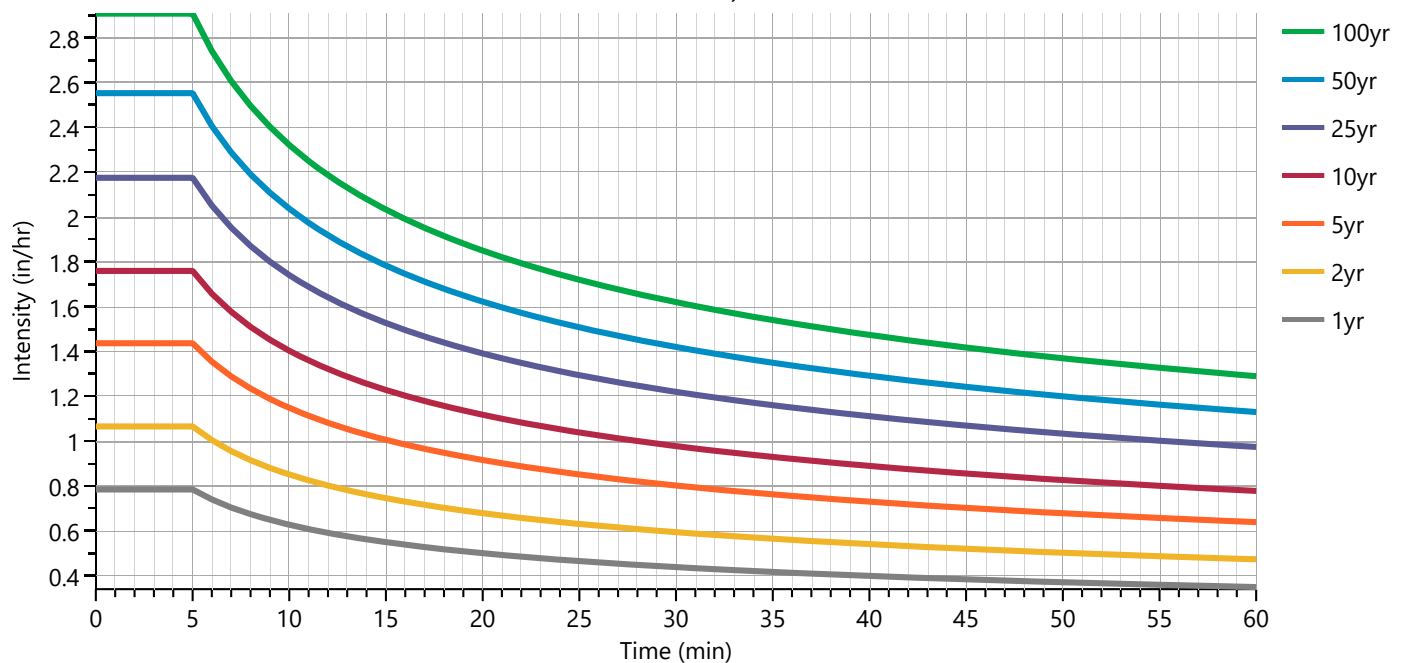
Equation Coefficients	Intensity = B / (Tc + D)^E (in/hr)								
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
B	1.3402	1.8232	0.0000	2.4547	3.0167	3.6973	4.3727	4.9725	
D	0.1000	0.1000	0.0000	0.1000	0.1000	0.1000	0.1000	0.1000	
E	0.3285	0.3294	0.0000	0.3286	0.3309	0.3257	0.3304	0.3294	

Minimum Tc = 5 minutes

Tc (min)	Intensity Values (in/hr)								
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
Cf	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
5	0.78	1.07	0	1.44	1.76	2.17	2.55	2.91	
10	0.63	0.85	0	1.15	1.40	1.74	2.04	2.32	
15	0.55	0.75	0	1.01	1.23	1.53	1.78	2.03	
20	0.50	0.68	0	0.92	1.12	1.39	1.62	1.85	
25	0.46	0.63	0	0.85	1.04	1.29	1.51	1.72	
30	0.44	0.59	0	0.80	0.98	1.22	1.42	1.62	
35	0.42	0.56	0	0.76	0.93	1.16	1.35	1.54	
40	0.40	0.54	0	0.73	0.89	1.11	1.29	1.47	
45	0.38	0.52	0	0.70	0.86	1.07	1.24	1.42	
50	0.37	0.50	0	0.68	0.83	1.03	1.20	1.37	
55	0.36	0.49	0	0.66	0.80	1.00	1.16	1.33	
60	0.35	0.47	0	0.64	0.78	0.97	1.13	1.29	

Cf = Correction Factor applied to Rational Method runoff coefficient.

California, USA



Precipitation Report

Precipitation filename: ELSINORE.pcp

Hydrology Studio v 3.0.0.11

07-23-2019

	Active	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Active		✓	✓		✓	✓	✓	✓	✓
SCS Storms	> SCS Dimensionless Storms								
SCS 6hr		0.96	1.24	0	1.62	1.93	2.37	2.71	3.07
Type I, 24-hr	✓	1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Type IA, 24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Type II, 24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Type II FL, 24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Type III, 24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Synthetic Storms	> IDF-Based Synthetic Storms								
1-hr		0.35	0.47	0	0.64	0.78	0.97	1.13	1.29
2-hr		0.56	0.75	0	1.02	1.24	1.55	1.80	2.05
3-hr		0.73	0.99	0	1.34	1.62	2.04	2.36	2.70
6-hr		1.16	1.57	0	2.13	2.58	3.26	3.75	4.29
12-hr		1.85	2.50	0	3.39	4.11	5.21	5.97	6.83
24-hr		2.95	3.99	0	5.40	6.53	8.31	9.50	10.87
Huff Distribution	> 1st Quartile (0 to 6 hrs)								
1-hr		0.35	0.47	0	0.64	0.78	0.97	1.13	1.29
2-hr		0.54	0.70	0	0.91	1.10	1.36	1.56	1.78
3-hr		0.67	0.86	0	1.12	1.34	1.65	1.89	2.15
6-hr		0.96	1.24	0	1.62	1.93	2.37	2.71	3.07
Huff Distribution	> 2nd Quartile (>6 to 12 hrs)								
8-hr		0	0	0	0	0	0	0	0
12-hr		1.25	1.69	0	2.27	2.73	3.36	3.83	4.32
Huff Distribution	> 3rd Quartile (>12 to 24 hrs)								
18-hr		0	0	0	0	0	0	0	0
24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Custom Storms	> Custom Storm Distributions								
My Custom Storm 1		0	0	0	0	0	0	0	0
My Custom Storm 2		0	0	0	0	0	0	0	0
My Custom Storm 3		0	0	0	0	0	0	0	0
My Custom Storm 4		0	0	0	0	0	0	0	0
My Custom Storm 5		0	0	0	0	0	0	0	0
My Custom Storm 6		0	0	0	0	0	0	0	0
My Custom Storm 7		0	0	0	0	0	0	0	0
My Custom Storm 8		0	0	0	0	0	0	0	0
My Custom Storm 9		0	0	0	0	0	0	0	0
My Custom Storm 10		0	0	0	0	0	0	0	0

Precipitation Report Cont'd

Precipitation filename: ELSINORE.pcp

Hydrology Studio v 3.0.0.11

07-23-2019

	Active	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Active		✓	✓		✓	✓	✓	✓	✓
Huff Indiana	> Indianapolis								
30-min		0.22	0.30	0	0.40	0.49	0.61	0.71	0.81
1-hr		0.35	0.47	0	0.64	0.78	0.97	1.13	1.29
2-hr		0.54	0.70	0	0.91	1.10	1.36	1.56	1.78
3-hr		0.67	0.86	0	1.12	1.34	1.65	1.89	2.15
6-hr		0.96	1.24	0	1.62	1.93	2.37	2.71	3.07
12-hr		1.25	1.69	0	2.27	2.73	3.36	3.83	4.32
24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Huff Indiana	> Evansville								
30-min		0.22	0.30	0	0.40	0.49	0.61	0.71	0.81
1-hr		0.35	0.47	0	0.64	0.78	0.97	1.13	1.29
2-hr		0.54	0.70	0	0.91	1.10	1.36	1.56	1.78
3-hr		0.67	0.86	0	1.12	1.34	1.65	1.89	2.15
6-hr		0.96	1.24	0	1.62	1.93	2.37	2.71	3.07
12-hr		1.25	1.69	0	2.27	2.73	3.36	3.83	4.32
24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Huff Indiana	> Fort Wayne								
30-min		0.22	0.30	0	0.40	0.49	0.61	0.71	0.81
1-hr		0.35	0.47	0	0.64	0.78	0.97	1.13	1.29
2-hr		0.54	0.70	0	0.91	1.10	1.36	1.56	1.78
3-hr		0.67	0.86	0	1.12	1.34	1.65	1.89	2.15
6-hr		0.96	1.24	0	1.62	1.93	2.37	2.71	3.07
12-hr		1.25	1.69	0	2.27	2.73	3.36	3.83	4.32
24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
Huff Indiana	> South Bend								
30-min		0.22	0.30	0	0.40	0.49	0.61	0.71	0.81
1-hr		0.35	0.47	0	0.64	0.78	0.97	1.13	1.29
2-hr		0.54	0.70	0	0.91	1.10	1.36	1.56	1.78
3-hr		0.67	0.86	0	1.12	1.34	1.65	1.89	2.15
6-hr		0.96	1.24	0	1.62	1.93	2.37	2.71	3.07
12-hr		1.25	1.69	0	2.27	2.73	3.36	3.83	4.32
24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
NRCS Storms	> NRCS Dimensionless Storms								
NRCS MSE3, 24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47
NRCS MSE4, 24-hr		1.66	2.39	0	3.32	4.06	5.03	5.75	6.47

PIPE SIZING AT INLETS

Channel Report

Project Name: New Project

Studio Express by Hydrology Studio v 1.0.0.4

07-23-2019

PIPE#1

Channel 1

CIRCULAR PIPE

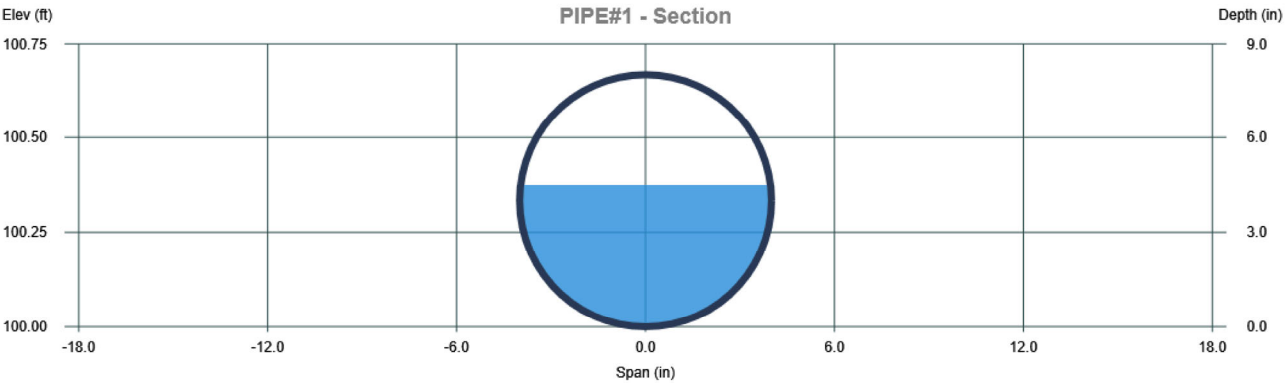
Diameter = 8.0 in
Invert Elevation = 100.00 ft
Pipe Slope = 1.640 %
Manning's n = 0.010

DISCHARGE

Method = Known Q
Known Q = 1.15 cfs

CALCULATION SAMPLE

Flow	Depth	Area	Velocity	WP	n-value	Crit Depth	HGL	EGL	Max Shear	Top Width
(cfs)	(in)	(sqft)	(ft/s)	(ft)		(in)	(ft)	(ft)	(lb/sqft)	(ft)
1.15	4.4	0.20	5.79	1.12	0.010	6.1	100.4	100.89	0.38	0.66



Channel Report

Project Name: New Project

Studio Express by Hydrology Studio v 1.0.0.4

07-23-2019

PIPE #2

Channel 1

CIRCULAR PIPE

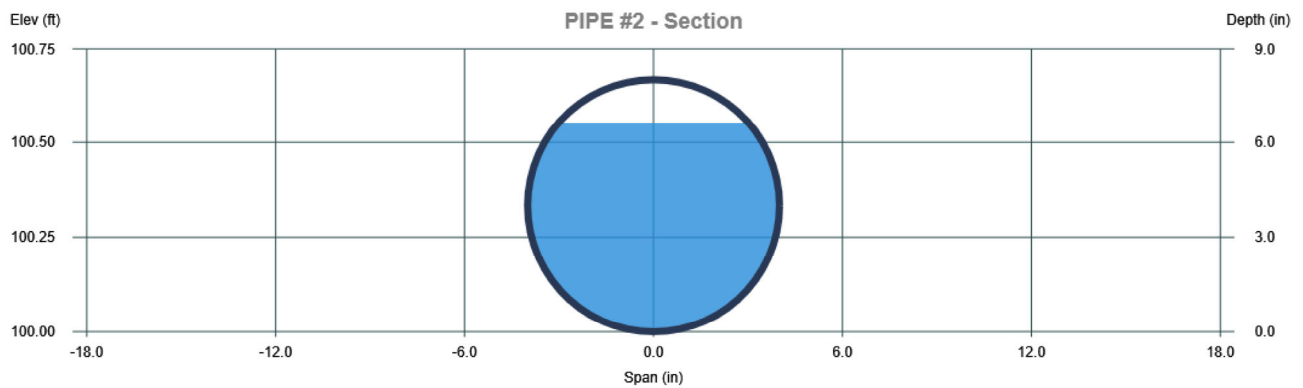
Diameter = 8.0 in
Invert Elevation = 100.00 ft
Pipe Slope = 0.730 %
Manning's n = 0.010

DISCHARGE

Method = Known Q
Known Q = 1.33 cfs

CALCULATION SAMPLE

Flow	Depth	Area	Velocity	WP	n-value	Crit Depth	HGL	EGL	Max Shear	Top Width
(cfs)	(in)	(sqft)	(ft/s)	(ft)		(in)	(ft)	(ft)	(lb/sqft)	(ft)
1.33	6.6	0.31	4.31	1.52	0.010	6.6	100.6	100.84	0.25	0.51



Channel Report

Project Name: New Project

Studio Express by Hydrology Studio v 1.0.0.4

07-23-2019

PIPE#3

Channel 1

CIRCULAR PIPE

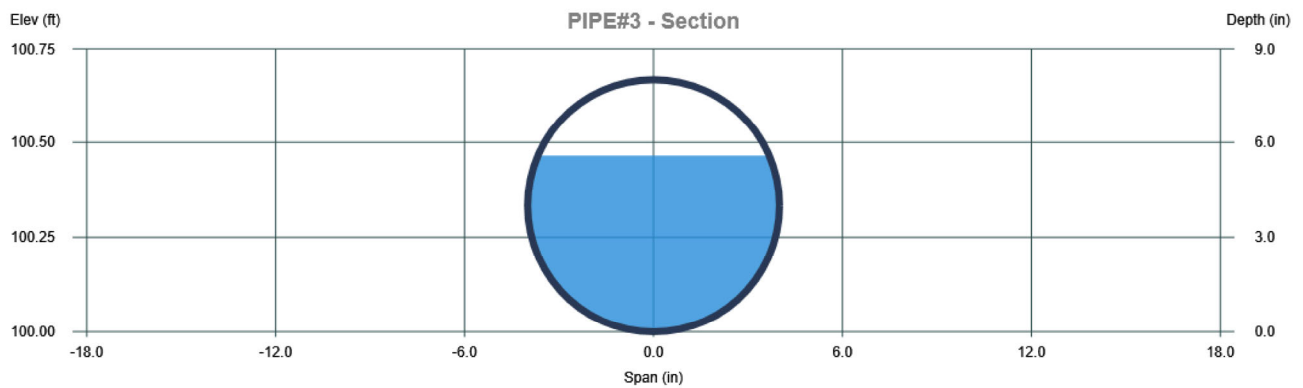
Diameter = 8.0 in
Invert Elevation = 100.00 ft
Pipe Slope = 1.790 %
Manning's n = 0.010

DISCHARGE

Method = Known Q
Known Q = 1.69 cfs

CALCULATION SAMPLE

Flow	Depth	Area	Velocity	WP	n-value	Crit Depth	HGL	EGL	Max Shear	Top Width
(cfs)	(in)	(sqft)	(ft/s)	(ft)		(in)	(ft)	(ft)	(lb/sqft)	(ft)
1.69	5.5	0.26	6.59	1.31	0.010	7.2	100.5	101.14	0.51	0.62



Channel Report

Project Name: New Project

Studio Express by Hydrology Studio v 1.0.0.4

07-23-2019

PIPE#4

Channel 1

CIRCULAR PIPE

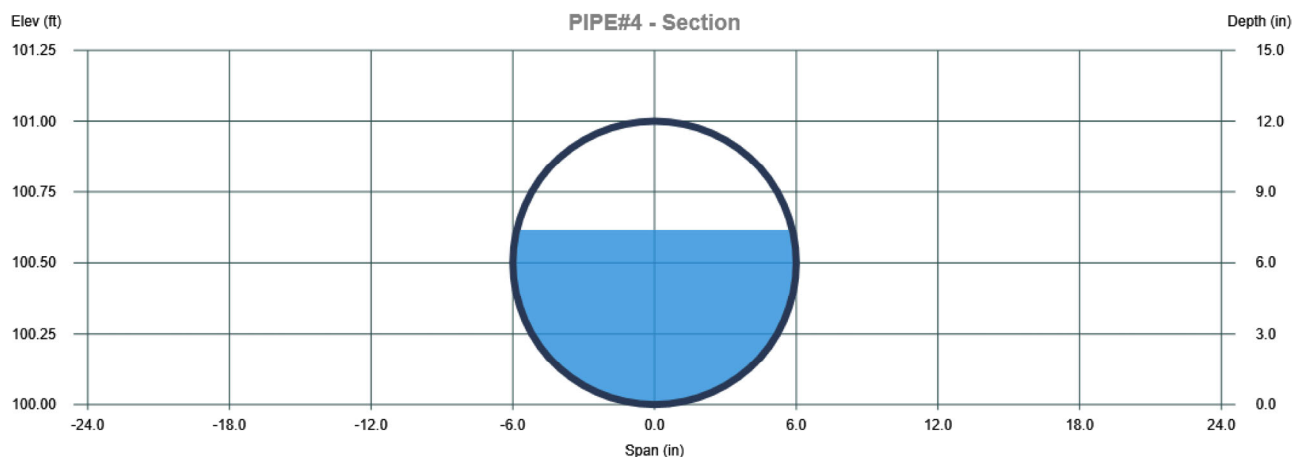
Diameter = 12.0 in
Invert Elevation = 100.00 ft
Pipe Slope = 1.080 %
Manning's n = 0.010

DISCHARGE

Method = Known Q
Known Q = 3.31 cfs

CALCULATION SAMPLE

Flow	Depth	Area	Velocity	WP	n-value	Crit Depth	HGL	EGL	Max Shear	Top Width
(cfs)	(in)	(sqft)	(ft/s)	(ft)		(in)	(ft)	(ft)	(lb/sqft)	(ft)
3.31	7.3	0.50	6.59	1.79	0.010	9.4	100.6	101.29	0.41	0.98



Channel Report

Project Name: New Project

Studio Express by Hydrology Studio v 1.0.0.4

07-23-2019

PIPE#5

Channel 1

CIRCULAR PIPE

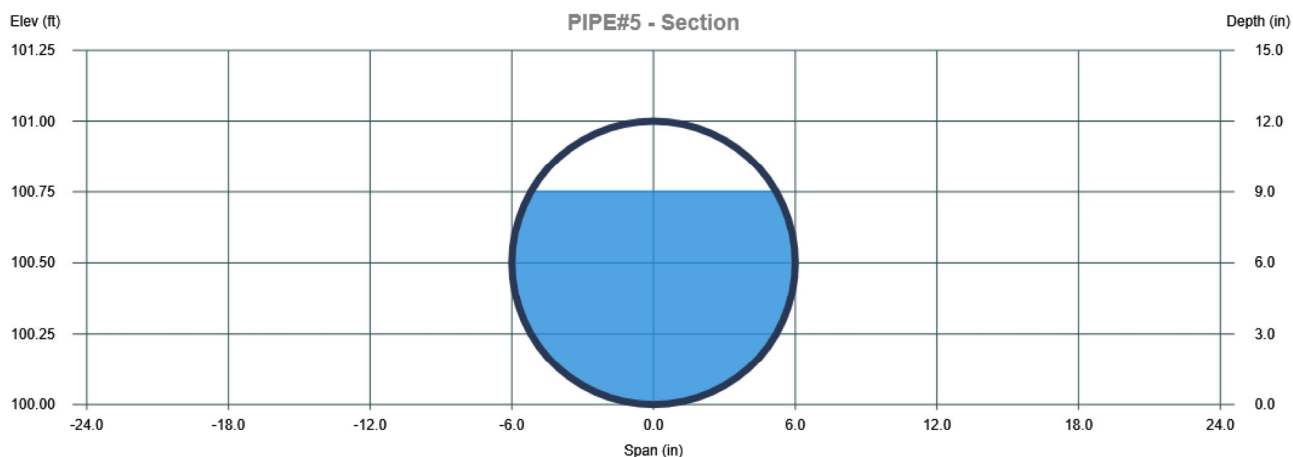
Diameter = 12.0 in
Invert Elevation = 100.00 ft
Pipe Slope = 3.430 %
Manning's n = 0.010

DISCHARGE

Method = Known Q
Known Q = 7.71 cfs

CALCULATION SAMPLE

Flow	Depth	Area	Velocity	WP	n-value	Crit Depth	HGL	EGL	Max Shear	Top Width
(cfs)	(in)	(sqft)	(ft/s)	(ft)		(in)	(ft)	(ft)	(lb/sqft)	(ft)
7.71	9.0	0.63	12.20	2.09	0.010	11.9	100.8	103.06	1.61	0.87



Channel Report

Project Name: New Project

Studio Express by Hydrology Studio v 1.0.0.4

07-23-2019

PIPE#6

Channel 1

CIRCULAR PIPE

Diameter = 18.0 in
Invert Elevation = 100.00 ft
Pipe Slope = 2.000 %
Manning's n = 0.010

DISCHARGE

Method = Known Q
Known Q = 9.63 cfs

CALCULATION SAMPLE

Flow	Depth	Area	Velocity	WP	n-value	Crit Depth	HGL	EGL	Max Shear	Top Width
(cfs)	(in)	(sqft)	(ft/s)	(ft)		(in)	(ft)	(ft)	(lb/sqft)	(ft)
9.63	9.0	0.88	10.90	2.36	0.010	14.4	100.8	102.60	0.94	1.50

