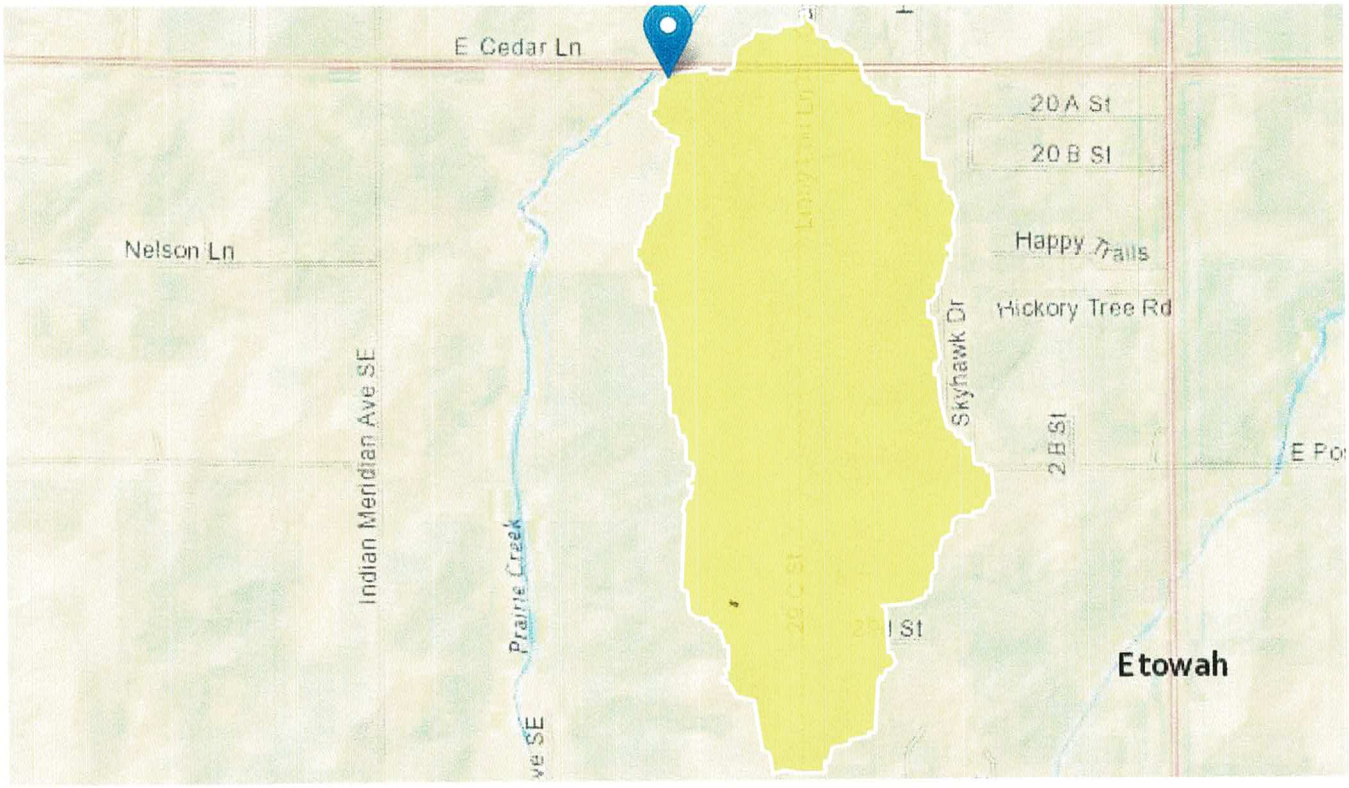
SPECK
ENGINEERING
8500 BETHEL ROAD
SHAWNEE, OK 74804

EXHIBIT C

Q5 STREAM STATS REPORT
TRIBUTARY TO PRAIRIE CREEK

Q5 StreamStats Report

Region ID: OK
Workspace ID: OK20240919004152339000
Clicked Point (Latitude, Longitude): 35.17396, -97.23468
Time: 2024-09-18 19:42:16 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLDEM10M	Mean basin slope computed from 10 m DEM	7.1	percent
CANOPY_PCT	Percentage of drainage area covered by canopy as described in OK SIR 2009_5267	47.51	percent
CONTDA	Area that contributes flow to a point on a stream	1.08	square miles
CSL10_85fm	Change in elevation between points 10 and 85 percent of length along main channel to basin divide divided by length between points ft per mi	49.9	feet per mi

Parameter Code	Parameter Description	Value	Unit
DAUNREG	Unregulated drainage area used in OK regulated equations	1.08	square miles
DRNAREA	Area that drains to a point on a stream		square miles
ELEV	Mean Basin Elevation	1120	feet
OUTLETELEV	Elevation of the stream outlet in feet above NAVD88	1040	feet
PRECIPOUT	Mean annual precip at the stream outlet (based on annual PRISM precip data in inches from 1971-2000)	38.7	inches

Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Region 2 Unregulated 2019 5143]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	1.08	square miles	0.1	2510
CSL10_85fm	Stream Slope 10 and 85 Method ft per mi	49.9	feet per mi	1.98	342

Peak-Flow Statistics Parameters [Peak Region 2 NRCS Regulated 2019 5143]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DAUNREG	Unregulated Drainage Area	1.08	square miles	0.1	2510
CSL10_85fm	Stream Slope 10 and 85 Method ft per mi	49.9	feet per mi	1.98	342

Peak-Flow Statistics Flow Report [Peak Region 2 Unregulated 2019 5143]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp	Equiv. Yrs.
50-percent AEP flood	312	ft^3/s	46.9	2

Statistic	Value	Unit	ASEp	Equiv. Yrs.
20-percent AEP flood	579	ft^3/s	36.2	5
10-percent AEP flood	808	ft^3/s	35	8
4-percent AEP flood	1160	ft^3/s	39.9	9
2-percent AEP flood	1530	ft^3/s	37.1	11
1-percent AEP flood	1800	ft^3/s	39.9	12
0.2-percent AEP flood	2840	ft^3/s	50.7	12

Peak-Flow Statistics Flow Report [Peak Region 2 NRCS Regulated 2019 5143]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp	Equiv. Yrs.
Regulated 50-percent AEP flood	312	ft^3/s	46.9	2
Regulated 20-percent AEP flood	579	ft^3/s	36.2	5
Regulated 10-percent AEP flood	808	ft^3/s	35	8
Regulated 4-percent AEP flood	1160	ft^3/s	39.9	9
Regulated 2-percent AEP flood	1530	ft^3/s	37.1	11
Regulated 1-percent AEP flood	1800	ft^3/s	39.9	12
Regulated 0.2-percent AEP flood	2840	ft^3/s	50.7	12

Peak-Flow Statistics Flow Report [Area-Averaged]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp	Equiv. Yrs.
50-percent AEP flood	312	ft^3/s	46.9	2
20-percent AEP flood	579	ft^3/s	36.2	5
10-percent AEP flood	808	ft^3/s	35	8
4-percent AEP flood	1160	ft^3/s	39.9	9
2-percent AEP flood	1530	ft^3/s	37.1	11
1-percent AEP flood	1800	ft^3/s	39.9	12
0.2-percent AEP flood	2840	ft^3/s	50.7	12
Regulated 50-percent AEP flood	312	ft^3/s	46.9	2

Statistic	Value	Unit	ASEp	Equiv. Yrs.
Regulated 20-percent AEP flood	579	ft^3/s	36.2	5
Regulated 10-percent AEP flood	808	ft^3/s	35	8
Regulated 4-percent AEP flood	1160	ft^3/s	39.9	9
Regulated 2-percent AEP flood	1530	ft^3/s	37.1	11
Regulated 1-percent AEP flood	1800	ft^3/s	39.9	12
Regulated 0.2-percent AEP flood	2840	ft^3/s	50.7	12

Peak-Flow Statistics Citations

Lewis, J.M., Hunter, S.L., and Labriola, L.G.,2019, Methods for estimating the magnitude and frequency of peak streamflows for unregulated streams in Oklahoma developed by using streamflow data through 2017: U.S. Geological Survey Scientific Investigations Report 2019–5143, 39 p. (https://doi.org/10.3133/sir20195143)

Flow-Duration Statistics

Flow-Duration Statistics Parameters [Duration Region 3 2009 5267]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	1.08	square miles	8	2296
ELEV	Mean Basin Elevation	1120	feet	625	1527
CANOPY_PCT	Percent Area Under Canopy	47.51	percent	8.41	83.5
PRECIPOUT	Mean Annual Precip at Gage	38.7	inches	38	58

Flow-Duration Statistics Disclaimers [Duration Region 3 2009 5267]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Flow-Duration Statistics Flow Report [Duration Region 3 2009 5267]

Statistic	Value	Unit
20 Percent Duration	0.186	ft^3/s
50 Percent Duration	0.024	ft^3/s
80 Percent Duration	0	ft^3/s
90 Percent Duration	0	ft^3/s

Statistic	Value	Unit
95 Percent Duration	0	ft^3/s

Flow-Duration Statistics Citations

Esralew, R.A., Smith, S.J.,2009, Methods for estimating flow-duration and annual mean-flow statistics for ungaged streams in Oklahoma: U.S. Geological Survey Scientific Investigations Report 2009-5267, 131 p. (http://pubs.usgs.gov/sir/2009/5267/)

General Flow Statistics

General Flow Statistics Parameters [Duration Region 3 2009 5267]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	1.08	square miles	8	2296
PRECIPOUT	Mean Annual Precip at Gage	38.7	inches	38	58

General Flow Statistics Disclaimers [Duration Region 3 2009 5267]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Duration Region 3 2009 5267]

Statistic	Value	Unit
Average daily streamflow	0.375	ft^3/s

General Flow Statistics Citations

Esralew, R.A., Smith, S.J.,2009, Methods for estimating flow-duration and annual mean-flow statistics for ungaged streams in Oklahoma: U.S. Geological Survey Scientific Investigations Report 2009-5267, 131 p. (http://pubs.usgs.gov/sir/2009/5267/)

Bankfull Statistics

Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area		square miles	0.19305	59927.7393

Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area		square miles	0.200772	59927.66594

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area		square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

Statistic	Value	Unit

Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

Statistic	Value	Unit

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit

Bankfull Statistics Citations

Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 9]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area		square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 9]

Statistic	Value	Unit

Maximum Probable Flood Statistics Citations

Application Version: 4.24.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1