



**SPECK
ENGINEERING**

**8500 BETHEL ROAD
SHAWNEE, OK 74804**

EXHIBIT A

**Q6 STREAM STATS REPORT
PRAIRIE CREEK**

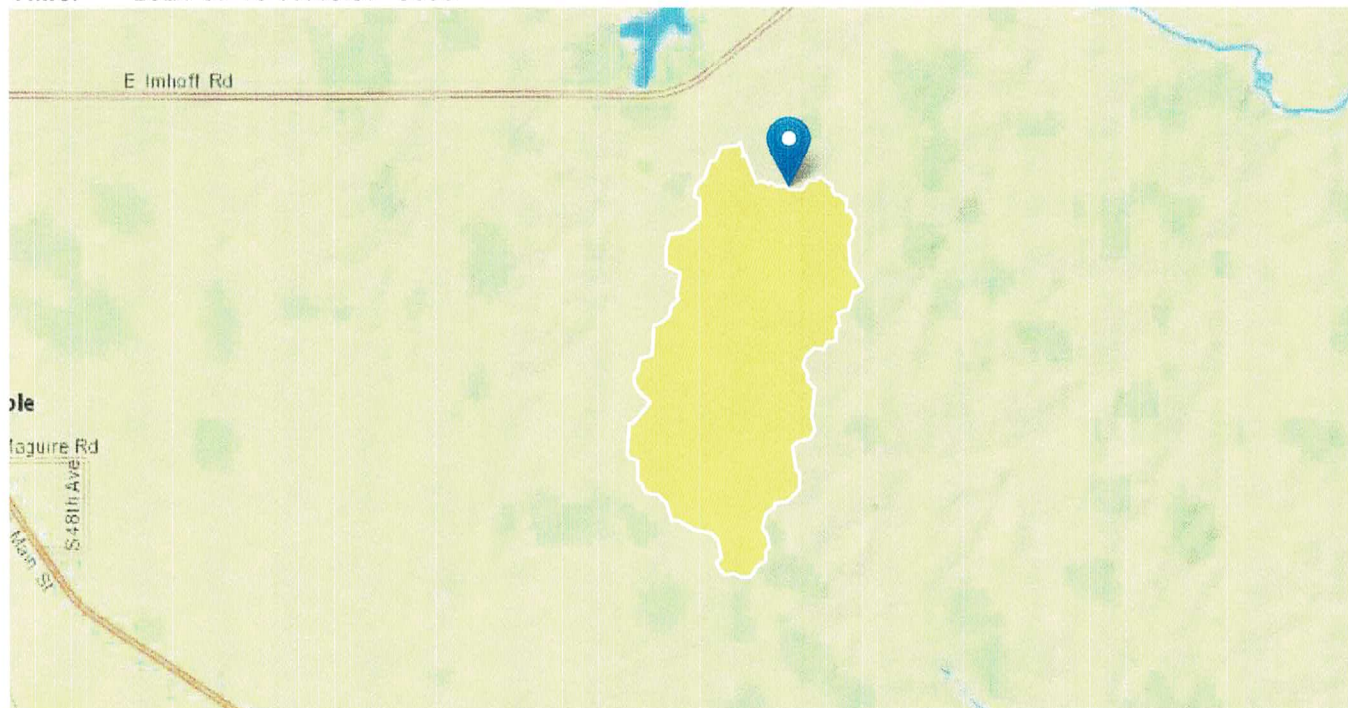
Q6 StreamStats Report

Region ID: OK

Workspace ID: OK20240919004510930000

Clicked Point (Latitude, Longitude): 35.17454, -97.23493

Time: 2024-09-18 19:45:37 -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	48.89	percent
CONTDA	Area that contributes flow to a point on a stream	7.18	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	26.6	feet per mi
DAUNREG	Unregulated drainage area used in OK regulated equations	7.18	square miles

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream		square miles
ELEV	Mean Basin Elevation	1140	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)	38.67	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	7.18	square miles	0.1	2510
CSL10_85fm	Stream Slope 10 and 85 Method ft per mi	26.6	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	7.18	square miles	0.1	2510
CSL10_85fm	Stream Slope 10 and 85 Method ft per mi	26.6	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, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp	Equiv. Yrs.
50-percent AEP flood	1000	ft ³ /s	46.9	2
20-percent AEP flood	1890	ft ³ /s	36.2	5
10-percent AEP flood	2650	ft ³ /s	35	8
4-percent AEP flood	3780	ft ³ /s	39.9	9
2-percent AEP flood	4990	ft ³ /s	37.1	11

Statistic	Value	Unit	ASEp	Equiv. Yrs.
1-percent AEP flood	5870	ft ³ /s	39.9	12
0.2-percent AEP flood	9360	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, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp	Equiv. Yrs.
Regulated 50-percent AEP flood	1000	ft ³ /s	46.9	2
Regulated 20-percent AEP flood	1890	ft ³ /s	36.2	5
Regulated 10-percent AEP flood	2650	ft ³ /s	35	8
Regulated 4-percent AEP flood	3780	ft ³ /s	39.9	9
Regulated 2-percent AEP flood	4990	ft ³ /s	37.1	11
Regulated 1-percent AEP flood	5870	ft ³ /s	39.9	12
Regulated 0.2-percent AEP flood	9360	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, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp	Equiv. Yrs.
50-percent AEP flood	1000	ft ³ /s	46.9	2
20-percent AEP flood	1890	ft ³ /s	36.2	5
10-percent AEP flood	2650	ft ³ /s	35	8
4-percent AEP flood	3780	ft ³ /s	39.9	9
2-percent AEP flood	4990	ft ³ /s	37.1	11
1-percent AEP flood	5870	ft ³ /s	39.9	12
0.2-percent AEP flood	9360	ft ³ /s	50.7	12
Regulated 50-percent AEP flood	1000	ft ³ /s	46.9	2
Regulated 20-percent AEP flood	1890	ft ³ /s	36.2	5
Regulated 10-percent AEP flood	2650	ft ³ /s	35	8
Regulated 4-percent AEP flood	3780	ft ³ /s	39.9	9
Regulated 2-percent AEP flood	4990	ft ³ /s	37.1	11
Regulated 1-percent AEP flood	5870	ft ³ /s	39.9	12
Regulated 0.2-percent AEP flood	9360	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	7.18	square miles	8	2296
ELEV	Mean Basin Elevation	1140	feet	625	1527
CANOPY_PCT	Percent Area Under Canopy	48.89	percent	8.41	83.5
PRECIPOUT	Mean Annual Precip at Gage	38.67	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	1.47	ft ³ /s
50 Percent Duration	0.201	ft ³ /s
80 Percent Duration	0	ft ³ /s
90 Percent Duration	0	ft ³ /s
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	7.18	square miles	8	2296
PRECIPOUT	Mean Annual Precip at Gage	38.67	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	2.58	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
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Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

Statistic	Value	Unit
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Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
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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
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Maximum Probable Flood Statistics Citations

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

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Application Version: 4.24.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

Cross Section Map

RIDGELINE ESTATES

SCALE 1" = 400"

