

Region 6 Compliance Assurance and Enforcement Division

INSPECTION REPORT

Inspection Date(s):	November 14, 2017		
Media:	Water (CWA)		
Regulatory Program(s)	NPDES – Oil and Gas BRINE		
Company Name:	Sheridan Production Co., LLC		
Facility Name:	Fittstown		
Facility Physical Location:	34.6184N, -96.6089W		
(city, state, zip code)	Stonewall, Oklahoma 74871		
Mailing address:	1833 S. Morgan Rd.		
(city, state, zip code)	Oklahoma City, Oklahoma 73128		
County/Parish:	Pontotoc		
Facility Contact:	Jack Thompson	EH and S Coordinator	
	405-990-3339; jthompson@sheridanproduction.com		
FRS Number:	N/A		
Identification/Permit Number:	OKU000863		
Media Number:	N/A		
NAICS:	211111		
SIC:	1311		
Personnel participating in inspection:			
Kent W. Sanborn	EPA Region 6, 6EN-WR	Environmental Engineer	918-557-1615
Jack Thompson	Sheridan Production Co.	EH&S Coordinator	405-990-3339
EPA Lead Inspector Signature/Date			
	Kent W. Sanborn		Date
Supervisor Signature/Date			
	Willie Lane		Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspector Kent W. Sanborn arrived at the Sheridan Production Company, LLC / Fittstown Lease at 2:30 PM on November 14, 2017 for an unannounced inspection. The inspection was initiated by a reported discharge of fluids into a nearby tributary by Sheridan Production Company, LLC to the National Response Center (NRC) call center. I met with Jack Thompson of Sheridan Production Company, LLC. when I first arrived at the discharge site. The inspection was conducted under the authority of Section 308 of the Clean Water Act (CWA.) I presented my credentials to Mr. Thompson before beginning the inspection. The scope of the inspection was to determine if the facility was in compliance with Clean Water Act, including Section 301, and to identify and document discharges of produced wastewater (brine) to waters of the United States. Several contractors were already present and assisting with cleanup. The Oklahoma Corporation Commission inspector was not present, but has been at the discharge site earlier in the day.

FACILITY DESCRIPTION

The inspection of the discharge site consisted of the a recently excavated 12-inch steel injection trunk line. The line was repaired and reburied prior to my arrival. This line supplies water to many injection wells in the area, which is a water flood. No other production equipment or injection facilities were involved with the spill. The line rupture was reported to be an 8 inch split in the 12-inch concrete-lined steel pipe. At the time of the rupture, pressure in the line was around 1,700 psi. The discharge ran directly to a tributary of Mill Creek about 20 yards away. That tributary, or drainage ditch, flowed into Mill Creek east of the discharge site.

Section II – OBSERVATIONS

I initially arrived at Sheridan Production Co. LLC/Fittstown water flood site at about 2:30 pm on November 14, 2017. Photo 1 shows the location of the injection line failure (now repaired) that caused at least 1,500 barrels of brine to enter a tributary or drainage ditch (Photo 2). With a calibrated YSI 30 Conductivity Meter, a Total Dissolved Solids (TDS) reading of the tributary was 1,321 milligrams per liter (mg/l) at the point of discharge (Photo 3). The tributary was currently being flushed with fresh water above this location in an attempt to wash out the brine. Photo 4 shows light oil staining in the tributary that I observed during the inspection. I did not observe additional oil or an oil sheen in the tributary or Mill Creek at the time of the inspection. Photo 5 shows the same tributary about 40 yards east of the entry point. The TDS was 5,628 mg/l at that point (Photo 6). The tributary had been temporarily dammed up prior to the point of entry to Mill Creek. The flushed water was being collected here (Photo 7) and then removed by truck. At this collection area, or pit, in the tributary a TDS reading of 11,845 mg/l (Photo 8) was taken. I observed that brine had entered Mill Creek (Photo 9) and flowed east with the existing natural flow before the dam was constructed. The creek was muddy due to the construction of the temporary dam in the tributary and from suction activity in Mill Creek itself. TDS in Mill Creek at the confluence of the tributary and Mill Creek was 43,181 mg/l (Photo 10). Photo 11 shows Mill Creek upstream from the confluence of the tributary of Mill Creek and Mill Creek. TDS was

413 mg/l (Photo 12) upstream. Another portion of Mill Creek was tested farther upstream away from the site (Photos 13 and 14) and a TDS reading of 317 mg/l (Photo 15) was taken at this location. The water was completely clear and flowing rapidly from natural springs in the area. Downstream approximately 1-mile from the discharge entry point a TDS reading of 501 mg/l (Photo 16) was taken. The creek was also tested again about 2 miles from the discharge entry point and a TDS reading of 1,019 mg/l was taken (Photo 17). The operator was continuing to pump out the flush water collection area near Mill Creek at the time of the inspection.

Section III – AREAS OF CONCERN

The observed areas of concern including, elevated levels of TDS due to brine throughout the tributary and Mill Creek. Additionally, contaminated soil at the site, including along the flow path should be removed to continued erosion and seepage into Mill Creek.

Section IV – FOLLOW UP

A follow up inspection will be conducted when remedial actions are completed.

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 17 photos

Appendix 1

Photographic Log (17 photos)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 1 (DSC_0001)

Orientation: East

Date of Photo: 11/14/2017

Time of Photo: 3:19 PM

Latitude: 34.618251N

Longitude: -96.609369W

Photographer: K.W. Sanborn

Description: This photo shows the location where the discharge originated from a flow line. A twelve-inch injection line split underground and released about 1,500 barrels of produced water, or brine, to a nearby tributary. That tributary flows into Mill Creek. At the time of the inspection, the flow line had been repaired and reburied.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 2 (DSC_0003)

Orientation: East

Date of Photo: 11/14/2017

Time of Photo: 3:20 PM

Latitude: 34.618251N

Longitude: -96.609369W

Photographer: K.W. Sanborn

Description: The discharge entered this small tributary which flows to Mill Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 3 (DSC_0005)

Orientation: East

Date of Photo: 11/14/2017

Time of Photo: 3:21 PM

Latitude: 34.618324N

Longitude: -96.609222W

Photographer: K.W. Sanborn

Description: With a calibrated YSI 30 Pro conductivity meter, a Total Dissolved Solids (TDS) reading was taken at the entry point to the tributary of Mill Creek and was 1,321 milligrams per liter (mg/l).



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 4 (DSC_0004)

Orientation: East

Date of Photo: 11/14/2017

Time of Photo: 3:20 PM

Latitude: 34.618324N

Longitude: -96.609222W

Photographer: K.W. Sanborn

Description: This image shows the point of entry to the small tributary. I observed slight oil stain on the vegetation, and no sheen on the water was present at the time of the inspection. Also, the operator was flushing this section of the tributary from upstream to displace brine.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 5 (DSC_0007)

Orientation: East

Date of Photo: 11/14/2017

Time of Photo: 3:22 PM

Latitude: 34.618197N

Longitude: -96.608657W

Photographer: K.W. Sanborn

Description: The tributary is shown here about 40 yards downstream from the initial entry point. There was flow in the tributary from remedial activities, including flow from the flushing operations of the tributary.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 6 (DSC_0006)

Orientation: East

Date of Photo: 11/14/2017

Time of Photo: 3:22 PM

Latitude: 34.618197N

Longitude: -96.608657W

Photographer: K.W. Sanborn

Description: The TDS reading at the location shown in Photo 5 was 5,628 mg/l.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 7 (DSC_0016)

Orientation: Southeast

Date of Photo: 11/14/2017

Time of Photo: 3:40 PM

Latitude: 34.618156N

Longitude: -96.607092W

Photographer: K.W. Sanborn

Description: This temporary dam was built at the point of entry from the tributary to Mill Creek. The water shown here was mostly flush water used to clean the tributary of the brine contamination. Mill Creek was directly behind this dam flowing east.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 8 (DSC_0017)

Orientation: South

Date of Photo: 11/14/2017

Time of Photo: 3:41 PM

Latitude: 34.618156N

Longitude: -96.607192W

Photographer: K.W. Sanborn

Description: This photo shows a TDS reading from the dammed portion of the tributary shown in Photo 7 was 11,845 mg/l.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma

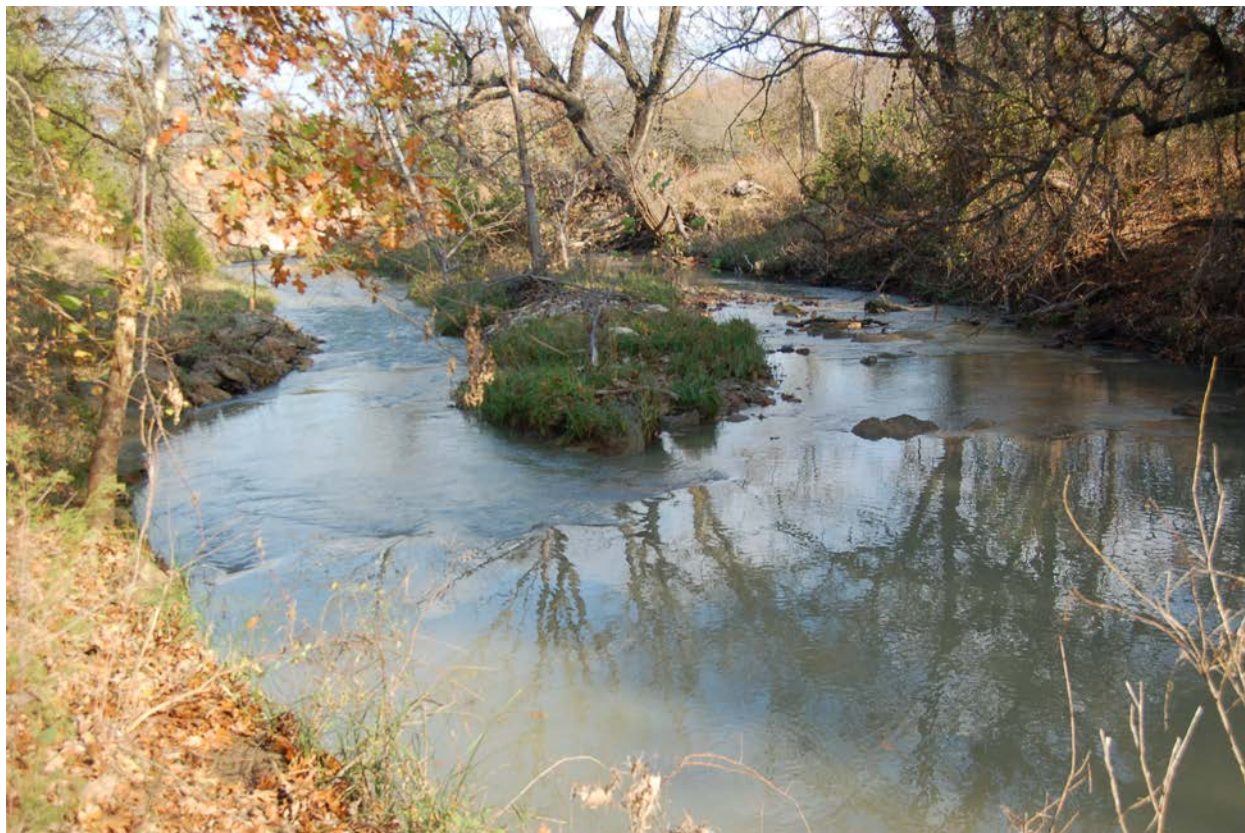


Photo File Name: Photo 9 (DSC_0019)

Orientation: East

Date of Photo: 11/14/2017

Time of Photo: 3:42 PM

Latitude: 34.618156N

Longitude: -96.607192W

Photographer: K.W. Sanborn

Description: This image shows Mill Creek, looking downstream and the flow was east. The entry point of the tributary into Mill Creek was here. I observed that the water was muddy due to construction and water removal activities upstream in the tributary.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 10 (DSC_0015)

Orientation: East

Date of Photo: 11/14/2017

Time of Photo: 3:40 PM

Latitude: 34.618156N

Longitude: -96.607192W

Photographer: K.W. Sanborn

Description: At the confluence of the tributary and Mill Creek, a TDS reading of 43,181 mg/l was taken.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 11 (DSC_0021)

Orientation: South

Date of Photo: 11/14/2017

Time of Photo: 3:54 PM

Latitude: 34.618037N

Longitude: -96.607122W

Photographer: K.W. Sanborn

Description: This was a view upstream of the confluence of the tributary of Mill Creek and Mill Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 12 (DSC_0020)

Orientation: South

Date of Photo: 11/14/2017

Time of Photo: 3:54 PM

Latitude: 34.618037N

Longitude: -96.607122W

Photographer: K.W. Sanborn

Description: A TDS reading of the unaffected water just upstream of the confluence of the tributary of Mill Creek and Mill Creek was 413 mg/l.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 13 (DSC_0023)

Orientation: North

Date of Photo: 11/14/2017

Time of Photo: 3:54 PM

Latitude: 34.61607N

Longitude: -96.60655W

Photographer: K.W. Sanborn

Description: This photo was Mill Creek farther upstream from the confluence of the tributary and Mill Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 14 (DSC_0022)

Orientation: South

Date of Photo: 11/14/2017

Time of Photo: 3:54PM

Latitude: 34.61607N

Longitude: -96.60655W

Photographer: K.W. Sanborn

Description: This image showed an additional image of Mill Creek upstream of the confluence of the tributary and Mill Creek. I observed that the water was clear and flowing.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 15 (DSC_0024)

Orientation: South

Date of Photo: 11/14/2017

Time of Photo: 3:55 PM

Latitude: 34.61607N

Longitude: -96.60655W

Photographer: K.W. Sanborn

Description: A TDS reading was taken upstream in Mill Creek at the location shown in Photo 14 and was 317 mg/l.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 16

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 16 (DSC_0025)

Orientation: Southeast

Date of Photo: 11/14/2017

Time of Photo: 4:06 PM

Latitude: 34.620788N

Longitude: -96.593196W

Photographer: K.W. Sanborn

Description: A TDS reading of 501 mg/l in Mill Creek was taken about 1 mile east, or downstream, of the confluence of the tributary and Mill Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 17

Location: 34.6184N, -96.6089W		
City: Stonewall	County: Pontotoc	State: Oklahoma



Photo File Name: Photo 17 (DSC_0026)

Orientation: West

Date of Photo: 11/14/2017

Time of Photo: 4:14 PM

Latitude: 34.620013N

Longitude: -96.580143W

Photographer: K.W. Sanborn

Description: A TDS reading of Mill Creek about 2 miles east of the confluence of the tributary and Mill Creek was 1,019 mg/l.