

**Region 6 Compliance Assurance and Enforcement Division
INSPECTION REPORT**

Inspection Date(s):	March 28, 2018		
Media:	Water (CWA)		
Regulatory Program(s)	NPDES – Brine		
Company Name:	Polk Operating, L.L.C.		
Facility Name:	Polk R 3 Facility		
Facility Physical Location:	34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
(city, state, zip code)	Ryan, Oklahoma 73565		
Mailing address:	421 NW 13 th St., Suite 210		
(city, state, zip code)	Oklahoma City, Oklahoma 73103		
County/Parish:	Jefferson		
Facility Contact:	Mickey Polk	Owner	
	940-366-1752		
FRS Number:	N/A		
Identification/Permit Number:	OKU000778		
Media Number:	N/A		
NAICS:	21111		
SIC:	1311		
Personnel participating in inspection:			
Kent W. Sanborn	EPA Region 6, 6EN-WR	Environmental Engineer	918-557-1615
Richard Welch	Oklahoma Corporation Commission	Inspector	(580) 656-2410
EPA Lead Inspector Signature/Date			
	Kent W. Sanborn		Date
Supervisor Signature/Date			
	Guy Tidmore		Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspector Kent W. Sanborn arrived at the Polk Operating, LLC – Polk R3 facility on a property near Ryan, Jefferson County, Oklahoma at 10:15 am on March 28, 2018. The inspection was initiated by an ongoing concerned citizen complaint referred to EPA by the Oklahoma Corporation Commission (OCC). There was not a company representative at the site during the inspection. OCC inspector Richard Welch was present during the inspection. The inspection was conducted under the authority of Section 308 of the CWA. 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 contaminants, including produced wastewater (brine) to waters of the United States.

FACILITY DESCRIPTION

The origination point of discharge was from the Polk Operating, LLC - Polk R3 facility located north of the tributary of Red Creek. The facility receives wastes, including used drilling mud and cuttings from oil and gas drill sites including sites from Texas by truck. The material is then stored on site, mixed with dirt and once determined acceptable sold or used for agricultural purposes. Some of the material, including fluids from drilling muds and brine, was not contained during the inspection allowing the release of brine and other contaminants associated with oil and gas upstream operations to the nearby tributary of Red Creek. The facility was actively receiving waste during March 2018. The OCC classifies this facility as a recycling and reclaiming facility.

Section II – OBSERVATIONS

I arrived at the Polk Operating, LLC facility at about 10:15 am on March 28, 2018 shortly after a rain event. Photo 1 indicates the location and current ownership of the facility. At the facility, I observed several cuts along the containment wall around the facility that were inadequate, including on the southern side of the facility and the northwest side of the facility. I observed fluids, including brine and drilling wastes being discharged from the facility and flow to the tributary of Red Creek. I observed that this discharge of fluids was chronic due to the observed damages along the flow path and the erosion from the facility and along the flow path. This chronic damage had occurred prior to and during the inspection, especially after heavy rainfall events that wash drilling mud remnants and brine fluids to the tributary of Red Creek. The runoff from the mud and waste piles at the facility is shown in Photo 2. Both brine and some oil was present in the fluids that flowed from the site during the rainfall event. With a calibrated YSI Pro 30 Conductivity Meter the Total Dissolved Solids (TDS) of the discharged brine at the point of discharge was 6,114 mg/L (Photo 3). The discharge flowed south and southeast along the road from the waste piles (Photos 4 and 5). A strong oil sheen was evident with the runoff (Photo 6). TDS of the discharge shown in the location of Photo 5 was 6,941 mg/L (Photo 7). The runoff flowed from the road ditch as shown in Photo 8 and flowed along a flow path towards the tributary of Red Creek. The flow path flowed south and south east and had pooled up at a recently constructed dead-end road (Photo 9). TDS of the flow path at the pooled up area was 2,118 mg/L (Photo 10). The flow path continued south where it entered a larger pond area (Photo 11). TDS of the entry point to the pond was 1,351 mg/L (Photo 12). The main part of the pond is shown in Photo 13. The pond in turn, was releasing

water on the southeast side and continued to flow towards the tributary of Red Creek (Photo 14). The flow path continued southeast toward the tributary of Red Creek (Photo 15). The flow path joined the tributary of Red Creek in Photo 16. TDS at the point of entry to the tributary of Red Creek was 1,173 mg/L (Photo 17). Upstream from the point of entry into the tributary of Red Creek is shown in Photo 18. I observed rapid flow due to heavy rain. TDS upstream at the location shown in Photo 18 was 102 mg/L (Photo 19). Photos 20 showed an additional view of the tributary of Red Creek upstream from the point of entry.

Section III – AREAS OF CONCERN

I observed that containment of wastes from the at the mud reclaiming site was inadequate, especially during rainfall events, as evident by the historical damage observed during the inspection. Also, runoff from the site to the tributary of Red Creek occurred and the flow from the site had oil sheen, mud wastes, and brine contaminants. The rain events cause a flow path to occur from site south towards a pond along the flow path and eventually to the tributary of Red Creek approximately 0.6 miles south of the facility. The site containment pits were not lined and were completely full, therefore the rain event was not contained on site. I also observed a cut in a separate containment wall located on the northwest side of the piles. There were elevated levels of TDS along the flow path from the facility to the tributary of Red Creek. Although the tributary of Red Creek had increased flow due to a recent rain event, elevated levels of TDS were observed at the point of entry of the tributary of Red Creek.

Section IV – FOLLOW UP

A follow up inspection will be conducted as needed.

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 20 photos taken March 28, 2018.

Appendix 1

Photographic Log (20 photos)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 1 (DSC_0092)

Orientation: South

Date of Photo: 3/28/2018

Time of Photo: 11:54 am

Latitude: 34.012846N

Longitude: -97.839664W

Photographer: K.W. Sanborn

Description: This photo shows the sign of the facility and the location of the facility from where a discharge of brine and drilling mud fluids flowed from the site to the tributary of Red Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 2 (DSC_0073)

Orientation: North

Date of Photo: 3/28/2018

Time of Photo: 11:08 am

Latitude: 34.009619N

Longitude: -97.830503W

Photographer: K.W. Sanborn

Description: This photo shows that rainfall caused runoff from these waste piles and brine fluids and oil flowed from the facility towards the tributary of Red Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 3 (DSC_0070)

Orientation: East

Date of Photo: 3/28/2018

Time of Photo: 11:04 am

Latitude: 34.009123N

Longitude: -97.830089W

Photographer: K.W. Sanborn

Description: This photo shows that at the point of discharge from the facility, the Total Dissolved Solids (TDS) reading was taken with a calibrated YSI Pro 30 Conductivity Meter where fluids, including brine and oil sheen, were leaving the mud piles. A TDS reading of 6,114 milligrams per liter (mg/L) was taken at this location. The flow of the fluids was south of the facility towards the tributary of Red Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 4 (DSC_0065)

Orientation: Northeast

Date of Photo: 3/28/2018

Time of Photo: 11:02 am

Latitude: 34.007250N

Longitude: -97.827924W

Photographer: K.W. Sanborn

Description: The flow path from the facility where there were piles of drilling mud waste flowed from the facility south along a road ditch towards the tributary of Red Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 5 (DSC_0064)

Orientation: Northeast

Date of Photo: 3/28/2018

Time of Photo: 11:01 am

Latitude: 34.007931N

Longitude: -97.828658W

Photographer: K.W. Sanborn

Description: This photo shows that the brine and drilling mud fluids flowed south from the facility and continued towards a pond and then a tributary of Red Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 6 (DSC_0068)

Orientation: North

Date of Photo: 3/28/2018

Time of Photo: 11:03 am

Latitude: 34.009123N

Longitude: -97.830089W

Photographer: K.W. Sanborn

Description: This photo shows the oil sheen I observed that flowed south from the facility along the road side ditch towards the tributary of Red Creek. Additionally, brine was flowing along the flow path.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 7 (DSC_0059)

Orientation: North

Date of Photo: 3/28/2018

Time of Photo: 11:00 am

Latitude: 34.007931N

Longitude: -97.828658W

Photographer: K.W. Sanborn

Description: TDS of the fluids in the ditch shown in Photo 5 was 6,941 mg/L. The flow was south towards the tributary of Red Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 8 (DSC_0057)

Orientation: Northwest

Date of Photo: 3/28/2018

Time of Photo: 10:39 am

Latitude: 34.005694N

Longitude: -97.826656W

Photographer: K.W. Sanborn

Description: This photo shows the flow path. The flow in the ditch flowed east, into a field show in this photo, and continued along the flow path away from the road ditch towards a tributary of Red Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 9 (DSC_0029)

Orientation: North

Date of Photo: 3/28/2018

Time of Photo: 10:29 am

Latitude: 34.006502N

Longitude: -97.826205W

Photographer: K.W. Sanborn

Description: The small tributary had pooled up at this location, near recent construction of the area south of the facility. This pooled up area was along the flow path of fluids from the facility towards the tributary of Red Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 10 (DSC_0032)

Orientation: South

Date of Photo: 3/28/2018

Time of Photo: 10:31 am

Latitude: 34.006502N

Longitude: -97.826205W

Photographer: K.W. Sanborn

Description: This photo shows the TDS at the tributary location of Photo 9 and the TDS reading was 2,118 mg/L.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 11 (DSC_0040)

Orientation: South

Date of Photo: 3/28/2018

Time of Photo: 10:36 am

Latitude: 34.004967N

Longitude: -97.825860W

Photographer: K.W. Sanborn

Description: The flow path entered a small pond prior to entering the tributary of Red Creek, and the brine and other fluids flowed to this location.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 12 (DSC_0047)

Orientation: Southeast

Date of Photo: 3/28/2018

Time of Photo: 10:39 am

Latitude: 34.005025N

Longitude: -97.825708W

Photographer: K.W. Sanborn

Description: TDS at the entry to the pond was 1,351 mg/L. The flow path of fluids enters this pond on the north side and exits on the southeast corner to a larger flow path area that leads to the tributary of Red Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 13 (DSC_0048)

Orientation: South

Date of Photo: 3/28/2018

Time of Photo: 10:41 am

Latitude: 34.005025N

Longitude: -97.825708W

Photographer: K.W. Sanborn

Description: The large pond area along the flow path and near the point of entry of the tributary of Red Creek was at this location. This pond has been flooded due to recent heavy rain.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 14 (DSC_0053)

Orientation: Northwest

Date of Photo: 3/28/2018

Time of Photo: 10:48 am

Latitude: 34.004598N

Longitude: -97.824827W

Photographer: K.W. Sanborn

Description: The flow from the pond exited the flooded area at this location on the southeast side of the pond and flows towards a tributary of Red Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 15 (DSC_0054)

Orientation: East

Date of Photo: 3/28/2018

Time of Photo: 10:48 am

Latitude: 34.004598N

Longitude: -97.824827W

Photographer: K.W. Sanborn

Description: This photo shows the flow path which continued east then southeast approximately 0.5 miles towards the tributary of Red Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 16

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 16 (DSC_0055)

Orientation: Southeast

Date of Photo: 3/28/2018

Time of Photo: 10:49 am

Latitude: 34.004183N

Longitude: -97.824347W

Photographer: K.W. Sanborn

Description: The flow path entered the tributary of Red Creek at this location. I observed a strong flow in the tributary towards the east.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 17

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 17 (DSC_0043)

Orientation: South

Date of Photo: 3/28/2018

Time of Photo: 10:37 am

Latitude: 34.004183N

Longitude: -97.824347W

Photographer: K.W. Sanborn

Description: The TDS of the tributary of Red Creek at the point of entry was 1,173 mg/L.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 18

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 18 (DSC_0050)

Orientation: South

Date of Photo: 3/28/2018

Time of Photo: 10:45 am

Latitude: 34.004060N

Longitude: -97.825185W

Photographer: K.W. Sanborn

Description: This was a view of the tributary of Red Creek upstream of the discharge entry point. This photo shows that the tributary was flooding during the inspection.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 19

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 19 (DSC_0052)

Orientation: South

Date of Photo: 3/28/2018

Time of Photo: 10:46 am

Latitude: 34.004060N

Longitude: -97.825185W

Photographer: K.W. Sanborn

Description: The TDS upstream of the discharge entry point was 102 mg/L.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 20

Location: 34.012846N, -97.839664W (Section 28, T 6S, R 6W)		
City: Ryan	County: Jefferson	State: Oklahoma



Photo File Name: Photo 20 (DSC_0051)

Orientation: Southeast

Date of Photo: 3/28/2018

Time of Photo: 10:45 am

Latitude: 34.004060N

Longitude: -97.825185W

Photographer: K.W. Sanborn

Description: This was the tributary of Red Creek flowing east near the point of entry of the flow path of brine and drilling mud fluids. I observed that heavy rain had caused flooding.