

Region 6 Compliance Assurance and Enforcement Division

INSPECTION REPORT

Inspection Date(s):	April 12, 2018		
Media:	Water (CWA)		
Regulatory Program(s)	NPDES – Brine		
Company Name:	Diamond 3S, LLC		
Facility Name:	<i>Kennedy</i>		
Facility Physical Location:	36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
(city, state, zip code)	Pawhuska, Oklahoma 74056		
Mailing address:	20102 West Coyote Trail		
(city, state, zip code)	Sand Springs, Oklahoma 74063		
County/Parish:	Osage		
Facility Contact:	Joel Summers	Joel Summers	
	(918) 638-9306		
FRS Number:	N/A		
Identification/Permit Number:	OKU000867		
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
EPA Lead Inspector Signature/Date			
	Kent W. Sanborn		Date
Supervisor Signature/Date			18 JUN 2018
	Guy Tidmore		Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspector Kent W. Sanborn arrived at the Diamond 3S, LLC – Kennedy lease on the Kennedy near Pawhuska, Osage County, Oklahoma at about 2:00 PM on April 12, 2018 for an inspection. The inspection was initiated by a reported discharge of fluids into a nearby tributary of Daniel's Run Creek by Diamond 3S, LLC, and was a follow-up to inspections conducted March 16 and 20, 2018. The Bureau of Indian Affairs (BIA) in Pawhuska requested EPA assistance in addressing the discharge. There was not a company representative at the site during the inspection. The inspection was conducted under the authority of Section 308 of the Clean Water Act (CWA). The scope of the inspection was to determine if the facility was in compliance with CWA, including Section 301, and to identify and document discharges of produced wastewater (brine) to waters of the United States.

FACILITY DESCRIPTION

The origination point of discharge was a leaking injection well supply line connected to the well known as the Kennedy Number 3, EPA inventory OS 4349. The line was buried up to the well during the time of the inspection. The flow line was connected to the main tank battery on the Kennedy lease. The Kennedy Number 3 well was closed in, and the flow line had leaked fluids on or about March 16, 2018. The brine that leaked to the tributary of Daniel's Run Creek contaminated over an acre of soil along its flow path between the leaking flow line and the tributary. The flow path became contaminated from this leak and the brine contaminated soil continues to seep brine into the tributary of Daniel's Run Creek. The entire pasture area between the well and the tributary was saturated with brine and has continued to seep to the tributary.

Section II – OBSERVATIONS

I arrived at the Diamond 3S, LLC, Kennedy lease at about 2:00 pm on April 12, 2018. I confirmed the discharge was seeping into the tributary of Daniel's Run Creek due to contaminated soil and a recent rainfall event. I observed one truck hauling water from the tributary for approximately two hours during the inspection. Photo 1 indicates the injection well sign located a few yards from the previous discharge point. The previous brine leak contaminated a large area of soil which was actively seeping into the tributary of Daniel's Run Creek. Photos 2 and 3 show the area along the flow path, downhill from the previous point of discharge, that was actively seeping during the inspection to the tributary of Daniel's Run Creek. The Total Dissolved Solids (TDS) in the tributary of Daniel's Run Creek was taken with a calibrated YSI Pro 30 Conductivity Meter at the point of entry and measured 83,783 mg/L (Photo 4). The first temporary dam is shown in Photo 5. TDS at this first dam, or Dam 1, was 33,526 mg/L (Photo 6). This first dam was also seeping brine downstream from the base of the dam. Downstream from Dam 1 (Photo 7) the tributary was full and flowing south. TDS of the tributary in Photo 7 was 62,811 mg/L (Photo 8). The tributary had fluids backed up behind the second dam, or Dam 2, shown in Photo 9. Water was flowing through the pipe (Photo 10) in the dam. TDS of the tributary at this location was 20,395 mg/L (Photo 11) at Dam 2. The tributary flowed south (Photo 12) towards the third temporary dam, or Dam 3. TDS in the tributary at the location shown in Photo 12 was 37,716 mg/L (Photo 13). The third dam, or Dam 3 was shown in Photo 14. TDS at that point was 23,587 mg/L (Photo 15). The

affected tributary joined another branch of the Daniel's Run Creek flowing from the west as shown in Photo 16. TDS of the contaminated water at the confluence was 11,800 mg/L (Photo 17). I observed remains of a dead crayfish at the junction of the tributaries, shown in Photo 18. The tributary continued to flow south of Dam 3 (Photo 19). The upstream portion of the tributary, north of the discharge entry point where seepage had occurred, was shown in Photo 20. TDS upstream was 917 mg/L (Photo 21).

Section III – AREAS OF CONCERN

There continue to be elevated levels of TDS in the tributary and Daniel's Run Creek due to a previous spill and continued seepage from contaminated soils along the significantly large flow path. The brine continues to flow further downstream than documented in previous compliance inspections and is not being removed from the stream in effective amounts. I continued to observe contamination in the tributary and creek and along the flow path. The seepage from the large area of contaminated soil from a previous subsurface spill has continued to contaminate the area, including the tributary of Daniel's Run Creek and Daniel's Run Creek.

Section IV – FOLLOW UP

A follow up inspection will be conducted as needed.

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 21 photos taken April 12, 2018.

Appendix 1

Photographic Log (21 photos)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 1 (DSC_0029)

Orientation: South

Date of Photo: 04/12/2018

Time of Photo: 4:58 pm

Latitude: 36.586969N

Longitude: -96.498093W

Photographer: K.W. Sanborn

Description: This photo shows the sign for the Diamond 3S, LLC Kennedy #3 injection well, where a discharge originated from an injection flow line located about 20 yards east of this well head. The discharge occurred on or about March 14, 2018. The release contaminated a large area of soil, which continues to actively seep and was seeping during this inspection.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 2 (DSC_0031)

Orientation: South

Date of Photo: 04/12/2018

Time of Photo: 5:00 pm

Latitude: 36.586514N

Longitude: -96.499076W

Photographer: K.W. Sanborn

Description: Brine was seeping out of the hill side near Kennedy #3 injection well into the tributary of Daniel's Run Creek here.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 3 (DSC_0030)

Orientation: Southwest

Date of Photo: 04/12/2018

Time of Photo: 5:00 pm

Latitude: 36.586514N

Longitude: -96.499076W

Photographer: K.W. Sanborn

Description: The discharge and seepage from the hillside flowed to the tributary of Daniel's Run Creek and entered the tributary here.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 4 (DSC_0033)

Orientation: South

Date of Photo: 04/12/2018

Time of Photo: 5:02 pm

Latitude: 36.586514N

Longitude: -96.499076W

Photographer: K.W. Sanborn

Description: With a calibrated YSI Pro 30 Conductivity Meter I took Total Dissolved Solids (TDS) readings along the tributary. The TDS at the point of entry to the tributary of Daniel's Run Creek was 83,783 mg/L.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 5 (DSC_0002)

Orientation: Southwest

Date of Photo: 04/12/2018

Time of Photo: 2:22 pm

Latitude: 36.586313N

Longitude: -96.499364W

Photographer: K.W. Sanborn

Description: This photo shows the first dam, or Dam 1. There were fluids on both sides of the dam during the inspection that had elevated levels of TDS.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 6 (DSC_0005)

Orientation: Southwest

Date of Photo: 04/12/2018

Time of Photo: 2:23 pm

Latitude: 36.586313N

Longitude: -96.499364W

Photographer: K.W. Sanborn

Description: TDS of the brine located at Dam 1 was 33,526 mg/L. There were fluids leaking out the base of the dam during the inspection.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 7 (DSC_0006)

Orientation: Southwest

Date of Photo: 04/12/2018

Time of Photo: 2:24 pm

Latitude: 36.585291N

Longitude: -96.499880W

Photographer: K.W. Sanborn

Description: This photo shows the tributary of Daniel's Run Creek downstream of Dam 1. I observed bed and bank at this location of the tributary.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 8 (DSC_0007)

Orientation: Southwest

Date of Photo: 04/12/2018

Time of Photo: 2:24 pm

Latitude: 36.585291N

Longitude: -96.499880W

Photographer: K.W. Sanborn

Description: TDS of the location in the tributary of Daniel's Run Creek shown in Photo 7 was 62,811 mg/L.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 9 (DSC_0009)

Orientation: Northeast

Date of Photo: 04/12/2018

Time of Photo: 2:27 pm

Latitude: 36.585146N

Longitude: -96.500020W

Photographer: K.W. Sanborn

Description: I observed that water in the tributary was backed up behind Dam 2 here.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 10 (DSC_0011)

Orientation: East

Date of Photo: 04/12/2018

Time of Photo: 2:28 pm

Latitude: 36.585146N

Longitude: -96.500020W

Photographer: K.W. Sanborn

Description: I observed that brine in the tributary was flowing through the pipe in Dam 2.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 11 (DSC_0010)

Orientation: South

Date of Photo: 4/12/2018

Time of Photo: 2:28 pm

Latitude: 36.585146N

Longitude: -96.500020W

Photographer: K.W. Sanborn

Description: The TDS of the water in the tributary of Daniel's Run Creek at Dam 2 was 20,395 mg/L.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 12 (DSC_0012)

Orientation: Southwest

Date of Photo: 4/12/2018

Time of Photo: 2:32 pm

Latitude: 36.584833N

Longitude: -96.500620W

Photographer: K.W. Sanborn

Description: The tributary of Daniel's Run Creek, here, downstream of Dam 2 had bed and bank at this location.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 13 (DSC_0013)

Orientation: West

Date of Photo: 4/12/2018

Time of Photo: 2:33 pm

Latitude: 36.584833N

Longitude: -96.500620W

Photographer: K.W. Sanborn

Description: The TDS of the tributary of Daniel's Run Creek shown in Photo 12 was 37,716 mg/L.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 14 (DSC_0014)

Orientation: Southwest

Date of Photo: 4/12/2018

Time of Photo: 2:35 pm

Latitude: 36.583809N

Longitude: -96.502419W

Photographer: K.W. Sanborn

Description: The photo shows Dam 3. During the inspection, there was water flowing through the pipe downstream in Daniel's Run Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 15 (DSC_0015)

Orientation: South

Date of Photo: 4/12/2018

Time of Photo: 2:35 pm

Latitude: 36.583809N

Longitude: -96.502419W

Photographer: K.W. Sanborn

Description: The TDS at Dam 3 was 23,587 mg/L.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 16

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 16 (DSC_0017)

Orientation: South

Date of Photo: 4/12/2018

Time of Photo: 2:36 pm

Latitude: 36.583756N

Longitude: -96.502481W

Photographer: K.W. Sanborn

Description: The Daniel's Run Creek meets another branch or tributary that flowed from the west shown in this photo.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 17

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 17 (DSC_0019)

Orientation: South

Date of Photo: 4/12/2018

Time of Photo: 2:37 pm

Latitude: 36.583756N

Longitude: -96.502481W

Photographer: K.W. Sanborn

Description: The TDS of the water after the confluence of the tributary and the creek combined was 11,800 mg/L.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 18

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 18 (DSC_0021)

Orientation: Southwest

Date of Photo: 4/12/2018

Time of Photo: 2:40 pm

Latitude: 36.583756N

Longitude: -96.502481W

Photographer: K.W. Sanborn

Description: A dead crayfish at the junction of the creek and the tributary of Daniel's Run Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 19

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo file Name: Photo 19 (DSC_0021)

Orientation: South

Date of Photo: 4/12/2108

Time of Photo: 2:38 pm

Latitude: 35.583756N

Longitude: -96.502481W

Photographer: K.W. Sanborn

Description: This photo shows a view of the flowing creek, south of Dam 3. I observed bed and bank at this location.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 20

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 20 (DSC_0037)

Orientation: North

Date of Photo: 4/12/2018

Time of Photo: 5:06 pm

Latitude: 36.587812N

Longitude: -96.498510W

Photographer: K.W. Sanborn

Description: This photo shows a view of the tributary of Daniel's Run Creek upstream of the discharge entry point.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 21

Location: 36.586969N, -96.498093W (NE Sect. 1, T 24N, R 7E)		
City: Pawhuska	County: Osage	State: Oklahoma



Photo File Name: Photo 21 (DSC_0036)

Orientation: North

Date of Photo: 4/12/2018

Time of Photo: 5:05 pm

Latitude: 36.587812N

Longitude: -96.498510W

Photographer: K. W. Sanborn

Description: The TDS of the tributary upstream of the discharge entry point was 917 mg/L.