

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

Inspection Date(s):	02/07/2018		
Media:	Water		
Regulatory Program(s)	NPDES - Oil and Gas, Produced/Brine Water		
Company Name:	FF&N Oil Company		
Facility Name:	Diffey No1 Manville No5 SWD		
Facility Physical Location:	482 Pine Tree Rd, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
(city, state, zip code)	El Dorado, AR 71730		
Mailing address:	239 Frisby Road		
(city, state, zip code)	El Dorado, AR 71730		
County/Parish:	Union County		
Facility Contact:	David B. Frisby	Register Agent	
	Phone 870-866-8445	Home 870-962-3514	
FRS Number:	N/A		
Identification/Permit Number:	ARU001225		
Media Number:	N/A		
NAICS:	211111		
SIC:	1311		
Personnel participating in inspection:			
Jack Arias	US EPA, Region 6 (EPA)	Environmental Scientist	(214) 665 – 8164
EPA Lead Inspector Signature/Date			
	Jack Arias		Date
Supervisor Signature/Date			24 Apr 2018
	Guy Tidmore		Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

The purpose of the inspection was to follow-up previous enforcement actions and to determine if the facility was in compliance with Section 301 of the Clean Water Act (CWA) and to identify and document discharges of produced wastewater (brine) to waters of the United States. The inspection was conducted under the authority of Section 308 of the CWA. EPA Region 6 inspector Jack Arias arrived at FF&N Oil Company – Diffey No.1 Manville No.5 at approximately 3:14 PM on February 07, 2018 for an unannounced inspection. EPA region 6 inspector notified the Arkansas Oil and Gas Commission (AOGC) about the inspection. There were no representatives present at the time of entry. I proceeded to conduct an oil and gas, produced/brine water Clean Water Act (CWA) inspection. The scope of the inspection was to evaluate the facility's oil and produced water storage tanks and associated equipment at the site; flow paths from the facility and containment area to a nearby tributary and creek; potential downstream impacts, sensitive areas, and ponds; and other related factors that are connected to the CWA at the facility upstream and downstream of the facility.

FACILITY DESCRIPTION

The facility is known as the FF&N Oil Company – Diffey No.1 Manville No.5 and is located in a remote zone in El Dorado, Union County, Arkansas (See Photo No. 1 in Appendix 1). The facility consisted of two oil storage tanks, two produce water tanks, and two heater treater separators (See Photo Nos. 1 and 6 in Appendix 1). The tanks were not surrounded by a secondary containment wall. The capacity of the tanks to store produced water and oil was approximately 400 barrels. The tanks were connected to production wells, vessels, flow lines, collection points, and other equipment used for the production of crude oil and disposal of produced water. Production wells produce a mixture of produced water and crude oil (well fluids). Flow lines are used to transport well fluids from various locations on the leases. Collection points known as tank batteries consist of various tanks, vessels, and equipment used to separate and store the produced water, brine water, and crude oil. Produced water or brine water is typically high in salts and is commonly known as brine (See Photo Nos. 1 – 6 in Appendix 1).

Section II - OBSERVATIONS

FACILITY AND POINT OF ENTRY OBSERVATIONS

When I arrived at this facility on February 07, 2018, at around 3:14 pm, I conducted a preliminary evaluation of the tanks and the secondary containment wall conditions. I observed that the facility had an inadequate raised secondary containment wall around the oil and produced water tanks and the heater treater separators. I observed visible erosion on the containment wall; oil staining and produced water pools in and out of the containment area; oil and produced water leaks from tanks and lines; and visible corrosion on tanks and flowlines. At the time of the inspection, I observed that the bottoms of the tanks were corroded and leaking. I observed oil, produced water pools, sediments fully saturated with oil, and a flow path of fluids in and out of the containment area. Also at the west side of the tank battery, I observed a drain pipe with a valve installed in the secondary containment wall. The drain was opened and allowed fluids to flow out of the containment area. I observed a flowpath of fluids traveling

downgradient from the facility to the tributary of Ward Creek. Also, I observed debris, flowlines, visible oil staining and dead vegetation downstream along the flow path (See Photo Nos. 2 – 12 in Appendix 1). Using a calibrated YSI 30 Pro Conductivity Meter, at the point source of contamination (next to the facility's tanks and separators), at latitude 33.157155 N and longitude -92.512298 W, I took a Total Dissolved Solids (TDS) measurement of 11,732 parts-per-million (ppm) inside the containment area near the produced water tank. I observed oil staining and pool of fluids inside and outside the containment area (See Photo Nos. 6 – 7 in Appendix 1).

Also using a calibrated YSI 30 Pro Conductivity Meter, I took another reading at the drain pipe's outfall point at latitude 33.157083 N and longitude -92.512444 W, I took a Total Dissolved Solids (TDS) measurement of 1,505 parts-per-million (ppm) outside the containment area near the containment wall. I observed oil staining and pool of fluids inside and outside the containment area. (See Photo Nos. 8 – 10 in Appendix 1).

I followed the flow path of fluids downstream from the facility to the tributary of Ward Creek and at approximately 166 feet from the facility to the tributary of Ward Creek, I identified the Point of Entry (POE) of fluids at latitude 33.156806 N and longitude -92.512761 W. At this point, using a calibrated YSI 30 Pro Conductivity Meter, I took a TDS measurement of 3,794 ppm. At the POE, I observed a flowpath of fluids, dead vegetation, erosion, defined bed and bank, high water marks, and debris along the tributary of Ward Creek (See Photo No. 11 - 13 in Appendix 1).

DOWNSTREAM OBSERVATIONS ALONG THE TRIBUTARY OF WARD CREEK

I followed the tributary downstream to determine if low lying areas and potential vegetation along the tributary were impacted by oil and produced water discharges. At approximately 162 feet downstream from the POE at latitude 33.156611 N and longitude -92.513167 W, I found a flow path of fluids with defined bed and bank, ordinary high water marks, erosion, and debris. At this point, using a calibrated YSI 30 Pro Conductivity Meter, I took a TDS measurement of 1,485 ppm (See Photo Nos. 14 - 16 in Appendix 1).

At approximately 550 feet downstream from the POE at latitude 33.156000 N and longitude -92.514000 W, I found a flow path of fluids with oil staining on vegetation, defined bed and bank, high water marks, and debris going into the tributary of Ward creek.

To assess the flow direction of fluids, I determined the elevation between the facility and downstream points. The elevations obtained upstream 230.03 feet (facility / point source) and downstream 152.77 feet (tributary of Ward Creek and Ward Creek) demonstrated the downstream flow of fluids towards the Ward creek, Hibank creek, and Bayou de Loutre creek. (See Photo Nos. 3 to 6 in Waters of the US Analysis Report in Appendix 2).

UPSTREAM OBSERVATIONS ALONG THE TRIBUTARY OF WARD CREEK

I followed the tributary upstream to determine if higher lying areas of the tributary were impacted by oil and produced water discharges and to obtain TDS background information. Therefore, at approximately 0.66 miles upstream from the point between tributary of Ward creek and Ward creek at latitude

33.160866 N and longitude -92.512116 W, I took a TDS reading of 23.0 ppm. I observed defined bed and bank, high water marks, debris, and riparian vegetation and plants growing along the tributary (See Photo Nos. 17 - 18 in Appendix 1).

Section III – AREAS OF CONCERN

I observed during the inspection areas of concerns at this facility that included:

- High concentrations of TDS around tanks (point source of contamination), POE, and downstream the tributary of Ward Creek and Ward Creek.
- Potential leaks of oil and produced water from corroded flowlines and tanks.
- Discharge of fluids through a drain flowline built in the containment area.
- Visible oil staining and dead vegetation along the flow path
- Visible corrosion on tanks and flowlines.
- Inadequate secondary containment walls around the tanks with visible erosion on the containment wall, oil pools and staining in and out the containment area.
- Potential concerns of soil contamination at the facility, flowpath, and downstream of the facility

Section IV – FOLLOW UP

The following follow-up actions will be conducted:

- EPA will call and send a copy of the inspection report to the facility
- EPA will refer this facility to the EPA Region 6 Spill Prevention Control and Countermeasure (SPCC) program
- EPA will send a copy of the inspection report to the Arkansas Department of Environmental Quality (ADEQ) and Arkansas Oil and Gas Commission (AOGC).

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 18 photos taken on 04/07/2018.

Appendix 1

Photograph Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3110.JPG
Date of Photograph: 02/07/2018
Latitude: 33.157155 N
Longitude: -92.512298 W
Orientation: N
Map Datum: WGS-84
Time of Photo: 03:14 AM
Photographer: Jack Arias
Description: This image shows the sign and tank at FF&N Oil Company – Diffey No. 1 Manville No. 5 SWD.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3114.JPG

Date of Photograph: 02/07/2018

Latitude: 33.157155 N

Longitude: -92.512298 W

Orientation: NE

Map Datum: WGS-84

Time of Photo: 03:19 PM

Photographer: Jack Arias

Description: This image shows part of the facility's two oil storage tanks, two produce water tanks, and two heater treater separators. The tanks were not surrounded by a secondary containment wall. The tanks were connected to production wells, vessels, flow lines, collection points, and other equipment used for the production of crude oil and disposal of produced water.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3111.JPG

Date of Photograph: 02/07/2018

Latitude: 33.157155 N

Longitude: -92. 512298 W

Orientation: NE

Map Datum: WGS-84

Time of Photo: 03:18 PM

Photographer: Jack Arias

Description: This image shows an oil storage tank, fluids pooled inside the containment area, oil staining inside the containment area and on the tank(s), visible erosion on the containment wall, and corrosion on tanks and flowlines.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3111.JPG

Date of Photograph: 02/07/2018

Latitude: 33. 157155 N

Longitude: -92. 512298 W

Orientation: NE

Map Datum: WGS-84

Time of Photo: 03:18 PM

Photographer: Jack Arias

Description: This image shows the existence of fluids inside the containment area near the tanks. Also, I observed that the facility had an inadequate raised secondary containment wall around the tanks.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3113.JPG

Date of Photograph: 02/07/2018

Latitude: 33.157155 N

Longitude: -92.512298 W

Orientation: NW

Map Datum: WGS-84

Time of Photo: 03:18 PM

Photographer: Jack Arias

Description: This image shows the existence of fluids inside the containment area near the tanks. Also, I observed that the facility had inadequate secondary containment wall around the tanks, produced water pools, sediments fully saturated with oil, and a flow path of fluids in the containment area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3125.JPG

Date of Photograph: 02/07/2018

Latitude: 33.157155 N

Longitude: -92.512298 W

Orientation: NW

Map Datum: WGS-84

Time of Photo: 03:38 PM

Photographer: Jack Arias

Description: This image shows the YSI 30 Pro Conductivity Meter at the point source of contamination next to the facility's tanks and separators.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3124.JPG
Date of Photograph: 02/07/2018
Latitude: 33.157155 N
Longitude: -92. 512298 W
Orientation: NW
Map Datum: WGS-84
Time of Photo: 03:37 PM
Photographer: Jack Arias
Description: This image shows a Total Dissolved Solids (TDS) measurement of 11,732 ppm next to the facility's tanks and separators.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3115.JPG

Date of Photograph: 02/07/2018

Latitude: 33.157083 N

Longitude: -92. 512444 W

Orientation: W

Map Datum: WGS-84

Time of Photo: 03:19 PM

Photographer: Jack Arias

Description: This image shows the existence of a drain pipe located on the western edge of the containment wall. I observed oil staining and pooled fluids inside and outside the containment area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3109.JPG

Date of Photograph: 02/07/2018

Latitude: 33.157083 N

Longitude: -92.512444 W

Orientation: W

Map Datum: WGS-84

Time of Photo: 03:09 PM

Photographer: Jack Arias

Description: This image shows the drain pipe and fluids being discharge from the drain pipe (outfall) . The valve at the end of the drain pipe appeared to be open at the time of the inspection.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3108.JPG

Date of Photograph: 02/07/2018

Latitude: 33.157083 N

Longitude: -92.512444 W

Orientation: W

Map Datum: WGS-84

Time of Photo: 03:09 PM

Photographer: Jack Arias

Description: This image shows a Total Dissolved Solids (TDS) measurement of 1,505 ppm at the drain pipe (outfall).



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3119.JPG

Date of Photograph: 02/07/2018

Latitude: 33.156806 N

Longitude: -92.512761 W

Orientation: W

Map Datum: WGS-84

Time of Photo: 03:32 PM

Photographer: Jack Arias

Description: This image shows visible downstream flowpath of fluids, dead vegetation, defined bed and bank, high water marks, and debris along the tributary of Ward Creek. It also identified the flow path leading to the Point of Entry (POE) of fluids.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3122.JPG

Date of Photograph: 02/07/2018

Latitude: 33.156806 N

Longitude: -92.512761 W

Orientation: S

Map Datum: WGS-84

Time of Photo: 03:36 PM

Photographer: Jack Arias

Description: This image shows a Total Dissolved Solids (TDS) measurement of 3,794 ppm. It also identified the Point of Entry (POE) of fluids.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3121.JPG
Date of Photograph: 02/07/2018
Latitude: 33.156806 N
Longitude: -92.512761 W
Orientation: N
Map Datum: WGS-84
Time of Photo: 03:33 PM
Photographer: Jack Arias
Description: This image shows a downstream flowpath of fluids, dead vegetation, erosion, defined bed and bank, high water marks, and debris from POE and along the tributary of Ward Creek



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3117.JPG
Date of Photograph: 02/07/2018
Latitude: 33.156806 N
Longitude: -92.512761 W
Orientation: S
Map Datum: WGS-84
Time of Photo: 03:32 PM
Photographer: Jack Arias
Description: This image shows a downstream flowpath of fluids, dead vegetation, erosion, defined bed and bank, high water marks, and debris along the tributary of Ward Creek



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3118.JPG

Date of Photograph: 02/07/2018

Latitude: 33.156611 N

Longitude: -92.513167 W

Orientation: SW

Map Datum: WGS-84

Time of Photo: 03:32 PM

Photographer: Jack Arias

Description: This image shows a downstream flowpath of fluids, dead vegetation, erosion, defined bed and bank, high water marks, and debris along the tributary of Ward Creek



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 16

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3116.JPG

Date of Photograph: 02/07/2018

Latitude: 33.156611 N

Longitude: -92.513167 W

Orientation: S

Map Datum: WGS-84

Time of Photo: 03:32 PM

Photographer: Jack Arias

Description: This image shows a Total Dissolved Solids (TDS) measurement of 1,485 ppm at the tributary of Ward Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 17

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3129.JPG

Date of Photograph: 02/07/2018

Latitude: 33.160866 N

Longitude: -92.512116 W

Orientation: NW

Map Datum: WGS-84

Time of Photo: 3:45 PM

Photographer: Jack Arias

Description: This image is Ward Creek approximately 0.66 miles upstream of where the tributary of Ward creek enters into Ward Creek. Ward Creek here shows a well defined bed and bank, an ordinary high water mark, debris, riparian vegetation and plants growing along Ward Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 18

482 Pine Tree Road, El Dorado, AR 71730 (33.157155 N, -92.512298 W)		
City: El Dorado	County: Union	State: Arkansas



Photograph File Name: DSCN3128.JPG

Date of Photograph: 02/07/2018

Latitude: 33.160866 N

Longitude: -92.512116 W

Orientation: NW

Map Datum: WGS-84

Time of Photo: 3:44 PM

Photographer: Jack Arias

Description: This image shows a Total Dissolved Solids (TDS) measurement of 23 ppm at 0.66 miles upstream from the point between tributary of Ward creek and Ward creek. I am standing at the same approximate location as Photo 17.