

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

Inspection Date(s):	January 24-25, 2018		
Media:	Water (CWA)		
Regulatory Program(s)	NPDES – Brine		
Company Name:	Migwis Operating, LLC		
Facility Name:	Bowen		
Facility Physical Location:	36.724163N, -96.694542W		
(city, state, zip code)	Burbank, Oklahoma 74633		
Mailing address:	1800 South Little		
(city, state, zip code)	Cushing, Oklahoma 74023		
County/Parish:	Osage		
Facility Contact:	Brian Jones	Supervisor	
	918-223-5175		
FRS Number:	N/A		
Identification/Permit Number:	OKU000865		
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
David Pace	Migwis Operating, LLC	Operator	918-399-2891
Alejandro Houston	BIA - Osage	Inspector	918-287-3107
EPA Lead Inspector Signature/Date			
	Kent W. Sanborn		Date
Supervisor Signature/Date			
	Jerry Saunders		Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspector Kent W. Sanborn arrived at the Migwis Operating, LLC lease on the Bowen property near Burbank, Oklahoma at 1:00 PM on January 24, 2018 for an inspection. The inspection was initiated by a reported discharge of fluids into a nearby tributary by Migwis Operating, LLC. I met with David Pace of the company and Alejandro Huston of the Bureau of Indian Affairs (BIA) at the discharge site. I confirmed that the discharge had reached the tributary of Salt Creek. A single tank truck and driver was present to flush and remove the brine from the tributary at the time of 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 produced wastewater (brine) to waters of the United States.

FACILITY DESCRIPTION

The origination point of discharge was the Bowen tank battery located east of the point of entry of discharged fluids into the tributary of Salt Creek. There are several wells on the site associated with the Bowen lease. A hose on the discharge side of the injection pump parted and caused brine to discharge westward from the injection line break across a plowed field to the tributary of Salt Creek.

Section II – OBSERVATIONS

I initially arrived at the Migwis Operating, LLC – Bowen lease at about 1:00 pm on January 24, 2017. Photo 1 shows the tank battery location where an injection line parted during injection operations and discharged brine. Photo 2 shows the actual pipe that failed. Photos 3 and 4 show the flow path of the discharged fluids, like brine, west of the tank battery and line failure and through a plowed field. The brine followed a narrow path across the field before flowing through a tree line near the tributary of Salt Creek (Photos 5 and 6). A dirt dam was constructed along the flow path (Photo 7) before the entry to the tributary of Salt Creek. I observed brine fluids in this area at the temporary dam and that brine was also in the tributary of Salt Creek. I observed that the brine entered the tributary of Salt Creek as shown in Photo 8. A Total Dissolved Solids (TDS) reading was taken with a calibrated YSI 30 Pro Conductivity Meter at the point of entry to the tributary of Salt Creek and was 17,959 mg/L (Photo 9). The tributary of Salt Creek upstream of the point of entry can be seen in Photo 10. The TDS reading taken upstream was 566 mg/L (Photo 11). I observed additional TDS readings that were measured in the tributary downstream of the point of entry (Photo 12). A TDS reading of 20,744 mg/L was taken from the location shown in Photo 12 and was approximately 150 feet downstream from the point of entry. I observed a beaver dam in the tributary of Salt Creek (Photo 13). I identified two beaver dams in the section of the tributary that was contaminated with brine. The dam shown in Photo 13 was the one closest downstream to the point of entry to the tributary. A TDS reading taken at the beaver dam shown in Photo 13 was 30,206 mg/L (Photo 14). Photo 15 showed the tributary continuing to flow downstream through the second downstream beaver dam. The creek was flowing in a southwest direction. Photo 16 showed the tributary of Salt Creek at a small bridge and the tributary was flowing southwest. I took a TDS reading of 515 mg/L at the bridge (Photo 17).

I returned on January 25, 2018 to follow-up on the progress of the brine removal from the tributary and other remedial actions. I observed one tank truck hauling water from the tributary to the Bowen tank battery. TDS readings taken from the tributary of Salt Creek in the identified contaminated portion of the tributary continued to measure over 30,000 mg/L. A temporary dirt dam was constructed southwest of second beaver dam to contain contaminated fluids, including flowing tributary water and discharged fluids, like brine. I observed that the temporary dirt dam constructed southwest and downstream from the second beaver dam was seeping at the time of the inspection. Remedial operations to clean contamination from the tributary ceased in the late afternoon due to the tank battery storage tanks being full from previous remedial pump out operations from the day.

Section III – AREAS OF CONCERN

I observed an unauthorized discharge of brine fluids from the Bowen lease tank battery, through a field and into a tributary of Salt Creek. The brine was and continued to be present in the identified tributary section, and I observed TDS readings of over 30,000 mg/L after some remedial operations occurred. Persistent contamination in the tributary of Salt Creek from the brine and high potential for contaminants to wash further downstream, especially during rain events, was identified as temporary and natural beaver dams had observed seepage through them. Additionally, the flow path from the discharged line and the tributary will continue to be a source of pollutants into the creek during rain events. Also, I observed that the injection line parted, and the cause of the line break was unknown during the time of the inspection.

Section IV – FOLLOW UP

A follow up inspection will be conducted as needed.

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 17 photos take on 01/24/2018

Appendix 1

Photographic Log (17 photos)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 1 (DSC_0003)

Orientation: East

Date of Photo: 01/24/2018

Time of Photo: 2:27 pm

Latitude: 36.724410N

Longitude: -96.699449W

Photographer: K.W. Sanborn

Description: This image shows produced water that was discharged from the Migwis Operating, LLC – Bowen facility. The Bowen tank battery can be seen in the background of this photo. The discharged fluids flowed west from the tank battery toward the tributary of Salt Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 2 (DSC_0035)

Orientation: East

Date of Photo: 01/24/2018

Time of Photo: 3:12 pm

Latitude: 36.724361 N

Longitude: -96.694773 W

Photographer: K.W. Sanborn

Description: The discharge of fluids originated from a broken injection line associated with the injection operations at the Bowen tank battery. The injection line parted as shown here and allowed brine to flow into the field to the west of the tank battery and to the tributary of Salt Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 3 (DSC_0030)

Orientation: Northwest

Date of Photo: 01/24/2018

Time of Photo: 3:12 pm

Latitude: 36.724361N

Longitude: -96.694773W

Photographer: K.W. Sanborn

Description: Discharged fluids, including brine, flowed from the parted line and ran northwest through a plowed field and into the tributary of Salt Creek. The injection well is shown here towards the upper left portion of this photo.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 4 (DSC_0029)

Orientation: Northwest

Date of Photo: 01/24/2018

Time of Photo: 3:11 pm

Latitude: 36.724361N

Longitude: -96.694773W

Photographer: K.W. Sanborn

Description: I observed that the discharged brine pooled up in the field before running west across the field to the tributary of Salt Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 5 (DSC_0004)

Orientation: Northwest

Date of Photo: 01/24/2018

Time of Photo: 2:27 pm

Latitude: 36.724512N

Longitude: -96.699712W

Photographer: K.W. Sanborn

Description: The flow path of discharged fluids, like brine, entered a wooded area here just east of the tributary of Salt Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 6 (DSC_0006)

Orientation: Northwest

Date of Photo: 01/24/2018

Time of Photo: 2:28 pm

Latitude: 36.724512N

Longitude: -96.699712W

Photographer: K.W. Sanborn

Description: The flow path had brine and fluids flowing west down a bank towards the tributary of Salt Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 7 (DSC_0007)

Orientation: Northwest

Date of Photo: 01/24/2018

Time of Photo: 2:28 pm

Latitude: 36.724656N

Longitude: -96.699900W

Photographer: K.W. Sanborn

Description: I observed a temporary dam in place, seen in the above photo, that was built at the point of entry to the tributary of Salt Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 8 (DSC_0009)

Orientation: West

Date of Photo: 01/24/2018

Time of Photo: 2:29 pm

Latitude: 36.724660N

Longitude: -96.699962W

Photographer: K.W. Sanborn

Description: This was the point of entry to the tributary of Salt Creek from the discharged fluids, including brine from the Migwis Operating, LLC – Bowen facility.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 9 (DSC_0014)

Orientation: West

Date of Photo: 01/24/2018

Time of Photo: 2:31 pm

Latitude: 36.724660N

Longitude: -96.699962W

Photographer: K.W. Sanborn

Description: The Total Dissolved Solids (TDS) of the tributary of Salt Creek at the point of entry was 17,959 mg/L. The TDS was taken with a calibrated YSI 30 Pro Conductivity meter.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 10 (DSC_0010)

Orientation: North

Date of Photo: 01/24/2018

Time of Photo: 2:29 pm

Latitude: 36.724660N

Longitude: -96.699962W

Photographer: K.W. Sanborn

Description: The tributary of Salt Creek was flowing during the time of the inspection, and this image shows a view of the tributary upstream from the point of entry.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 11 (DSC_0016)

Orientation: North

Date of Photo: 01/24/2018

Time of Photo: 2:31 pm

Latitude: 36.724660N

Longitude: -96.699962W

Photographer: K.W. Sanborn

Description: TDS of the tributary upstream was 566 mg/L.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 12 (DSC_0018)

Orientation: West

Date of Photo: 01/24/2018

Time of Photo: 2:40 pm

Latitude: 36.724296N

Longitude: -96.700118W

Photographer: K.W. Sanborn

Description: A TDS reading was taken downstream from the point of entry in the tributary of Salt Creek entry and was 20,774 mg/L. This location was approximately 150 feet downstream from the point of entry into the tributary.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 13 (DSC_0024)

Orientation: South

Date of Photo: 01/24/2018

Time of Photo: 2:55 pm

Latitude: 36.723339N

Longitude: -96.701533W

Photographer: K.W. Sanborn

Description: This figure shows the tributary farther downstream from the point of entry. A beaver dam was constructed within the tributary, and contained a large portion of the discharge fluids, like brine, from flowing further downstream. This beaver dam was approximately 0.2 miles downstream from the point of entry on the tributary of Salt Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 14 (DSC_0026)

Orientation: West

Date of Photo: 01/24/2018

Time of Photo: 2:56 pm

Latitude: 36.723339N

Longitude: -96.701533W

Photographer: K.W. Sanborn

Description: The TDS reading upstream of the beaver dam on the tributary of Salt Creek was 30,206 mg/L. The TDS reading of 2,500 mg/L was flowing over the top of the beaver dam.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 15 (DSC_0020)

Orientation: North

Date of Photo: 01/24/2018

Time of Photo: 2:47 pm

Latitude: 36.722881N

Longitude: -96.702662W

Photographer: K.W. Sanborn

Description: This was a view of the tributary of Salt Creek from a small bridge southwest of the point of entry. The tributary was flowing southwest. There were two beaver dams between this point on the tributary of Salt Creek and the point of entry. The northern most beaver dam was shown in photo 13. This location is approximately 0.3 miles downstream from the point of entry on the tributary of Salt Creek. This location is downstream from the second beaver dam and shows continued downstream flow from the second beaver dam.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 16

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 16 (DSC_0022)

Orientation: South

Date of Photo: 01/24/2018

Time of Photo: 2:47 pm

Latitude: 36.722881N

Longitude: -96.702662W

Photographer: K.W. Sanborn

Description: This image shows a view downstream from the bridge on the tributary of Salt Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 17

Location: 36.724163 N, -96.694542 W		
City: Burbank	County: Osage	State: Oklahoma



Photo File Name: Photo 17 (DSC_0023)

Orientation: South

Date of Photo: 01/24/2018

Time of Photo: 2:47 pm

Latitude: 36.722881N

Longitude: -96.702662W

Photographer: K.W. Sanborn

Description: A TDS reading of the tributary of Salt Creek that was downstream of the bridge, shown in Photo 16 was 515 mg/L.