

Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	05/17/2022	
Media Program:	Water, Clean Water Act (Brine)	
Regulatory Program(s)	Brine (NPDES)	
Company Name:	CapturePoint, LLC	
Facility Name:	Dye Lease	
Facility Physical Location:	36.816185, -96.752408	
(city, state, zip code)	Shidler, Oklahoma, 74652	
Mailing address:	1833 S. Morgan Road	
(city, state, zip code)	Oklahoma City, Oklahoma, 73128	
County/Parish:	Osage	
Facility Phone Number	918-287-6811	
Facility Contact:	Talia Clark	HSE Tech
	tclark@capturepointllc.com	
FRS Number:	n/a	
Identification/Permit Number:	OKU002067	
Media Identifier Number:	n/a	
NAICS:	211111	
SIC:	1311	
Personnel participating in inspection:		
Matthew Allen	EPA/Region 6 ECDW	Inspector
EPA Lead Inspector Signature/Date		
	Matthew Allen	Date
Supervisor Signature/Date		
	{Supervisor name}	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspector Matthew Allen arrived at the CapturePoint, LLC, Dye Lease (EPA ID No. OKU002067) at 10:30 a.m. on 05/17/2022, for an unannounced inspection. I met with Carl Thunem, HSE Director, Talia Clark, HSE Tech and Juan Tejada, Area Superintendent, serving as company representatives for CapturePoint, LLC. I presented my credentials to Mr. Thunem and informed him that this was an EPA inspection in response to a National Response Center Spill Report (NRC No. 1336079) which was received by EPA Region 6. The inspection was conducted by the authority of the Clean Water Act (CWA) to determine compliance with Environmental Protection Agency (EPA) regulations. There was no other federal, state or local agency representative present at the time of the inspection. Carl Thunem, Juan Tejada and Talia Clark accepted an invitation to participate in the inspection.

FACILITY DESCRIPTION

EPA conducted an inspection beginning on the CapturePoint, LLC, Dye Lease, where a plastic lined, 4-inch diameter steel flowline developed a leak, releasing approximately 1,000 barrels of produced water to the land according to Juan Tejada, which eventually spilled into a nearby stream. The steel flowline identified as the Release Point for the spill originated from the Dye Lease tank battery and carried produced saltwater to a saltwater collection facility located approximately 1 mile North from the Dye Lease tank battery. The release point of the spill was located Northwest of Shidler, Oklahoma in Osage County. Spill impacts crossed into Kay County, Oklahoma approximately 100 feet South from the release point and traveled West to the northeast section Kaw Lake.

Section II – OBSERVATIONS

Upon arrival at the Release Point of the spill, I observed a section of 4-inch diameter steel pipeline which had recently been installed to replace the failed section of pipeline according to Juan Tejada, this repaired section of pipeline can be seen in Photo No. 1 of Appendix 1 (Photo Log) included with this report. I was unable to observe the failed section of pipeline as it was already removed from the location. I also observed an area of produced water impacted soil and vegetation surrounding the pipeline at the release point. The land impacted area varied in width between 3 feet and 30 feet and continued downgradient approximately 100 feet where the produced water entered a small unnamed stream, a portion of these land impacts can also be seen in Photo No. 1. I followed the flowpath of the spill to the Point of Entry (POE) and moved approximately 20 feet upstream in the receiving stream to take a “background” Total Dissolved Solids (TDS) field reading with a properly calibrated YSI Pro 30 conductivity meter, which measured 410.0 mg/L TDS which can be seen in Photo No. 2. I observed the POE into the stream and noticed a light sheen of oil on the surface of the water, the POE and the oil sheen can be seen in Photo No. 3. I collected a field TDS reading of 33,570 mg/L, which is depicted in Photo No. 4. I observed a moderate amount of instream flow at the POE, Juan Tejada stated this was caused by “flushing” operations which had been taking place prior to my arrival. From the POE location,

I did observe a large water pump sitting atop a pond dam upstream on the main channel from the POE, this was stated to be a source of fresh “flush” water being used in the spill clean up.

As we followed the spill impacts approximately 150 feet downstream from the POE, I observed a small amount of crude oil floating on the water and crude oil-stained vegetation along the bank of the impacted stream. There was also brine impacted grass in the stream bed at the same location, these impacts can be seen in Photo No. 5 of the photo log. I observed the 1st temporary containment dam (Photo No. 6) approximately ½ mile downstream from the POE, which was placed across the impacted stream by the operator to prevent downstream migration of waters with elevated TDS. I took a TDS field reading in the pool immediately upstream from the dam and recorded an elevated measurement of 3,934 mg/L TDS (Photo No. 7). This first temporary containment dam was manned by a worker who was operating a pump connected to a poly flowline to remove impacted waters from the stream and transport the polluted water to a nearby tank battery for disposal. As the inspection continued downstream, I observed an elevated TDS field reading of 37,918 mg/L (Photo No. 10) and noted the increased definition present between the stream bed and stream banks (Photo No. 9) at the same location. I observed 6 frac tanks during the inspection, which were placed near the impacted stream by the operator for use during the ongoing cleanup efforts, one of those tanks can be seen in Photo No. 11.

Throughout the inspection I witnessed multiple vacuum/tank trucks actively removing impacted waters from the stream. At the 2nd temporary containment dam (Photo No. 12) I was able to view a truck working as well as one of the frac tanks which was placed for use during the cleanup efforts. I observed an elevated field reading of 42,300 mg/L TDS in the pool immediately upstream from the 2nd dam (see Photo No. 13). I observed the highest elevated TDS field reading of the inspection which measured 48,263 mg/L TDS on the downstream side of the 2nd containment dam as seen in Photo No. 15. I observed the 3rd and 4th temporary containment dams which can be seen in Photo No. 16 and No. 19 of the photo log, respectively. I observed the 5th and final and lowermost temporary containment dam (seen in Photo No. 20). This final dam's location was where access and the stream size reasonably allowed for the construction of a temporary containment dam; however, this dam did not completely prevent further downstream migration of waters with elevated TDS. I took an elevated TDS field reading in the pool of water immediately upstream from the 5th dam, which measured 21,578 mg/L TDS, this reading can be seen in Photo No. 21. I observed spill impacts continuing downstream beyond the final/lowermost containment dam as evidenced by an elevated TDS field reading of 1,968 mg/L taken approximately 200 yards downstream from the lowermost dam. This field reading can be seen in Photo No. 24. The location of the 1,968 mg/L field reading is documented in Photo No. 23, this location represented the first field reading taken at a point where the impacted stream gained a continuous surface water connection to the waters of Kaw Lake.

The final or furthest downstream measurement which documented elevated levels of TDS in the impacted stream displayed a measurement of 723 mg/L TDS and can be seen in Photo No. 27. The GPS location of 36.810412, -96.784332 was the furthest point I was able to observe spill impacts along the stream, the inspection could not continue downstream as our path was impeded by water which was too deep to cross.

Section III – AREAS OF CONCERN

EPA Region 6 inspector Matthew Allen conducted a closing conference with CapturePoint, LLC representative Juan Tejada on 05/17/2022, at approximately 2:15 PM at the end of the inspection. During the conference I conveyed the primary area of concern being the capture and removal of waters with elevated levels of TDS from the impacted stream and the prevention of further downstream migration of impacted waters. I also noted the need to remove brine contamination from the flowpath between the Release Point and the Point of Entry as an area of concern. The final area of concern was to remove the small amount of crude oil impacts present near the POE into the stream.

Section IV – FOLLOW UP

On 06/02/2022, Talia Clark from CapturePoint, LLC provided an email update to EPA inspector Matthew Allen and EPA enforcement officer Jeanne Eckhart documenting the results of the company's pollution reduction efforts from the date of inspection until 06/02/2022. CapturePoint, LLC provided the 11 TDS field readings with GPS locations listed below as well as a statement that cleanup efforts were ongoing as of 06/02/2022. These field readings represent a significant reduction of pollution in the impacted stream.

1. 0.2344 g/L TDS – GPS 36.81584, -96.75244
2. 0.2375 g/L TDS – GPS 36.81583, -96.75249
3. 0.3589 g/L TDS – GPS 36.81476, -96.75367
4. 0.3225 g/L TDS – GPS 36.81445, -96.75472
5. 0.937 g/L TDS – GPS 36.81734, -96.76215
6. 0.848 g/L TDS – GPS 36.81707, -96.76257
7. 0.805 g/L TDS – GPS 36.81535, -96.76560
8. 0.970 g/L TDS – GPS 36.81218, -96.77535
9. 0.966 g/L TDS – GPS 36.81166, -96.77622
10. 0.965 g/L TDS – GPS 36.80999, -96.77987
11. 0.957 g/L TDS – GPS 36.80986, -96.78090

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 27 Photos taken 05/17/2022

There are no additional appendices.

Appendix 1

Photograph Log

27 Photos



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0001

Orientation: NW

Date of Photo: 05/17/2022

Time of Photo: 10:42 am

Latitude: 36.816185

Longitude: -96.752408

Photographer: Matthew Allen

Description: A green, 4-inch diameter, plastic lined, steel flowline repair joint. This repair joint was installed by the operator prior to my arrival. The ruptured section of flowline was not available for observation at the time of inspection. The area pictured above was the Release Point of the spill.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0002

Orientation: n/a

Date of Photo: 05/17/2022

Time of Photo: 10:49 am

Latitude: 36.815837

Longitude: -96.752393

Photographer: Matthew Allen

Description: This field reading of 410.0 mg/L TDS was taken upstream from the Point of Entry (POE) in the receiving stream. This reading should be used to establish "background" TDS levels for the impacted stream.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0004

Orientation: N

Date of Photo: 05/17/2022

Time of Photo: 10:58 am

Latitude: 36.815897

Longitude: -96.752554

Photographer: Matthew Allen

Description: This was the location of the POE in the main channel, where produced water containing elevated TDS and small amounts of crude oil entered the stream.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0003

Orientation: n/a

Date of Photo: 05/17/2022

Time of Photo: 10:57 am

Latitude: 36.815897

Longitude: -96.752554

Photographer: Matthew Allen

Description: This was an elevated TDS field reading taken at the POE into the impacted stream measuring 33,570 mg/L.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0006

Orientation: W

Date of Photo: 05/17/2022

Time of Photo: 11:07 am

Latitude: 36.815392

Longitude: -96.753162

Photographer: Matthew Allen

Description: Small amounts of crude oil were floating on the surface of the impacted stream at the time of inspection. Oil-stained grass was present on the stream bank, the stained grass appeared dark brown in the photo. Brine impacted grass was present in the flowpath of the stream, these impacted grasses appeared light brown/yellow in the photo. This photo was taken approximately 150 feet downstream from the POE.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0008

Orientation: SE

Date of Photo: 05/17/2022

Time of Photo: 11:29 am

Latitude: 36.817339

Longitude: -96.762169

Photographer: Matthew Allen

Description: The 1st temporary dam was located approximately ½ mile downstream from the POE. This site was being used to capture elevated TDS waters and a pump was being used to transport water through a flowline to a nearby tank battery for disposal through the underground injection system associated with the facility operations.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0007

Orientation: n/a

Date of Photo: 05/17/2022

Time of Photo: 11:28 am

Latitude: 36.817339

Longitude: -96.762169

Photographer: Matthew Allen

Description: This elevated TDS field reading was taken in the upstream pool at the 1st temporary downstream dam along the impacted stream.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0009

Orientation: E

Date of Photo: 05/17/2022

Time of Photo: 11:33 am

Latitude: 36.817339

Longitude: -96.762169

Photographer: Matthew Allen

Description: This photo was taken from the downstream side of the 1st temporary dam, the view looked upstream to the dam.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC0011

Orientation: SE

Date of Photo: 05/17/2022

Time of Photo: 11:49 am

Latitude: 36.815250

Longitude: -96.765147

Photographer: Matthew Allen

Description: This photo captured the more pronounced bed and bank features of the stream, as the spill impacts were tracked further downstream. An elevated TDS field reading of 37,918 mg/L was also taken at this location.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0012

Orientation: n/a

Date of Photo: 05/17/2022

Time of Photo: 11:51

Latitude: 36.815250

Longitude: -96.765147

Photographer: Matthew Allen

Description: Elevated TDS field reading of 37,918 mg/L which was taken in the pool of water shown in Photo No. 9 of this photo log.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0013

Orientation: N

Date of Photo: 05/17/2022

Time of Photo: 11:52 am

Latitude: 36.815250

Longitude: -96.765147

Photographer: Matthew Allen

Description: This frac tank was present near the stream at the time of the inspection. The operator stated this frac tank would be used in flushing and pumping clean-up operations.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0016

Orientation: NE

Date of Photo: 05/17/2022

Time of Photo: 11:57 am

Latitude: 36.814300

Longitude: -96.766686

Photographer: Matthew Allen

Description: Bottom left corner of the picture showed the 2nd downstream temporary containment dam. The large pool of water was on the upstream side of the dam. The vacuum truck was actively removing elevated TDS waters from the stream during the inspection.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0017

Orientation: n/a

Date of Photo: 05/17/2022

Time of Photo: 11:59 am

Latitude: 36.814300

Longitude: -96.766686

Photographer: Matthew Allen

Description: Elevated TDS field reading of 42,300 mg/L was taken in the upstream pool at the 2nd temporary containment dam.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0015

Orientation: SW

Date of Photo: 05/17/2022

Time of Photo: 11:57 am

Latitude: 36.814300

Longitude: -96.766686

Photographer: Matthew Allen

Description: This photo was taken from the 2nd containment dam with a view downstream. An elevated TDS field reading of 48,263 mg/L was taken from the downstream pool pictured above. This reading was the highest observed during the inspection.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0018

Orientation: n/a

Date of Photo: 05/17/2022

Time of Photo: 12:02 pm

Latitude: 36.814251

Longitude: -96.766748

Photographer: Matthew Allen

Description: This was an elevated TDS field reading of 48,263 mg/L, taken in the pool of water immediately below the 2nd temporary containment dam.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 16

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0020

Orientation: N

Date of Photo: 05/17/2022

Time of Photo: 12:22 pm

Latitude: 36.812127

Longitude: -96.775182

Photographer: Matthew Allen

Description: This was a photo of the 3rd downstream temporary containment dam placed by the operator.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 17

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0022

Orientation: W

Date of Photo: 05/17/2022

Time of Photo: 12:22 pm

Latitude: 36.812127

Longitude: -96.775182

Photographer: Matthew Allen

Description: This photo was taken from the 3rd downstream temporary containment dam; this was a view looking downstream and was an accurate representation of the stream bed and banks as spill impacts were tracked downstream.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 18

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0023

Orientation: n/a

Date of Photo: 05/17/2022

Time of Photo: 12:23 pm

Latitude: 36.812127

Longitude: -96.775182

Photographer: Matthew Allen

Description: This was an elevated TDS field reading of 34,647 mg/L, taken at the 3rd temporary containment dam.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 19

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0024

Orientation: n/a

Date of Photo: 05/17/2022

Time of Photo: 12:30 pm

Latitude: 36.811749

Longitude: -96.776326

Photographer: Matthew Allen

Description: This was the 4th downstream temporary containment dam placed by the operator.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 20

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0030

Orientation: S

Date of Photo: 05/17/2022

Time of Photo: 12:47 pm

Latitude: 36.809905

Longitude: -96.779871

Photographer: Matthew Allen

Description: This was the 5th and final downstream temporary containment dam constructed by the operator. While this dam did not completely prevent further downstream migration of waters with elevated TDS, this was the last location where access and stream size reasonably allowed for the construction of a temporary dam.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 21

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0029

Orientation: n/a

Date of Photo: 05/17/2022

Time of Photo: 12:45 pm

Latitude: 36.809905

Longitude: -96.779871

Photographer: Matthew Allen

Description: This was an elevated TDS field reading of 21,578 mg/L taken in the upstream pool at the lowermost downstream temporary containment dam.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 22

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0032

Orientation: S

Date of Photo: 05/17/2022

Time of Photo: 12:47 pm

Latitude: 36.809905

Longitude: -96.779871

Photographer: Matthew Allen

Description: This photo was taken standing at the last downstream containment dam, with a view looking further downstream. This photograph has a good representation of the sharply defined streambed and streambanks as spill impacts continued beyond all containment structures.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 23

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0034

Orientation: SSE

Date of Photo: 05/17/2022

Time of Photo: 12:56 pm

Latitude: 36.808856

Longitude: -96.781170

Photographer: Matthew Allen

Description: This photo represented the location where the impacted stream achieved a continuous surface water connection to the waters of Kaw Lake. This location was approximately 200 yards downstream from the lowermost containment dam. An elevated TDS field reading of 1,986 mg/L was taken at this location. Note the well-defined bed and bank features of the stream. Due to recent heavy rainfall events, the water level in Kaw Lake was elevated above normal at the time of this inspection.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 24

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0035

Orientation: n/a

Date of Photo: 05/17/2022

Time of Photo: 12:57 pm

Latitude: 36.808856

Longitude: -96.781170

Photographer: Matthew Allen

Description: Elevated TDS field reading of 1,968 mg/L taken at the point where the impacted stream achieved a continuous surface connection with the waters of Kaw Lake.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 25

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0037

Orientation: E

Date of Photo: 05/17/2022

Time of Photo: 1:18 pm

Latitude: 36.810348

Longitude: -96.783026

Photographer: Matthew Allen

Description: This photo showed the increased size of the lower portion of the stream as it nears the open waters of Kaw Lake. This photo was taken at the GPS coordinates listed above and the view was looking upstream. An elevated TDS field reading of 954 mg/L was taken at this location at the time of the inspection.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 26

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0038

Orientation: S

Date of Photo: 05/17/2022

Time of Photo: 1:19 pm

Latitude: 36.810348

Longitude: -96.783026

Photographer: Matthew Allen

Description: This photo showed the increased size of the lower portion of the stream as it nears the open waters of Kaw Lake. This photo was taken at the GPS coordinates listed above and the view was looking downstream. An elevated TDS field reading of 954 mg/L was taken at this location at the time of the inspection.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 27

Location: 36.816185, -96.752408		
City: Shidler	County/Parish: Osage	State: Oklahoma



Photo File Name: DSC_0039

Orientation: n/a

Date of Photo: 05/17/2022

Time of Photo: 1:27 pm

Latitude: 36.810412

Longitude: -96.784332

Photographer: Matthew Allen

Description: This was an elevated TDS field reading of 723 mg/L taken during the inspection. This location and field reading represented the furthest point downstream which spill impacts were documented on the day of the inspection. Due to high water levels in Kaw Lake, backed up lake waters prevented further downstream tracking of spill impacts.