

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

Inspection Date(s):	08/8-9/2018		
Media:	Water		
Regulatory Program(s)	NPDES - Oil and Gas, Produced/Brine Water		
Company Name:	ConocoPhillips and Select Energy Services		
Facility Name:	Conoco Phillips Pit		
Facility Physical Location:	County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
(city, state, zip code)	Karnes City, TX 78118		
Mailing address:	3778 County Road 344		
(city, state, zip code)	Kenedy, TX 78119		
County/Parish:	Karnes County		
Facility Contact:	Mr. Marvin Soriwei	Senior Specialist Environmental	
	830-583-4864		
FRS Number:	N/A		
Identification/Permit Number:	TXU011229		
Media Number:	N/A		
NAICS:	211111		
SIC:	1311		
Personnel participating in inspection:			
Jack Arias	US EPA, Region 6 (EPA)	Environmental Scientist	(214) 665 – 8164
Marvin Soriwei	ConocoPhillips	District Supervisor	(870) 862 – 4965
Eric Frasen	ConocoPhillips	Ops Support Superintendent	830-583-4822
Levi Leon	ConocoPhillips	Water Management Supervisor	254-592-2464
Gerald Johnson	ConocoPhillips	Wellsite Safety Environmental	830-299-1861
Craig Fric	Select Energy Services	Director HSSE	830-299-2762
Manuel Gonzales	Select Energy Services	Labor	361-319-1250
Mauro Torres III	Select Energy Services	Labor	361-318-3719
Matt Per	Select Energy Services	Labor	361-343-2819
EPA Lead Inspector Signature/Date			
	Jack Arias		Date
Supervisor Signature/Date			Orig. approved
	Guy Tidmore		10/18/2018
			Date

Section I - INTRODUCTION

PURPOSE OF THE INSPECTION

The purpose of the inspection was to follow up previous enforcement actions and to determine if production facilities in Karnes County were following 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 the facility at approximately 4:14 pm on August 08, 2018 for an unannounced inspection. The Railroad Commission of Texas (RRC) was notified about the inspection, but no representatives were present at the time of the inspection. There were representatives from Select Energy Services and ConocoPhillips present at the time of the inspection and discharge. I proceeded to conduct an oil and gas, produced/brine water inspection. The scope of the inspection was to evaluate the facility's produced water lines and associated equipment at the site; discharge, flow paths, if any, from the facility and containment area to a nearby tributary and creek; potential downstream impacts, sensitive areas, and ponds; and other related factors both upstream and downstream of the facility.

FACILITY DESCRIPTION

The facility is known as the ConocoPhillips Pit and is located in a remote zone in Kenedy, Karnes County, Texas (See Photo No. 15 in Appendix 1). The facility consisted of a large pit of approximately 29,645 square meters and 4 meters deep. The pit contains a liner and is surrounded by a large containment wall (approximately 6 meters high) constructed of compacted soil (See Photo Nos. 14 - 17 in Appendix 1). The pit is connected to pumps, flow lines, wells, vessels, collection points, and other equipment connected with drilling, fracking, production, and disposal of produced water for oil and gas operations. The pit is connected to wells that discharge saline water into the pit. Flow lines are used to transport saline water from pit to various locations on the leases for oil and gas operations (See Photo Nos. 17 - 20 in Appendix 1).

Drilling, fracking, production, and disposal of produced water areas include of various flowlines, tanks, vessels, and equipment used to separate and store the produced water, brine water, gas, and crude oil. Produced water is typically high in salts and is commonly known as brine.

Section II – OBSERVATIONS

FACILITY AND POINT OF ENTRY OBSERVATIONS

When I arrived at this facility on August 08, 2018, I conducted a preliminary evaluation of potential discharges and checked the integrity of the flowlines, pit, pumps, and well. I observed a flow path of fluids on the street going down to Dry Escondido Creek. At the time of the inspection I observed that representatives from Select Energy Services were taking apart flowlines and allowing fluids (saline water) to flow into the street and creek (See Photo Nos. 1-2 in Appendix 1). I presented my credentials and proceeded to request information about the mechanical process of flowlines separation, the

composition of fluids (saline water) discharged from flowlines, and potential source of fluids. According to Select Energy Services, they obtain fresh water from a pit owned by ConocoPhillips and flowlines are used to transport fluids from the pit (which is the source of the fluids) to drilling, fracking, or production areas for oil and gas operations. When operations are completed, they stop the conveyance of fluids and proceed to separate the flow lines and allow the residual fluids (frac flow back water) to discharge onto the street and into the creek (See Photo Nos. 5 - 13 in Appendix 1).

I proceeded to take a Total Dissolved Solids (TDS) measurement in fluid next to the flow line, using a calibrated YSI 30 Pro Conductivity Meter, at latitude 28.870579 N and longitude -97.874982 W. The TDS measured 3,755 ppm from this pool of fluids near the flow line (See Photo Nos. 2 - 4 in Appendix 1).

I showed the TDS measurement to the representatives of Select Energy Services and explained the results to them. I communicated to them that according to the results, the discharged fluids could not be considered fresh water due to the high TDS and salinity concentrations compared with the background TDS and salinity around the area of 244 ppm. I followed the flowline 1 mile and identified that nearly every 200 feet they took apart the flow line and allowed fluids to discharge into tributaries connected to Dry Escondido Creek (See Photo Nos. 4 and 29 in Appendix 1).

I requested information about the source of discharged fluids. Select Energy Services informed me that the source was a pit owned by ConocoPhillips. At that moment, they called ConocoPhillips and requested authorization to enter the pit. I found that ConocoPhillips owns and manages the sale and distribution of saline water (fluids). I spoke with ConocoPhillips and arranged a meeting to acquire more information and access to the pit.

The next day, at approximately 9:00 a.m., I met with ConocoPhillips representatives and showed them pictures of the discharged fluids, topographic maps illustrating points of potential discharges, and mentioned concerns about potential impacts on the creek due to the discharged fluids and appropriate supervision. (See Photo Nos. 4 and 29 in Appendix 1).

At approximately 11:00 a.m., after we completed the meeting, ConocoPhillips took me to the pit. I determined that the area of the pit was approximately 29,000 square meters and the water level varies from two to four meters. At this point, latitude 28.85268 N and longitude -97.85355 W, using a calibrated YSI 30 Pro Conductivity Meter, I took TDS measurements of 2,543 ppm at 4 meters, 2,507 ppm at 3 meters, and 2,560 ppm at 2.4 meters. (See Photo Nos. 14 – 16 in Appendix). Also, I took another TDS measurement of 1,894 ppm at the intake flowline point that recharges the pit with saline water. Saline water is pumped from a well near the pit. (See Photo Nos. 14 – 18 in Appendix 1).

After I finished collecting TDS readings and observations at the pit, I followed the flow lines downstream from the pit. I observed that flowlines near the pit and downstream of the pit still contained saline water. (See Photo Nos. 21 – 23 in Appendix 1).

DOWNSTREAM OBSERVATIONS

Select Energy Services and ConocoPhillips decided to return to the facility to check the information provided by EPA and confirm TDS and salinity concentrations. Subsequently EPA, Select Energy Services and ConocoPhillips followed the flowlines downstream from the pit and returned to point of entry to determine TDS and salinity concentrations and potential impacts on wildlife and vegetation by discharges. At this point, using a calibrated YSI 30 Pro Conductivity Meter, I took a TDS measurement of 2,715 ppm (See Photo Nos. 24-25 Appendix 1).

UPSTREAM OBSERVATIONS ALONG THE TRIBUTARY OF MILL CREEK

I followed the tributary upstream to determine if higher lying areas of the tributary were impacted by saline water discharges. I followed the flow path upstream from the point of entry to the tributary of Dry Escondido Creek and at approximately 150 feet from the point of discharge to the tributary (pond) at latitude 28.875168 N and longitude -97.880249 W. At this point using a calibrated YSI 30 Pro Conductivity Meter, I took a Total Dissolved Solids (TDS) measurement of 244 ppm. Now, I observed vegetation, defined bed and bank, high water marks, debris, and riparian vegetation growing along the tributary. (See Photo Nos. 26 – 29 in Appendix 1).

Section III – AREAS OF CONCERN

During the inspection, we observed areas of concerns at this facility that included:

- High concentrations of TDS at the pit and point source of discharge.
- Taking apart flowlines and allowing fluids to discharge to waters of the US without a permit
- Analysis of the fluids discharged from flowlines, and the potential source of the fluids.
- Used equipment connected with drilling, fracking, production, and disposal of produced water for oil and gas operations
- Transport of fluids from the pit to drilling, fracking, or production areas for oil and gas operations.
- Potential concerns of soil contamination and creek

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 RRC

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 29 photos taken on 08/08-09/2018.

Appendix 1

Photograph Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3575.JPG

Date of Photograph: 08/08/2018

Latitude: 28.870912 N

Longitude: -97.875232 W

Orientation: NW

Map Datum: WGS-84

Time of Photo: 4:06 PM

Photographer: Jack Arias

Description: This image shows a discharge and a flow path of fluids on the street going down to Dry Escondido Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3580.JPG

Date of Photograph: 08/08/2018

Latitude: 28.870579 N

Longitude: -97.874982 W

Orientation: SE

Map Datum: WGS-84

Time of Photo: 4:33 PM

Photographer: Jack Arias

Description: This image shows a flowline discharging fluids and a flow path going down to street and creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3574.JPG

Date of Photograph: 08/08/2018

Latitude: 28.870579 N

Longitude: -97.874982 W

Orientation: S

Map Datum: WGS-84

Time of Photo: 4:05 PM

Photographer: Jack Arias

Description: This image shows the discharge of a flowline and the YSI 30 Pro in a pool of fluids.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3578.JPG

Date of Photograph: 08/08/2018

Latitude: 28.870579 N

Longitude: -97.874982 W

Orientation: S

Map Datum: WGS-84

Time of Photo: 4:12 PM

Photographer: Jack Arias

Description: This image shows a Total Dissolved Solids (TDS) measurement of 3,755 ppm from YSI 30 Pro in a pool of fluids near the flow line.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3576.JPG

Date of Photograph: 08/08/2018

Latitude: 28.870302 N

Longitude: -97.874689 W

Orientation: SW

Map Datum: WGS-84

Time of Photo: 4:06 PM

Photographer: Jack Arias

Description: This image shows flowlines going up to the ConocoPhillips pit. Flowlines contained saline water.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3573.JPG

Date of Photograph: 08/08/2018

Latitude: 28.870579 N

Longitude: -97.874982 W

Orientation: SW

Map Datum: WGS-84

Time of Photo: 4:04 PM

Photographer: Jack Arias

Description: This image shows how representatives of Select Energy Services were taking apart flowlines and allowing fluids to flow into the street and tributary.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3581.JPG

Date of Photograph: 08/08/2018

Latitude: 28.87030 N

Longitude: -97.87469 W

Orientation: NW

Map Datum: WGS-84

Time of Photo: 4:04 PM

Photographer: Jack Arias

Description: This image shows a flowline that was take apart and possibly discharged fluids into the entrance to tributary connected to Dry Escondido Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3583.JPG

Date of Photograph: 08/08/2018

Latitude: 28.86814 N

Longitude: -97.87225 W

Orientation: NW

Map Datum: WGS-84

Time of Photo: 4:51 PM

Photographer: Jack Arias

Description: This image shows a flowline that was taken apart and possibly discharge fluids into the entrance to tributary connected to Dry Escondido Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3582.JPG

Date of Photograph: 08/08/2018

Latitude: 28.865074 N

Longitude: -97.868338 W

Orientation: W

Map Datum: WGS-84

Time of Photo: 4:51 PM

Photographer: Jack Arias

Description: This image shows flowlines that were taken apart and how they were inside the channel system lines of a tributary connected to Dry Escondido Creek .



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3584.JPG

Date of Photograph: 08/08/2018

Latitude: 28.864949 N

Longitude: -97.868259 W

Orientation: W

Map Datum: WGS-84

Time of Photo: 4:51 PM

Photographer: Jack Arias

Description: This image shows a flowline that was taken apart near the entrance to a tributary connected to Dry Escondido Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3585.JPG

Date of Photograph: 08/08/2018

Latitude: 28.865354 N

Longitude: -97.867306 W

Orientation: NW

Map Datum: WGS-84

Time of Photo: 4:53 PM

Photographer: Jack Arias

Description: This image shows some flowlines that were taken apart near the tributary of Dry Escondido Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3586.JPG

Date of Photograph: 08/08/2018

Latitude: 28.868253 N

Longitude: -97.863436 W

Orientation: N

Map Datum: WGS-84

Time of Photo: 4:58 PM

Photographer: Jack Arias

Description: This image shows a flowline that was taken apart near an entrance to a tributary connected to Dry Escondido Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3587.JPG

Date of Photograph: 08/08/2018

Latitude: 28.868253 N

Longitude: -97.863436 W

Orientation: NE

Map Datum: WGS-84

Time of Photo: 4:58 PM

Photographer: Jack Arias

Description: This image shows a flowline that was taken apart near an entrance to a tributary connected to Dry Escondido Creek



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3589.JPG

Date of Photograph: 08/09/2018

Latitude: 28.85268 N

Longitude: -97.85355 W

Orientation: NE

Map Datum: WGS-84

Time of Photo: 11:28 PM

Photographer: Jack Arias

Description: This image shows a pit which area is approximately 29,000 square meters and the water level varies from 8 to 13 feet.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3605.JPG

Date of Photograph: 08/09/2018

Latitude: 28.85268 N

Longitude: -97.85355 W

Orientation: NE

Map Datum: WGS-84

Time of Photo: 12:17 PM

Photographer: Jack Arias

Description: This image shows a Total Dissolved Solids (TDS) measurement of 2,543 ppm at the pit.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 16

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3596.JPG

Date of Photograph: 08/09/2018

Latitude: 28.852286 N

Longitude: -97.854172 W

Orientation: NE

Map Datum: WGS-84

Time of Photo: 11:40 AM

Photographer: Jack Arias

Description: This image shows a Total Dissolved Solids (TDS) measurement of 2,507 ppm at the pit.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 17

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3597.JPG

Date of Photograph: 08/09/2018

Latitude: 28.852093 N

Longitude: -97.854349 W

Orientation: NW

Map Datum: WGS-84

Time of Photo: 11:48 AM

Photographer: Jack Arias

Description: This image shows the intake flowline point that recharge, the pit with saline water.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 18

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3599.JPG

Date of Photograph: 08/09/2018

Latitude: 28.852093 N

Longitude: -97.854349 W

Orientation: NE

Map Datum: WGS-84

Time of Photo: 11:49 AM

Photographer: Jack Arias

Description: This image shows a Total Dissolved Solids (TDS) measurement of 1,894 ppm at the flowline point that recharge the pit with saline water.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 19

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3604.JPG

Date of Photograph: 08/09/2018

Latitude: N28.852093°N

Longitude: -97.854349 W

Orientation: NE

Map Datum: WGS-84

Time of Photo: 12:07 AM

Photographer: Jack Arias

Description: This image shows a Total Dissolved Solids (TDS) measurement of 2,560 ppm at the pit.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 20

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3606.JPG
Date of Photograph: 08/09/2018
Latitude: 28.852651 N
Longitude: -97.854104 W
Orientation: NE
Map Datum: WGS-84
Time of Photo: 12:23 AM
Photographer: Jack Arias
Description: This image shows a pump that transfers fluids from pit to flowlines.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 21

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3609.JPG
Date of Photograph: 08/09/2018
Latitude: 28.853230 N
Longitude: -97.854176 W
Orientation: NE
Map Datum: WGS-84
Time of Photo: 12:34 PM
Photographer: Jack Arias
Description: This image shows a pump and flowlines connections used to transport fluids from pit to flowlines.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 22

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3610.JPG
Date of Photograph: 08/09/2018
Latitude: 28.853724 N
Longitude: -97.853551 W
Orientation: NE
Map Datum: WGS-84
Time of Photo: 12:36 PM
Photographer: Jack Arias
Description: This image shows flowlines that were taken apart near the pit.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 23

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3612.JPG
Date of Photograph: 08/09/2018
Latitude: 28.854175 N
Longitude: -97.853360 W
Orientation: NE
Map Datum: WGS-84
Time of Photo: 12:37 PM
Photographer: Jack Arias
Description: This image shows some flowlines going down to the point of discharge.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 24

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3612.JPG

Date of Photograph: 08/09/2018

Latitude: 28.875168 N

Longitude: -97.880249 W

Orientation: NE

Map Datum: WGS-84

Time of Photo: 12:37 PM

Photographer: Jack Arias

Description: This image shows Select Energy Services, ConocoPhillips, and EPA conducting a reading for TDS and salinity.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 25

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3615.JPG
Date of Photograph: 08/09/2018
Latitude: 28.875168 N
Longitude: -97.880249 W
Orientation: NE
Map Datum: WGS-84
Time of Photo: 2:20 PM
Photographer: Jack Arias
Description: This image shows a Total Dissolved Solids (TDS) measurement of 2,715 ppm at the point of discharge.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 26

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3622.JPG
Date of Photograph: 08/09/2018
Latitude: 28.875168 N
Longitude: -97.880249 W
Orientation: NE
Map Datum: WGS-84
Time of Photo: 3:41 PM
Photographer: Jack Arias
Description: This image shows an upstream flow path of the tributary of Dry Escondido Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 27

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3623.JPG
Date of Photograph: 08/09/2018
Latitude: 28.875168 N
Longitude: -97.880249 W
Orientation: NE
Map Datum: WGS-84
Time of Photo: 3:41 PM
Photographer: Jack Arias
Description: This image shows an upstream flow path of the tributary of Dry Escondido Creek.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 28

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3625.JPG

Date of Photograph: 08/09/2018

Latitude: 28.875168 N

Longitude: -97.880249 W

Orientation: NE

Map Datum: WGS-84

Time of Photo: 3:47 PM

Photographer: Jack Arias

Description: This image shows the upstream tributary of Dry Escondido Creek with vegetation, defined bed and bank, high water marks, debris, and riparian vegetation growing along the tributary.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 29

Location: County Rd 344, Karnes City, TX 78118 (28.870912 N, -97.875232 W)		
City: Karnes	County: Karnes	State: Texas



Photograph File Name: DSCN3627.JPG

Date of Photograph: 08/09/2018

Latitude: 28.875168 N

Longitude: -97.880249 W

Orientation: NE

Map Datum: WGS-84

Time of Photo: 3:47 PM

Photographer: Jack Arias

Description: This image shows a Total Dissolved Solids (TDS) measurement of 244 ppm upstream of the tributary of Dry Escondido Creek.