

GW - 28

**Reuse
Recycling
Requests**

2018 - Present

Chavez, Carl J, EMNRD

From: Griswold, Jim, EMNRD
Sent: Thursday, October 4, 2018 9:28 AM
To: Chavez, Carl J, EMNRD
Subject: FW: Navajo Water Sales Letter to OCD
Attachments: Navajo Water Sales Letter to OCD.pdf

From: Aguilar, Susie <Suzanne.Aguilar@HollyFrontier.com>
Sent: Thursday, October 4, 2018 8:33 AM
To: Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>; Holder, Mike <Michael.Holder@hollyfrontier.com>; Boans, Robert <Robert.Boans@HollyFrontier.com>; Denton, Scott <Scott.Denton@HollyFrontier.com>; Combs, Robert <Robert.Combs@HollyFrontier.com>
Subject: [EXT] Navajo Water Sales Letter to OCD

Submitted on behalf of Scott Denton. Hard copy mailed to addressee only.

Thank you,
Susie

Susie Aguilar
Environmental Administrative Assistant, Lead
HollyFrontier Navajo Refining LLC
501 E. Main Street / P.O. Box 159
Artesia, NM 88210 / 88211-0159
Office: (575) 746-5488
Cell: (575) 703-4926
Fax: (575) 746-5451
Email: Suzanne.Aguilar@HollyFrontier.com

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October 4, 2018

Mr. Carl Chavez
Oil Conservation Division
New Mexico Energy, Minerals & Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Certified Mail/Return Receipt
7015 0640 0006 6577 7104

RE: Notification Letter for Equipment Changes Associated with Treated Waste Water Sales
by HollyFrontier Navajo Refining LLC
Discharge Permit GW-028
Discharge Permit WDW-1, UICI-8-1

Dear Mr. Chavez:

As previously discussed by phone on August 28, 2018, the HollyFrontier Navajo Refining LLC (Navajo) is making changes to the piping near the WDW-1 wellhead. The purpose of the modifications is to allow Navajo to make the necessary equipment changes to divert some of its treated wastewater (WW) from the injection wells for reuse by a third party at oil and gas exploration and production facilities. As discussed separately with the New Mexico Oil Conservation Division (OCD), Navajo is currently in the process of soliciting interest for the sale of its treated effluent.

Pursuant to Condition 1.G of the Discharge Permit GW-028 and UICI-8-1, Navajo is required to notify the OCD of any facility expansion, production increase, or process modification that would result in any significant modification in the discharge of water contaminants. Though this planned modification will not change the quality or increase the quantity of the waste water effluent above permitted levels, Navajo is, per your request, hereby notifying OCD of the planned changes.

No equipment modifications will be made to the wastewater treatment facility at the refinery. Additional piping will be added to the existing pigging station near the WDW-1 wellhead. The piping equipment will include a totalizing flow meter and pressure controls. The meter will serve as the point of transfer of ownership of the water. Additional piping equipment will also be installed downstream of the new pressure controls, but will not be owned or installed by Navajo. This additional piping will allow transfer of the treated wastewater by the buyer to its oil and gas exploration and production customers. A simplified block flow diagram is provided in Attachment A and the location of the new equipment is provided in Attachment B.

Navajo Refining Company, L.L.C.
501 East Main • Artesia, NM 88210
(575) 748-3311 • <http://www.hollyfrontier.com>

Only the piping associated with WDW-1 will be physically modified. The operation of WDW-1, WDW-2 and WDW-3 will continue to meet the requirements of the UIC permits. No change in effluent contaminants or quality is expected due to the proposed modifications.

Historical effluent sampling shows that the two primary constituents of concern for potentially causing the effluent to exhibit a hazardous characteristic are benzene and selenium. Navajo has implemented, and will continue to implement, benzene and selenium operational monitoring and controls to ensure that discharged effluent does not meet the definition of hazardous waste. The benzene monitoring includes sampling to verify that the wastewater concentration in the effluent to be discharged is below 0.5 mg/L and therefore non-hazardous. Similarly, the selenium monitoring procedure includes sampling to ensure that discharged effluent has less than 1.0 mg/L of selenium present and is non-hazardous. In addition, the refinery will continue to follow the monitoring requirements contained in Section 2.A. of the UICI-8-1 Permit. No listed hazardous wastes are introduced to the Refinery's wastewater treatment system, thus the effluent is not a listed hazardous waste.

Navajo appreciates the continued cooperation of the OCD. Should you have questions, please do not hesitate to contact me at (575) 746-5487 or scott.denton@hollyfrontier.com. Thank you for your assistance in this matter.

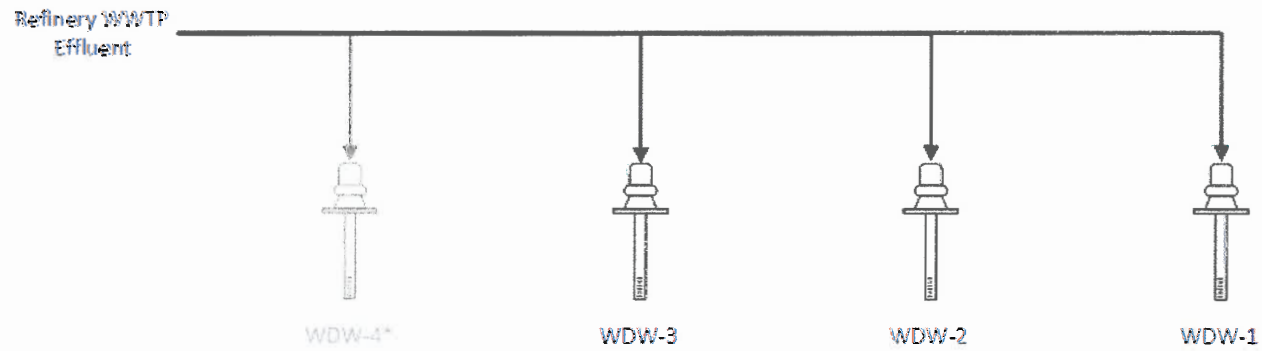
Sincerely,



Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC

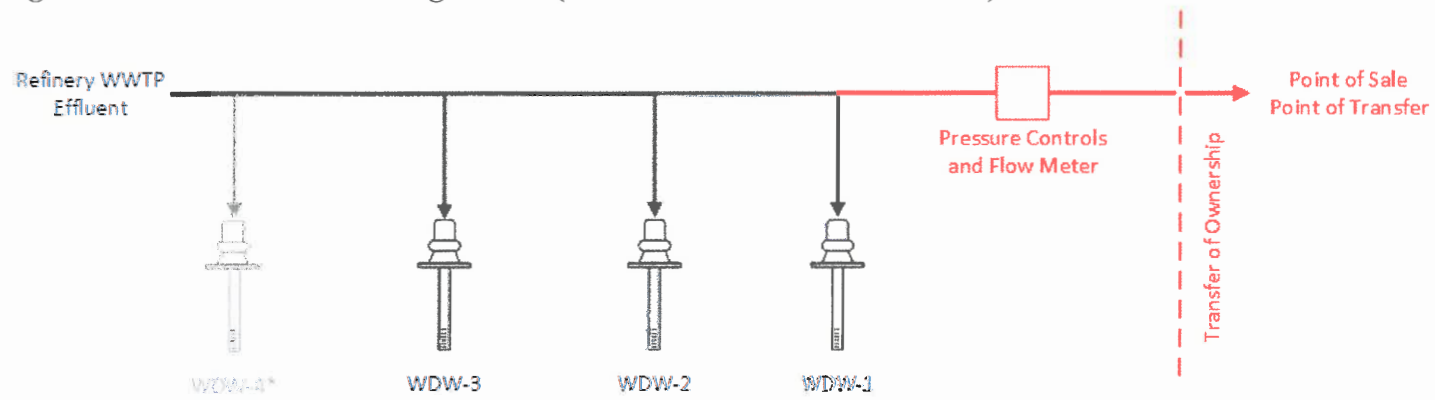
Attachment A
Process Schematic

Figure 1: Existing Wells Configuration



*Well constructed but not yet in service.

Figure 2: Modified Wells Configuration (modifications are shown in red)



*Well constructed but not yet in service.

Attachment B
Equipment Modifications Location

Meter Location, Delivery Point

Located east of 226/Hilltop Rd., south of Arco Rd.
AP# 30-015-27592

Legend

★ Feature 1

WDW-1 Wellhead

Mewbourne - $32^{\circ}47'6.82''\text{N}$, $104^{\circ}12'50.23''\text{W}$

Approximate Meter Location, Delivery Point

Current pigging station
(location of future equipment associated with water sales)

Google earth

© 2018 Google



80 ft

Refinery Wastewater Reuse and Fresh Water Preservation in New Mexico to Support Oilfield Production

By

R. Combs, R. Boans – HFNR

C. Chavez, E.J.S. Graham – EMNRD OCD

GWPC

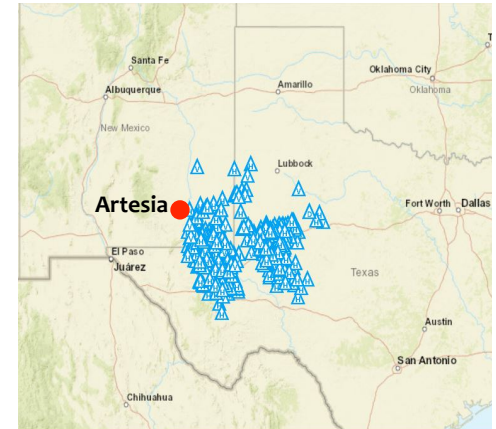
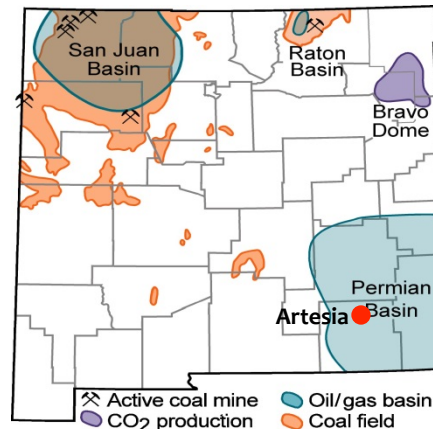
New Orleans, LA

September 12, 2018



HollyFrontier Navajo Refining

- * HollyFrontier Navajo Refining
 - * Began in 1920s
 - * Holly Corp 1969
- * HollyFrontier Corporation
 - * One of five HollyFrontier refineries
 - * Total refining capacity of 460,000 bpd
 - * Headquartered in Dallas, TX
- * Navajo – Artesia/Lovington
 - * 100,000 bpd crude capacity
 - * Local Permian gathering



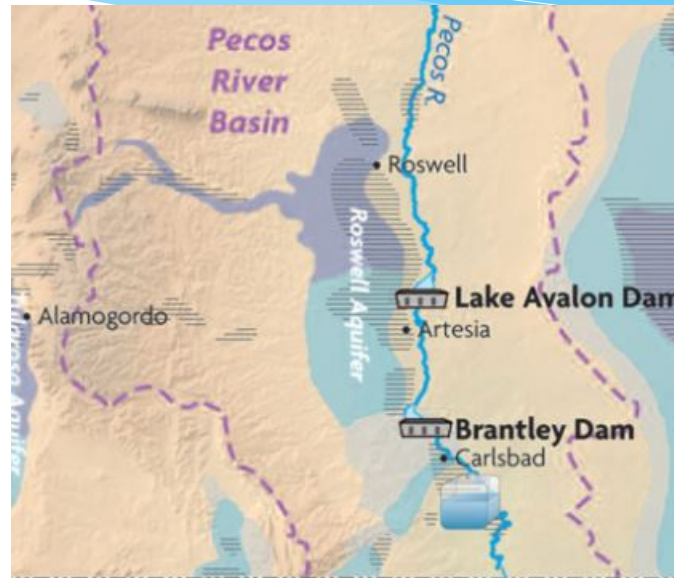
Refinery Regulatory

- * Permitting
 - * POTW – Cities of Artesia & Lovington
 - * NM Environment Department
 - * NM Office of State Engineer
 - * Oil Conservation Division



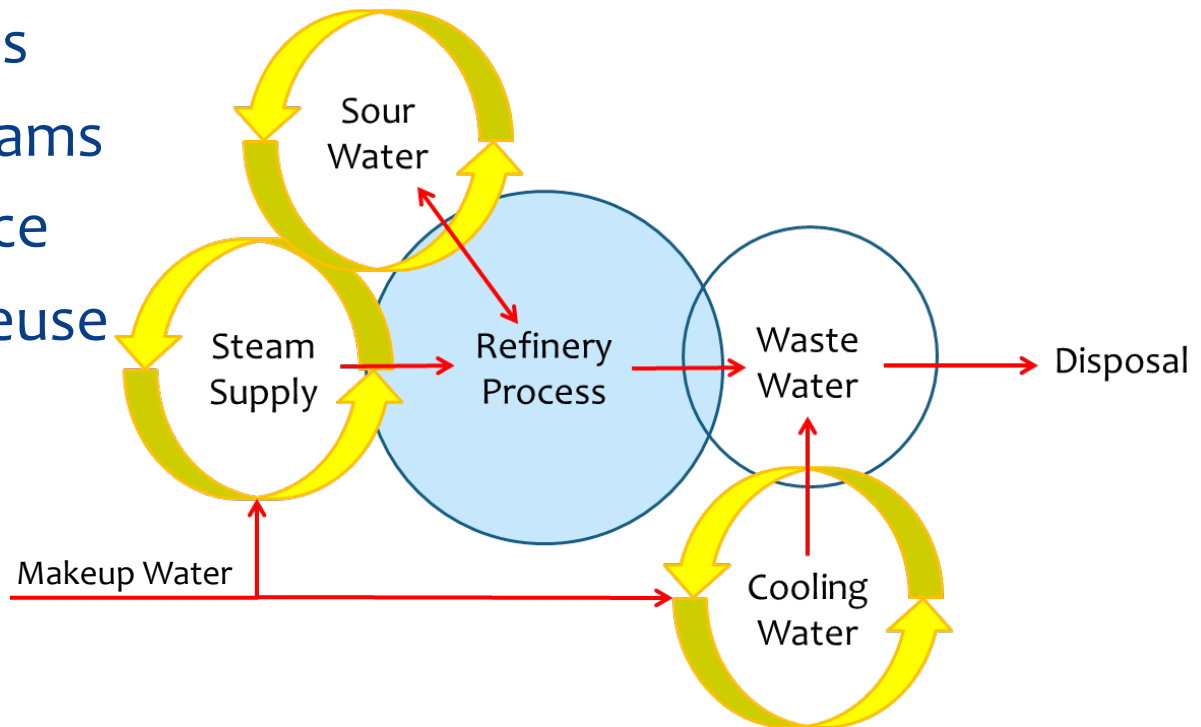
Refinery and Oilfield Activity Location

- * Arid location
 - * Annual Average Rainfall
 - * Limited surface water for demands
- * Limited fresh water rights
- * Competing demand for water
 - * Municipal
 - * Agriculture
 - * Oilfield

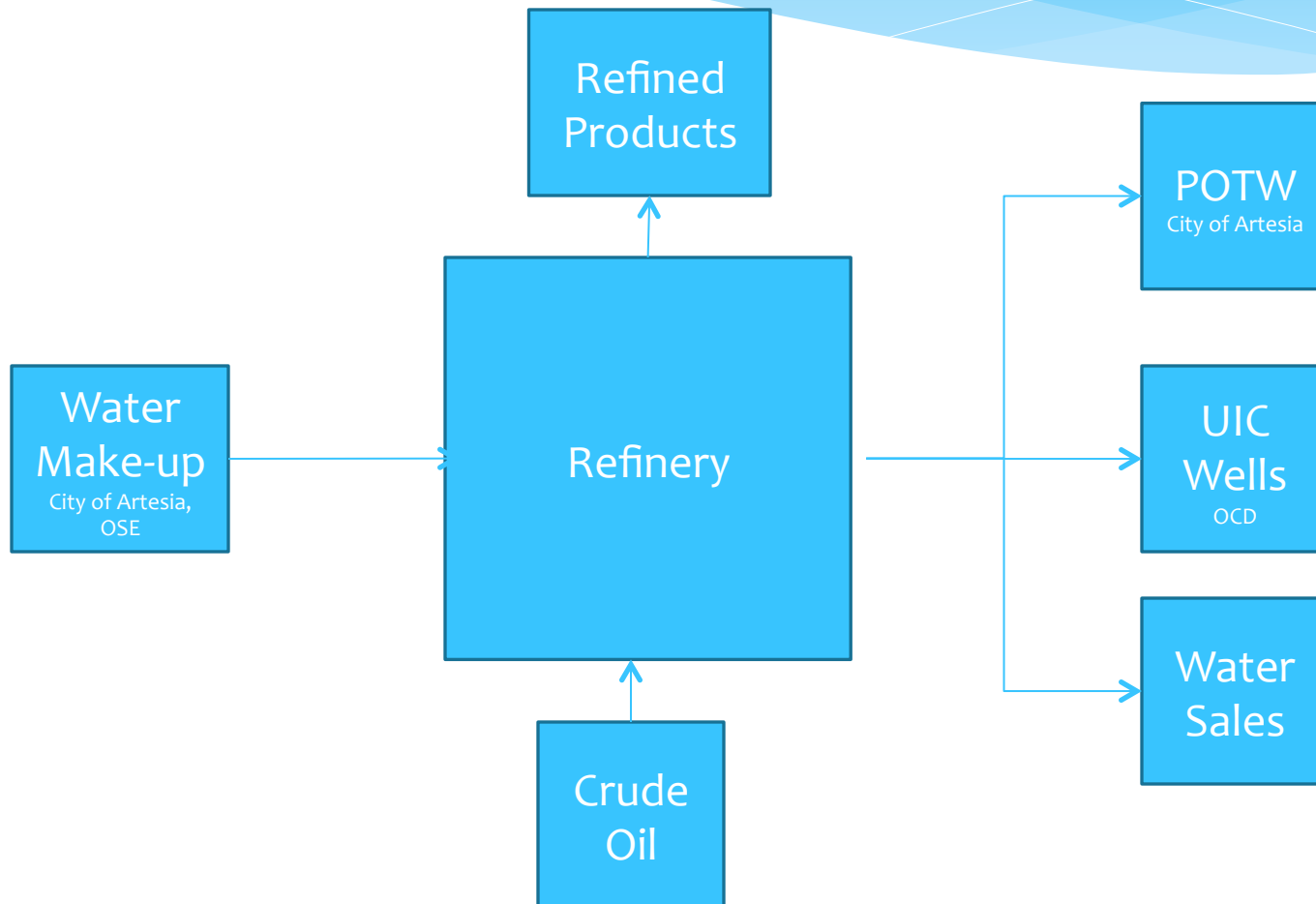


Refinery Water Use

- * Heavily dependent on water
- * Integrated processes
- * Internal recycle streams
- * Refinery Performance
- * Evaluating further reuse options to improve efficiency



Refinery Disposal Options



Benefits of Reuse

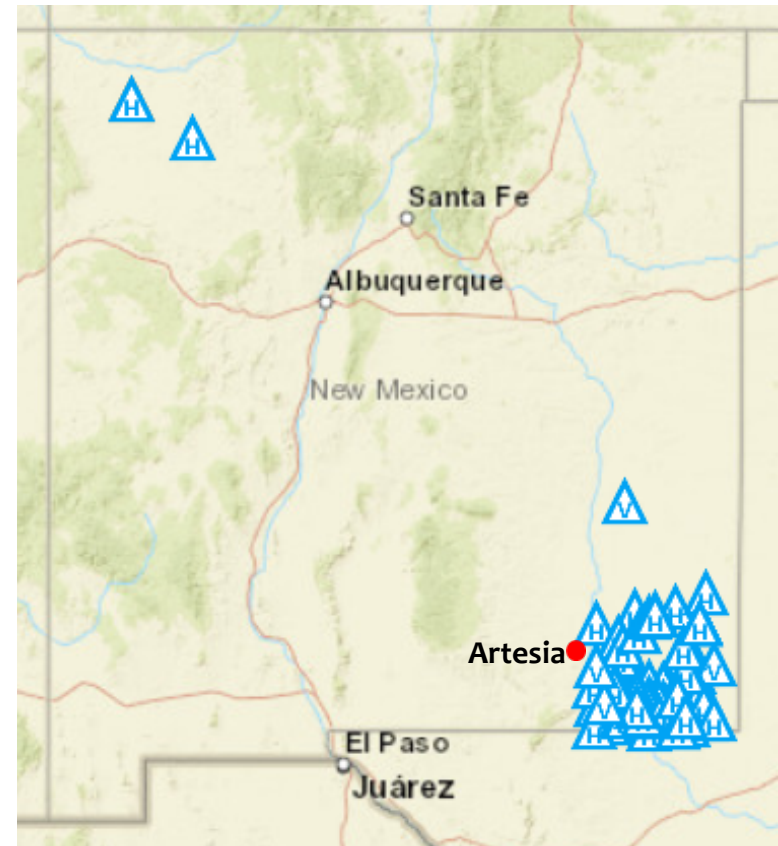
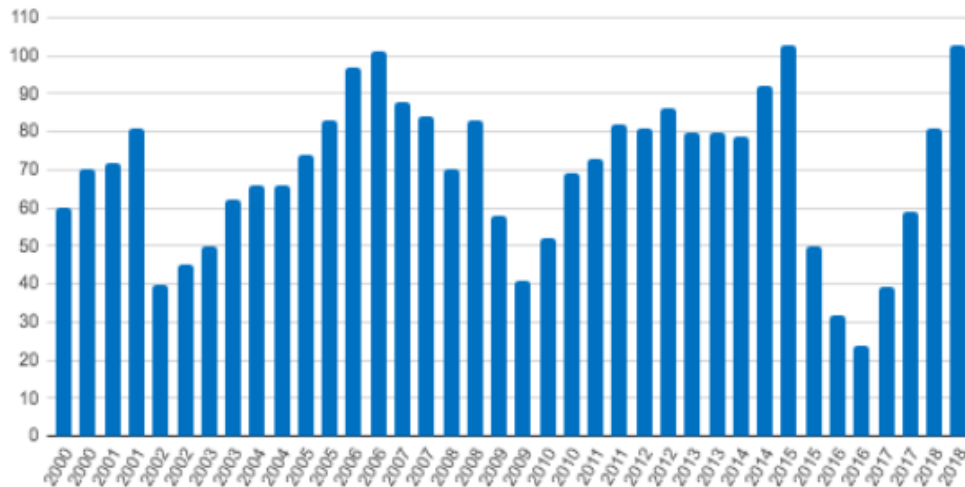


- * E&P
 - * Reduce costs
 - * Pipeline/Continuous Delivery
 - * Preserve freshwater resources
- * Refinery
 - * Longevity for refinery
 - * New partnerships
 - * Revenue

Oilfield Demand

- * Oil and Gas well drilling fluids
 - * Hydraulic fracturing
 - * Downhole operations
- * Volumes:
 - * 1.1 MG/well (Eddy Cty) – avg frac volume

New Mexico Oil & Gas Rigs Since 2000



OCD Online: <http://www.emnrd.state.nm.us/OCD/education.html>

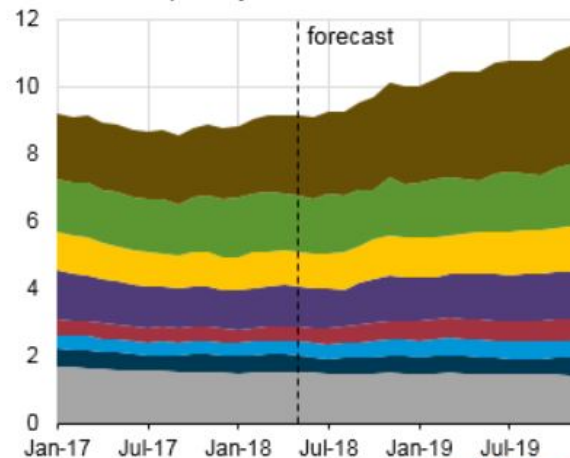
BakerHughes Rig Count: <http://phx.corporate-ir.net/phoenix.zhtml?c=79687&p=irol-reportsother>

Reuse Considerations

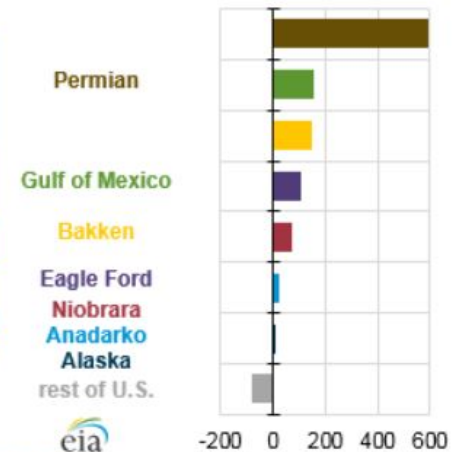
- * Demand – will the trend continue?
- * Refinery liability
 - * Water quality
 - * Very consistent
 - * Discharge – Batch operation
 - * Regular quality testing
- * Delivery
 - * Plant upset, mechanical failure, etc.
 - * Weather
- * Contracts and Procurement
 - * Define purchaser responsibilities
 - * Payment
- * Purchaser Responsibilities
 - * Partners with good practices and financials
 - * Broker to third parties
 - * Commitment

Permian region is expected to drive U.S. crude oil production growth through 2019

Monthly U.S. crude oil production (Jan 2017-Dec 2019)
million barrels per day



Projected change 2018-2019
thousand barrels per day



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, August 2018

Refinery Evaluation and Tasks

- * Due diligence of purchaser
- * Regulatory
 - * NMOCD
 - * Permitting
 - * Oilfield non-exempt non-hazardous waste water stream
 - * City of Artesia
 - * OSE
- * Contracts



Purchaser Responsibilities

- * Regulatory - Purchaser
 - * Managing refinery waste stream
 - * NMOCD
 - * Permitting – Reuse/Recycling
 - * Reporting
 - * Release Notification
 - * Investigation/cleanup
 - * Disposal
- * Rights of way – surface access
- * Deconstruction/demobilization



In Summary

- * Beneficial reuse program
- * Pollution and waste minimization
- * Implementation

For more info, contact:

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robert.combs@hollyfrontier.com, 575-746-5382

Carl Chavez – EMNR – OCD
CarlJ.Chavez@state.nm.us, 505-476-3490