

GW-028

**OFFICE
OF THE
STATE ENGINEER**

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, March 23, 2016 8:25 AM
To: Chavez, Carl J, EMNRD
Subject: Note to File: Artesia Refinery (WG-028) Holly Frontier Meeting on 3/10/2016 in Santa Fe and Office of State Engineer Update and Remaining RO Reject Water Discharge Issues Associated with Discharge Permit Renewal

This message is to document the OSE update provided at the above subject meeting by Scott Denton, Mike Holder, Robert Combs and Associates at a meeting to discuss Holly Frontier's (HF) Background GW Investigation Report, recent GW Modeling, and the RO Reject Water Discharge into the two (2) Farm Fields within the refinery proper.

With regard to the OSE issue on shallow ground water rights for a Diversion Right that will allow the Artesia Refinery to pump and treat shallow groundwater at the facility, HF stated the following:

- 1) The application was recently sent to the OSE Roswell Office (Cathrine Goetze).
 - a. Will allow for pump and capture of the PSH plume in shallow groundwater migrating East of the refinery proper to protect public health and safety.
 - b. Approval by OSE of the application will allow HF to turn on the complete PSH Recovery System, which was idled on ~ 9/2014 due to lack of shallow GW water rights issues with OSE.
 - c. OSE may issue approval of the application within the week?
 - d. HF entered into a 5-Yr. lease of shallow GW rights near Walmart in Artesia.
 - i. ~ 220 Water Rights/5-Yrs.
 - ii. ~ 219.5 AF?
 - iii. ~ 688 AF/Yr.?
- 2) The application for Discharge Permit Renewal will be submitted earlier than 120-days before expiration of the permit. Many issues are associated with the renewal including the OCD's requirement to stop the discharge (~ 15,000 bbl/day) of RO Reject Water into the two (2) Farm Fields. HF would like to continue discharging into the Farm Fields to avoid because they feel the discharge meets acceptable water quality standards and the costs required to handle the RO Reject Water discharge differently at the facility is significant.
- 3) OCD has been reviewing numerous technical reports associated with a recent RO Reject Water Discharge Modification Request received in May of 2015. HF is proposing elevated background groundwater quality standards to OCD that if accepted, may allow for the continued discharge into the RO Reject Water Farm Fields. HF's objectives before renewal of the Discharge Permit are: 1) Resolve background for RO Reject Fields; 2) Continue GW Mounding to control contaminant fate in GW; 3) Injected fluids from pump and treat (P&T) of phase separated hydrocarbon (PSH) into GW (~15% of total volume will not be injected into GW and need to go to EPs or back into the RO Farm Fields); 4) Use UTLs for future cleanup and allowable discharges into GW; and 5) If UTLs are accepted, planned Evaporation Ponds (EPs) forthcoming in DP Renewal Application will go away.

***** END *****

Carl J. Chavez, CHMM
Environmental Engineer
Oil Conservation Division- Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
Phone: (505) 476-3490
Main Phone: (505) 476-3440
Fax: (505) 476-3462

Chavez, Carl J, EMNRD

From: Denton, Scott <Scott.Denton@HollyFrontier.com>
Sent: Monday, November 30, 2015 4:43 PM
To: Griswold, Jim, EMNRD; Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Tsinnajinnie, Leona, NMENV
Cc: Holder, Mike; Combs, Robert; Denton, Scott
Subject: Letters from NRC to OSE
Attachments: Filed watermaster Letter w_attachments 08_24_2015.pdf; Scan of filed A Morley ltr Navajo Refining 09_03_2015.pdf

We realized that we did not copy you all on these letters. NRC has not received any comments or feedback from OSE.

See you all tomorrow. Robert and myself will be driving up. Mike is tied up with other matters.

Thanks,

SMD

Scott M. Denton
Environmental Manager

The HollyFrontier Companies
P.O. Box 159
Artesia, NM 88211-0159
575-746-5487 (o)
970-581-7268 (c)

Scott.Denton@HollyFrontier.com

CONFIDENTIALITY NOTICE: This e-mail, and any attachments, may contain information that is privileged and confidential. If you received this message in error, please advise the sender immediately by reply e-mail and do not retain any paper or electronic copies of this message or any attachments. Unless expressly stated, nothing contained in this message should be construed as a digital or electronic signature or a commitment to a binding agreement.

24 August 2015

District 2 Office of the State Engineer
1900 West Second Street
Roswell, New Mexico 88201



STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2015 AUG 24 AM 11: 23

Letter and enclosures hand delivered.

Attn: David Thomas, Roswell Underground Water Basin Watermaster
Ref: R.O. Reject Return Flow Credits – Navajo Refining, NMOSE Files RA-768, RA-1097 and RA-3832

Dear Mr. Thomas:

Under State Engineer Permit No. RA-1097 & RA-768, RA-1892, RA-602, RA-602-A, RA-2324, RA-3832-Combined, issued on September 14, 2006, Navajo Refining is authorized a credit of thirty percent (30%) for reverse-osmosis reject water that is land applied. The aforesaid permit further stipulates that the water eligible for the credit must have been derived from the Navajo Refining artesian wells RA-768, RA-1097 and/or RA-3832. Navajo Refining is not eligible to receive a credit for City of Artesia municipal water used within the refinery.

The subject permit requires that the percentage of water used by the facility that is derived from the Navajo refinery wells be compared to the total water used from both the wells and provided by the City of Artesia. The percentage of water derived by the Navajo wells is then multiplied by the total of land applied reverse-osmosis reject water to determine the amount derived from the Navajo facility. Thirty percent of that value is eligible as a credit to Navajo Refining on its annual diversion record.

To accomplish the aforesaid calculations Navajo Refining is required to submit to you the amount of water the facility obtained from the City of Artesia municipal system and the amount of reverse-osmosis reject water that was land applied. It is my understanding that your staff reads the totalizing meters installed on the discharge works associated with the artesian wells RA-768, RA-1097 and RA-3832.

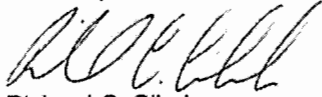
It is my understanding that during the current Roswell Basin Five-Year Accounting Period that commenced on November 1, 2011 and that will end on October 31, 2016 Navajo Refining has been inconsistent with its reporting of their portion of the required data. Navajo Refining has requested that I review the data and provide you with the required information and a summary of computed available credits for Water Years 2012, 2013 and 2014.

Please find enclosed with this letter data sheets that describe the monthly amounts of water Navajo Refining received at its plant from the City of Artesia and data describing the land application amounts of reverse osmosis reject water from the two original units and a third temporary reverse-osmosis unit that appears to have been brought online. The data is for Calendar Years 2011 through 2014. This data, coupled with the

current Roswell Basin Diversion Record for Water Years 2012 through 2016, was used to compute the available credits under the 2006 permit. Said available credits are described in a table titled "*Table Showing Potential Return Flow Credits Available to Navajo Refining For Water Years 2012 through 2014 under NMOSE Permit Issued 14 September 2006 R.O. Land Application Data Includes Temporary Unit (Revised)*" that is also attached to this letter.

It is requested that you review the attached data and apply the computed credits to the Navajo Refining diversion record for the current Roswell Basin Five-Year Accounting Period, Water Years 2012 through 2016. If you have any questions, or if anything further is required, please do not hesitate to contact me.

Sincerely,



Richard C. Cibak
Atkins Engineering Associates, Inc.
575.624.2420, Ext. 210
richard@atkinseng.com

RCC

Enclosures

Cc: Mike Holder c/o HollyFrontier

Robert Combs c/o Navajo Refining

Maria O'Brien c/o Modrall Sperling Law Firm

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2015 AUG 24 AM 11:23

$$1 \text{ AF} \approx 325,853.383688 \text{ v.s. Gal.} \approx 7,758.4139 \text{ bbl/s.}$$

$$10,000 \frac{\text{bbl}}{\text{Day}} \times \frac{365 \text{ Day}}{\text{Yr}} \approx 3,650,000 \frac{\text{bbl}}{\text{Yr}} \times \frac{1 \text{ AF}}{7,758.4139 \text{ bbl}} \approx 470.457 \text{ AF/Yr}$$

∴ R.O. Reject Land Application << than Reported below.
based on max directly w/d 10,000 bbl/day.

$$470.5 \frac{\text{bbl}}{\text{Yr}} \leq \bar{X} \text{ of } 538.52 \frac{\text{bbl}}{\text{Yr}}$$

- Currently Crossing 15,000 bbl/day until 10/21/2016!!
5,475,000 bbl/Yr \approx 705.7 AF/Yr.
705.7 AF/Yr >> \bar{X} of 538.52 $\frac{\text{bbl}}{\text{Yr}}$.

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2015 AUG 24 AM 11:23

Table Showing Potential Return Flow Credits Available To Navajo Refining

For Water Years 2012 through 2014 under NMOSE Permit issued 14 September 2006

R.O. Land Application Data Includes Temporary Unit

Water Year*	City of Artesia Delivered Water, acre-feet **	NMOSE Reported Artesian Diversion from Plant Wells, acre-feet ^	Percentage of Navajo Produced Artesian Water of Total Water Used, acre-feet	Land Applied R.O. Reject Water, Acre-feet #	Credit Available at 30% of Navajo Produced R.O. Reject Land Applied, Acre- feet
2012	2,354.99	596.69	20.22	526.884	31.96
2013	2,601.03	553.11	17.54	538.764	29.10
2014	1,382.20	667.12	32.55	549.907	65.14

Notes: * A water year in the Roswell Underground Water Basin was established by Order of the Court and runs from 01 November of the previous calendar year to 31 October of the following calendar year. For example the current Roswell Basin Water Year 2015 commenced on 01 November 2014 and will end on 31 October 2015.

** City of Artesia delivered water was obtained from a MS Excel spreadsheet pur_water_2014.xls provided by Robert Combs via email of 19 January 2015.

^ The amount of water charged against the Navajo Refining RA-1097, RA-768, RA-602-A, RA-2324, RA-3832-Combined Water Right on the most recent Roswell Basin Watermaster Diversion Record supplied in February 2015.

This data was obtained from the revised MS Excel spreadsheet Summary workbook.xls supplied by Robert Combs on 27 July 2015.

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 2015 AUG 24 AM 11: 23

Water Year	City Water (gallons)	City Water (acre- ft)	NRC Well Water	Land Applied RO Reject (gallons)	Land Applied RO Reject (acre-ft)
2012	767,377,500	2,355.00		171,685,804	526.88
2013	847,547,000	2,601.03		175,556,955	538.76
2014	450,391,095	1,382.20		179,187,775	549.91

	City (water bill, ga	City (meter)	NRC well water	RO Reject (bbls)	RO Reject (gal)
2012 Water Yr					
2011 November	72,091,000			222,905	
December	64,621,500			296,167	
2012 January	57,152,000			319,174	
February	74,802,000			297,574	
March	52,090,000			349,721	
April	13,638,000			344,123	
May	125,129,000			361,036	
June	90,122,000			362,956	
July	51,085,000			373,036	
August	35,812,000			409,256	
September	60,596,000			376,809	
October	70,239,000			374,999	
total	767,377,500	-	-	4,087,757	171,685,804
2013 Water Yr					
2012 November	54,654,000			356,928	
December	125,119,000			389,184	
2013 January	172,039,000			307,742	
February	45,014,000			234,311	
March	41,035,000			407,243	

April	61,307,000		379,550	
May	96,770,000		369,652	
June	54,671,000		355,574	
July	51,596,000		361,019	
August	50,815,000		335,824	
September	60,207,000		323,917	
October	34,320,000		358,983	
total	847,547,000	-	4,179,927	175,556,955
2014 Water Yr				
2013 November	23,462,000		258,853	
December	50,468,000		322,265	
2014 January	44,917,000		404,820	
February	49,296,000		319,360	
March	21,913,000		347,698	
April	43,992,000		342,716	
May	37,870,000		373,014	
June	34,448,000		345,739	
July	40,717,095		431,202	
August	30,431,000		344,995	
September	36,167,000		311,292	
October	36,710,000		464,422	
total	450,391,095	-	4,266,376	179,187,775

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 2015 AUG 24 AM 11: 23

03 September 2015

District 2 Office of the State Engineer
1900 West Second Street
Roswell, New Mexico 88201



Letter hand delivered.

Attn: Andy Morley, District 2 Office of the State Engineer Manager
Ref: Shallow Water Remediation – Navajo Refining

Dear Mr. Morley:

In November 2014 the Navajo Refining Company, LLC submitted a well abandonment plan to the District 2 Office of the State Engineer (D2OSE) requesting approval to abandon three product recovery wells near Bolton Road in the SE¼ of Section 9, Township 17 South, Range 26 East, N.M.P.M. Your office approved the plugging plans but raised questions pertaining to diversions of water from the shallow aquifer and subsequently verbally directed Navajo Refining Company, LLC (Navajo Refining) to cease pumping water from a hydrocarbon recovery system until a review of the operation could be performed by your office. As a result the groundwater pumps associated with all of the recovery wells were turned off on November 17, 2014. The lone exception was a pump located east of Bolton Road in the SW¼ of Section 10, Township 17 South, Range 26 East, N.M.P.M. Please note that there is no consumptive use of the water produced from the recovery wells.

On December 29, 2014 a meeting was conducted at the D2OSE between Catherine Goetz, of your office, and representatives of Navajo Refining, Arcadis and Atkins Engineering Associates to discuss this matter. Ms. Goetz indicated that Navajo refining would be required to obtain or lease shallow groundwater rights and transfer them to the recovery wells to continue operating the groundwater recovery system designed to capture phase separated hydrocarbons (PSH). Ms. Goetz further indicated that Article 1-17 of the New Mexico Groundwater Rules and Regulations could not be used in an effort to resume shallow groundwater remediation operations in a timely manner.

Navajo Refining has been looking for shallow groundwater rights for lease or purchase that could be available to transfer and use in connection with the recovery system. To date, Navajo refining has not identified water rights which would be available for lease or transfer or otherwise suitable for this purpose. However, Navajo Refining believes there is a better and more efficacious solution to address the issue instead of purchasing or leasing shallow water rights which may not address the issue.

Under a Permit No. RA-1097 & RA-768, RA-1892, RA-602, RA-602-A, RA-2324, RA-3832-Combined Navajo Refining is authorized to receive a credit for thirty percent of the land applied reverse-osmosis (RO) reject water that is derived from the artesian wells RA-768 & RA-1892, RA-1097 and RA-3832. The return flow

2015 SEP -3
STATE ENGINEER OFFICE
ROSSELL, NEW MEXICO

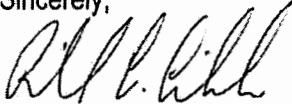
resulting from the land application of Navajo produced RO Reject water is returned to the shallow aquifer in the vicinity of where the Navajo Refining shallow recovery wells have been pumping. Recently this firm submitted information to the Roswell Basin Watermaster pertaining to the credits authorized under the September 14, 2006 permit. If accepted these credits exceed the shallow pumping associated with the shallow water recovery system. The credits could be administratively applied to mitigate the shallow recovery pumping in lieu of a credit from the artesian groundwater source.

It is imperative that Navajo Refining be allowed to immediately resume its operation of the shallow groundwater recovery of PSH. Navajo Refining is under pressure to reactivate the remediation system by both the New Mexico Environment Department (NMED) and the New Mexico Oil Conservation Division (OCD). The operation of the recovery system is required under NMED Permit No. NMD048918817 and OCD Permit No. GW-028. Its operation is necessary to maintain control of the plume associated with the hydrocarbon contamination.

It is requested that the New Mexico Office of the State Engineer reconsider its position and administratively authorize the credits for Navajo Refining produced RO reject water that is land applied. If need be an application to appropriate groundwater with no consumptive use of water pursuant to Article 1-17 of the New Mexico Groundwater Rules and Regulations can be filed.

If you have any questions, or if anything further is needed, please do not hesitate to contact me.

Sincerely,



Richard C. Cibak
Atkins Engineering Associates, Inc.
575.624.2420, Ext. 210
richard@atkinseng.com

RCC

cc: Mike Holder c/o Navajo Refining Company
Robert Combs c/o Navajo Refining Company
Maria O'Brien c/o Modrall Sperling Law Firm

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2015 SEP -3 AM 11:45

Status and Short Term Options

Groundwater Remediation/Product Recovery System

1. Operation required by OCD and NMED permits for remediation of shallow GW
2. Current system description
3. Current operational status limits remediation efforts, increasing potential for degradation of natural resource.
4. Shut down majority of system in November 2014
5. Oil recovery system still in operation, dewatering pump at Pit – reduced recovery capacity
6. Navajo is seeking relief from OSE to operate the system short term in order to maintain compliance with permits and prevent further degradation of the resource and potential for threat to human health and the environment.
7. Navajo is concurrently developing a long-term solution to avoid diversion of shallow groundwater and operate the system effectively.

Long Term Considerations

Preferred Option to Resume Operation - Reinjection

- a. Pump and reinject 85% upgradient, 15% cross-gradient/downgradient
- b. Removes volume from wastewater treatment system/disposal
- c. Facilitates remediation of groundwater impacts

Water Rights – Acquisition of Shallow Rights Less preferable

- d. NRC does not have water right for shallow GW diversion
- e. NRC's historic and projected diversion
- f. Consideration for land applied RO credit to shallow diversion
- g. Considerations to purchase/lease
 - i. Scarcity of available rights
 - ii. Increases waste water stream

Regulatory Path Forward

Chavez, Carl J, EMNRD

Subject: Artesia Refinery Free-Product Recovery System Pumping (Shallow Water Rights) vs. Dissolved Phase Remediation (Shallow Water Rights) and Other Water Rights Issues w/ Discussion of Potential Solutions or Path Forward

Location: Oil Conservation Division (OCD) Third Floor Conference Room (Wendell Chino Bldg.)
1220 South St. Francis Drive, Santa Fe 87505

Start: Tue 12/1/2015 1:00 PM
End: Tue 12/1/2015 2:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

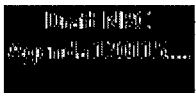
Organizer: Chavez, Carl J, EMNRD

Required Attendees: Denton, Scott (Scott.Denton@HollyFrontier.com); Holder, Mike (Mike.Holder@hollyfrontier.com); Goetz, Catherine, OSE; Cobrain, Dave, NMENV; Dhawan, Neelam, NMENV; Tsinnajinnie, Leona, NMENV; Griswold, Jim, EMNRD; Combs, Robert (Robert.Combs@hollyfrontier.com); Morley, Andy V., OSE

Optional Attendees: Kulis, Jerzy, NMENV

Ladies and Gentlemen:

Update (11/25/15 @ 16:30): Robert Combs (Navajo Refining Company- NRC) submits draft agenda for consideration in upcoming meeting (see attachment). Thank you.



OCD Draft Meeting Agenda:

A. Free Product Recovery System Pumping in Shallow Aquifer System

- a. Shallow water diversion limit ~ 40AF/Yr (vol. shallow water pumped in process)?
- b. Using shallow water for beneficial use without OSE Permit= Illegal Diversion
- c. Buy or lease Water Rights and Transfer Water Rights and/or Leases to points of diversion (free-product wells)
- d. Most favorable to move Water Rights West away from the Pecos River based on New Mexico's Water Compact w/ Mexico
- e. **Navajo Refinery Briefing of Water Rights Events**, since Nov. 2014
 - i. What avenues have been pursued to date?
- f. **OSE Water Rights Permit Scenarios** applies to real property where Water Rights are required to own water, which requires the adjudication process This permit involves: vol. water for use; point of diversion; place of use; and purpose of use.
 - i. Shallow Water Rights vs. Artesian Water Rights
 - ii. Permit review process ~ 6 mo., unless there is a protest, which may result in an indefinite review period
 - iii. Public notice process occurs for 3-weeks
 - iv. Hydrogeologic review required of public resources and other well owners
 - v. District Staff issue a Memo of Recommendation to the OSE- District Manager

- vi. If no impairment to public resource and other well owners, an approved Water Rights may transpire
- vii. Other non-permit options beside Water Rights trading include:
 - 1. Water lease mechanism or agreement (achieve preliminary authorization). There are OSE guidance, regulations, statutes, and existing permits on this.
 - 2. Transfer of water leases (easiest)
 - a. Change in ownership and declare other diversion points as supplemental points
 - b. cursory review
 - c. No public notice process
 - d. Other?

B. Dissolved Phase Plume Remediation in Shallow Aquifer System

- a. Navajo Refinery Discusses Plans for Remediation of dissolved phase plume
- b. NMED and OCD communication based on plans above
- c. OSE input based on proposed remediation to protect public health and the environment

Status and Short Term Options

Groundwater Remediation/Product Recovery System

1. Operation required by OCD and NMED permits for remediation of shallow GW
2. Current system description
3. Current operational status limits remediation efforts, increasing potential for degradation of natural resource.
4. Shut down majority of system in November 2014
5. Oil recovery system still in operation, dewatering pump at Pit – reduced recovery capacity
6. Navajo is seeking relief from OSE to operate the system short term in order to maintain compliance with permits and prevent further degradation of the resource and potential for threat to human health and the environment.
7. Navajo is concurrently developing a long-term solution to avoid diversion of shallow groundwater and operate the system effectively.

Long Term Considerations

Preferred Option to Resume Operation - Reinjection

- a. Pump and reinject 85% upgradient, 15% cross-gradient/downgradient
- b. Removes volume from wastewater treatment system/disposal
- c. Facilitates remediation of groundwater impacts

Water Rights – Acquisition of Shallow Rights Less preferable

- d. NRC does not have water right for shallow GW diversion
- e. NRC's historic and projected diversion
- f. Consideration for land applied RO credit to shallow diversion
- g. Considerations to purchase/lease
 - i. Scarcity of available rights
 - ii. Increases waste water stream

Regulatory Path Forward

Chavez, Carl J, EMNRD

Subject: Artesia Refinery Free-Product Recovery System Pumping (Shallow Water Rights) vs. Dissolved Phase Remediation (Shallow Water Rights) and Other Water Rights Issues w/ Discussion of Potential Solutions or Path Forward

Location: Oil Conservation Division (OCD) Third Floor Conference Room (Wendell Chino Bldg.)
1220 South St. Francis Drive, Santa Fe 87505

Start: Tue 12/1/2015 1:00 PM
End: Tue 12/1/2015 2:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

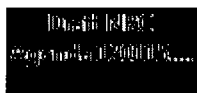
Organizer: Chavez, Carl J, EMNRD

Required Attendees: Denton, Scott (Scott.Denton@HollyFrontier.com); Holder, Mike (Mike.Holder@hollyfrontier.com); Goetz, Catherine, OSE; Cobrain, Dave, NMENV; Dhawan, Neelam, NMENV; Tsinnajinnie, Leona, NMENV; Griswold, Jim, EMNRD; Combs, Robert (Robert.Combs@hollyfrontier.com); Morley, Andy V., OSE

Optional Attendees: Kulis, Jerzy, NMENV

Ladies and Gentlemen:

Update (11/25/15 @ 16:30): Robert Combs (Navajo Refining Company- NRC) submits draft agenda for consideration in upcoming meeting (see attachment). Thank you.



OCD Draft Meeting Agenda:

A. Free Product Recovery System Pumping in Shallow Aquifer System

- a. Shallow water diversion limit ~ 40AF/Yr (vol. shallow water pumped in process)?
- b. Using shallow water for beneficial use without OSE Permit= Illegal Diversion
- c. Buy or lease Water Rights and Transfer Water Rights and/or Leases to points of diversion (free-product wells)
- d. Most favorable to move Water Rights West away from the Pecos River based on New Mexico's Water Compact w/ Mexico
- e. **Navajo Refinery Briefing of Water Rights Events**, since Nov. 2014
 - i. What avenues have been pursued to date?
- f. **OSE Water Rights Permit Scenarios** applies to real property where Water Rights are required to own water, which requires the adjudication process This permit involves: vol. water for use; point of diversion; place of use; and purpose of use.
 - i. Shallow Water Rights vs. Artesian Water Rights
 - ii. Permit review process ~ 6 mo., unless there is a protest, which may result in an indefinite review period
 - iii. Public notice process occurs for 3-weeks
 - iv. Hydrogeologic review required of public resources and other well owners
 - v. District Staff issue a Memo of Recommendation to the OSE- District Manager

- vi. If no impairment to public resource and other well owners, an approved Water Rights may transpire
- vii. Other non-permit options beside Water Rights trading include:
 - 1. Water lease mechanism or agreement (achieve preliminary authorization). There are OSE guidance, regulations, statutes, and existing permits on this.
 - 2. Transfer of water leases (easiest)
 - a. Change in ownership and declare other diversion points as supplemental points
 - b. cursory review
 - c. No public notice process
 - d. Other?

B. Dissolved Phase Plume Remediation in Shallow Aquifer System

- a. Navajo Refinery Discusses Plans for Remediation of dissolved phase plume
- b. NMED and OCD communication based on plans above
- c. OSE input based on proposed remediation to protect public health and the environment

Status and Short Term Options

Groundwater Remediation/Product Recovery System

1. Operation required by OCD and NMED permits for remediation of shallow GW
2. Current system description
3. Current operational status limits remediation efforts, increasing potential for degradation of natural resource.
4. Shut down majority of system in November 2014
5. Oil recovery system still in operation, dewatering pump at Pit – reduced recovery capacity
6. Navajo is seeking relief from OSE to operate the system short term in order to maintain compliance with permits and prevent further degradation of the resource and potential for threat to human health and the environment.
7. Navajo is concurrently developing a long-term solution to avoid diversion of shallow groundwater and operate the system effectively.

Long Term Considerations

Preferred Option to Resume Operation - Reinjection

- a. Pump and reinject 85% upgradient, 15% cross-gradient/downgradient
- b. Removes volume from wastewater treatment system/disposal
- c. Facilitates remediation of groundwater impacts

Water Rights – Acquisition of Shallow Rights Less preferable

- d. NRC does not have water right for shallow GW diversion
- e. NRC's historic and projected diversion
- f. Consideration for land applied RO credit to shallow diversion
- g. Considerations to purchase/lease
 - i. Scarcity of available rights
 - ii. Increases waste water stream

Regulatory Path Forward

Chavez, Carl J, EMNRD

Subject: Artesia Refinery Free-Product Recovery System Pumping (Shallow Water Rights) vs. Dissolved Phase Remediation (Shallow Water Rights) and Other Water Rights Issues w/ Discussion of Potential Solutions or Path Forward

Location: Oil Conservation Division (OCD) Third Floor Conference Room (Wendell Chino Bldg.)
1220 South St. Francis Drive, Santa Fe 87505

Start: Tue 12/1/2015 1:00 PM
End: Tue 12/1/2015 2:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

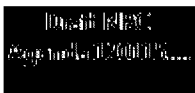
Organizer: Chavez, Carl J, EMNRD

Required Attendees: Denton, Scott (Scott.Denton@HollyFrontier.com); Holder, Mike (Mike.Holder@hollyfrontier.com); Goetz, Catherine, OSE; Cobrain, Dave, NMENV; Dhawan, Neelam, NMENV; Tsinnajinnie, Leona, NMENV; Griswold, Jim, EMNRD; Combs, Robert (Robert.Combs@hollyfrontier.com); Morley, Andy V., OSE

Optional Attendees: Kulis, Jerzy, NMENV

Ladies and Gentlemen:

Update (11/25/15 @ 16:30): Robert Combs (Navajo Refining Company- NRC) submits draft agenda for consideration in upcoming meeting (see attachment). Thank you.



OCD Draft Meeting Agenda:

A. Free Product Recovery System Pumping in Shallow Aquifer System

- a. Shallow water diversion limit ~ 40AF/Yr (vol. shallow water pumped in process)?
- b. Using shallow water for beneficial use without OSE Permit= Illegal Diversion
- c. Buy or lease Water Rights and Transfer Water Rights and/or Leases to points of diversion (free-product wells)
- d. Most favorable to move Water Rights West away from the Pecos River based on New Mexico's Water Compact w/ Mexico
- e. **Navajo Refinery Briefing of Water Rights Events**, since Nov. 2014
 - i. What avenues have been pursued to date?
- f. **OSE Water Rights Permit Scenarios** applies to real property where Water Rights are required to own water, which requires the adjudication process This permit involves: vol. water for use; point of diversion; place of use; and purpose of use.
 - i. Shallow Water Rights vs. Artesian Water Rights
 - ii. Permit review process ~ 6 mo., unless there is a protest, which may result in an indefinite review period
 - iii. Public notice process occurs for 3-weeks
 - iv. Hydrogeologic review required of public resources and other well owners
 - v. District Staff issue a Memo of Recommendation to the OSE- District Manager

- vi. If no impairment to public resource and other well owners, an approved Water Rights may transpire
- vii. Other non-permit options beside Water Rights trading include:
 - 1. Water lease mechanism or agreement (achieve preliminary authorization). There are OSE guidance, regulations, statutes, and existing permits on this.
 - 2. Transfer of water leases (easiest)
 - a. Change in ownership and declare other diversion points as supplemental points
 - b. Cursory review
 - c. No public notice process
 - d. Other?

B. Dissolved Phase Plume Remediation in Shallow Aquifer System

- a. Navajo Refinery Discusses Plans for Remediation of dissolved phase plume
- b. NMED and OCD communication based on plans above
- c. OSE input based on proposed remediation to protect public health and the environment

Status and Short Term Options

Groundwater Remediation/Product Recovery System

1. Operation required by OCD and NMED permits for remediation of shallow GW
2. Current system description
3. Current operational status limits remediation efforts, increasing potential for degradation of natural resource.
4. Shut down majority of system in November 2014
5. Oil recovery system still in operation, dewatering pump at Pit – reduced recovery capacity
6. Navajo is seeking relief from OSE to operate the system short term in order to maintain compliance with permits and prevent further degradation of the resource and potential for threat to human health and the environment.
7. Navajo is concurrently developing a long-term solution to avoid diversion of shallow groundwater and operate the system effectively.

Long Term Considerations

Preferred Option to Resume Operation - Reinjection

- a. Pump and reinject 85% upgradient, 15% cross-gradient/downgradient
- b. Removes volume from wastewater treatment system/disposal
- c. Facilitates remediation of groundwater impacts

Water Rights – Acquisition of Shallow Rights Less preferable

- d. NRC does not have water right for shallow GW diversion
- e. NRC's historic and projected diversion
- f. Consideration for land applied RO credit to shallow diversion
- g. Considerations to purchase/lease
 - i. Scarcity of available rights
 - ii. Increases waste water stream

Regulatory Path Forward

Chavez, Carl J, EMNRD

Subject: Artesia Refinery Free-Product Recovery System Pumping (Shallow Water Rights) vs. Dissolved Phase Remediation (Shallow Water Rights) and Other Water Rights Issues w/ Discussion of Potential Solutions or Path Forward

Location: Oil Conservation Division (OCD) Third Floor Conference Room (Wendell Chino Bldg.)
1220 South St. Francis Drive, Santa Fe 87505

Start: Tue 12/1/2015 1:00 PM
End: Tue 12/1/2015 2:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

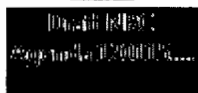
Organizer: Chavez, Carl J, EMNRD

Required Attendees: Denton, Scott (Scott.Denton@HollyFrontier.com); Holder, Mike (Mike.Holder@hollyfrontier.com); Goetz, Catherine, OSE; Cobrain, Dave, NMENV; Dhawan, Neelam, NMENV; Tsinnajinnie, Leona, NMENV; Griswold, Jim, EMNRD; Combs, Robert (Robert.Combs@hollyfrontier.com); Morley, Andy V., OSE

Optional Attendees: Kulis, Jerzy, NMENV

Ladies and Gentlemen:

Update (11/25/15 @ 16:30): Robert Combs (Navajo Refining Company- NRC) submits draft agenda for consideration in upcoming meeting (see attachment). Thank you.



OCD Draft Meeting Agenda:

A. Free Product Recovery System Pumping in Shallow Aquifer System

- a. Shallow water diversion limit ~ 40AF/Yr (vol. shallow water pumped in process)?
- b. Using shallow water for beneficial use without OSE Permit= Illegal Diversion
- c. Buy or lease Water Rights and Transfer Water Rights and/or Leases to points of diversion (free-product wells)
- d. Most favorable to move Water Rights West away from the Pecos River based on New Mexico's Water Compact w/ Mexico
- e. **Navajo Refinery Briefing of Water Rights Events**, since Nov. 2014
 - i. What avenues have been pursued to date?
- f. **OSE Water Rights Permit Scenarios** applies to real property where Water Rights are required to own water, which requires the adjudication process This permit involves: vol. water for use; point of diversion; place of use; and purpose of use.
 - i. Shallow Water Rights vs. Artesian Water Rights
 - ii. Permit review process ~ 6 mo., unless there is a protest, which may result in an indefinite review period
 - iii. Public notice process occurs for 3-weeks
 - iv. Hydrogeologic review required of public resources and other well owners
 - v. District Staff issue a Memo of Recommendation to the OSE- District Manager

- vi. If no impairment to public resource and other well owners, an approved Water Rights may transpire
- vii. Other non-permit options beside Water Rights trading include:
 - 1. Water lease mechanism or agreement (achieve preliminary authorization). There are OSE guidance, regulations, statutes, and existing permits on this.
 - 2. Transfer of water leases (easiest)
 - a. Change in ownership and declare other diversion points as supplemental points
 - b. Cursory review
 - c. No public notice process
 - d. Other?

B. Dissolved Phase Plume Remediation in Shallow Aquifer System

- a. Navajo Refinery Discusses Plans for Remediation of dissolved phase plume
- b. NMED and OCD communication based on plans above
- c. OSE input based on proposed remediation to protect public health and the environment

Status and Short Term Options

Groundwater Remediation/Product Recovery System

1. Operation required by OCD and NMED permits for remediation of shallow GW
2. Current system description
3. Current operational status limits remediation efforts, increasing potential for degradation of natural resource.
4. Shut down majority of system in November 2014
5. Oil recovery system still in operation, dewatering pump at Pit – reduced recovery capacity
6. Navajo is seeking relief from OSE to operate the system short term in order to maintain compliance with permits and prevent further degradation of the resource and potential for threat to human health and the environment.
7. Navajo is concurrently developing a long-term solution to avoid diversion of shallow groundwater and operate the system effectively.

Long Term Considerations

Preferred Option to Resume Operation - Reinjection

- a. Pump and reinject 85% upgradient, 15% cross-gradient/downgradient
- b. Removes volume from wastewater treatment system/disposal
- c. Facilitates remediation of groundwater impacts

Water Rights – Acquisition of Shallow Rights Less preferable

- d. NRC does not have water right for shallow GW diversion
- e. NRC's historic and projected diversion
- f. Consideration for land applied RO credit to shallow diversion
- g. Considerations to purchase/lease
 - i. Scarcity of available rights
 - ii. Increases waste water stream

Regulatory Path Forward

Chavez, Carl J, EMNRD

Subject: Artesia Refinery Free-Product Recovery System Pumping (Shallow Water Rights) vs. Dissolved Phase Remediation (Shallow Water Rights) and Other Water Rights Issues w/ Discussion of Potential Solutions or Path Forward

Location: Oil Conservation Division (OCD) Third Floor Conference Room (Wendell Chino Bldg.)
1220 South St. Francis Drive, Santa Fe 87505

Start: Tue 12/1/2015 1:00 PM
End: Tue 12/1/2015 2:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

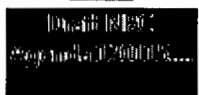
Organizer: Chavez, Carl J, EMNRD

Required Attendees: Denton, Scott (Scott.Denton@HollyFrontier.com); Holder, Mike (Mike.Holder@hollyfrontier.com); Goetz, Catherine, OSE; Cobrain, Dave, NMENV; Dhawan, Neelam, NMENV; Tsinnajinnie, Leona, NMENV; Griswold, Jim, EMNRD; Combs, Robert (Robert.Combs@hollyfrontier.com); Morley, Andy V., OSE

Optional Attendees: Kulis, Jerzy, NMENV

Ladies and Gentlemen:

Update (11/25/15 @ 16:30): Robert Combs (Navajo Refining Company- NRC) submits draft agenda for consideration in upcoming meeting (see attachment). Thank you.



OCD Draft Meeting Agenda:

A. Free Product Recovery System Pumping in Shallow Aquifer System

- a. Shallow water diversion limit ~ 40AF/Yr (vol. shallow water pumped in process)?
- b. Using shallow water for beneficial use without OSE Permit= Illegal Diversion
- c. Buy or lease Water Rights and Transfer Water Rights and/or Leases to points of diversion (free-product wells)
- d. Most favorable to move Water Rights West away from the Pecos River based on New Mexico's Water Compact w/ Mexico
- e. **Navajo Refinery Briefing of Water Rights Events**, since Nov. 2014
 - i. What avenues have been pursued to date?
- f. **OSE Water Rights Permit Scenarios** applies to real property where Water Rights are required to own water, which requires the adjudication process This permit involves: vol. water for use; point of diversion; place of use; and purpose of use.
 - i. Shallow Water Rights vs. Artesian Water Rights
 - ii. Permit review process ~ 6 mo., unless there is a protest, which may result in an indefinite review period
 - iii. Public notice process occurs for 3-weeks
 - iv. Hydrogeologic review required of public resources and other well owners
 - v. District Staff issue a Memo of Recommendation to the OSE- District Manager

- vi. If no impairment to public resource and other well owners, an approved Water Rights may transpire
- vii. Other non-permit options beside Water Rights trading include:
 - 1. Water lease mechanism or agreement (achieve preliminary authorization). There are OSE guidance, regulations, statutes, and existing permits on this.
 - 2. Transfer of water leases (easiest)
 - a. Change in ownership and declare other diversion points as supplemental points
 - b. cursory review
 - c. No public notice process
 - d. Other?

B. Dissolved Phase Plume Remediation in Shallow Aquifer System

- a. Navajo Refinery Discusses Plans for Remediation of dissolved phase plume
- b. NMED and OCD communication based on plans above
- c. OSE input based on proposed remediation to protect public health and the environment

Status and Short Term Options

Groundwater Remediation/Product Recovery System

1. Operation required by OCD and NMED permits for remediation of shallow GW
2. Current system description
3. Current operational status limits remediation efforts, increasing potential for degradation of natural resource.
4. Shut down majority of system in November 2014
5. Oil recovery system still in operation, dewatering pump at Pit – reduced recovery capacity
6. Navajo is seeking relief from OSE to operate the system short term in order to maintain compliance with permits and prevent further degradation of the resource and potential for threat to human health and the environment.
7. Navajo is concurrently developing a long-term solution to avoid diversion of shallow groundwater and operate the system effectively.

Long Term Considerations

Preferred Option to Resume Operation - ReInjection

- a. Pump and reinject 85% upgradient, 15% cross-gradient/downgradient
- b. Removes volume from wastewater treatment system/disposal
- c. Facilitates remediation of groundwater impacts

Water Rights – Acquisition of Shallow Rights Less preferable

- d. NRC does not have water right for shallow GW diversion
- e. NRC's historic and projected diversion
- f. Consideration for land applied RO credit to shallow diversion
- g. Considerations to purchase/lease
 - i. Scarcity of available rights
 - ii. Increases waste water stream

Regulatory Path Forward

Chavez, Carl J, EMNRD

Subject: Artesia Refinery Free-Product Recovery System Pumping (Shallow Water Rights) vs. Dissolved Phase Remediation (Shallow Water Rights) and Other Water Rights Issues w/ Discussion of Potential Solutions or Path Forward

Location: Oil Conservation Division (OCD) Third Floor Conference Room (Wendell Chino Bldg.)
1220 South St. Francis Drive, Santa Fe 87505

Start: Tue 12/1/2015 1:00 PM
End: Tue 12/1/2015 2:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

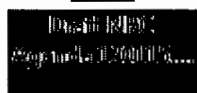
Organizer: Chavez, Carl J, EMNRD

Required Attendees: Denton, Scott (Scott.Denton@HollyFrontier.com); Holder, Mike (Mike.Holder@hollyfrontier.com); Goetz, Catherine, OSE; Cobrain, Dave, NMENV; Dhawan, Neelam, NMENV; Tsinnajinnie, Leona, NMENV; Griswold, Jim, EMNRD; Combs, Robert (Robert.Combs@hollyfrontier.com); Morley, Andy V., OSE

Optional Attendees: Kulis, Jerzy, NMENV

Ladies and Gentlemen:

Update (11/25/15 @ 16:30): Robert Combs (Navajo Refining Company- NRC) submits draft agenda for consideration in upcoming meeting (see attachment). Thank you.



OCD Draft Meeting Agenda:

A. Free Product Recovery System Pumping in Shallow Aquifer System

- a. Shallow water diversion limit ~ 40AF/Yr (vol. shallow water pumped in process)?
- b. Using shallow water for beneficial use without OSE Permit= Illegal Diversion
- c. Buy or lease Water Rights and Transfer Water Rights and/or Leases to points of diversion (free-product wells)
- d. Most favorable to move Water Rights West away from the Pecos River based on New Mexico's Water Compact w/ Mexico
- e. **Navajo Refinery Briefing of Water Rights Events**, since Nov. 2014
 - i. What avenues have been pursued to date?
- f. **OSE Water Rights Permit Scenarios** applies to real property where Water Rights are required to own water, which requires the adjudication process This permit involves: vol. water for use; point of diversion; place of use; and purpose of use.
 - i. Shallow Water Rights vs. Artesian Water Rights
 - ii. Permit review process ~ 6 mo., unless there is a protest, which may result in an indefinite review period
 - iii. Public notice process occurs for 3-weeks
 - iv. Hydrogeologic review required of public resources and other well owners
 - v. District Staff issue a Memo of Recommendation to the OSE- District Manager

- vi. If no impairment to public resource and other well owners, an approved Water Rights may transpire
- vii. Other non-permit options beside Water Rights trading include:
 - 1. Water lease mechanism or agreement (achieve preliminary authorization). There are OSE guidance, regulations, statutes, and existing permits on this.
 - 2. Transfer of water leases (easiest)
 - a. Change in ownership and declare other diversion points as supplemental points
 - b. cursory review
 - c. No public notice process
 - d. Other?

B. Dissolved Phase Plume Remediation in Shallow Aquifer System

- a. Navajo Refinery Discusses Plans for Remediation of dissolved phase plume
- b. NMED and OCD communication based on plans above
- c. OSE input based on proposed remediation to protect public health and the environment

Date & Time: 12/1/2015 (1:00 - 2:00 p.m.)

Location: OCD, Wendell Chino Bldg., OFS Conf. Rm. (3rd. Floor), 1220 South St. Francis Dr., Santa Fe, NM 8750

District Code: 561901

NAME:	ADDRESS	AGENCY/COMPANY	PHONE	E-MAIL
Carl Chávez	1220 South St. Francis Drive, Santa Fe. NM 87505	NM Oil Conservation Division (OCD)	505-476-3490	Carl.Chavez@state.nm.us
SCOTT DENTON	PO BOX 159, ARTESIA, NM 88201	NAVASO RESERVING	575-746-5487	SCOTT.DENTON@HOLLYFRACKING.COM
Robert Combs	PO BOX 159, Artesia. NM 88201	Navajo Refining	575-746-5382	Robert.Combs@HollyFracking.com
Dave Cobrain	2905 Rodeo Park Dr. E. Bldg 1 Santa Fe	NMED HWB	505 476 6055	dave.cobrain@state.nm.us
Lena Tsinnajinnie	"	"	505-476-6057	lena.tsinnajinnie@state.nm.us
Neelam Dhowan	"	NMED HWB	505-476-6042	neelam.dhowan@state.nm.us
Cathrine Goetz		OSE by phone		

District Code: 561901

Date & Time: 12/1/2015 (1:00 - 2:00 p.m.)

Location: OCD, Wendell Chino Bldg., OFS Conf. Rm. (3rd. Floor), 1220 South St. Francis Dr., Santa Fe, NM 8750

NAME:	ADDRESS	AGENCY/COMPANY	PHONE	E-MAIL
Carl Chávez	1220 South St. Francis Drive, Santa Fe. NM 87505	NM Oil Conservation Division (OCD)	505-476-3490	Carl.Chavez@state.nm.us
SCOTT DENTON	PO BOX 159, ARTESIA, NM 88201	NAVASO RESINING	575-746-5487	SCOTT.DENTON@HOLLYFRONTIER.COM
Robert Combs	PO BOX 159, Artesia, NM 88201	Navajo Refining	575-746-5382	Robert.Combs@HollyFrontier.com
Dave Cobrain	2905 Rodeo Park Dr E, Bldg 1 Santa Fe	NMED HWB	505 476-6055	dave.cobrain@state.nm.us
Leana Tsinnajinnie	"	"	505-476-6057	Leana.Tsinnajinnie@state.nm.us
Neelam Dhowan	"	NMED HWB	505-476-6042	neelam.dhowan@state.nm.us
Cathrine Goetz		OSE by phone		

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, December 01, 2015 4:48 PM
To: Griswold, Jim, EMNRD
Cc: Tsinnajinnie, Leona, NMENV
Subject: Artesia Refinery Meeting Brief

Jim:

Hi. Today's OSE/NMED meeting brief is as follows:

- Carl on 12/1 met with NMED and NRC in OCD's 3rd Floor Conf. Rm. w/ Cat Goetze participating by telephone. Carl provided a briefing to Jim G. who was not able to attend the meeting. OSE indicated that Water Rights (WRs) are needed for the application process in order for OSE to have something to review and approve/disapprove. OSE is reviewing NRC's 8/24/15 letter requesting a credit for RO Reject Water discharged into the farm fields. While NRC told OCD/NMED that they are aware of the sunset date for the RO Reject Water discharge, they want background to be determined to determine treatment, if any. NRC will respond within 45 days of OSE's determination. OSE did not sound favorable to credits for deep GW discharge into RO Reject Fields for shallow WRs. NMED and OCD will be copied on communiques between OSE and NRC to be in the loop. OSE approval of new application(s) will require WRs owned or leased in order to move forward with NRC's extraction/injection plans. Cat Goetze will work w/ NRC on leads on WRs, NMED states not helpful to push OSE to approve. Agencies just need to know what is doable or has the potential to be accepted. Path forward is: 1) State purchase/lease WRC; 2) OSE position on credits requested by NRC; If get credits, can start pumps on FP recovery wells where diversion range between 6 – 20 F/Yr. Fourteen extraction wells are allowed ~ 16 AF/Yr. French Drain ~ 9 AF/Yr., but OSE may consider the drain to be a horizontal well. NRC needs to pursue WRs heavily. Refinery deep WRs are precious and NRC does not want to trade them away for shallow WRs. The question was posed as to any looming ACOs from NMED/OCD if the plume migrates off-property and/or impacts receptors. Carl to check w/ OCD Mgt. NRC Modification request may not require PN if NRC treats extracted GW before injection, and vise-versa. NRC will respond to OCD's comments on effluent pipeline release south of former RCRA SWMU Pond Area so work can begin. NRC will request Jan. 2016 Background Investigation Rpt. Presentation Meeting with NMED and OCD. NRC wants NMED and OCD to review the WP that was submitted and their respective letters to determine whether NRC met their requirements. NRC spent money to complete the background report and wants a determination. They may have a 2 pronged approach, 1) to satisfy OCD background and treatment standards, and 2) to address NMED background and treatment standards (greater of WQCC or Background) under RCRA later (lesser of WQCC or MCL). Carl suggested evaluating the cleanest MWs at the facility. Robert stated that MWs in the North RO Reject Field are the cleanest WQ wise. Run Statistics on these wells to see results and to determine best WQ conditions to consider for background consideration. This does not preempt agency requirements, but attempts to look at the best case for WQ associated with the facility.

Thank you.

Carl J. Chavez, CHMM
Environmental Engineer
Oil Conservation Division- Environmental Bureau

Chavez, Carl J, EMNRD

Subject: Artesia Refinery Free-Product Recovery System Pumping (Shallow Water Rights) vs. Dissolved Phase Remediation (Shallow Water Rights) and Other Water Rights Issues w/ Discussion of Potential Solutions or Path Forward

Location: Oil Conservation Division (OCD) Third Floor Conference Room (Wendell Chino Bldg.)
1220 South St. Francis Drive, Santa Fe 87505

Start: Tue 12/1/2015 1:00 PM
End: Tue 12/1/2015 2:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

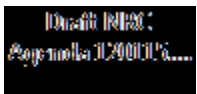
Organizer: Chavez, Carl J, EMNRD

Required Attendees: Denton, Scott (Scott.Denton@HollyFrontier.com); Holder, Mike (Mike.Holder@hollyfrontier.com); Goetz, Catherine, OSE; Cobrain, Dave, NMENV; Dhawan, Neelam, NMENV; Tsinnajinnie, Leona, NMENV; Griswold, Jim, EMNRD; Combs, Robert (Robert.Combs@hollyfrontier.com); Morley, Andy V., OSE

Optional Attendees: Kulis, Jerzy, NMENV

Ladies and Gentlemen:

Update (11/25/15 @ 16:30): Robert Combs (Navajo Refining Company- NRC) submits draft agenda for consideration in upcoming meeting (see attachment). Thank you.



OCD Draft Meeting Agenda:

A. Free Product Recovery System Pumping in Shallow Aquifer System

- a. Shallow water diversion limit ~ 40AF/Yr (vol. shallow water pumped in process)?
- b. Using shallow water for beneficial use without OSE Permit= Illegal Diversion
- c. Buy or lease Water Rights and Transfer Water Rights and/or Leases to points of diversion (free-product wells)
- d. Most favorable to move Water Rights West away from the Pecos River based on New Mexico's Water Compact w/ Mexico
- e. **Navajo Refinery Briefing of Water Rights Events**, since Nov. 2014
 - i. What avenues have been pursued to date?
- f. **OSE Water Rights Permit Scenarios** applies to real property where Water Rights are required to own water, which requires the adjudication process This permit involves: vol. water for use; point of diversion; place of use; and purpose of use.
 - i. Shallow Water Rights vs. Artesian Water Rights
 - ii. Permit review process ~ 6 mo., unless there is a protest, which may result in an indefinite review period
 - iii. Public notice process occurs for 3-weeks
 - iv. Hydrogeologic review required of public resources and other well owners
 - v. District Staff issue a Memo of Recommendation to the OSE- District Manager

- vi. If no impairment to public resource and other well owners, an approved Water Rights may transpire
- vii. Other non-permit options beside Water Rights trading include:
 - 1. Water lease mechanism or agreement (achieve preliminary authorization). There are OSE guidance, regulations, statutes, and existing permits on this.
 - 2. Transfer of water leases (easiest)
 - a. Change in ownership and declare other diversion points as supplemental points
 - b. Cursory review
 - c. No public notice process
 - d. Other?

B. Dissolved Phase Plume Remediation in Shallow Aquifer System

- a. Navajo Refinery Discusses Plans for Remediation of dissolved phase plume
- b. NMED and OCD communication based on plans above
- c. OSE input based on proposed remediation to protect public health and the environment

Status and Short Term Options

Groundwater Remediation/Product Recovery System

1. Operation required by OCD and NMED permits for remediation of shallow GW
2. Current system description
3. Current operational status limits remediation efforts, increasing potential for degradation of natural resource.
4. Shut down majority of system in November 2014
5. Oil recovery system still in operation, dewatering pump at Pit – reduced recovery capacity
6. Navajo is seeking relief from OSE to operate the system short term in order to maintain compliance with permits and prevent further degradation of the resource and potential for threat to human health and the environment.
7. Navajo is concurrently developing a long-term solution to avoid diversion of shallow groundwater and operate the system effectively.

Long Term Considerations

Preferred Option to Resume Operation - Reinjection

- a. Pump and reinject 85% upgradient, 15% cross-gradient/downgradient
- b. Removes volume from wastewater treatment system/disposal
- c. Facilitates remediation of groundwater impacts

Water Rights – Acquisition of Shallow Rights Less preferable

- d. NRC does not have water right for shallow GW diversion
- e. NRC's historic and projected diversion
- f. Consideration for land applied RO credit to shallow diversion
- g. Considerations to purchase/lease
 - i. Scarcity of available rights
 - ii. Increases waste water stream

Regulatory Path Forward

Chavez, Carl J, EMNRD

From: Denton, Scott <Scott.Denton@HollyFrontier.com>
Sent: Monday, November 30, 2015 4:43 PM
To: Griswold, Jim, EMNRD; Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Tsinnajinnie, Leona, NMENV
Cc: Holder, Mike; Combs, Robert; Denton, Scott
Subject: Letters from NRC to OSE
Attachments: Filed watermaster Letter w_attachments 08_24_2015.pdf; Scan of filed A Morley ltr Navajo Refining 09_03_2015.pdf

We realized that we did not copy you all on these letters. NRC has not received any comments or feedback from OSE.

See you all tomorrow. Robert and myself will be driving up. Mike is tied up with other matters.

Thanks,

SMD

Scott M. Denton
Environmental Manager

The HollyFrontier Companies
P.O. Box 159
Artesia, NM 88211-0159
575-746-5487 (o)
970-581-7268 (c)

Scott.Denton@HollyFrontier.com

CONFIDENTIALITY NOTICE: This e-mail, and any attachments, may contain information that is privileged and confidential. If you received this message in error, please advise the sender immediately by reply e-mail and do not retain any paper or electronic copies of this message or any attachments. Unless expressly stated, nothing contained in this message should be construed as a digital or electronic signature or a commitment to a binding agreement.

24 August 2015

District 2 Office of the State Engineer
1900 West Second Street
Roswell, New Mexico 88201



2015 AUG 24 AM 11:23
STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

Letter and enclosures hand delivered.

Attn: David Thomas, Roswell Underground Water Basin Watermaster
Ref: R.O. Reject Return Flow Credits – Navajo Refining, NMOSE Files RA-768, RA-1097 and RA-3832

Dear Mr. Thomas:

Under State Engineer Permit No. RA-1097 & RA-768, RA-1892, RA-602, RA-602-A, RA-2324, RA-3832-Combined, issued on September 14, 2006, Navajo Refining is authorized a credit of thirty percent (30%) for reverse-osmosis reject water that is land applied. The aforesaid permit further stipulates that the water eligible for the credit must have been derived from the Navajo Refining artesian wells RA-768, RA-1097 and/or RA-3832. Navajo Refining is not eligible to receive a credit for City of Artesia municipal water used within the refinery.

The subject permit requires that the percentage of water used by the facility that is derived from the Navajo refinery wells be compared to the total water used from both the wells and provided by the City of Artesia. The percentage of water derived by the Navajo wells is then multiplied by the total of land applied reverse-osmosis reject water to determine the amount derived from the Navajo facility. Thirty percent of that value is eligible as a credit to Navajo Refining on its annual diversion record.

To accomplish the aforesaid calculations Navajo Refining is required to submit to you the amount of water the facility obtained from the City of Artesia municipal system and the amount of reverse-osmosis reject water that was land applied. It is my understanding that your staff reads the totalizing meters installed on the discharge works associated with the artesian wells RA-768, RA-1097 and RA-3832.

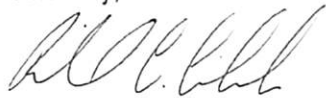
It is my understanding that during the current Roswell Basin Five-Year Accounting Period that commenced on November 1, 2011 and that will end on October 31, 2016 Navajo Refining has been inconsistent with its reporting of their portion of the required data. Navajo Refining has requested that I review the data and provide you with the required information and a summary of computed available credits for Water Years 2012, 2013 and 2014.

Please find enclosed with this letter data sheets that describe the monthly amounts of water Navajo Refining received at its plant from the City of Artesia and data describing the land application amounts of reverse osmosis reject water from the two original units and a third temporary reverse-osmosis unit that appears to have been brought online. The data is for Calendar Years 2011 through 2014. This data, coupled with the

current Roswell Basin Diversion Record for Water Years 2012 through 2016, was used to compute the available credits under the 2006 permit. Said available credits are described in a table titled "*Table Showing Potential Return Flow Credits Available to Navajo Refining For Water Years 2012 through 2014 under NMOSE Permit Issued 14 September 2006 R.O. Land Application Data Includes Temporary Unit (Revised)*" that is also attached to this letter.

It is requested that you review the attached data and apply the computed credits to the Navajo Refining diversion record for the current Roswell Basin Five-Year Accounting Period, Water Years 2012 through 2016. If you have any questions, or if anything further is required, please do not hesitate to contact me.

Sincerely,



Richard C. Cibak
Atkins Engineering Associates, Inc.
575.624.2420, Ext. 210
richard@atkinseng.com

RCC

Enclosures

Cc: Mike Holder c/o HollyFrontier

Robert Combs c/o Navajo Refining

Maria O'Brien c/o Modrall Sperling Law Firm

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2015 AUG 24 AM 11:23

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2015 AUG 24 AM 11:23

**Table Showing Potential Return Flow Credits Available To Navajo Refining
For Water Years 2012 through 2014 under NMOSE Permit issued 14 September 2006**

R.O. Land Application Data includes Temporary Unit

Water Year*	City of Artesia Delivered Water, acre-feet **	NMOSE Reported Artesian Diversion from Plant Wells, acre-feet ^	Percentage of Navajo Produced Artesian Water of Total Water Used, acre-feet	Land Applied R.O. Reject Water, Acre-feet #	Credit Available at 30% of Navajo Produced R.O. Reject Land Applied, Acre- feet
2012	2,354.99	596.69	20.22	526.884	31.96
2013	2,601.03	553.11	17.54	538.764	29.10
2014	1,382.20	667.12	32.55	549.907	65.14

Notes: * A water year in the Roswell Underground Water Basin was established by Order of the Court and runs from 01 November of the previous calendar year to 31 October of the following calendar year. For example the current Roswell Basin Water Year 2015 commenced on 01 November 2014 and will end on 31 October 2015.

** City of Artesia delivered water was obtained from a MS Excel spreadsheet pur_water_2014.xls provided by Robert Combs via email of 19 January 2015.

^ The amount of water charged against the Navajo Refining RA-1097, RA-768, RA-602-A, RA-2324, RA-3832-Combined Water Right on the most recent Roswell Basin Watermaster Diversion Record supplied in February 2015.

This data was obtained from the revised MS Excel spreadsheet Summary workbook.xls supplied by Robert Combs on 27 July 2015.

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 2015 AUG 24 AM 11: 23

Water Year	City Water (gallons)	City Water (acre- ft)	NRC Well Water	Land Applied RO Reject (gallons)	Land Applied RO Reject (acre-ft)
2012	767,377,500	2,355.00		171,685,804	526.88
2013	847,547,000	2,601.03		175,556,955	538.76
2014	450,391,095	1,382.20		179,187,775	549.91

	City (water bill, ga	City (meter)	NRC well water	RO Reject (bbls)	RO Reject (gal)
2012 Water Yr					
2011 November	72,091,000			222,905	
December	64,621,500			296,167	
2012 January	57,152,000			319,174	
February	74,802,000			297,574	
March	52,090,000			349,721	
April	13,638,000			344,123	
May	125,129,000			361,036	
June	90,122,000			362,956	
July	51,085,000			373,036	
August	35,812,000			409,256	
September	60,596,000			376,809	
October	70,239,000			374,999	
total	767,377,500	-	-	4,087,757	171,685,804
2013 Water Yr					
2012 November	54,654,000			356,928	
December	125,119,000			389,184	
2013 January	172,039,000			307,742	
February	45,014,000			234,311	
March	41,035,000			407,243	

April	61,307,000			379,550	
May	96,770,000			369,652	
June	54,671,000			355,574	
July	51,596,000			361,019	
August	50,815,000			335,824	
September	60,207,000			323,917	
October	34,320,000			358,983	
total	847,547,000	-	-	4,179,927	175,556,955
2014 Water Yr					
2013 November	23,462,000			258,853	
December	50,468,000			322,265	
2014 January	44,917,000			404,820	
February	49,296,000			319,360	
March	21,913,000			347,698	
April	43,992,000			342,716	
May	37,870,000			373,014	
June	34,448,000			345,739	
July	40,717,095			431,202	
August	30,431,000			344,995	
September	36,167,000			311,292	
October	36,710,000			464,422	
total	450,391,095	-	-	4,266,376	179,187,775

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 2015 AUG 24 AM 11: 23

03 September 2015

District 2 Office of the State Engineer
1900 West Second Street
Roswell, New Mexico 88201



Letter hand delivered.

Attn: Andy Morley, District 2 Office of the State Engineer Manager
Ref: Shallow Water Remediation – Navajo Refining

Dear Mr. Morley:

In November 2014 the Navajo Refining Company, LLC submitted a well abandonment plan to the District 2 Office of the State Engineer (D2OSE) requesting approval to abandon three product recovery wells near Bolton Road in the SE¼ of Section 9, Township 17 South, Range 26 East, N.M.P.M. Your office approved the plugging plans but raised questions pertaining to diversions of water from the shallow aquifer and subsequently verbally directed Navajo Refining Company, LLC (Navajo Refining) to cease pumping water from a hydrocarbon recovery system until a review of the operation could be performed by your office. As a result the groundwater pumps associated with all of the recovery wells were turned off on November 17, 2014. The lone exception was a pump located east of Bolton Road in the SW¼ of Section 10, Township 17 South, Range 26 East, N.M.P.M. Please note that there is no consumptive use of the water produced from the recovery wells.

On December 29, 2014 a meeting was conducted at the D2OSE between Catherine Goetz, of your office, and representatives of Navajo Refining, Arcadis and Atkins Engineering Associates to discuss this matter. Ms. Goetz indicated that Navajo refining would be required to obtain or lease shallow groundwater rights and transfer them to the recovery wells to continue operating the groundwater recovery system designed to capture phase separated hydrocarbons (PSH). Ms. Goetz further indicated that Article 1-17 of the New Mexico Groundwater Rules and Regulations could not be used in an effort to resume shallow groundwater remediation operations in a timely manner.

Navajo Refining has been looking for shallow groundwater rights for lease or purchase that could be available to transfer and use in connection with the recovery system. To date, Navajo refining has not identified water rights which would be available for lease or transfer or otherwise suitable for this purpose. However, Navajo Refining believes there is a better and more efficacious solution to address the issue instead of purchasing or leasing shallow water rights which may not address the issue.

Under a Permit No. RA-1097 & RA-768, RA-1892, RA-602, RA-602-A, RA-2324, RA-3832-Combined Navajo Refining is authorized to receive a credit for thirty percent of the land applied reverse-osmosis (RO) reject water that is derived from the artesian wells RA-768 & RA-1892, RA-1097 and RA-3832. The return flow

2015 SEP - 3
STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO


resulting from the land application of Navajo produced RO Reject water is returned to the shallow aquifer in the vicinity of where the Navajo Refining shallow recovery wells have been pumping. Recently this firm submitted information to the Roswell Basin Watermaster pertaining to the credits authorized under the September 14, 2006 permit. If accepted these credits exceed the shallow pumping associated with the shallow water recovery system. The credits could be administratively applied to mitigate the shallow recovery pumping in lieu of a credit from the artesian groundwater source.

It is imperative that Navajo Refining be allowed to immediately resume its operation of the shallow groundwater recovery of PSH. Navajo Refining is under pressure to reactivate the remediation system by both the New Mexico Environment Department (NMED) and the New Mexico Oil Conservation Division (OCD). The operation of the recovery system is required under NMED Permit No. NMD048918817 and OCD Permit No. GW-028. Its operation is necessary to maintain control of the plume associated with the hydrocarbon contamination.

It is requested that the New Mexico Office of the State Engineer reconsider its position and administratively authorize the credits for Navajo Refining produced RO reject water that is land applied. If need be an application to appropriate groundwater with no consumptive use of water pursuant to Article 1-17 of the New Mexico Groundwater Rules and Regulations can be filed.

If you have any questions, or if anything further is needed, please do not hesitate to contact me.

Sincerely,



Richard C. Cibak
Atkins Engineering Associates, Inc.
575.624.2420, Ext. 210
richard@atkinseng.com

RCC

cc: Mike Holder c/o Navajo Refining Company
Robert Combs c/o Navajo Refining Company
Maria O'Brien c/o Modrall Sperling Law Firm

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2015 SEP -3 AM 11:45