

From: [Yu, Olivia, EMNRD](#)
To: [Tarr, Stephen S](#); [Hernandez, Christina, EMNRD](#)
Cc: [Billings, Bradford, EMNRD](#); [Rardin, James Earl](#)
Subject: RE: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)
Date: Wednesday, August 1, 2018 3:22:00 PM

Mr. Tarr:

Thank you for the detailed update. We would like to visit the Salado Draw location and/or 2RF-107 on August 16, 2018. Please inform if you are available.

Have a relaxing trip and smooth travels,
Olivia

From: Tarr, Stephen S <STarr@chevron.com>
Sent: Wednesday, August 1, 2018 11:59 AM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Rardin, James Earl <JRAJ@chevron.com>
Subject: RE: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Mrs. Yu,

Well go figure that I was going to be writing you today due to another pond issue. As to the Salado Draw (1RF-11) we are back up and producing and testing leak detection daily. The first couple of days we pumped a couple bbls out but then it pumped off. We continued to pump on leak detection and haven't been able to get over a bbl out since it pumped off, thus telling us the original bbls we pumped out was left over from original leak. We will continue monitoring the leak detection and do another visual inspection once the pond is emptied during the upcoming frac (8/14)

Now as to the reason I was going to reaching out to your today. 2RF-107 Section 10 pond was introduced to Recycle water last week for the first time. As the Salado draw ponds, the Section 10 pond is made up of two different cells (10 east and 10 west). 10 West was the first to be introduced with recycle water inflow at a rate of 10K BWPD. We monitored leak detection as well on this pond daily as the water was being introduced and come yesterday the leak detection pumped out 88 bbls of water. We captured a sample of this water and compared analysis with water coming out of the recycle plant. After comparing water samples both samples were similar in characteristics. So, we now have an active leak in this pond. Couple of things that we are doing to mitigate this and plan for repairs.

1. With catching this leak early, we only have ~80K bbls of water in the pond.
2. We have shut down the recycle plant so there is no treated produced water being processed in to any ponds once the leak was discovered.
3. We have the Section 10 East pond empty at this time as we were preparing for recycle water flow into this pond once 10 West was full. We were planning a QA/QC beginning tomorrow on the 10 East pond. We have a little rain water within the pond that we have to get out, but this process shouldn't take long.
4. With 10 East plans in play and 10 West having the leak we are planning today to transfer the water from 10 West to the 2RF-11 Section 9 ponds as there is available space within them. We

anticipate this process will take a couple of days and then crews will be lined out and ready to get in there and inspect and repair pond.

5. Due to the daily observations on the 10 West pond, finding the leaking area will be less difficult due to only the bottom of the pond being covered with slightly covered in the back.
6. Recycle unit will not come back on-line until QA/QC is done by liner company on 10 East and 10 West along with a Chevron rep.
7. We will follow same protocol as we did on the Salado Draw pond repairs
 - a. Updates to NMOCD personnel upon task completion
 - b. Pictures of damaged areas, pre and post repairs.
 - c. Notification when water is flowing
 - d. QA/QC letter from liner company

Please notify me if there is any other information you will be needing from us during the mitigation of this matter.

I will be headed out of the country tomorrow morning and back in office August 13th. James Rardin, which is located in New Mexico will be assuming my supervisor roles while I am out. He is CC'd on this conversation and will be following up on this communication line with updates as they progress.

Stephen Tarr

Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
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6301 Deauville Blvd
Midland, Texas 79706
Phone: 432.687.7956
Cell: 432.238.6316
Office: #S3408
Email: Starr@chevron.com

From: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>

Sent: Wednesday, August 01, 2018 8:36 AM

To: Tarr, Stephen S <STarr@chevron.com>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>

Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>

Subject: [**EXTERNAL**] RE: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Good morning Mr. Tarr:

Did the refilling proceed smoothly? What are the results of the leak detection test?

Thanks,
Olivia

From: Tarr, Stephen S <STarr@chevron.com>
Sent: Tuesday, July 17, 2018 9:00 AM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Subject: RE: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Another repair pic in which we patched where we had to cut a hole to drain the water out between the liners.

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]
Sent: Monday, July 16, 2018 10:22 AM
To: Tarr, Stephen S <STarr@chevron.com>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Subject: **[**EXTERNAL**]** RE: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Good morning Mr. Tarr:

Did you send photos of the tears after repairs along with the QA/QC letter? The photos attached to the emails dated July 2 and 9 are pre-repairs. Please note that the inbox limit for each attachment per email is 20 MB.

Thanks,
Olivia

From: Tarr, Stephen S <STarr@chevron.com>
Sent: Thursday, July 12, 2018 9:48 AM
To: Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Subject: Re: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Ok so pics of repairs did t go through, I will send this evening if that's ok?

Thank You,
Stephen Tarr
432-238-6316

On Jul 12, 2018, at 10:08 AM, Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us> wrote:

The pictures delivered have been QA/QC letter today 7/12, pics of tears on 7/9 and pics

of freeboard on 7/2.

Christina Hernandez
EMNRD-OCD
Environmental Specialist
1625 N. French Drive
Hobbs, NM 88240
575-393-6161 ext. 111
Christina.Hernandez@state.nm.us

From: Billings, Bradford, EMNRD
Sent: Thursday, July 12, 2018 8:51 AM
To: Tarr, Stephen S <STarr@chevron.com>; Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

My system does not how any recent phot intake from y'all.

Are you getting them Christina?
Brad

From: Tarr, Stephen S <STarr@chevron.com>
Sent: Thursday, July 12, 2018 7:02 AM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Mr. Billings, I keep getting an email saying "undeliverable email" will you please let me know what Pics you have received? There should be two of the repairs and the QA/QC letter.

Thanks,
ST

From: Tarr, Stephen S
Sent: Thursday, July 12, 2018 7:58 AM
To: 'Billings, Bradford, EMNRD' <Bradford.Billings@state.nm.us>; 'Yu, Olivia, EMNRD' <Olivia.Yu@state.nm.us>

Cc: 'Hernandez, Christina, EMNRD' <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Email below wouldn't go through due to size so re-sending with less attachments per email.

From: Tarr, Stephen S

Sent: Thursday, July 12, 2018 7:54 AM

To: 'Billings, Bradford, EMNRD' <Bradford.Billings@state.nm.us>; 'Yu, Olivia, EMNRD' <Olivia.Yu@state.nm.us>

Cc: 'Hernandez, Christina, EMNRD' <Christina.Hernandez@state.nm.us>

Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Salado Draw 13E update:

-- Pond became dry on Monday mid-afternoon and KSI/Mustang were able to get in there Tuesday and start repairing the leaking areas. There were two areas that needed repairs and then two additional areas that needed patching due to KSI having to cut holes in the primary liner to get the water in the leak detection out. I have attached a picture of each as the black patches depict where an actual rip was and white is where KSI had to make a hole.

--KSI and Mustang along with Chevron personnel performed QA/QC on the entire pond once repairs were made and KSI submitted a signed form to me, please see attached.

--We will actively keep a pump within the leak detection once water is introduced into the pond to assure there are no further issues.

--All of our free board limits are at or under the 3' threshold on the additional ponds.

--We will be performing chemical treatments today within the field and at the SWD site. Once that is complete we will turn back on the recycle unit and start introducing water back into the 13E pond.

--Once we get plant started back up we will treat at a rate of 10K BWPD.

I want to express my appreciation to yourself and your team for working with me on this situation. As we are all aware we never want to have a leak within the primary liner, however with the engineering of these ponds and our ability to work together, resolution was achieved. Thank you!

Thanks Again,

Stephen Tarr
Production Supervisor- Water Ops.

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Email: Starr@chevron.com

From: Tarr, Stephen S
Sent: Monday, July 09, 2018 1:22 PM
To: 'Billings, Bradford, EMNRD' <Bradford.Billings@state.nm.us>; 'Yu, Olivia, EMNRD' <Olivia.Yu@state.nm.us>
Cc: 'Hernandez, Christina, EMNRD' <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Mr. Billings,

As of Sunday we got it drained down to the sump area. We've pulled out 5K BBLS since Thursday. The secondary liner was not compromised so there was lots of water between the liners that needed to be sucked out in order to have the pond completely dry for repairs. I have attached a photo that depicts the location of the holes within the primary liner from a distance and then up close photos of the rips/holes.

In discussions with the company that installed the liner they gave us a good idea of what occurred.

- "The seams are where two sheets of liner meet and overlap occasionally they make a seam weld and end up with too much overlap, then have to cut the excess with a blade." As you hopefully can see from the pics, this looks like what happened and they cut through the actual primary liner.

With the recent rain and the 4th of July holiday we just got the pond into a dry status today, so Mustang will be out with their liner crews to repair the damaged areas in the pond and QA/QC the rest of the pond.

We will send you pics of the repaired areas with a final status tomorrow.

Thank you,

Stephen Tarr
Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
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Midland, Texas 79705
Phone: 432.687.7956
Cell: 432.238.6316

Office: #S3408
Email: Starr@chevron.com

From: Tarr, Stephen S
Sent: Monday, July 02, 2018 8:32 AM
To: 'Billings, Bradford, EMNRD' <Bradford.Billings@state.nm.us>; 'Yu, Olivia, EMNRD' <Olivia.Yu@state.nm.us>
Cc: 'Hernandez, Christina, EMNRD' <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Mr. Billings,

We were able to start pumping water from the 13East pond into the 13West pond Saturday morning. I have attached a picture showing the levels in the 13West pond before we started pumping water (IMG_0452) . Evaporation had helped out a little between Wed-Sat so we actually had a little run before we even got to the 3' freeboard mark. We were able to pump a little water over before losing prime on the pumps and not being able to move any water over on Sunday. However, we did raise the level a little in the 13West, I have attached a picture showing level of it after we pumped into it (IMG_0478). We are getting a smaller pump out this morning that will be able to catch prime and will continue to move the water out. We should have the pond emptied by tomorrow (7/3/18) and the liner company will be there to begin inspecting the liner and gathering their data to perform such repairs. We have continued pumping on the leak detection and are still pumping water out, so water levels on the 13East are not below the leaking point yet. As mentioned in previous emails, I believe the leak is within the sump on the primary liner so we will have to get the pond completely empty.

Thanks again for all your help and support on the matter.

Stephen Tarr
Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
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Midland, Texas 79705
Phone: 432.687.7956
Cell: 432.238.6316
Office: #S3408
Email: Starr@chevron.com

From: Tarr, Stephen S
Sent: Friday, June 29, 2018 9:36 AM
To: 'Billings, Bradford, EMNRD' <Bradford.Billings@state.nm.us>; Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>

Cc: Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Thank You Mr. Billings. We will track all needed information and keep updates coming per this email chain.

Thanks Again,

Stephen Tarr
Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
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Midland, Texas 79705
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Cell: 432.238.6316
Office: #S3408
Email: Starr@chevron.com

From: Billings, Bradford, EMNRD [<mailto:Bradford.Billings@state.nm.us>]
Sent: Friday, June 29, 2018 9:27 AM
To: Tarr, Stephen S <STarr@chevron.com>; Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: [**EXTERNAL**] RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

6/29/18

Mr. Stephen Tarr,

Re: Variance Request for Freeboard Reaching Within Three Foot Mandated

As per your discussion and rationale below. The Oil Conservation Division (OCD) approves moving produced water from leaking containment into area allied containment(s) for a period not to exceed seven (7) days. Starting today and including next Friday July 6, 2018). Approval includes the following conditions.

Please record what and how much is moved internally, and freeboard measurements as process continues.

Please make OCD District Office aware, via email is fine, of progress, and when containment in question (leaking) is dry.

Also, if any unforeseen events occur, please inform OCD District as soon as possible.

Be aware that photographic evidence of encountered torn materials should be gathered and be available to OCD staff. Please make OCD staff aware of what is encountered with liner so that our input into resolution of issue is acquired.

Thank you for your efforts. Looking forward to findings and satisfactory outcome.

Please keep a copy of this electronic communication, as NO paper copy will follow.

Sincerely,

Bradford Billings
EMNRD/OCD
Santa Fe

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Tarr, Stephen S <STarr@chevron.com>

Sent: Wednesday, June 27, 2018 5:21 PM

To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>

Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>

Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Mrs. Yu, thank you for the response and guidance.

I am hereby requesting a variance to exceed the 3ft freeboard height on Salado Draw 13 West frac pond with permit number 1RF-11. Below are a list of reasoning behind such request along with timing. In the chain of emails below it gives the history up to present time.

- 13East pond still has 20-25K bbls of water in it to be completely empty. We have been continuously pumping out the leak detection and haven't pumped off yet. This is telling us that the leak is still below the current water level. More than likely in the sump area where the poly suction manifold lies.

We have continuously been running three disposal trucks throughout the day, however do to the tight area only two can load at the same time and they are only getting around 9 loads a day, so close to 1000bbls/day.

- 13West, 23North, and 23South are all within the 3' free board limit, minus a couple of inches probably. With that said we shut down the recycle production into the ponds today so that we wouldn't exceed limits. Recycle Unit is planned to be down until Tuesday, however if we cannot get 13East pond emptied and fixed by then it will have nowhere to produce into.
- Chevron's next frac that will utilize all this water is scheduled for 7/29/18.
- I would like to take this opportunity with recycle plant shut down to transfer the 20-25K bbls of water in 13East into the 13West pond which will put our freeboard footage around 2'. With evaporation I don't foresee it staying over the 3' limit for long.
- If we could accomplish this as soon as tomorrow 6/28/18, we could start evaluating the liner issue that is causing the leak, get it repaired and expect the rest of the pond for potential punctures, and turn the recycle plant production into Tuesday July 3rd when it starts back up.
- If we can accomplish all this within the timing mentioned above, it would allow us to boost our recycle rates up once we start back up and have sufficient amount of water for the frac on 7/29/18.

Please let me know if you need any more detail or information regarding the above and approval of such variance. I want to thank you Mrs. Yu for working diligently with me on this matter and being such help.

Thanks Again,

Stephen Tarr
Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
6301 Deauville Blvd
Midland, Texas 79705
Phone: 432.687.7956
Cell: 432.238.6316
Office: #S3408
Email: Starr@chevron.com

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]

Sent: Wednesday, June 27, 2018 5:51 PM

To: Tarr, Stephen S <STarr@chevron.com>; Griswold, Jim, EMNRD
<Jim.Griswold@state.nm.us>

Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>

Subject: [****EXTERNAL****] RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Mr. Tarr:

NMOCD Santa Fe requires a written request for a variance to the 3 ft. freeboard height be submitted. Please be advised that the variance request for an adjustment of the freeboard height for 1RF-11 cannot be greater than 5 days. Please include in the variance request the information provided this morning at 11:15 am over the phone, regarding drilling operation timelines, in addition to other pertinent information for complete and efficient evaluation.

Thanks,
Olivia

From: Yu, Olivia, EMNRD
Sent: Wednesday, June 27, 2018 7:11 AM
To: Tarr, Stephen S <STarr@chevron.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Good morning Mr. Tarr:

Acknowledged. Thanks for the update.

Olivia

From: Tarr, Stephen S <STarr@chevron.com>
Sent: Monday, June 25, 2018 10:33 AM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Olivia,

We are still working to get the pond empty to access the primary liner. I was hoping that evaporation would assist a little more than it did over the weekend. With current levels in our ponds there is a chance we will still be working to empty the 13E pond on Thursday when we are visiting the site. Will keep you posted as the week progresses.

Thanks Again,

Stephen Tarr
Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)

6301 Deauville Blvd
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Phone: 432.687.7956
Cell: 432.238.6316
Office: #S3408
Email: Starr@chevron.com

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]
Sent: Thursday, June 21, 2018 9:37 AM
To: Tarr, Stephen S <STarr@chevron.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: [**EXTERNAL**] RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Good morning Mr. Tarr:

Thank you for the below details. We will discuss and get back to you.

Olivia

From: Tarr, Stephen S <STarr@chevron.com>
Sent: Thursday, June 21, 2018 8:18 AM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

1RC-11 SD Pond 23

1RC-13 SD Pond 13

From: Tarr, Stephen S
Sent: Thursday, June 21, 2018 9:07 AM
To: 'Yu, Olivia, EMNRD' <Olivia.Yu@state.nm.us>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Morning Olivia, please see the below write up with detailed plans for the 13E pond that was discussed yesterday. Thank you for your help and guidance.

On 06/15/18:

- 23S is around 13' so we have around 5" of space in it. 23N is at 12' so we have around 2' of space in it. 13W is full, however evaporation is helping on all these. 13E (has the leak) and is just under 6' per the liner markings. Have to remember the ponds slope though. At this time we are getting Tetra to rig up a transfer line to the 23N pond and they will transfer from 13E at idle into it. They already have an existing line into the 13W pond. We will rotate around as evaporation occurs and see what we can get out of the 13E pond. During all this, as truck availability occurs we may truck some water from 13E to disposal if timing is right and etc. I have talked to Gradient and they are willing to go down for 2 days when asked to perform all their maintenance at one time that is due. They are waiting for me to relay such timing. Thinking behind all this, if we can get all the ponds full from 13E water, shutdown Recycle and have two days to repair pond liner. Once liner repaired we start up recycle into the 13E pond. If liner repair takes a day or two longer evaporation will allow us to treat 6K/day and rotate it amongst the other ponds. As I have mentioned in the past, this all sounds good in writing but what the Field Specialist are seeing and juggling in the field it may change a little. I am depending on them to execute a plan that allows for us to accomplish getting into the pond and repairing the leak. KSI is on point so that once the pond is empty they will repair ASAP. I will report out more on Monday specific to where we stand on this pond.

• On 6/19/18:

- We are still running recycle into the 23S pond, have around 5" to spare here. not gaining much at 6K BWPD rate.
- 23 North pond is full
- 13West pond has 4" to spare, 13East water now going into it. We are going to top the 13W pond off today and take a break from transferring water from 13E tomorrow. Big D is going to come out and pump leak detection again to check ALR and see if we pump off. If so we could possibly be below the leak point.
- We are not expecting any delays on recycle production at this time, we will know more Thursday as we will re-evaluate levels and see what water is left.
- Called Olivia Yu to report leak and seek clarification on C-147 language and reporting guidelines.

• On 6/20/18:

- Spoke with Olivia on the phone.
- Continued trucking water from 13East and working to evacuate water from the pond.

• Current Update/Plan 6/21/18

- Currently trucking water from the 13East pond to disposal, Transfer services to additional ponds is shutdown at this time due to reaching our 3' freeboard limit on 13West and 23North, Recycle plant still running into the 23South pond.

- Will continue trucking water throughout today and tomorrow while evaluating what evaporation does on ponds and if it allows us to turn transfer services back on to the other ponds.
- We only lack ~30K bbls until empty. Big D will be out today to turn the lead detection pump on and meter volumes. If they pump off we will turn pump back on tomorrow and see if we are still dry. If so, we have gotten the water level below the leaking point. KSI will be on location Monday then to start evaluating/inspecting the liner. We will allow them two days (Tuesday and Wednesday) to perform repairs and the recycle plant will go down for monthly maintenance during these days as well.
- Hope to have liner repaired and pond 13East back in service by Thursday and recycle production going into pond by Thursday/Friday.
- Meet with Olivia and Christina at Salado Draw pond 13East on Thursday to gain visual on progress and steps that were taken.

Again, Thank you for your help and time with this matter.

Stephen Tarr
Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
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Phone: 432.687.7956
Cell: 432.238.6316
Office: #S3408
Email: Starr@chevron.com

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]
Sent: Wednesday, June 20, 2018 4:40 PM
To: Tarr, Stephen S <STarr@chevron.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: [****EXTERNAL****] summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Mr. Tarr:

Please provide a summary of the situation with the primary liner failure and leak detection system at the Salado Draw Recycling Containment (1RF-11) as mentioned over the phone to me this morning at 9:15 am MST, so that Mr. Billings is on the same page. Tentatively, Christina and I will plan to visit the location next Thursday afternoon, June 28, 2018.

Thanks,

Olivia Yu
Environmental Specialist
NMOCD, District I
Olivia.yu@state.nm.us
575-393-6161 x113

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Tarr, Stephen S
To: [Billings, Bradford, EMNRD](#); [Yu, Olivia, EMNRD](#)
Cc: [Hernandez, Christina, EMNRD](#)
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)
Date: Thursday, July 12, 2018 6:59:20 AM
Attachments: Signed CCT Salado Draw Pond Repair.pdf

[QA/QC letter.](#)

From: Tarr, Stephen S
Sent: Thursday, July 12, 2018 7:54 AM
To: 'Billings, Bradford, EMNRD' <Bradford.Billings@state.nm.us>; 'Yu, Olivia, EMNRD' <Olivia.Yu@state.nm.us>
Cc: 'Hernandez, Christina, EMNRD' <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Salado Draw 13E update:

-- Pond became dry on Monday mid-afternoon and KSI/Mustang were able to get in there Tuesday and start repairing the leaking areas. There were two areas that needed repairs and then two additional areas that needed patching due to KSI having to cut holes in the primary liner to get the water in the leak detection out. I have attached a picture of each as the black patches depict where an actual rip was and white is where KSI had to make a hole.

--KSI and Mustang along with Chevron personnel performed QA/QC on the entire pond once repairs were made and KSI submitted a signed form to me, please see attached.

--We will actively keep a pump within the leak detection once water is introduced into the pond to assure there are no further issues.

--All of our free board limits are at or under the 3' threshold on the additional ponds.

--We will be performing chemical treatments today within the field and at the SWD site. Once that is complete we will turn back on the recycle unit and start introducing water back into the 13E pond.

--Once we get plant started back up we will treat at a rate of 10K BWPD.

I want to express my appreciation to yourself and your team for working with me on this situation. As we are all aware we never want to have a leak within the primary liner, however with the engineering of these ponds and our ability to work together, resolution was achieved. Thank you!

Thanks Again,

Stephen Tarr

Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
6301 Deauville Blvd
Midland, Texas 79705
Phone: 432.687.7956
Cell: 432.238.6316
Office: #S3408
Email: Starr@chevron.com

From: Tarr, Stephen S
Sent: Monday, July 09, 2018 1:22 PM
To: 'Billings, Bradford, EMNRD' <Bradford.Billings@state.nm.us>; 'Yu, Olivia, EMNRD' <Olivia.Yu@state.nm.us>
Cc: 'Hernandez, Christina, EMNRD' <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Mr. Billings,

As of Sunday we got it drained down to the sump area. We've pulled out 5K BBLS since Thursday. The secondary liner was not compromised so there was lots of water between the liners that needed to be sucked out in order to have the pond completely dry for repairs. I have attached a photo that depicts the location of the holes within the primary liner from a distance and then up close photos of the rips/holes.

In discussions with the company that installed the liner they gave us a good idea of what occurred.

- "The seams are where two sheets of liner meet and overlap occasionally they make a seam weld and end up with too much overlap, then have to cut the excess with a blade."
As you hopefully can see from the pics, this looks like what happened and they cut through the actual primary liner.

With the recent rain and the 4th of July holiday we just got the pond into a dry status today, so Mustang will be out with their liner crews to repair the damaged areas in the pond and QA/QC the rest of the pond.

We will send you pics of the repaired areas with a final status tomorrow.

Thank you,

Stephen Tarr
Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
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Midland, Texas 79705
Phone: 432.687.7956
Cell: 432.238.6316
Office: #S3408
Email: Starr@chevron.com

From: Tarr, Stephen S

Sent: Monday, July 02, 2018 8:32 AM

To: 'Billings, Bradford, EMNRD' <Bradford.Billings@state.nm.us>; 'Yu, Olivia, EMNRD' <Olivia.Yu@state.nm.us>

Cc: 'Hernandez, Christina, EMNRD' <Christina.Hernandez@state.nm.us>

Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Mr. Billings,

We were able to start pumping water from the 13East pond into the 13West pond Saturday morning. I have attached a picture showing the levels in the 13West pond before we started pumping water (IMG_0452) . Evaporation had helped out a little between Wed-Sat so we actually had a little run before we even got to the 3' freeboard mark. We were able to pump a little water over before losing prime on the pumps and not being able to move any water over on Sunday. However, we did raise the level a little in the 13West, I have attached a picture showing level of it after we pumped into it (IMG_0478). We are getting a smaller pump out this morning that will be able to catch prime and will continue to move the water out. We should have the pond emptied by tomorrow (7/3/18) and the liner company will be there to begin inspecting the liner and gathering their data to perform such repairs. We have continued pumping on the leak detection and are still pumping water out, so water levels on the 13East are not below the leaking point yet. As mentioned in previous emails, I believe the leak is within the sump on the primary liner so we will have to get the pond completely empty.

Thanks again for all your help and support on the matter.

Stephen Tarr

Production Supervisor- Water Ops.

Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)

6301 Deauville Blvd

Midland, Texas 79705

Phone: 432.687.7956

Cell: 432.238.6316

Office: #S3408

Email: Starr@chevron.com

From: Tarr, Stephen S

Sent: Friday, June 29, 2018 9:36 AM

To: 'Billings, Bradford, EMNRD' <Bradford.Billings@state.nm.us>; Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>

Cc: Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>

Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Thank You Mr. Billings. We will track all needed information and keep updates coming per this email chain.

Thanks Again,

Stephen Tarr
Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
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Midland, Texas 79705
Phone: 432.687.7956
Cell: 432.238.6316
Office: #S3408
Email: Starr@chevron.com

From: Billings, Bradford, EMNRD [<mailto:Bradford.Billings@state.nm.us>]
Sent: Friday, June 29, 2018 9:27 AM
To: Tarr, Stephen S <STarr@chevron.com>; Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: **[**EXTERNAL**]** RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

6/29/18

Mr. Stephen Tarr,

Re: Variance Request for Freeboard Reaching Within Three Foot Mandated

As per your discussion and rationale below. The Oil Conservation Division (OCD) approves moving produced water from leaking containment into area allied containment(s) for a period not to exceed seven (7) days. Starting today and including next Friday July 6, 2018). Approval includes the following conditions.

Please record what and how much is moved internally, and freeboard measurements as process continues.

Please make OCD District Office aware, via email is fine, of progress, and when containment in question (leaking) is dry.

Also, if any unforeseen events occur, please inform OCD District as soon as possible.

Be aware that photographic evidence of encountered torn materials should be gathered and be available to OCD staff. Please make OCD staff aware of what is encountered with liner so that our input into resolution of issue is acquired.

Thank you for your efforts. Looking forward to findings and satisfactory outcome.

Please keep a copy of this electronic communication, as NO paper copy will follow.

Sincerely,

Bradford Billings
EMNRD/OCD
Santa Fe

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Tarr, Stephen S <STarr@chevron.com>

Sent: Wednesday, June 27, 2018 5:21 PM

To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>

Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>

Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Mrs. Yu, thank you for the response and guidance.

I am hereby requesting a variance to exceed the 3ft freeboard height on Salado Draw 13 West frac pond with permit number 1RF-11. Below are a list of reasoning behind such request along with timing. In the chain of emails below it gives the history up to present time.

- 13East pond still has 20-25K bbls of water in it to be completely empty. We have been continuously pumping out the leak detection and haven't pumped off yet. This is telling us that the leak is still below the current water level. More than likely in the sump area where the poly suction manifold lies.
- We have continuously been running three disposal trucks throughout the day, however do to the tight area only two can load at the same time and they are only getting around 9 loads a day, so close to 1000bbls/day.
- 13West, 23North, and 23South are all within the 3' free board limit, minus a couple of inches probably. With that said we shut down the recycle production into the ponds today so that we wouldn't exceed limits. Recycle Unit is planned to be down until Tuesday, however if we cannot get 13East pond emptied and fixed by then it will have nowhere to produce into.
- Chevron's next frac that will utilize all this water is scheduled for 7/29/18.
- I would like to take this opportunity with recycle plant shut down to transfer the 20-25K bbls of water in 13East into the 13West pond which will put our freeboard footage around 2'. With evaporation I don't foresee it staying over the 3' limit for long.
- If we could accomplish this as soon as tomorrow 6/28/18, we could start evaluating the liner issue

that is causing the leak, get it repaired and expect the rest of the pond for potential punctures, and turn the recycle plant production into Tuesday July 3rd when it starts back up.

- If we can accomplish all this within the timing mentioned above, it would allow us to boost our recycle rates up once we start back up and have sufficient amount of water for the frac on 7/29/18.

Please let me know if you need any more detail or information regarding the above and approval of such variance. I want to thank you Mrs. Yu for working diligently with me on this matter and being such help.

Thanks Again,

Stephen Tarr
Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
6301 Deauville Blvd
Midland, Texas 79705
Phone: 432.687.7956
Cell: 432.238.6316
Office: #S3408
Email: Starr@chevron.com

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]

Sent: Wednesday, June 27, 2018 5:51 PM

To: Tarr, Stephen S <STarr@chevron.com>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>

Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>

Subject: **[**EXTERNAL**]** RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Mr. Tarr:

NMOCD Santa Fe requires a written request for a variance to the 3 ft. freeboard height be submitted. Please be advised that the variance request for an adjustment of the freeboard height for 1RF-11 cannot be greater than 5 days. Please include in the variance request the information provided this morning at 11:15 am over the phone, regarding drilling operation timelines, in addition to other pertinent information for complete and efficient evaluation.

Thanks,
Olivia

From: Yu, Olivia, EMNRD

Sent: Wednesday, June 27, 2018 7:11 AM

To: Tarr, Stephen S <STarr@chevron.com>

Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>

Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Good morning Mr. Tarr:

Acknowledged. Thanks for the update.

Olivia

From: Tarr, Stephen S <STarr@chevron.com>
Sent: Monday, June 25, 2018 10:33 AM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Olivia,

We are still working to get the pond empty to access the primary liner. I was hoping that evaporation would assist a little more than it did over the weekend. With current levels in our ponds there is a chance we will still be working to empty the 13E pond on Thursday when we are visiting the site. Will keep you posted as the week progresses.

Thanks Again,

Stephen Tarr
Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
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Midland, Texas 79705
Phone: 432.687.7956
Cell: 432.238.6316
Office: #S3408
Email: STarr@chevron.com

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]
Sent: Thursday, June 21, 2018 9:37 AM
To: Tarr, Stephen S <STarr@chevron.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: [**EXTERNAL**] RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Good morning Mr. Tarr:

Thank you for the below details. We will discuss and get back to you.

Olivia

From: Tarr, Stephen S <STarr@chevron.com>

Sent: Thursday, June 21, 2018 8:18 AM

To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>

Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>

Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

1RC-11 SD Pond 23

1RC-13 SD Pond 13

From: Tarr, Stephen S

Sent: Thursday, June 21, 2018 9:07 AM

To: 'Yu, Olivia, EMNRD' <Olivia.Yu@state.nm.us>

Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>

Subject: RE: summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Morning Olivia, please see the below write up with detailed plans for the 13E pond that was discussed yesterday. Thank you for your help and guidance.

- On 06/15/18:
 - 23S is around 13' so we have around 5" of space in it. 23N is at 12' so we have around 2' of space in it. 13W is full, however evaporation is helping on all these. 13E (has the leak) and is just under 6' per the liner markings. Have to remember the ponds slope though. At this time we are getting Tetra to rig up a transfer line to the 23N pond and they will transfer from 13E at idle into it. They already have an existing line into the 13W pond. We will rotate around as evaporation occurs and see what we can get out of the 13E pond. During all this, as truck availability occurs we may truck some water from 13E to disposal if timing is right and etc. I have talked to Gradiant and they are willing to go down for 2 days when asked to perform all their maintenance at one time that is due. They are waiting for me to relay such timing. Thinking behind all this, if we can get all the ponds full from 13E water, shutdown Recycle and have two days to repair pond liner. Once liner repaired we start up recycle into the 13E pond. If liner repair takes a day or two longer evaporation will allow us to treat 6K/day and rotate it amongst the other ponds. As I have mentioned in the past, this all sounds good in writing but what the Field Specialist are seeing and juggling in the field it may change a little. I am depending on them to execute a plan that allows for us to accomplish getting into the pond and repairing the leak. KSI is on point so that once the pond is empty they will repair ASAP. I will report out more on Monday specific to where we stand on this pond.
- On 6/19/18:
 - We are still running recycle into the 23S pond, have around 5" to spare here. not gaining much at 6K BWPD rate.
 - 23 North pond is full

- 13West pond has 4" to spare, 13East water now going into it. We are going to top the 13W pond off today and take a break from transferring water from 13E tomorrow. Big D is going to come out and pump leak detection again to check ALR and see if we pump off. If so we could possibly be below the leak point.
 - We are not expecting any delays on recycle production at this time, we will know more Thursday as we will re-evaluate levels and see what water is left.
 - Called Olivia Yu to report leak and seek clarification on C-147 language and reporting guidelines.
- On 6/20/18:
 - Spoke with Olivia on the phone.
 - Continued trucking water from 13East and working to evacuate water from the pond.
- Current Update/Plan 6/21/18
 - Currently trucking water from the 13East pond to disposal, Transfer services to additional ponds is shutdown at this time due to reaching our 3' freeboard limit on 13West and 23North, Recycle plant still running into the 23South pond.
 - Will continue trucking water throughout today and tomorrow while evaluating what evaporation does on ponds and if it allows us to turn transfer services back on to the other ponds.
 - We only lack ~30K bbls until empty. Big D will be out today to turn the lead detection pump on and meter volumes. If they pump off we will turn pump back on tomorrow and see if we are still dry. If so, we have gotten the water level below the leaking point. KSI will be on location Monday then to start evaluating/inspecting the liner. We will allow them two days (Tuesday and Wednesday) to perform repairs and the recycle plant will go down for monthly maintenance during these days as well.
 - Hope to have liner repaired and pond 13East back in service by Thursday and recycle production going into pond by Thursday/Friday.
 - Meet with Olivia and Christina at Salado Draw pond 13East on Thursday to gain visual on progress and steps that were taken.

Again, Thank you for your help and time with this matter.

Stephen Tarr
Production Supervisor- Water Ops.
Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
6301 Deauville Blvd
Midland, Texas 79705
Phone: 432.687.7956
Cell: 432.238.6316
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Email: Starr@chevron.com

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]
Sent: Wednesday, June 20, 2018 4:40 PM
To: Tarr, Stephen S <STarr@chevron.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: **[**EXTERNAL**]** summary of leak detection system issue at Salado Draw Recycling Containment (1RF-11)

Mr. Tarr:

Please provide a summary of the situation with the primary liner failure and leak detection system at the Salado Draw Recycling Containment (1RF-11) as mentioned over the phone to me this morning at 9:15 am MST, so that Mr. Billings is on the same page. Tentatively, Christina and I will plan to visit the location next Thursday afternoon, June 28, 2018.

Thanks,

Olivia Yu
Environmental Specialist
NMOCD, District I
Olivia.yu@state.nm.us
575-393-6161 x113

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.



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