TETRA TECH

# TECHNICAL MEMORANDUM

| | |
|---|---|
| ***To:*** | Nevada Environmental Response Trust |
| ***Cc:*** | Nevada Division of Environmental Protection |
| ***From:*** | David Bohmann and Bounkheana Chhun |
| ***Date:*** | August 31, 2018 |
| ***Subject:*** | AP-5 Operation and Maintenance Summary – July 2018<br>Nevada Environmental Response Trust Site; Henderson, Nevada |

At the direction of the Nevada Environmental Response Trust (NERT or Trust), Tetra Tech, Inc. (Tetra Tech) has prepared this summary of the operation and maintenance (O&M) activities performed during July 2018 for the AP-5 Pond Phase III sediment mixing, Phase IVa solids washing, and decant water transfer. The system was operated and maintained in accordance with the AP-5 Pond Sediment Washing Treatment Process Operations & Maintenance Manual.

## SUMMARY OF O&M ACTIVITIES

Tetra Tech continued operation and maintenance activities associated with the AP-5 sediment mixing and washing system in July 2018 to provide mixing of the AP-5 slurry to keep the sediment in suspension and facilitate extraction of ammonium perchlorate. Operation and maintenance activities associated with solids washing and decant transfer operations were also ongoing during July 2018.

## SOLIDS WASHING AND DECANT WATER TRANSFER

Throughout July 2018, routine procedures for washing the solids and transferring decant water were followed. A total of approximately 50,583 gallons of AP-5 wash water was decanted from the Process Tanks and transferred to the Day Tank in July 2018. A summary of daily AP-5 wash water volumes that were decanted from the Process Tanks and transferred to the Day Tank in July is provided in the attached Table 1. The cumulative total of AP-5 wash water volumes that were decanted from the Process Tanks and transferred to the Day Tank is presented in Table 2a. The cumulative total of Stabilized Lake Mead Water (SLMW) added to the Process Tanks for sediment washing is presented in Table 2b. Note that the SLMW flowmeter readings presented in the routine inspection forms (Attachment A) include both the volume of SLMW added to the Process Tanks for sediment washing and for dilution of AP-5 wash water during transfer (discussed below) and flushing of the lines following each batch transfer.

Tetra Tech, Inc.
150 S. 4th Street, Unit A, Henderson, NV 89015
Tel 702-854-2293 tetratech.com

Once the AP-5 wash water has been decanted from the Process Tanks and transferred to the Day Tank, Envirogen Technologies, Inc. (ETI) transfers the water to the Receiving Tank and subsequently blends the AP-5 water with extracted groundwater for treatment by the Fluidized Bed Reactors. ETI controls and operates the transfer of the AP-5 wash water from the Day Tank to the Receiving Tank, which includes an option to dilute the AP-5 wash water with SLMW to achieve a consistent concentration at the Receiving Tank. The dilution setting is adjustable and has a default setting of 3% perchlorate. During the month of July 2018, ETI adjusted the dilution parameters to achieve a lower concentration in the Receiving Tank as a conservative measure to control influent concentrations to the FBRs while residual solids are removed from the AP-5 Pond and added to the Process Tanks. The AP-5 wash water was diluted to an average batch concentration of 1.4%.

## Perchlorate Mass Removal Estimates

Prior to the start of solids washing, the Process Tanks were sampled to provide an estimate of the starting mass of perchlorate in the Process Tanks. The average starting perchlorate mass estimate is provided on Tables 3 and 4. Final AP-5 Pond closure activities began at the end of April 2018 and the residual pond solids transfer was completed on July 19, 2018. Following residual solids transfer, the Process Tanks were resampled on July 26 and July 27, 2018 to determine the mass transferred during pond solids removal and the resulting mass in the Process Tanks. The updated perchlorate mass estimate is also provided on Tables 3 and 4.

Two methods are used to estimate subsequent perchlorate mass removal resulting from the solids washing process. Due to differing constraints associated with each method, the two methods are intended to provide a range of reasonable estimates for perchlorate mass removal. These methods are summarized below.

Prior to May 2018, single-point monthly Process Tank samples were used to estimate the mass of perchlorate removed from each Process Tank and the remaining perchlorate mass in each tank (Table 3 and Figure 1). During residual solids removal from AP-5 Pond, mass calculations for individual Process Tanks were suspended and the single-point monthly tank samples were used to provide estimates of the monthly perchlorate mass removed through O&M activities and mass added as part of final closure activities (Table 4). The estimated perchlorate mass in each Process Tank following residual pond solids removal is shown on Table 3 and Figure 1. Single-point monthly tank samples will resume in August for estimating the mass of perchlorate removed from each Process Tank and the remaining perchlorate mass in each tank.

Due to the limitations of conducting the mass estimates using a single point sample from each individual Process Tank, the total mass removed from the Process Tanks is also estimated using the average concentration of each batch of decant water transferred by ETI from the Day Tank to the Receiving Tank. The average batch concentration is estimated by an in-line mass flow meter that continuously measures fluid density and flow rate. The density is converted to perchlorate concentration based on a density-to-perchlorate concentration curve developed from laboratory analysis. This method for estimating mass removal relies on continuous readings as opposed to a single point sample, but is based on meter readings as opposed to laboratory data. An estimate of the total mass of perchlorate removed from the Process Tanks based on the mass flow meter readings is presented in Table 4. As noted above, Table 4 also includes an estimate of the perchlorate mass added to the Process Tanks as part of closure activities.

The total perchlorate mass remaining using both methods described above is presented on Figure 2. The deviations in the total mass removal using the two methods is believed to be primarily the result of the use of single monthly samples from each Process Tank. The initial and subsequent comprehensive perchlorate mass estimates developed for the Process Tanks revealed significant variability in individual perchlorate sample results within each tank. Therefore, the mass estimates calculated from the single-point monthly samples are subject to this variability. The mass removal approach using the mass flow meter also has limitations that likely contribute in part to the observed deviation in mass estimates. The mass flow meter approach relies on a density-to-perchlorate concentration curve previously developed from laboratory analysis, but does not utilize laboratory data each month. This method also does not include the mass in AP-5 wash water in the Day Tank that has been

decanted from the Process Tanks but not yet processed through the mass flow meter. Therefore, the perchlorate mass removal using these two approaches, as summarized in Figure 2, is intended to provide a range of reasonable estimates for perchlorate mass removal.

## Ammonia Mass Removal Estimates

The Process Tanks were sampled on November 1, 2017 to provide an estimate of the mass of ammonia in the tanks at that time. Similar to the sampling for the starting perchlorate mass estimate, the starting ammonia mass estimate incorporates data obtained from sampling of the Process Tanks. The average ammonia mass estimate as of November 1, 2017 is provided as the starting mass on Table 5. Estimates of the mass of ammonia removed from each Process Tank and the estimate remaining ammonia mass through April 2018 is presented on Table 5 and shown on Figure 3. As noted above, final AP-5 Pond closure activities began at the end of April 2018 and the residual solids removal was completed on July 19, 2018. The tanks were resampled on July 26 and July 27, 2018 to determine the ammonia mass transferred during pond solids removal and the resulting mass in the Process Tanks. The updated ammonia mass estimate for each tank is shown on Table 3 and Figure 1. Single-point monthly tank samples will resume in August for estimating the mass of ammonia removed from each Process Tank and the remaining ammonia mass in each tank.

## Treatment Timeline

Prior to starting residual pond solids removal in April 2018, the remaining perchlorate and ammonia mass in the AP-5 Pond was estimated based on available data to estimated mass loading to the Process Tanks from final pond closure activities. The Trust met with NDEP and EPA on November 30, 2017 to discuss the estimated mass loading, subsequent projected treatment timeline for the AP-5 Pond solids, and underlying assumptions for the calculations. Additionally, the Trust met with NDEP& EPA on April 26, 2018, to discuss mass loading and the long-term treatment approach for both perchlorate and ammonia. Based on the information provided by the Trust, it was concluded and agreed that the cost for ammonia pre-treatment outweighed the cost to extend the overall treatment timeline. The estimated feed rate of the AP-5 wash water to the FBRs was based on observed rates achieved using the maximum seasonal treatment approach consistent with NPDES permit limits for ammonia.

Following completion of residual solids removal from the AP-5 Pond and sampling of the Process Tanks in July 2018, the resulting mass estimates were used as the basis to update the treatment timeline projection. The treatment timeline projections were also updated based on an adjusted AP-5 wash water feed rate to the FBRs during the summer season which was determined via actual treatment following residual solids transfer. The original and updated projected treatment timelines are provided in the attached Figure 4. The updated treatment timeline, as shown on Figure 4, assumes equivalent FBR feed rates for AP-5 wash water of 1.0 gpm at 3% perchlorate during the summer season and 7.5 gpm at 3% perchlorate during the winter season. The updated projection is consistent with the original projection presented to NDEP on November 30, 2017. Based on this evaluation, the estimated end date for treatment is February 2020.

# ROUTINE INSPECTIONS

Routine inspections were conducted throughout July 2018. Routine inspections are intended to proactively identify potential issues or concerns with key infrastructure, identify and perform routine maintenance tasks, and confirm process equipment is ready for service. During the inspections, Tetra Tech staff visually inspected the Process Tanks, Day Tank, piping, secondary containment, and the liner system for damage and leaks; confirmed mixer operation; and recorded findings on the inspection forms. Inspections, testing, and maintenance of the dilution lines, transfer lines, and Receiving Tank are under the responsibility of ETI as of July 17, 2017. Copies of routine inspection forms are provided in Attachment A. Summaries of the primary inspection activities are included below.

## Process Piping

The piping within the AP-5 Process Area secondary containment area was inspected on a routine basis. AP-5 sediment wash water was decanted from the Process Tanks and transferred to the Day Tank routinely throughout the month of July 2018. The findings of the inspections are provided below:

- No visible damage to, or leaks from, the AP-5 process piping were observed.

## Secondary Containment

The AP-5 Process Area secondary containment liner was inspected by 360-degree perimeter inspections on a routine basis. The findings of the inspections are provided below:

- No damage to the secondary containment liner was observed.
- Stormwater accumulated on the secondary containment liner and in equipment pad sumps and was pumped to the Process Tanks on July 10 and July 15, 2018.

## Tanks and Equipment

Process Tanks T-201, T-202 and T-203, and Day Tank T-204 were inspected on a routine basis in July 2018. The findings of the inspections are provided below:

- No visible damage to, or leaks from, Process Tanks or the Day Tank were observed.
- Precipitate on the interior sides of the Process Tanks and impeller shafts was routinely washed down in all three tanks.
- A vibration in the electrical motor was initially observed on the T-201 mixer in March. A vibration analysis was completed determined to be within typical limits. The noise from vibrations appeared to increase in April and an additional inspection was completed. The gearbox high speed shaft was observed to have excessive play, indicating bearing wear. Beginning on April 23, 2018, the mixer for T-201 was turned off during the day to minimize usage while a bearing replacement plan is developed. Bearing replacement is being scheduled and is expected to be completed in August 2018.
- On July 24, the zerk fittings were replaced on the T-201 motor.
- The existing air compressor is not functioning due to a faulty temperature sensor cable. A temporary air compressor was mobilized and is currently being used. A replacement sensor cable has been ordered and will be installed in August.

# MONTHLY INSPECTION

The monthly inspection was conducted on July 31, 2018. Monthly inspections are conducted to provide a more thorough investigation of major equipment and parts and to confirm functionality of key control and interlock components. The monthly inspection form is provided in Attachment B. A summary of the findings is provided below:

- Spare parts for operation of the AP-5 slurry treatment system were present and stored on site.
- The permanent air compressor could not be tested due to a faulty temperature sensor cable. The temporary replacement air compressor was tested and operational.
- Air operated double diaphragm pumps were tested, and all were found to be in good working order.
- High-high level alarms for the Process Tanks and Day Tank were tested. All of the level sensors were observed to be functional at the time of the testing.

## NON-ROUTINE TASKS

As part of final AP-5 Pond closure, the transfer of residual solids from the pond to the Process Tanks began on April 26, 2018 and was complete on July 19, 2018. The cutting and removal of the pond liner and drainage layer is currently ongoing. Upon completion of the liner system removal, the pond berm will be excavated, profiled and properly disposed.

# TRUST CERTIFICATION

**AP-5 Operation and Maintenance Summary – July 2018**

**Nevada Environmental Response Trust Site**
**(Former Tronox LLC Site)**
**Henderson, Nevada**

**Nevada Environmental Response Trust (NERT) Representative Certification**

I certify that this document and all attachments submitted to the Division were prepared at the request of, or under the direction or supervision of NERT. Based on my own involvement and/or my inquiry of the person or persons who manage the systems(s) or those directly responsible for gathering the information or preparing the document, or the immediate supervisor of such person(s), the information submitted and provided herein is, to the best of my knowledge and belief, true, accurate, and complete in all material respects.

Office of the Nevada Environmental Response Trust

Le Petomane XXVII, not individually, but solely in its representative capacity as the Nevada Environmental Response Trust Trustee

not individually, but solely as Trustee

**Signature:** Jay A Steinberg, not individually, but solely in his representative capacity as President of the Nevada Environmental Response Trust Trustee

**Name:** Jay A. Steinberg, not individually, but solely in his representative capacity as President of the Nevada Environmental Response Trust Trustee

**Title:** Solely as President and not individually

**Company:** Le Petomane XXVII, Inc., not individually, but solely in its representative capacity as the Nevada Environmental Response Trust Trustee

**Date:** 8/30/18

# CERTIFIED ENVIRONMENTAL MANAGER CERTIFICATION

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been prepared in a manner consistent with the current standards of the profession, and to the best of my knowledge, comply with all applicable federal, state, and local statutes, regulations, and ordinances. I hereby certify that all laboratory analytical data was generated by a laboratory certified by the NDEP for each constituent and media presented herein.

***Description of Services Provided:*** Prepared AP-5 Operation and Maintenance Summary for July 2018.

August 31, 2018

**Kyle Hansen, CEM**
Field Operations Manager/Geologist
Tetra Tech, Inc.

Date

Nevada CEM Certificate Number: 2167
Nevada CEM Expiration Date: September 18, 2020

# Tables

**Table 1. Monthly AP-5 Wash Water Decant Records**

| Date | T-201 (Gallons) | T-202 (Gallons) | T-203 (Gallons) | Daily Total (Gallons) |
|---|---|---|---|---|
| 1-Jul | - | - | - | - |
| 2-Jul | 25,278 | - | - | 25,278 |
| 3-Jul | - | - | - | - |
| 4-Jul | - | - | - | - |
| 5-Jul | - | - | - | - |
| 6-Jul | - | - | - | - |
| 7-Jul | - | - | - | - |
| 8-Jul | - | - | - | - |
| 9-Jul | - | - | - | - |
| 10-Jul | - | - | - | - |
| 11-Jul | - | - | - | - |
| 12-Jul | - | - | - | - |
| 13-Jul | - | - | - | - |
| 14-Jul | - | - | - | - |
| 15-Jul | - | - | - | - |
| 16-Jul | - | - | - | - |
| 17-Jul | - | - | - | - |
| 18-Jul | 25,305 | - | - | 25,305 |
| 19-Jul | - | - | - | - |
| 20-Jul | - | - | - | - |
| 21-Jul | - | - | - | - |
| 22-Jul | - | - | - | - |
| 23-Jul | - | - | - | - |
| 24-Jul | - | - | - | - |
| 25-Jul | - | - | - | - |
| 26-Jul | - | - | - | - |
| 27-Jul | - | - | - | - |
| 28-Jul | - | - | - | - |
| 29-Jul | - | - | - | - |
| 30-Jul | - | - | - | |
| 31-Jul | - | - | - | - |
| **Total** | **50,583** | **-** | **-** | **50,583** |

Notes:

1 - Decant volumes presented are based on the starting and ending volumes in the Day Tank during decant operations, plus the volume that was transferred by ETI to the Receiving Tank during the time decant operations were occurring.

**Table 2a. Cumulative AP-5 Wash Water Decant and Transfer Records**

| Month | T-201 (Gallons) | T-202 (Gallons) | T-203 (Gallons) | Monthly Total (Gallons) |
|---|---|---|---|---|
| July 2017 | 38,377 | | 20,906 | 59,283 |
| August 2017 | 8,868 | | 9,454 | 18,322 |
| September 2017 | | 22,819 | | 22,819 |
| October 2017 | | 117,200 | | 117,200 |
| November 2017 | 26,567 | 65,048 | 98,171 | 189,786 |
| December 2017 | 88,449 | 43,485 | 71,600 | 203,534 |
| January 2018 | 95,673 | 81,036 | 59,577 | 236,286 |
| February 2018 | 108,564 | 55,620 | 122,012 | 286,196 |
| March 2018 | 75,262 | 76,737 | - | 151,999 |
| April 2018 | 44,177 | - | 27,290 | 71,467 |
| May 2018 | 71,329 | - | 22,579 | 93,908 |
| June 2018 | 49,982 | - | - | 49,982 |
| July 2018 | 50,583 | - | - | 50,583 |
| **Cumulative Total** | **657,831** | **461,945** | **431,589** | **1,551,365** |

**Table 2b. Cumulative Stabilized Lake Mead Water Volume Added for Sediment Washing**

| Month | T-201 (Gallons) | T-202 (Gallons) | T-203 (Gallons) | Monthly Total (Gallons)[1] |
|---|---|---|---|---|
| July 2017 | 22,775 | | 6,150 | 28,925 |
| August 2017 | 13,970 | | 7,860 | 21,830 |
| September 2017 | | 20,010 | | 20,010 |
| October 2017 | | 131,247 | | 131,247 |
| November 2017 | 27,360 | 65,435 | 75,440 | 168,235 |
| December 2017 | 43,570 | 39,585 | 5,485 | 88,640 |
| January 2018 | 24,135 | 30,685 | 64,205 | 119,025 |
| February 2018 | 92,020 | 22,475 | 126,845 | 241,340 |
| March 2018 | 81,685 | 79,270 | - | 160,955 |
| April 2018 | 465 | - | 18,805 | 19,270 |
| May 2018 | 825 | - | 390 | 1,215 |
| June 2018 | 860 | - | - | 860 |
| July 2018 | 480 | - | - | 480 |
| **Cumulative Total** | **308,145** | **388,707** | **305,180** | **1,002,032** |

Notes:

1 - Stabilized Lake Mead Water (SLMW) volume added to tanks does not include the volume used to routinely wash down precipitate on the interior sides and mixer impellar shafts. The volume of wash down water is approximately 2,000 gallons per tank per month.

2 - The volume of SLMW added to the tanks does not include stormwater that accumulates in the lined secondary containment and equipment pads that is pumped to the Process Tanks.

**Table 3a. Estimate of Perchlorate Mass in Process Tanks Based on Tank Samples after Initial Slurry Transfer**

| | | Mass in T-201 (lbs) | Mass in T-202 (lbs) | Mass in T-203 (lbs) | Total Monthly Mass Removed (lbs) | Total Perchlorate Mass In Process Tanks (lbs) |
|---|---|---|---|---|---|---|
| **Initial Perchlorate Mass[1]** | | **168,055** | **247,579** | **185,745** | | **601,380** |
| *Approx.Mass Removed* | *July 2017*[2] | *17,828* | *-* | *9,189* | *27,017* | **574,363** |
| | *August 2017* | *4,120* | *-* | *4,155* | *8,275* | **566,088** |
| | *September 2017* | *-* | *12,547* | *-* | *12,547* | **553,540** |
| | *October 2017* | *-* | *59,663* | *-* | *59,663* | **493,878** |
| | *November 2017* | *10,605* | *32,571* | *40,418* | *83,594* | **410,284** |
| | *December 2017* | *41,090* | *16,693* | *28,582* | *86,365* | **323,919** |
| | *January 2018* | *36,195* | *25,360* | *19,639* | *81,195* | **242,724** |
| | *February 2018* | *26,727* | *13,925* | *29,020* | *69,672* | **173,051** |
| | *March 2018* | *12,248* | *12,168* | *-* | *24,415* | **148,636** |
| | *April 2018* | *6,083* | *-* | *4,441* | *10,524* | **138,112** |
| | *May 2018*[3] | *INDIVIDUAL PROCESS TANK MASS CALCULATIONS WERE SUSPENDED UNTIL POND SOLIDS TRANSFER COMPLETED.* | | | | |
| | *June 2018* | | | | | |
| **Ending Perchlorate Mass** | | | | | | **138,112** |

**Table 3b. Estimate of Perchlorate Mass in Process Tanks Based on Tank Samples after Residual Solids Transfer**

| | Mass in T-201 (lbs) | Mass in T-202 (lbs) | Mass in T-203 (lbs) | Total Monthly Mass Removed (lbs) | Total Perchlorate Mass In Process Tanks (lbs) |
|---|---|---|---|---|---|
| **Initial Perchlorate Mass[4]** | **370,459** | **272,873** | **296,418** | | **939,750** |
| *July 2018*[5] | *370,459* | *272,873* | *296,418* | | **939,750** |

Notes:

1 - The initial perchlorate mass estimate presented is based on an average of laboratory results. The 95% confidence interval for starting perchlorate mass in all three Process Tanks is 422,491 to 776,030 pounds.

2 - The approximate mass removed for July 2017 is based on the starting concentrations in the Process Tanks. Subsequent mass removal calculations are based on both the starting (prior month) and ending (current month) perchlorate concentrations resulting from single point samples from each tank.

3 - Individual tank mass calculations were suspended until pond closure activities are completed. Following pond closure, a more comprehensive sampling of the Process Tanks will be completed to establish new mass estimates.

4 - The perchlorate mass estimate after pond solids transfer is based on an average of laboratory results. The 95% confidence interval for the perchlorate mass in all three Process Tanks is 814,953 to 1,064,163 pounds.

5 - Mass removal estimates on individual tanks will resume in August 2018.

**Table 4. Estimate of Perchlorate Mass in Process Tanks Based on Batch Transfers**

| | | Estimated Monthly Mass Added (lbs) [3] | Total Monthly Mass Removed (lbs) | Total Perchlorate Mass In Process Tanks (lbs) |
|---|---|---|---|---|
| **Initial Perchlorate Mass[1]** | | | | **601,380** |
| *Approx.Mass Removed* | *July 2017* [2] | | *13,520* | **587,860** |
| | *August 2017* [2] | | *6,000* | **581,860** |
| | *September 2017* | | *10,706* | **571,154** |
| | *October 2017* | | *49,990* | **521,163** |
| | *November 2017* | | *74,231* | **446,933** |
| | *December 2017* | | *73,066* | **373,867** |
| | *January 2018* | | *69,363* | **304,504** |
| | *February 2018* | | *73,247* | **231,257** |
| | *March 2018* | | *25,321* | **205,935** |
| | *April 2018* | | *7,030* | **198,905** |
| | *May 2018* [4 5] | *151,078* | *11,126* | **338,857** |
| | *June 2018*[5] | *227,250* | *9,337* | **556,770** |
| | *July 2018*[5] | *341,180* | *9,343* | **888,608** |
| **Perchlorate Mass After Pond Solids Removal[6]** | | | | **939,750** |
| **Ending Perchlorate Mass** | | | | **939,750** |

Notes:

1 - The initial perchlorate mass estimate presented is based on an average of laboratory results as summarized in the August 11, 2017 technical memo *AP-5 Tank Sampling Activities and Mass Estimate Summary* . The 95% confidence interval for starting perchlorate mass in all three Process Tanks is 422,491 to 776,030 pounds.

2 - Individual batch data not available from ETI for July and August 2017. Values presented for these months are based on ETI's estimates. Subsequent monthly estimates are based on ETI records for batch volumes and average batch concentrations transferred from the Day Tank T-204 to the Receiving Tank T-205.

3 - Beginning in May 2018, estimates of the perchlorate mass added as part of final AP-5 pond closure activities were developed based on single point samples from each Process Tank.

4 - The May 2018 estimate of mass added from AP-5 Pond closure activities represents the period from April 26, 2018 through May 31, 2018

5 - Monthly mass added are estimated by using a single point sample from each Process Tank and may underestimate the mass contribution from settled residual solids.

6 - The perchlorate mass estimate after pond solids transfer is based on an average of laboratory results. The 95% confidence interval for the perchlorate mass in all three Process Tanks is 814,953 to 1,064,163 pounds.

**Table 5a. Estimate of Ammonia Mass in Process Tanks after Initial Pond Transfer**

| | | Mass in T-201 (lbs) | Mass in T-202 (lbs) | Mass in T-203 (lbs) | Total Monthly Mass Removed (lbs) | Total Ammonia Mass In Process Tanks (lbs) |
|---|---|---|---|---|---|---|
| **Initial Ammonia Mass**[1] | | **18,217** | **22,343** | **20,277** | | **60,837** |
| *Approx. Mass Removed* | *November 2017* | *1,323* | *3,979* | *4,490* | *9,792* | **51,045** |
| | *December 2017* | *3,974* | *1,778* | *2,659* | *8,411* | **42,634** |
| | *January 2018* | *3,353* | *3,009* | *2,163* | *8,526* | **34,108** |
| | *February 2018* | *2,945* | *1,509* | *3,564* | *8,017* | **26,091** |
| | *March 2018* | *1,445* | *1,441* | *-* | *2,886* | **23,206** |
| | *April 2018* | *682* | *-* | *490* | *1,172* | **22,034** |
| | *May 2018* [2] | *INDIVIDUAL PROCESS TANK MASS CALCULATIONS WERE SUSPENDED UNTIL POND SOLIDS TRANSFER COMPLETED.* | | | | |
| | *June 2018* | | | | | |
| **Ending Ammonia Mass** | | | | | | **22,034** |

**Table 5b. Estimate of Ammonia Mass in Process Tanks after Residual Pond Solids Transfer**

| | Mass in T-201 (lbs) | Mass in T-202 (lbs) | Mass in T-203 (lbs) | Total Monthly Mass Removed (lbs) | Total Ammonia Mass In Process Tanks (lbs) |
|---|---|---|---|---|---|
| **Initial Ammonia Mass**[3] | **56,496** | **42,023** | **42,335** | | **140,854** |
| *July 2018*[4] | *56,496* | *42,023* | *42,335* | | **140,854** |

Notes:

1 - The initial ammonia mass estimate presented is based on an average of laboratory results for slurry and accumulated solids samples collected on November 1, 2017. Ammonia mass estimates are not available prior to this date.

2 - Individual tank mass calculations are suspended until pond closure activities are completed. Following pond closure, a more comprehensive sampling of the Process Tanks will be completed to establish new mass estimates.

3 - The ammonia mass estimate after pond solids transfer is based on an average of laboratory results. The 95% confidence interval for the perchlorate mass in all three Process Tanks is 118,994 to 162,598 pounds.

4 - Mass removal estimates on individual tanks will resume in August 2018.

# Figures

Figure 1. Estimate of Perchlorate Mass Remaining in Process Tanks

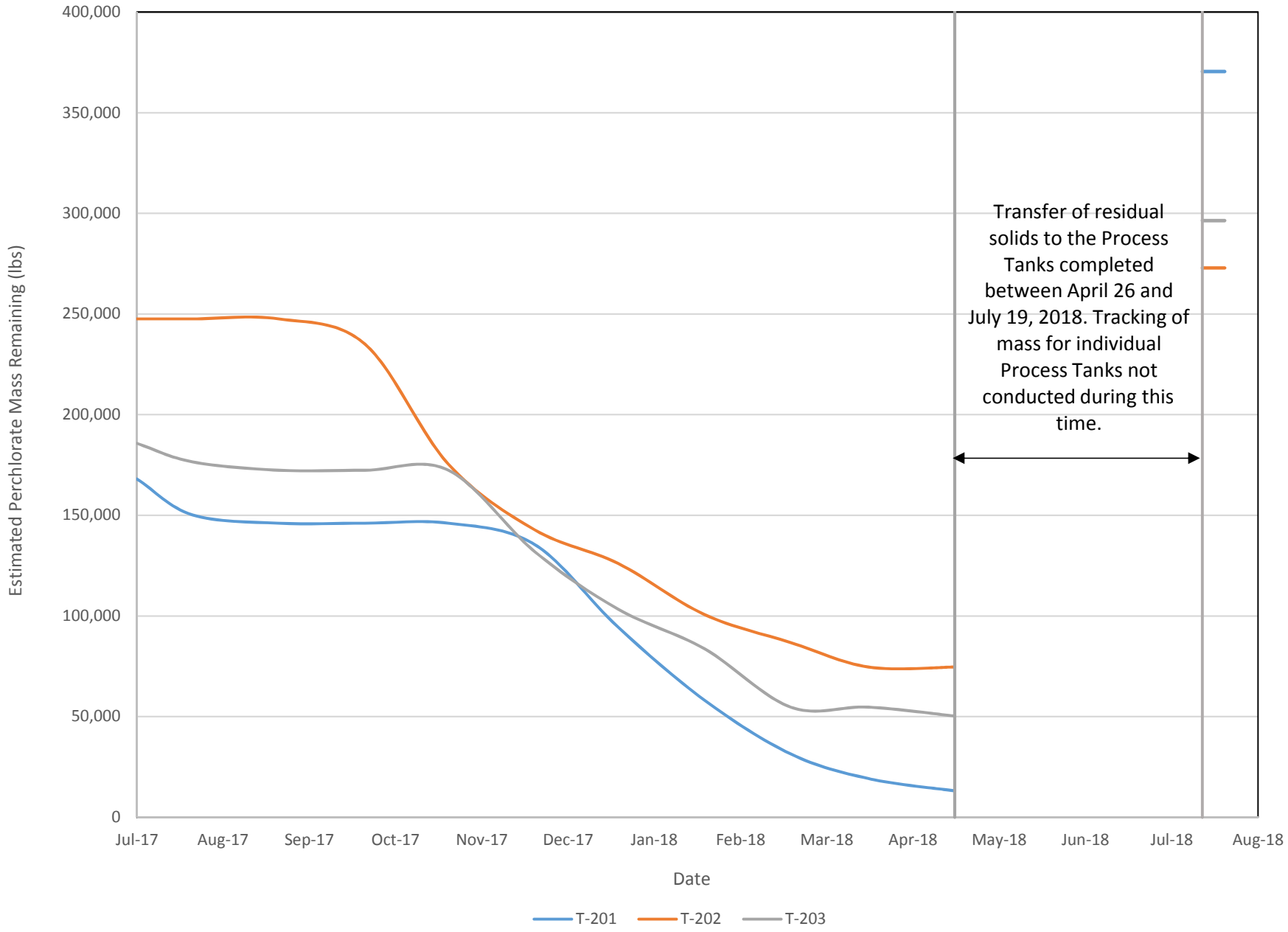


Figure 2. Estimate of Total Perchlorate Mass Remaining in Process Tanks

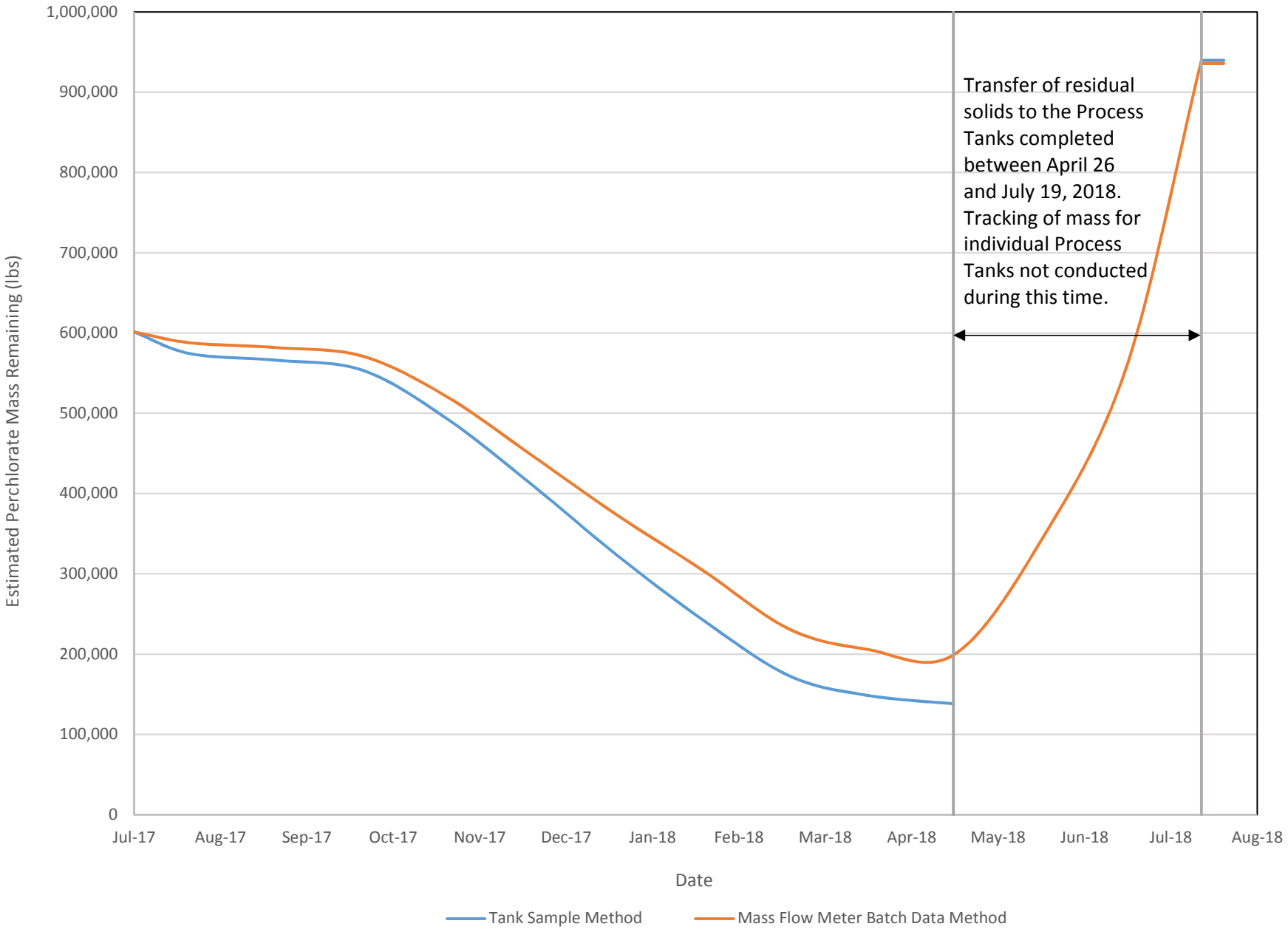


Figure 3. Estimate of Ammonia Mass Remaining in Process Tanks

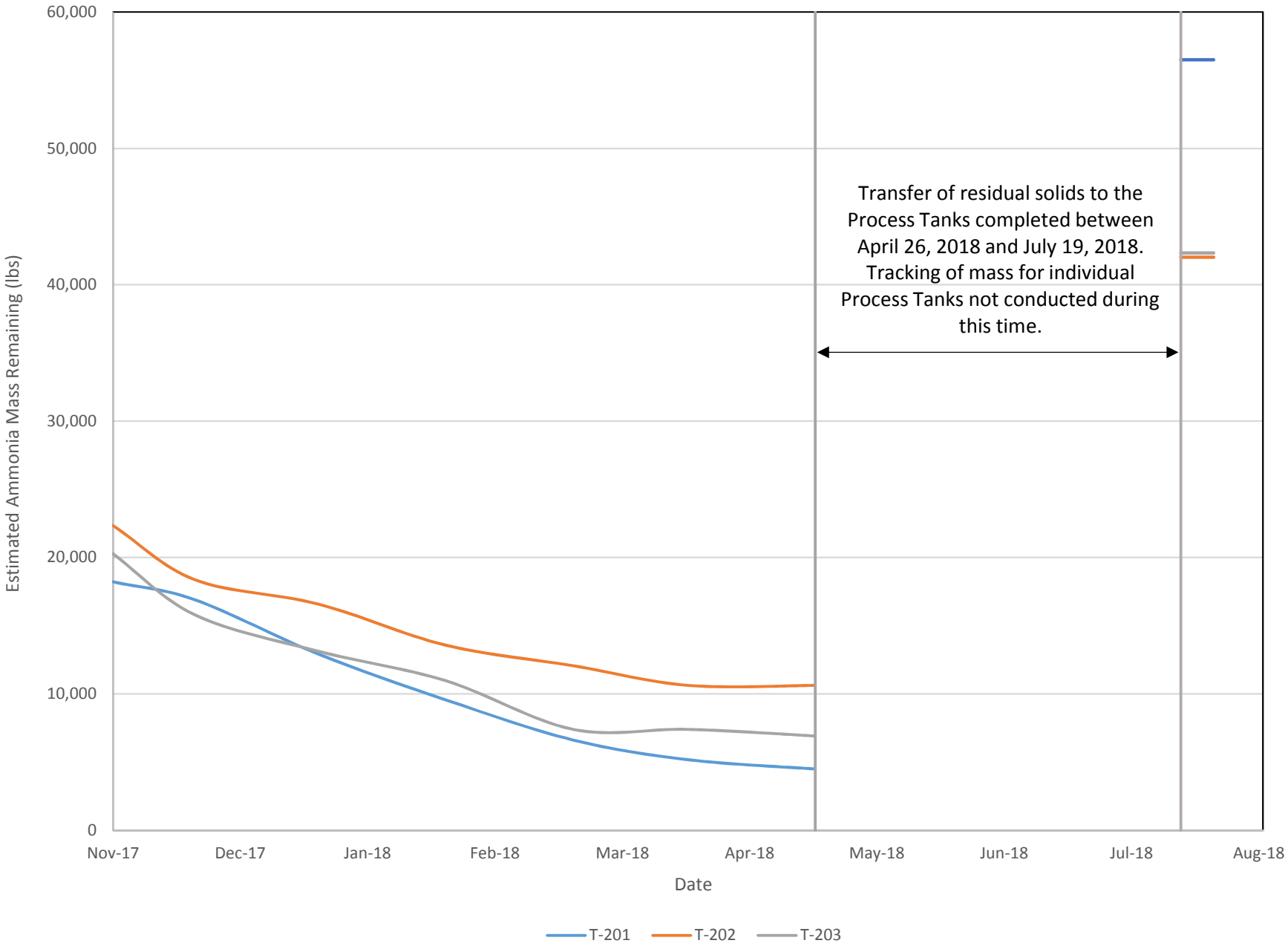
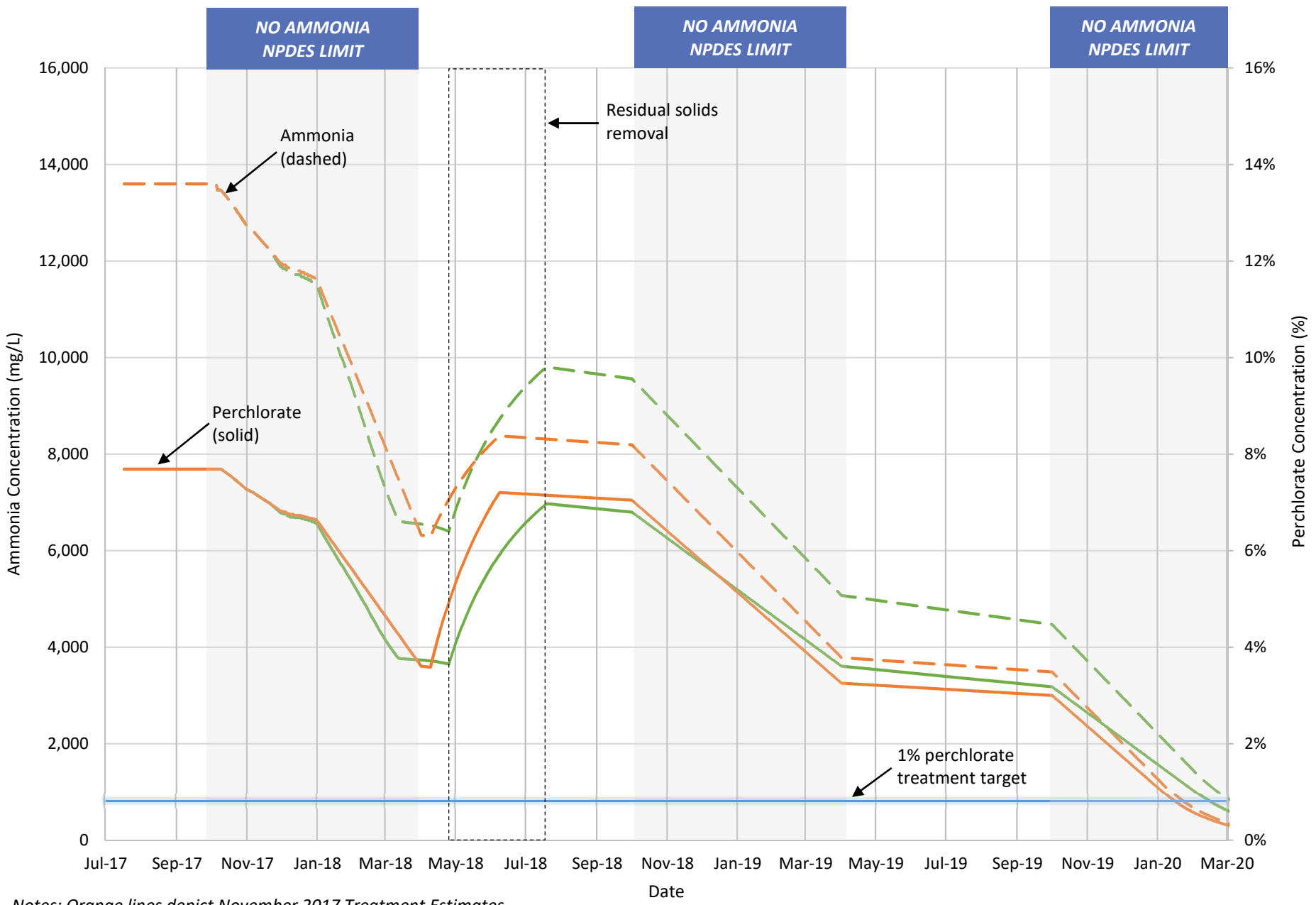


Figure 4. Projected AP-5 Solids Treatment Timeframe




*Notes: Orange lines depict November 2017 Treatment Estimates*
*Green lines depict July 2018 Treatment Estimates*

# Attachment A
# Phase III O&M Routine Inspection Forms

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/1/18 Time: 0824 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,095,660 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 93 Oil temperature | 96 °F | | 93 °F | | 95 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/1/18 **Time:** 0830 **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off during pond closure activities

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/2/18 Time: 1120 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,096,470 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | Yes | (No*) | Yes | (No*) | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 104 Oil temperature | 105 °F | | 106 °F | | 104 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/2/18 Time: _____ Inspector Initials: KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off during sediment washing process

Operator Signature: Kyle D. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/3/18 Time: 1500 Inspector Initials: KGH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2099,460 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 105 Oil temperature | 105 °F | | 110 °F | | 108 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/3/18 **Time:** _____ **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off during pond closure activities

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/4/18 **Time:** 0730 **Inspector Initials:** KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,099,460 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? N/A | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 86 Oil temperature | 86 °F | | 85 °F | | 87 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/4/18 Time: _____ Inspector Initials: KS if

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

Mixers off during pond closure activities

Operator Signature: Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/5/18 **Time:** 1430 **Inspector Initials:** KGH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,100,950 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 107 Oil temperature | 107 °F | | 110 °F | | 108 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/5/18 Time: _____ Inspector Initials: KGH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off as a part of pond closure activities

Operator Signature: Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/6/19 Time: 1500 Inspector Initials: KGH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2105,410 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 112 Oil temperature | 111 °F | | 117 °F | | 112 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/6/18 **Time:** _____ **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off during pond closure activities.

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/7/18 Time: 1625 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,105,410 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 108 Oil temperature | 108 °F | | 114 °F | | 108 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/7/18 Time: _____ Inspector Initials: KGH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off as part of pond closure activities

Operator Signature: Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/8/18 Time: 1600 Inspector Initials: KGH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,105,600 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 104 Oil temperature | 104 °F | | 110 °F | | 103 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/8/18 **Time:** _____ **Inspector Initials:** KH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off due to pond closure activities

**Operator Signature:** Kyle Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/9/18 **Time:** 1410 **Inspector Initials:** KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,105,800 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 107 Oil temperature | 108 °F | | 111 °F | | 109 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/9/18 **Time:** _____ **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off during pond closure activities

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/10/18 Time: 1425 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,106,200 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No) 9"
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: (Yes) Pumped (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 95 Oil temperature | 96 °F | | 97 °F | | 94 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/10/18 **Time:** _____ **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off during pond closure activities

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/10/18 **Time:** 1425 **Inspector Initials:** KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2110,810 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | Yes | (No) | Yes | (No) |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | (Yes) | No* | (Yes) | No* |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 99 Oil temperature | 105 °F | | 130 °F | | 132 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/11/18 Time: _____ Inspector Initials: KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers run for 6 hours to redistribute sediment.

Operator Signature: Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/12/18 **Time:** 1600 **Inspector Initials:** KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,811,035 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 92 Oil temperature | 96 °F | | 94 °F | | 97 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/12/18 Time: _____ Inspector Initials: KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off during pond closure activities

Operator Signature: Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/13/18 **Time:** 1120 **Inspector Initials:** KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,111,320 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | Yes | (No*) | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | (No) | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 94 Oil temperature | 96 °F | | 97 °F | | 98 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/13/18 Time: _____ Inspector Initials: KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers not running during pond closure activities

Operator Signature: Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/14/18 Time: 0720 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,111,480 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 88 Oil temperature | 90 °F | | 92 °F | | 89 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/14/18 **Time:** _____ **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off during pond closure activities

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/15/18 Time: 0645 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2115,940 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? (Yes) No
   If Yes, pump storm water into one of the Process Tanks. – will let it evaporate to save tank space
6. Is there storm water accumulation in equipment pad sumps?: (Yes) No
   If Yes, pump storm water into one of the process tanks. pumped into T-201 & T-202

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 82 Oil temperature | 87 °F | | 80 °F | | 84 °F | |

## K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/15/18 **Time:** _____ **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off during pond closure activities

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/16/18 Time: 1425 Inspector Initials: ICGH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,116,150 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 108 Oil temperature | 109 °F | | 116 °F | | 108 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/16/18 Time: _____ Inspector Initials: KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off during pond closure activities

Operator Signature: Kyle Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/17/18 Time: 1415 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,116,565 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 109 Oil temperature | 109 °F | | 112 °F | | 110 °F | |

## K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/17/18 **Time:** _____ **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off during pond Closure Activities

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/18/18 **Time:** 1410 **Inspector Initials:** KGH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,120,410 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 105 Oil temperature | 106 °F | | 107 °F | | 105 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/18/18 Time: _____ Inspector Initials: KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off as a part of the pond closure activities

Operator Signature: Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/19/18 **Time:** 1320 **Inspector Initials:** KGH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,120,780 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | Yes | (No) | Yes | (No) | Yes | (No) |
| Mixer running and turbulence/vortex observed?** | (Yes) | No* | (Yes) | No* | (Yes) | No* |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 109 Oil temperature | 110 °F | | 111 °F | | 109 °F | |

## K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/19/18 Time: _____ Inspector Initials: KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Sediment transfer from AP-5 pond complete
T-201 = 26.876 T-202 - 26.531 T-203 26.085

Operator Signature: Kyle L. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/20/18 Time: 1135 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,120,780 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 96 Oil temperature | 98 °F | | 95 °F | | 96 °F | |

## K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/20/18 Time: _____ Inspector Initials: KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off to minimize bearing wear.

Operator Signature: Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/21/16 **Time:** 0610 **Inspector Initials:** KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,127,330 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 90 Oil temperature | 90 °F | | 88 °F | | 91 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/21/18 Time: _____ Inspector Initials: KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off to reduce wear

Operator Signature: Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/22/18 **Time:** 1850 **Inspector Initials:** KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,127,330 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? N/A | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 105 Oil temperature | 105 °F | | 109 °F | | 106 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/22/18 Time: _____ Inspector Initials: KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off to reduce bearing wear

Operator Signature: Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/23/18 Time: 1100 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,127,330 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | Yes | (No) | Yes | (No) | Yes | (No) |
| Mixer running and turbulence/vortex observed?** | (Yes) | No* | (Yes) | No* | (Yes) | No* |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 104 Oil temperature | 121 °F | | 120 °F | | 118 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/23/18 **Time:** _____ **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers on to distribute sediments

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/24/18 Time: 1045 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,127,330 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | Yes | (No) | Yes | (No) | Yes | (No) |
| Mixer running and turbulence/vortex observed?** | (Yes) | No* | (Yes) | No* | (Yes) | No* |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 104 Oil temperature | 127 °F | | 128 °F | | 128 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/24/18 **Time:** _____ **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Replaced zerks on T-201 motor.

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/25/18 Time: 1015 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2127, 340 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | Yes | (No) | Yes | (No) | Yes | (No) |
| Mixer running and turbulence/vortex observed?** | (Yes) | No* | (Yes) | No* | (Yes) | No* |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 104 Oil temperature | 106 °F | | 104 °F | | 105 °F | |

## K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/25/18 **Time:** _____ **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/26/18 Time: 1310 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,133,050 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 113 Oil temperature | 113 °F | | 114 °F | | 113 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/26/18 **Time:** _____ **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off to reduce wear on motor.

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/27/18 Time: 0900 Inspector Initials: JR

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,133,280 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? | (Yes) | No* | (Yes) | No* | (Yes) | No* |
| Ambient air temperature 101 Oil temperature | 102 °F | | 100 °F | | 101 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/27/18 Time: 0900 Inspector Initials: JR

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

T-201 mixer off due to vibration issue
T-202 mixer off
T-203 mixer off

Operator Signature: [signature]

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/28/18 Time: 0840 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,133,705 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 97 Oil temperature | 98 °F | | 97 °F | | 98 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/28/18 **Time:** _____ **Inspector Initials:** KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Air compressor malfunctioning. Brought in temporary unit from pond

**Operator Signature:** Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/29/18 Time: ~~0940~~ 1201 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,138,745 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature ~~99~~ 103 Oil temperature | ~~98~~ 103 °F | | ~~97~~ 104 °F | | ~~98~~ 104 °F | |

## K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/29/18 Time: _____ Inspector Initials: KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off to reduce wear

Operator Signature: Kyle S. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/30/18 Time: ~~1~~ 1400 Inspector Initials: KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,138,745 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 111 Oil temperature | 111 °F | | 112 °F | | 110 °F | |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/30/18 **Time:** _____ **Inspector Initials:** KS H

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

- Mixers off to reduce wear.

**Operator Signature:** Kyle D. Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# K05 PHASE III O&M ROUTINE INSPECTION FORM

**Date:** 7/31/18 **Time:** 0955 **Inspector Initials:** KSH

## PROCESS PIPING INSPECTION

1. Observe piping between Process Tank secondary containment and FBR secondary containment.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
2. Observe piping in Process Tank secondary containment area.
   Any leaks, punctures, damage, bulges visible? Yes* (No)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
   Flowmeter: 2,138,745 (gallons)

## SECONDARY CONTAINMENT INSPECTION

4. Perform 360 perimeter walk to observe liner system for potential wear and tear.
   Any leaks, punctures, or other damage visible? Yes (No)
5. Is there storm water accumulation greater than 1 foot? Yes (No)
   If Yes, pump storm water into one of the Process Tanks.
6. Is there storm water accumulation in equipment pad sumps?: Yes (No)
   If Yes, pump storm water into one of the process tanks.

## PROCESS TANKS AND DAY TANK INSPECTION

7. Perform 360 degree walk around of each tank to inspect for damage or leaks and lock out of valves:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Visible damage or leaks/stains? (inspect all welds and nozzles/valves) | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| All decant valves and transfer valves locked out?** | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |
| Are transfer pumps ready for service? | (Yes) | No* | (Yes) | No* | (Yes) | No* | NA | NA |

8. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Visible oil leaks from gear box? | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed? | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question. | (Yes) | No | (Yes) | No | (Yes) | No |
| Mixer running and turbulence/vortex observed?** | Yes | (No*) | Yes | (No*) | Yes | (No*) |
| Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan? NA | Yes | No* | Yes | No* | Yes | No* |
| Ambient air temperature 97 Oil temperature | 99 °F | | 97 °F | | 98 °F | |

## K05 PHASE III O&M ROUTINE INSPECTION FORM

Date: 7/31/18 Time: _____ Inspector Initials: KSH

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Site Implementation Manager immediately if this condition is observed and active washing is not occurring.

Initiate procedures to mobilize and connect portable generators to power the mixers in the event of a power loss greater than six hours to prevent solids from consolidating in the bottom of the Process Tanks.

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

Mixers off to avoid excessive wear on bearings

Operator Signature: Kyle Hansen

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |

# Attachment B
# Phase III O&M Monthly Inspection Forms

# K05 PHASE III O&M MONTHLY INSPECTION FORM

Date: 7/27/18 Time: 0930 Inspector Initials: JR

## INSPECT MATERIALS AND PARTS

1. Are all spare parts present?: (Yes) No
   If no, list which parts need to be ordered and inform Site Implementation Manager: _____

2. Are all safety materials, resources, and supplies to perform work present? (Yes) No
   If no, list what needs to be ordered and inform Site Implementation Manager: _____

## PUMP OPERATION INSPECTION

3. Check if all AODD transfer pumps are in good condition and working order. Provide notes and contact the Site Implementation Manager if any repairs are required:

| | |
|---|---|
| P-201 | ✓ |
| P-202 | ✓ |
| P-203 | ✓ |
| P-204 | ✓ |
| P-205 | ✓ |
| P-206 | ✓ |

## HIGH-HIGH LEVEL ALARMS INSPECTIONS

4. Check if the high-high level warning alarm system is in good condition for each tank. Provide notes and contact the Site Implementation Manager if any repairs are required:

| | T-201 | | T-202 | | T-203 | | T-204 | |
|---|---|---|---|---|---|---|---|---|
| Check what level the High-High alarm signals – is it consistent with the set points? | (Yes) | No* | (Yes) | No* | (Yes) | No* | (Yes) | No* |
| Test reset procedure – were there any issues? | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |
| Are all alarm status lights in good working order? | (Yes) | No* | (Yes) | No* | (Yes) | No* | (Yes) | No* |
| Are the shut-off devices in good working order? | (Yes) | No* | (Yes) | No* | (Yes) | No* | (Yes) | No* |
| Visible damages to the alarm cords and cables? | Yes* | (No) | Yes* | (No) | Yes* | (No) | Yes* | (No) |

Notes: _____

# K05 PHASE III O&M MONTHLY INSPECTION FORM

**Date:** 7/27/18 **Time:** 0930 **Inspector Initials:** JR

**INSPECT PROCESS TANK MIXERS**

5. Visual inspection from top of each Process Tank:

| | T-201 | | T-202 | | T-203 | |
|---|---|---|---|---|---|---|
| Is there adequate oil in Process Tank mixer motors? | (Yes) | No* | (Yes) | No* | (Yes) | No* |
| Control panel mixer run time** | 9256.7 hrs | | 9579.2 hrs | | 9615.0 hrs | |

**INSPECT MAINTENANCE ITEMS**

6. Check if equipment requiring maintenance is in good condition and working order. Provide the date of next required maintenance and contact the Site Implementation if anything is in need of maintenance:

| Activity | Date of Next Replacement or Maintenance | Comments |
|---|---|---|
| Replace 3" decant transfer hoses | 8/1/2018 | |
| Replace 3" solid transfer hoses | 8/1/2018 | |
| Replace 1.5" SLMW flush hose | 12/15/2018 | |
| Replace 3" stainless steel doublesphere expansion joints | 8/1/2018 | |
| Replace air compressor filter element | 10/16/2018 | |
| Service air compressor | 1/26/2019 | |
| Change process tank mixer gear box oil** | 10/18/2018 | |
| Grease gear seals on process tank mixer | 12/21/2018 | |
| | | |
| | | |

**NOTES:**

* - Notify Site Implementation Manager immediately if any of these conditions are observed and thoroughly document on this form and through photographs.

** - Date of next oil change is approximate. The timing for process tank mixer gear box oil change is based on actual run time (10,000 hours). Each mixer ran for the following hours after the last oil change and prior to control panel set up, and these hours need to be added to the control panel readings to arrive at the total run time for the mixers:

M-201 = 8,987 hours, M-202 = 8,882 hours, M-203 = 8,952 hours

**COMMENTS:**

***(Describe all "yes" answers, any observed damage, any areas that could not be inspected and the reason, etc.)***

**Operator Signature:** [signature]

# K05 PHASE III O&M MONTHLY INSPECTION FORM

**Date:** 7/27/18 **Time:** 0930 **Inspector Initials:** JR

**EMERGENCY CONTACTS:**

| Title | Name | Phone # | Comments |
|---|---|---|---|
| Site Implementation Manager | Brad Maynard | (907) 723-2646 | |
| Field Operations Manager | Kyle Hansen | (801) 949-6663 | |
| Project Manager | David Bohmann | (303) 704-9527 | |
| Program Manager | Dan Pastor | (303) 588-0901 | |
| Site Health & Safety | Karen Luna | (702) 217-8173 | |
| Corporate Health & Safety | Michelle Gillie | (610) 348-7197 | |
| Process Engineer | Courtney Flores | (770) 845-6281 | |
| Emergency Generator (United Rentals) | Heath Barnard | (702) 538 2292 | Reference Quote # 142770051<br>Reference Customer # 1439334 |