

# 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 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.

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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				
Response Trust Trustee	not	m Liv Drelly	Sut	5 glely a
Signature: Capacity as President of the Nevada Env	ronmental	, not individu Response Trust Truste	ally, but so	() Cus Bus lely in his representative
Name: Jay A. Steinberg, not individual Environmental Response Trust Trustee	ly, but solel	y in his representative	capacity as	s President of the Nevada
Title: Solely as President and not indiv	idually			
Company: Le Petomane XXVII, Inc., r Environmental Response Trust Trustee	ot individua	ally, but solely in its rep	resentative	e capacity as the Nevada
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.

August 31, 2018

Date

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

Kyle Hansen, CEM

Hyled. Hansen

Field Operations Manager/Geologist Tetra Tech, Inc.

Nevada CEM Certificate Number: 2167

Nevada CEM Expiration Date: September 18, 2020

## **Tables**

Table 1. Monthly AP-5 Wash Water Decant Records

D. I.	T-201	T-202	T-203	Daily Total
Date	(Gallons)	(Gallons)	(Gallons)	(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

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
<b>Cumulative Total</b>	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) <sup>1</sup>
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
<b>Cumulative Total</b>	308,145	388,707	305,180	1,002,032

- 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 P	erchlorate Mass <sup>1</sup>	168,055	247,579	185,745		601,380
	July 2017 <sup>2</sup>	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
ved	October 2017	-	59,663	-	59,663	493,878
4pprox.Mass Removed	November 2017	10,605	32,571	2,571 40,418		410,284
ss Re	December 2017	41,090	16,693	28,582	86,365	323,919
Маз	January 2018	36,195	25,360	19,639	81,195	242,724
.ox	February 2018	26,727	13,925	29,020	69,672	173,051
Аррі	March 2018	12,248	12,168	-	24,415	148,636
	April 2018	6,083	-	4,441	10,524	138,112
	May 2018 <sup>3</sup>	INDIVIDUAL PI	ROCESS TANK MA	ASS CALCULATIO	NS WERE SUSPEN	DED UNTIL POND
	June 2018		SOLID	S TRANSFER CON	MPLETED.	
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 Perchlorate Mass In Process Tanks (lbs)
Initial Perchlorate Mass <sup>4</sup>	370,459	272,873	296,418	939,750
July 2018⁵	370,459	272,873	296,418	939,750

- 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) <sup>3</sup>	Total Monthly Mass Removed (lbs)	Total Perchlorate Mass In Process Tanks (lbs)
Initial P	erchlorate Mass <sup>1</sup>			601,380
	July 2017 <sup>2</sup>		13,520	587,860
	August 2017 <sup>2</sup>		6,000	581,860
	September 2017		10,706	571,154
ved	October 2017		49,990	521,163
Approx.Mass Removed	November 2017		74,231	446,933
s Re	December 2017		73,066	373,867
Mas	January 2018		69,363	304,504
ox.	February 2018		73,247	231,257
Аррі	March 2018		25,321	205,935
	April 2018		7,030	198,905
	May 2018 <sup>4 5</sup>	151,078	11,126	338,857
	June 2018⁵	227,250	9,337	556,770
	July 2018⁵	341,180	9,343	888,608
Perchlo	rate Mass After Por	nd Solids Removal <sup>6</sup>		939,750
Ending	Perchlorate Mass			939,750

- 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

Initial A	ummonia Mass <sup>1</sup>	Mass in T-201 (lbs) 18,217	Mass in T-202 (lbs) 22,343	Mass in T-203 (lbs) 20,277	Total Monthly Mass Removed (lbs)	Total Ammonia Mass In Process Tanks (lbs) 60,837			
	November 2017	1,323	3,979	4,490	9,792	51,045			
	December 2017	3,974	1,778	2,659	8,411	42,634			
pen	January 2018	3,353	3,009	2,163	8,526	34,108			
Approx. Wass Removed	February 2018	2,945	1,509	3,564	8,017	26,091			
Approx. ss Remo	March 2018	1,445	1,441	-	2,886	23,206			
, Mas	April 2018	682	-	490	1,172	22,034			
	May 2018 <sup>2</sup>	INDIVIDUAL PR	OCESS TANK MA	SS CALCULATION	S WERE SUSPEND	DED UNTIL POND			
	June 2018		SOLIDS TRANSFER COMPLETED.						
Ending	Ammonia Mass					22,034			

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

				Total Monthly	<b>Total Ammonia</b>
	Mass in T-201	Mass in T-202	Mass in T-203	Mass Removed	Mass In Process
	(lbs)	(lbs)	(lbs)	(lbs)	Tanks (lbs)
Initial Ammonia Mass <sup>3</sup>	56,496	42,023	42,335		140,854
July 2018 <sup>4</sup>	56,496	42,023	42,335		140,854

- 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 400,000 350,000 Transfer of residual 300,000 solids to the Process Estimated Perchlorate Mass Remaining (lbs) Tanks completed between April 26 and 250,000 July 19, 2018. Tracking of mass for individual Process Tanks not conducted during this 200,000 time. 150,000 100,000 50,000 0 Aug-17 Sep-17 Apr-18 May-18 Jul-17 Jan-18 Oct-17 Nov-17 Dec-17 Feb-18 Mar-18 Jun-18 Jul-18 Aug-18 Date **─** T-201 **─** T-202 **─** T-203

Figure 2. Estimate of Total Perchlorate Mass Remaining in Process Tanks 1,000,000 Transfer of residual 900,000 solids to the Process Tanks completed between April 26 800,000 and July 19, 2018. Tracking of mass for individual Process 700,000 Estimated Perchlorate Mass Remaining (lbs) Tanks not conducted during this time. 600,000 500,000 400,000 300,000 200,000 100,000 0 Jul-17 Aug-17 Sep-17 Oct-17 Nov-17 Dec-17 Jan-18 Feb-18 Mar-18 Apr-18 May-18 Jun-18 Jul-18 Aug-18 Date — Tank Sample Method ---- Mass Flow Meter Batch Data Method

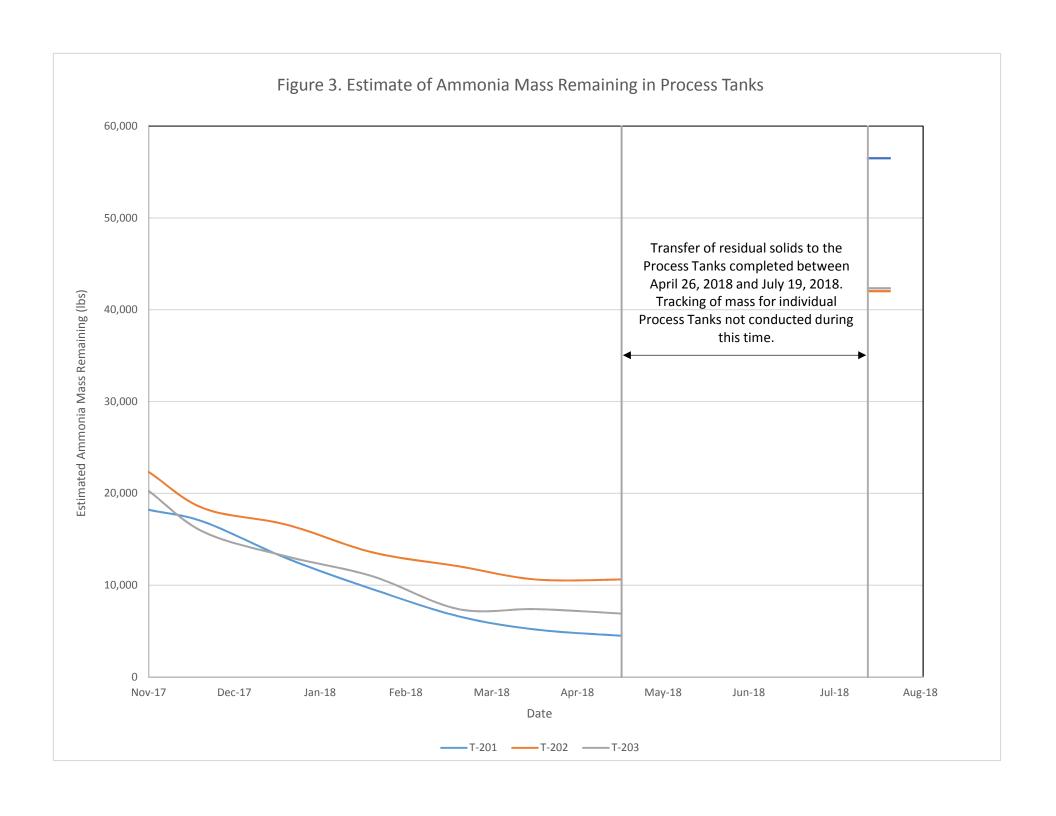


Figure 4. Projected AP-5 Solids Treatment Timeframe NO AMMONIA **NO AMMONIA** NO AMMONIA **NPDES LIMIT NPDES LIMIT NPDES LIMIT** 16,000 16% Residual solids removal Ammonia (dashed) 14,000 14% 12,000 12% Perchlorate Concentration (%) Ammonia Concentration (mg/L) 10,000 10% Perchlorate (solid) 8,000 8% 6,000 6% 4,000 4% 2,000 2% 1% perchlorate treatment target 0 0% Jul-17 Sep-17 Nov-17 Jan-18 Mar-18 May-18 Jul-18 Sep-18 Nov-18 Jan-19 Mar-19 May-19 Jul-19 Sep-19 Nov-19 Jan-20 Mar-20 Date Notes: Orange lines depict November 2017 Treatment Estimates Green lines depict July 2018 Treatment Estimates

# Attachment A Phase III O&M Routine Inspection Forms

Da	te: 7/1/18 Time:_	089	4	ei.	Inspecto	r Initials	KS	H	
PR	OCESS PIPING INSPECTION								
1.	Observe piping between Process Ta	nk secor	idary cor	ntainmer	nt and FB	R second	dary cont	ainment	
	Any leaks, punctures, damage, l	bulges vi	sible?			Υ	es*	No	3)
2.	Observe piping in Process Tank seco	ondary co	ontainme	ent area.				6	
	Any leaks, punctures, damage, I	bulges vi	sible?			Υ	es*	No	
3.	Record reading on Stabilized Lake N	1ead Wa	ter (SLM	W) flowi	neter ea	st of Pro	cess Tani	ζS.	
	Flowmeter: 2,095,660		gallon:	s)					
SEC	CONDARY CONTAINMENT INSPECTED	N							
4.	Perform 360 perimeter walk to obse	erve line	r system	for pote	ntial wea	r and te	ar.		
	Any leaks, punctures, or other d	lamage v	risible?			Y	es	No	)
5.	Is there storm water accumulation g	greater t	han 1 foc	ot?		Y	es	No	)
	If Yes, pump storm water into o	ne of the	Process	Tanks.					-)
6.	Is there storm water accumulation i	n equipr	nent pad	sumps?	•	Y	2S	No	
	If Yes, pump storm water into o	ne of the	process	tanks.					
PR	OCESS TANKS AND DAY TANK INSPE	CTION							
7.	Perform 360 degree walk around of	each tar	nk to insp	ect for o	damage c	ir leaks a	nd lock o	out of va	lves:
		T-2	201	T-2	202	T-2	203	T-2	:04
Vi	sible damage or leaks/stains?	Yes*	(No)	Yes*	(No)	Yes*	(No)	Yes*	No

	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

	T-201		T-202		T-203	
Visible oil leaks from gear box?	Yes*	No	Yes*	(No)	Yes*	644)
Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed?	Yes	No	Xes)	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 temperatureOil temperature	96	°F	9	ζ°F	9	> °F

Date: 7/1/18	Time:	Inspec	tor Initials:	KSA	
NOTES:					
	entation Manager immediat m and through photographs.		nditions are ol	oserved and thoroughly	
	washing requires occasional s ager immediately if this cond				iite
	mobilize and connect portal ours to prevent solids from o				Γ
COMMENTS:					
(Describe all "yes" an	swers, any observed damag	e, any areas that cou	ld not be insp	ected and the reason, e	?tc.)
5670 002 000	37 Sq				
- Myzers	of during por	ud closure	advision	16,	
W.					U SSS
Operator Signature: _	Tyl J. Han	den			
Title	Name	Phone #	Commo	inte	

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 Reference Customer # 1439334

Date: 1/2/18 Time: 1/20 Inspector Init	tials:	KGH
PROCESS PIPING INSPECTION		
1. Observe piping between Process Tank secondary containment and FBR sec	condary co	ontainment.
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 Ta	anks.
Flowmeter: 2,096,470 (gallons)		
SECONDARY CONTAINMENT INSPECTION		
4. Perform 360 perimeter walk to observe liner system for potential wear an	d tear.	R
Any leaks, punctures, or other damage visible?	Yes	(Na
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	<b>N</b>
If Yes, pump storm water into one of the process tanks.		
PROCESS TANKS AND DAY TANK INSPECTION		10

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

	T-201		T-2	-202 T-2		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*	Ves	No*	NA	NA

	T-201		T-202		T-203	
Visible oil leaks from gear box?	Yes*	No	Yes*	(Ng)	Yes*	No
Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed?	Yes	No	Ves	No		No
Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question.	es	No	es	No	(P)	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 104 Oil temperature		5 °F	10	)6 °F	10	4°F

Date: _	7/2/18	-	Time:	Inspector I	nitials:	KSH
NOTES:	×					
			lanager immediately if a ugh photographs.	any of these condition	ons are obser	ved and thoroughly
			quires occasional shutdo diately if this condition			cant valves. Notify Site not occurring.
			nd connect portable ge event solids from consol			
COMME	NTS:					
(Describ	e all "yes" answ	vers, any	observed damage, any	areas that could no	ot be inspect	ed and the reason, etc.)
	0.1					
- MI	ters off	du	ing sedimin	1 washing	proc-	144
· ·-			·	·		
-	r Signature:	Hy	les. Hans	<u> </u>		
Title	2/		Name	Phone #	Comments	

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 Reference Customer # 1439334

Date: 1/3/18 Time: 1506 Inspector Initials: 1/5/1/

PR	OCESS PIPING INSPECTION		
1.	Observe piping between Process Tank secondary containment and FE	R secondary cont	ainment.
	Any leaks, punctures, damage, bulges visible?	Yes*	(No
2.	Observe piping in Process Tank secondary containment area.		6
	Any leaks, punctures, damage, bulges visible?	Yes*	(Nd)
3.	Record reading on Stabilized Lake Mead Water (SLMW) flowmeter ea Flowmeter: 2099, 460 (gallons)	st of Process Tanl	<s.< td=""></s.<>
SEC	CONDARY CONTAINMENT INSPECTION		
4.	Perform 360 perimeter walk to observe liner system for potential wes	ar and tear.	0
	Any leaks, punctures, or other damage visible?	Yes	No
5.	Is there storm water accumulation greater than 1 foot?  If Yes, pump storm water into one of the Process Tanks.	Yes	(N)
6.	Is there storm water accumulation in equipment pad sumps?:  If Yes, pump storm water into one of the process tanks.	Yes	No

### 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		Т-2	T-202 T-203		203	T-204	
Visible damage or leaks/stains? (inspect all welds and nozzles/valves)	Yes*	No	Yes*	Nø	Yes*	No	Yes*	No
All decant valves and transfer valves locked out?**	Yes	No*	Yes	No*	(Pe)	No*	NA	NA
Are transfer pumps ready for service?	Yes	No*	Yes	No*	(Ver	No*	NA	NA

	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	es	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 105 Oil temperature	10	5°F	11	0 °F	(0)	3°F

Date:	3/18	Time:		Inspector Initials:	129/1
NOTES:					
		n Manager immed hrough photograp		hese conditions are ol	bserved and thoroughly
				mixers and opening of ved and active washir	f decant valves. Notify Site
				rs to power the mixers in the bottom of the I	in the event of a power Process Tanks.
COMMENTS	:				
(Describe all	"yes" answers,	any observed dan	nage, any areas	that could not be insp	pected and the reason, etc.)
-				W (0)	
- Mixery	off der	ous pour	l clegeon	addition	
	X13788813 F2				
Operator Sign	nature: <u></u>	le S Hans	w	_	

### **EMERGENCY CONTACTS:**

Title	Name	Phone #	Comments
Site Implementation Manager	Brad Maynard	(907) 723-2646	= = 11
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 Reference Customer # 1439334

Date: 7/4/18 Time: 0730	ı	nspecto	r Initials:		KGI	1
PROCESS PIPING INSPECTION						
1. Observe piping between Process Tank secondary cont	tainmen	t and FB	R second	dary cont	ainment	•
Any leaks, punctures, damage, bulges visible?			Y	es*	(No	)
2. Observe piping in Process Tank secondary containmer	nt area.				1	7
Any leaks, punctures, damage, bulges visible?			Y	es*	(No	1
•	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	or pote	ntial wea	r and tea	ar.		9
Any leaks, punctures, or other damage visible?			Ye	<b>es</b>	(No	y)
5. Is there storm water accumulation greater than 1 foot			Ye	<b>2</b> S	(No	
If Yes, pump storm water into one of the Process 1	Tanks.					
6. Is there storm water accumulation in equipment pad s	•	;	Ye	es	Mo	2
If Yes, pump storm water into one of the process t	tanks.					
PROCESS TANKS AND DAY TANK INSPECTION						
7. Perform 360 degree walk around of each tank to inspe	ect for d	lamage c	r leaks a	nd lock o	out of va	lves:
T-201	T-2	02	T-2	.03	T-2	04
Visible damage or leaks/stains? (inspect all welds and nozzles/valves)  Yes*	Yes*	No	Yes*	No	Yes*	N
All decant valves and transfer valves locked out?**	Yes	No*	Yes	No*	NA	NA
Are transfer pumps ready for service?	Yes	No*	Yes	No*	NA	NA
8. Visual inspection from top of each Process Tank:						
Γ	T-2	201	T-2	202	T-2	203
Visible oil leaks from gear box?	Yes*	(No)	Yes*	(No)	Yes*	(No)

	_				
Yes*	(No)	Yes*	(No	Yes*	(No)
Yes	No	Yes	No	es	No
res	No	es	No	(es	No
Yes	No*	Yes	No*	Yes	No
Yes	No*	Yes	No*	Yes	No*
8	U °F	85	5 °F	87	°F
	yes Yes	Yes No*	Yes No* Yes  Yes No* Yes  Yes No* Yes	Yes No Yes No Yes No Yes No* Yes No* Yes No* Yes No*	Yes No* Yes No* Yes  Yes No* Yes No* Yes  Yes No* Yes No* Yes

Date: 7/4/18	Time:	Inspector Initials:	149 if
NOTES:			
* - Notify Site Implementation document on this form and the		of these conditions are ol	oserved and thoroughly
** - Active sediment washing Implementation Manager imp			
Initiate procedures to mobiliz loss greater than six hours to			
COMMENTS:			
(Describe all "yes" answers, o	any observed damage, any ai	eas that could not be insp	ected and the reason, etc.)
			NS
500 300			
Mixery off deriv	es found clarene a	activities	
4			
Operator Signature:	le S. Hausen		-, -, -, -, -, -, -, -, -, -, -, -, -, -

### **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 Reference Customer # 1439334

Da	te: 1/5/18 Time: 1430 In:	spector Initials:	KSH
PR	OCESS PIPING INSPECTION		
1.	Observe piping between Process Tank secondary containment	and FBR secondary cor	ntainment.
	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) flowmer	eter east of Process Tar	nks.
	Flowmeter: $2,100,950$ (gallons)		
SEC	CONDARY CONTAINMENT INSPECTION		
4.	Perform 360 perimeter walk to observe liner system for potent	ial 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*	Ves	No*	(Yes	No*	NA	NA
Are transfer pumps ready for service?	Ves	No*	Yes	No*	Yes	No*	NA	NA

	T-201		T-202		T-203	
Visible oil leaks from gear box?	Yes*	No	Yes*	Nø	Yes*	No
Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed?		No	Ves	No	Yes	No
Mixer off as part of sediment washing process?  If Yes, draw an "X" through answers to next question.	Ves	No	Yes	No	yes)	No
Mixer running and turbulence/vortex observed?**		NO	Yes	No*	Yes	Not
Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan?		No*	Yes	No*	Yes	No*
Ambient air temperature 101 Oil temperature	0	7 °F	11	() °F	10	g °F

Date: 7/5/1	<u>%</u> Ti	me: <u> </u>		Inspector Initial	s:	KGA
NOTES:						
* - Notify Site Imple document on this fo			ly if any of th	ese conditions a	re observed a	and thoroughly
		-	-	•		•
document on this form and through photographs.  ** - Active sediment washing requires occasional shutdown of mixers and opening of decant valves. Notify Si 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, e  — Mixey Af as a part of pand closure activities.						
(Describe all "yes" o	inswers, any o	bserved damage,	, any areas ti	hat could not be	inspected ar	nd the reason, etc.)
- Mixery	off as	a part of	pand	closive	activit	الم
K	w.	[				
Operator Signature:	Fyle	S. Have				

### **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 Reference Customer # 1439334

Da	te: 7/0/19 Time: 1500 Inspector Init	tials:	KGH
PR	OCESS PIPING INSPECTION		
1.	Observe piping between Process Tank secondary containment and FBR se	condary contai	nment.
	Any leaks, punctures, damage, bulges visible?	Yes*	No
2.	Observe piping in Process Tank secondary containment area.		0
	Any leaks, punctures, damage, bulges visible?	Yes*	No
3.	Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Flowmeter: 3105,410 (gallons)	Process Tanks.	
SEC	CONDARY CONTAINMENT INSPECTION		
4.	Perform 360 perimeter walk to observe liner system for potential wear an	d tear.	00
	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?:  If Yes, pump storm water into one of the process tanks.	Yes	(No

### 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

	T-2	T-201		T-202		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	es	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 112 Oil temperature	- 1/	°F	) (	7 °F	11	2 °F

Date:_	7/6/18	Time:	<del></del>	Inspector Initials	_ KG	H
NOTES:	:					
		itation Manager immediate and through photographs.	ely if any of th	ese conditions are	observed a	nd thoroughly
		shing requires occasional si er immediately if this condi				
		obilize and connect portab irs to prevent solids from co				
COMM	ENTS:					
(Descril	be all "yes" answ	ers, any observed damage	e, any areas t	hat could not be i	nspected and	d the reason, etc.)
					28.202	
- M	ixws off	doring pond	closing	activiti	u,	
Operato	or Signature:	Kyli S. Han	nh			

### **EMERGENCY CONTACTS:**

Title	Name	Phone #	Comments
Site Implementation Manager	Brad Maynard	(907) 723-2646	H = F
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	= -400 g ()
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 Reference Customer # 1439334

<ol> <li>Observe piping between Process Tank secondary containment and FBR secondary containment.         Any leaks, punctures, damage, bulges visible?         Yes*         No         Observe piping in Process Tank secondary containment area.         Any leaks, punctures, damage, bulges visible?         Yes*         No         Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.         Flowmeter:</li></ol>	7/7/18 Time: 1625 Inspector Initials: KSH	
Any leaks, punctures, damage, bulges visible?  2. Observe piping in Process Tank secondary containment area.  Any leaks, punctures, damage, bulges visible?  3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.  Flowmeter: 7105, 4(0) (gallons)  SECONDARY CONTAINMENT INSPECTION	SS PIPING INSPECTION	
<ol> <li>Observe piping in Process Tank secondary containment area.         Any leaks, punctures, damage, bulges visible?         Yes*         No         Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.         Flowmeter:</li></ol>	serve piping between Process Tank secondary containment and FBR secondary containment.	
Any leaks, punctures, damage, bulges visible?  Yes*  Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.  Flowmeter: 7105, 4(0) (gallons)  SECONDARY CONTAINMENT INSPECTION	Any leaks, punctures, damage, bulges visible? Yes* No	)
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.  Flowmeter: 2,105,4(0) (gallons)  SECONDARY CONTAINMENT INSPECTION	serve piping in Process Tank secondary containment area.	
Flowmeter: 2,105,4(0 (gallons)  SECONDARY CONTAINMENT INSPECTION	Any leaks, punctures, damage, bulges visible? Yes* No.	)
SECONDARY CONTAINMENT INSPECTION	ord reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.	
	Flowmeter: 2,105,4(0 (gallons)	
	DARY CONTAINMENT INSPECTION	
4. Perform 360 perimeter walk to observe liner system for potential wear and tear.	form 360 perimeter walk to observe liner system for potential wear and tear.	
Any leaks, punctures, or other damage visible?  Yes  No	Any leaks, punctures, or other damage visible?  Yes  No	)
5. Is there storm water accumulation greater than 1 foot? Yes No	nere storm water accumulation greater than 1 foot?  Yes	)
If Yes, pump storm water into one of the Process Tanks.	If Yes, pump storm water into one of the Process Tanks.	
6. Is there storm water accumulation in equipment pad sumps?:  Yes	nere storm water accumulation in equipment pad sumps?:  Yes	)
If Yes, pump storm water into one of the process tanks.	If Yes, pump storm water into one of the process tanks.	
PROCESS TANKS AND DAY TANK INSPECTION	S 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:		ves:

	T-201		T-2	202	T-203		T-204	
Visible damage or leaks/stains? (inspect all welds and nozzles/valves)	Yes*	Nô	Yes*	Ng	Yes*	(No)	Yes*	(No
All decant valves and transfer valves locked out?**	(Yes)	No*	es	No*	(es)	No*	NA	NA
Are transfer pumps ready for service?	yes	No*	Kes	No*	Yes	No*	NA	NA

	T-2	201	T-2	202	T-2	203
Visible oil leaks from gear box?	Yes*	No)	Yes*	No	Yes*	(Na)
Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed?	es	No	Res	No	(es	No
Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question.	Yes	No	Ves	No	(es)	No
Mixer running and turbulence/vortex observed?**	Yes	No*	Yes	No*	Yes	(10±)
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 08 Oil temperature	10	8 °F	114	°F	10	8°F

Date:	7/7/18	Tim	e:	Ir	spector Initials:	KGI	
NOTE	S:						
	otify Site Implen ment on this for		-	ely if any of thes	e conditions are ol	bserved and the	oroughly
					ers and opening of I and active washir		
	•		-	_	power the mixers the bottom of the I		
COM	MENTS:						
(Desc	ribe all "yes" ai	nswers, any ob	served damag	e, any areas tha	t could not be insp	ected and the	reason, etc.)
-	Mixery	off as	part of	pond clo	sive advist	ie,	
						300.82	
Opera	ator Signature:	Lles	1. Forus	<u> </u>		•	

### **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 Reference Customer # 1439334

Date: 1/8/18 Time: 1600 Inspector In	nitials:	-4 H
PROCESS PIPING INSPECTION		
1. Observe piping between Process Tank secondary containment and FBR s	secondary conf	tainment
Any leaks, punctures, damage, bulges visible?	Yes*	No
2. Observe piping in Process Tank secondary containment area.		A
Any leaks, punctures, damage, bulges visible?	Yes*	No
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Flowmeter: 2,105, 600 (gallons)	of Process Tan	ks.
SECONDARY CONTAINMENT INSPECTION		
4. Perform 360 perimeter walk to observe liner system for potential wear a	and tear.	0
Any leaks, punctures, or other damage visible?	Yes	(No)
5. Is there storm water accumulation greater than 1 foot?	Yes	(Nd
If Yes, pump storm water into one of the Process Tanks.		7
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-2	202	T-203		T-2	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*	Ves	No*	es	No*	NA	NA

	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	res	No	res	No
Mixer off as part of sediment washing process?  If Yes, draw an "X" through answers to next question.	Yes	No	Yes	No	es	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 104 Oil temperature	1	04 °F	$\mathcal{L}$	() °F	10	3°F

Date: 7/8/18	Time:		Inspector Initials:	KHH
NOTES:				
* - Notify Site Implementation document on this form and	_		nese conditions are ol	oserved and thoroughly
** - Active sediment washin Implementation Manager in				
Initiate procedures to mobil loss greater than six hours to	•	_	•	· ·
COMMENTS: (Describe all "yes" answers,	any observed dama	age, any areas t	hat could not be insp	ected and the reason, etc.)
Mixers off	due to	Pond clos	que adivida	eş
Operator Signature:	Gled Ha	use_		S.v.
	1		1.	

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 Reference Customer # 1439334			

Date: 7/4//8 Time: 14/0	Inspector Initials:/_	5 M
PROCESS PIPING INSPECTION		
1. Observe piping between Process Tank secondary containment	ent and FBR secondary cor	ntainment.
Any leaks, punctures, damage, bulges visible?	Yes*	No
2. Observe piping in Process Tank secondary containment are	a.	
Any leaks, punctures, damage, bulges visible?	Yes*	No
3. Record reading on Stabilized Lake Mead Water (SLMW) flow Flowmeter: 2105, 800 (gallons)	wmeter east of Process Tar	nks.
SECONDARY CONTAINMENT INSPECTION		
4. Perform 360 perimeter walk to observe liner system for pot	tential 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.	•	$\wedge$
<ol><li>Is there storm water accumulation in equipment pad sumps</li><li>If Yes, pump storm water into one of the process tanks.</li></ol>		(No)
PROCESS TANKS AND DAY TANK INSPECTION		
7. Perform 360 degree walk around of each tank to inspect for	r 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*	es	No*	NA	NA
Are transfer pumps ready for service?	Yes	No*	Yes	No*	Yes	No*	NA	NA

	T-201		T-202		T-203	
Visible oil leaks from gear box?		No	Yes*	(No	Yes*	NO
Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed?		No	Yes	No	res	No
Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question.		No	yes	No	Yes	20
Mixer running and turbulence/vortex observed?**		(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 07 Oil temperature	10	ζ °F	[1]	°F	10	9 °F

Date: 7/9	// <u>//</u> Time:	Inspecto	or Initials:	60
NOTES:				
	plementation Manager immedis form and through photograp		itions are observe	ed and thoroughly
	nent washing requires occasion Manager immediately if this c			· · · · · · · · · · · · · · · · · · ·
	res to mobilize and connect po six hours to prevent solids fro			
COMMENTS:				
	s" answers, any observed dan	nage, any areas that could	l not be inspected	d and the reason, etc.)
				ži.
		**		
- Mixery	aff during pand	closure advis	fores	
Operator Signati	ure: <u> </u>	faven		

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 Reference Customer # 1439334

Date: 7/10/18 Time: 1425	Inspecto	r Initials:	:	KGH	<u>k        </u>			
PROCESS PIPING INSPECTION								
Observe piping between Process Tank secondary containing  Any leaks, punctures, damage, bulges visible?	nent and FE		dary cont es*	ainment	:.			
Any leaks, punctures, damage, bulges visible?		ı	62	(M	ク			
2. Observe piping in Process Tank secondary containment are	ea.	.,		7.	9			
Any leaks, punctures, damage, bulges visible?			es*	(NO	9			
Flowmeter: $2,106,200$ (gallons)								
SECONDARY CONTAINMENT INSPECTION								
4. Perform 360 perimeter walk to observe liner system for po	tential we	ar and te	ar.	~	<b>Q</b>			
Any leaks, punctures, or other damage visible?		Y	es	(No				
5. Is there storm water accumulation greater than 1 foot? Yes No. 911								
If Yes, pump storm water into one of the Process Tank	5.							
6. Is there storm water accumulation in equipment pad sump		(Ye	es) Du	min No				
If Yes, pump storm water into one of the process tanks	i.		7	jud				
PROCESS TANKS AND DAY TANK INSPECTION								
7. Perform 360 degree walk around of each tank to inspect for	r damage	or leaks a	ind lock (	out of va	lves:			
T-201	T-202	T-2	203	T-2	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?**	No*	les	No*	NA	NA			
Are transfer pumps ready for service?	No*	(Yes)	No*	NA	NA			
8. Visual inspection from top of each Process Tank:								
	T-201	T-2	202	T-2	203			
Visible oil leaks from gear box? Yes	* No	Yes*	(No)	Yes*	(No)			

Has routine wash down of precipitate/crystals on tank No No No Xes sides and mixer impeller been completed? Mixer off as part of sediment washing process? (es) Xes, No No No If Yes, draw an "X" through answers to next question. No\* Mixer running and turbulence/vortex observed?\*\* Yes No\* Yes Yes Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Yes No\* Yes No\* Yes No\* Management Plan? ٥F °F °F Ambient air temperature Oil temperature

Date:	7/10/18	Time:	Inspector Initials:	FSH
NOTE:	S:			
		entation Manager immedia n and through photographs	tely if any of these conditions are ob	served and thoroughly
			shutdown of mixers and opening of dition is observed and active washing	
	-	•	ble generators to power the mixers is consolidating in the bottom of the P	
	nents: ibe all "yes" ans	wers, any observed damag	ge, any areas that could not be inspe	ected and the reason, etc.)
_ /	Uxevs	off during pour	l closere Advistrear	
-		NI Ins.		
Opera	tor Signature: _	eges Han	su	

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 Reference Customer # 1439334

Date: 7/15/18 Time: 1425 Insp	pector Initials:	KSH
PROCESS PIPING INSPECTION		
1. Observe piping between Process Tank secondary containment a	and FBR secondary cor	ntainment
Any leaks, punctures, damage, bulges visible?	Yes*	No
2. Observe piping in Process Tank secondary containment area.		20
Any leaks, punctures, damage, bulges visible?	Yes*	Nd
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmet	ter east of Process Tar	ıks.
Flowmeter: 2110, 810 (gallons)		
SECONDARY CONTAINMENT INSPECTION		
4. Perform 360 perimeter walk to observe liner system for potential	al 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.		3
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 dam	nage 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*	ves	No*	Yes	No*	NA	NA
Are transfer pumps ready for service?	Yes	No*	Yes	No*	Ves	No*	NA	NA

		T-201		T-202		.03
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?		No	Yes	No	es	No
Mixer off as part of sediment washing process?  If Yes, draw an "X" through answers to next question.		No	Yes	(NO)	Yes	NO
Mixer running and turbulence/vortex observed?**		No*	Yes	No*	Yes	No*
Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan?		No*	Yes	No*	Yes	No*
Ambient air temperature 79 Oil temperature	10	5 °F	( -	3 0 °F	132	°F

Date:	7/11/18	Time:	Inspector Initials:	199H
NOTES				
	ify Site Implementation ent on this form and th		ately if any of these conditions are obs.	served and thoroughly
			ll shutdown of mixers and opening of ndition is observed and active washin	
	*	*	able generators to power the mixers no consolidating in the bottom of the F	•
COMM	IENTS:			
(Descri	be all "yes" answers, o	any observed damo	age, any areas that could not be insp	ected and the reason, etc.)
- Mi	news run for	- 6 hours	to reductibule sedien	vent.
	or Signature:	S. Ha	udu	

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 Reference Customer # 1439334

VSH

Date: 7/12/18 Time: 1600 Inspector Initials:	KSH
PROCESS PIPING INSPECTION	
1. Observe piping between Process Tank secondary containment and FBR second	
Any leaks, punctures, damage, bulges visible?	es* (No)
2. Observe piping in Process Tank secondary containment area.	
Any leaks, punctures, damage, bulges visible?	es* (No
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Pro-	cess Tanks.
Flowmeter: $\frac{2/f(1035)}{}$ (gallons)	
SECONDARY CONTAINMENT INSPECTION	
4. Perform 360 perimeter walk to observe liner system for potential wear and tea	ar.
Any leaks, punctures, or other damage visible?	es No
5. Is there storm water accumulation greater than 1 foot?	es No
If Yes, pump storm water into one of the Process Tanks.	
6. Is there storm water accumulation in equipment pad sumps?:	es No
If Yes, pump storm water into one of the process tanks.	(T)

#### 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?	(es)	No*	Yes	No*	(Yes)	No*	NA	NA

	T-2	201	T-2	202	T-2	203
Visible oil leaks from gear box?	Yes*	(No	Yes*	No	Yes*	(M)
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	(Pos	No	Yes	No
Mixer running and turbulence/vortex observed?**	Yes	No*	Yes	No*	Yes	Nos
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 92 Oil temperature	96	°F	94	°F	9-	°F

Date: _	7/12/18	Time: II	_ Inspector Ir	nitials:	KSH
NOTES:					
	fy Site Implementation Ment on this form and thro		any of these condition	ns are obse	rved and thoroughly
	ive sediment washing red entation Manager imme				
	procedures to mobilize a ater than six hours to pre	-			•
сомм	ENTS:				
(Descril	be all "yes" answers, any	observed damage, any	areas that could no	ot be inspec	ted and the reason, etc.)
		<del></del>			*
- Mi	xus of duri	us poul do	sove adv	dra	
		= .5500			
				400	
	or Signature:	le S. Han	lun	A S	is a second
Title	iner semmene.	Name	Ohana #	Camment	
Title		IAGUIG	Phone #	Comment	5

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	Heath Barnard	(702) 529 2202	Reference Quote # 142770051

(702) 538 2292

Heath Barnard

(United Rentals)

Reference Customer # 1439334

Da	te: 1/13/18 Time: 1/20	Inspector Initials:	KGH
PR	OCESS PIPING INSPECTION		
1.	Observe piping between Process Tank secondary containment	nt and FBR secondary c	ontainment
	Any leaks, punctures, damage, bulges visible?	Yes*	(No)
2.	Observe piping in Process Tank secondary containment area.		30
	Any leaks, punctures, damage, bulges visible?	Yes*	No
3.	Record reading on Stabilized Lake Mead Water (SLMW) flowr Flowmeter: 2, 111, 320 (gallons)	meter east of Process T	anks.
SEC	CONDARY CONTAINMENT INSPECTION		
4.	Perform 360 perimeter walk to observe liner system for pote	ntial wear and tear.	0
	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.		B
6.	Is there storm water accumulation in equipment pad sumps?  If Yes, pump storm water into one of the process tanks.	: Yes	(No)

#### PROCESS TANKS AND DAY TANK INSPECTION

7/12/10

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*	Ves	No*	Yes	No*	NA	NA
Are transfer pumps ready for service?	Yes	No*	Yes	No*	Yes	No*	NA	NA

	T-2	T-201		T-202		203
Visible oil leaks from gear box?	Yes*	No	Yes*	No	Yes*	(Ng)
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	(es	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 94 Oil temperature	9	(e °F	9	7 °F	98	°F

## KOS PHASE III ORM ROLITINE INSPECTION FORM

	NOS PHASE III OCIVI N	NOUTINE INSPECTION FOR	, IAI
Date: 7/13/18 NOTES:	Time:	Inspector Initials:	Kstl
	ation Manager immediately	y if any of these conditions are ob	oserved and thoroughly
		utdown of mixers and opening of ion is observed and active washin	•
	•	e generators to power the mixers nsolidating in the bottom of the B	·
COMMENTS: (Describe all "yes" answe	ers, any observed damage,	any areas that could not be insp	ected and the reason, etc.)
- Mixers not	renning dur	ng fond closere	activities
	NI Just		
Operator Signature:	Kyle S. Han	Men	

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 Reference Customer # 1439334

Date: 7/14/18 Time: 0720 Inspector Initia	als:	125#
PROCESS PIPING INSPECTION		
1. Observe piping between Process Tank secondary containment and FBR secondary	ondary conta	inment.
Any leaks, punctures, damage, bulges visible?	Yes*	<i>(</i> 66)
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 P Flowmeter: 7111, 480 (gallons)	rocess Tanks	5.
SECONDARY CONTAINMENT INSPECTION		
4. Perform 360 perimeter walk to observe liner system for potential wear and	tear.	<b>6</b>
Any leaks, punctures, or other damage visible?	Yes	(Ng)
<ol> <li>Is there storm water accumulation greater than 1 foot?</li> <li>If Yes, pump storm water into one of the Process Tanks.</li> </ol>	Yes	6
6. Is there storm water accumulation in equipment pad sumps?:  If Yes, pump storm water into one of the process tanks.	Yes	No
PROCESS TABLES AND DAY TABLE INSPECTION		

#### 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*	<b>(10)</b>
All decant valves and transfer valves locked out?**	Ves	No*	es	No*	(res	No*	NA	NA
Are transfer pumps ready for service?	res	No*	Yes	No*	Xes	No*	NA	NA

	T-201		T-202		T-203	
Visible oil leaks from gear box?	Yes*	No)	Yes*	(No)	Yes*	Ne
Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed?	Yes	No	ves	No	es	No
Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question.	es	No 2	Yes	No	(es)	No
Mixer running and turbulence/vortex observed?**	Yes	No.	Yes	(No*)	Yes	Ne
Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan?	Yes	No*	Yes	No*	Yes	No*
Ambient air temperature88 Oil temperature	90	2 °F	9-	Z °F	87	³ °F

Date:	7/14/	( <u>R</u> Time	e:	Ins	pector Initials:	K919	
NOTE	S:						
		mentation Mana rm and through		if any of these	conditions are ob	served and t	horoughly
					rs and opening of and active washin		
					power the mixers e bottom of the F		
COMN	MENTS:						
(Desci	ribe all "yes" a	nswers, any obs	erved damage, a	iny areas that	could not be insp	ected and the	e reason, etc.)
<u>- 1</u>	Mixtures (	iff durin	ig poud (	closure	activities		
	_						
G .							
Opera	tor Signature:	Kyl.x	1. Hans				

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 Reference Customer # 1439334

	te: 7/15/18 Time: 0645 Inspector Initials: 14914
FN	OCESS FIFING 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*
3.	Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.
	Flowmeter: <u>7115,940</u> (gallons)
SEC	CONDARY CONTAINMENT INSPECTION
4.	Perform 360 perimeter walk to observe liner system for potential wear and tear.
	Any leaks, punctures, or other damage visible?
5.	Is there storm water accumulation greater than 1 foot?
	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.
PRO	OCESS TANKS AND DAY TANK INSPECTION Pumped into T-201 & T-202

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?**	Nes	No*	XES	No*	Yes	No*	NA	NA
Are transfer pumps ready for service?	Yes	No*	(Yes)	No*	Yes	No*	NA	NA

	T-2	201	T-202		T-2	203
Visible oil leaks from gear box?	Yes*	No	Yes*	No	Yes*	CNO
Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed?	Aes	No	(es)	No	6	No
Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question.	Yes	No	Nes	No	(es	No
Mixer running and turbulence/vortex observed?**	Yes	No*	Yes	(No)	Yes	(10*)
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 82 Oil temperature	8	7 °F	-	8 <i>0</i> °F	84	°F

Date: 7/15/18 Time: Inspector Initials: 45H
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.)
- Mixeus off during pond closure activities
Operator Signature: Wyld Hausin

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 Reference Customer # 1439334

Date: $\frac{7/(\omega/18)}{1925}$ 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*	(Nô)
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	s Tanks.
Flowmeter: $2,116,150$ (gallons)	
SECONDARY CONTAINMENT INSPECTION	
4. Perform 360 perimeter walk to observe liner system for potential wear and tear.	ລ
Any leaks, punctures, or other damage visible? Yes	CNO
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*	(Ve)	No*	Yes	No*	NA	NA

	T-2	201	T-2	202	T-2	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?		No	Yes	No	Yes	No
Mixer off as part of sediment washing process?  If Yes, draw an "X" through answers to next question.		No	res	No		No
Mixer running and turbulence/vortex observed?**	Yes	(Ng)	Yes	Ng#	Yes	(No*)
Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan?		No*	Yes	No*	Yes	No*
Ambient air temperature 08 Oil temperature		9 °F	(1	(p °F	10	8°F

Date:	7/16/18 T	ime:	Inspector Initials:	KGA
NOTES	S:			
	tify Site Implementation Ma nent on this form and throu		of these conditions are obs	erved and thoroughly
	ctive sediment washing req mentation Manager immed			
	e procedures to mobilize an reater than six hours to prev		-	·
	MENTS: ribe all "yes" answers, any (	observed damage, any ar	eas that could not be inspe	cted and the reason, etc.)
- M	lixers of do	ving ponde	losure activities	
9				
	tor Signature: ///	L. Houen		

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 Reference Customer # 1439334

Da	te: 7/17/18 Time: 19/5 Inspector Ini	tials:	KGH
PR	OCESS PIPING INSPECTION		
1	Observe vising between Breezes Tank secondary restainment and FRR as		_tai
1.	Observe piping between Process Tank secondary containment and FBR se	•	ntainment
	Any leaks, punctures, damage, bulges visible?	Yes*	(No)
2.	Observe piping in Process Tank secondary containment area.		0
	Any leaks, punctures, damage, bulges visible?	Yes*	(No)
3.	Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east o	Process Ta	nks.
	Flowmeter: 2, 116, 565 (gallons)		
SEC	CONDARY CONTAINMENT INSPECTION		
4.	Perform 360 perimeter walk to observe liner system for potential wear ar	ıd 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)
٠.	If Yes, pump storm water into one of the process tanks.		
	ir res, paint storm water into one of the process talks.		

## 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-2	201	T-2	202	T-2	203	T-2	204
Visible damage or leaks/stains? (inspect all welds and nozzles/valves)	Yes*	No	Yes*	N	Yes*	No	Yes*	No
All decant valves and transfer valves locked out?**	es	No*	Yes	No*	Yes	No*	NA	NA
Are transfer pumps ready for service?	Yes	No*	Yes	No*	ves	No*	NA	NA

	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?	es	No	Yes	No	les	No
Mixer off as part of sediment washing process?  If Yes, draw an "X" through answers to next question.		No	Yes	No	res	No
Mixer running and turbulence/vortex observed?**		(No*)	Yes	No*	Yes	(No*)
Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan?		No*	Yes	No*	Yes	No*
Ambient air temperature 109 Oil temperature	10	9°F		2 °F	110	°F

ROS PHASE III O&IVI ROUTINE INSPECTION FORIVI
Date: 7/17/18 Time: Inspector Initials: KG()
* - 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 mplementation Manager immediately if this condition is observed and active washing is not occurring.
nitiate procedures to mobilize and connect portable generators to power the mixers in the event of a power oss 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.)
Mixeus of F during pand Closure Adivities
Operator Signature: All American Signature: MERGENCY 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 Reference Customer # 1439334

	te: 7/18/19 Time: 1410 Inspector Ini	itials:	K411			
1.	Observe piping between Process Tank secondary containment and FBR se	econdary c	ontainment.			
	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.	3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Process Tanks.  Flowmeter: 410 (gallons)					
SEC	CONDARY CONTAINMENT INSPECTION					
4.	Perform 360 perimeter walk to observe liner system for potential wear at	nd 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.		3			
6.	Is there storm water accumulation in equipment pad sumps?:  If Yes, pump storm water into one of the process tanks.	Yes	(No)			

#### 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-2	201	T-2	202	T-2	203	T-2	204
Visible damage or leaks/stains? (inspect all welds and nozzles/valves)	Yes*	No	Yes*	No	Yes*	No	Yes*	(6)
All decant valves and transfer valves locked out?**	Yes	No*	Yes	No*	Yes	No*	NA	NA
Are transfer pumps ready for service?	(es)	No*	Yes	No*	Yes	No*	NA	NA

	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?		No	Yes	No	ves	No
Mixer off as part of sediment washing process?  If Yes, draw an "X" through answers to next question.		No	res	No	Yes	No
Mixer running and turbulence/vortex observed?**		No*	Yes	No*	Yes	₩o*
Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan?		No*	Yes	No*	Yes	No*
Ambient air temperatureOil temperature	106	ø °F	10	) ~ F	10	5°F

Date:	Inspector Initials: KGH
NOTES:	
* - Notify Site Implementation Manager immediately if any of the document on this form and through photographs.	hese conditions are observed and thoroughly
** - Active sediment washing requires occasional shutdown of Implementation Manager immediately if this condition is observed.	
Initiate procedures to mobilize and connect portable generators loss greater than six hours to prevent solids from consolidating	_ · ·
COMMENTS:	
(Describe all "yes" answers, any observed damage, any areas t	
- Mixwy off as a pert of t	he pond closure
Operator Signature: Jyl J Hans	<u>L</u>

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 Reference Customer # 1439334

Date: 7/19/18 Time:	24224	520		Inspecto	r Initials		-911	
PROCESS PIPING INSPECTION								
1. Observe piping between Process Ta	ınk secoi	ndary co	ntainmei	nt and FB	R second	dary cont	ainmen	b <sub>1</sub>
Any leaks, punctures, damage,	bulges vi	isible?			Y	es*	(N	0)
2. Observe piping in Process Tank seco			ent area.				1	
Any leaks, punctures, damage, l	_					es*	(N	٥
3. Record reading on Stabilized Lake N				neter ea	st of Pro	cess Tan	ks.	
Flowmeter: 2, 120, 7	80	_ (gallon	s)					
SECONDARY CONTAINMENT INSPECTIO	ON							
4. Perform 360 perimeter walk to obse	erve line	r system	for pote	ntial wea	ar and te	ar.	0	•
Any leaks, punctures, or other o	lamage v	visible?			Y	es	N	
5. Is there storm water accumulation greater than 1 foot? Yes No								9
If Yes, pump storm water into o	ne of th	e Proces	s Tanks.					7
6. Is there storm water accumulation i	in equipi	ment pac	l sumps?	:	Y	25	(No	
If Yes, pump storm water into o	ne of the	e process	s tanks.					
PROCESS TANKS AND DAY TANK INSPE	CTION							
7. Perform 360 degree walk around of	each ta	nk to ins	ect for o	damage o	or leaks a	ind lock o	out of va	lves:
	T-2	201	T-2	202	T-2	203	T-2	204 -
Visible damage or leaks/stains? (inspect all welds and nozzles/valves)	Yes*	No	Yes*	No	Yes*	Ng	Yes*	No
All decant valves and transfer valves locked out?**	Yes	No*	Yes	No*	Ves	No*	NA	NA
Are transfer pumps ready for service?	<b>Te</b> s	No*	Yes	No*	Yes	No*	NA	NA
8. Visual inspection from top of each P	rocess T	ank:						
s. visual inspection from top of each r	.00033 1	w/111.	T-3	201	T-2	202	T-2	203
Visible oil leaks from gear box?				Na	Yes*	Ng	Yes*	Nø

Management Plan?

Ambient air temperature

Has routine wash down of precipitate/crystals on tank

If Yes, draw an "X" through answers to next question.

Mixer running and turbulence/vortex observed?\*\*

appropriately, in accordance with the Site Waste

sides and mixer impeller been completed?

Are used oil containers labelled and stored

Mixer off as part of sediment washing process?

Oil temperature

Yes

Yes

Yes

No

No

No\*

No\*

No

No.

No\*

No\*

/es

Yes

Yes

No

No

No\*

No\*

°F

Yes

Yes

ROS PHASE III ORIVI ROUTINE INSPECTION FORIVI
Date: 7/19/18 Time: Inspector Initials: KSH
* - 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 = 26.87.6 T-202-26.531 T-203 26.085
Operator Signature: Yell Alausu  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 Reference Customer # 1439334

Date: $\frac{1/20/18}{}$ Time:	1135	Inspecto	r Initials:	KSH				
PROCESS PIPING INSPECTION								
1. Observe piping between Process Ta	nk secondary cor	ntainment and FE	R secondary cor	ntainment.				
Any leaks, punctures, damage, l	bulges visible?		Yes*	(No)				
2. Observe piping in Process Tank secondary containment area.								
Any leaks, punctures, damage, l	Any leaks, punctures, damage, bulges visible? Yes*							
3. Record reading on Stabilized Lake N	lead Water (SLM	W) flowmeter ea	st of Process Ta	nks.				
Flowmeter: 2, 120, 780	) (gallon:	s)						
SECONDARY CONTAINMENT INSPECTIO	DΝ							
4. Perform 360 perimeter walk to obse	erve liner system	for potential wea	ar and tear.					
Any leaks, punctures, or other d	lamage visible?		Yes	(No)				
5. Is there storm water accumulation g	greater than 1 foo	ot?	Yes	(No)				
If Yes, pump storm water into o	ne of the Process	Tanks.						
6. Is there storm water accumulation i	n equipment pad	sumps?:	Yes	(No)				
If Yes, pump storm water into o	ne 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?	Vac* No	Var* (15)	Voct No	Vac* Nd				

	T-2	201	T-2	202	T-2	203	T-2	204
Visible damage or leaks/stains? (inspect all welds and nozzles/valves)	Yes*	No	Yes*	No	Yes*	No	Yes*	Na
All decant valves and transfer valves locked out?**	Yes	No*	ves	No*	es	) <sub>No*</sub>	NA	NA
Are transfer pumps ready for service?	es	No*	es	No*	Nes	No*	NA	NA

U. Visuar inspection were top or cook, restate to	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?		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	(es)	No >
Mixer running and turbulence/vortex observed?**	Yes	No*	Yes	No*)	Yes	Not
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 Oil temperature	9	8 °F	9	°F	96	°F

Date: $\frac{7/20/18}{}$ Time:	Insp	pector Initials:	KSH
NOTES:		9	
* - Notify Site Implementation Manage document on this form and through pl		conditions are observe	ed and thoroughly
** - Active sediment washing requires Implementation Manager immediately			
Initiate procedures to mobilize and cor loss greater than six hours to prevent s			•
COMMENTS:			
(Describe all "yes" answers, any obser	ved damage, any areas that (	could not be inspected	d and the reason, etc.)
	_		
- Mixery off to	minimize beartua	wear,	
		=	
ŭ.			
2/1	71		
Operator Signature:	Hansu		

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 Reference Customer # 1439334

Da	te: 7/21/14 Time:_	00	610		inspecto	r Initials	_/2	4H	_
PR	OCESS PIPING INSPECTION								
1.	1. Observe piping between Process Tank secondary containment and FBR secondary containment								
	Any leaks, punctures, damage, l	bulges vi	sible?			Υ	es*	(Ni	9
2.	Observe piping in Process Tank seco	ondary co	ontainme	ent area.					2
	Any leaks, punctures, damage, l	bulges vi	sible?			Υ	es*	(N	b
3.			•	•	neter ea	st of Pro	cess Tanl	ks.	
	Flowmeter: 2, 127, 3	330	(gallon	s)					
SEC	CONDARY CONTAINMENT INSPECTIO	ON							
4.	Perform 360 perimeter walk to obse	erve line	r system	for pote	ntial wea	ar and te	ar.	6	
	Any leaks, punctures, or other d	lamage v	isible?			Υ	es	No	2
5.	Is there storm water accumulation a	greater ti	han 1 foo	ot?		Y	es	No	)
	If Yes, pump storm water into o	ne of the	Process	Tanks.					1
6.	Is there storm water accumulation i	n equipn	nent pad	sumps?	•	Y	<b>es</b>	N	)
	If Yes, pump storm water into o	ne of the	process	tanks.					
PR	DCESS TANKS AND DAY TANK INSPE	CTION							
7.	Perform 360 degree walk around of	each tar	nk to insp	ect for o	lamage (	or leaks a	nd lock o	out of va	lves:
		T-2	201	T-2	202	T-2	203	T-2	204
Vi	sible damage or leaks/stains?	Yes*	No	Yes*	ALS.	Yes*	(No)	Yes*	No
(ir	spect all welds and nozzles/valves)	765	IVO	162	CND	162	(NO)	162	(10)
	I decant valves and transfer valves cked out?**	Yes	No*	Yes	No*	Ves s	No*	NA	NA
	e transfer pumps ready for rvice?	Yes	No*	yes	No*	Yes	No*	NA	NA

8.	Visual	inspection	from ton	of each	Process	Tank:

	T-2	201	T-202		T-203	
Visible oil leaks from gear box?	Yes*	No	Yes*	No	Yes*	CNR
Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed?	Yes	No	Yes	No	Hes	No
Mixer off as part of sediment washing process?  If Yes, draw an "X" through answers to next question.	Hes	No	Nes	No	Yes	No
Mixer running and turbulence/vortex observed?**		No*	Yes	<b>M</b> 2*	Yes	Nor
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 Oil temperature	9	) °F	В	γ °F	91	°F

Date: 7/21/18	Time:	Inspector Initials:	KGH
NOTES:			
* - Notify Site Implementation document on this form and the		any of these conditions are ob	served and thoroughly
		own of mixers and opening of is observed and active washin	
Initiate procedures to mobilize loss greater than six hours to p		enerators to power the mixers didating in the bottom of the P	·
COMMENTS:			
(Describe all "yes" answers, a	ny observed damage, an	y areas that could not be insp	ected and the reason, etc.)
- Mixeus off	to reduce u	veor	
Operator Signature:	Il J Hans		
EMERGENCY CONTACTS:	0		
FIAITUGEIACL COM LACT2:			

### Ef

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 Reference Customer # 1439334

Dat	e: <u>7/z2//8</u> Time:_	1850	Inspecto	r Initials:	KGH
	OCESS PIPING INSPECTION				
1.	Observe piping between Process Ta	nk secondary co	ntainment and FB	R secondary co	ontainment
	Any leaks, punctures, damage, t	oulges visible?		Yes*	No
2.	Observe piping in Process Tank seco	ndary containme	ent area.		
	Any leaks, punctures, damage, b	oulges visible?		Yes*	No
3.	Record reading on Stabilized Lake M	lead Water (SLM	W) flowmeter ea	st of Process T	anks.
	Flowmeter: 2, 127, 33	(gallon	s)		
SEC	ONDARY CONTAINMENT INSPECTIO	N			
4.	Perform 360 perimeter walk to obse	rve liner system	for potential wea	ar and tear.	
	Any leaks, punctures, or other d		•	Yes	No
5.	is there storm water accumulation g	reater than 1 fo	ot?	Yes	No
	If Yes, pump storm water into o	ne of the Proces	s Tanks.		
6.	Is there storm water accumulation in	n equipment pac	l sumps?:	Yes	No
	If Yes, pump storm water into o				
PRO	DCESS TANKS AND DAY TANK INSPEC	TION			
	·		<i>f f</i>		de nect not control as
7.	Perform 360 degree walk around of	each tank to ins	pect for damage (	or leaks and loc	k out of valves:
		T-201	T-202	T-203	T-204

	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*	(6)	No*	NA	NA
Are transfer pumps ready for service?	Yes	No*	les	No*	Ves	No*	NA	NA

	T-201		· T-2	202	T-:	203
Visible oil leaks from gear box?	Yes*	No	Yes*	Nø	Yes*	No
Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed?		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	res	No	(V)PS	No
Mixer running and turbulence/vortex observed?**		No*	Yes	No*	Yes	No*
Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan?		No*	Yes	No*	Yes	No*
Ambient air temperatureO Oil temperature	10	5 °F,	(00	1 °F	(4	?6 °F

Date:	7/22/18	Time:	Inspector Initials:	16911
NOTE	S:			
	tify Site Implementat ment on this form and		ately if any of these conditions are obs	erved and thoroughly
			el shutdown of mixers and opening of on a ship of condition is observed and active washing	
	•	•	able generators to power the mixers in consolidating in the bottom of the Pr	•
COM	MENTS:			
(Desci	ribe all "yes" answers	, any observed dama	age, any areas that could not be inspe	cted and the reason, etc.)
N	1 Hers off	to reduce	bearing wear	
ī				
	tor Signature:	yles. 7	fans	

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 Reference Customer # 1439334

Date: 7/23/18 Time:	110	0		Inspecto	r Initials		129 1-1	
PROCESS PIPING INSPECTION								
1. Observe piping between Process Ta	nk secor	ndary cor	ntainmei	nt and FE	BR secon	dary cont	tainment	
Any leaks, punctures, damage,	bulges vi	sible?			Υ	es*	No	3
2. Observe piping in Process Tank seco	. Observe piping in Process Tank secondary containment area.							
Any leaks, punctures, damage,	bulges vi	sible?			Υ	es*	N	9
3. Record reading on Stabilized Lake N Flowmeter: 2,127, 3		•		meter ea	st of Pro	cess Tan	ks.	
SECONDARY CONTAINMENT INSPECTED	ON							
4. Perform 360 perimeter walk to obse	erve line	r system	for pote	ntial we	ar and te	ar.		9
Any leaks, punctures, or other o	lamage v	/isible?			Υ	es	No	
5. Is there storm water accumulation g	greater t	han 1 foo	ot?		Υ	es	No	)
If Yes, pump storm water into o	ne of the	Process	Tanks.					
6. Is there storm water accumulation i	n equipn	nent pad	sumps?	:	Υ	es	No	/
If Yes, pump storm water into o	ne of the	e process	tanks.					
PROCESS TANKS AND DAY TANK INSPE	CTION							
7. Perform 360 degree walk around of	each tar	nk to insp	ect for (	damage	or leaks a	ind lock	out of va	lves:
	T-2	201	Т-2	202	T-2	203	T-2	04
Visible damage or leaks/stains?	Yes*	(NO)	Yes*	Na	Yes*	OS)	Yes*	No
(inspect all welds and nozzles/valves)	103	0		0	, ,		1,03	
All decant valves and transfer valves locked out?**	Yes	No*	Yes	No*	Yes	No*	NA	NA
Are transfer pumps ready for service?	es	No*	Yes	No*	(ies	No*	NA	NA
8. Visual inspection from top of each P	rocess T	ank:					-	
,			T .	201	T -	202	T-	202

	T-201		T-2	202	T-2	.03
Visible oil leaks from gear box?	Yes*	No	Yes*	Nò	Yes*	Na
Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed?	les	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	AL O
Mixer running and turbulence/vortex observed?**	Yes	No*	Yes	No*	es	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 104 Oil temperature	17	2   °F	12	U°F	118	°F

Date: 7/23/(8 Time:	Inspector Initials: PS/F
NOTES:	
* - Notify Site Implementation Manager immedia document on this form and through photographs	tely if any of these conditions are observed and thoroughly
	shutdown of mixers and opening of decant valves. Notify Site dition is observed and active washing is not occurring.
	able generators to power the mixers in the event of a power consolidating in the bottom of the Process Tanks.
COMMENTS:	
(Describe all "yes" answers, any observed dama	ge, any areas that could not be inspected and the reason, etc.)
- Mixury on to distribut	e sediments
Operator Signature: 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	up

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 Reference Customer # 1439334

Date: $\frac{7/24/(8)}{1}$ Time: $\frac{1045}{1}$ Inspector Initial	s: <u>K</u>	SH
PROCESS PIPING INSPECTION		•
<ol> <li>Observe piping between Process Tank secondary containment and FBR secondary leaks, punctures, damage, bulges visible?</li> </ol>	ndary contain Yes*	No 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 Pro- Flowmeter: 2, 127, 330 (gallons)	ocess Tanks.	
SECONDARY CONTAINMENT INSPECTION		
4. Perform 360 perimeter walk to observe liner system for potential wear and to	ear.	$\sim$
Any leaks, punctures, or other damage visible?	Yes	(No
5. Is there storm water accumulation greater than 1 foot?  If Yes, pump storm water into one of the Process Tanks.	Yes	(No)
6. Is there storm water accumulation in equipment pad sumps?:  If Yes, pump storm water into one of the process tanks.	Yes	(No)
DDOCESS TANKS AND DAY TANK INSPECTION		ta ta

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

	T-2	201	T-2	202	T-2	203	T-2	204
Visible damage or leaks/stains? (inspect all welds and nozzles/valves)	Yes*	No	Yes*	No	Yes*	(No)	Yes*	Ne
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

	T-201		T-7	202	T-2	203
Visible oil leaks from gear box?	Yes*	(No)	Yes*	(No)	Yes*	Me
Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed?	Yes	No	(V)S	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	(3)
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 temperatureOil temperature	12	7°F	12	_⟨⟨°F	12	g °F

Date: 7/24/18 Time: Inspector Initials: KSK
NOTES: V
* - 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: Myl S. Hause.  EMERGENCY CONTACTS:

Title	Name	Phone #	Comments
Site Implementation Manager	Brad Maynard	(907) 723-2646	IIII II
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 Reference Customer # 1439334

Date: $\frac{7/25}{7}$	1	ne: 1015	Inspector Initials:	165H
Observe piping	g between Proces	ss Tank secondary contair	ment and FBR secondary c	ontainment.
Any leaks,	punctures, dama	ge, bulges visible?	Yes*	(No )
2. Observe piping	g in Process Tank	secondary containment a	irea.	$\sim$
Any leaks,	punctures, dama	ge, bulges visible?	Yes*	(No)
·	-	ke Mead Water (SLMW) f	lowmeter east of Process T	anks.
SECONDARY CONT	AINMENT INSPE	CTION		
4. Perform 360 p	erimeter walk to	observe liner system for p	potential wear and tear.	$\circ$
_		ner damage visible?	Yes	(No)
5. Is there storm	water accumulati	ion greater than 1 foot?	Yes	(No)
If Yes, pun	p storm water in	to one of the Process Tan	ıks.	
6. Is there storm	water accumulati	ion in equipment pad sun	nps?: Yes	(Ng)
If Yes, pum	p storm water in	to one of the process tan	ks.	

#### 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*	4
All decant valves and transfer valves locked out?**	(ves)	No*	Ves	No*	(es)	No*	NA	NA
Are transfer pumps ready for service?	Yes	No*	(Yes)	No*	Yes	No*	NA	NA

	T-2	201	=T-2	202	T-2	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	des	No
Mixer off as part of sediment washing process?  If Yes, draw an "X" through answers to next question.	Yes	No	Yes	<b>(No)</b>	Yes	(M)
Mixer running and turbulence/vortex observed?**	(Yes)	No*	Xes	No*	(es)	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 04 Oil temperature	0	(0 °F	10	∳ °F	10	5°F

Date: 7/25/18	Time:	Inspe	ector Initials: KS //
NOTES:			
* - Notify Site Implementation document on this form an		if any of these co	conditions are observed and thoroughly
			s and opening of decant valves. Notify S nd active washing is not occurring.
			ower the mixers in the event of a power bottom of the Process Tanks.
COMMENTS: (Describe all "yes" answer	rs, any observed damage, (	any areas that co	ould not be inspected and the reason, e
			41 (343)
	50 r=4(0)		
	Marie		
Operator Signature:	yle S. Harren		
Title	Name	Phone #	Comments

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 Reference Customer # 1439334

Date: 7/26/18 Time: 13(0	Inspector Initials:	KGH
PROCESS PIPING INSPECTION		
1. Observe piping between Process Tank secondary contain	nment and FBR secondary c	ontainment.
Any leaks, punctures, damage, bulges visible?	Yes*	(No)
2. Observe piping in Process Tank secondary containment a	area.	_
Any leaks, punctures, damage, bulges visible?	Yes*	(No)
3. Record reading on Stabilized Lake Mead Water (SLMW)  Flowmeter: 2,133,050 (gallons)	flowmeter east of Process T	anks.
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?  If Yes, pump storm water into one of the Process Tai	Yes nks.	(No)
6. Is there storm water accumulation in equipment pad sur If Yes, pump storm water into one of the process tar	-	(No)
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?**	Ves	No*	Yes	No*	res	No*	NA	NA
Are transfer pumps ready for service?	Yes	No*	Yes	No*	Yes	No*	NA	NA

o						
	T-2	201	T-2	202	T-2	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	es	No	Yes	No
Mixer running and turbulence/vortex observed?**	Yes	/No?	Yes	No*	Yes	(Not
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 113 Oil temperature	1/3	°F	11	۴ °F	11:	3 °F

Date: 7/26/18	Time:	_ Inspector Initials:	KGH
NOTES:			
* - Notify Site Implementation document on this form and t		any of these conditions are ob	oserved and thoroughly
		own of mixers and opening of is observed and active washin	
		nerators to power the mixers lidating in the bottom of the F	·
COMMENTS: (Describe all "yes" answers,	any observed damage, any	areas that could not be insp	ected and the reason, etc.)
- Mixers off -	to reduce w.	ear on Motor.	
in the second se			
Operator Signature:	Lyle S. Hans		

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 Reference Customer # 1439334

Date: 7/27/18 Time: 0900 Inspe	ctor Initials:	2
PROCESS PIPING INSPECTION		
1. Observe piping between Process Tank secondary containment and	FBR secondary conta	inment.
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: 3,133,280 (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

	T-201		T-202		T-203	
Visible oil leaks from gear box?	Yes*	(No	Yes*	(No)	Yes*	Ng
Has routine wash down of precipitate/crystals on tank sides and mixer impeller been completed?	res	No	Ves	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	108	ኒ °F	10	o °F	101	°F

Date:	7/27/18	Time:	0900	Inspector Initials: _	JR
NOTES:					
* - Notify Si	te Implementation	Manager i	mmediately if any	of these conditions are o	hearved and thoroug

\* - 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	15548	
T-202	mixer	off				
T-203	mixec	off				

Operator Signature:

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 Reference Customer # 1439334

Date: 7/28/(8 Time: 0840 Inspector Initials:	K4/									
PROCESS PIPING INSPECTION										
1. Observe piping between Process Tank secondary containment and FBR secondary containment.										
Any leaks, punctures, damage, bulges visible? Yes	* N9									
2. Observe piping in Process Tank secondary containment area.										
Any leaks, punctures, damage, bulges visible? Yes	* MO)									
3. Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Proce	ss 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?:	(Ng									
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*	Ng	Yes*	No	Yes*	(Ng)	Yes*	(No
All decant valves and transfer valves locked out?**	Ves	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-2	T-201		T-202		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	Ves	No
Mixer off as part of sediment washing process? If Yes, draw an "X" through answers to next question.	Yes	No	Yes	No	res	No
Mixer running and turbulence/vortex observed?**	Yes	No*	Yes	(No*)	Yes	(Ng*
Are used oil containers labelled and stored appropriately, in accordance with the Site Waste Management Plan?		No*	Yes	No*	Yes	No*
Ambient air temperatureOil temperature	98	°F	9	7 °F	9	Ø °F

Date: _	7/28/18	Time:	II	اا	nspector Initials:	K4	<u>, t/</u>
NOTES	•						
	ify Site Implementation ent on this form and th			any of the	se conditions are ob	served an	d thoroughly
	tive sediment washing nentation Manager imn						
	procedures to mobilize eater than six hours to p						
COMM (Descri	ENTS: be all "yes" answers, a	ny observed	damage, an	y areas the	it could not be insp	ected and	the reason, etc.)
= A	ir compresse	r malf	ention	rius.	Brough	in	temporory
Operati	or Signature:	le de He	anden			<u> </u>	

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 Reference Customer # 1439334

	te: 7/29/18 Time: 7870 Inspector Init	ials:	5 H
_			
1.	Observe piping between Process Tank secondary containment and FBR sec Any leaks, punctures, damage, bulges visible?	Yes*	No
2.	Observe piping in Process Tank secondary containment area.  Any leaks, punctures, damage, bulges visible?	Yes*	Ala
3.	Record reading on Stabilized Lake Mead Water (SLMW) flowmeter east of Flowmeter: 2, 138, 745 (gallons)		
SEC	CONDARY CONTAINMENT INSPECTION		
4.	Perform 360 perimeter walk to observe liner system for potential wear and	d tear.	0
	Any leaks, punctures, or other damage visible?	Yes	Ne
5.	Is there storm water accumulation greater than 1 foot?  If Yes, pump storm water into one of the Process Tanks.	Yes	No
6.	Is there storm water accumulation in equipment pad sumps?:  If Yes, pump storm water into one of the process tanks.	Yes	No

#### 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*	(M)
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:

o. Thousand his pection in our top or countries and						
	T-2	201	T-2	202	T-2	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	Ves.	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 temperatureOil temperature	94	₹ °F	97	°F	20	°F
103	10	3	104		10	4

Date: _	7/29/18	Time:	Inspector Initials:	KSH
NOTES				
	fy Site Implementatio ent on this form and t		tely if any of these conditions are ol	oserved and thoroughly
			shutdown of mixers and opening of dition is observed and active washing	The state of the s
	•	•	ble generators to power the mixers consolidating in the bottom of the f	•
сомм	ENTS:			
(Descril	be all "yes" answers,	any observed damag	ge, any areas that could not be insp	ected and the reason, etc.)
- M	ixers off f	o reduce	wear	
				5/86.574 15/11/11/11/11/11/11/11/11/11/11/11/11/1
	or Signature:	gled Ho	une	
		1		

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 Reference Customer # 1439334

Date: 7/30/18 Time:	0-	Insp	ector Initials		-51		
PROCESS PIPING INSPECTION	1400						
1. Observe piping between Process Ta	nk secondary cor	ntainment an	d FBR secon	dary cont	ainmen	t.	
Any leaks, punctures, damage,	ks, punctures, damage, bulges visible? Yes*						
· · ·	g in Process Tank secondary containment area.						
Any leaks, punctures, damage, l	bulges visible?		Y	es*	N	Ъ	
3. Record reading on Stabilized Lake N Flowmeter: 2,138,74		•	er east of Pro	cess Tan	ks.		
SECONDARY CONTAINMENT INSPECTIO	NC						
4. Perform 360 perimeter walk to obse	erve liner system	for potential	wear and te	ar.		9	
Any leaks, punctures, or other of	lamage visible?		Υ	es	(No	3)	
5. Is there storm water accumulation g			Υ	es	No	ď	
If Yes, pump storm water into o	ne of the Process	Tanks.			/	-)	
6. Is there storm water accumulation i	* * *	•	Υ	es	No		
If Yes, pump storm water into o	ne of the process	tanks.					
PROCESS TANKS AND DAY TANK INSPE	CTION						
7. Perform 360 degree walk around of	each tank to insp	ect for dama	age or leaks a	ind lock o	out of va	lves:	
	T-201	T-202	T-2	203	T-2	204	
Visible damage or leaks/stains? (inspect all welds and nozzles/valves)	Yes* No	Yes* (N	Yes*	No	Yes*	N	
All decant valves and transfer valves locked out?**	Yes No*	Yes N	o* Yes	No*	NA	NA	
Are transfer pumps ready for service?	Yes No*	Yes N	o* Yes	No*	NA	NA	
8. Visual inspection from top of each P	rocess Tank:						

	T-2	201	T-7	202	T-7	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?		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?		No*	Yes	No*	Yes	No*
Ambient air temperature( Oil temperature	- 11	(  °F	(1	<u>て</u> ℉	-110	) °F

Date	7	30/18	Time:	Inspector Initials:	KSH
NOT	ES:				
			ation Manager immediat nd through photographs.	ely if any of these conditions are ob	served and thoroughly
				shutdown of mixers and opening of olition is observed and active washing	
				ble generators to power the mixers i consolidating in the bottom of the Pi	· ·
сом	IMENT:	S:			
(Desc	cribe a	II "yes" answe	rs, any observed damag	e, any areas that could not be inspe	ected and the reason, etc.)
<u></u>	Vix	ers off	to reduce	wear.	
2		2	2/1/2/	200	
Opera	ator Si	gnature:	1968. Har	w	

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 Reference Customer # 1439334

Date: 1/31/18 Time: 0955 Inspector	r Initials:	KGH
PROCESS PIPING INSPECTION		
1. Observe piping between Process Tank secondary containment and FB	R secondary con	tainment.
Any leaks, punctures, damage, bulges visible?	Yes*	Nò
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 easily Flowmeter: 2, 138, 745 (gallons)	at of Process Tan	ıks.
SECONDARY CONTAINMENT INSPECTION		
4. Perform 360 perimeter walk to observe liner system for potential wea	r and tear.	A
Any leaks, punctures, or other damage visible?	Yes	(No)
5. Is there storm water accumulation greater than 1 foot?  If Yes, pump storm water into one of the Process Tanks.	Yes	No
6. Is there storm water accumulation in equipment pad sumps?:	Yes	(Ne)
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-2	201	T-2	202	T-2	203	T-2	204
Visible damage or leaks/stains? (inspect all welds and nozzles/valves)	Yes*	(N)	Yes*	(NO)	Yes*	No	Yes*	60
All decant valves and transfer valves locked out?**	(es	No*	Yes	No*	Yes	No*	NA	NA
Are transfer pumps ready for service?	Yes	No*	Yes	No*	ves	No*	NA	NA

8. Visual inspection from top of each Process Tank:

	T-2	201	T-2	202	T-2	:03
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	Ves	No
Mixer off as part of sediment washing process?  If Yes, draw an "X" through answers to next question.	Nes	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 Oil temperature	9	9 °F	9-	7 °F,	98	°F

Date:	51/18	Time:		_ In	spector Initi	als:	25/1	
NOTES:	•							
* - Notify Site I document on t	Implementatio this form and t			any of thes	e conditions	are observe	ed and th	noroughly
** - Active sed Implementatio	liment washing on Manager im							
Initiate proced loss greater tha					*			
COMMENTS:								
(Describe all ")	yes" answers, (	any observed (	damage, any	areas tha	t could not b	e inspected	and the	e reason, etc.)
						III		
Mixws	off of	e thebani	es ava	oid ex	Clysive	wlav	on	bearings

Title	Name	Phone #	Comments
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Emergency Generator (United Rentals)	Heath Barnard	(702) 538 2292	Reference Quote # 142770051 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: 09	30	-	Inspect	or Initia	ls: <u>-&lt;</u>	TR_		
INSPECT MATERIALS AND PARTS  1. Are all spare parts present?:  If no, list which parts need to be order	ed and in	form Sit	e Implen	nentatio	( n Manag	Yes ger:		No
2. Are all safety materials, resources, and sup			-		nager: _	Yes		No
PUMP OPERATION INSPECTION  3. Check if all AODD transfer pumps are in go			working	order.	Provide	notes ar	nd contac	ct the
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 contact the Site Implementation Manager	•	_			ch tank.	Provide	notes a	nd
	T-2	201	T-2	.02	T-2	203	T-2	:04
Check what level the High-High alarm signals — s it consistent with the set points?	Yes	No*	Yes	No*	Yes	No*	Yes	No*
est 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*	(Ves)	No*	Yes	No*	Yes	No*
/isible damages to the alarm cords and cables?	Yes*	No	Yes*	(No)	Yes*	No	Yes*	(No)
Notes:								
22 22 22 22 22 22 22 22 22 22 22 22 22							-	7,550

#### **K05 PHASE III O&M MONTHLY INSPECTION FORM**

Date:	7/27/18	Time: 0930	Inspector Initials:
Date:	112117	Time: 09 30	Inspector Initials:

#### 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**	9256,7hrs	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:

**Date of Next** 

	Replacement or	
Activity	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	12/21/2019	

#### **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 o	bserved damage, any	areas that could no	t be inspected and th	ne reason, etc.)
		(# · F ·		
			- 9888	
	***	-		_
<u> </u>			4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
	•			

Operator Signature: M R

# **K05 PHASE III O&M MONTHLY INSPECTION FORM**

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

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	
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