FOUR CORNERS POWER PLANT
Lined Ash Impoundment,
Lined Decant Water Pond,
Combined Waste Treatment Pond,
Dry Fly Ash Disposal Area,
and Return Water Pond

Annual
CCR Impoundment and
Landfill Inspection Report

2020

GENERATION ENGINEERING
Design Engineering
P.O. BOX 53999
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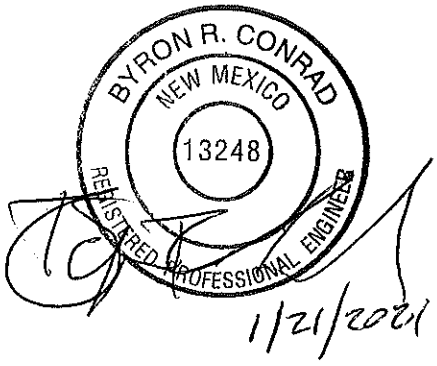
1.0 INTRODUCTION

Arizona Public Service Company (APS) prepared this report to comply with the Environmental Protection Agency's (EPA) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule (2015) requiring "*...inspections by a qualified professional engineer at intervals not exceeding one year to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards*" (40 CFR 257.83(b)(1) for CCR surface impoundments and 40 CFR 257.84(b)(1) for CCR landfills). AECOM staff participated in the CCR unit inspection and provided technical support in the preparation of this document.

This report includes a review of relevant data in the operating record as well as visual inspections of the Lined Ash Impoundment, the Lined Decant Water Pond, the Combined Waste Treatment Pond, the Dry Fly Ash Disposal Area, and the Return Water Pond. The Lined Ash Impoundment and Lined Decant Water Pond are instrumented with piezometers, inclinometers, settlement monuments, and settlement rods.

Inspection Conducted by

Byron R. Conrad, P.E.
Consulting Geological Engineer
APS Generation, Fossil Projects Coal
Arizona Public Service Company



Lee M. Wright, P.E.
Geotechnical Engineer
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7720 North 16th Street, Suite 100
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2.0 SITE BACKGROUND AND INSPECTION CONDITIONS

The Four Corners Power Plant (FCPP, the Plant) is located in Fruitland, New Mexico, approximately 20 miles west of Farmington, New Mexico and 13 miles southeast of Shiprock, New Mexico. The Plant is immediately south of Morgan Lake and primarily in Section 36, Township 29 North, Range 16 West on the Navajo Indian Reservation in San Juan County. Units 1, 2, and 3 ceased generation in 2013 and were then decommissioned. Units 4 and 5 burn low sulfur coal and have a total net generating capacity of 1,540 megawatts.

The coal combustion process produces Coal Combustion Residuals (CCR) consisting of bottom ash (silty sand, Unified Soil Classification System SM), fly ash (low plasticity silt, Unified Soil Classification System ML), and flue gas desulfurization (FGD) sludge. The Plant is operated as a low volume water usage system. The Lined Ash Impoundment (LAI) is used for CCR disposal and the Lined Decant Water Pond (LDWP) is used to temporarily store water drained from the LAI. The Combined Waste Treatment Pond (CWTP) is a former settling pond for bottom ash sluice water and various storm water, process water, and Plant washdown streams. The CWTP discharges through a NPDES-permitted outfall to Morgan Lake. The Dry Fly Ash Disposal Area (DFADA) is a CCR landfill used to dispose of dry CCR from Units 4 and 5. The Return Water Pond (RWP) is an impoundment facility for temporary storage of LAI and Pond 3 pump house discharges; it consists of two cells – the Return Water Pond cell and the FGD Pond cell, collectively designated as the "RWP." These five coal combustion waste units are the subject of this inspection report.

The field inspection was conducted on Wednesday, November 18, 2020 and Thursday, November 19, 2020. Conditions were cool (41-69 degrees Fahrenheit) with clear skies and light winds on both days. Approximately 3.09 inches of precipitation had fallen since the start of the year based on data recorded at the Four Corners Regional Airport in Farmington, New Mexico (NOAA 2020).

Instrumentation at the LAI and LDWP generally consists of open standpipe PVC piezometers, vibrating wire piezometers, inclinometers, settlement monuments, and settlement rods measured using a Global Positioning System (GPS) survey. Water levels in the open standpipe piezometers are measured with an electronic water level indicator attached to a cable stamped with increments of 0.01 feet. Water level data for the vibrating wire piezometers are downloaded at a central readout box and processed by Plant personnel. Data for the inclinometers are also gathered and processed by Plant personnel. Data for the settlement monuments and settlement rods are gathered and processed by a third-party Professional Surveyor under contract with APS. APS Plant personnel review the third-party survey data.

The benchmarks for the elevations reported for GPS surveys of the settlement monuments at the Four Corners Power Plant are based on three survey monuments: EMMA, an aluminum cap, and two Southern California Edison (SCE) brass caps – HV-53, and HV-61. The latitude and longitude of the monuments are based on the NAD83 datum. The elevations of EMMA, HV-53, and HV-61 are 5382.251, 5331.214, and 5085.898 feet, respectively.

3.0 UNIT DESCRIPTIONS

3.1 LINED ASH IMPOUNDMENT (LAI)

The LAI is represented on Figure 1 – Lined Ash Impoundment (LAI).

The LAI (listed by the New Mexico Office of the State Engineer (NMOSE) Dam Safety Bureau as dam number D-634) was constructed between 2003 and 2014, has a reservoir storage capacity of 5,346 acre-feet, and is approximately 107 feet high. The embankment is approximately 6,600 feet long and is classified under the New Mexico Administrative Code (NMAC) as "intermediate" size and "significant" hazard potential. The impoundment is lined with a single HDPE geomembrane. The nominal (lowest) crest elevation (EL) is 5280.0 feet. The maximum operating water level is EL 5275.2 feet and the water level was observed to be at approximate EL 5272.75 feet during the inspection.

3.2 LINED DECANT WATER POND (LDWP)

The LDWP is represented on Figure 2 – Lined Decant Water Pond (LDWP).

The LDWP (NMOSE dam number D-635) was constructed in 2003, has a maximum storage capacity of 435 acre-feet, and has a statutory height of approximately 16 feet (the LDWP was constructed on top of Ash Pond 3 and is 90 feet above the original ground surface along the South and West Embankments). The embankment is approximately 5,488 feet long and is classified under the NMAC as "intermediate" size and "significant" hazard. The impoundment is lined with two HDPE geomembranes and a leak detection layer. The maximum surcharge reservoir level is EL 5213.2 feet and the reservoir level was observed to be at approximate EL 5207.4 feet during the inspection.

3.3 COMBINED WASTE TREATMENT POND (CWTP)

The CWTP is represented on Figure 3 – Combined Waste Treatment Pond (CWTP).

The CWTP is an approximately 13.4-acre unlined detention pond located adjacent to Morgan Lake. The CWTP is not regulated by NMOSE. It was constructed in 1978 and has a maximum storage capacity of 137 acre-feet. The embankment is approximately 32 feet high (maximum) and is approximately 1,800 feet long. The embankment is classified under the NMAC as "small" size and "low" hazard. The CWTP is used as a settling basin for ash-transport wastewater prior to discharge to Morgan Lake through a monitored National Pollutant Discharge Elimination System (NPDES) permitted discharge point. The primary source of water entering the CWTP is from bottom ash recovery and transport processes at Units 4 and 5. Bottom ash is hydraulically transported to the Units 4 and 5 hydrobins where the transport water is separated and conveyed to the CWTP. Ash and other sediment settle in separate earthen settling basins within the CWTP footprint prior to the water overflowing into the main CWTP.

APS recently completed construction of the Bottom Ash Sluice Water Recycle (BASWR) Tank to replace the CWTP. The BASWR Tank is a concrete sedimentation tank constructed above grade that provides water quality treatment of bottom ash sluice water and low volume waste flows from

the Plant before discharge through a new NPDES outfall to the cooling water canal. The BASWR Tank is not a CCR unit under 40 C.F.R. § 257.53 and is not a part of this inspection.

At the time of this inspection the CWTP was functioning and releasing water to the discharge canal and to the nearby Navajo Mine but was no longer receiving inflow from the Plant. The CWTP is hydraulically connected to the discharge canal on the downstream side of the CWTP embankment. To maintain the current phreatic regime in the embankment, between the reservoir and the canal, and to continue providing water to the Navajo Mine, APS added a dual-walled 18-inch pressure pipe to pump water from the discharge canal into the CWTP reservoir. The pump system has level controls to keep the CWTP reservoir at EL 5330.5 feet.

3.4 DRY FLY ASH DISPOSAL AREA (DFADA)

The DFADA is represented on Figure 4 – Dry Fly Ash Disposal Area (DFADA).

The DFADA is a lined landfill and dry fly ash disposal facility. The DFADA currently consists of three conjoined cells: Cells 1, 2, and 3. Construction at the three Cells has been ongoing since 2007. The DFADA has a maximum intended capacity of 6,261 acre-feet and an ultimate maximum height of approximately 105 feet. Cell 1 is constructed with an HDPE geomembrane overlying a compacted clay subgrade. Cells 2 and 3 are constructed with a geosynthetic clay liner (GCL) overlain by an HDPE geomembrane selected for general compliance with the EPA's *Guide for Industrial Waste Management*. A drainage layer was installed over the HDPE geomembrane in all three cells as recommended in the EPA guidance. Each cell is connected to a leachate collection system designed to remove water from the storage area. The leachate collection system generally consists of a drainage layer, collection piping, a removal system, and a protective filter layer.

At the time of the inspection, APS was in the process of constructing a fourth cell in the DFADA (DFADA 4). This cell is not yet in service and is not part of this inspection report.

3.5 RETURN WATER POND (RWP)

The RWP is represented on Figure 5 – Return Water Pond (RWP).

The RWP is an approximately 5.13-acre lined impoundment facility for the temporary storage of LAI and Pond 3 pump house discharges. The RWP was constructed in 2019 and was placed into service as a CCR unit on October 20, 2020. It has a maximum storage capacity of 38.6 acre-feet (at elevation 5379 feet). The embankment is incised on the southwest and part of the southeast sides. The maximum embankment height is approximately 12 feet (in the north corner). The crest width is 20 feet and the crest length is approximately 2,067 feet. The embankment does not meet the criteria of a "jurisdictional dam" under 19.25.12.7D.(1) of the NMAC and is not regulated by NMOSE but is classified as a "Low Hazard Potential CCR Surface Impoundment" under 40 C.F.R § 257.53. Inflow to the RWP is managed by four distinct pumping stations, which are manually operated by Plant personnel. Outflow from the RWP is managed by a dedicated pumping station, which is manually operated by Plant personnel. Water in the RWP is pumped back to the Plant and used as process make up water.

4.0 FIELD INSPECTIONS

This section contains the 2020 annual field inspections conducted by APS and accompanied by a representative from AECOM at the LAI (Section 4.1), the LDWP (Section 4.2), the CWTP (Section 4.3), the DFADA (Section 4.4), and the RWP (Section 4.5).

4.1 APS FIELD INSPECTION – LINED ASH IMPOUNDMENT (LAI)

<table>
<tr><td colspan="2">Lined Ash Impoundment (LAI)</td><td colspan="3">State Identification Number (SID): D-634</td><td rowspan="16">Not Applicable</td><td rowspan="16">No</td><td rowspan="16">Yes</td><td rowspan="16">Monitor</td><td rowspan="16">Repair</td><td rowspan="16">Investigate</td></tr>
<tr><td>SID: D-634</td><td>Dam Name: Lined Ash Impoundment (LAI)</td><td>Type: Zoned earth and ash fill with geomembrane</td><td>Purpose: Fly ash and FGD sludge disposal</td></tr>
<tr><td colspan="2">Contact(s): Byron Conrad, P.E. (APS)</td><td colspan="2">Report Date: January 15, 2021</td></tr>
<tr><td colspan="2">Inspected by: Byron Conrad, P.E. (APS),
Dennis Carlson (APS),
Lee Wright, P.E. (AECOM)</td><td colspan="2">Inspection Date: November 18-19, 2020</td></tr>
<tr><td colspan="2">Reviewed by: Byron Conrad, P.E. (APS)</td><td colspan="2">Review Date: January 13, 2021</td></tr>
<tr><td colspan="2">Design Dam Crest Elevation (ft): 5,280</td><td colspan="2">Design Spillway Crest Elevation (ft): 5,277.84
(rim of 8-foot-diameter riser; no spillway)</td></tr>
<tr><td colspan="2">Design Total Freeboard (ft): 4.8 (West Embankment)</td><td colspan="2">Measured Total Freeboard (ft): 7.25 (in the Southwest Corner)</td></tr>
<tr><td colspan="2">Statutory Dam Height (ft): 107 (South Embankment)</td><td colspan="2">Structural Height (ft): 107 (South Embankment)</td></tr>
<tr><td colspan="2" rowspan="2">Dam Crest Length (ft): 6,600</td><td>Upstream Slope:
3:1 (West Embankment)
2:1 (South Embankment)</td><td>Downstream Slope:
3:1 (West Embankment)
2:1 (South Embankment)</td></tr>
<tr><td colspan="2">Dam Crest Width (ft): 30 (West Embankment)
20 (South Embankment)</td></tr>
<tr><td colspan="2" rowspan="2">Dam Crest Width (ft): 30 (West Embankment)
20 (South Embankment)</td><td>Lat: 36° 41' 05"
(per NMOSE permit)</td><td rowspan="2">Water Rights: N/A</td></tr>
<tr><td>Long: 108° 30' 26"
(per NMOSE permit)</td></tr>
<tr><td colspan="2">Reservoir Area (acres): 126.8 (high water line)</td><td colspan="2">Reservoir Storage (ac-ft): 5,346 (high water line)
5,986 (maximum)</td></tr>
<tr><td colspan="4">Inflow Design Flood/Safe Flood-Passing Capacity: PMF – fully contained</td></tr>
<tr><td colspan="2">Reservoir Level During Inspection (ft): EL 5272.75 (in the Southwest Corner)</td><td rowspan="2">Photos: Yes</td><td rowspan="2">Pages: 5</td></tr>
<tr><td colspan="2">Estimated Solids Level (ft): ~ EL 5276.5 (average)</td></tr>
</table>

Lined Ash Impoundment (LAI)		SID: **D-634**	N/A	No	Yes	Mon	Rep	Inv
COMPLIANCE CHECKLIST								
1	***CONDITION SUMMARY, LICENSE, EAP, NEXT INSPECTION***							
a	Recorded downstream hazard: **Significant**	Should hazard be revised?		**X**				
b	If high hazard, estimate downstream persons-at-risk (PAR): **N/A**	Is there a significant increase since the last inspection?		**X**				
c	Recorded size: **Intermediate**	Should size be revised?		**X**				
d	Any safety deficiencies? **No**	Describe:		**X**				
e	Any statute or rule violations? **No**	Describe and list required action:		**X**				
f	Safe storage level on License: **5,275.2 feet**	Should level be revised:		**X**				
g	Any License violations? **No**	Describe and list required action:		**X**				
h	Date of current License: **October 27, 2015**	Should new License be issued?		**X**				
i	Date of last Emergency Action Plan revision: **2/2017**	Should EAP be revised?		**X**				
j	Any Agency actions? **No**	Describe and list required action:		**X**				
k	Normal inspection frequency: **Weekly, Annually**	Should inspection frequency be revised?		**X**				
l	Recommended date for next inspection: **November 2021**							

MONITORING CHECKLIST								
2	***INSTRUMENTATION AND MONITORING***							
a	Describe: **West Embankment** **1) Six clusters of three vibrating wire piezometers each (varying elevations),** **2) Four buried settlement rods to measure settlement at depth,** **3) Two inclinometers, and** **4) Two crest survey/settlement monuments.** **North Toe Buttress** **1) Eleven clusters of three vibrating wire piezometers and one cluster of two vibrating wire piezometers (varying elevations),** **2) Eight buried settlement rods to measure settlement at depth, and** **3) Three inclinometers.** **Other** **1) Permanent water elevation markers on the geomembrane liner at three locations within the impoundment.** **2) No inflow or outflow measurement devices.**							
b	Any repair or replacement required? **No.**	Describe: **See Section 5.1**		**X**		**X**		
c	Date of last monitoring report: **January 2020 (for 2019)**	Should new readings be taken and new report provided? **Monthly measurement and annual reporting are required.**			**X**			

DAM EMBANKMENT CHECKLIST							
3	***DAM CREST***						
a	Settlements, slides, depressions?		**X**				
b	Misalignment?		**X**				
c	Longitudinal/Transverse cracking? **See comment i.**			**X**	**X**		
d	Animal burrows?		**X**				
e	Adverse vegetation?		**X**				
f	Erosion?		**X**				

Lined Ash Impoundment (LAI)		SID: **D-634**	N/A	No	Yes	Mon	Rep	Inv
4	***UPSTREAM SLOPE***							
a	Erosion?			**X**				
b	Inadequate ground cover?			**X**				
c	Adverse vegetation?			**X**				
d	Longitudinal/Transverse cracking?	**Could not observe due to the presence of the geomembrane liner.**	**X**					
e	Inadequate riprap?	**The upstream slope is covered with a geomembrane liner.**	**X**					
f	Stone deterioration?		**X**					
g	Settlements, slides, depressions, bulges?	**See comment ii.**			**X**		**X**	
h	Animal burrows?			**X**				
5	***DOWNSTREAM SLOPE***							
a	Erosion?	**Minor erosion rills on the West and Northwest Embankments were observed (see Photos IMG_3649 and IMG_3936). Repair all erosion that extends deeper than 1 foot.**			**X**		**X**	
b	Inadequate ground cover?	**The LAI embankment slopes are faced with bottom ash that supports only sporadic and uneven vegetation. A lime-based, white- and turquoise-colored dust suppression agent is applied in accordance with the Plant's Dust Control Plan.**		**X**				
c	Adverse vegetation?			**X**				
d	Longitudinal/Transverse cracking?			**X**				
e	Inadequate riprap?		**X**					
f	Stone deterioration?		**X**					
g	Settlements, slides, depressions, bulges?	**See comment iii.**			**X**	**X**		**X**
h	Soft spots or boggy areas?			**X**				
i	Movement at or beyond toe?			**X**				
j	Animal burrows?			**X**				
6	***ABUTMENT CONTACTS***							
a	Erosion?			**X**				
b	Differential movement?			**X**				
c	Cracks?			**X**				
d	Settlements, slides, depressions, bulges?			**X**				
e	Seepage?			**X**				
f	Animal burrows?			**X**				

7	***SEEPAGE/PIPING CONTROL DESIGN FEATURE(S)***							
a	Describe:	**The toe of the South Embankment is now covered by fly ash fill as a part of the DFADA Cell 3 lateral expansion. A French drain, now buried, captured seepage from beneath the south toe. Except when bottom ash was being placed as the South Embankment was being raised, the French drain has rarely produced any measurable flow. There was no flow from the outlet at the time of inspection (Photo IMG_3934).**						
b	Internal drains flowing?	**See comment vi.**			**X**			
c	Seepage at or beyond toe?			**X**				
d	If so, does seepage contain fines?		**X**					
e	Evidence of sand boils at or beyond toe?			**X**				

	RESERVOIR CHECKLIST							
8	***RESERVOIR***							
a	High water marks?	**See comment v.**			**X**	**X**		
b	Erosion/slides into pool area?			**X**				
c	Sediment accumulation?	**Suspended FGD solids and fly ash settle in the impoundment.**			**X**			
d	Floating debris present?	**Sparse debris on top of the impounded ash.**		**X**				
e	Depressions, sinkholes, or vortices?			**X**				
f	Low ridges/saddles allowing overflow?			**X**				
g	Structures below dam crest elevation?	**Yes. See comment vi.**			**X**			

Additional comments and recommendations for the LAI:

i. Holes were observed along portions of the geomembrane liner anchor trench in the South and East Embankment (see Photos IMG_3375 and IMG_3384). Mud cracks were observed on the East Embankment crest (see Photo IMG_3388). The holes and cracks all appeared to be superficial. The holes did not extend past the bottom of the anchor trench and the mud cracks were less than 1 inch deep. The holes and mud cracks should be monitored and repaired if they are observed to extend deeper than 1 foot.

ii. The geomembrane liner was observed to exhibit uneven depressions and bulges along the South Embankment (Photos IMG_3346 and IMG_3353). These depressions and bulges are in the vicinity of previously observed holes in the upstream liner that were later patched and may be due to the presence of water underneath the liner. The presence and actual causes of the bulges should be recorded, and the geotechnical engineer should be consulted. Repair documentation should be maintained with the operating record.

iii. The 8-inch diameter hole at the toe of the West Embankment first observed during the 2019 inspection was still present during this inspection but was filled with loose ash (Photo IMG_3729). The loose ash extended beyond 2.5 feet deep. The hole should be monitored, repaired if it increases in size, and its cause should be investigated under the direction of a geotechnical engineer.

iv. The North Toe Buttress (NTB) was constructed as part of the 5280 Lift of the LAI to provide additional stability in the northern portion of the West Embankment (Photo IMG_3460). The NTB appeared to be in good condition during the inspection. The NTB foundation instruments are discussed in Section 5.1.

v. APS deposits FGD, process water, and other CCR waste into the LAI via a V-ditch (Photo IMG_3416). The deposition route is adjusted as sediment builds up near the inlet. During part of 2020, APS was using the northernmost leg of the V-ditch to deposit CCR in the LAI. At times, the inflow rate into the LAI was high enough to result in water and CCR nearly spilling onto the LAI crest (Photos IMG_3411, IMG_3431, IMG_3434, IMG_3435, and IMG_3445). APS constructed several temporary diversion berms to channel the overflow away from the crest and prevent the embankment from completely overtopping (Photos IMG_3394, IMG_3401, IMG_3410, IMG_3447, and IMG_3450). One of the diversion berms, near the southern (abandoned) V-ditch inlet was constructed approximately 3-4 feet above the East Embankment crest (Photo IMG_3398). The diversion berms and inflow area should be continuously monitored whenever deposition is occurring.

vi. The primary outlet from the LAI is an 8-foot diameter vertical, perforated HDPE riser, referred to as the Drop Inlet Structure (Photo IMG_3475), connected at the bottom to 16-inch and 8-inch diameter HDPE gravity pipe outlets that drain into the LDWP.

vii. Water was observed discharging into the LDWP from the LAI via the 8-inch pipe (Appendix B – LDWP Photo IMG_3635).

viii. The weekly inspection reports for the period between October 1, 2019 and September 30, 2020 were reviewed and indicate the following:

   a. A Service Request (#SR389465) was written for the LAI on May 25, 2020 to address FGD buildup at the inlet to the LAI. The Service Request resulted in a work

order for an on-site contractor to install temporary berms that would prevent future overflows from the V-ditch from overtopping the embankment as well as clean up the existing overflow residue. The work was completed on May 28, 2020.

b. The August 3, 2020 inspection noted that the downstream slope had signs of erosion, likely due to recent rainfall, that required monitoring.

c. The inlet flows to the LAI were first noted as requiring monitoring in the August 3, 2020 inspection. The inlet flow was also referenced on two subsequent weekly reports. Based on the conditions observed at the inlet during the annual inspection, Plant personnel should continue to monitor the inlet flows during periods of deposition so that future deposition events do not cause the inflow to overtop the embankment and lead to an operational disruption of the LAI.

4.2 APS FIELD INSPECTION – LINED DECANT WATER POND (LDWP)

<table>
<tr><td colspan="3">Lined Decant Water Pond (LDWP)</td><td colspan="2">State Identification Number (SID): D-635</td><td rowspan="15">Not Applicable</td><td rowspan="15">No</td><td rowspan="15">Yes</td><td rowspan="15">Monitor</td><td rowspan="15">Repair</td><td rowspan="15">Investigate</td></tr>
<tr><td>SID: D-635</td><td>Dam Name: Lined Decant Water Pond (LDWP)</td><td>Type: Zoned earth and ash fill with double-liner geomembrane and leak detection</td><td>Purpose: Store recycled LAI decant water and collected groundwater</td></tr>
<tr><td colspan="2">Contact(s): Byron Conrad, P.E. (APS)</td><td colspan="2">Report Date: January 15, 2021</td></tr>
<tr><td colspan="2">Inspected by: Byron Conrad, P.E. (APS), Dennis Carlson (APS), Lee Wright, P.E. (AECOM)</td><td colspan="2">Inspection Date: November 18-19, 2020</td></tr>
<tr><td colspan="2">Reviewed by: Byron Conrad, P.E. (APS)</td><td colspan="2">Review Date: January 13, 2021</td></tr>
<tr><td colspan="2">Design Dam Crest Elevation (ft): 5,216</td><td colspan="2">Design Spillway Crest Elevation: No spillway</td></tr>
<tr><td colspan="2">Design Total Freeboard (ft): 2.8 (above the maximum surcharge level, EL 5213.2)</td><td colspan="2">Measured Total Freeboard (ft): 8.6</td></tr>
<tr><td colspan="2">Statutory Dam Height (ft): 16</td><td colspan="2">Structural Height (ft): 16</td></tr>
<tr><td colspan="2">Dam Crest Length (ft): 5,488</td><td>Upstream Slope: 3:1</td><td>Downstream Slope: 2:1</td></tr>
<tr><td colspan="2" rowspan="2">Dam Crest Width (ft): 30 feet (North, East Embankments)
20 feet (West, South Embankments)</td><td>Lat: 36° 41' 00" (per NMOSE permit)</td><td rowspan="2">Water Rights: N/A</td></tr>
<tr><td>Long: 108° 30' 45" (per NMOSE permit)</td></tr>
<tr><td colspan="2">Reservoir Area (acres): 45.4 (at EL 5213.2 ft) per APS drawing 150793.2.1</td><td colspan="2">Reservoir Storage (ac-ft): 435 (normal operating capacity)</td></tr>
<tr><td colspan="4">Inflow Design Flood/Safe Flood-Passing Capacity: PMF – fully contained</td></tr>
<tr><td colspan="2">Reservoir Level During Inspection (ft): ~ EL 5207.4</td><td rowspan="2">Photos: Yes</td><td rowspan="2">Pages: 4</td></tr>
<tr><td colspan="2">Estimated Solids Level (ft): N/A (the LDWP does not impound a significant volume of solids)</td></tr>
</table>

Lined Decant Water Pond (LDWP)			SID: **D-635**	N/A	No	Yes	Mon	Rep	Inv
COMPLIANCE CHECKLIST									
1	***CONDITION SUMMARY, LICENSE, EAP, NEXT INSPECTION***								
a	Recorded downstream hazard:	**Significant**	Should hazard be revised?		**X**				
b	If high hazard, estimate downstream persons-at-risk (PAR): **N/A**		Is there a significant increase since the last inspection?		**X**				
c	Recorded size:	**Intermediate**	Should size be revised?		**X**				
d	Any safety deficiencies?	**No**	Describe:		**X**				
e	Any statute or rule violations?	**No**	Describe and list required action:		**X**				
f	Safe storage level on License:	**5,213.2 feet**	Should level be revised:		**X**				
g	Any License violations?	**Yes**	Describe and list required action: **See comment vi.**			**X**			
h	Date of current License:	**February 7, 2008**	Should new License be issued?		**X**				
i	Date of last Emergency Action Plan revision: **2/2017**		Should EAP be revised?		**X**				
j	Any Agency actions?	**No**	Describe and list required action:		**X**				
k	Normal inspection frequency:	**Weekly, Annually**	Should inspection frequency be revised?		**X**				
l	Recommended date for next inspection: **November 2021**								

MONITORING CHECKLIST									
2	***INSTRUMENTATION AND MONITORING***								
a	Describe:	**Instrumentation:** **1) Eight standpipe piezometers** **2) Two crest survey/settlement monuments.** **Other** **1) Interstitial geomembrane leak detection and evacuation pump.** **2) Surveyed level markings on geomembrane liner.** **3) No inflow measurement devices.** **4) Outflow estimation by LDWP pump rating/hours of operation, if needed.**						
b	Any repair or replacement required?	**No.**	Describe:		**X**				
c	Date of last monitoring report:	**January 2020 (for 2019)**	Should new readings be taken and new report provided? **Monthly measurement and annual reporting are required.**			**X**			

DAM EMBANKMENT CHECKLIST								
3	***DAM CREST***							
a	Settlements, slides, depressions?	**See comments i and ii.**			**X**	**X**	**X**	**X**
b	Misalignment?		**X**					
c	Longitudinal/Transverse cracking?		**X**					
d	Animal burrows?	**An ant hill was observed on the West Embankment (Photo IMG_3697).**		**X**	**X**			
e	Adverse vegetation?		**X**					
f	Erosion?		**X**					
4	***UPSTREAM SLOPE***							
a	Erosion?	**The upstream slope is covered with geomembrane.**	**X**					
b	Inadequate ground cover?		**X**					
c	Adverse vegetation?		**X**					
d	Longitudinal/Transverse cracking?	**Could not observe due to the presence of the geomembrane liner.**	**X**					
e	Inadequate riprap?		**X**					
f	Liner damage?	**See comment iii.**		**X**		**X**		
g	Settlements, slides, depressions, bulges?		**X**					
h	Animal burrows?		**X**					

Lined Decant Water Pond (LDWP)		SID: **D-635**	N/A	No	Yes	Mon	Rep	Inv
5	***DOWNSTREAM SLOPE***							
a	Erosion?	**Minor rilling on the South and West Embankments (Photos IMG_3663, IMG_3668, and IMG_3691). These should be repaired if they exceed 1 foot in depth.**			**X**	**X**		
b	Inadequate ground cover?	**The LDWP South and West Embankment slopes are faced with bottom ash that supports only sporadic and uneven vegetation. A lime-based, white- and turquoise-colored dust suppression agent is applied in accordance with the Plant's Dust Control Plan.**		**X**				
c	Adverse vegetation?			**X**				
d	Longitudinal/Transverse cracking?			**X**				
e	Inadequate riprap?		**X**					
f	Stone deterioration?		**X**					
g	Settlements, slides, depressions, bulges?			**X**				
h	Soft spots or boggy areas?			**X**				
i	Movement at or beyond toe?			**X**				
j	Animal burrows?			**X**				
6	***ABUTMENT CONTACTS***							
a	Erosion?			**X**				
b	Differential movement?			**X**				
c	Cracks?			**X**				
d	Settlements, slides, depressions, bulges?			**X**				
e	Seepage?			**X**				
f	Animal burrows?			**X**				
7	***SEEPAGE/PIPING CONTROL DESIGN FEATURE(S)***							
a	Describe:	**The 8-inch inflow pipe through the East Embankment and the Deadpool Sump were conveying water from the LAI to the LDWP at the time of the inspection.**			**X**	**X**		
b	Internal drains flowing?	**The leakage collection and evacuation system Interstitial Evacuation Pump was not active during the inspection (Photo IMG_3680), APS regularly monitors it for corrosion and replaces it when necessary. The auxiliary operators monitor this pump on their daily inspection.**			**X**	**X**		
c	Seepage at or beyond toe?			**X**				
d	If so, does seepage contain fines?		**X**					
e	Evidence of sand boils at or beyond toe?			**X**				

RESERVOIR CHECKLIST								
8	***RESERVOIR***							
a	High water marks?				**X**			
b	Erosion/slides into pool area?			**X**				
c	Sediment accumulation?	**Minor amounts of suspended FGD solids and fly ash may settle in the impoundment.**			**X**			
d	Floating debris present?			**X**				
e	Depressions, sinkholes, or vortices?			**X**				
f	Low ridges/saddles allowing overflow?			**X**				
g	Structures below dam crest elevation?	**The interstitial geomembrane leak detection and evacuation pump system includes a pump situated between the two geomembrane liners. See comment iv.**			**X**			

Additional comments and recommendations for the LDWP:

i. The 8-inch diameter hole on the crest of the East Embankment first observed during the 2019 inspection was still present during this inspection but was filled with loose ash (Photo IMG_3728). The loose ash extended beyond 2.5 feet deep. The hole should be monitored, repaired if it increases in size, and its cause should be investigated under the direction of a geotechnical engineer.

ii. A rut was observed on the upstream half of the South Embankment crest (Photo IMG_3660). The rut was deep enough to expose the liner. This area should be repaired before the liner is damaged or the rut extends further.

iii. Two sheets of liner were observed to be separated along the North Embankment (Photo IMG_3619). In addition, the hole in the liner observed during the 2019 inspection is still present (Photo IMG_3623).

iv. The LDWP interstitial geomembrane leak detection and evacuation pump was not operating at the time of the inspection. Commercially available submersible pumps break down on a regular basis due to the water chemistry in the LDWP. APS has determined that regularly replacing the pumps is more economical and feasible than temporarily decommissioning the entire pond and constructing a different access port configuration. Because the pump is replaced on a regular basis, the Plant should maintain an inventory of spares and monitor the system and replace the pump when it is degraded.

v. The liner was observed to be pulling out of the anchor trench in isolated areas along the West and East Embankments (Photo IMG_3708). The magnitude of pullout does not appear to have changed compared to the 2017, 2018, and 2019 inspections. Continue to monitor.

vi. The weekly inspection reports for the period between October 1, 2019 and September 30, 2020 were reviewed and do not indicate that there were any appearances of actual or potential structural weakness or other conditions which have the potential to disrupt the operation or safety of the CCR unit.

vii. The daily status reports for the LDWP indicate that APS was drawing down the reservoir level throughout the current review period and the reservoir level fell below the maximum operating level (EL 5209.9 feet) by mid-June 2020. The LDWP did not exceed the maximum surcharge level (EL 5213.2 feet) during the October 1, 2019 to September 30, 2020 review period.

4.3 APS FIELD INSPECTION – COMBINED WASTE TREATMENT POND (CWTP)

<table>
<tr><td colspan="3">Combined Waste Treatment Pond (CWTP)</td><td colspan="3">State Identification Number (SID): N/A</td></tr>
<tr><td>SID: N/A</td><td>Dam Name: Combined Waste Treatment Pond (CWTP)</td><td colspan="2">Type: Earth</td><td>Purpose: CCR-transport surface water collection</td></tr>
<tr><td colspan="2">Contact(s): Byron Conrad, P.E. (APS)</td><td colspan="3">Report Date: January 15, 2021</td></tr>
<tr><td colspan="2">Inspected by: Byron Conrad, P.E. (APS), Lee Wright, P.E. (AECOM)</td><td colspan="3">Inspection Date: November 18, 2020</td></tr>
<tr><td colspan="2">Reviewed by: Byron Conrad, P.E. (APS)</td><td colspan="3">Review Date: January 13, 2021</td></tr>
<tr><td colspan="2">Design Dam Crest Elevation (ft): 5,335</td><td colspan="3">Design Spillway Crest Elevation (ft): 5,328.77</td></tr>
<tr><td colspan="2">Design Total Freeboard (ft): 7</td><td colspan="3">Measured Total Freeboard (ft): 4.5</td></tr>
<tr><td colspan="2">Statutory Dam Height (ft): 32 (max), 22.81 (avg)</td><td colspan="3">Structural Height (ft): 32 (max), 22.81 (avg)</td></tr>
<tr><td colspan="2">Dam Crest Length (ft): 1,800</td><td>Upstream Slope: 2:1</td><td colspan="2">Downstream Slope: 1.5:1</td></tr>
<tr><td colspan="2" rowspan="2">Dam Crest Width (ft): 24-30</td><td>Lat: 34° 41′ 29.19″N</td><td colspan="2" rowspan="2">Water Rights: N/A</td></tr>
<tr><td>Long: 108° 28′ 28.73″W</td></tr>
<tr><td colspan="2">Reservoir Area (acres): 13.4 (7.5 acres for reservoir, 5.9 acres for decant cells)</td><td colspan="3">Reservoir Storage (ac-ft): 137 (27 additional ac-ft for stormwater storage)</td></tr>
<tr><td colspan="5">Inflow Design Flood/Safe Flood-Passing Capacity: Not Calculated</td></tr>
<tr><td colspan="2">Reservoir Level During Inspection (ft): ~EL 5330.5 (currently level-controlled)</td><td rowspan="2">Photos: Yes</td><td colspan="2" rowspan="2">Pages: 5</td></tr>
<tr><td colspan="2">Estimated Solids Level (ft): Variable (below EL 5328.77). The CWTP is periodically dredged to remove impounded solids.</td></tr>
</table>

Not Applicable | No | Yes | Monitor | Repair | Investigate

Combined Waste Treatment Pond (CWTP)		SID: N/A		N/A	No	Yes	Mon	Rep	Inv
COMPLIANCE CHECKLIST									
1	***CONDITION SUMMARY, LICENSE, EAP, NEXT INSPECTION***								
a	Recorded downstream hazard: **Low**	Should hazard be revised?			**X**				
b	If high hazard, estimate downstream persons-at-risk (PAR): **N/A**	Is there a significant increase since the last inspection?			**X**				
c	Recorded size: **Small**	Should size be revised?			**X**				
d	Any safety deficiencies? **No**	Describe:			**X**				
e	Any statute or rule violations? **No**	Describe and list required action:			**X**				
f	Safe storage level on License: **N/A**	Should level be revised:			**X**				
g	Any License violations? **No**	Describe and list required action:			**X**				
h	Date of current License: **N/A**	Should new License be issued?			**X**				
i	Date of last Emergency Action Plan revision: **N/A**	Should EAP be revised?			**X**				
j	Any Agency actions? **No**	Describe and list required action:			**X**				
k	Normal inspection frequency: **Weekly, Annually**	Should inspection frequency be revised?			**X**				
l	Recommended date for next inspection: **November 2021**								

MONITORING CHECKLIST									
2	***INSTRUMENTATION AND MONITORING***								
a	Describe: **There are four monitoring wells for this structure to comply with groundwater monitoring requirements.**								
b	Any repair or replacement required? **N/A**	Describe: **N/A**	**X**						
c	Date of last monitoring report: **January 2020 (for 2019)**	Should new readings be taken and new report provided? **Annual reporting is required.**			**X**				

DAM EMBANKMENT CHECKLIST									
3	***DAM CREST***								
a	Settlements, slides, depressions? **See comment i.**				**X**	**X**	**X**	**X**	
b	Misalignment?			**X**					
c	Longitudinal/Transverse cracking?			**X**					
d	Animal burrows? **Ant hills was observed (example Photo IMG_3245).**				**X**	**X**			
e	Adverse vegetation?			**X**					
f	Erosion?			**X**					
4	***UPSTREAM SLOPE***								
a	Erosion? **See comment ii.**				**X**	**X**			
b	Inadequate ground cover?			**X**					
c	Adverse vegetation? **See comment iii.**				**X**		**X**		
d	Longitudinal/Transverse cracking?			**X**					
e	Inadequate riprap? **No riprap was observed above the water line on the upstream slope.**				**X**				
f	Stone deterioration?		**X**						
g	Settlements, slides, depressions, bulges? **Portions of the slope are steeper than others.**				**X**	**X**			
h	Animal burrows? **None observed. Continue to monitor.**			**X**		**X**			

Combined Waste Treatment Pond (CWTP)		SID: N/A	N/A	No	Yes	Mon	Rep	Inv
5	***DOWNSTREAM SLOPE***							
a	Erosion?	**See comment iv.**			**X**	**X**		
b	Inadequate ground cover?			**X**				
c	Adverse vegetation?	**See comment iii.**			**X**	**X**		
d	Longitudinal/Transverse cracking?	**See comment v.**			**X**	**X**	**X**	**X**
e	Inadequate riprap?	**See comment vi.**		**X**				
f	Stone deterioration?			**X**				
g	Settlements, slides, depressions, bulges?	**Portions of the downstream slope are uneven (Photos IMG_3244).**			**X**	**X**		
h	Soft spots or boggy areas?			**X**				
i	Movement at or beyond toe?	**Cannot observe.**	**X**					
j	Animal burrows?	**None observed. Continue to monitor.**		**X**		**X**		
6	***ABUTMENT CONTACTS***							
a	Erosion?			**X**				
b	Differential movement?			**X**				
c	Cracks?			**X**				
d	Settlements, slides, depressions, bulges?			**X**				
e	Seepage?			**X**				
f	Animal burrows?	**None observed. Continue to monitor.**		**X**		**X**		
7	***SEEPAGE/PIPING CONTROL DESIGN FEATURE(S)***							
a	Describe:	**None.**						
b	Internal drains flowing?		**X**					
c	Seepage at or beyond toe?	**Cannot observe.**	**X**					
d	If so, does seepage contain fines?		**X**					
e	Evidence of sand boils at or beyond toe?		**X**					

RESERVOIR CHECKLIST								
8	***RESERVOIR***							
a	High water marks?			**X**				
b	Erosion/slides into pool area?			**X**				
c	Sediment accumulation?	**See comment vii.**			**X**			
d	Floating debris present?			**X**				
e	Depressions, sinkholes, or vortices?			**X**				
f	Low ridges/saddles allowing overflow?	**A weir allows overflow into the NPDES outlet.**			**X**			
g	Structures below dam crest elevation?	**Twin 30-inch reinforced concrete pipe outlets are located at the eastern side of the CWTP.**			**X**			

Additional comments and recommendations for the CWTP:

i. The upstream edge of the crest near the tension crack in comment v was observed to be loose and weak over a distance of approximately 4 feet (Photo IMG_3273). Investigate the cause and association, if any, between the weak soil in the crest and the presence of the tension crack on the downstream slope. Repair this section of the embankment.

ii. The irregular erosion along the upstream slope observed during previous inspections was present during this inspection. Erosion gullies were observed at various locations along the upstream slope. Continue to monitor the slope and repair erosion if it exceeds 1 foot in depth.

iii. Vegetation (grass, small trees, and shrubs) was observed on portions of the upstream (Photos IMG_3250 and IMG_3260) and downstream (Photos IMG_3240 and IMG_3276) slopes during this inspection. These grasses have grown substantially over the last few years and the upstream slope is obscured in these areas. The grasses should be cut. The woody vegetation on the upstream slope should be removed using the NMOSE vegetation management guidelines (NMOSE 2011); roots should be removed in their entirety and the area should be backfilled with compacted structural fill under the supervision of a geotechnical engineer.

iv. Instances of minor erosion were observed on the downstream slope (Photos IMG_3249 and IMG_3257). Continue to monitor these areas and repair erosion if it exceeds 1 foot in depth.

v. The series of aligned holes, up to 2 feet deep and across a length of approximately 4 feet, observed on the downstream slope during the 2019 inspection (2019 Photo IMG_6266) were not observed during this inspection.

   Two locations with longitudinal cracks were observed during this inspection. The first longitudinal crack observed was associated with a flat piece of 6-foot long riprap from original embankment construction that was sliding down the embankment slope, creating a 1-foot deep area of separation between the original location of the riprap and the embankment (Photo IMG_3258). This area should be monitored and repaired if the riprap is observed to be progressively sliding down the slope. The second longitudinal crack was first observed on the downstream slope during the 2018 inspection (2018 Photo IMG_0933). During this inspection, the crack was observed to be approximately 11.5 feet long and in a more advanced stage of development compared to 2018 (Photo IMG_3272). The crack should be repaired and its cause should be investigated.

vi. APS installed additional riprap on the downstream slope of the embankment in August 2017 to prevent wave erosion along the slope. The additional riprap was placed from approximately 5 feet below the canal water surface to approximately 2 feet above the canal water surface.

vii. The facility includes seven decant cells and one forebay cell in the western half of the CWTP. Flow from the collection distribution vault is directed to the selected cells. Settled solids are periodically removed and decanted water flows to the CWTP free water pond. Suspended sediment and CCR settle in the decant cells in the western half of the impoundment.

viii. In 2020, APS installed a new 18-inch dual-wall pressure pipe to pump water from the discharge canal to the CWTP. The pipe allows APS to maintain the phreatic level in the embankment and reservoir as the CWTP no longer receives inflow from the Plant, but some water from the reservoir is provided to the nearby Navajo Mine. The pipe is located on the downstream edge of the embankment but is buried where it crosses the crest and enters the reservoir (Photos IMG_3237 and IMG_3239). The pipe is surrounded with controlled low strength material (CLSM) flowable fill where it is buried in the embankment. The pump system has level controls to maintain the CWTP reservoir at EL 5330.5 feet.

ix. The weekly inspection reports for the period between October 1, 2019 and September 30, 2020 were reviewed and indicate the following:

   a. The June 4, 2020 inspection stated that the vegetation on the dam crest and upstream slope required monitoring. The inspector noted that a service request was pending for this work.

4.4 APS FIELD INSPECTION – DRY FLY ASH DISPOSAL AREA (DFADA)

<table>
<tr><td colspan="2">Dry Fly Ash Disposal Area (DFADA)</td><td colspan="2">State Identification Number (SID): N/A</td><td rowspan="11">Not Applicable</td><td rowspan="11">No</td><td rowspan="11">Yes</td><td rowspan="11">Monitor</td><td rowspan="11">Repair</td><td rowspan="11">Investigate</td></tr>
<tr><td>SID: N/A</td><td>Landfill Name: Dry Fly Ash Disposal Area (Cells 1, 2, and 3)</td><td>Type: Lined Landfill</td><td>Purpose: Permanent storage of dry CCR (fly ash, bottom ash, dry FGD solids) and select construction debris (e.g. concrete and wood)</td></tr>
<tr><td colspan="2">Contact(s): Byron Conrad, P.E. (APS)</td><td colspan="2">Report Date: January 15, 2021</td></tr>
<tr><td colspan="2">Inspected by: Byron Conrad, P.E. (APS), Lee Wright, P.E. (AECOM)</td><td colspan="2">Inspection Date: November 18-19, 2020</td></tr>
<tr><td colspan="2">Reviewed by: Byron Conrad, P.E. (APS)</td><td colspan="2">Review Date: January 13, 2021</td></tr>
<tr><td colspan="2">Design Maximum Ash Elevation (ft): 5,295</td><td colspan="2">Current Maximum Ash Elevation (ft):
Based on survey data from FHI:
Cell 1 is ~ EL 5294 feet (November 2020)
Cell 2 is ~ EL 5275 feet (November 2020)
Cell 3 is ~ EL 5281 feet (November 2020)</td></tr>
<tr><td colspan="2">Dam Crest Length (ft): Not applicable</td><td>Design Side Slope:
Varies. 4:1 on final outside slopes, 2:1 on internal slopes.</td><td>Observed Side Slope:
Varies. 4:1 on final outside slopes, 2:1 on internal slopes.</td></tr>
<tr><td colspan="2" rowspan="2">Dam Crest Width (ft): Not applicable</td><td>Lat: 36°40'43.27"N</td><td rowspan="2">Water Rights: N/A</td></tr>
<tr><td>Long: 108°30'12.2"W</td></tr>
<tr><td colspan="2">Landfill Area (acres): 94.8 (Current, Cells 1, 2, and 3)</td><td colspan="2">Landfill Capacity (ac-ft): 6,261 for Cells 1, 2, and 3</td></tr>
<tr><td colspan="4">Inflow Design Flood/Safe Flood-Passing Capacity: Diversion of 100-year, 24-hour run-on storm. Storage of impacted run-off from 25-year, 24-hour storm, spillway passage of impacted run-off from 100-year, 24-hour storm.</td></tr>
<tr><td colspan="2">Photos: Yes</td><td colspan="2">Pages: 3</td></tr>
</table>

Dry Fly Ash Disposal Area (DFADA)			SID: N/A	N/A	No	Yes	Mon	Rep	Inv
MONITORING CHECKLIST									
1	***INSTRUMENTATION AND MONITORING***								
a	Describe:	**There are no instruments or other monitoring devices for this structure.**							
b	Any repair or replacement required?	**N/A**	Describe: **N/A**		**X**				
c	Date of last monitoring report:	**January 2020 (for 2019)**	Should new readings be taken and new report provided? **Annual reporting is required.**			**X**			
2	***CONDITION SUMMARY***								
a	Waste placed in good practices?					**X**			
3	***LANDFILL CONFIGURATION***								
a	Settlements, slides, slope instability?				**X**				
b	Cracking?				**X**				
c	Run on control?	**See comment i.**				**X**	**X**		
d	Run off control?					**X**			
e	Erosion?				**X**				
f	Dust control issues?				**X**				

Additional comments and recommendations for the DFADA:

i. There is evidence of head-cutting at the inlet to the Stormwater Diversion Channel (Photo IMG_3558). The affected area appears to be mostly unchanged compared to previous observations. Sediment is accumulating in the adjacent detention basin.

ii. In mid-2019, APS initiated construction of an interim soil cover layer across the top of Cell 1. At the time of the field inspection, the interim soil cover layer construction had been completed (Photos IMG_3536 and IMG_3545). The borrow source for the interim soil cover layer came from the footprint of DFADA Cell 4, which is being constructed to the south of Cells 1 and 2 (Photos IMG_3329 and IMG_3330).

iii. Run on control – The run on control system consists of a detention basin and diversion ditch to direct storm water around the DFADA. This system was extended as part of the current DFADA 4 construction. New riprap was added to the channel (Photo IMG_3570) and the outlet was moved to the southwest so that storm water would not run onto Cell 4 (Photos IMG_3573 and IMG_3574).

iv. Run off control – There are no external runoff collection ditches. Internal drain systems report to two separate lined leachate collection ponds for Cells 1 and 2 (Photo IMG_3343). Cell 3 drains to the Cell 1 collection pond. The water level in these two ponds is maintained by the ash haul contractor by use of a mobile suction pump. This water is used for dust control on site.

v. Reeds have colonized the DFADA Cell 1 leachate collection pond (Photo IMG_3589) and the western toe of Cell 1 (Photos IMG_3596 and IMG_3598). The leachate collection ponds are designed to contain the 25-year, 24-hour design storm event (URS 2015). The reeds should be monitored and removed if they are judged to be reducing the available retention volume.

vi. The weekly inspection reports for the period between October 1, 2019 and September 30, 2020 were reviewed and do not indicate that there were any appearances of actual or

potential structural weakness or other conditions which have the potential to disrupt the operation or safety of the CCR unit.

4.5 APS FIELD INSPECTION – RETURN WATER POND (RWP)

<table>
<tr><td colspan="4">Return Water Pond (RWP)</td><td colspan="4">State Identification Number (SID): N/A</td></tr>
<tr><td colspan="2">SID: N/A</td><td>Dam Name: Return Water Pond (RWP)</td><td colspan="2">Type: Earth</td><td>Purpose: Temporary water storage</td><td rowspan="15">Not Applicable</td><td rowspan="15">No</td><td rowspan="15">Yes</td><td rowspan="15">Monitor</td><td rowspan="15">Repair</td><td rowspan="15">Investigate</td></tr>
<tr><td colspan="3">Contact(s): Byron Conrad, P.E. (APS)</td><td colspan="3">Report Date: January 15, 2021</td></tr>
<tr><td colspan="3">Inspected by: Byron Conrad, P.E. (APS), Lee Wright, P.E. (AECOM)</td><td colspan="3">Inspection Date: November 18, 2020</td></tr>
<tr><td colspan="3">Reviewed by: Byron Conrad, P.E. (APS)</td><td colspan="3">Review Date: January 13, 2021</td></tr>
<tr><td colspan="3">Design Dam Crest Elevation (ft): 5,381.1</td><td colspan="3">Design Spillway Crest Elevation (ft): None</td></tr>
<tr><td colspan="3">Design Total Freeboard (ft): 2.1</td><td colspan="3">Measured Total Freeboard (ft): 6.3 feet (RWP cell); 3.5 feet (FGD cell)</td></tr>
<tr><td colspan="3">Statutory Dam Height (ft): 12 (max)</td><td colspan="3">Structural Height (ft): 12 (max, north side)</td></tr>
<tr><td colspan="3">Dam Crest Length (ft): 2,067</td><td colspan="2">Upstream Slope: 3:1</td><td>Downstream Slope: 3:1</td></tr>
<tr><td colspan="3" rowspan="2">Dam Crest Width (ft): 20</td><td colspan="2">Lat: 36° 41′ 04.35″N</td><td rowspan="2">Water Rights: N/A</td></tr>
<tr><td colspan="2">Long: 108° 29′ 30.09″W</td></tr>
<tr><td colspan="3">Reservoir Area (acres): 5.13</td><td colspan="3">Reservoir Storage (ac-ft): 38.6 (maximum storage capacity at EL 5379 feet)</td></tr>
<tr><td colspan="6">Inflow Design Flood/Safe Flood-Passing Capacity: Not Calculated</td></tr>
<tr><td colspan="3">Reservoir Level During Inspection (ft): EL 5374.8 (RWP cell); EL 5377.6 (FGD cell)</td><td colspan="2" rowspan="2">Photos: Yes</td><td rowspan="2">Pages: 4</td></tr>
<tr><td colspan="3">Estimated Solids Level (ft): The RWP was recently filled and has not accumulated a significant volume of solids.</td></tr>
</table>

Return Water Pond (RWP)			SID: N/A	N/A	No	Yes	Mon	Rep	Inv
COMPLIANCE CHECKLIST									
1	***CONDITION SUMMARY, LICENSE, EAP, NEXT INSPECTION***								
a	Recorded downstream hazard:	**Low**	Should hazard be revised?		**X**				
b	If high hazard, estimate downstream persons-at-risk (PAR): **N/A**		Is there a significant increase since the last inspection?		**X**				
c	Recorded size:	**Non-Jurisdictional**	Should size be revised?		**X**				
d	Any safety deficiencies?	**No**	Describe:		**X**				
e	Any statute or rule violations?	**No**	Describe and list required action:		**X**				
f	Safe storage level on License:	**N/A**	Should level be revised:		**X**				
g	Any License violations?	**No**	Describe and list required action:		**X**				
h	Date of current License:	**N/A**	Should new License be issued?		**X**				
i	Date of last Emergency Action Plan revision: **N/A**		Should EAP be revised?		**X**				
j	Any Agency actions?	**No**	Describe and list required action:		**X**				
k	Normal inspection frequency:	**Weekly, Annually**	Should inspection frequency be revised?		**X**				
l	Recommended date for next inspection: **November 2021**								

MONITORING CHECKLIST									
2	***INSTRUMENTATION AND MONITORING***								
a	Describe: **There are three monitoring wells on the northern side of this structure to comply with groundwater monitoring requirements.**								
b	Any repair or replacement required? **N/A**		Describe: **N/A**	**X**					
c	Date of last monitoring report:	**None (first inspection)**	Should new readings be taken and new report provided? **Annual reporting is required.**			**X**			

DAM EMBANKMENT CHECKLIST								
3	***DAM CREST***							
a	Settlements, slides, depressions?			**X**				
b	Misalignment?			**X**				
c	Longitudinal/Transverse cracking?			**X**				
d	Animal burrows?			**X**				
e	Adverse vegetation?	**Some vegetation is beginning to grow in the anchor trenches and near bollards. Continue to monitor.**		**X**		**X**		
f	Erosion?			**X**				
4	***UPSTREAM SLOPE***							
a	Erosion?	**The upstream slope is covered with geomembrane.**		**X**				
b	Inadequate ground cover?			**X**				
c	Adverse vegetation?			**X**				
d	Longitudinal/Transverse cracking?			**X**				
e	Inadequate riprap?			**X**				
f	Stone deterioration?		**X**					
g	Settlements, slides, depressions, bulges?			**X**				
h	Animal burrows?			**X**				

Return Water Pond (RWP)	SID: N/A	N/A	No	Yes	Mon	Rep	Inv
5	***DOWNSTREAM SLOPE***						
a	Erosion?		**X**				
b	Inadequate ground cover?		**X**				
c	Adverse vegetation? **Some vegetation is beginning to grow on the slope. Continue to monitor.**		**X**		**X**		
d	Longitudinal/Transverse cracking?		**X**				
e	Inadequate riprap?		**X**				
f	Stone deterioration?		**X**				
g	Settlements, slides, depressions, bulges?		**X**				
h	Soft spots or boggy areas?		**X**				
i	Movement at or beyond toe?		**X**				
j	Animal burrows?		**X**				
6	***ABUTMENT CONTACTS***						
a	Erosion?		**X**				
b	Differential movement?		**X**				
c	Cracks?		**X**				
d	Settlements, slides, depressions, bulges?		**X**				
e	Seepage?		**X**				
f	Animal burrows?		**X**				
7	***SEEPAGE/PIPING CONTROL DESIGN FEATURE(S)***						
a	Describe: **The RWP features a leachate collection and recovery system (LCRS) between the primary and secondary 60 mil HDPE liners designed to collect impounded water that leaks through the primary HDPE liner before it leaks through the secondary HDPE liner and into the ground. The LCRS riser pipes are positioned at the lowest points of the RWP and FGD cells. The system was in standby mode and not observed in operation.**						
b	Internal drains flowing?		**X**				
c	Seepage at or beyond toe?		**X**				
d	If so, does seepage contain fines?	**X**					
e	Evidence of sand boils at or beyond toe?		**X**				

	RESERVOIR CHECKLIST						
8	***RESERVOIR***						
a	High water marks?			**X**			
b	Erosion/slides into pool area?		**X**				
c	Sediment accumulation?		**X**				
d	Floating debris present?		**X**				
e	Depressions, sinkholes, or vortices?		**X**				
f	Low ridges/saddles allowing overflow? **An overflow weir at EL 5379 feet along the crest of the Internal Embankment connects the RWP cell to the FGD cell.**			**X**			
g	Structures below dam crest elevation?		**X**				

Additional comments and recommendations for the RWP:

i. The RWP was constructed in 2019 to replace the function of the LDWP and was placed into service on October 20, 2020. The CCR unit consists of two cells – the RWP cell, which will be used as a storage facility for water pumped from the LDWP and Pond 3 Pump House, and the FGD cell, which will be used to store small or emergency discharges from the Plant FGD system. The two cells are connected by an overflow weir in the Internal Embankment. The two cells are collectively referred to as the "RWP."

ii. The bottom of the RWP and FGD cells is below the original ground surface. The RWP consists of a homogenous, rectangular, diked embankment constructed using weathered shale and sandstone excavated from the site's footprint and broken down into sand and clay.

iii. The RWP liner system consists of a primary 60-mil HDPE geomembrane liner, a drainage geonet, a secondary 60-mil HDPE geomembrane liner, a geosynthetic clay liner (GCL), and a prepared subgrade that was scarified, proof-rolled, and compacted prior to construction (AECOM 2020).

iv. The RWP is sized to contain the 100-year, 24-hour rain event. It has 4.6 acre-feet of deadpool storage to EL 5370.55 feet and 28.1 acre-feet of operational and outage storage to EL 5379.00 feet. The remaining 2.1 feet (to the crest at EL 5381.10 feet) is reserved for storage of the 100-year, 24-hour rainfall event. There are no water bodies directly downstream of the RWP (AECOM 2020).

v. The RWP has three downgradient monitoring wells along the Northeast Embankment used to monitor and characterize the groundwater within the uppermost aquifer underlying the CCR unit.

vi. The current review period for this Annual Inspection report begins on October 1, 2019 and ends on September 30, 2020. APS did not begin weekly inspections of the RWP until October 19, 2020, prior to placing it in service.

5.0 DATA REVIEW

5.1 LINED ASH IMPOUNDMENT

5.1.1 Geometry Changes Since Last Inspection

There have not been any significant changes to the geometry of the unit since the last inspection in 2019.

5.1.2 Instrumentation

The locations of geotechnical and other related instrumentation in the vicinity of the LAI are shown on Figure 6 – Lined Ash Impoundment (LAI) Instrumentation Map.

The minimum and maximum recorded readings for each instrument over the October 1, 2019 – September 30, 2020 (current) review period are reported in the following table:

Instrument Name	Minimum	Maximum	Unit
LAI Piezometers (10/1/19 to 9/30/20)			
P-7.1	5196.87[1]	5196.87[1]	elevation head
P-7.2	5191.35[1]	5191.35[1]	elevation head
P-7.3	5184.75[1]	5184.75[1]	elevation head
P-8.1	5196.60[1]	5196.60[1]	elevation head
P-8.2	5182.10[1]	5182.10[1]	elevation head
P-8.3	5174.10[1]	5174.10[1]	elevation head
P-9.1	5196.87[1]	5196.87[1]	elevation head
P-9.2	5183.97[1]	5183.97[1]	elevation head
P-9.3	5170.87[1]	5170.87[1]	elevation head
P-10.1	5198.22[1]	5198.22[1]	elevation head
P-10.2	5184.22[1]	5184.22[1]	elevation head
P-10.3	5173.72[1]	5173.72[1]	elevation head
P-11.1	5200.87	5201.78	elevation head
P-11.2	5189.65[1]	5189.65[1]	elevation head
P-11.3	5174.65[1]	5174.65[1]	elevation head
P-12.1	5202.54[1]	5202.54[1]	elevation head
P-12.2	5186.54[1]	5186.54[1]	elevation head
P-12.3	5176.54[1]	5176.54[1]	elevation head
[1] Porewater pressure measurements are negative (draining condition). The reported elevation is for the tip of the instrument.			

Instrument Name	Minimum	Maximum	Unit
NTB Piezometers (10/1/19 to 9/30/20)			
P-100.1	5202.06[1]	5202.06[1]	elevation head
P-100.2	5190.06[1]	5190.06[1]	elevation head
P-100.3	5183.23[1]	5183.23[1]	elevation head
P-101.1	5185.93[1]	5186.11	elevation head
P-101.2	5180.52	5181.98	elevation head
P-101.3	5168.48	5170.08	elevation head
P-102.1	5188.85[1]	5188.85[1]	elevation head
P-102.2	5174.60[1]	5174.60[1]	elevation head
P-102.3	5167.44[1]	5168.42	elevation head
P-103.1	5185.91[1]	5185.91[1]	elevation head
P-103.2	5170.91[1]	5170.91[1]	elevation head
P-103.3	5160.24[1]	5160.24[1]	elevation head
P-104.1	5198.72[1]	5198.72[1]	elevation head
P-104.2	5185.47[1]	5185.47[1]	elevation head
P-104.3	5178.47[1]	5178.47[1]	elevation head
P-105.1	5184.82[1]	5184.82[1]	elevation head
P-105.2	5174.16[1]	5174.16[1]	elevation head
P-105.3	5162.16[1]	5162.16[1]	elevation head
P-106.1	5186.09[1]	5186.09[1]	elevation head
P-106.2	5165.51[1]	5165.51[1]	elevation head
P-106.3	5159.37	5159.88	elevation head
P-107.1	5197.27[1]	5197.27[1]	elevation head
P-107.3	5173.44[1]	5173.44[1]	elevation head
P-108.1	5184.26[1]	5184.26[1]	elevation head
P-108.2	5173.59[1]	5173.59[1]	elevation head
P-108.3	5174.06	5174.43	elevation head
P-109.1	5188.76[1]	5188.76[1]	elevation head
P-109.2	5172.51[1]	5172.51[1]	elevation head
P-109.3	5164.93[1]	5164.93[1]	elevation head
P-110.1	5184.28[1]	5184.58	elevation head
P-110.2	5171.86[1]	5171.86[1]	elevation head
P-110.3	5163.44[1]	5163.44[1]	elevation head
P-111.1	5187.29[1]	5187.29[1]	elevation head
P-111.2	5172.33[1]	5172.48	elevation head
P-111.3	5160.12	5160.19	elevation head

[1] Porewater pressure measurements are negative (draining condition). The reported elevation is for the tip of the instrument.

Instrument Name	Minimum	Maximum	Unit
Survey Monuments (10/1/19 to 9/30/20)			
SM7[2]	5215.447	5215.902	EL (ft)
SM9[2]	5216.722	5217.198	EL (ft)
Settlement Rods (10/1/19 to 9/30/20)			
SR-7[2]	5250.368	5250.812	EL (ft)
SR-8[2]	5255.834	5256.323	EL (ft)
SR-9[2]	5248.346	5248.702	EL (ft)
SR-10[2]	5248.621	5249.012	EL (ft)
SR-100[2]	5221.969	5222.292	EL (ft)
SR-101[2]	5205.218	5205.667	EL (ft)
SR-102[2]	5204.881	5205.507	EL (ft)
SR-104[2]	5218.971	5219.521	EL (ft)
SR-105[2]	5204.781	5205.063	EL (ft)
SR-106[2]	5205.131	5205.598	EL (ft)
SR-109[2]	5206.258	5206.595	EL (ft)
SR-110[2]	5205.509	5205.987	EL (ft)
Inclinometers (10/1/19 to 9/30/20)			
I-1	0	0.1488	in
I-2	0	0.1140	in
I-103	0	0.1770	in
I-107	0	0.1494	in
I-111	0	0.1590	in
Open Standpipe Piezometers (10/1/19 to 9/30/20)			
P-23	5156.75	5156.96	EL (ft)
P-24	Dry	Dry	EL (ft)
P-25	Dry	Dry	EL (ft)

2) Starting in March 2019, a third-party surveyor began collecting the monthly survey monument and settlement rod data instead of APS personnel. The third-party surveyor uses a different post-processing technique than APS personnel, resulting in relatively more variability between measurements than in previous years.

On May 7, 2020, the multiplexer board to which piezometers P-102.1/.2/.3, P-103.1/.2/.3, P-104.1/.2/.3, P-105.1/.2/.3, P-106.1/.2/.3, and P-107.3 are attached failed. APS was able to replace the multiplexer and resumed recording data after August 5, 2020. The data for all of the piezometers over the current review period, including the data trends before and after the multiplexer board failure, indicate no significant elevation changes or trends related to the performance of the dam.

After several years of consistent, declining phreatic level readings, piezometer P-102.3 began increasing at a rate of 0.08 feet of head per month starting in mid-2019. The trend has continued throughout the current review period, reaching approximately 1 foot of pressure head by

September 30, 2020. Piezometer P-102.3 is the deepest instrument in the P-102 cluster. If the phreatic level indicated by P-102.3 begins to increase more rapidly, the cause of the increase should be investigated and the monitoring frequency should increase to twice per month.

Following several years of consistent, negative phreatic level readings, piezometer P-111.2 began increasing at a rate of 0.028 feet of head per month starting in May 2020 after displaying approximately 10 months of barometric variability. The increase at P-111.2 does not coincide with a similar increase at P-111.3, located approximately 12.29 feet deeper at the same location, nor does it coincide with a discernable change in tilt at inclinometer I-111. The variability of the P-111.2 data indicate the instrument is responding to changes in barometric pressure and is not submerged below the phreatic surface. Most of the middle piezometers in each cluster (i.e. P-###.2) were installed near the interface of the phreatic zone and the capillary fringe and they have not historically responded to instantaneous changes in barometric pressure. The middle piezometers typically indicate draining conditions and P-111.2 may either be re-saturating or salt buildup could be affecting the accuracy of the instrument. APS will continue to monitor this instrument and the nearby instruments for changes in the phreatic level. The data for the remaining vibrating wire piezometers indicates the phreatic level at these instruments is either declining, stabilizing, or remains negative (a draining condition).

The data for the survey monuments and settlement rods during the current review period were recorded by a third-party Professional Surveyor. The third-party survey data typically indicates a wider range of settlement values over the course of the year compared to the previous APS survey data, but do not suggest a significant change or a negative trend related to the performance of the dam.

The data for the inclinometers over the current review period indicate no significant changes or trends related to the performance of the dam.

5.1.3 CCR and Water Elevations

The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection is presented in the following table:

Water	Depth of Water (ft) (calculated)	Water Elevation (ft) (measured)	Measurement Location
Minimum	Not available	Not available	Not available
Maximum	Not available	Not available	Not available
Present (this inspection)	3.25	5272.75	Southwest Corner (STA 36+00)
CCR	**Depth of CCR (ft) (calculated)**	**CCR Elevation (ft) (measured)**	**Measurement Location**
Minimum (North Corner)	14.21	5288.21	V-ditch inlet on the north end of the LAI (STA 87+04)
Maximum (West Embankment)	71.5	5276.5	The West Embankment near the Drop Inlet Structure (STA 57+00)
Present (this inspection)	71.5	5276.5	The West Embankment near the Drop Inlet Structure (STA 57+00)

APS does not normally record the water level in the LAI. The present depth of water (3.25 feet) is estimated based on an assumed top of ash at EL 5269.5 feet in the Southwest Corner of the impoundment, a value recorded in 2014 prior to the ash being submerged at STA 36+00.

CCR is deposited in the northeast corner of the LAI and slopes from northeast to southwest. The elevation of the CCR is estimated during the inspection by recording where it is impounded against the slope at the emergency ladders and the distance from the crest to the ash. The depth of the CCR at the time of the inspection is estimated by subtracting the bottom of the LAI (EL 5205 feet) from the estimated average ash elevation (the average ash elevation is assumed to be near the Drop Inlet Structure at STA 57+00).

5.1.4 Storage Capacity

The maximum storage capacity of the LAI is 5,986 acre-feet (ac-ft) based on the 2012 elevation-area-capacity curve (EAC) (URS 2012).

5.1.5 Approximate Impounded Volume at Time of Inspection

The approximate volume of impounded CCR in the LAI at the time of the inspection was 5,542.32 ac-ft based on the average impounded volume at EL 5276.5 feet from the 2012 EAC (URS 2012).

5.1.6 Structural Weakness or Operational Change/Disruption

No conditions associated with structural weakness were identified during the field inspection.

Temporary diversion berms were constructed to prevent inflows from the northernmost V-ditch from overtopping the Northwest and East Embankment crests. Instances of near-overtopping that resulted in sediment deposition up to the crest elevation during 2020 have resulted in the potential to disrupt the operation of the CCR unit.

5.2 LINED DECANT WATER POND

5.2.1 Geometry Changes Since Last Inspection

There have not been any significant changes to the geometry of the unit since the last inspection in 2019.

5.2.2 Instrumentation

The locations of geotechnical and other related instrumentation in the vicinity of the LDWP are shown on Figure 7 – Lined Decant Water Pond (LDWP) Instrumentation Map.

The minimum and maximum recorded readings for each instrument over the October 1, 2019 – September 30, 2020 (current) review period are reported in the following table:

Instrument Name	Minimum	Maximum	Unit
Survey Monuments (10/1/19 to 9/30/20)			
SM7[1]	5215.447	5215.902	EL (ft)
SM9[1]	5216.722	5217.198	EL (ft)
Open Standpipe Piezometers (10/1/19 to 9/30/20)			
P-18	Dry	Dry	EL (ft)
P-19	Dry	Dry	EL (ft)
P-20	Dry	Dry	EL (ft)
P-21	Dry	Dry	EL (ft)
P-22	Dry	Dry	EL (ft)
P-23	5156.75	5156.96	EL (ft)
P-24	Dry	Dry	EL (ft)
P-25	Dry	Dry	EL (ft)

1) Starting in March 2019, a third-party surveyor began collecting the monthly survey monument and settlement rod data instead of APS personnel. The third-party surveyor uses a different post-processing technique than APS personnel, resulting in relatively more variability between measurements than in previous years.

The data for the survey monuments and settlement rods during the current review period were recorded by a third-party Professional Surveyor. The third-party survey data typically indicates a wider range of settlement values over the course of the year compared to the previous APS survey data, but do not suggest a significant change or a negative trend related to the performance of the dam.

The data for the piezometers over the current review period indicate no significant elevation changes or trends related to the performance of the dam.

5.2.3 CCR and Water Elevations

The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection is presented in the following table:

Water	Depth of Water (ft) (observed)	Water Elevation (ft) (measured)	Measurement Location
Minimum	5.4	5207.4	Staff gauge near the East Embankment
Maximum	10.0	5212.0	Staff gauge near the East Embankment
Present (this inspection)	5.4	5207.4	Staff gauge near the East Embankment
CCR	**Depth of CCR (ft)**	**CCR Elevation (ft)**	**Measurement Location**
Minimum	Not applicable	Not applicable	Not applicable
Maximum	Not applicable	Not applicable	Not applicable
Present (this inspection)	Not applicable	Not applicable	Not applicable

The LDWP does not impound a significant quantity of solids. It is used to impound CCR transport water decanted from the LAI. Therefore, the CCR depth is minimal and not normally measured.

The water elevation is monitored using the staff gauge in the pond along the East Embankment and the elevation markings written on the liner. At the staff gauge, the original grade (top of Ash Pond 3) is approximately EL 5204.4 based on APS Drawing FC-C-17-ADS-150793-2 Rev 1 (APS 2004). The minimum elevation of the LDWP (top of Ash Pond 3) is EL 5202 (in the southwest corner) based on Sections D and E in APS Drawing FC-C-17-ADS-150793-4 (APS 2004).

5.2.4 Storage Capacity

The storage capacity of the LDWP is 435 ac-ft at EL 5213.2 feet. The maximum storage capacity of the LDWP is 517 ac-ft at EL 5216 feet based on the 2012 EAC (URS 2012).

5.2.5 Approximate Impounded Volume at Time of Inspection

The approximate volume of impounded water in the LDWP at the time of the inspection was 181.25 ac-ft.

5.2.6 Structural Weakness or Operational Change/Disruption

No conditions associated with structural weakness were identified during the field inspection.

APS continued drawing down the reservoir level in the LDWP since the 2019 inspection. A review of the operating record indicated the LDWP was operated as intended over the previous year.

There are no significant changes to the structural integrity of the dam since the 2019 inspection.

5.3 COMBINED WASTE TREATMENT POND

5.3.1 Geometry Changes Since Last Inspection

There have not been any significant changes to the geometry of the unit since the last inspection in 2019.

5.3.2 Instrumentation

There are no instruments associated with the CWTP.

5.3.3 CCR and Water Elevations

The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection is presented in the following table:

Water	Depth of Water (ft) (calculated)	Water Elevation (ft) (measured)	Measurement Location
Minimum	Not available	Not available	APS does not regularly record the water elevation.
Maximum	Not available	Not available	
Present (this inspection)	~11.5	5330.5 (NGVD29)	Spillway Crest
CCR	**Depth of CCR (ft) (estimated)**	**CCR Elevation (ft) (estimated)**	**Measurement Location**
Minimum	Not available	Not available	APS does not record the ash level.
Maximum	Not available	Not available	
Present (this inspection)	7.68	5319 (NGVD29)	Assumed from 2016 bathymetry*

*The majority of the solids are caught in the decant cells on the west side of the CWTP.

CCR solids in the CWTP reservoir are typically submerged and periodically dredged; however, the typical CCR elevation is assumed to be approximately EL 5322 feet (NAVD88; approximate EL 5319 feet NGVD29) based on historic bathymetry.

APS does not regularly record or track the water elevation in the CWTP. Water in the CWTP normally overflows a weir on the east side of the reservoir and flows into Morgan Lake. The elevation of the water as it flows over the weir wall is generally constant at EL 5329 feet (Photo IMG_3279).

5.3.4 Storage Capacity

The estimated storage capacity of the CWTP reservoir is 164 ac-ft.

5.3.5 Approximate Impounded Volume at Time of Inspection

The approximate volume of impounded water and solids in the CWTP reservoir at the time of the inspection was 137 ac-ft based on the impounded water elevation.

5.3.6 Structural Weakness or Operational Change/Disruption

The inspection identified a riprap boulder separating from the rest of the slope, an 11.5-foot long tension crack, and a zone of loose material on the crest near the 11.5-foot long tension crack. The riprap separation and loose material were not observed during previous annual inspections, but the 11.5-foot long tension crack has progressed since the 2018 inspection. These areas have the potential to disrupt the operation of the CWTP if they continue to progress.

APS is no longer sending sluice water or various storm water, process water, and Plant washdown streams to the CWTP. The current water level is maintained by pumping water from the discharge canal into the reservoir as the Navajo Mine continues to use the CWTP as a water source for its ongoing operations. The CWTP reservoir elevation is currently level-controlled via automated sensors.

5.4 DRY FLY ASH DISPOSAL AREA

5.4.1 Geometry Changes Since Last Inspection

The western portion of Cell 3 continued to receive ash loading after the 2019 inspection. Cell 3 is divided into approximately three sequential sections from the east to the west. APS has been placing ash in the westernmost section since the easternmost section of Cell 3 has reached the same elevation as the South Embankment of the LAI. APS has also completed the interim soil cover layer on top of Cell 1 since the last inspection.

5.4.2 Instrumentation

There are no instruments associated with the DFADA.

5.4.3 CCR Volume

The approximate volume of CCR in the DFADA at the time of the inspection was estimated to be 5,310.9 ac-ft based on the November 2020 survey performed by the ash placement contractor (FHI).

5.4.4 Structural Weakness or Operational Change/Disruption

No conditions associated with structural weakness were identified during the field inspection.

No conditions that are or could be disruptive to the operation and safety of the CCR unit and appurtenant structures were identified during the field inspection.

During the summer of 2020, APS began to landfill a pugmill-blended mixture of thickened FGD slurry and dry fly ash. After October 31, 2020, all FGD produced by the Plant is blended by pugmill with fly ash, and then placed and compacted in the landfill. The strength and other properties of the compacted, pugmill-blended mixture are sufficiently similar to those of fly ash and bottom ash so as to not produce a structural weakness within the planned dimensions of the DFADA landfill.

APS began constructing Cell 4 along the south toe of Cell 1 and Cell 2 in 2019, expecting to be complete in 2021. The construction process does not require APS to excavate into the ash in Cells 1 or 2. The Cell 4 liner was installed along the toe and welded to the liner of Cells 1 and 2. There are no other significant changes to the structural integrity of the landfill since the 2019 inspection.

5.5 RETURN WATER POND

5.5.1 Geometry Changes Since Last Inspection

APS constructed the RWP in 2019 and placed it in service on October 20, 2020.

5.5.2 Instrumentation

There are no instruments associated with the RWP.

5.5.3 CCR and Water Elevations

The CCR unit was not in service during the current review period (October 1, 2019 to September 30, 2020) and did not impound either CCR or water during this time.

5.5.4 Storage Capacity

The estimated storage capacity of the RWP is 38.6 ac-ft at EL 5379 feet.

5.5.5 Approximate Impounded Volume at Time of Inspection

The approximate impounded volume in the RWP cell at the time of the inspection was 27.9 ac-ft. The approximate impounded volume in the FGD cell at the time of the inspection was 0.90 ac-ft.

5.5.6 Structural Weakness or Operational Change/Disruption

No conditions associated with structural weakness were identified during the field inspection.

No conditions that are or could be disruptive to the operation and safety of the CCR unit and appurtenant structures were identified during the field inspection.

6.0 OPERATION AND MAINTENANCE RECOMMENDATIONS

The following items were noted during inspections as requiring attention.

6.1 LINED ASH IMPOUNDMENT

Observed Condition	Action Item
1) Holes were observed in the anchor trench in the South and East Embankments. Mud cracks were observed in the East Embankment crest.	Monitor the holes and cracks. Repair any cracks in the embankment that extend deeper than 1 foot. Repair any cracks in the anchor trench that extend below the anchor trench excavation or begin to manifest in other parts of the crest.
2) There are bulges and depressions along the upstream slope in the Southwest Corner of the LAI.	The presence and identified causes of the bulges and depression should be recorded and the geotechnical engineer should be consulted. Repair documentation should be recorded.
3) There is a small hole in the crest of the LDWP along the toe of the LAI West Embankment.	Monitor the hole and repair it under the direction of a geotechnical engineer if it increases in size.
4) Inflow from the northernmost leg of the V-ditch has nearly spilled onto the crest, resulting in the addition of temporary berms to control the flow path.	Continuously monitor the diversion berms and inflow area whenever deposition is occurring. Alternately, construct permanent diversion berms under the direction of the geotechnical engineer or extend the end of the V-ditch sufficiently far enough into the LAI reservoir such that overflows will not impact the crest.
5) Minor erosion rills on the downstream slope of the West Embankment.	Continue ongoing repair program for repairing rills if the erosion depth exceeds 1 foot.

6.2 LINED DECANT WATER POND

Observed Condition	Action Item
1) The liner in the anchor trench in the central portion of the West Embankment appeared to be pulling out of the trench.	Continue to monitor the liner in the anchor trench. Re-anchor the liner if the liner continues to pull out of the trench.
2) Minor erosion rilling was observed on the West and South downstream slopes of the LDWP at the time of the inspection.	Continue ongoing repair program for repairing rills if the erosion depth exceeds 1 foot.
3) There is a small hole in the liner at the crest elevation along the North Embankment.	Repair the hole.
4) The seam connecting two adjacent sheets of liner has failed along approximately 10 inches at the North Embankment.	Repair the liner.
5) There is a small hole in the crest of the LDWP along the toe of the LAI West Embankment.	Monitor the hole and repair it under the direction of a geotechnical engineer if it increases in size.
6) There is a rut along the upstream half of the South Embankment crest exposing the liner.	Repair the rut.
7) An ant hill was observed in the crest.	This is an ongoing maintenance requirement. Repair ant hills and animal burrows as needed.

6.3 COMBINED WASTE TREATMENT POND

Observed Condition	Action Item
1) Vegetation (grass, small trees, and shrubs) was observed on portions of the upstream and downstream slopes during this inspection.	This is an ongoing maintenance requirement. The grasses should be cut and vegetation removal along the upstream and downstream slopes should be performed in accordance with the NMOSE vegetation maintenance guidelines "*Vegetation Management on Dams*" (2011) reference.
2) Instances of minor erosion were observed along the upstream and downstream slopes.	Continue to monitor these areas and repair erosion if it exceeds 1 foot in depth.
3) The soil along the upstream edge of the crest was observed to be loose and weak over a distance of approximately 4 feet near the longitudinal crack in Condition 4 (below).	Investigate the cause of the weak soil and repair the crest.
4) An 11.5-foot long longitudinal crack was observed on the downstream slope near the weak crest soil in Condition 3 (above).	Investigate the cause of the crack and repair the slope.
5) A 6-foot long longitudinal crack was observed on the downstream slope where a piece of riprap is separating from the soil.	Monitor the area and repair the area if the riprap slides further down the slope.
6) Erosion along the upstream slope resulting in an irregular face.	Continue to monitor the area repair the area if required to bring it to the design slope (2H:1V).
7) Ant hills were observed along the embankment crest and animals have been known to burrow in the area.	This is an ongoing maintenance requirement. Repair ant hills and animal burrows as needed.

6.4 DRY FLY ASH DISPOSAL AREA

Observed Condition	Action Item
1) There is erosion at the Stormwater Diversion Channel inlet.	Monitor erosion and repair the area if the eroded area expands. Alternately, place additional sandstone riprap in the eroded area.
2) Several plants are growing through the Pyramat geosynthetic along the western toe of Cell 1.	Monitor the plant growth and remove the vegetation if it is determined to be damaging the primary geomembrane liner.
3) A colony of reeds is growing in the Cell 1 leachate collection pond.	The reeds should be monitored and removed if they are judged to be reducing the available retention volume.

6.5 RETURN WATER POND

Observed Condition	Action Item
1) Some vegetation is beginning to grow in the anchor trenches on the crest.	Vegetation removal should be performed in accordance with the NMOSE vegetation maintenance guidelines "*Vegetation Management on Dams*" (2011) reference.

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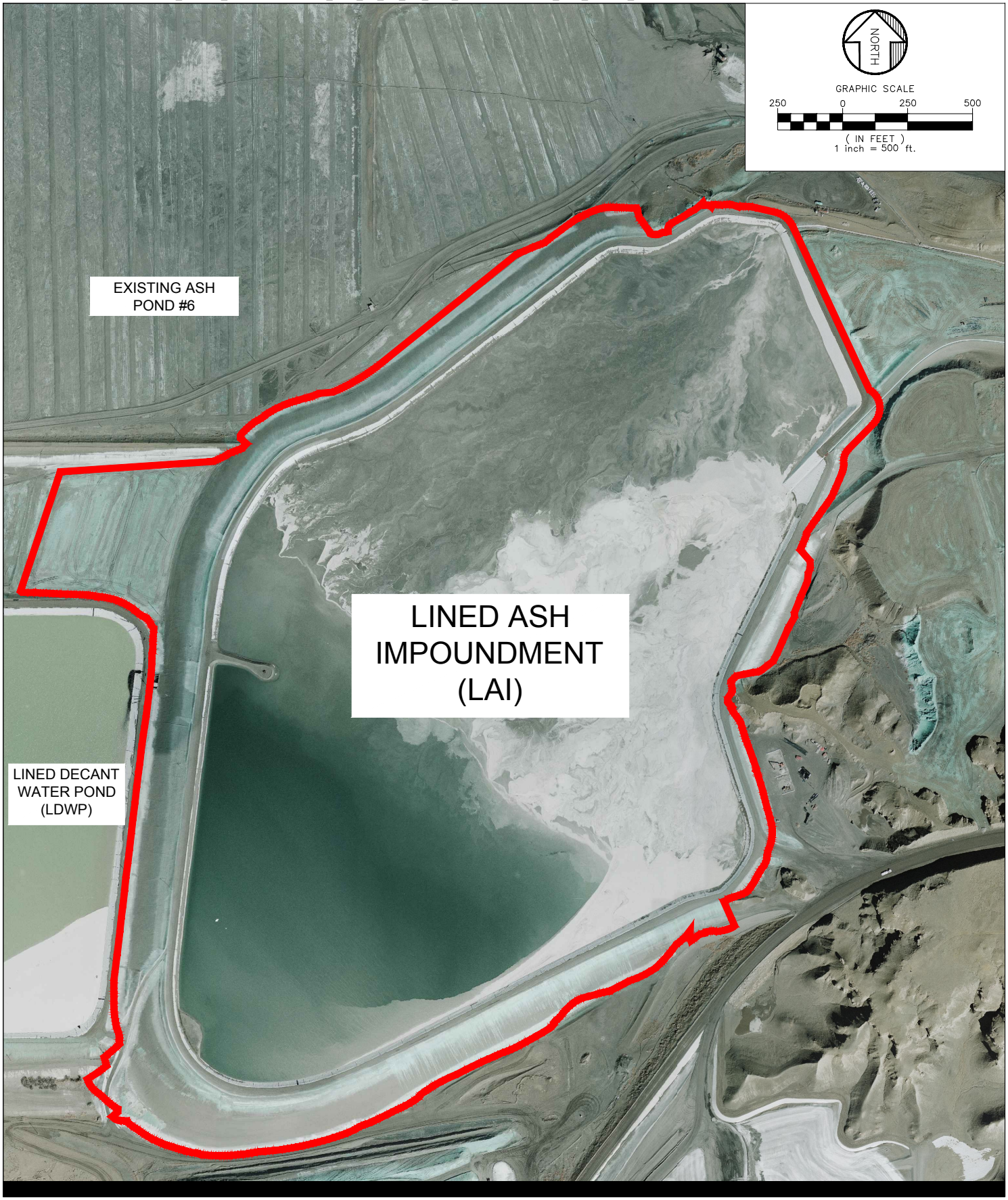
FIGURES

Last saved by: LEE.WRIGHT(2018-12-03) Last Plotted: 2018-12-03
Filename: P:\PROJECTS\ARIZONA_PUBLIC_SERVICE\60589229_2018_FC_CH_MD_CCR_INSPECTIONS\900_CAD_GIS\910_CAD\25-SKETCHES\FIGURE 1 - LAI.DWG
ANSI A 8.5" x 11"



FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

LINED ASH IMPOUNDMENT (LAI)

AECOM

FIGURE 1

Last saved by: LEE.WRIGHT(2018-12-03) Last Plotted: 2018-12-03
Filename: P:\PROJECTS\ARIZONA_PUBLIC_SERVICE\60589229_2018_FC_CH_MD_CCR_INSPECTIONS\900_CAD_GIS\910_CAD\25-SKETCHES\FIGURE 2 - LDWP.DWG
ANSI A 8.5" x 11"

FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

LINED DECANT WATER POND (LDWP)

AECOM

FIGURE 2

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Filename: P:\PROJECTS\ARIZONA_PUBLIC_SERVICE\60589229_2018_FC_CH_MD_CCR_INSPECTIONS\900_CAD_GIS\910_CAD\25-SKETCHES\FIGURE 3 - CWTP.DWG
ANSI A 8.5" x 11"

FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

COMBINED WASTE TREATMENT POND (CWTP)

AECOM

FIGURE 3

Last saved by: LEE.WRIGHT(2019-12-03) Last Plotted: 2019-12-03
Filename: P:\PROJECTS\ARIZONA_PUBLIC_SERVICE\60616173_2019_FCPP_DAM_INSPECTIONS\900 - CAD, GIS\910_CAD\25-SKETCHES\FIGURE 4 - DFADA.DWG
ANSI A 8.5" x 11"

FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

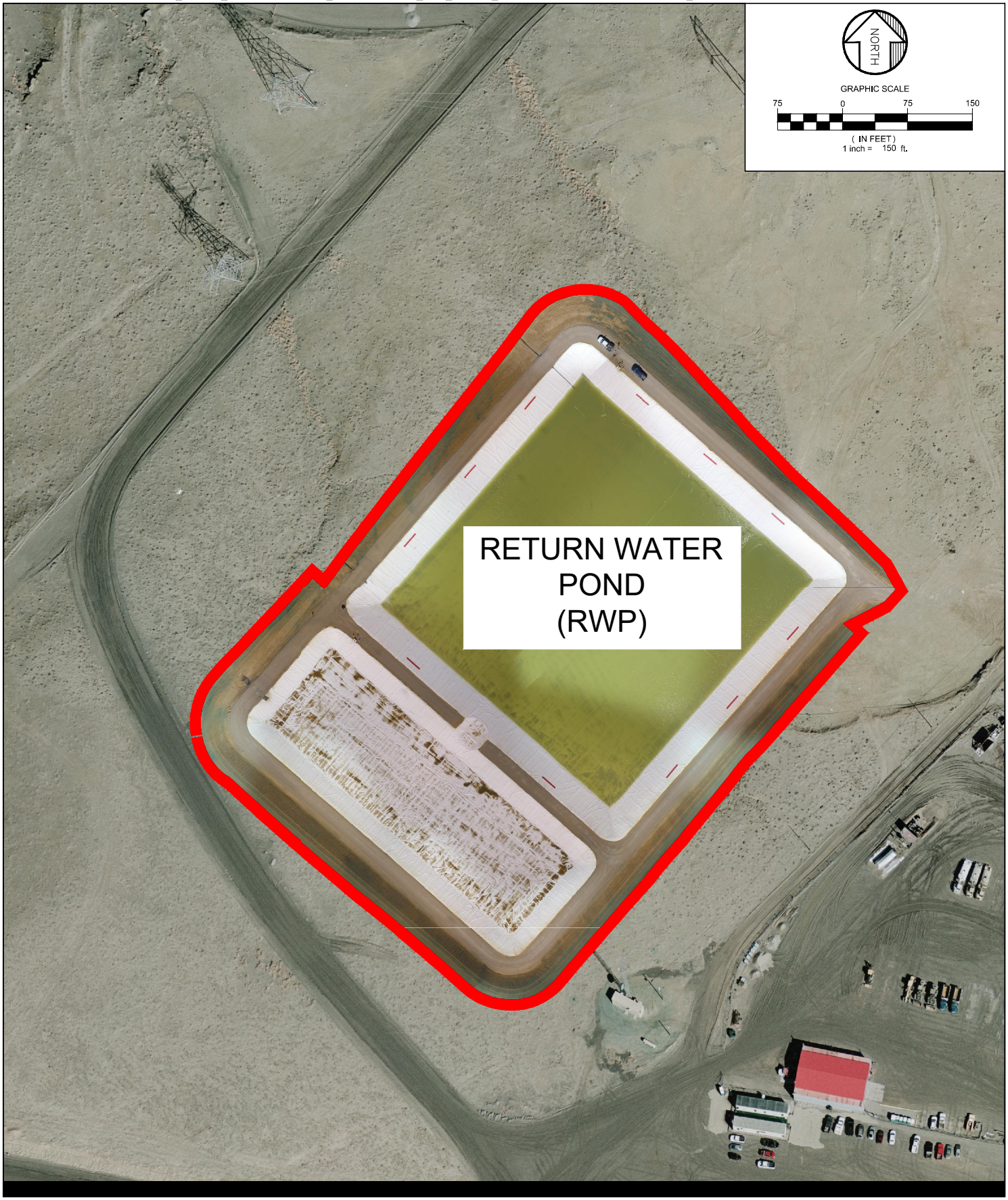
DRY FLY ASH
DISPOSAL AREA
(DFADA)

AECOM

FIGURE 4

Last saved by: MIKE.BEASON(2020-12-18) Last Plotted: 2020-12-18
Filename: P:\PROJECTS\ARIZONA_PUBLIC_SERVICE\60647538_2020FCDAM\900_CAD_GIS\910_CAD\25-SKETCHES\FIGURE 5 - RWP_MEB.DWG

ANSI A 8.5" x 11"



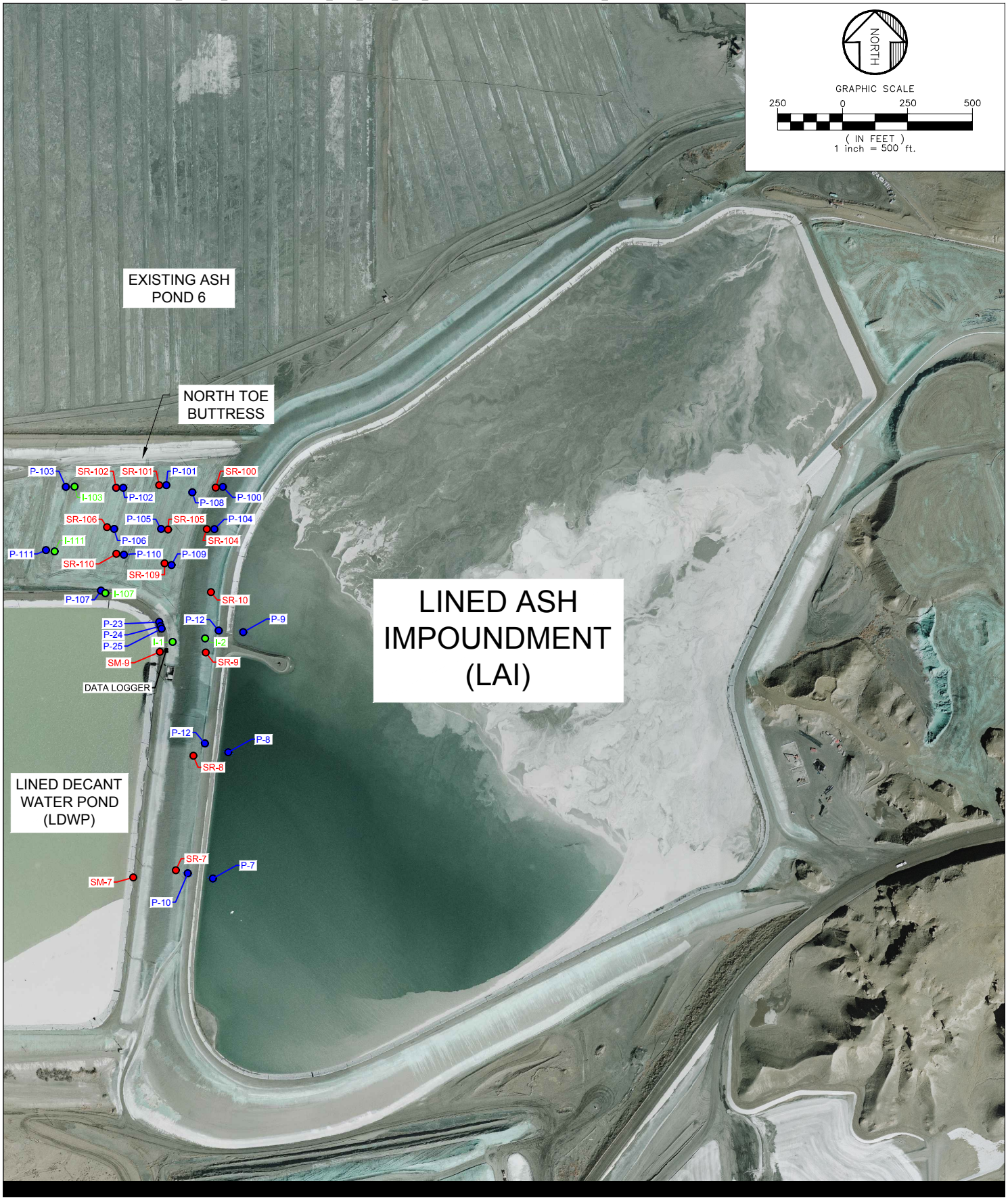
FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

RETURN WATER POND
(RWP)

AECOM

FIGURE 5

Last saved by: LEE.WRIGHT(2019-12-03) Last Plotted: 2019-12-03 ANSI A 8.5" x 11"
Filename: P:\PROJECTS\ARIZONA_PUBLIC_SERVICE\60616173_2019_FCPP_DAM_INSPECTIONS\900 - CAD, GIS\910_CAD\25-SKETCHES\FIGURE 6 - LAI INSTRUMENTATION MAP.DWG



FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

LINED ASH IMPOUNDMENT (LAI) INSTRUMENTATION MAP

AECOM

FIGURE 6

Last saved by: LEE.WRIGHT(2019-12-03) Last Plotted: 2019-12-03 ANSI A 8.5" x 11"
Filename: P:\PROJECTS\ARIZONA_PUBLIC_SERVICE\60616173_2019_FCPP_DAM_INSPECTIONS\900 - CAD, GIS\910_CAD\25-SKETCHES\FIGURE 7 - LDWP INSTRUMENTATION MAP.DWG

FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

LINED DECANT WATER POND (LDWP) INSTRUMENTATION MAP

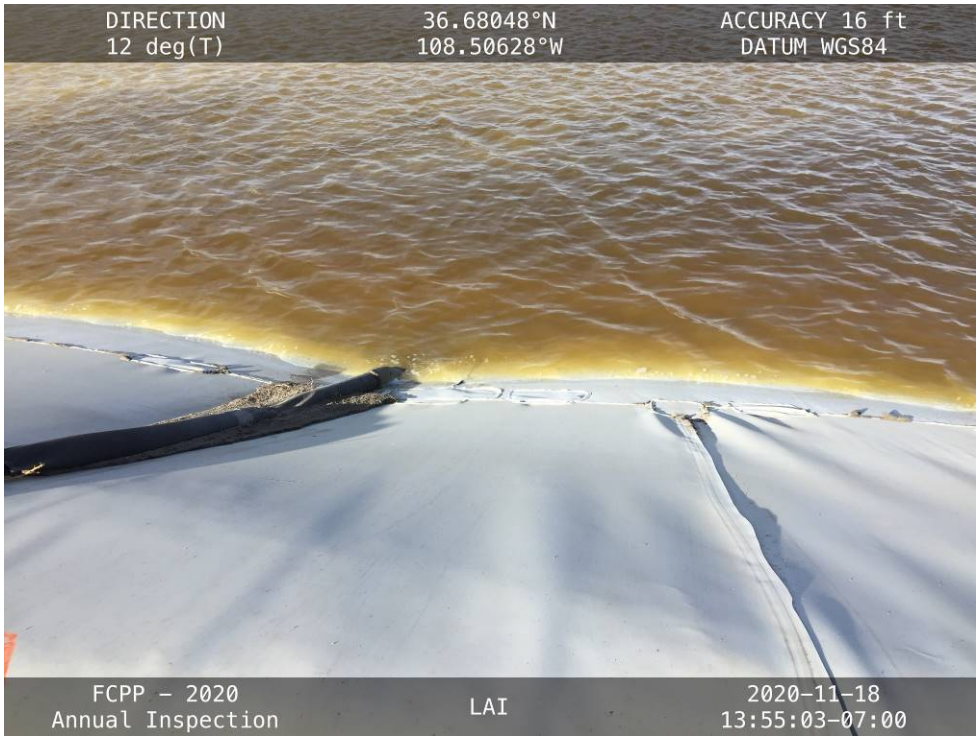
AECOM

FIGURE 7

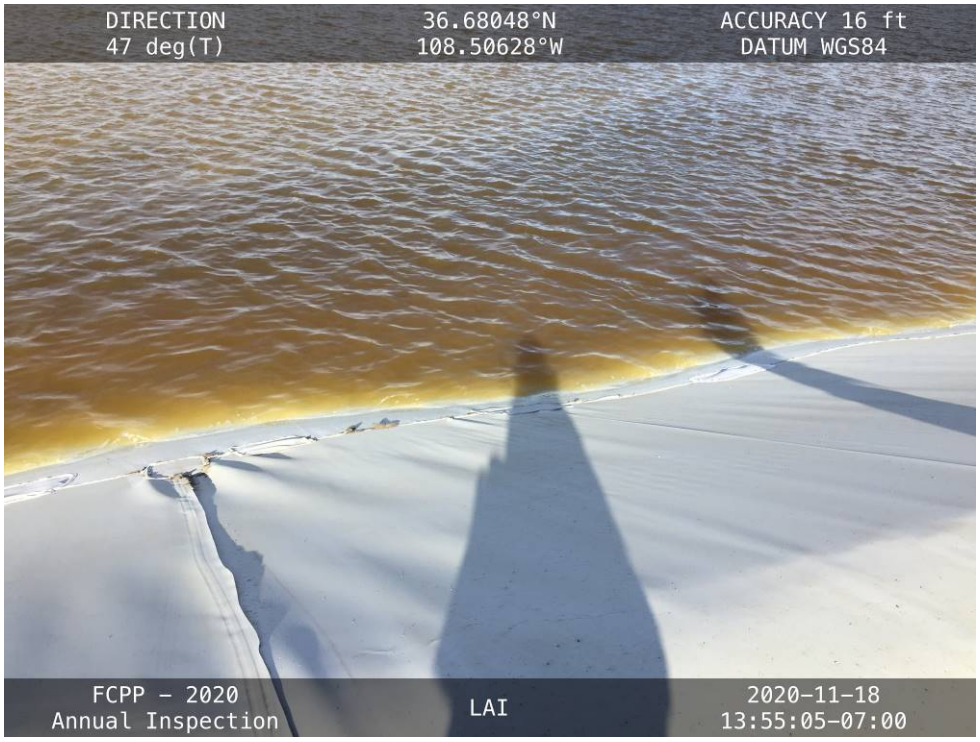
APPENDIX A

LINED ASH IMPOUNDMENT (LAI) PHOTO LOG

20201118 – IMG_3344
The upstream slope of the South Embankment, facing east from the Southwest Corner.

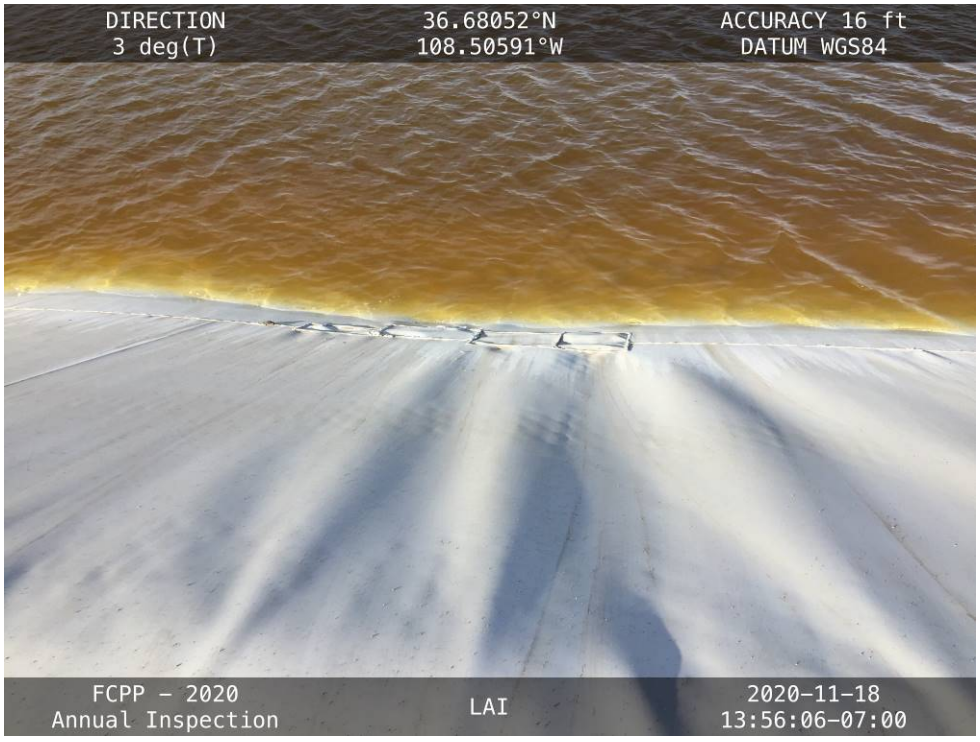


20201118 – IMG_3346
Uneven section of the upstream liner along the South Embankment.



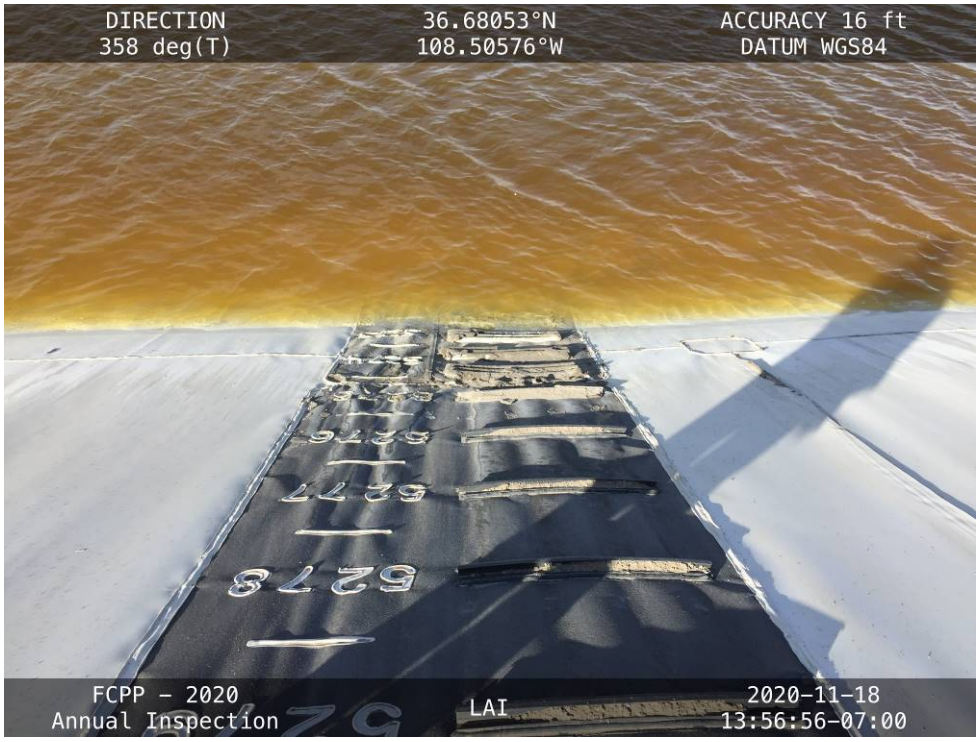
20201118 – IMG_3347

A series of patches at the liner seam along the upstream slope of the South Embankment.



20201118 – IMG_3349

A set of patches at the liner seam along the upstream slope of the South Embankment.



20201118 – IMG_3350
The water elevation in the LAI at the time of the inspection.

20201118 – IMG_3353
Uneven section of liner along the upstream slope on the South Embankment.

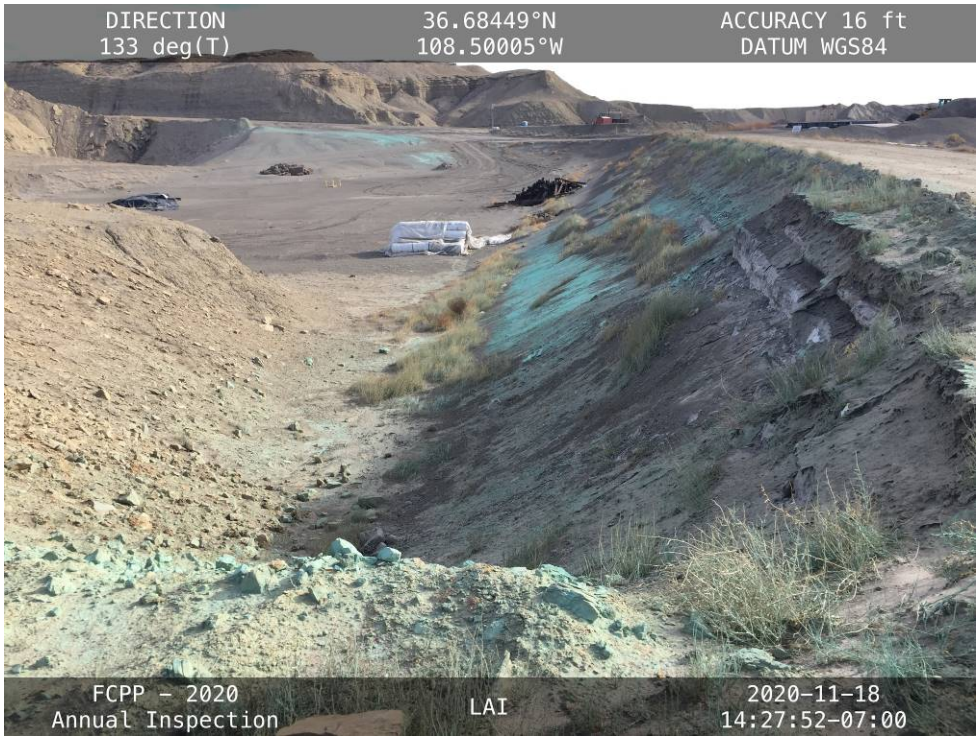
20201118 – IMG_3373
The downstream slope of the South Embankment, facing west from the DFADA.

20201118 – IMG_3375
A hole at the edge of the anchor trench along the upstream side of the South Embankment.

20201118 – IMG_3377
The upstream slope of the South Embankment, facing west from the East Embankment.

20201118 – IMG_3383
The new datalogger station for the test road in the Southeast Corner, facing west.

20201118 – IMG_3384
Holes at the edge of the anchor trench along the upstream side of the East Embankment.



20201118 – IMG_3385
The downstream slope of the East Embankment, facing south.

20201118 – IMG_3388
Mud cracks on the upstream side of the East Embankment crest, facing south.

20201118 – IMG_3390
The upstream slope of the East Embankment, facing north.

20201118 – IMG_3392
The downstream slope of the East Embankment, facing south from the north end.

20201118 – IMG_3394
Bottom ash built up near the old V-ditch to contain the reservoir inflow.

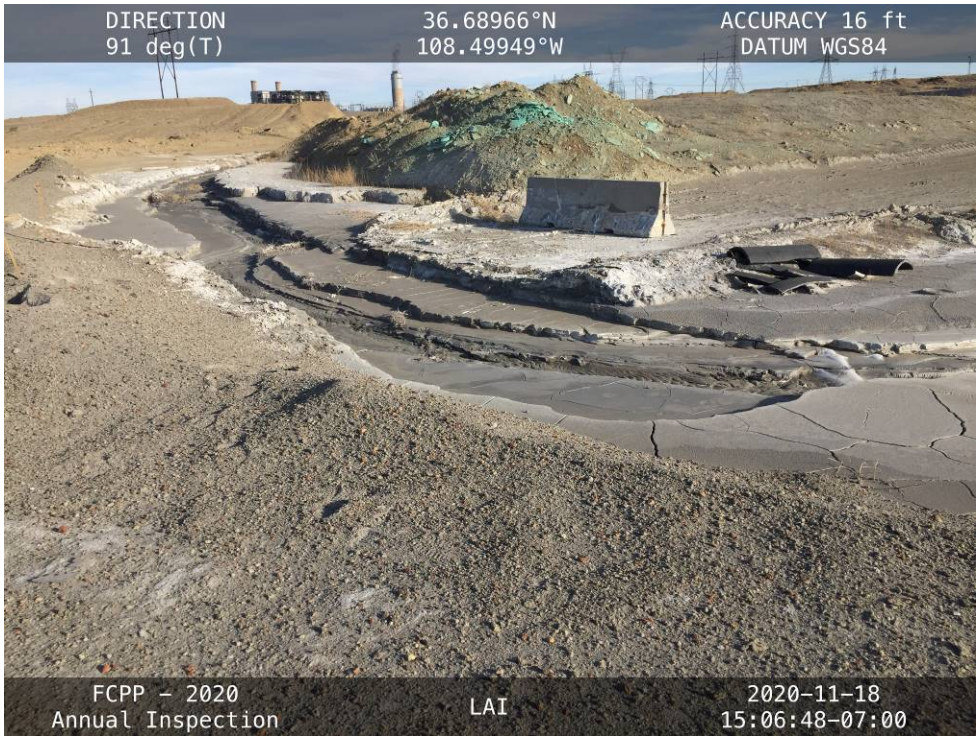
20201118 – IMG_3398
Bottom ash built up on the north side of the old V-ditch to contain the reservoir inflow.

20201118 – IMG_3401
The East Embankment, regraded north of the V-ditch, facing north.

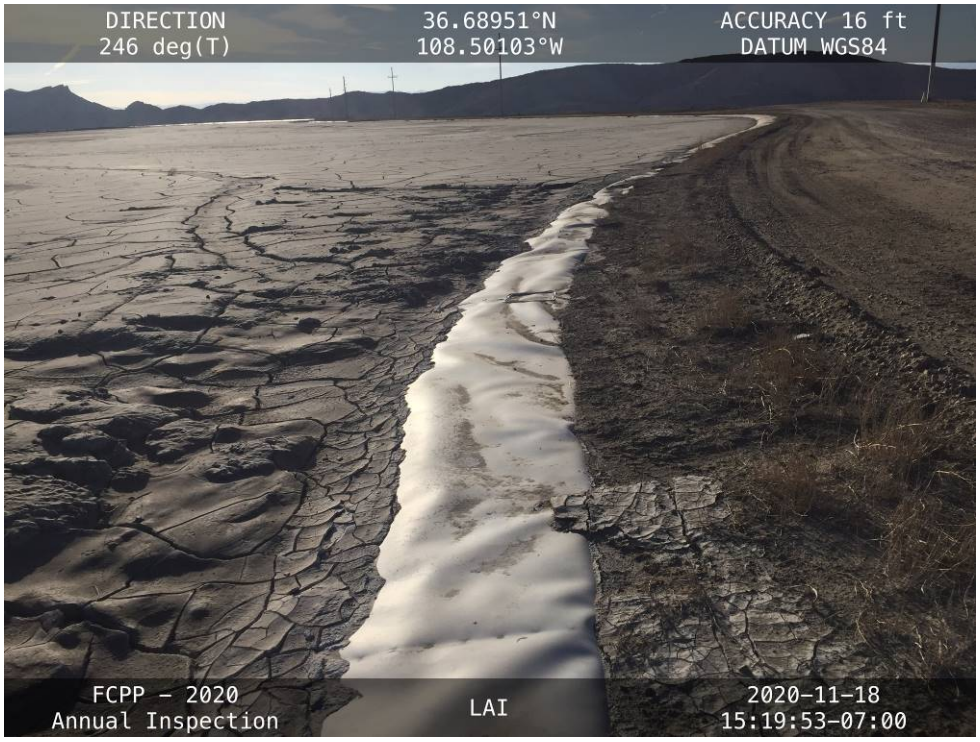
20201118 – IMG_3409
Deposition at the north V-ditch, facing south.

20201118 – IMG_3410
Diversion berm indicated in IMG_3409 constructed to keep inflows in the reservoir.

20201118 – IMG_3411
Ash at the north side of the LAI within inches of the crest elevation, facing west.



20201118 – IMG_3416
The inflow conditions at the north V-ditch, facing east with the LAI reservoir on the right.



20201118 – IMG_3431
Ash at the north side of the LAI within inches of the crest elevation, facing west.

20201118 – IMG_3434
Ash at the north side of the LAI within inches of the crest elevation, facing west.

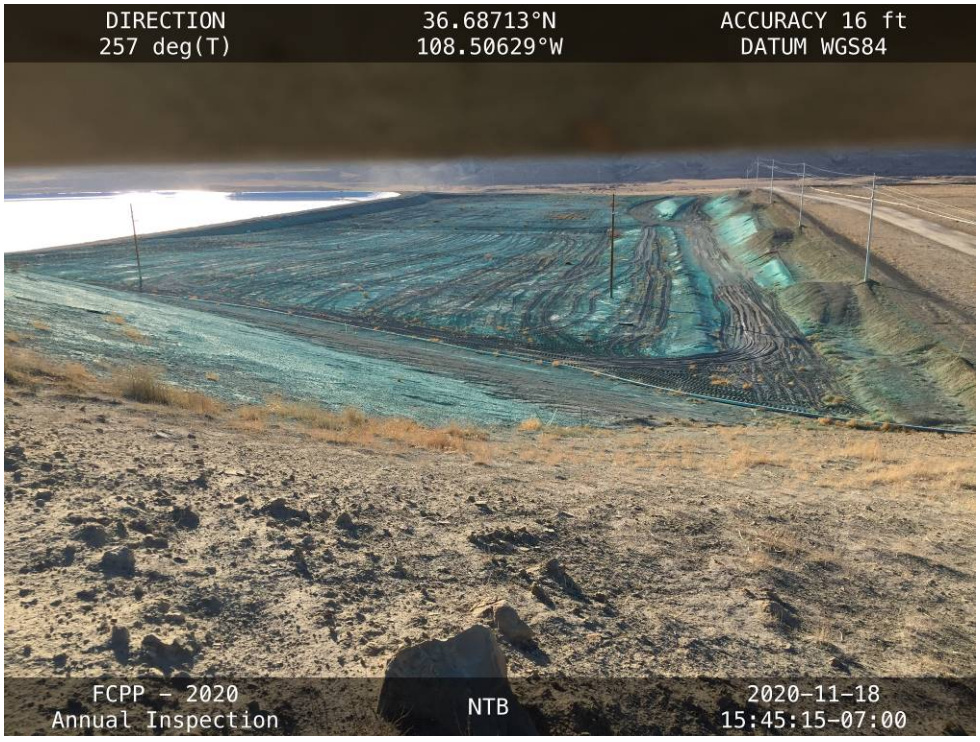
20201118 – IMG_3435
Ash at the north side of the LAI within inches of the crest elevation, facing east.

20201118 – IMG_3438
The downstream slope of the Northwest Embankment, facing west.

20201118 – IMG_3445
Ash at the north side of the LAI within 1.25 inches of the crest elevation.

20201118 – IMG_3447
A short berm constructed to divert inflows away from the Northwest Embankment crest.

20201118 – IMG_3450
A second berm constructed to divert inflows away from the Northwest Embankment crest.



20201118 – IMG_3460
The North Toe Buttress, facing west from the crest of the West Embankment.

20201118 – IMG_3469
The downstream slope of the West Embankment, facing south from the north end.

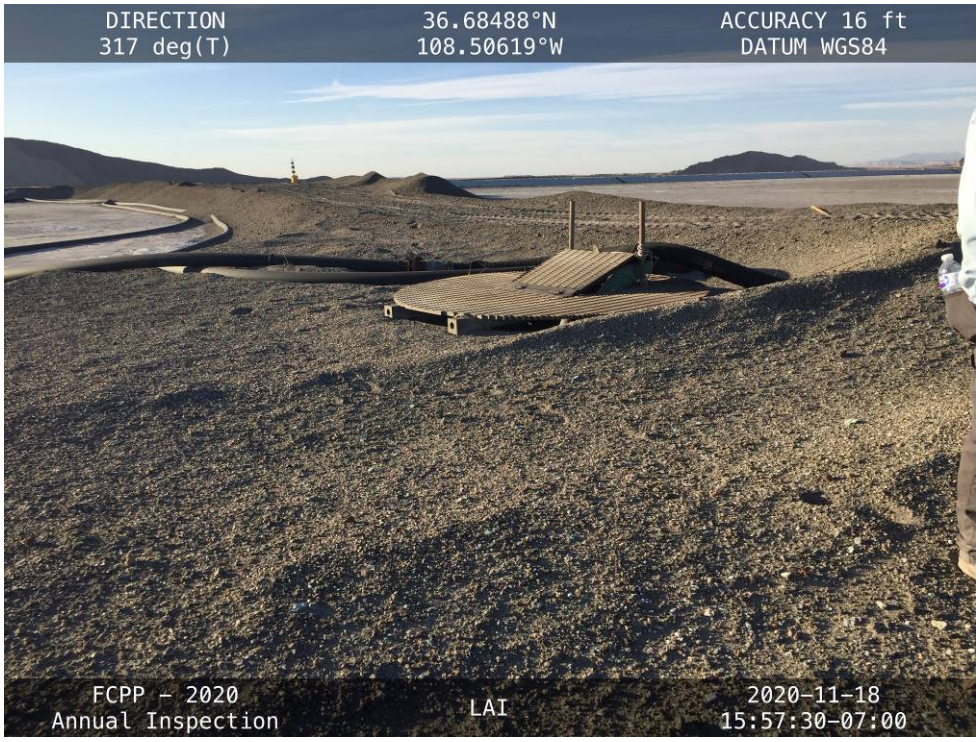
20201118 – IMG_3472
The bottom ash road near the Drop Inlet Structure and the new datalogger station, facing east.

20201118 – IMG_3473

The upstream slope of the West Embankment, facing south from the Drop Inlet Structure ramp.

20201118 – IMG_3474

The upstream slope of the West Embankment, facing north from the Drop Inlet Structure ramp.

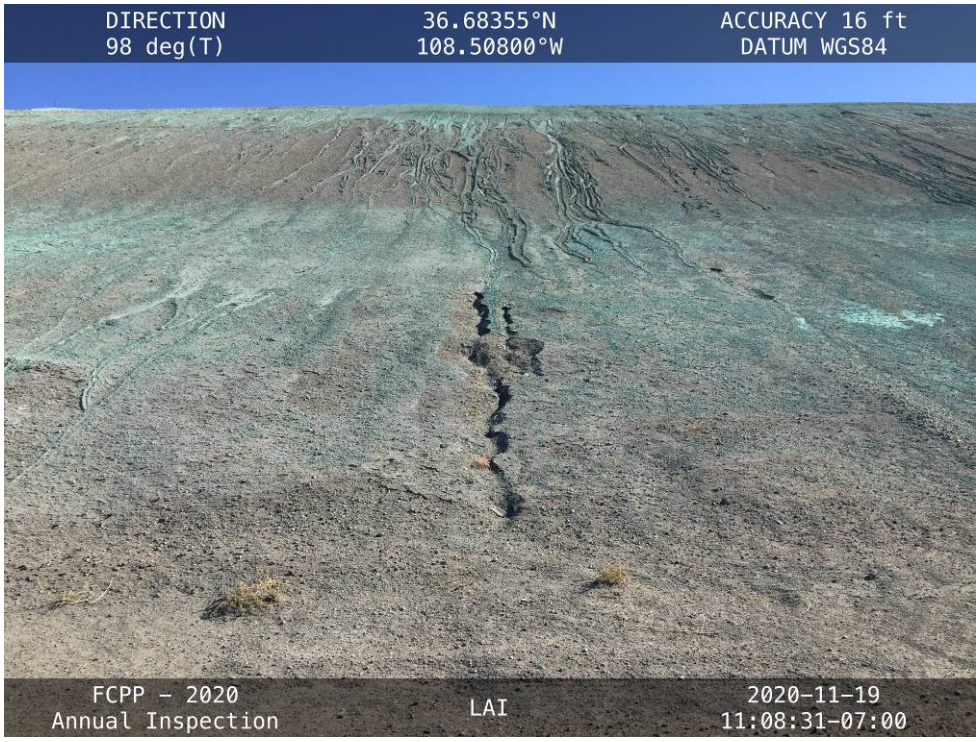


20201118 – IMG_3475
The Drop Inlet Structure, facing west from inside the LAI reservoir.

20201118 – IMG_3482
The crest of the West Embankment, facing south.

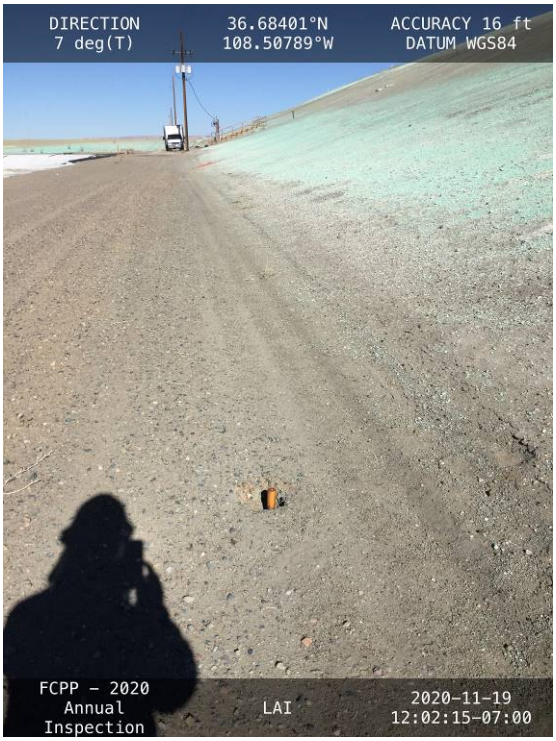
20201118 – IMG_3497
The downstream slope of the West Embankment, facing north from the LDWP access ramp.

20201118 – IMG_3500
The Southwest Corner of the LAI, facing south from the West Embankment.

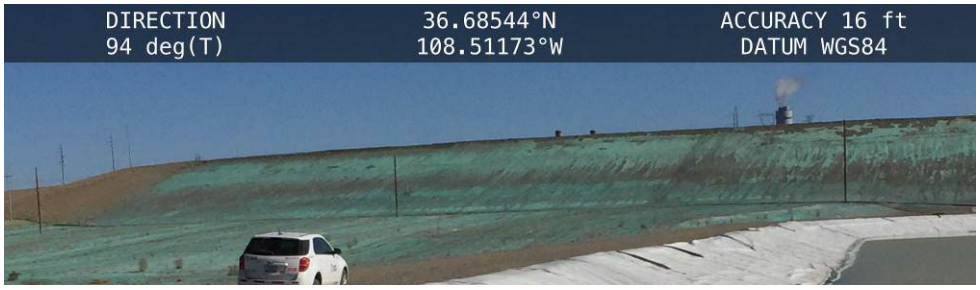


20201119 – IMG_3649
Erosion rills in the lower half of the West Embankment downstream slope, facing east.

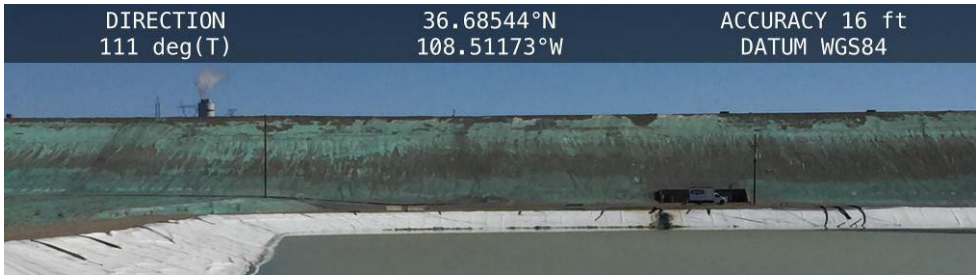
20201119 – IMG_3654
The downstream toe of the West Embankment, facing north.



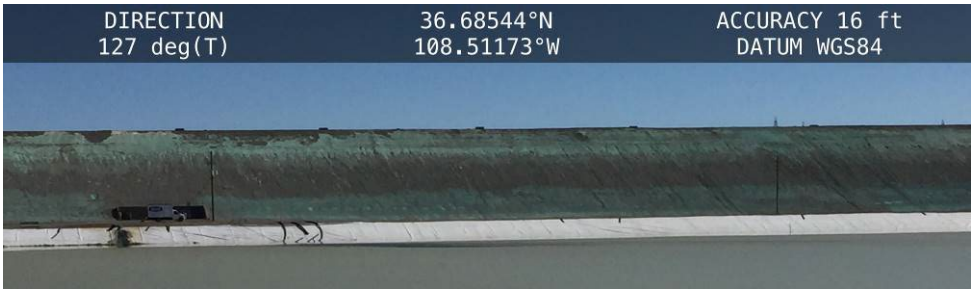
20201119 – IMG_3729
A hole deeper than 2.5 feet at the downstream toe of the West Embankment, facing north.



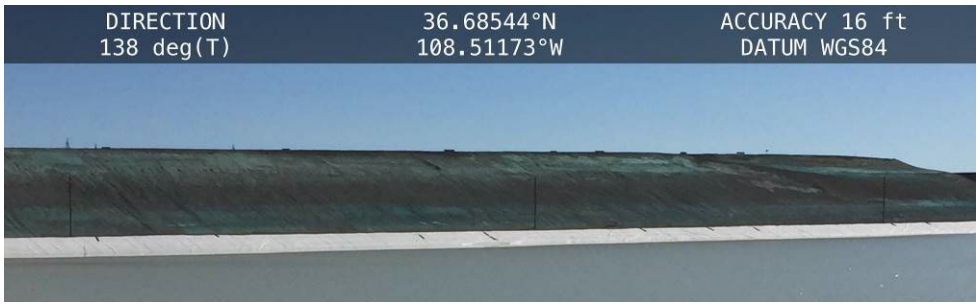
20201119 – IMG_3721
The downstream slope of the West Embankment, facing east from the LDWP.



20201119 – IMG_3722
The downstream slope of the West Embankment, facing east from the LDWP.

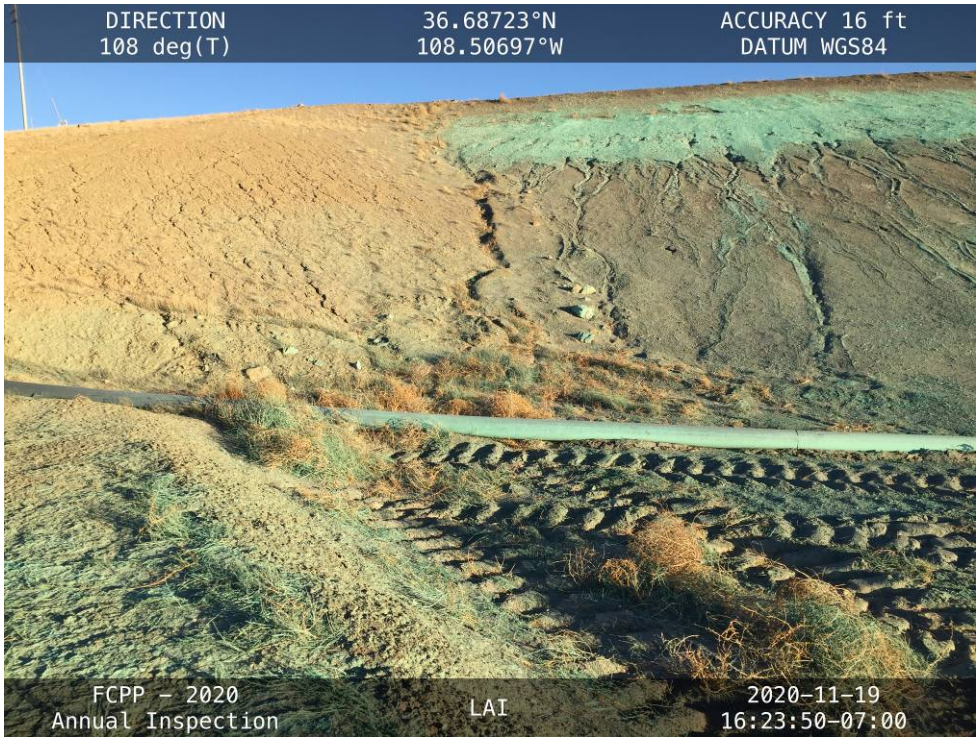


20201119 – IMG_3723
The downstream slope of the West Embankment, facing east from the LDWP.



20201119 – IMG_3724
The downstream slope of the West Embankment, facing east from the LDWP.

20201119 – IMG_3934
The South Embankment toe drain in a dry condition.

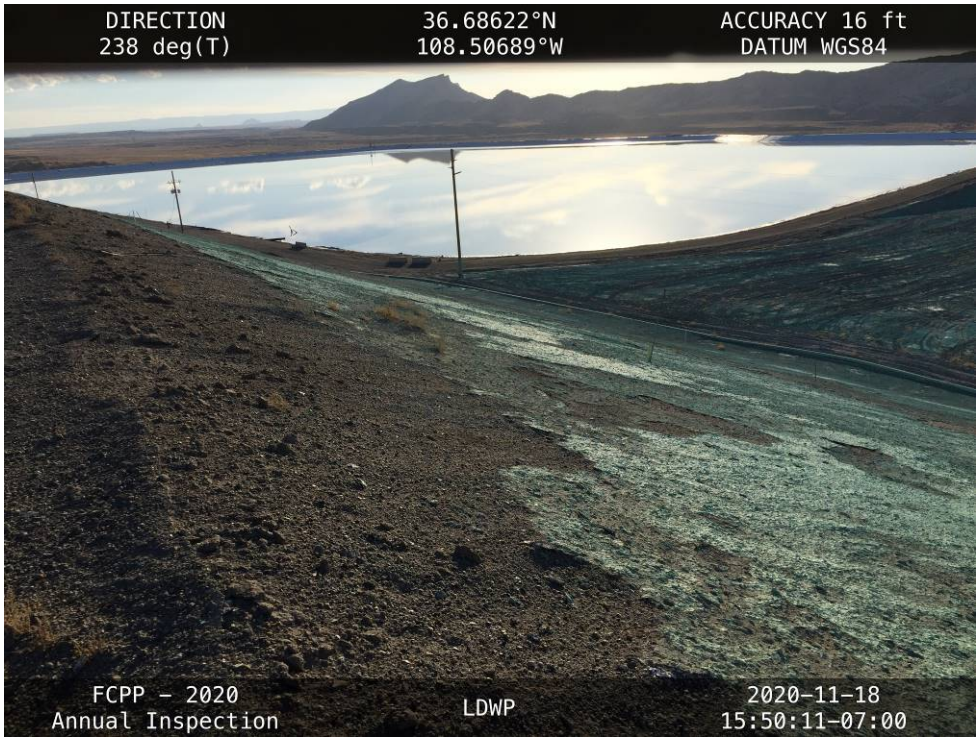


20201119 – IMG_3936
An erosion rill at the junction of the Northwest Embankment (soil) and the West Embankment (ash).

20201119 – IMG_3943
The downstream slope of the Northwest Embankment.

APPENDIX B

LINED DECANT WATER POND (LDWP) PHOTO LOG



20201118 – IMG_3467
The North Embankment of the LDWP, facing west from the crest of the LAI.

20201119 – IMG_3606
The South Embankment of the LDWP, facing north.

20201119 – IMG_3609

The West Embankment slope, facing east from the toe near the center of the embankment.

20201119 – IMG_3610

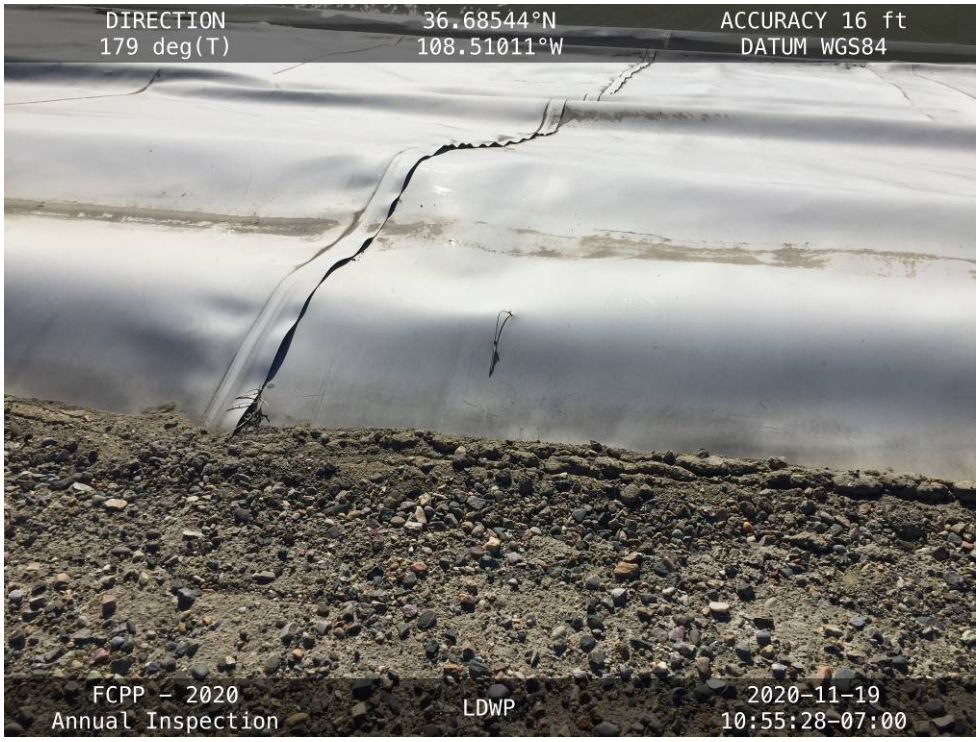
The West Embankment slope, facing southeast from the toe near the center of the embankment.

20201119 – IMG_3615
The upstream slope of the North Embankment, facing east from the West Embankment.

20201119 – IMG_3616
The crest of the North Embankment, facing east from the West Embankment.

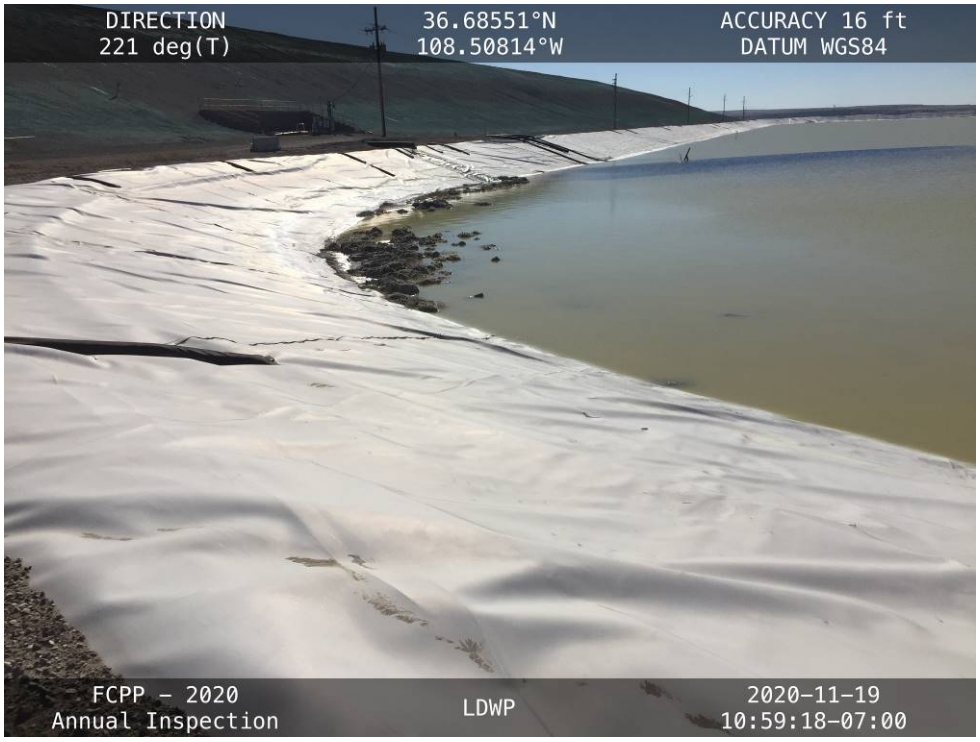
20201119 – IMG_3617
The downstream slope of the North Embankment, facing east from the West Embankment.

20201119 – IMG_3619
Two sheets of liner separating at the North Embankment.



20201119 – IMG_3623
A hole in the liner along the North Embankment marked with a pin flag.

20201119 – IMG_3624
Portions of the North Embankment liner with wrinkles, facing west near the center of the crest.



20201119 – IMG_3628
The upstream slope of the East Embankment, facing south from the North Embankment.

20201119 – IMG_3630
The surface monuments for piezometers P-23, P-24, and P-25.

20201119 – IMG_3635

The 8-inch and 16-inch HDPE outlet pipes used to convey decant water from the LAI.

20201119 – IMG_3636

The crest and upstream slope of the East Embankment, facing south from the northeast corner.

20201119 – IMG_3638
The LDWP pump station in the northeast corner of the perimeter embankment.

20201119 – IMG_3642
The siphon lines in the northwest corner of the LDWP.

20201119 – IMG_3643
The upstream slope of the East Embankment showing the bottom of the pond.

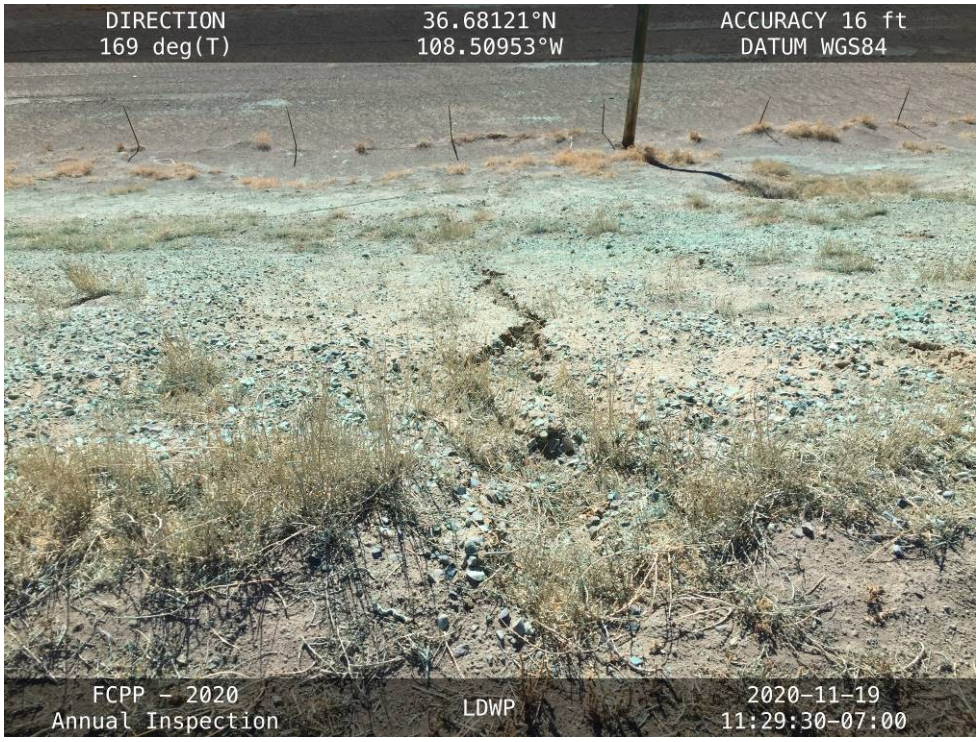
20201119 – IMG_3653
The upstream slope of the South Embankment, facing west from the southeast corner.

20201119 – IMG_3655
The upstream slope of the East Embankment, facing north from the southeast corner.

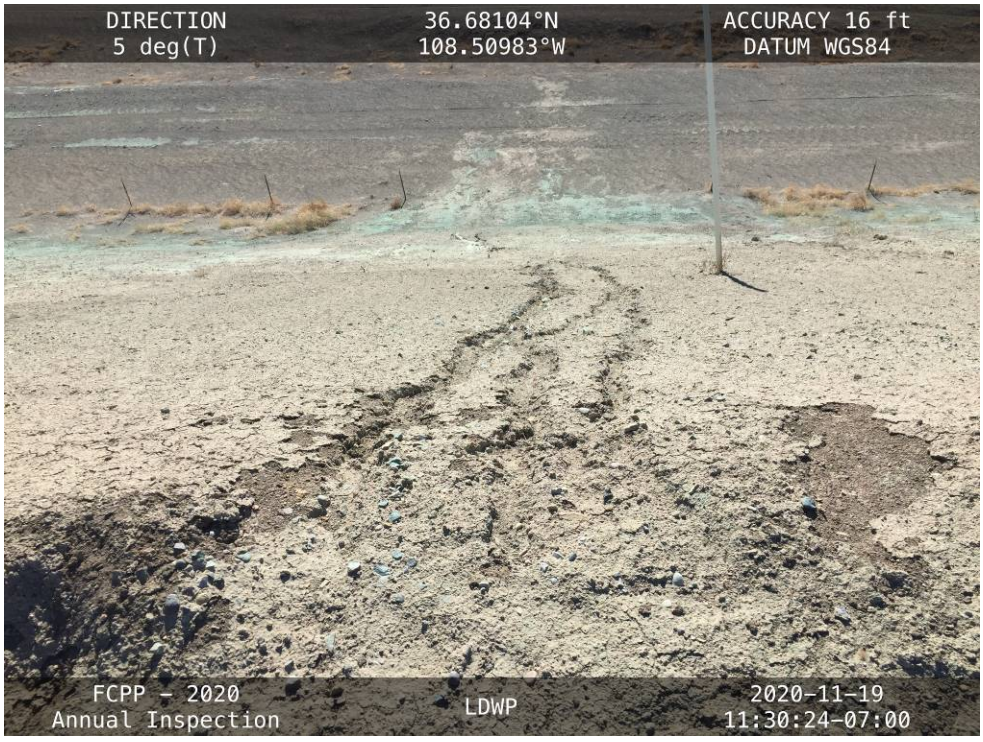
20201119 – IMG_3657
The crest of the South Embankment, facing west from the southeast corner.

20201119 – IMG_3658
The downstream slope of the South Embankment, facing west from the southeast corner.

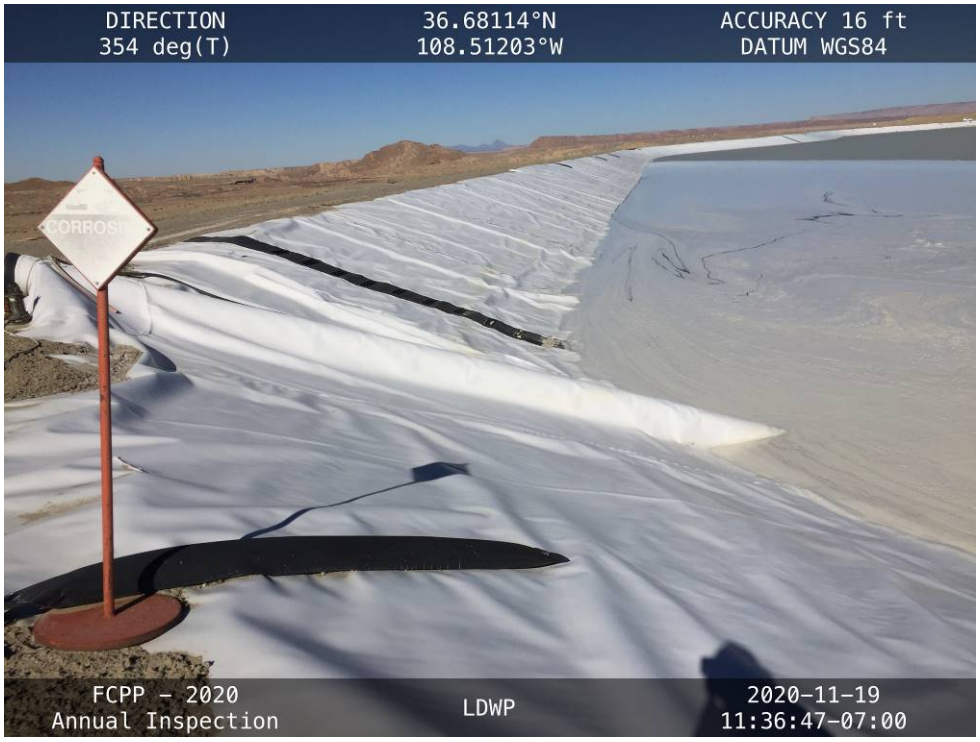
20201119 – IMG_3660
A rut in the crest of the South Embankment.



20201119 – IMG_3663
An incipient erosion rill on the downstream slope of the South Embankment, seen from the crest.



20201119 – IMG_3668
Erosion rills forming in an area of prior repair on the upper half of the South Embankment.

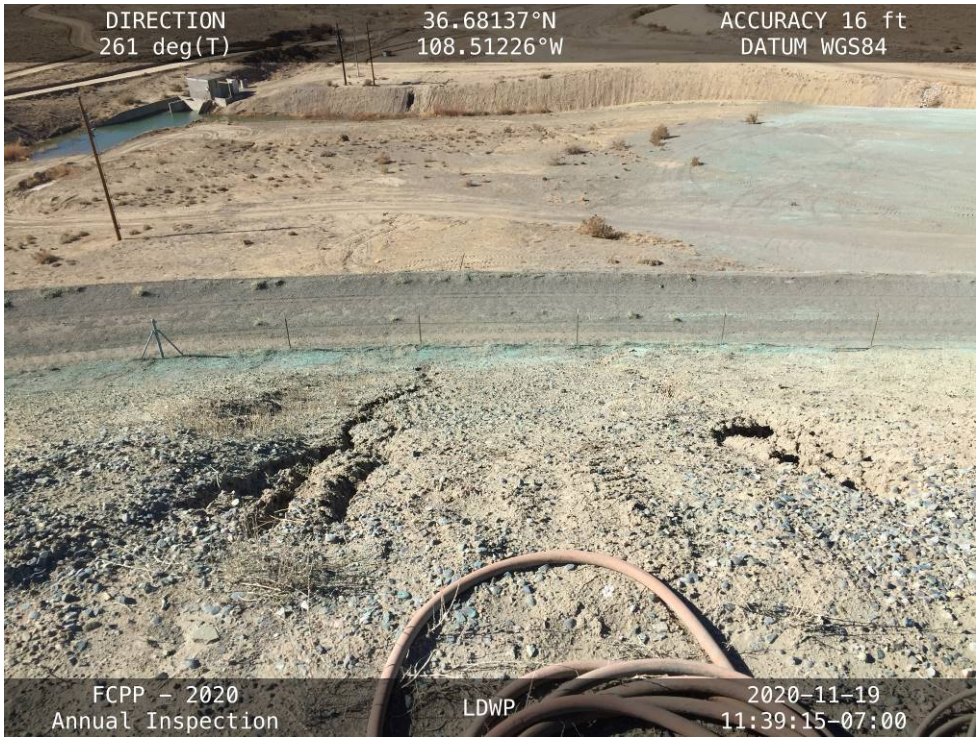


20201119 – IMG_3678
The upstream slope of the West Embankment, facing north from the southwest corner.

20201119 – IMG_3680
The Interstitial Evacuation Pump access pipes and associated equipment.

20201119 – IMG_3684
The downstream slope of the West Embankment, facing north from the southwest corner.

20201119 – IMG_3689
The crest of the West Embankment, facing north from the southwest corner.



20201119 – IMG_3691
Incipient erosion rills on the downstream slope of the West Embankment, seen from the crest.

20201119 – IMG_3693
The upstream slope of the South Embankment, facing east from the West Embankment.

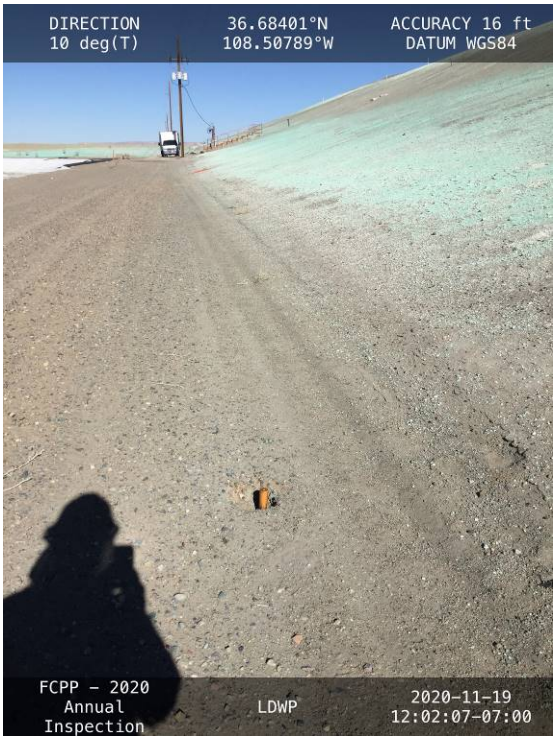
20201119 – IMG_3697
An ant hill on the upstream half of the West Embankment crest.

20201119 – IMG_3701
The upstream slope of the West Embankment, facing south toward the Pond 3 Pump House discharge pipe.

20201119 – IMG_3705
The downstream slope of the West Embankment, facing north.

20201119 – IMG_3708
The liner pulling out of the anchor trench in the northern portion of the West Embankment.

20201119 – IMG_3719
The upstream slope of the West Embankment, facing south.



20201119 – IMG_3728
A hole deeper than 2.5 feet at the downstream toe of the LAI West Embankment, facing north.

APPENDIX C

COMBINED WASTE TREATMENT POND (CWTP) PHOTO LOG

20201118 – IMG_3236
The upstream slope along the northern embankment, facing east from the West Abutment.

20201118 – IMG_3237
The new 18-inch pipe installed to transfer water from the canal to the CWTP.

20201118 – IMG_3238
The downstream slope along the northern embankment, facing east.

20201118 – IMG_3239
The intake for the new 18-inch pipe that transfers water to from the canal to the CWTP.

20201118 – IMG_3240
Woody vegetation roots to be removed.

20201118 – IMG_3243
Erosion around the base of a bollard on the upstream slope.

20201118 – IMG_3244
The downstream slope along the northern portion of the embankment, facing east.

20201118 – IMG_3245
An ant hill on the downstream shoulder of the embankment.

20201118 – IMG_3249
Erosion with vegetation on the downstream slope along the northern portion of the embankment.

20201118 – IMG_3250
The upstream slope along the northern portion of the embankment, facing east.

20201118 – IMG_3257
Erosion in a portion of the downstream slope without riprap.

20201118 – IMG_3258
A riprap boulder separating from the rest of the slope, developing a 1-foot deep crack.

20201118 – IMG_3260
The reservoir and vegetation along the upstream slope of the embankment, facing northwest.

20201118 – IMG_3272
An 11.5-foot long tension crack forming on the downstream slope of the eastern part of the embankment. This is the same location observed in photo IMG_0933 during the 2018 inspection.

20201118 – IMG_3273
A zone of loose material on the upstream half of the crest near the tension crack in IMG_3272.

20201118 – IMG_3275
The 30-inch RCP outfall from the CWTP to the discharge canal.

20201118 – IMG_3276
The downstream slope along the eastern portion of the embankment, facing northwest.

20201118 – IMG_3279
Water flowing over the overflow weir to the outfall.

20201118 – IMG_3292
The downstream slope along the eastern portion of the embankment, facing southeast.

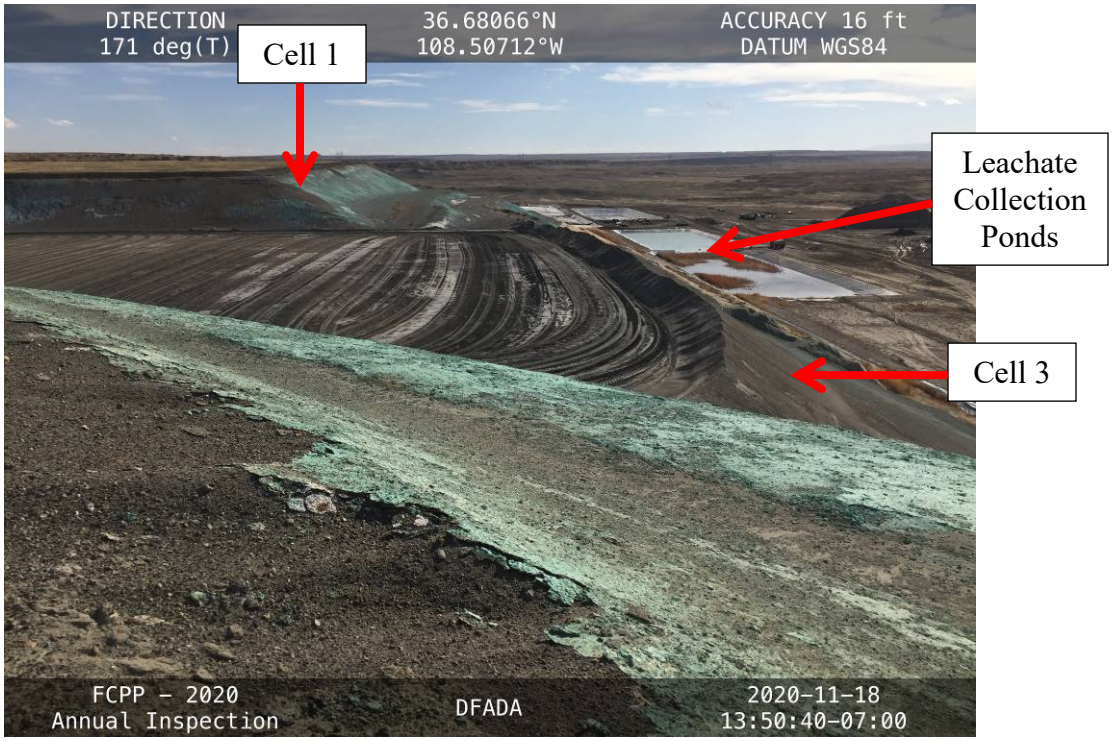
20201118 – IMG_3299
Water in the decant cells on the west side of the CWTP reservoir.

APPENDIX D

DRY FLY ASH DISPOSAL AREA (DFADA) PHOTO LOG

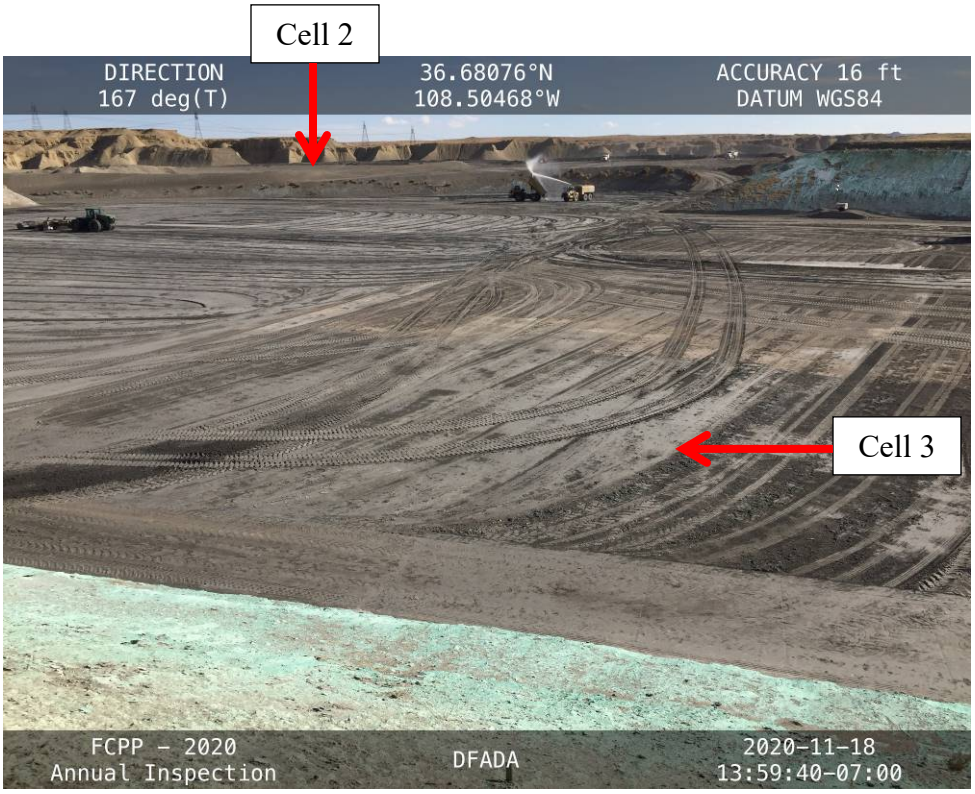
20201118 – IMG_3329
The south slope of DFADA Cell 1, facing north from the south side of DFADA Cell 4.

20201118 – IMG_3330
The south slope of DFADA Cells 1 and 2, facing north from the south side of DFADA Cell 4.



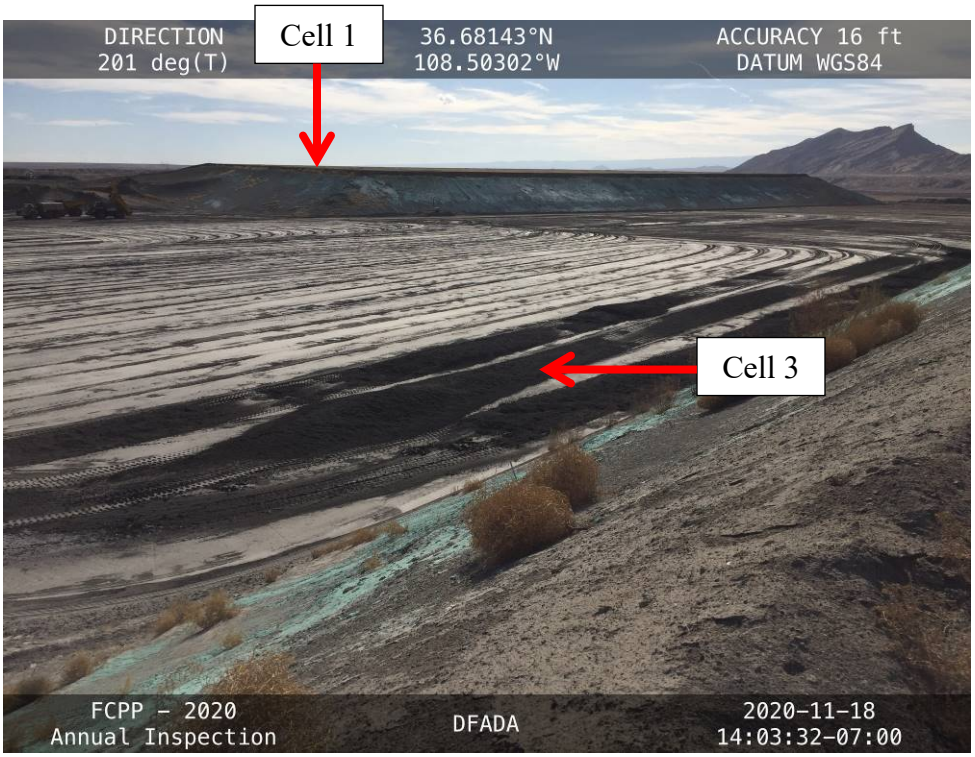
20201118 – IMG_3343
The leachate collection ponds and the western portion of DFADA Cells 1 and 3, facing south.

20201118 – IMG_3359
The easternmost portion of DFADA Cell 3 built up to the crest of the LAI, facing east.



20201118 – IMG_3361
DFADA Cell 2 (background) and the central portion of Cell 3 (foreground), facing south.

20201118 – IMG_3365
The western slope on the easternmost portion of Cell 3, facing south.

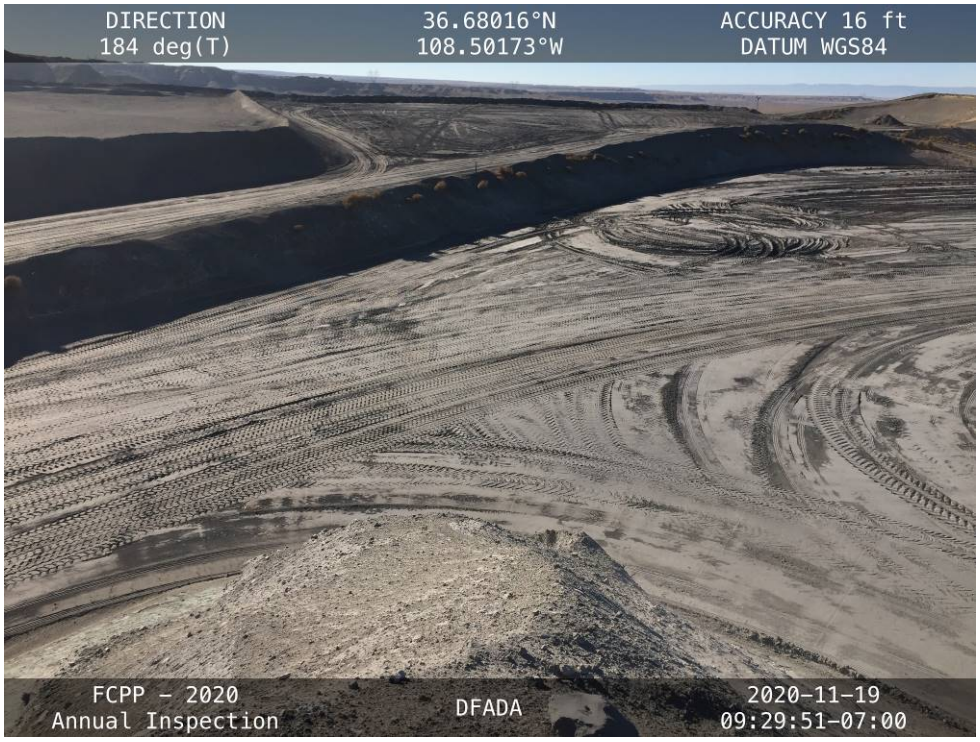


20201118 – IMG_3367
DFADA Cell 1 and the central portion of Cell 3, facing southwest.

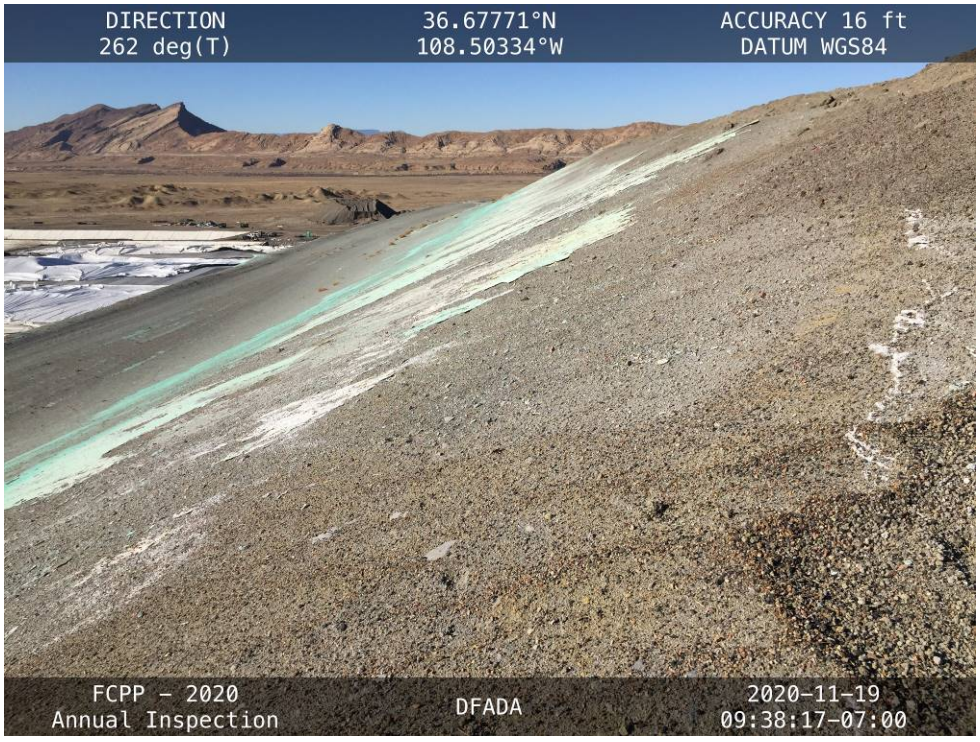
20201118 – IMG_3370
The top of the eastern portion of Cell 1, facing east from the LAI crest.

20201119 – IMG_3519
The downstream slope of the eastern portion of Cell 1, facing east.

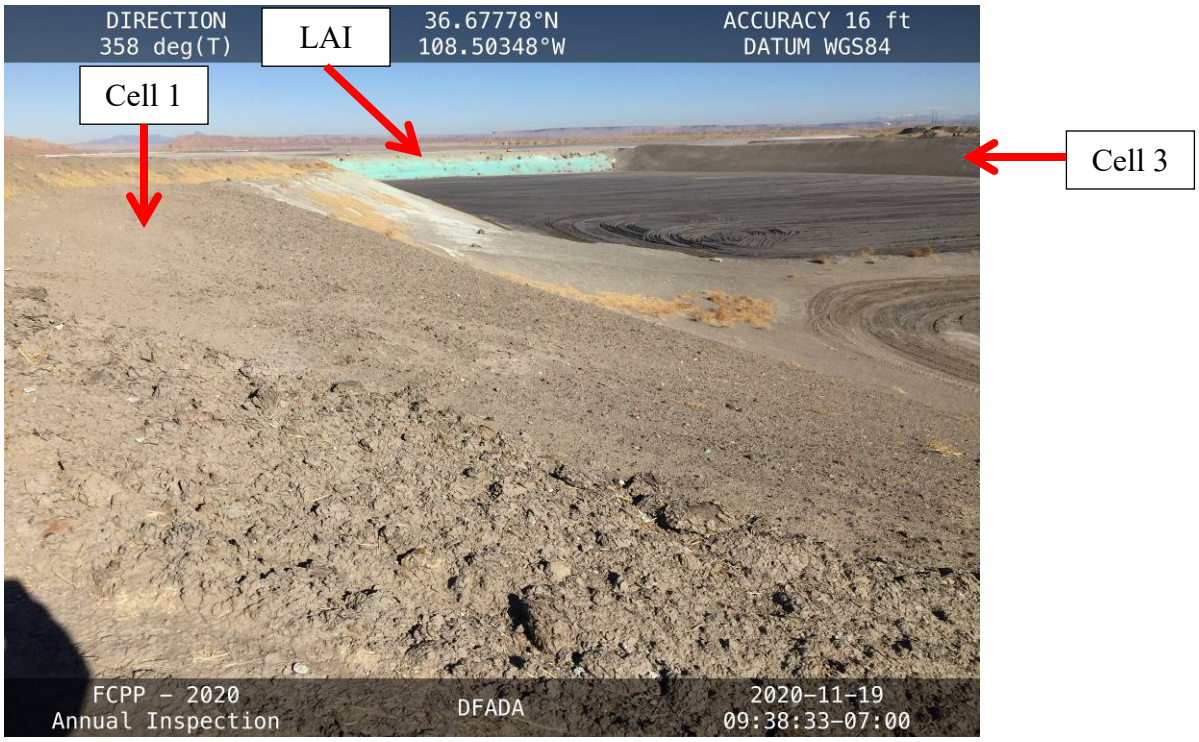
20201119 – IMG_3520
The north side DFADA Cell 2, facing east from Cell 1.



20201119 – IMG_3523
The western side DFADA Cell 2, facing south from Cell 1.



20201119 – IMG_3535
The downstream slope of Cell 1, facing west from the southeast corner of Cell 1.



20201119 – IMG_3536
DFADA Cells 1 and 3, facing north from the southeast corner of Cell 1 (LAI in the background).

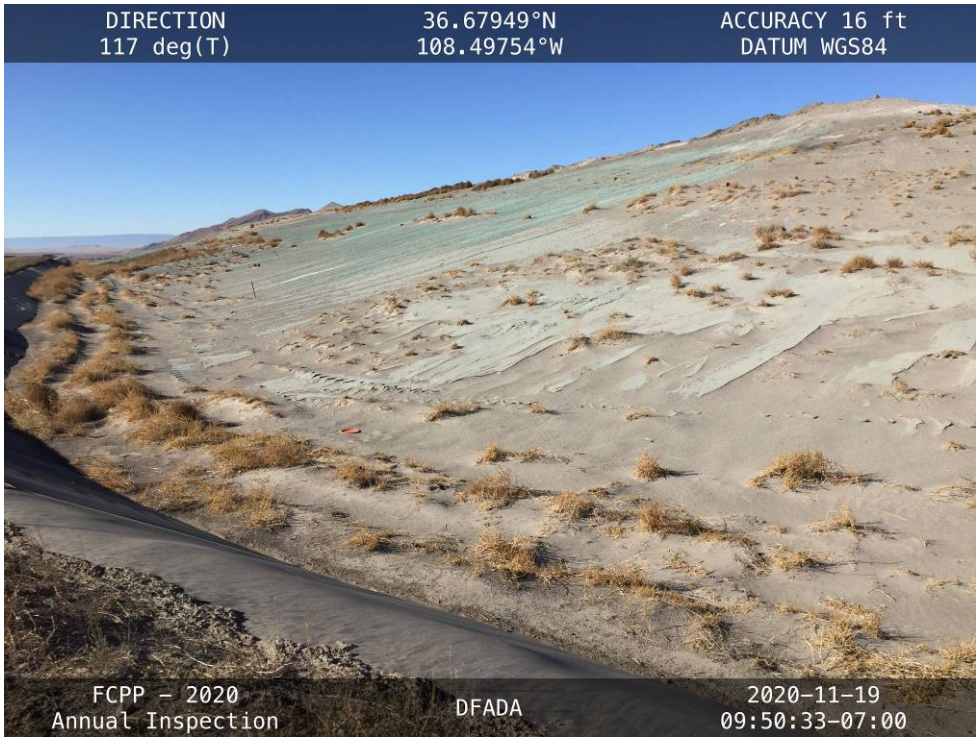
20201119 – IMG_3539
The top of Cell 2, facing east from the southeast corner of Cell 1.

20201119 – IMG_3545

The evapotranspiration cap cover system placed on top of Cell 1, facing northwest from the southeast corner.

20201119 – IMG_3558

The inlet to the Stormwater Diversion Channel, facing east from the ash haul road.



20201119 – IMG_3562
The eastern slope of DFADA Cell 2, facing west from the road along the toe.

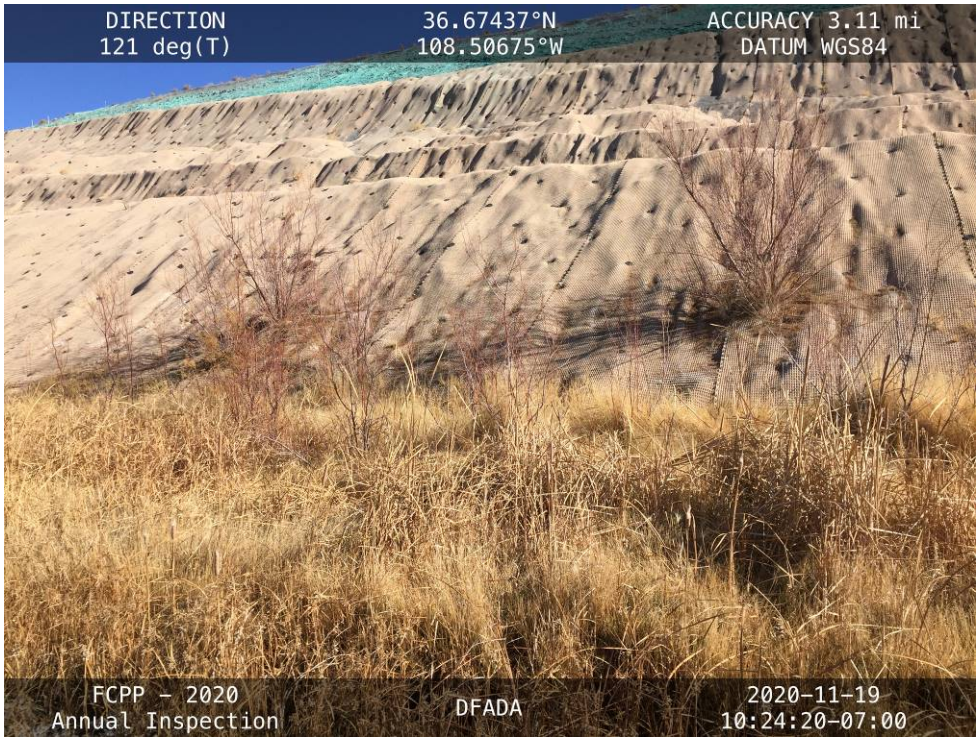
20201119 – IMG_3570
New riprap lining the Stormwater Diversion Channel constructed for Cell 4.

20201119 – IMG_3573
The new Stormwater Diversion Channel outlet constructed for Cell 4.

20201119 – IMG_3574
The new Stormwater Diversion Channel section constructed for Cell 4.

20201119 – IMG_3582
The DFADA Cell 2 leachate collection pond, facing north from the southwest corner of Cell 1.

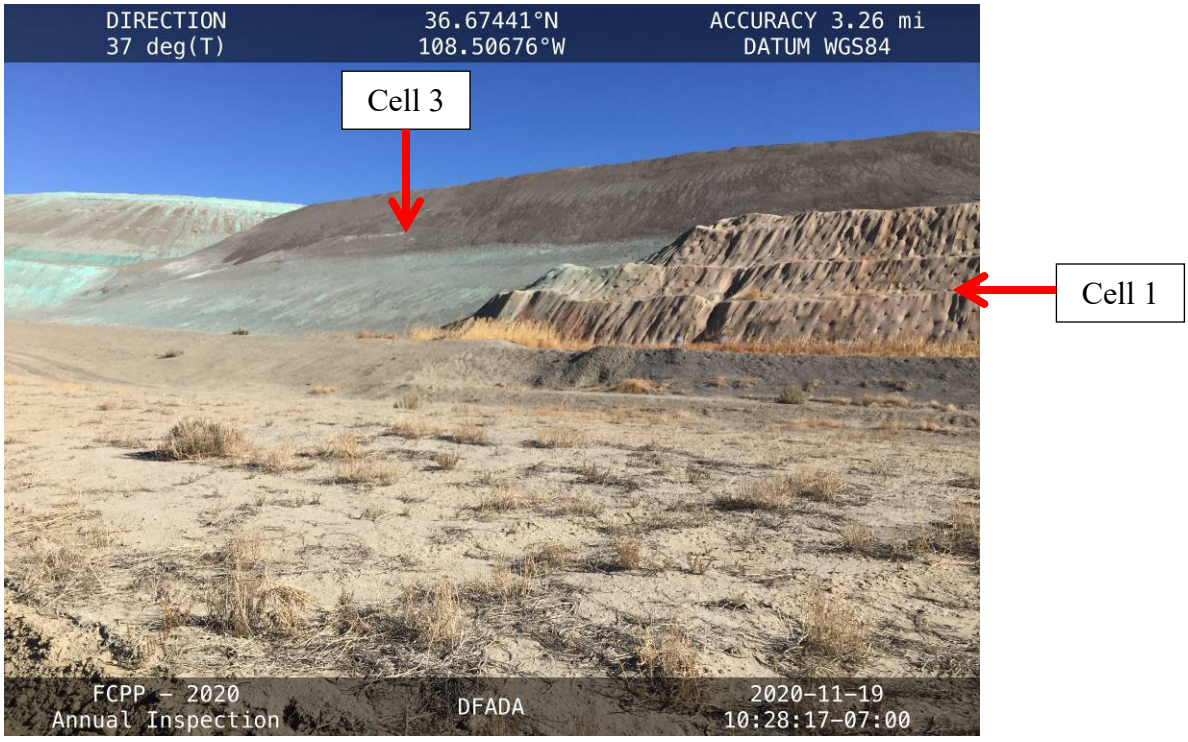
20201119 – IMG_3589
The DFADA Cell 1 leachate collection pond, facing west from the western toe of Cell 1.



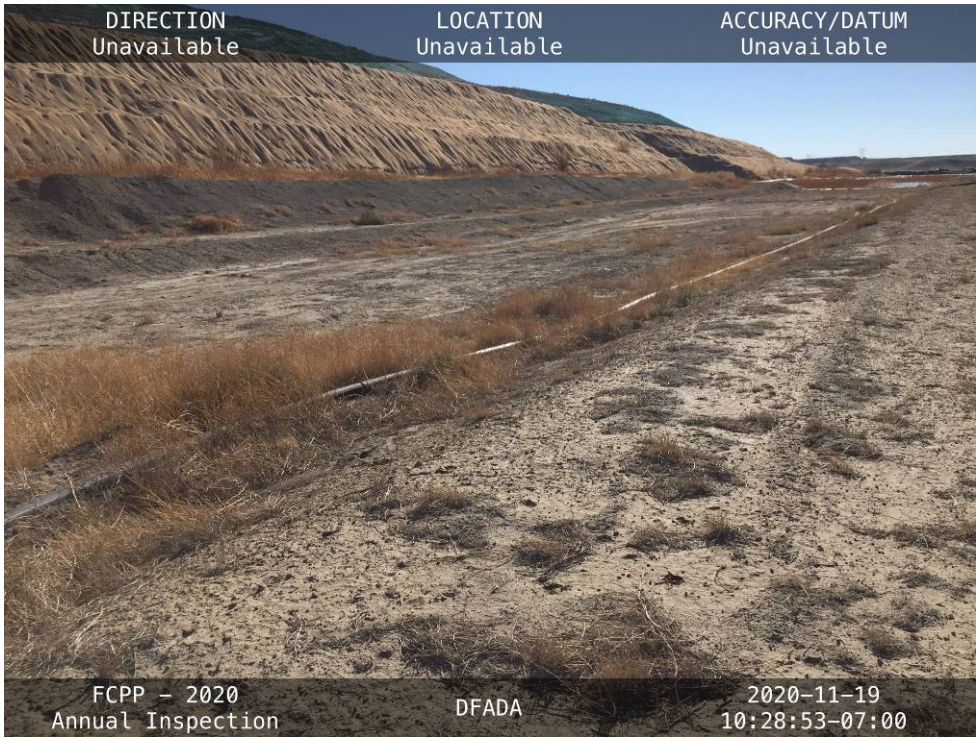
20201119 – IMG_3596
Woody vegetation growing through the Pyramat in the southwest corner of Cell 1.

20201119 – IMG_3598
Vegetation growing along the toe of the western slope of Cell 1.

20201119 – IMG_3599
The western slope of Cell 1, facing east.



20201119 – IMG_3600
The west slope of DFADA Cells 3 and 1, facing east from the leachate collection ponds.



20201119 – IMG_3602
The western slope and toe of Cell 1, facing south near the Cell 1/Cell 3 intersection.

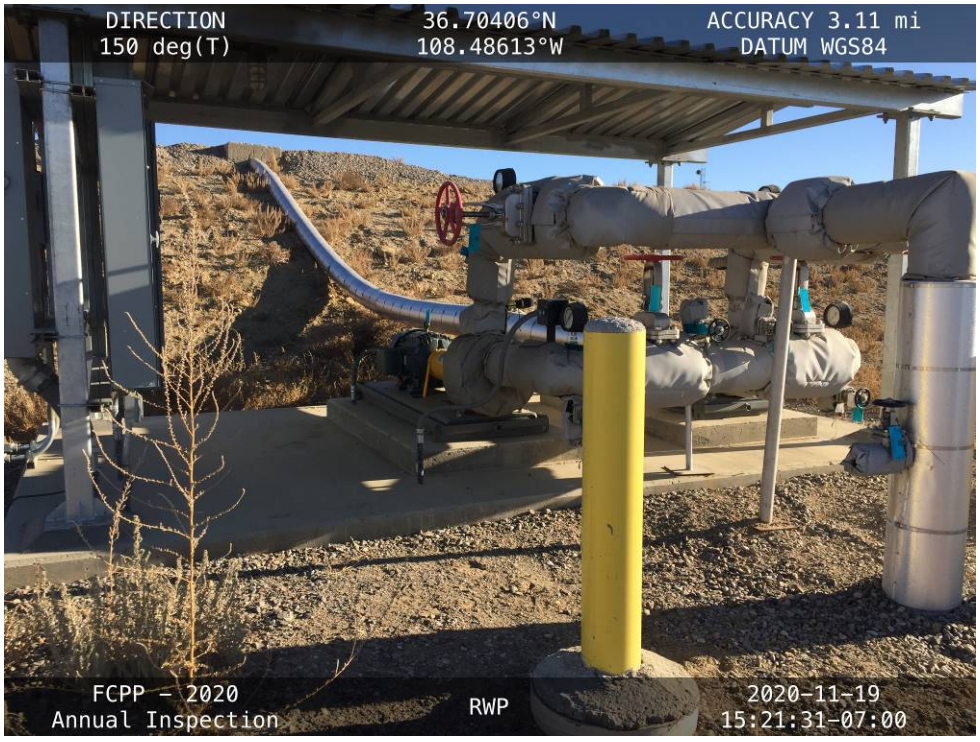
20201119 – IMG_3603
The western toe of Cell 3, facing north near the Cell 1/Cell 3 intersection.

20201119 – IMG_3604
The Cell 3/Cell 1 intersection, facing east from the toe.

APPENDIX E

RETURN WATER POND (RWP) PHOTO LOG

20201119 – IMG_3849
The permanent identification marker for the RWP.



20201119 – IMG_3850
The RWP pumps.

20201119 – IMG_3853
The upstream slope of the Northeast Embankment, facing southeast from the north corner.

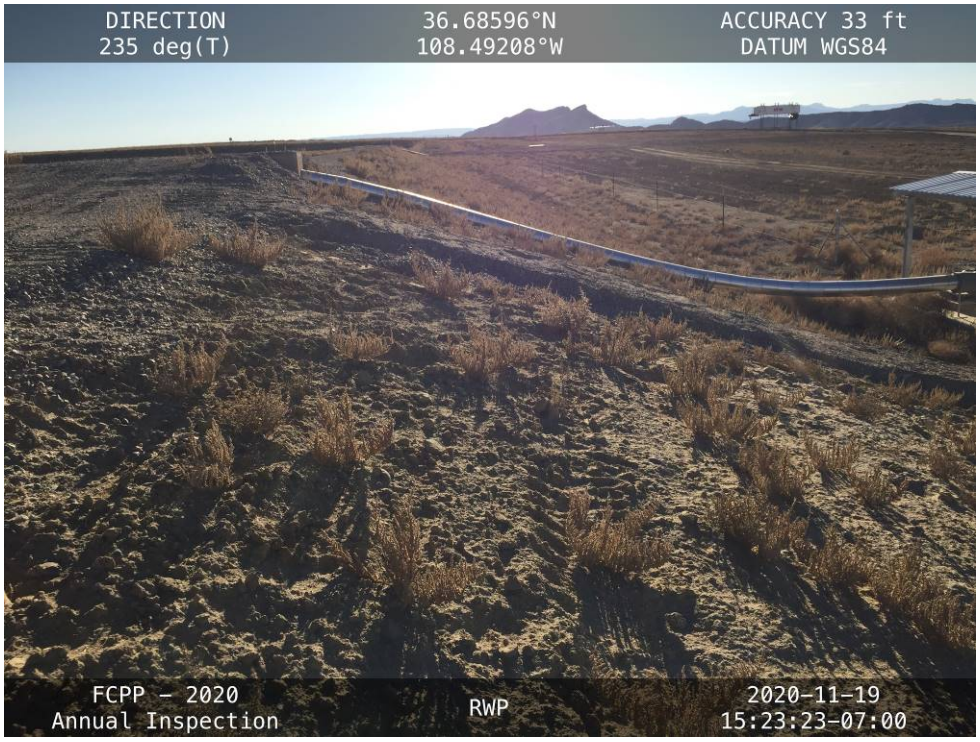
20201119 – IMG_3854
The crest of the Northeast Embankment, facing southeast from the north corner.

20201119 – IMG_3855
The downstream slope of the Northeast Embankment, facing southeast from the north corner.

20201119 – IMG_3856
A monitoring well installed at the toe of the Northeast Embankment.

20201119 – IMG_3857
The upstream slope of the Northwest Embankment, facing southwest from the north corner.

20201119 – IMG_3858
The crest of the Northwest Embankment, facing southwest from the north corner.



20201119 – IMG_3859
The downstream slope of the Northwest Embankment, facing southwest from the north corner.

20201119 – IMG_3861
The LCRS pump control on the north side of the RWP.

20201119 – IMG_3862
The LCRS riser pipes and crane on the north side of the RWP.

20201119 – IMG_3866
The drainage ditch along the downstream slope of the Southeast Embankment, facing southwest.

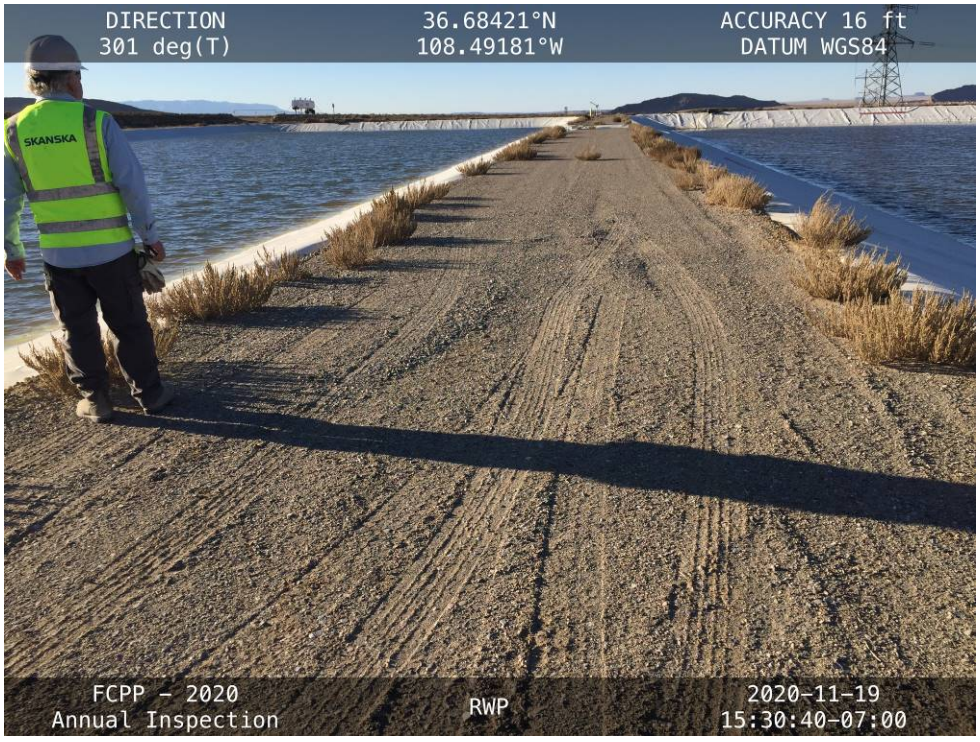
20201119 – IMG_3867
The crest of the Southeast Embankment, facing southwest from the northeast corner.

20201119 – IMG_3868
The upstream slope of the Southeast Embankment, facing southwest from the northeast corner.

20201119 – IMG_3871
The crest of the FGD Pond cell Southeast Embankment, facing southwest.

20201119 – IMG_3872
The upstream slope of the FGD Pond cell Southeast Embankment, facing southwest.

20201119 – IMG_3873
The upstream slope of the FGD Pond cell Internal Embankment, facing northwest.

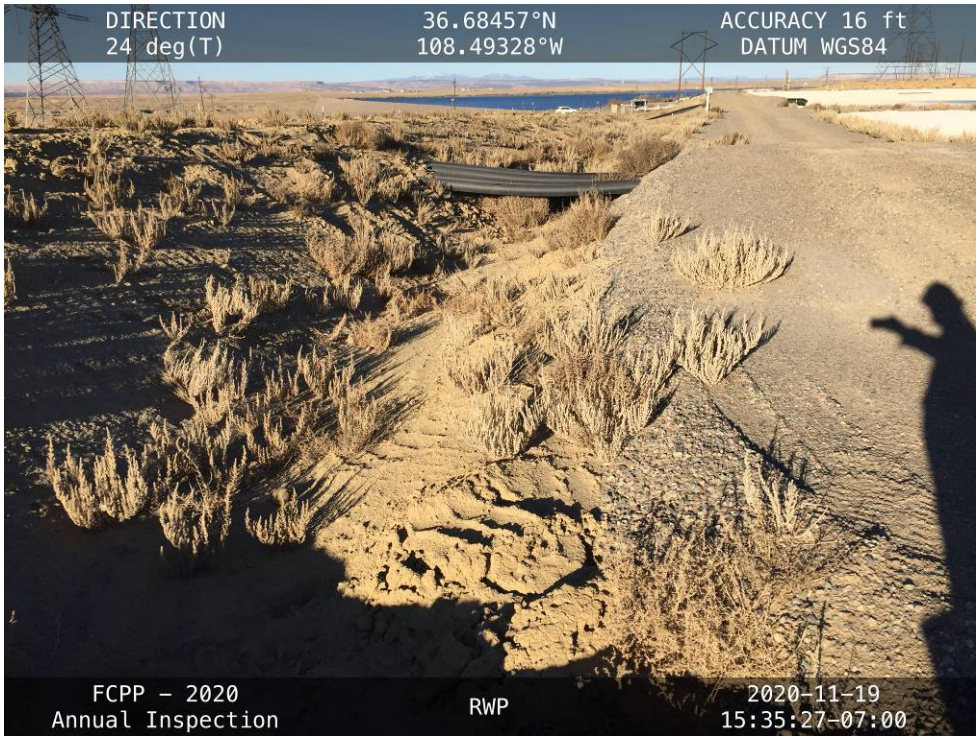


20201119 – IMG_3874
The crest of the FGD Pond cell Internal Embankment, facing northwest.

20201119 – IMG_3875
The upstream slope of the RWP Internal Embankment, facing northwest.

20201119 – IMG_3879
The crest of the FGD Pond cell South Embankment, facing northwest.

20201119 – IMG_3880
The upstream slope of the FGD Pond cell South Embankment, facing northwest.



20201119 – IMG_3884
The downstream slope of the FGD Pond cell Northwest Embankment, facing northeast.

20201119 – IMG_3885
The crest of the FGD Pond cell Northwest Embankment, facing northeast.

20201119 – IMG_3886
The upstream slope of the FGD Pond cell Northwest Embankment, facing northeast.

20201119 – IMG_3890
The FGD Pond cell Inlet Pipes.

20201119 – IMG_3897
The crest of the Internal Embankment, facing southeast.

20201119 – IMG_3900

The Return Water Pond cell Inlet along the upstream slope of the Northwest Embankment, facing northeast.

20201119 – IMG_3906

The Return Water Pond cell reservoir below the elevation of the overflow weir in the Internal Embankment.

20201119 – IMG_3907
The FGD Pond cell below the elevation of the overflow weir in the Internal Embankment.

20201119 – IMG_3908
The Return Water Pond cell Inlet pipes.