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2020 DAM AND DIKE INSPECTION REPORT
GEVR-20-014

WELSH POWER PLANT
CCR ASH PONDS

CASON, TEXAS

Prepared for:

AMERICAN ELECTRIC POWER
BOUNDLESS ENERGY

Prepared by:

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AEP20658

2020 DAM & DIKE INSPECTION REPORT

GEVR-20-014

WELSH POWER PLANT

CCR ASH PONDS

AMERICAN ELECTRIC POWER (SWEPCO)
CASON, TEXAS

INSPECTION DATE October 12, 2020

PREPARED BY _____ *DATE* 12-21-20
Murphy Parks, P.E.

REVIEWED BY _____ *DATE* 12-21-20
Colin Young, P.E.

I certify to the best of my knowledge, information and belief the information contained in this report meets the requirements of 40 CFR § 257.83(b).

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1.0 INTRODUCTION

This report was prepared by Freese and Nichols, Inc., in part, to fulfill requirements of 40 CFR 257.83 and to provide South Western Electric Power Company (SWEPCO) and Welsh Power Plant with an evaluation of the facility.

The AEP J. Robert Welsh Plant is located in southern Titus County, approximately 8 miles northeast of Pittsburg, Texas, and approximately two miles northwest of Cason, Texas. Figure 1 shows the plant inspection vicinity map. The Ash Ponds at the Welsh Plant include the Primary Ash Pond and the Bottom Ash Storage Pond. The Primary Ash Pond CCR unit is located southwest of the Plant and directly west of the Welsh Reservoir. The Bottom Ash Storage Pond CCR unit is located at the south end of the Plant and approximately 1,000 feet west of the Welsh Reservoir. Figure 2 shows the two Ash Ponds general layout. Figure 1 and 2 are included in Appendix A.

American Electric Power Service Corporation's Civil Engineering Division administers the Welsh Power Plant's Dam Inspection and Maintenance Program (DIMP). As part of the DIMP, staff from Freese and Nichols, Inc. conducted the dam and dike inspections. This report contains the inspection findings, observations, photographic descriptions, conclusions, and maintenance recommendations. This inspection report addresses the Ash Ponds at the Welsh Power Plant. A separate inspection report has been prepared for the Clearwater Pond and the Swauano Dam (Non-CCR facilities).

Murphy Parks, P.E. and Cory Rauss, E.I.T. of Freese and Nichols, Inc., conducted the Ash Ponds Inspection. Mr. Greg Carter, P.E. of the AEP-Regional Engineering was present during the inspection. The inspection was performed on October 12, 2020. Weather conditions were sunny, clear skies, good visibility, and average temperature of 75° F.

This report has been prepared by Murphy Parks, P.E. and Cory Rauss E.I.T., and reviewed by Colin Young, P.E.. The report contains: (i) Description of the impoundments, (i) Summary of Visual Observations; (ii) Conclusions; and (iii) Recommendations. Photographs identifying

typical conditions, problem areas, items that need correction or requiring additional monitoring, have been selected from the inspection field photographic file and provided in the Appendix B and C of the report.

2.0 DESCRIPTION OF IMPOUNDMENTS

2.1 PRIMARY ASH POND

The Primary Ash Pond was placed into operation in 1977 and is located in a topographically low area that had been an unnamed intermittent tributary of Swauano Creek prior to development of the Site. The Primary Ash Pond is bounded by natural ground (topographically higher areas) to the north and west, and embankment dikes to the south and east. The elevation at the top of embankment along the crest area is approximately 340.0 feet msl (mean sea level) and the toe elevation of the embankment is approximately 300.0 feet msl. The downstream slope of the Primary Ash Pond embankment is inundated by the cooling lake reservoir (Normal Pool lake level is 320.0 feet msl). These dikes are predominantly constructed of compacted sandy clay and clayey sand materials. The embankment dike south of the Primary Ash Pond includes a drainage canal that receives overflow (clear) water from the Primary Ash Pond. The water level in the Primary Ash Pond is controlled by a weir box which discharges into the drainage canal. The primary emergency spillway, which consists of a concrete weir set within an earthen channel that discharges into the drainage canal; the primary emergency spillway is approximately 950 feet to the west of the embankment. The clear water in the drainage canal flows east and discharges into the Clearwater Pond. The Primary Ash Pond embankment is approximately 40 feet in height. The secondary emergency spillway is located at the right end of the embankment and discharges directly into the Clearwater Pond. The storage capacity of the Primary Bottom Ash Pond at elevation 334 feet above msl is approximately 319 acre-ft.

2.2 BOTTOM ASH STORAGE POND

The Bottom Ash Storage Pond (Winston Pond) was placed into operation in 2000 and is located in a topographically high area of the Plant. The Bottom Ash Storage Pond embankments are approximately 20 feet in height and are constructed of compacted clay on a 3:1 slope (3 feet

horizontal, 1 foot vertical). The elevation at the base of the embankment is approximately 340 feet msl, and the elevation at the top of the embankment around the perimeter of the Bottom Ash Storage Pond is approximately 360 feet msl.

The Bottom Ash Storage Pond is approximately 22 acres in size. The principal spillway for the Bottom Ash Storage Pond is located near the southeast corner of the pond and consists of an 18-inch drain at elevation 350.5 feet msl and a 40-foot-long broad-crested weir with a crest elevation of 355 feet msl. The emergency spillway is an 8-foot-wide weir with a rock riprap discharge chute located along the southern embankment at elevation of 358 feet msl. The storage capacity of the Bottom Ash Storage Pond at elevation 358 feet msl is approximately 344 acre-ft.

3.0 REVIEW OF AVAILABLE INFORMATION (257.83(b)(1)(i))

A review of available information regarding the status and condition of the CCR Ponds, which include files available in the CCR operating record, such as design and construction information, periodic structural stability assessments, previous 7-day inspection reports, previous quarterly inspection reports, 30-day instrumentation data, and previous annual inspections was conducted. Based on the review of the data it is concluded that there were no signs of actual or potential structural weakness or adverse conditions at the facilities.

4.0 CHANGES IN GEOMETRY SINCE LAST INSPECTION (257.83(b)(2)(i))

The Primary Ash Pond has been modified since the 2019 annual inspection by excavating the secondary emergency spillway through the crest of the embankment at the right end of the dam. Dimensions of the secondary emergency spillway are a 30-feet bottom width at crest elevation 337 feet msl with 10H:1V side slopes, for a total width of 90 feet and depth of 3 feet. Flows through the secondary emergency spillway would discharge directly into the Clearwater Pond. These modifications were constructed in concert with modifications to the drainage canal downstream of the weir box which included filling in the canal to construct a vehicle crossing. To convey drainage canal flows, a 36-inch diameter culvert and a 48-inch culvert were installed through the crossing.

With these hydraulic changes to the drainage canal, additional discharge capacity of the Primary Ash Pond was increased by constructing the secondary emergency spillway.

No modifications have been made to the geometry of the Bottom Ash Storage Pond since the 2019 annual inspection. The geometry of the impoundments have remained essentially unchanged.

5.0 CHANGES THAT EFFECT STABILITY OR OPERATION (257.83(b)(2)(vii))

The installation of the secondary emergency spillway in the Primary Ash Pond will change the operation of the pond during high flow conditions. These changes would not be expected to affect the stability of the impounding structure.

Based on interviews with plant personnel and field observations, there were no changes to the Bottom Ash Storage Pond since the last annual inspection that would affect the stability or operation of the impounding structure.

6.0 IMPOUNDMENT CHARACTERISTICS (257.83(b)(2)(iii, iv, v))

6.1 PRIMARY ASH POND

Table 1 is a summary of the minimum, maximum, and present depth and elevation of the impounded water since the previous annual inspection; the storage capacity of the impounding structure at the time of the inspection; and the approximate volume of the impounded water at the time of the inspection.

Table 1 - Summary of Relevant Storage Information for Primary Ash Pond

	Primary Ash Pond
Approximate **Minimum** depth of impounded water since last annual inspection	30.5 ft (330.5 ft msl)
Approximate **Maximum** depth of impounded water since last annual inspection	31.8 ft (331.8 ft msl)
Approximate **Present** depth of impounded water at the time of the inspection	31.5 ft (331.5 ft msl)
Approximate **Minimum** depth of CCR since last annual inspection	10.0 ft (310.0 ft msl)
Approximate **Maximum** depth of CCR since last annual inspection	32.5 ft (332.5 ft msl)
Approximate **Present** depth of CCR at the time of the inspection	32.5 ft (332.5 ft msl)
Storage Capacity of impounding structure at the time of the inspection	319.22 acre-ft
Approximate volume of impounded water at the time of the inspection	102.22 acre-ft
Approximate volume of CCR at the time of the inspection	217 acre-ft

Crest elevation of the dike = 340 ft msl, Bottom elevation of the pond = 300 ft msl

6.2 BOTTOM ASH STORAGE POND

Table 2 is a summary of the minimum, maximum, and present depth and elevation of the impounded water since the previous annual inspection; the storage capacity of the impounding structure at the time of the inspection; and the approximate volume of the impounded water at the time of the inspection.

Table 2 - Summary of Relevant Storage Information for Bottom Ash Storage Pond

	Bottom Ash Storage Pond
Approximate **Minimum** depth of impounded water since last annual inspection	9.6 ft (349.6 ft msl)
Approximate **Maximum** depth of impounded water since last annual inspection	10.8 ft (350.8 ft msl)
Approximate **Present** depth of impounded water at the time of the inspection	10.7 ft (350.7 ft msl)
Approximate **Minimum** depth of CCR since last annual inspection	10.5 ft (350.5 ft msl)
Approximate **Maximum** depth of CCR since last annual inspection	18.0 ft (358.0 ft msl)
Approximate **Present** depth of CCR at the time of the inspection	18.0 ft (358.0 ft msl)
Storage Capacity of impounding structure at the time of the inspection	344 acre-ft
Approximate volume of impounded water at the time of the inspection	39 acre-ft
Approximate volume of CCR at the time of the inspection	292 acre-ft

Crest elevation of the dike = 360 ft msl, Bottom elevation of the pond = 340 ft msl

7.0 INSPECTION (257.83(b)(1)(ii))

7.1 GENERAL

The summary of the visual observations uses terms to describe the general appearance or condition of an observed item, activity or structure. Their meaning is understood as follows:

Good: A condition or activity that is generally better than what is minimally expected or anticipated from a design or maintenance point of view.

Fair or Satisfactory:

A condition or activity that generally meets what is minimally expected or anticipated from a design or maintenance point of view.

Poor: A condition or activity that is generally below what is minimally expected or anticipated from a design or maintenance point of view.

Minor: A reference to an observed item (e.g., erosion, seepage, vegetation, etc.) where the current maintenance condition is below what is normal or desired, but which is not currently causing concern from a structure safety or stability point of view.

Significant: A reference to an observed item (e.g. erosion, seepage, vegetation, etc.) where the current maintenance program has neglected to improve the condition. Usually, conditions that have been previously identified in the inspections, but have not yet been corrected.

Excessive: A reference to an observed item (e.g., erosion, seepage, vegetation, cracks, concrete surface, etc.) where the current maintenance condition is worse than what is normal or desired and which may have affected the ability of the observer to properly evaluate the structures, or particular area being observed, or which may be a concern from a structure safety or stability point of view.

In addition, a "deficiency" is some evidence that a dam/dike has developed a problem that could impact the structural integrity of the dam/dike. There are four general categories of deficiencies. These four categories are described below:

1. Uncontrolled Seepage:

   Uncontrolled seepage is seepage that is not behaving as the design engineer has intended. An example of uncontrolled seepage is seepage that comes through or around the embankment and is not picked up and safely carried off by a drain. Seepage that is collected by a drain can still be uncontrolled if it is not safely collected and transported, such as seepage that is not clear. Seepage that is unable to be measured and/or observe it is considered uncontrolled seepage. Wet or soft areas are not considered as uncontrolled seepage, but can lead to this type of deficiency. These areas should be monitored frequently.

2. Displacement:

   Displacement of the embankment is large-scale movement of part of the dam/dike. Common signs of displacement are cracks, scraps, bulges, depressions, sinkholes

and slides.

3. Blockage of Water Control Appurtenances:

   Blockage of Water Control Appurtenances is the restriction of the flow section at spillways, decant or pipe spillways, or drains.

4. Erosion:

   Erosion is the gradual movement of surface material by water, wind or ice. Erosion is considered a deficiency when it is more than a minor routine maintenance item.

7.2 VISUAL INSPECTION (257.83(b)(2)(i))

A visual inspection of the CCR Ponds was conducted to identify any signs of distress or malfunction of the impoundment and appurtenant structures. Specific items inspected included all structural elements of the dam such as upstream and downstream slopes, crest, and toe. Figure 3A (Photograph Location Map) and photographs of the Primary Ash Pond are included at Appendix B.

7.2.1 PRIMARY ASH POND

(i) (Photographs 1-4) The crest of the embankment appeared in good condition. The crest was level, and there were no obvious signs of settlement, cracking, or instabilities. The crest has effectively been widened and the upstream slope overbuilt through the placement of ash material over time. Delineation between the original crest and the overbuilt upstream slope is not readily apparent in the field. As a result of the overbuilt upstream slope, field observations are of the ash material and not of the original earthen embankment. Erosion gullies have formed at the upstream shoulder, however the gullies are not considered significant since they have developed in the overbuild material. Scrub vegetation has become established along the upstream shoulder of the overbuild. Geotechnical borings had recently been drilled in the crest in order to characterize embankment materials to support a slope stability study of future loading conditions when the pond will be excavated of ash material.

(ii) (Photographs 5-7) The downstream slope appeared in fair condition. There were no signs of slides, sloughs, or other slope instabilities. No seepage areas were observed. Vegetation coverage was heavy, and with the dam not having been mowed within the past 1 to 2 months, the vegetation precluded a complete visual inspection. Multiple animal burrows were observed at mid slope, just above the rock riprap armoring along the water line (Photograph 7). In this same area, the slope appeared to flatten to create a small horizontal bench approximately 8 feet wide, just above the rock riprap. The groin between where the downstream slope adjoins the downstream slope of the Clearwater Pond's north embankment was heavily vegetated and could not be inspected for erosion.

(iii) (Photographs 9-12) The primary emergency spillway appeared in fair to poor overall condition. The earthen channel had been mowed and was unobstructed. Rutting was noted in the channel, likely from mowing operations. The concrete weir is in poor condition. The weir has partially failed in several areas, with undermining of the weir occurring on the upstream and downstream sides (Photograph 11). In some areas the weir has tilted downstream. A maintenance roadway crosses the downstream end of the spillway before it discharges into the discharge channel (Photograph 12). The roadway has a small culvert to convey local runoff.

(iv) (Photograph 8) The secondary emergency spillway has been constructed since the 2019 inspection. The secondary emergency spillway is effectively a lowered section of the embankment crest at the right end of the dam. The spillway bottom width is 30 feet with 10H:1V side slopes and a crest elevation 3 feet lower than the crest of the embankment.

(v) The control weir box (i.e. overflow discharge structure) was not inspected. AEP staff reported this components was functioning as designed and no issues were reported.

7.2.2 BOTTOM ASH STORAGE POND

Figure 3B (Photograph Location Map) and photographs of the bottom ash storage pond are included at Appendix C.

(i) (Photographs 1-13) The crest of the embankment appeared in fair condition. The crest was level, and there were no obvious signs of settlement, cracking, or instabilities. The east embankment had been mowed, and therefore could be inspected. Multiple animal

burrows were noted and flagged along the east embankment. The crest of the south, west, and north embankments was heavily overgrown with vegetation and had not been mowed, therefore these areas could not be inspected (Photographs 6, 11, 13). The crest fencing generally appeared straight, and was typically overgrown with vegetation. The distance between the fence and the geosynthetic liner is typically less than 10 feet, which may affect mowing operations.

(ii) (Photographs 1, 4, 5, 6, 8, 11, 13) The upstream slope was in good overall condition. There were no signs of slides, sloughs, or other slope instabilities. The upstream slope is mostly buttressed with ash material. The upstream slope is lined with a white geosynthetic liner throughout the pond. Several areas were noted where the liner had bubbled up, however these areas were stepped on to test the subgrade below and in all areas the subgrade was firm. No tears or separations at the liner joints were observed. Minor abrasion damage was noted on the later at the equipment access gate on the north side (Photograph 14). Woody vegetation is growing along the liner toe-in in multiple locations (Photograph 5). Ash management within the pond is good (Photograph 21).

(iii) (Photographs 15-20) The downstream slope was in good overall condition. There were no signs of slides, sloughs, or other slope instabilities. No seepage areas were observed. Vegetation coverage was fair to good, with the dam having been recently mowed. Vegetation coverage on the west embankment was fair to poor; this area of the embankment is shaded by trees and prevents good grass cover from establishing.

(iv) (Photograph 7) The principal spillway appeared in good overall condition. The inlet basin was dry at the time of the inspection and the floor of the inlet basin was mowed, and the staff gage was visible. The inlet weir and geosynthetic liner appeared level.

(v) (Photograph 9-10) The emergency spillway appeared in good overall condition. The geosynthetic liner on the upstream slope and control weir was bubbled. The outlet channel was stable and lined with rock riprap. It was noted the crest fencing would partially obstruct the spillway if it were engaged.

(vi) (Photograph 12) Pipe culverts are located at the northwest corner of the pond, which are part of the landfill storm water control system and discharge into the pond. The culverts appeared clear of obstructions and in good and functional condition.

7.3 INSTRUMENTATION (257.83(b)(2)(ii))

The monitoring instrumentation for the Primary Ash Pond consists of one (1) active piezometer (B-2) located through the main embankment area. There is no monitoring instrumentation for the Bottom Ash Storage Pond (Winston Pond). The location of the instrumentation is shown on Appendix D, Figure 4A. The maximum and minimum readings of Piezometer B-2 since the last annual inspection, a time period of September 2019 to September 2020, were 326.47 ft msl and 321.77 ft msl, respectively. Piezometer B-2 levels appeared consistent from month to month, and reacted to the fluctuation in tailwater levels (i.e. main lake). The results of the measurements of the piezometer is shown in Appendix D, Figure 4B.

8.0 SUMMARY OF FINDINGS

Primary Ash Pond:

Based on the visual observations during the inspection, the dam and appurtenances are generally in good condition. Specific conclusions related to this inspection are as follows.

- There is no evidence of distress that would indicate the possibility of immediate sliding, slope instability, settlement, misalignment or cracking of the ash pond embankments. As such, it is concluded that the dam and dikes are performing as designed.

- Excessive vegetation was noted on the downstream slope. The slope vegetation should be maintained at a manageable height.

- All animal burrows encountered should be eliminated by filling them with suitable materials and compacted as necessary.

Bottom Ash Storage Pond (Winston Pond):

Based on the visual observations during the inspection, the dam and appurtenances are generally in good condition. Specific conclusions related to this inspection are as follows

- There is no evidence of distress that would indicate the possibility of sliding, slope instability, settlement, misalignment or cracking of the Bottom Ash Storage Pond embankments. As such, it is concluded that the dikes are performing as designed.

- Vegetation management along the crest was poor. Vegetation management for the downstream slope and principal spillway outlet was satisfactory.

- Multiple animal burrows were noted throughout the crest of the east embankment.

9.0 RECOMMENDATIONS

Primary Ash Pond:

A summary of recommendations for general maintenance and continued monitoring, as well as any recommendations for remedial activities, is provided below:

1. Maintain vegetation on the downstream slope to a manageable height which allows inspection for irregularities and signs on distress.

2. Repair animal burrows by filling in with compatible material with proper compaction.

3. Construction of the secondary emergency spillway should be documented with as-built drawings. The stage-storage-discharge rating curve for the pond should be updated to reflect the changed hydraulic conditions.

4. The concrete weir inset in the primary emergency spillway channel should be repaired.

Bottom Ash Storage Pond (Winston Pond):

A summary of recommendations for general maintenance and continued monitoring, as well as any recommendations for remedial activities, is provided below:

1. Maintain vegetation throughout the embankment to a manageable height which allows inspection for irregularities and signs on distress. If the crest fence prohibits adequate

equipment access adjacent to the geosynthetic liner, consider removal or relocating the fence off the embankment.

2. Establish proper grass vegetation on the west embankment downstream slope. Reseeding, topsoil, and removal of trees at the toe to prevent shading may be required.

3. Repair animal burrows by filling in with compatible material with proper compaction.

9.1 MAINTENANCE ITEMS

Refer to Section 9.0 for Maintenance recommendations.

9.2 ITEMS TO MONITOR

- Monitor the Bottom Ash Storage Pond geosynthetic liner for excessive bubbling, warping, tears, or joint separation. If any of these conditions develop, perform repairs immediately.

9.3 DEFICIENCIES (257.83(b)(2)(vi))

There were no deficiencies or signs of structural weakness or disruptive conditions observed at the time of the inspection that would require additional investigation or remedial action. There were no deficiencies noted during any of the quarterly inspections. If any of these conditions develop before the next annual inspection, please contact AEP Geotechnical Engineering immediately.

If you have any questions with regard to this report, please do not hesitate to contact Murphy Parks, P.E. at (817)-735-7439 or MHP@freese.com.

APPENDICES

Appendix A

Figure 1 - Vicinity Map

Figure 2 - CCR Pond Complex General Layout

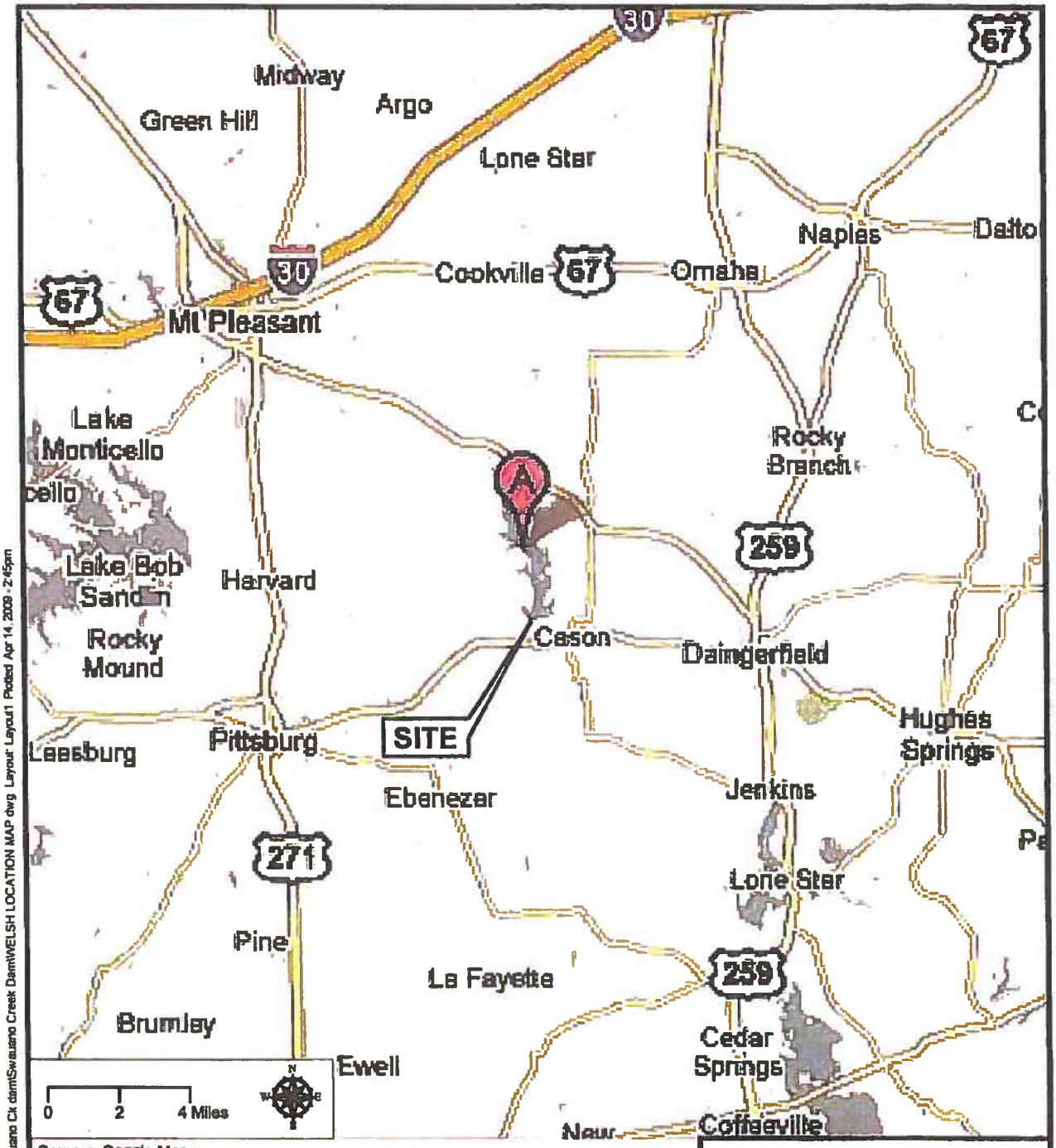
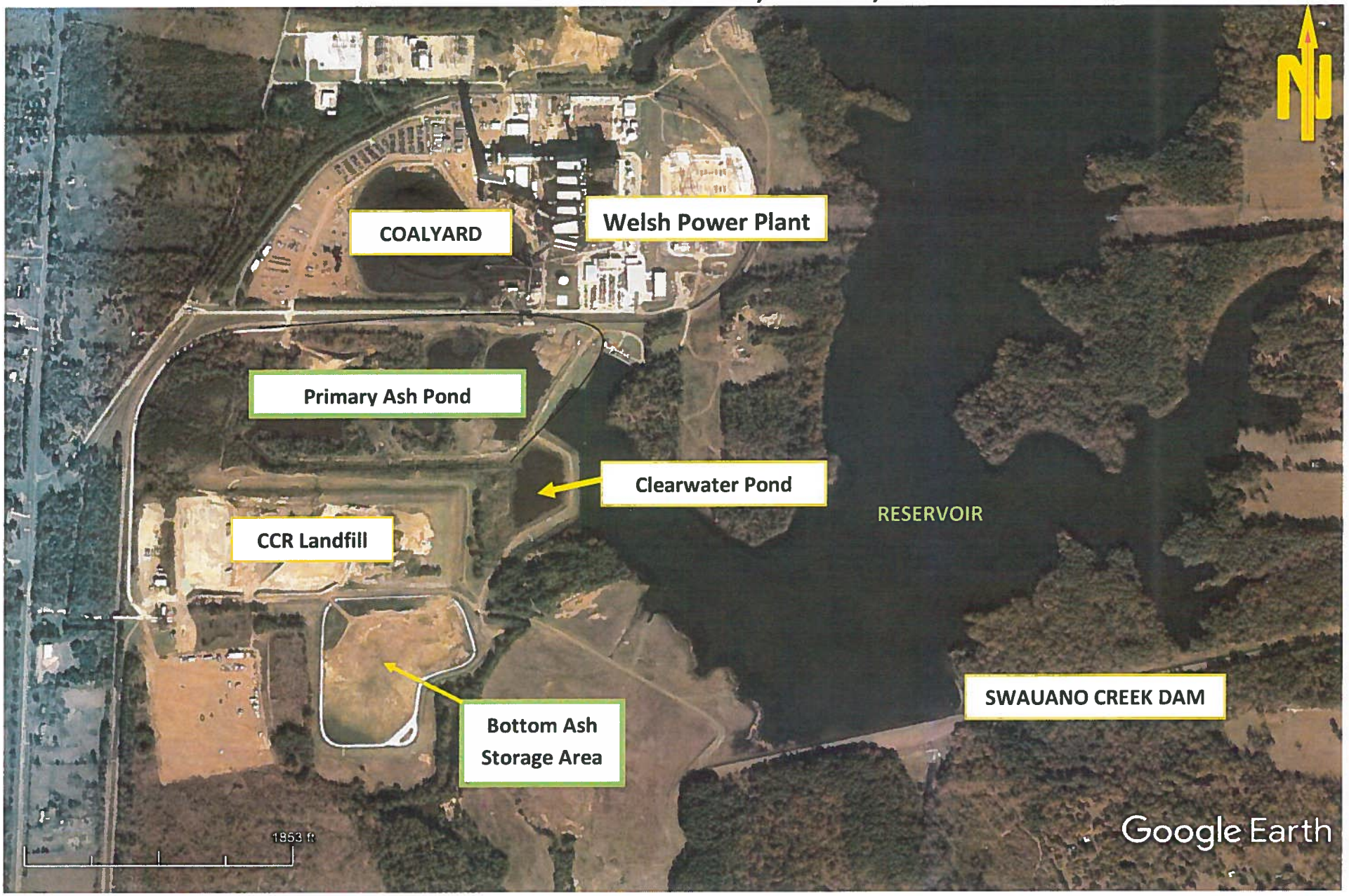


Figure 1 Plant Inspection Vicinity Map

FIGURE 2 - SITE LOCATION MAP

WELSH POWER PLANT, CASON, TX



Appendix B

Figure 3A – Photograph Location Map, Primary Ash Pond

Photographs of the Primary Ash Pond

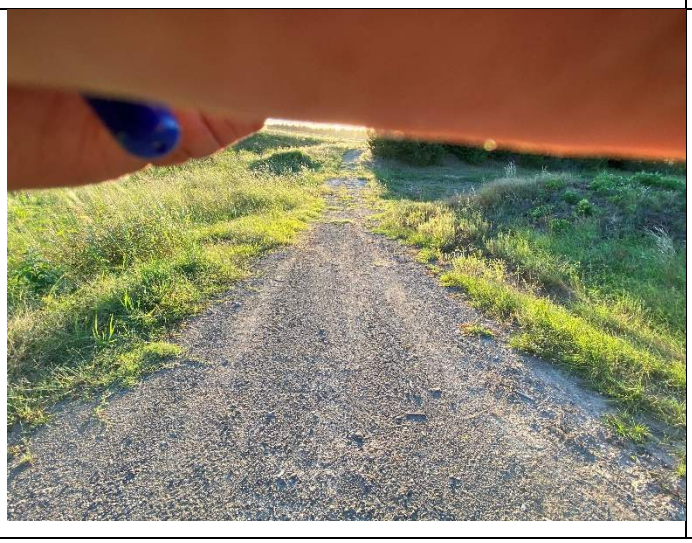
FIGURE 3A - PHOTOGRAPH LOCATION MAP

PRIMARY ASH POND, WELSH POWER PLANT, CASON, TX

	Photograph 1: View along crest, looking left. Arrow points to location of recent boring locations.
	Photograph 2: View along upstream slope, looking right. Superimposed line approximates the original crest upstream shoulder, thus demonstrating the extent of overbuild which has occurred over the original upstream slope.
	Photograph 3: Close-up view of upstream edge of upstream slope overbuild. Note erosion gullies. Since gullies have formed in the overbuild material, they are not considered problematic.

	Photograph 4: Overview of upstream slope and crest, looking left, as seen from the right end of the dam.
	Photograph 5: Typical view of downstream slope, looking left.
	Photograph 6: Typical view of downstream slope, looking right.

	Photograph 7: Example of poor vegetation coverage on downstream slope, near the transition to the rock riprap slope protection. Multiple animal burrows were noted in this area.
	Photograph 8: View along crest, looking right, towards the secondary emergency spillway which had been excavated in the crest/right abutment area. Flow direction is right to left. Clearwater Pond is at left.
	Photograph 9: View of primary emergency spillway, looking upstream. Arrow points to overflow weir location. Note rutting at left side of photo.

	Photograph 10: View of primary emergency spillway, looking downstream, from near the overflow weir location.
	Photograph 11: Close-up view of primary emergency spillway overflow weir. Note undermining damage on upstream and downstream faces, and overall irregularity of the weir.
	Photograph 12: View of roadway crossing at downstream end of primary emergency spillway.

Appendix C

Figure 3B – Photograph Location Map, Bottom Ash Storage Pond

Photographs of the Bottom Ash Storage Pond

FIGURE 3B - PHOTOGRAPH LOCATION MAP

ASH STORAGE POND, WELSH POWER PLANT, CASON, TX

	Photograph 1: Typical view of upstream slope and crest along east embankment, looking south. Note the crest had been recently mowed in this section
	Photograph 2: Example of animal burrowing activity on the crest. East embankment, looking south.
	Photograph 3: Example of multiple animal burrows which were visible after the crest had been mowed.

	Photograph 4: Typical view of upstream slope and geosynthetic liner. East embankment, looking east.
	Photograph 5: Example woody vegetation growing at toe of geosynthetic liner toe-in on upstream slope.
	Photograph 6: View of crest where mowing operation had stopped. Beyond this point, the crest of the embankment was overgrown with vegetation and could not be thoroughly inspected. East embankment, near transition to south embankment.

	Photograph 7: View of principal spillway outlet pipe and control weir at southeast corner of pond.
	Photograph 8: View of upstream slope along south embankment, looking west.
	Photograph 9: View of emergency spillway weir. Note bubbling of geosynthetic liner.

	Photograph 10: View of emergency spillway outlet channel, looking downstream. Note crest fence partially blocks the spillway weir.
	Photograph 11: Typical view of crest and upstream slope on west embankment. Note crest is overgrown with vegetation.
	Photograph 12: View of stormwater inlet pipes entering northwest corner of pond.

	Photograph 13: Typical view of crest and upstream slope on north embankment. Note crest is overgrown with vegetation.
	Photograph 14: View of minor abrasion damage of the geosynthetic liner where equipment enter pond through gate at left.
	Photograph 15: Typical view of downstream slope of east embankment, looking north

	Photograph 16: Typical view of downstream slope and conveyance piping, along east embankment looking east. Note slope is well mowed.
	Photograph 17: View of access ramp leading up to crest at southwest corner of pond.
	Photograph 18: Typical view of downstream slope of south embankment, looking west.

	Photograph 19: View of vine vegetation growing in crest fence, as seen from downstream slope.
	Photograph 20: Typical view of downstream slope of west embankment, looking north.
	Photograph 21: View across pond, looking west from west embankment. Ash management operations appear good.

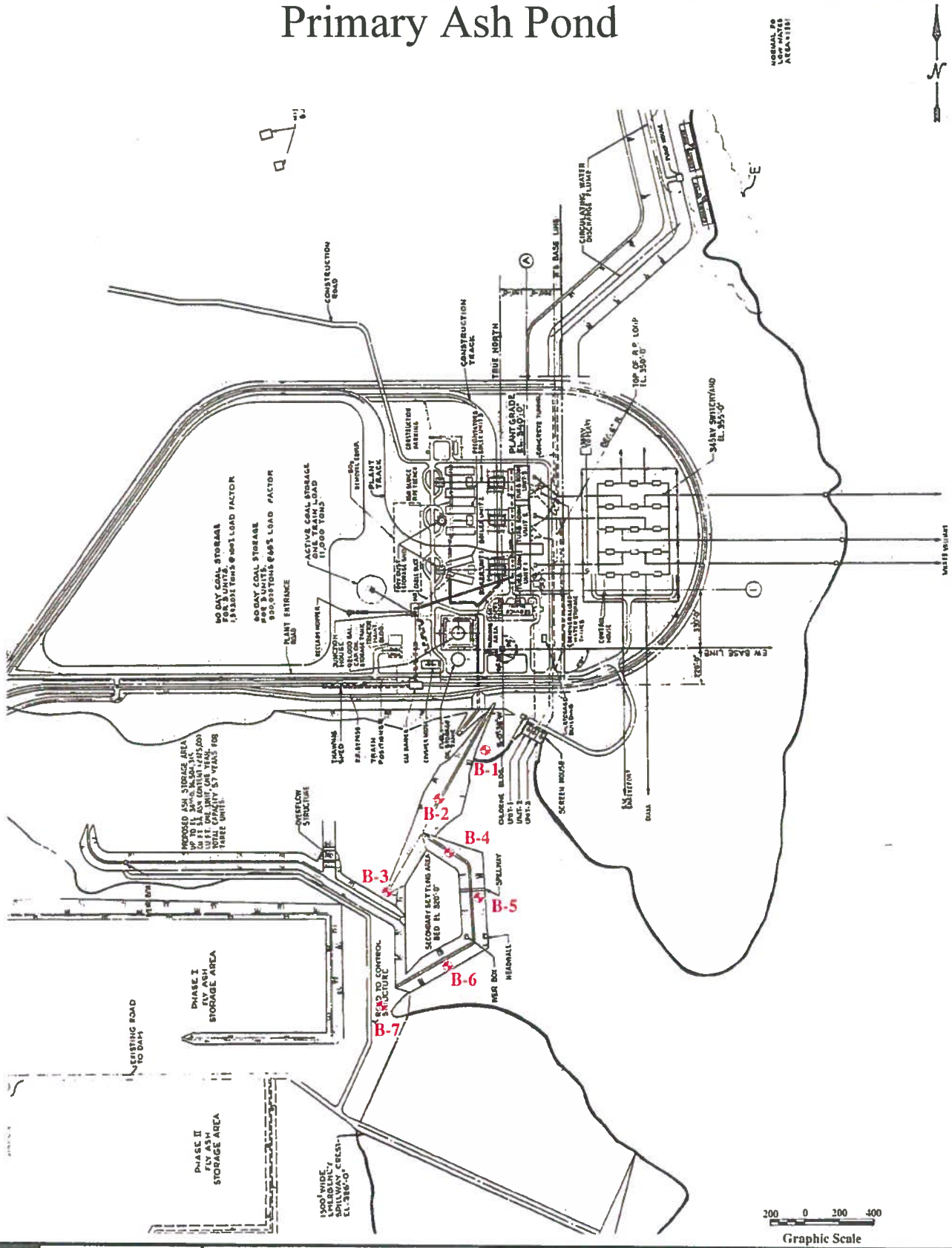
Appendix D

Figure 4A – Piezometer Location Map

Figure 4B – Primary Ash Pond Piezometer Data

FIGURE 4A - INSTRUMENT LOCATION MAP

Primary Ash Pond



ETTL ENGINEERS & CONSULTANTS MAIN OFFICE 1717 East Erwin Tyler, Texas 75702 (903) 595-4421	WELSH POWER PLANT PITTSBURGH, TEXAS	PLATE 1 - PLAN OF BORINGS		APPROVED BY:
		JOB NO.: G3242-095		DRAWN BY: K.C.R.
		DATE: JAN. 2010	SCALE: AS SHOWN	

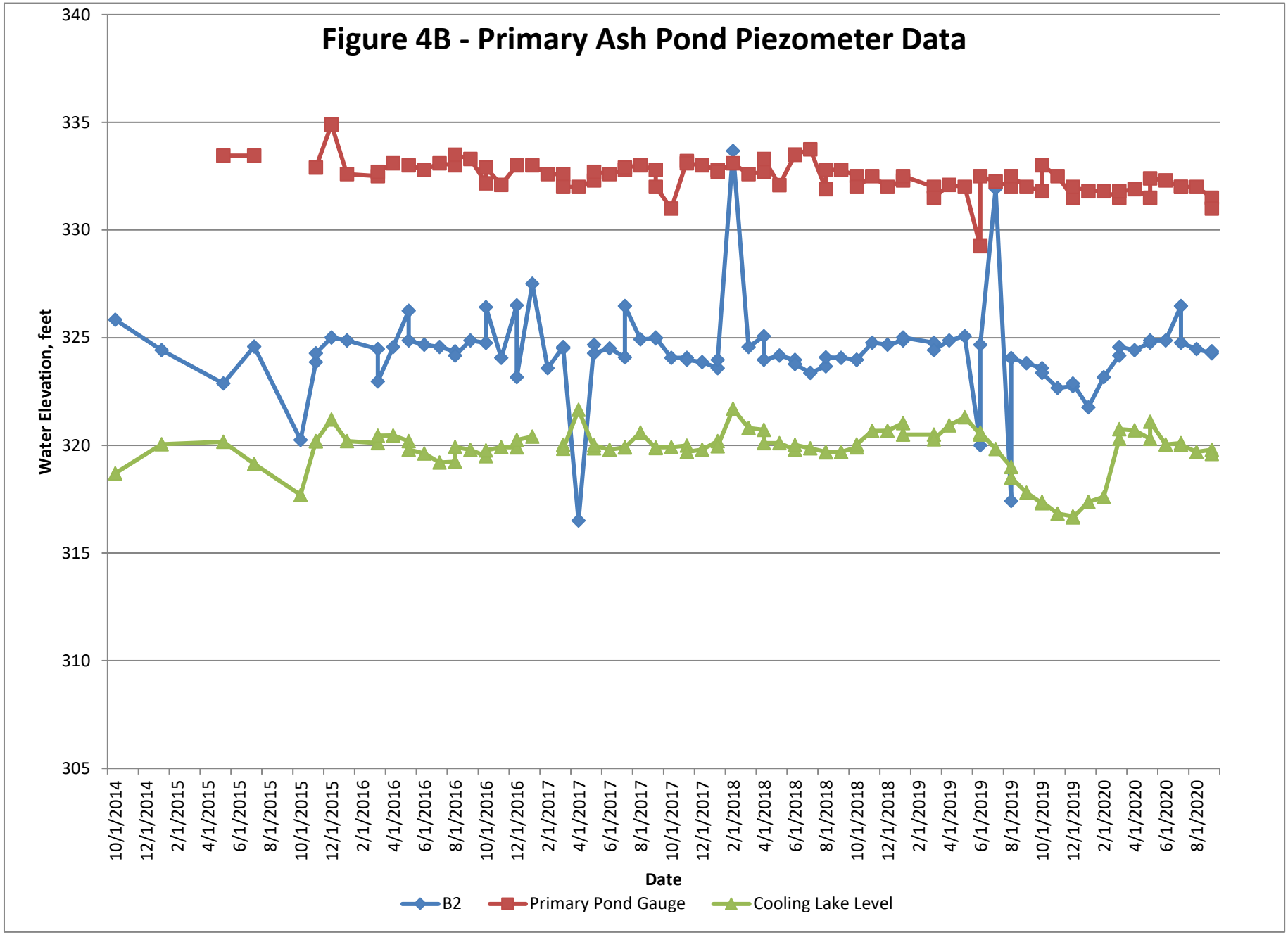


Figure 4B - Primary Ash Pond Piezometer Data
Water Elevation, feet
340
335
330
325
320
315
310
305
10/1/2014
12/1/2014
2/1/2015
4/1/2015
6/1/2015
8/1/2015
10/1/2015
12/1/2015
2/1/2016
4/1/2016
6/1/2016
8/1/2016
10/1/2016
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4/1/2019
6/1/2019
8/1/2019
10/1/2019
12/1/2019
2/1/2020
4/1/2020
6/1/2020
8/1/2020
Date
B2
Primary Pond Gauge
Cooling Lake Level