

**Coal Combustion Residual (CCR) Units  
*Initial Post-Closure Plan***

**Compliance with CCR Rule  
US EPA §257.104  
Post-Closure Care Requirements  
and corresponding  
UDEQ Rule 315-319-104  
Closure and Post-Closure Care –  
Post-Closure Care Requirements**

Intermountain Generating Facility  
Delta, Utah



Prepared for:  
Intermountain Power Service Corporation  
850 West Brush Wellman Road  
Delta, UT 84624

Prepared by:  
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Project No.: 203709098

October 13, 2016

## Sign-off Sheet and Signatures of Environmental Professionals

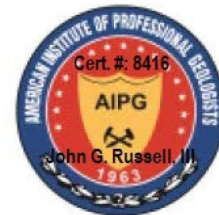
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We certify that this *Initial Post-Closure Plan* satisfies the requirements of Coal Combustion Residuals (CCR) Rule § 257.104 and corresponding Utah Department of Environmental Quality (UDEQ) Rule Section R315-319-104.

Prepared by:



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# CCR Units Initial Post-Closure Plan

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## 1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) has prepared this report to document Intermountain Power Service Corporation's (IPSC) anticipated Coal Combustion Residuals (CCR) unit *Initial Post-Closure Plan* and associated post-closure care program at IPSC's Intermountain Generating Facility (IGF) located approximately 10 miles north of Delta, Millard County, Utah. This post-closure plan addresses the elements prescribed by both the United States Environmental Protection Agency's (USEPA) *Post-Closure Care Requirements* in the Final CCR Rule (40 C.F.R. §257.104), as well as corresponding Utah Department of Environmental Quality (UDEQ) R315-319-104 *Closure and Post-Closure Care - Post-Closure Care Requirements*.

This report details IPSC's objectives and anticipated generalized procedures for satisfying CCR unit post-closure care protocol for IPSC's three (3) CCR-regulated units including (reference Figure 1 for locations):

- Combustion By-Products Landfill (CB Landfill, unlined);
- Bottom Ash Basin (UT00463; lined and larger than 40-acres); and
- Waste Water Basin (UT00468; lined and larger than 40-acres).

The CB landfill is underlain by native soils including unconsolidated sands and silts. Both surface impoundments are underlain by 60- to 80-mil High Density Polyethylene (HDPE) plastic liners. Currently, IPSC anticipates closing each CCR unit with CCR being left in place. IPSC's *Initial Closure Plan* provides IPSC's preliminary conceptual design and approach for closing all three CCR units in accordance with the CCR Rule and UDEQ R315-319-102.

The IGF is an operating facility and will continue operation as a coal-fired facility until anticipated conversion to natural gas during the next decade or so. Currently, IPSC is evaluating and planning means for such anticipated conversion to natural gas. Numerous variable factors that may affect precise CCR unit closure protocol and timeframes will be influenced, in part, by future changes to IGF operations and land use during and following the conversion process.

Although there are numerous unknowns at this time, IPSC anticipates closing each of the CCR units in accordance with closure protocol and timeframes outlined by the CCR Rule and UDEQ Rule 315-319-102. Likewise, IPSC anticipates conducting post-closure care in accordance with measures prescribed by the CCR Rule and UDEQ R315-319-104 *Closure and Post-Closure Care - Post-Closure Care Requirements*.

This report entails *conceptual* elements for post-closure care practices, as it is IPSC's intention to pursue final design including details, specifications, and drawings as soon as practicable. In accordance with the CCR Rule and UDEQ R315-319-104(d)(3), this *Plan* will be amended if warranted by changes in final design and if IGF operations change in a manner that requires changes to the post-closure care program.

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## 2.0 Anticipated CCR Unit Post-Closure Program

This report section presents IPSC's anticipated approach for complying with the CCR Rule and UDEQ R315-319-104. Only those R315-319-104 sub-sections relevant to IPSC's proposed post-closure program are included below (i.e., specific to CCR **in place** closure). None of the three CCR units has a leachate collection system; therefore, R315-319-104(b)(2) is not applicable. Figure 2 highlights the CCR unit locations and respective storm water control features, while Figure 3 highlights the locations of CCR unit-specific ground water monitoring wells.

### 2.1 R315-319-104(D)(1)(i)

*(1) The owner or operator of a CCR unit shall prepare a written post-closure plan and any amendments to the plan. The plan shall include, at a minimum, the information specified in Subsections R315-319-104(d)(1)(i) to (iii).*

(i) A description of the monitoring and maintenance activities required in Subsection R315-319-104(b) for the CCR unit, and the frequency at which these activities will be performed.

IPSC anticipates conducting the following routine monitoring and maintenance activities following installation of the final cover systems at each CCR unit:

- Routine visual inspections and record keeping of the final cover system will be undertaken, including monitoring for visible signs of settlement, subsidence, erosion, and storm water control, as each relate to maintaining the integrity and effectiveness of the final cover system. If repairs are warranted, they will be documented with specific information regarding the dates of repair and actions taken.
- Monitoring and maintenance of **settlement and subsidence** of the cover system will entail:
  - Design and installation of permanent settlement monuments. Each will be surveyed in relation to each other as well as the top of the final cover system. Expected settlement calculations included as part of final cover system design will be identified on the routine inspection forms.
  - Monuments will be monitored on a monthly basis for the first three months subsequent to final cover system installation. Thereafter, assuming no settlement, monitoring will be on a quarterly basis for one year followed by annual inspections.
  - Monitoring will entail routine visual inspections, comparative analysis of current and historical survey data and design calculations, and record keeping.
  - If settling at any monument is identified that exceeds corollary expected settlement calculations in the final design, appropriate action will be taken to address the settlement. Appropriate action may include:

## CCR Units Initial Post-Closure Plan Anticipated CCR Post-Closure Program

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- Localized stripping of vegetative growth to provide access to the final cover topsoil surface followed by import, backfill, and compaction of supplemental topsoil that is similar in lithologic and moisture content characteristics to the original cover. The final grade of the repaired cover/cap would be contoured to provide appropriate storm water control. Revegetation would entail installation of similar vegetation as originally installed.
- Once appropriate actions to address the settlement have been completed, monitoring will be conducted quarterly for one year followed by annual monitoring for the remainder of the post-closure care period.
- Monitoring and maintenance of **erosion and storm water control** features will entail:
  - Inspection of the ground surface of the final cover system's vegetative cap for erosional features (cracks, depressions, heaving) exhibiting an exceedance of two feet (2-ft.) horizontally and one-foot (1-ft.) vertically or more in relation to the land surface elevation of the final-constructed, vegetated cap, as well as inspecting for signs of dead or eroded vegetation that might warrant replacement.
  - Inspection of the ground surface of the up-grade and down-grade storm water control and diversion berms for visible signs of erosion that might have a detrimental impact to the integrity of the up-grade and down-grade storm water control system. Minimum berm height elevations included as part of final design will be identified on the routine inspection forms. Any erosional features exhibiting an exceedance of the minimum berm heights calculated during final design will be repaired. Monitoring will be on monthly basis for the first three months subsequent to final cover and storm water control system installation. Thereafter, assuming no erosional feature exceedances, monitoring will be on a quarterly basis.
  - Repair may entail localized import, backfill, and compaction of supplemental topsoil that is similar in lithologic and moisture content characteristics to the original cover and/or storm water control design. The final grade of the repaired cover would be contoured to provide appropriate storm water control. Revegetation of the vegetated cap would entail installation of similar vegetation as originally installed. In the event there is an erosional feature exceedance and associated repair, monthly monitoring will occur for three months subsequent to the repair followed by quarterly monitoring thereafter.
  - Monitoring will entail routine visual inspections, comparative analysis of current and historical survey data and design calculations, and record keeping.
- Ongoing **ground water monitoring**, and corrective action if needed, at each CCR unit will be implemented in accordance with the CCR Rule and UDEQ R315-319-90 through 98.

**CCR Units Initial Post-Closure Plan  
Anticipated CCR Post-Closure Program**

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**2.2 R315-319-104(D)(1)(ii)**

*(ii) The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure care period.*

Contact: Mr. John Finlinson (john.finlinson@ipsc.com)

IGF Main Number: 435.864.4414

IGF Address: 850 West Brush Wellman Road  
Delta, UT 84624

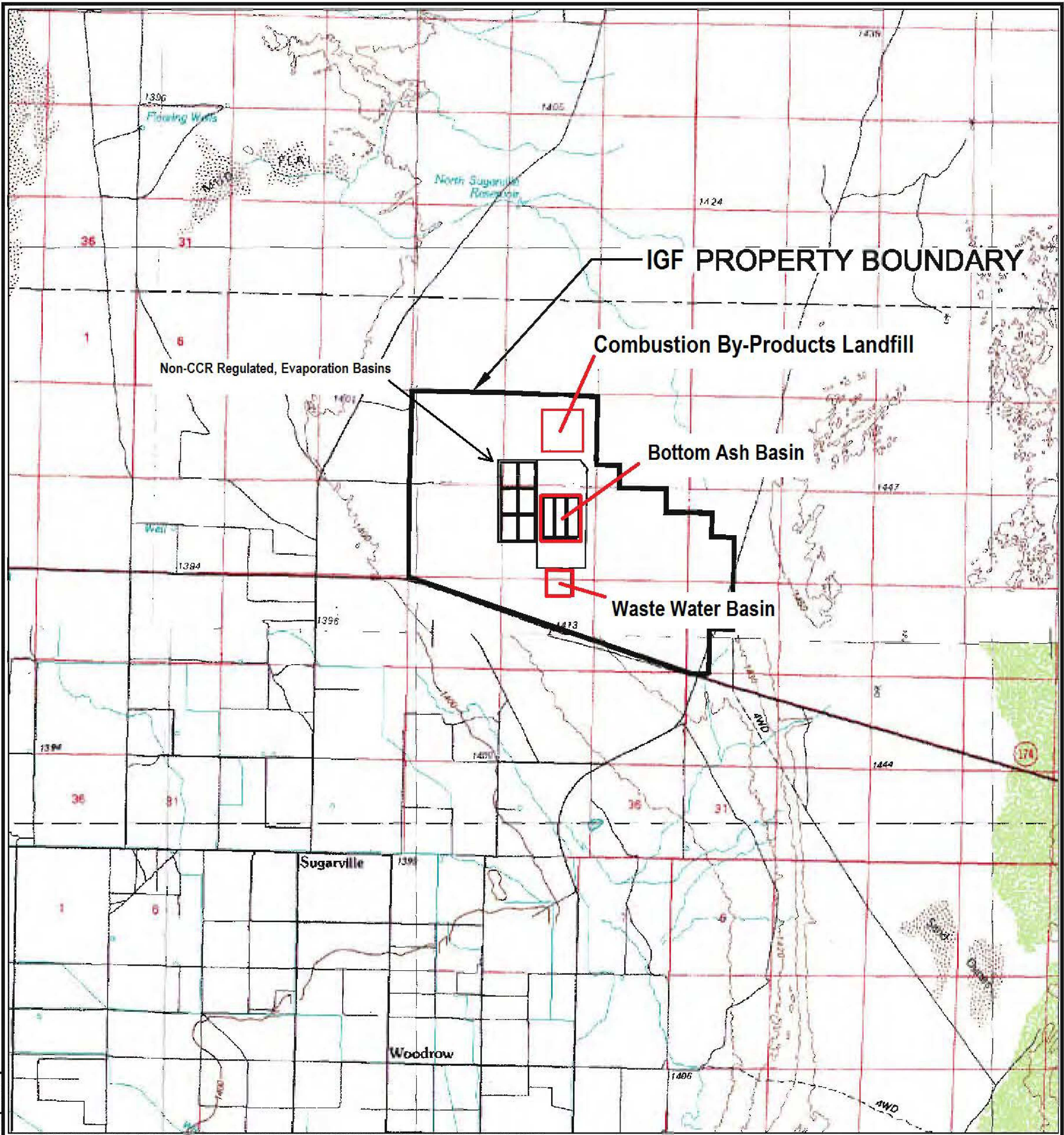
**2.3 R315-319-104(D)(1)(iii)**

*(iii) A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in Sections R315-319-50 through 107. Any other disturbance is allowed if the owner or operator of the CCR unit demonstrates that disturbance of the final cover, liner, or other component of the containment system, including any removal of CCR, will not increase the potential threat to human health or the environment. The demonstration shall be certified by a qualified professional engineer, and notification shall be provided to the Director that the demonstration has been placed in the operating record and on the owners or operator's publicly accessible Internet site.*

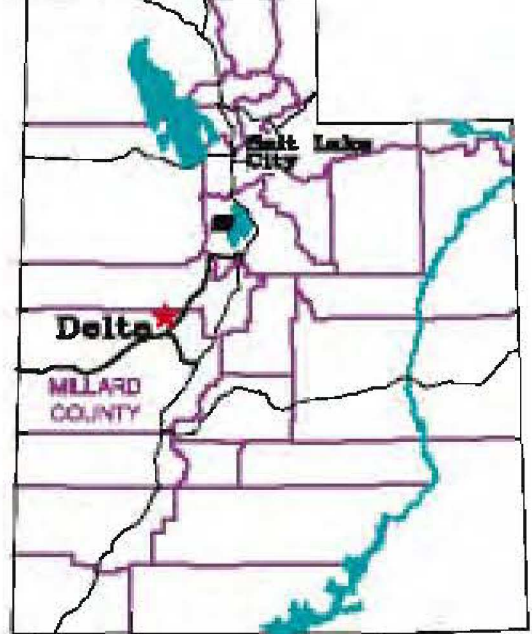
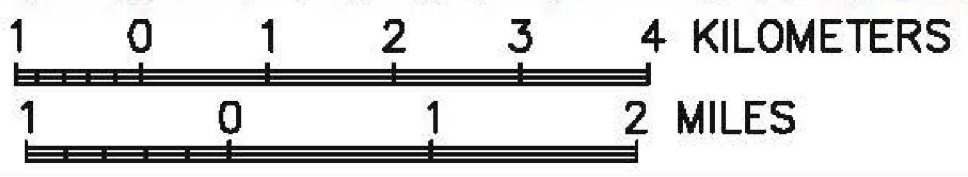
IPSC does not anticipate that future land use as a power generation facility during the 30-year post-closure monitoring period will have any detrimental impacts to the integrity or function of the final cover systems, liners (surface impoundments only), other components of the CCR containment and storm water control systems, or monitoring systems.



drawings\ipsc-04\Fig2 Site Topographic Map.dwg



BASE FROM USGS 1:100,000 SCALE METRIC TOPOGRAPHIC MAPS: LYNNDAL, UTAH, 1979 AND DELTA, UTAH, 1989.



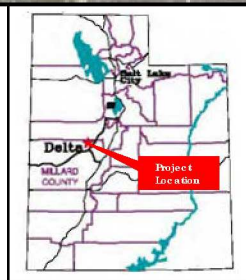
<b>CCR-Regulated Units</b>			
Delta, Utah			
<b>FIGURE 1</b>			
<b>GENERAL SITE LOCATION MAP</b>			
<b>Stantec</b>			DATE DRAWN
DESIGN BY	JR	DRAWN BY	CP
SCALE	1"=1000'		REVISION
G'D BY			





**Legend**

**CCR Unit**

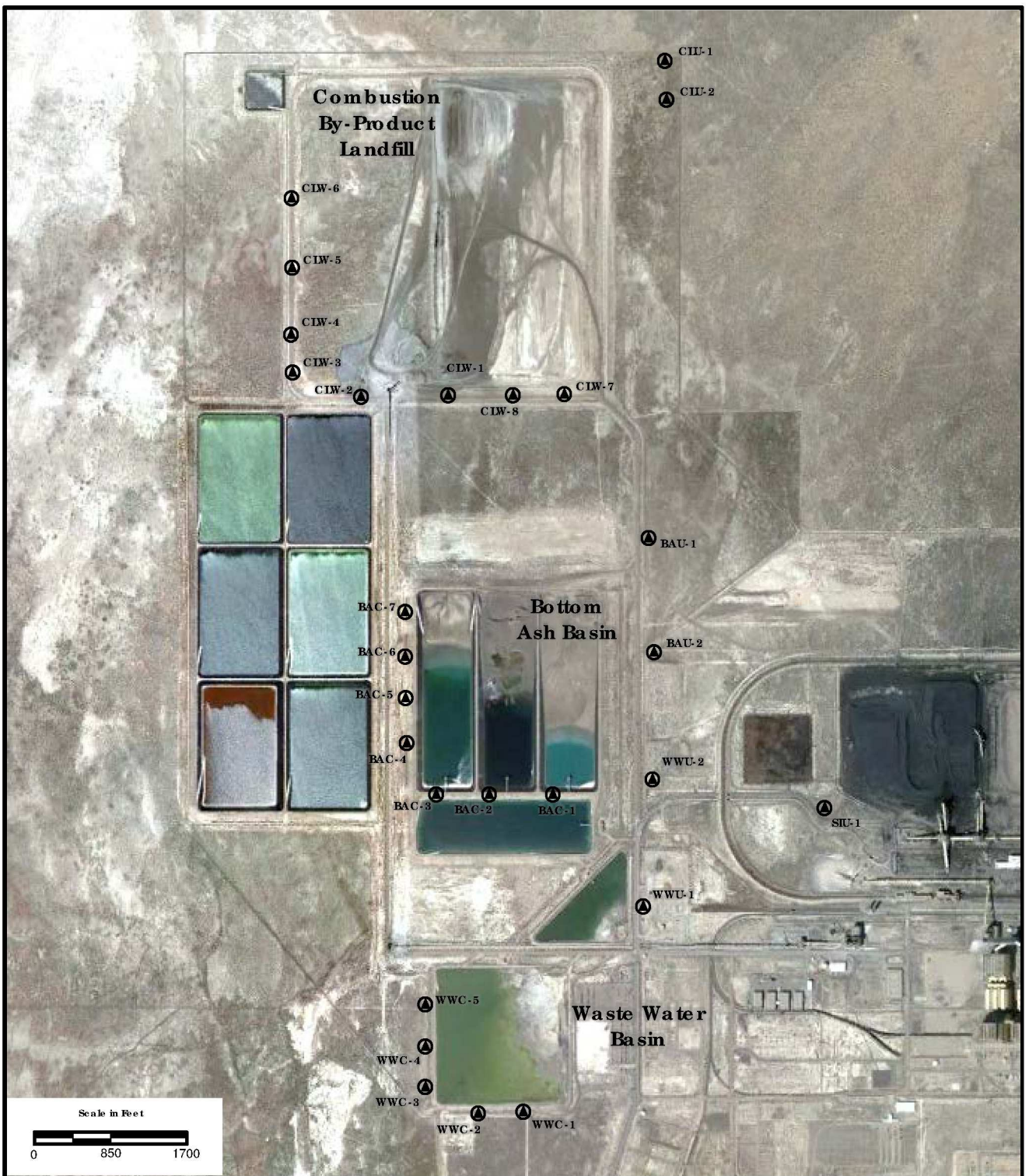


**INTERMOUNTAIN GENERATING FACILITY**

**FIGURE 2**  
**Site-Specific Location Map**

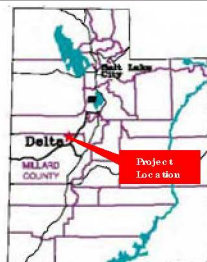
<small>DRAWN BY</small> JR	<small>DATE DRAWN</small> 9/30/2016
<small>SCALE</small> 1 in. approx. 1700 ft.	
<small>PROJECT</small> 203709098.409	





**Legend**

Ⓐ Ground Water Monitoring Well



**INTERMOUNTAIN GENERATING FACILITY**

**FIGURE 3  
Ground Water Monitoring Well Location Map**



DRAWN BY	JR	DATE DRAWN	9/30/2016
SCALE	1 = 1700		
PROJECT	203709098.409		