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UTAH DIVISION OF  
SOLID & HAZARDOUS WASTE  
*Combustion By-Products  
Landfill*

**UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**DIVISION OF SOLID AND HAZARDOUS WASTE**

**APPLICATION FOR A PERMIT TO OPERATE A CLASS III LANDFILL**

The applicant shall submit, in duplicate, an original permit application, a general report, and a technical report to:

Dennis R. Downs, Director  
Division of Solid and Hazardous Waste  
Utah Department of Environmental Quality  
PO Box 144880  
Salt Lake City, UT 84114-4880

**PART I - GENERAL INFORMATION**

- 1. Name of Facility Intermountain Generating Facility
- 2. Site Location 11 1/2 miles North of Delta, Utah
- 3. Facility Owner Intermountain Power Agency
- 4. Facility Operator Intermountain Power Service Corporation
- 5. Contact Person Dennis K. Killian

Address 850 West Brush Wellman Road  
Delta, Utah 84624-9522

Telephone (435) 864-4414

**6. Type of Application:**

- Class IIIa Landfill
- Class IIIb Landfill
- Initial Application
- Permit Renewal

**7. Property Ownership**

Presently owned by applicant

To be purchased by applicant

To be leased by applicant

Property owner (if different from applicant)

Name \_\_\_\_\_

Address \_\_\_\_\_

Telephone \_\_\_\_\_

8. Certification of submitted information.

George W. Cross, President & Chief Operations Officer  
(Name of Official) (Title)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: George W. Cross Date 7/27/06

SUBSCRIBED AND SWORN to before This 27<sup>th</sup> day of July, 2006.

My commission expires on the 16<sup>th</sup> day of March, 2009.

Anne C. Schmid  
Notary Public in and for

(SEAL) Millard County, Utah.



**4<sup>th</sup> REVISION TO THE INTERMOUNTAIN POWER PLANT**

**DESIGN CRITERIA AND OPERATION PLAN**

**FOR**

**IGF COMBUSTION BY-PRODUCTS**

**Prepared  
by**

**Ron Westlund**

**Original plan prepared by Los Angeles  
Department of Water and Power (LADWP) (1983)**

**1<sup>st</sup> Revision prepared by Ron Westlund (March 1991)  
2<sup>nd</sup> Revision prepared by Ron Westlund (April 1996)  
3<sup>rd</sup> Revision prepared by Ron Westlund (February 2001)  
Intermountain Power Service Corporation**

**July 2006**

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## 1.0 SUMMARY

This report is written to revise the licensing document entitled "IPP Combustion By-Products Landfill Design Criteria and Operation Report," prepared by the Los Angeles Department of Water and Power in July 1983 and the revisions of March 1991, April 1996, and February 2001.

This landfill is a permanent facility for the storage and disposal of combustion by-products; that is, fly ash, bottom ash, economizer rejects, pulverizer rejects, and flue gas desulfurization (FGD) such as scrubber sludge generated by the Intermountain Generating Facility (IGF). The coal combustion by-products stored or disposed of in this landfill are currently exempt from Subtitle C of the Resource Conservation Recovery Act (RCRA) of 1976. This industrial landfill has been in operation since 1987.

Fly ash and FGD scrubber sludge are mechanically mixed to form a dry material of 70 percent solids, minimum, by weight. This material, called conditioned sludge, is then transported to the landfill area by an overland conveyor for permanent disposal. The estimated volume of the fly ash and FGD scrubber sludge mixture is approximately 12.04 million cubic yards or 7,464 acre-feet for the two-unit plant over the 35-year economic life. A storage area of approximately 339 acres is required to accommodate this quantity of wastes, of which 271 acres are actually used for the landfill. The estimated volume available in the landfill is approximately 18.0 million cubic yards. Based on the last ten years of use, the landfill will last about 34.3 more years from now (until the year 2039). This storage area is based on a minimum 40-foot storage depth, four horizontal to one vertical side slopes, and a 50-foot perimeter allowance for drainage control and access.

The groundwater table is at approximately 40 feet below existing grade. There is sufficient separation between the bottom of the landfill and the groundwater table to minimize any chance of groundwater contamination.

The intent of the operating plan is to completely isolate the waste in the landfill area and to control migration of any possible contaminants by dusting, erosion, sedimentation and groundwater infiltration.

Operation of the landfill is phased to minimize the amount of land disturbed at any one time. The active storage area is worked in unit cells of approximately 39 acres. Benches are developed to minimize slope erosion. As portions of the cell reach their maximum storage depth, they are covered with topsoil and revegetated to provide rehabilitation and erosion control.

Intermountain Power Service Corporation (IPSC) has obtained landfill permits in the past (Permit #9602 - 1996 and #9103R2 - 2001). The information which follows in this permit renewal largely follows the same format that was submitted the last time IPSC applied for a permit renewal for this landfill in 1996 and 2001.

## **2.0 PROJECT INFORMATION**

Intermountain Generating Facility (IGF) is a 1,900 MW coal-fired power plant constructed near Delta in Millard County, Utah. IGS employs approximately 483 people at the Delta site and at the Springville Intermountain Railcar Center. Intermountain Generating Facility (IGF) burns approximately 5.7 million tons of coal per year.

Intermountain Power Agency (IPA) owns approximately 4,615 acres of land for the plant site. The western portion of the plant site, approximately 2,200 acres, is designated for waste disposal. Three distinct types of waste disposal facilities are constructed in this area: Combustion By-Products Landfill, evaporation basins, and bottom ash basins. Arrangement of these waste disposal facilities is shown in Figure 2 of this report. There is also an industrial sanitary landfill to the east of these facilities. These facilities are designed with sufficient capacities to dispose of combustion by-products and waste water generated by IGS during the economic life of the plant (35 years).

Full scale operation of the landfill began when Unit One and Unit Two of IGF started commercial operation in May 1987. Prior to that, a smaller quantity of fly ash and FGD scrubber sludge mixture generated for the testing of Units One and Two equipment and the operation of Unit One, was disposed of at the landfill in 1986. The economic life span of the landfill is estimated to be approximately 35 years (2022). The mixture of fly ash and FGD scrubber sludge is transported to the landfill stack out area site by means of a belt conveyor.

All operations at the landfill are governed by the provisions of the operation plan.

### **3.0 PURPOSE AND SCOPE OF THE REPORT**

#### **3.1 Purpose of Report**

The purpose of this report is to update the 2001 permit application. This updates the quantities of the combustion by-products produced by IGF for the renewal of the landfill permit. In addition, this report provides a plan of operation for the landfill.

#### **3.2 Scope of Report**

The scope of this report is limited to the combustion by-products licensing, design criteria, and operational plan. Hydrogeological and geotechnical studies of the waste disposal area were conducted by Ertec Western, Inc. (References 4 & 5). Soil borings and subsurface soil information are included in Appendix 1.

### **4.0 LANDFILL SITE**

#### **4.1 Landfill location**

##### **4.1.1 General Description**

The landfill is situated in the northerly portion of the on-site waste disposal area which is approximately 11 miles north of Delta, in Millard County, Utah. The 339 acres of land designated for solid waste landfill occupies portions of Section 11, T. 15 S., R. 7 W., Salt Lake Meridian, Utah. Of this area, 68 acres are designed for diversion ditches, runoff basins, berms, roads and a buffer area. Location of the landfill is shown in the site location map (Figures 1 & 18).

##### **4.1.2 Legal Description**

More specifically, the land is described as follows:

That portion of land situated in Section 11, Township 15 South, Range 7 West, Salt Lake Meridian, in the county of Millard, Utah, beginning at the North 1/4 Corner of said Section 11, South 126.339 feet to the true point of beginning of this description, said true point of beginning is corresponding to plant coordinate 26,260 North and 9072 East, then from the true point of beginning

west 1151.939 feet; then west 22.5 degrees north 183 feet; then west 1031 feet; then south 730 feet; then east 480 feet; then south 3150 feet; then east 3770 feet ; then north 3819 feet; then west 1898.061 feet to true point of beginning. Said area is approximately 338.82 acres in area.

#### **4.2 Land Ownership**

IPA has purchased approximately 4,615 acres of land from the United States Department of the Interior for the project. A copy of the patent to the land for the plant site is included in Appendix 2.

#### **4.3 Land Use in the Vicinity**

##### **4.3.1 Land Use**

Lands in the immediate vicinity of the IGF are publicly owned desert range lands. These lands are managed by the U.S. Bureau of Land Management (BLM) and are designated Multiple Use and used primarily for livestock grazing and limited wildlife management. The ground surface of these lands is relatively flat, covered with native vegetation such as sagebrush, greasewood and rabbit brush. The nearest cultivated lands are located more than two miles southwest of the plant site in the Sugarville and Sutherland areas.

##### **4.3.2 Homes in Area**

The nearest home (mobile home) is two and one-half miles southwest. It is an old single wide house trailer which has not been occupied for several years and seems abandoned. The nearest occupied home is approximately five miles south of the landfill.

##### **4.3.3 Zoning**

All land within one quarter mile south and west is part of IGF and is zoned industrial. Some of the land to the north and east within one-quarter mile is BLM land designated Multiple Use.

#### **4.3.4 Industrial Buildings**

The sludge building and radial stacker are the only industrial buildings within one-quarter mile of the landfill site. This building and associated conveyor belt are part of the IGF and handle the sludge for the landfill. This is shown in Figure #17.

### **4.4 Area Geology**

#### **4.4.1 Subsurface Soil Investigations**

Subsurface soil investigations were conducted by Ertec Western, Inc., for the geotechnical study of the waste disposal area. Three borings and six test pits were completed in the area designated for the landfill. The location of these borings and test pits, as well as the logs of material penetrated, is presented in Appendix 1, Figures 3 and 15.

The boring information indicated that there are two subsurface units that exist in the landfill area within the upper 100 feet. The uppermost unit, about 20 feet in thickness, consists primarily of interbedded lenses of sand and silty sand. The top few feet of this unit is comprised of eolian sand, fluvial sand, and fine gravel.

The second subsurface unit consists of fine-grained silts and clays of lacustrine origin. This unit is thickly bedded and extends to a depth of one hundred feet below ground surface. Generalized subsurface profile and stratigraphic interpretation across the landfill area are presented in Figure 4. Additional data on geotechnical investigation is reported in References Four and Five.

#### **4.4.2 Rock Outcroppings**

There are no rock outcroppings within the landfill site. The nearest rock outcropping is Fumarole Butte, which is approximately nine miles to the northwest.

## **4.5 Water**

### **4.5.1 Groundwater**

The three borings drilled in the landfill area were converted to groundwater observation wells. Groundwater levels of these observation wells indicated a relatively flat piezometric surface roughly parallel to the ground surface. The groundwater flow is in the direction due west with the average piezometric gradient approximately 0.34 percent to the west across the landfill. The depth to the piezometric surface ranges between 26 and 43 feet below existing ground surface.

The actual water transmitting zones are below the piezometric surface, with confinement due to the massive clay and silt beds within the upper 100 feet. The bottom of the landfill has a minimum of 40 feet separation from the piezometric surface and up to 100 feet separation to the water bearing zones, to minimize the chance of ground water contamination. No evidence of perched or artesian groundwater conditions was encountered in the area investigated for the landfill.

### **4.5.2 Wells**

The two water wells closest to the Combustion By-Products Landfill are Well #1 and (C-15-6) 7ddb-1. Well #1 is a water production well located 7,500 feet southeast of the landfill. It provides process and drinking water to IGF. Water is drawn from the 900 to 1,300 foot level.

Well (C-15-6) 7dbb-1 is approximately 10,000 feet east of the landfill withdrawing water from the 200 to 300 foot level. This well is a stock watering well owned by the BLM.

### **4.5.3 Watercourses**

There are no watercourses within the Combustion By-Products Landfill. The nearest watercourse is the Sevier River which is more than eight miles southeast of the landfill.

The Combustion By-Products Landfill is a Class IIIb landfill which does not require ground water monitoring. Due to the presence of impoundments on site, IPSC is required to have a Ground Water Discharge Permit. This permit includes monitoring of the Combustion By-Products Landfill.

Water quality in the first water bearing zone has been classified by the state as Class II in our Groundwater Discharge Permit. Even with this classification, the water is relatively high in Total Dissolved Solids (TDS) and generally does not meet drinking water standards. Better quality water exists in the two deeper aquifers below this zone.

#### **4.6 Soil Cover Material**

Soil for cover material is obtained from the topsoil layers in the landfill site. Soil may also be obtained from contouring the landfill site by removing hills and sand dunes. The initial cell of the landfill area was excavated by stripping off topsoil to an average of one to two feet below existing grade. The stripped topsoil is stockpiled for later use as soil cover. The topsoil stripping operation will be continued into each successive cell with the stripped material being placed directly as cover in the active cell. Soil cover operation covers the side and top slopes on reaching the finished 40-foot height. If additional soil cover material is required, topsoil can be borrowed from the materials stockpiled during the site preparation for the generating station.

#### **4.7 Fire Protection**

Fire protection is provided by the fire station at the generating station located within two miles of the landfill. The on-site water supply or wastewater systems provide water. Most of the materials in the Combustion By-Products Landfill are non-combustible and no open burning of other materials is allowed. The landfill may contain small amounts of coal from cleanup activities from around the plant site. In the event there is a fire involving the landfill or equipment at the Intermountain Generation Facility, the appropriate response includes all or parts of the following:

1. Report to the 24-hour manned control rooms by phone or by radio.
2. Dispatch command level supervisors to size-up the situation and request resources.
3. Dispatch the on-site structural level fire brigade with the appropriate equipment.
4. Dispatch IGF's fire truck.  
(rated at 1,000 gpm, with 500 gallons of water)  
(uses AFFF Foam Wagon with monitor nozzle)
5. Use any of the heavy equipment listed in Section 7.3.5.

Because of the size and location of the Landfill, IPSC deals with fires at the landfill in-house as much as possible, however a mutual aid agreement is in place with the Delta City Fire Department to respond, upon request.

## **5.0 WASTE DEFINITION AND ESTIMATED VOLUME**

### **5.1 Waste Definition**

#### **5.1.1 Fly Ash/Bottom Ash**

Fly ash formed during the combustion of coal is a particle conveyed and collected in the flue gas fabric filter. Fly ash is a light gray or brown material comprised of very fine particles. The fly ash is glassy spheres having a diameter ranging from 0.1 micron to greater than 100 microns, with an average of eight microns. The fly ash contains large quantities of Silica ( $\text{SiO}_2$ ), Alumina ( $\text{Al}_2\text{O}_3$ ), Ferric Oxide ( $\text{Fe}_2\text{O}_3$ ) and Calcium Oxide ( $\text{CaO}$ ). The carbon content is dependent on the efficiency of the boiler unit and the fineness to which the coal is pulverized. Typically, the ash contains up to 0.5 percent carbon. The nature of these particles is relatively inert and quite similar to glass. Minor amounts of trace elements from the coal burned are associated with the fly ash as coatings on the spherical particles. See Appendix 1 (Page 67) for trace elements in the conditioned sludge.

Bottom ash is the same material as fly ash but the particle size is larger. Bottom ash drops to the bottom of the boiler due to its weight rather than

being carried out with the air stream. This is approximately 20 percent of the ash.

### **5.1.2 Flue Gas Desulfurization (FGD)**

FGD scrubber sludge is the by-product that results from the removal of sulfur dioxide from the flue gas by the FGD scrubber. FGD scrubber sludge consists of water, dissolved solids, and suspended solids such as Calcium Sulfate ( $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ ), limestone ( $\text{CaCO}_3$ ), and Calcium Sulfite ( $\text{CaSO}_3 \cdot \frac{1}{2}\text{H}_2\text{O}$ ), and some smaller amounts of Magnesium Sulfate ( $\text{MgSO}_3 \cdot 7\text{H}_2\text{O}$ ). FGD scrubber sludge has a specific gravity ranging between 1.05 and 2.0 depending on the percent of solids in the slurry.

Sludge from the FGD scrubber generally contains about five to fifteen percent solids and is dewatered before mixing with the dry fly ash. The primary dewatering is accomplished in gravity thickeners. Sludge is thickened to about 45 to 55 percent solids. Secondary dewatering is accomplished in rotary drum-type vacuum filters. Solids are collected on the surface of the filter media while water is pulled through the filter cake, leaving a relatively dry material of 60 to 75 percent solids. The solids are scraped off the filter and transported by a conveyor to a pug mill mixer to blend in with the dry fly ash. The blended mixture, called conditioned sludge is transported by an overland conveyor system to the landfill area. At the landfill area a radial stacker piles the mixture for transport by truck to the final disposal cell.

### **5.1.3 Other Wastes**

Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste, generated primarily from the combustion of coal or other fossil fuels is disposed of in the Combustion By-Products Landfill. Spilled coal mixed with dirt is disposed in the Combustion By-Products Landfill. If the coal doesn't have much dirt or rocks mixed with it, it is returned to the coal stockpile.

## 5.2 Estimated Volume

### 5.2.1 Anticipated Combustion By-products Volume

The volume of conditioned sludge in the landfill has been surveyed at the end of each year. The following volume of conditioned sludge was added to the landfill in each of the years listed:

1986	147,580 cubic yds.(part year)
1987	421,198 cubic yds.
1988	444,673 cubic yds.
1989	372,528 cubic yds.
1990	454,814 cubic yds.
1991	322,865 cubic yds.
1992	441,533 cubic yds.
1993	318,191 cubic yds.
1994	318,453 cubic yds.
1995	294,055 cubic yds.
1996	275,436 cubic yds.
1997	306,845 cubic yds.
1998	355,328 cubic yds.
1999	268,425 cubic yds.
2000	280,478 cubic yds.
2001	224,978 cubic yds.
2002	240,052 cubic yds.
2003	346,290 cubic yds.
2004	328,451 cubic yds.
2005	<u>264,654 cubic yds.</u>
Total Sludge	6,476,627 cubic yds.

$$\text{Average Sludge} = \frac{6,476,627 \text{ Cubic yds.}}{19.30 \text{ years}} = 335,600 \frac{\text{cubic yards}}{\text{year}}$$

With an average production of 335,600 cubic yards of sludge per year and a 35-year economic life of the plant (1987-2022), total sludge production is calculated:

$$[335,600 \text{ cubic yds} \times 35 \text{ yrs}] + 147,580 (1986) = 12,041,160 \text{ cubic yds.} = 7464 \text{ acre ft.}$$

This compares with an 11,000 acre feet estimate in the initial permit application.

Bottom ash is slurried to the bottom ash basins. When the bottom ash basins are full, the ash will be placed in the landfill. The bottom ash has

not been placed in the landfill as of this date. An estimated 1,000 ac-ft (1,610,000 cubic yards) of bottom ash is stored in the bottom ash basins from 19 years of operation. If this was added to the landfill volume needed for the 35 years of operation, then 13,641,160 cubic yards (8,464 ac-ft) would be required. Some bottom ash is planned to be left in the bottom ash basins when they are reclaimed.

Intermountain Power Service Corporation has negotiated a contract to sell some of the fly ash as a concrete additive. This contract began in the spring of 1991. The amount of fly ash sold in 1991 and 1992 was smaller due to the construction of the ash handling facilities. Using the 1993 through 1995 amount of sludge taken to the Combustion By-Products Landfill, compared to the previous 6 years (1987-1992), approximately 90,000 less cubic yards of sludge was disposed of in the landfill each year since 1992. From 2001 thru 2005 the amount of fly ash that has sold averages approximately 200,000 tons (174,300 cubic yards per year or 108 ac-ft.) This reduces the amount of material going to the landfill.

Some of the bottom ash is used on site for fill material reducing the amount sent to the landfill.

### 5.2.2 Volume Available in Landfill

The area used for combustion by-products is 271 acres (3,530 X 3,350 feet). The volume available with the present design is equal to the volume of landfill base minus volume lost by side slopes, minus area not filled by stacker, plus pyramid shape on top for drainage. A slight change in the estimated overall height of the top pyramid resulted in a small increase in the total volume.

$$\frac{3,530' \times 3,350' \times 40'}{27} - \frac{13,095' \times 168' \times 40'}{2 \times 27} - \frac{3.14' \times (300')^2(40')}{2 \times 27} \text{ (cont. next line)}$$

$$+ \frac{(3,363' \times 3,182')(17.5')}{3 \times 27} = 18,000,000 \text{ cubic yds volume available}$$

### 5.2.3 Projected Life of Landfill

The projected life of the landfill can be calculated by taking the volume available minus amount used to present, divided by the per year volume.

$$\frac{18,000,000 \text{ cubic yds.} - 6,476,627 \text{ cubic yds.}}{335,600 \text{ cubic yds. per year}} = 34.3 \text{ years from present}$$

If bottom ash is taken into account:

$$\frac{18,000,000 - 6,476,627 - 1,610,000 \text{ cubic yds.}}{335,600 \text{ cubic yards}} = 29.5 \text{ years from present}$$

The landfill will be full by the end of 2039 (or 2034 with bottom ash) at the present rate of fill. By selling fly ash, (1996 thru 2005) and the volume recalculation, the life of the landfill has been increased by another three years since the 2001 permit application.

## 6.0 DESIGN CRITERIA

### 6.1 Design of the Landfill

The coal combustion by-products stored or disposed of in this landfill are currently exempt from Subtitle C of the Resource Conservation Recovery Act (RCRA) of 1976 under the Belville Amendment for FGD wastes. It is also an industrial landfill. The landfill site is located at the northwest corner of the plant site and encompasses approximately 339 acres (3,770 by 3,810 feet). Of this area, 271 acres are used for the actual landfill. The landfill is divided into seven, 39-acre cells (480 feet by 3,500 feet). The first cell is situated at the eastern limit of the landfill, with each successive unit cell progressing in the westerly direction. Each section of cell is prepared as needed, by stripping an average two feet of soil cover. The prepared subgrade is sloped at approximately one-half percent away from the fill to prevent any standing water.

Normally, the fill begins at the south end of each cell, progressing in a northerly direction. Except when finishing up a cell, each cell is filled before placing fill in a new cell. Cell construction could proceed from north to south also. The density and optimal moisture content for compaction are controlled to obtain a normal compaction of 85 percent or greater.

Each cell is constructed by first stripping away the existing soil to be used for cover. Then the area is graded and compacted as needed. Two, 2-foot horizontal lifts of combustion by-products are then placed and compacted to 90 percent.

The working face of the landfill slopes away from the completed part of the cell, usually to the north. This slope is at a 2 to 4-degree angle (between a 14 or 28 to 1 slope). This slope extends from the top to the bottom of the working cell. The 27 yard belly dump trucks drive down this slope as they discharge their load of conditioned sludge. Behind the belly dump trucks the Cat road grader spreads out the material, filling in the grooves left by the tires. As the grader spreads out the conditioned sludge and the water truck drives over the layer for dust control, the layer of sludge is compacted into a layer of between 4 and 8 inches. Heavy equipment running over the material compacts the conditioned sludge to above 85 percent compaction. The top of the landfill is sloped like a very flat pyramid to provide positive drainage (see Figure 13). Runoff from the top of the landfill is diverted to down drains by drainage channels and a top-of-slope berm. Access to the top of the landfill will be provided by the 15-foot wide service road located on the easterly limit of the site.

Runoff from the area outside the landfill will be diverted around the landfill by a diversion berm. A drainage ditch and a 30-foot wide access road are constructed within the diversion berm along the entire perimeter of the landfill. All runoff from the landfill will be routed by the drainage ditch to a lined runoff basin for containment and ultimate disposal by evaporation. Design and typical sections of the solid waste landfill are shown in Figures 5 through 15.

## **6.2 Drainage of the Landfill**

The landfill is situated near a natural drainage divide and is not within a 100-year flood plain. The primary functions of the drainage facilities are to contain and handle the runoff within the landfill. Drainage facilities for the landfill are designed to handle a 50-year storm. Positive drainage control is provided for both active and completed unit cells of the landfill with all runoff routed to the lined runoff basin.

Drainage from the active portion of the unit cell will be provided by an incline on the working face and the maintenance of a drainage ditch at the contact with the prepared subgrade. This contact ditch will be sloped 1 percent toward the drainage ditch surrounding the landfill. The one-half percent slope on the prepared subgrade will also aid in draining runoff from the unfilled portion of the cell toward the drainage ditch. Runoff for the cell directed toward the access corridor is collected in the perimeter drainage channel which in turn drains to the runoff basin. Details of this drainage plan are shown in Figures 16 and 17.

Drainage facilities such as diversion berms, perimeter drainage ditches, catch basins with drain pipes, and drainage ditches on the toe of the fill will be constructed as needed. As the fill operation progresses, permanent drainage facilities will be constructed on the outside slopes of the landfill. As the fill reaches a 20-foot vertical height, a bench with an interceptor terrace and down drains will be developed on the outside slope of the landfill. The interceptor terrace is sloped toward the down drains. The down drains are metal culverts or channels spaced every 300 to 1,200 feet on the perimeter of the fill slope. Ultimately, the down drains will be extended to the top of the fill when the landfill reaches its maximum storage depth.

The final configuration of the landfill will have a crowned configuration, a very flat pyramid, with a one-percent top slope from the center to the outside edges (see Figure 13). Runoff from the top of the landfill will be diverted by diversion berms at the perimeter of the landfill top and discharged by down drains to the catch basins at the toe of the fill. The catch basins will be drained by corrugated metal pipe buried underneath the perimeter access road and will discharge the storm runoff into the perimeter drainage ditch. The perimeter drainage ditch is sloped to follow the natural grade, and channels all of the runoff from the landfill to the lined runoff basin at the northwest corner of the landfill site. Figures 7 through 15 of this report illustrate the drainage control plan for the landfill.

As noted above, the runoff basin at the landfill is sized with the capacity to contain runoff of a 24-hour duration, 50-year storm. The basin has a surface area of 5 acres and a depth of 10 feet. This depth provides a two-foot allowance

for freeboard, a three-foot allowance for silt sedimentation, and five feet of storage. Should the sediment fill the pond to a three-foot depth, two feet of sediment will be removed. The one foot of remaining sediment protects the liner from equipment used to remove the two feet. The bottom and sides of the basin are lined with 80 mil high-density polyethylene to minimize infiltration and provide slope protection against wave action. An overflow spillway is provided to prevent a bridge of a containment dike in the event of a rainfall that exceeds the design criteria. This runoff pond is designed to hold a 50 year, 24 hour storm. Although unlikely, it would be possible for the runoff basin to overflow during a greater than 50 year storm or multiple storms. Overflow would flow three to five miles to the northwest into a natural depression.

Storm runoff contained in the basin will be disposed of by means of evaporation. The pan evaporation rate for the plant site is estimated at approximately 72 inches per year. Pond evaporation is about two thirds of the pan evaporation (48 inches per year). The average annual precipitation is approximately 8.0 inches (1938 to 2000 average). The 50 acre-foot storage capacity in the runoff basin is sufficient for runoff in abnormally wet periods, or years with lower than average evaporation.

No sanitary waste is allowed at the Combustion By-Products Landfill. There should be no insect problem because standing pools of water will be removed by drainage to control insect breeding. Should a problem occur, an insect control contractor is available to mitigate the problem.

## **7.0 OPERATION PLAN**

### **7.1 Purpose**

The purpose of this Operation Plan is to define the methods and criteria under which the Combustion By-Products Landfill will be operated. It is further anticipated that the plan will also serve as the basis of permit approval by the Utah State Department of Environmental Quality, Division of Solid and Hazardous Waste.

The intent of the Operation Plan is to completely isolate the combustion by-products to the landfill area and to control migration of any possible contaminants by dusting, seepage, erosion, and sedimentation. Dust control measures are taken by revegetation of finished areas and sprinkling of water or treatment with surfactant chemicals on unfinished areas. Seepage to the groundwater is prevented by installation of temporary drainage facilities to prevent ponding in each unit cell. Runoff to the landfill area is diverted by diversion berms and perimeter drainage ditches and impounded in a fully lined runoff basin. Moisture content and compaction of the fill are controlled to prevent slope erosion and seepage to the ground water.

## **7.2 Responsible Parties**

### **7.2.1 IPSC President & Chief Operations Officer**

The IPSC President & Chief Operations Officer (Plant Manager) is in charge of all operations at IGF. The Plant Manager is ultimately responsible for operation of the landfill and may further assign this duty to other employees under his direct or indirect supervision. Under his direction, records are kept of the amount of waste accepted in the landfill. At the present time, this is the Operations Yard Supervisor. He keeps all records pertinent to the operation of the landfill and coordinates and supervises employee work at the landfill. The Environmental Group has the landfill surveyed for volume each year. They also review construction of the landfill to assure compliance with this plan and submit any updates required by the State of Utah.

### **7.2.2 Utah Department Environmental Quality, Division of Solid and Hazardous Waste**

The Division of Solid & Hazardous Waste of the Utah Department of Environmental Quality is the permitting agency at the State Level. Approval to operate the combustion by-products landfill will be obtained from this agency by IPSC. Such approval will be conditional and dependent on adherence to the conditions of the Operating Plan. The

Division of Solid & Hazardous Waste will be the contact agency regulating operation of the Combustion By-Products Landfill.

Correspondence shall be addressed as follows:

Utah Department of Environmental Quality  
Division of Solid & Hazardous Waste  
288 North 1460 West  
P.O. Box 144880  
Salt Lake City, Utah 84114-4880

### **7.2.3 Other Agencies**

Permission to operate this landfill in Millard County has been obtained by IPA in the Conditional Use Permit granted by the Millard County Planning and Zoning Commission on January 5, 1980. In accordance with the Conditional Use Permit, Conditions Section J (which was for wastewater, air quality, and solid waste), IPA submitted a copy of the Operation Plan to the Millard County Planning and Zoning Commission.

## **7.3 Landfill Site**

### **7.3.1 Site Preparation**

Site preparation includes grading of temporary haul roads, placing of earthen berms, maintenance of roads and drainage ditches, clearing of vegetation, stripping and stockpiling of topsoil and cover material. Temporary drainage devices along with temporary earthen berms have been installed for the first unit cell to provide proper drainage control of the working area. Earth moving activities are repeated as necessary for opening of each unit cell. Approximately two feet of soil is stripped during site preparation. Clearing of vegetation is done only in areas needed for new cell expansion. The cleared vegetation may be incorporated in the topsoil stockpile or placed directly on finished portions of cell.

### **7.3.2 Site Security**

The landfill is located within the 4,615 acre IGF Site. The Site is enclosed by a fence. The northern limit of the landfill is set back a minimum of 100

feet from the barbed wire fence. Access to the landfill is provided by an improved road which is connected to the internal road system. The plant site entry to the waste disposal area is patrolled and monitored by security guards, stationed at the plant entrance 24 hours per day.

### **7.3.3 Site Access**

Access to the landfill is provided by an improved road parallel to the ash-sludge mixture conveyor system. The access road is a 30-foot-wide road capable of carrying heavy equipment loads. Maintenance roads are also constructed around the landfill perimeter for patrol, inspection, and repair of the drainage ditch and diversion berm. Several roads will be constructed for transport of sludge to a final destination in the landfill.

### **7.3.4 Phasing of Work**

The landfill is divided into seven unit cells with each cell having an area of approximately 39 acres (480 feet by 3,500 feet). The first unit cell was completed in 1990. By mid 2001 the second cell was complete. The third cell has been filling since 2001 and is now approximately 70 percent complete. This cell should last about another two years. Site work for each successive unit cell will be handled under the supervision of the Plant Manager's designee who is currently the Operations Yard Supervisor.

Excavation and clearing of vegetation are planned and phased so that only one cell at a time is being filled. Topsoil and soil from subgrade preparation from the working cell are used for final cover of the cell just completed. The excavated earth is also used to form berms or slopes around the working area to prevent surface runoff from entering the landfill. Each unit cell in the landfill shall be completely filled to the maximum design height of 40 feet above the prepared subgrade before commencing landfill operations in the succeeding cell.

### 7.3.5 Earth Moving Equipment

Tractors, trucks, compactors, and backhoes are available to excavate and clear the land for the Combustion By-Products Landfill. Equipment such as crawler dozers, rubber-tired dozers, scrapers, water trucks, and similar equipment may also be used in the landfill operations. A list of the equipment on-site follows. (This may change in the future.)

<u>Equipment</u>	<u>Model</u>
Guzzler Vacuum Truck	NX
Mack Dumpster Truck	Valuliner
John Deere Dozer	D-850B
Fiat-Allis Dozer	FD-30
Mack Dump Truck	10 yard
Mitsubishi Track Hoe	MS-450-8
Cat Backhoe	426
2 Cat Water Wagons (8,000 gallon)	621 E
Allis Chalmers Tractor	8070
Great Plains Seed Drill	Native Species Drill
2 Kenworth Tractors w/27 yard	
Bottom Dump Trailer	W900B
Trojan Loader	4000
Dyna-Pac Compactor/Vibrator	CH-61
Cat Scraper	651 E
Trojan Grader	155
1 LeTourneau Dozer	D-800
1 Cat Dozer	854
Cat Grader	14G
Cat Loader	980F
3 Bobcat Loaders	1835C, 875, 743

### **7.3.6 Dust Control**

The area of active landfill operations is limited, to minimize fugitive dust problems. Dust control measures include sprinkling water on soil and sludge using water trucks and moistening soil being worked during excavation, grading, and filling operations. Dust control for temporary haul roads and access roads is provided by spraying water or dust control chemicals on the road surface. Moisture in the ash-sludge mixture is the dust control for the conveyer system. The conveyor system is designed with hoods and wind breakers, which help with dust control as well.

### **7.3.7 Groundwater Monitoring**

On January 10, 2006 IPSC received a renewal of its ground water discharge permit for the Intermountain Generating Station. The discharge permit (Permit No. UGW270004) from the Division of Water Quality covers the whole site including the Combustion By-Products Landfill. The groundwater monitoring of Well WDB-19 down gradient of the landfill is part of this permit.

### **7.3.8 Inspections**

Formal inspections of the Combustion By-Products Landfill will be conducted quarterly as stated in R315-302-(5)(a). Quarters will be calendar quarters (January 1 through March 31, April 1 through June 30, July 1 through September 30, and October 1 through December 31.) With the small size of IPSC's landfill, quarterly formal inspections will identify problems in time to correct them before they harm human health or the environment. In addition, the Operators that haul waste to each landfill will report any condition to their supervisor not consistent with normal operating procedures for that landfill. Quarterly inspections will use the form in Appendix 4.

### **7.3.9 Alternative Waste Sites**

The need for an alternative waste disposal site is an unlikely condition as IPSC owns the land and operates the Combustion By-Products Landfill.

Should conditioned sludge be prevented from being placed in the Combustion By-Products Landfill for any reason, there are two viable options available:

- Option 1: If the landfill is not available for only a short time (up to 10 days), the conditioned sludge can be stacked at the end of the conveyor belt. When the landfill becomes operational, the conditioned sludge can then be hauled to its normal location.
- Option 2: If the landfill is out of service for longer than 10 days, the conditioned sludge would have to be staged in a different location within the 339 acres of the approved landfill area. This could be an area just north of the conveyor belt stacking area or in a future cell.

A breakdown of equipment to haul the conditioned sludge from the conveyor stackout to the landfill would cause a waste handling problem. IPSC has two haul trucks for the conditioned sludge, two front end loaders to fill the trucks (one is smaller), two graders (one is smaller) to finish placing and grading the conditioned sludge in place, and two water trucks for dust control and moisture for compaction. Breakdown of one of the pieces of equipment would slow down hauling of the conditioned sludge but not stop it. IPSC could rent equipment to replace equipment that breaks down. IPSC has rented haul trucks in the past when our haul trucks were out of service for an extended period of time.

#### **7.3.10 Training for Operation of the Combustion By-Products Landfill**

The same people operate both the Sanitary and Combustion By-Products Landfills, so training applies for both landfills. The people who operate the landfills are in the job classification "Fuel Equipment Operator." These are the Operators who run usually mobile equipment such as trucks, backhoes, and graders as opposed to fixed equipment such as the boiler in the power plant. An Operations Supervisor is in charge of

the Fuel Equipment Operators. Work at the landfills comprises only part of jobs covered by the Fuel Equipment Operators.

The training schedule for the Fuel Equipment Operators and their supervisor is attached in Appendix 5. Subject of the training and frequency of refresher training is shown on the schedules.

In addition, a specific training course pertaining to operation of each landfill will be initiated this year. Below is an outline of material covered in this training. Training will cover both landfills. This specific training will be required for Fuel Equipment Operators once every two years beginning in 2006.

- General layout and design of each landfill.
- Type of waste that can be placed in the sanitary landfill and combustion by-products landfills.
- Wastes prohibited from being placed in each landfill.
- Procedures for placing waste in each landfill. This is to include cover and water to keep waste confined to landfill.
- Procedures to control fugitive dust from hauling activities.

## **7.4 Landfill Operation**

### **7.4.1 Waste Transportation**

The conditioned sludge (fly ash and FGD scrubber sludge mixture) is transported by a belt conveyor from the sludge conditioning system to the radial stacker near the landfill. The mixture is then transported by trucks to the unit cell of the landfill for final disposal. The belt conveyor is operated approximately eight to 12 hours daily with a maximum delivery rate of 130 tons per hour. The transporting trucks are usually operating at one ten-hour shift per day, and average four days per week. If unusual conditions, such as equipment breakdowns occur, trucks would be hauling conditioned sludge continually. Each truck has a delivery capacity of approximately 27 cubic yards and up to fifteen round trips per hour would be made between the radial stacker area and the unit cell. The

radial stacker provides temporary storage when the transporting trucks are not in operation.

Conditioned sludge is only placed in areas designated for disposal. Any sludge spillage causing a problem in dusting is hauled to the proper disposal area.

#### **7.4.1.1 Daily Operating Records**

The Combustion By-Products Landfill is used to dispose of material that result from the burning of coal and environmental equipment to control sulphur dioxide emissions. This includes bottom ash, unusable or spilled coal contaminated with dirt or rocks, and waste pollution control equipment such as dust collector bags and cages. The vast majority of material in the landfill is conditioned sludge. This is a mixture of fly ash and scrubber solids (calcium sulphate and sulfite). This material is transported to an area near the landfill by a conveyor belt. The conditioned sludge is then hauled to the landfill by truck. There is not any practical method to weigh each truck that hauls the conditioned sludge to the landfill.

To record the amount of conditioned sludge placed in the landfill, IPSC calculates the volume of the conditioned sludge in the landfill annually. This is done by surveying the landfill for area and height and calculating the volume. The difference of the current year and previous years volume is the amount in cubic yards put in the landfill during the past year. A cubic yard of conditioned sludge weighs approximately 2,400 pounds. There is no daily sheet filled out such as for the Combustion By-Products Landfill. The operating record consists of the annual volume of material in the Combustion By-Products Landfill. Training records are kept separate with the Training Department. Monitoring of groundwater and gas is not required for a Class IIIb landfill. Inspection logs are kept by the Environmental Group.

## **7.4.2 Placing of Fill**

### **7.4.2.1 Placement and Compaction**

When the conditioned sludge mixture is placed in each unit cell, it is compacted to a nominal 85 percent of maximum density. The compaction equipment includes compactors, rollers, and heavy equipment tire rolling. Tests to confirm a minimum of 85 percent compaction are performed periodically.

### **7.4.2.2 Moisture Conditioning**

Conditioned sludge to be disposed of at the landfill is 70 percent solids or greater by weight and is in the drying state after it is spread in layers in the unit cell. The moisture content of fill is monitored and adjusted by spraying water from a water truck during the fill compaction. The optimum moisture content of the sludge is 19 percent. Moisture is kept high enough to facilitate good compaction and to prevent excessive fugitive dust. The moisture in the sludge usually is in the 10 percent range as it is transported to the landfill stacker. Moisture used for dust control will help in the compaction and present no runoff or groundwater problem.

### **7.4.2.3 Fill Control**

Each layer of fill is controlled to the maximum extent as a nonstructural fill. The landfill working face is built up in 4-inch to 8-inch lifts. The wheel compaction by the belly dump trucks, grader, and water truck compact the conditioned sludge far beyond the 85 percent minimum. Previous density tests have shown compaction at between 90 percent and 98 percent. Continuing to use this method will assure a compaction greater than 85 percent.

## **7.4.3 Topsoil Cover**

Topsoil excavated from the site preparation of the first unit cell was wind-  
rowed to construct an embankment on the northern and eastern limits of

the working area. Excess topsoil was temporarily stockpiled in the adjacent unit cell. Topsoil from subsequent cells may be placed directly on the previous cell for cover.

A minimum eight-foot-wide bench is developed for erosion control on the outside embankment of the landfill when the fill reaches the vertical height of 20 feet.

Two feet of topsoil cover is placed on the fill when the unit cell reaches its maximum storage capacity. Soil is not placed on each day's fill as this landfill does not allow any refuse.

#### **7.4.4 Subgrade Preparation of Adjacent Unit Cell**

Subgrade preparation of the adjacent unit cell or part of the cell begins when the working unit cell is approaching its maximum storage capacity.

Approximately two feet of topsoil is excavated from part of the adjacent unit cell. The excavated soil is hauled to the active cell and used as cover material whenever possible. Vegetation and roots removed from clearing and grubbing of the surface area are crushed and blended with the topsoil. An effort is made to put the top six inches of soil removed on the top of the finished cell to facilitate plant growth.

The work performed during subgrade preparation includes grading the unit cell, placing the temporary drainage facilities, and constructing a temporary haul road. The subgrade preparation is repeated when opening each successive unit cell.

### **7.5 Rehabilitation**

Rehabilitation measures are taken as soon as possible or practical after each phase of the landfill is completed at the maximum storage depth. These measures include placement of a layer of earth and topsoil to a minimum thickness of two feet over the filled area, dressing and grooming of slopes, and revegetation and erosion control. Another method used is the placement of a layer of bottom ash on top of

the conditioned sludge before the soil is added. The bottom consists of a mixture of sand and gravel size particles. This helps control wind blown dust and forms a barrier so the sludge does not leach into the soil.

The earth and topsoil layer is compacted by truck or equipment tire rolling. The top six-inch layer is exclusively topsoil, stockpiled from excavations in the landfill area or borrowed from elsewhere at IGF.

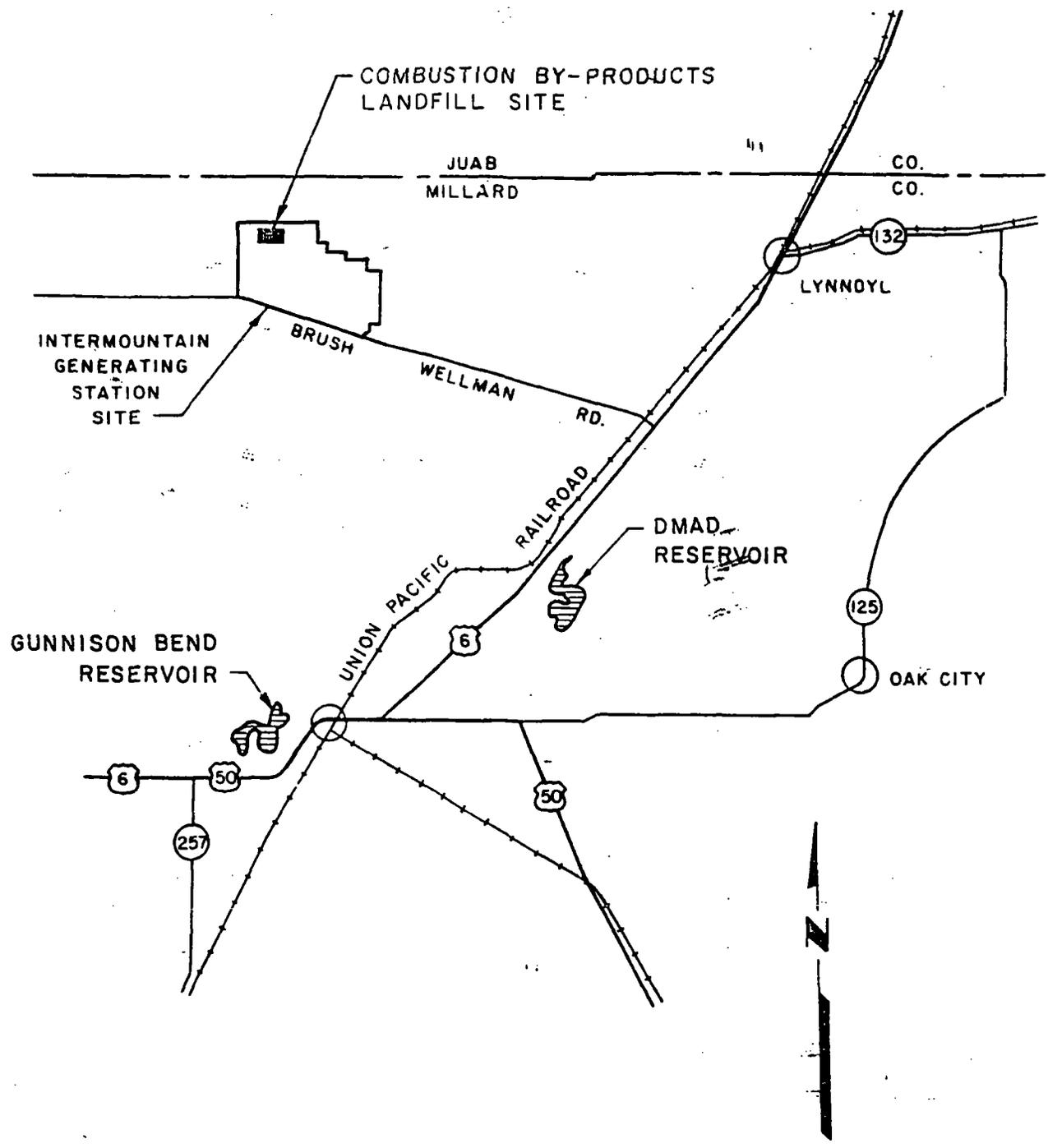
The services of a revegetation consultant are used by the Project to select applicable plant species for revegetation. Due to the 8 inches of rainfall in the Delta area, an effort is made to contour the landfill to retain moisture for plant growth.

#### **7.6 Drainage Facilities and Slope Maintenance**

IPSC is responsible for the maintenance of the drainage facilities to prevent any ponding or blockage of drainage ditches in the fill area. Also, IPSC maintains the outside slopes of the fill area in a manner which will prevent erosion and will assist revegetation as much as possible.

### **8.0 REFERENCES**

1. Electric Power Research Institute, January 1979, Flue Gas Desulfurization Disposal Manual, EPRI FP-977.
2. Electric Power Research Institute, December 1979, Coal Ash Disposal Manual, EPRI SP-1257.
3. Dr. Richard W. Goodwin, June 1978, Properties of stabilized FGD Sludge, Technical Paper presented at Annual Meeting of the Air Pollution Control Association at Houston, Texas.
4. Fugro, Inc., December 1980, IPP Site Specific Geotechnical Studies, Volume 5, Waste Disposal Areas.
5. Ertec Western, Inc., March 1983, Evaluation of In-Situ Natural Clay Layer for the Containment of Coal-Fire Power Plant Wastes at IPP.
6. Mower, R.W. and Feltis, R. D., 1986, Groundwater Hydrology of Sevier Desert, Utah, Geological Survey Water Supply Paper, 1854.
7. Chee, V. W. And Nakagwa, S. R., July 1982, IPP Baseline Water Monitoring Program Phase I Report.
8. Westlund, R. A., February 2001, Volume of Sludge produced from 1986 through 2005.

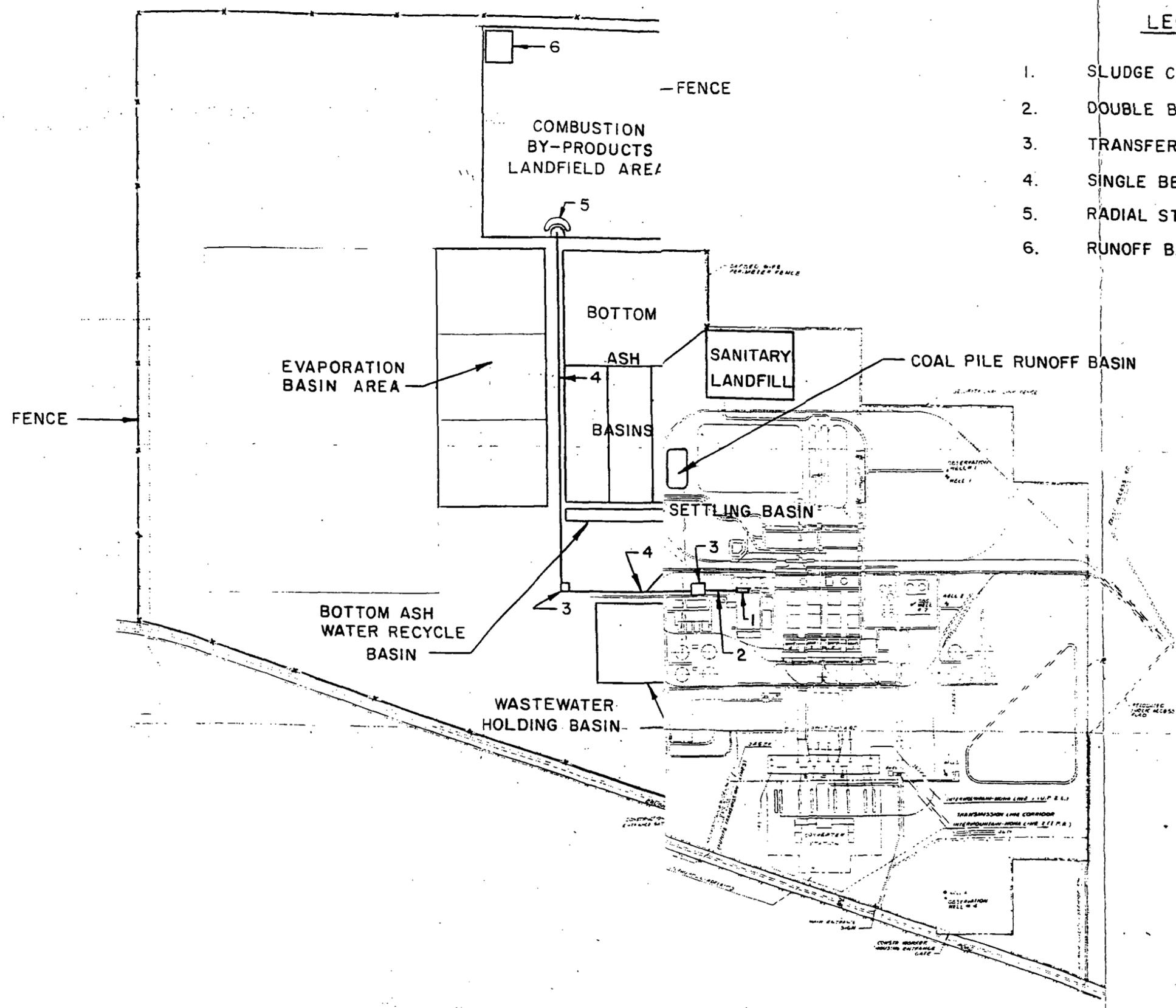


INTERMOUNTAIN POWER PROJECT

LOCATION MAP

COMBUSTION BY-PRODUCTS LANDFILL

FIGURE I

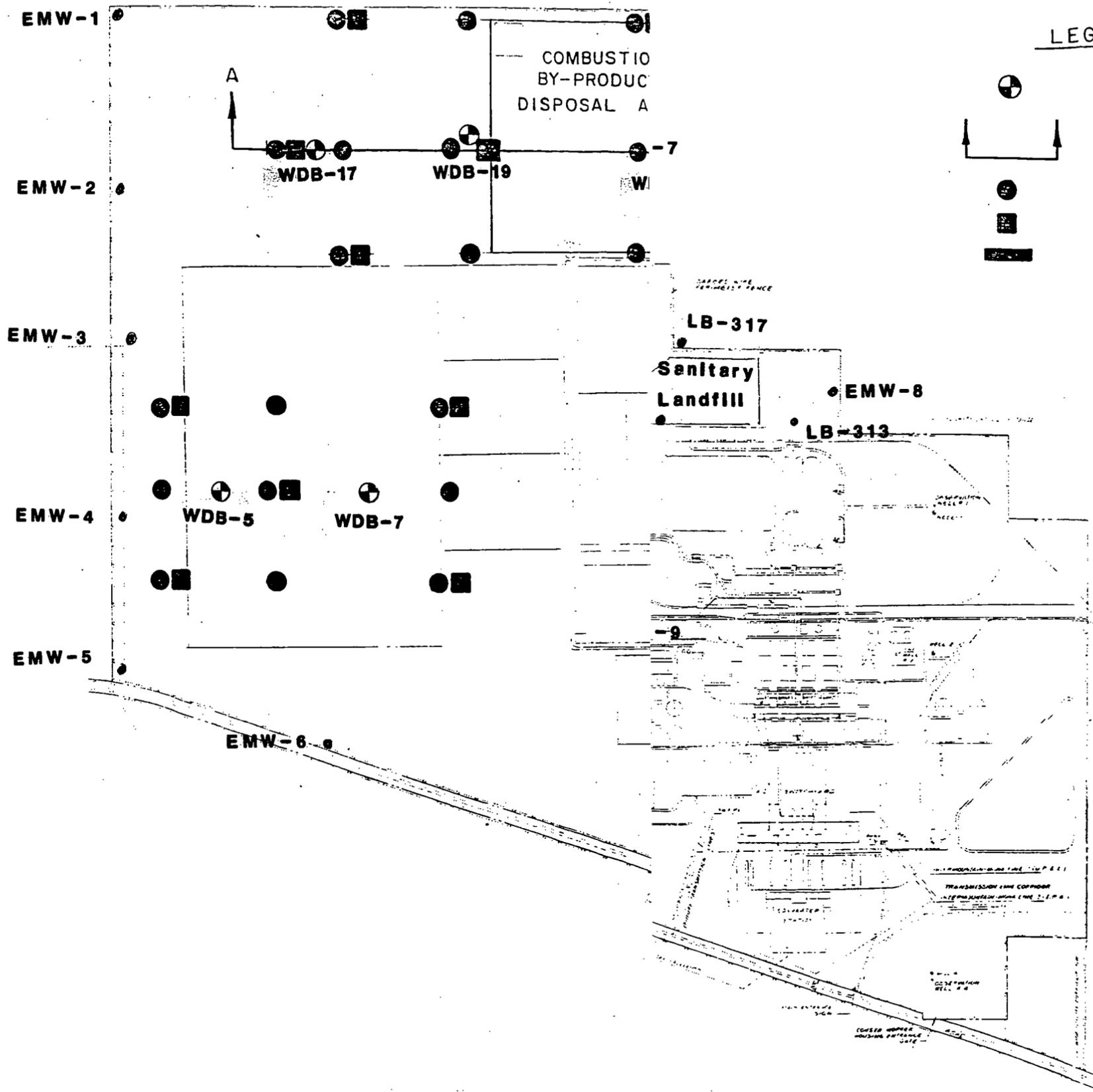


**LEGEND**

- 1. SLUDGE CONDITIONING BUILDING
- 2. DOUBLE BELT CONVEYOR
- 3. TRANSFER BUILDING
- 4. SINGLE BELT CONVEYOR
- 5. RADIAL STOCKOUT & MOVEABLE CONVEYOR
- 6. RUNOFF BASIN

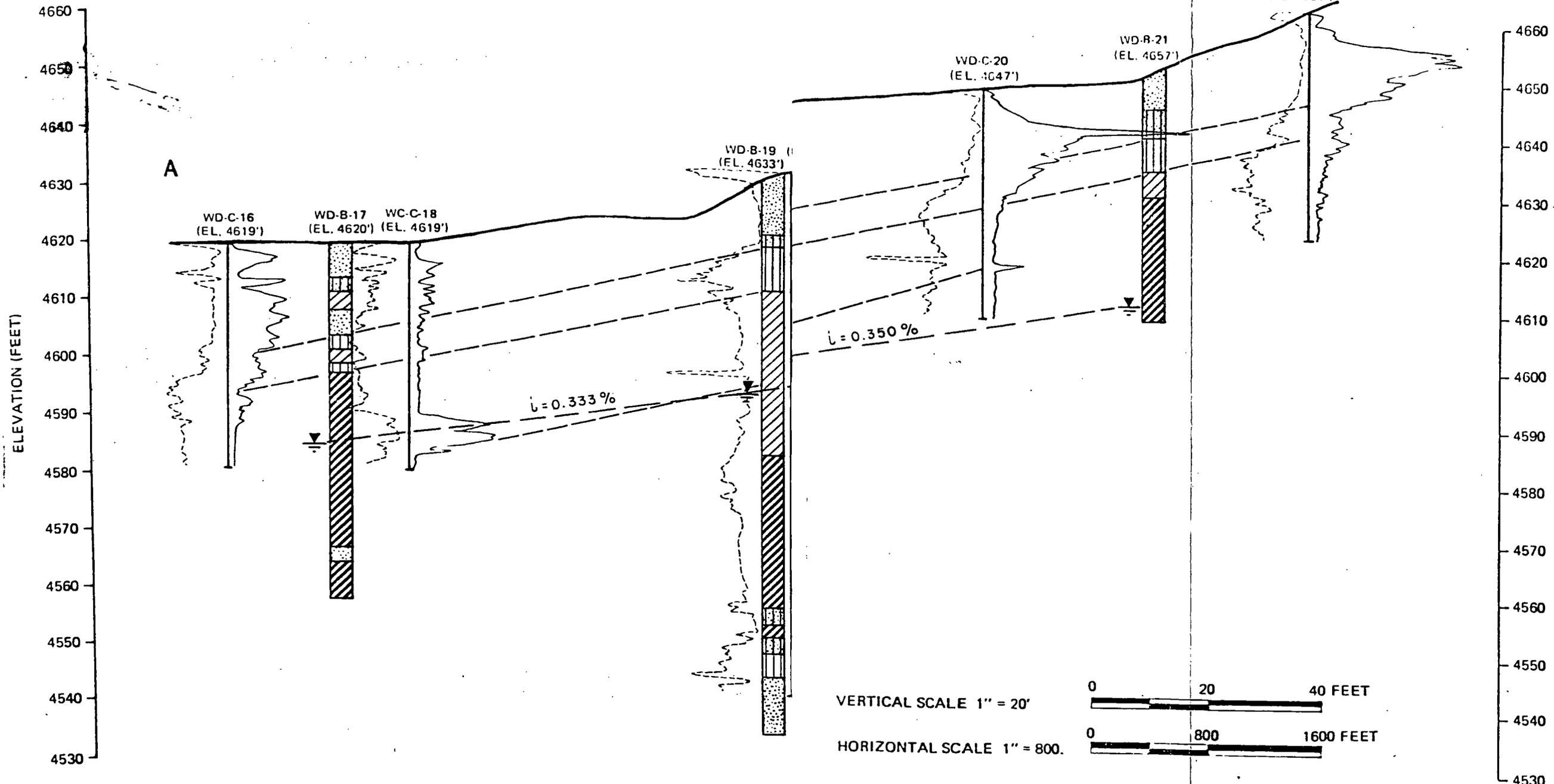


**INTERMOUNTAIN POWER PROJECT**  
**ARRANGEMENT**  
**WASTE DISPOSAL FACILITIES**  
**FIGURE 2**



INTERMOUNTAIN POWER PROJECT  
 SUBSURFACE SOIL INVESTIGATION  
 COMBUSTION BY-PRODUCTS LANDFILL

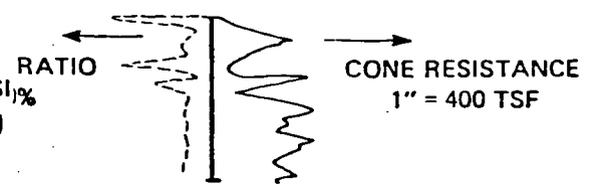
FIGURE 3



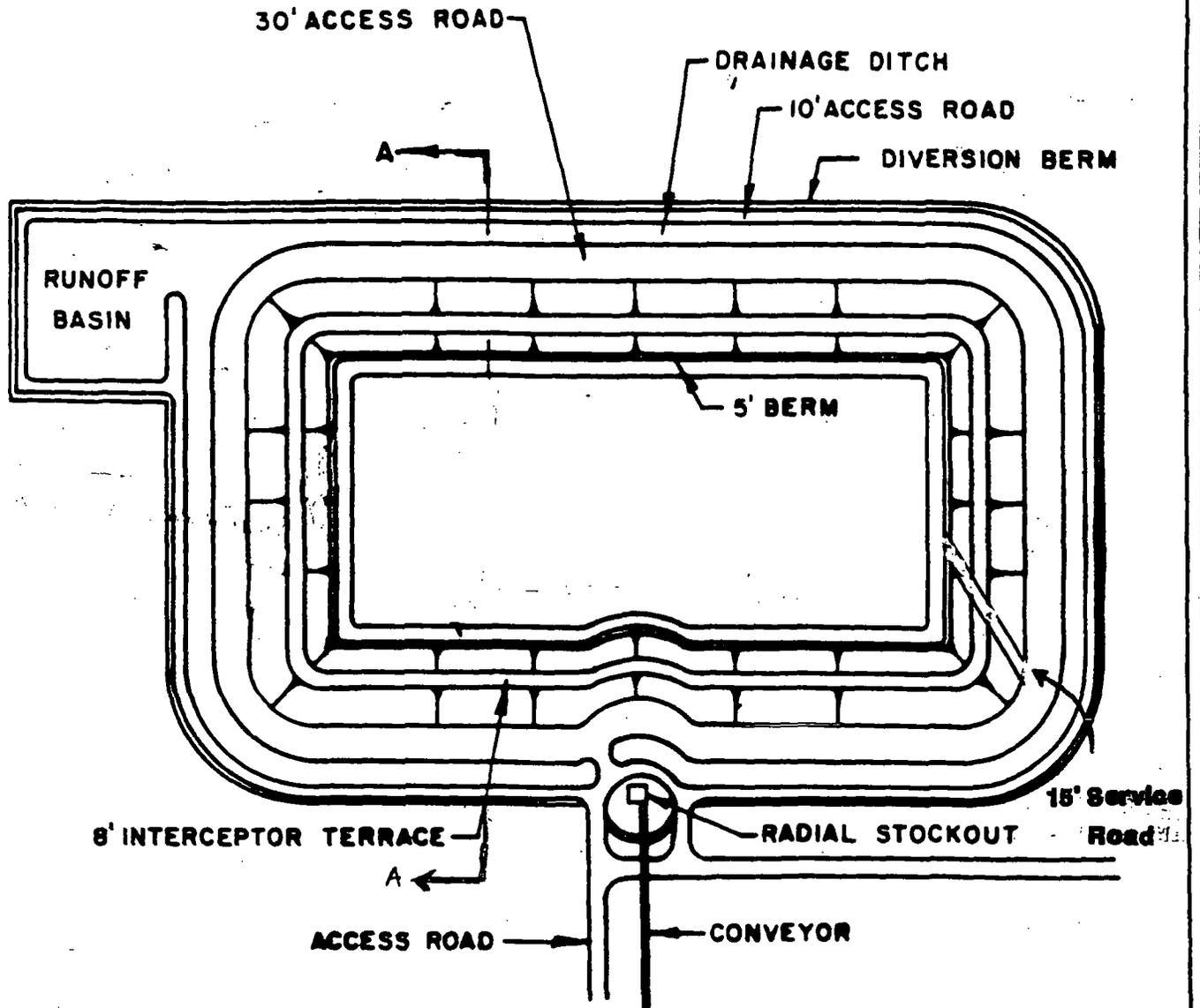
**BORING DETAIL**

- |   |                                     |   |  |
|---|-------------------------------------|---|--|
|  | SILTY CLAY (CL) AND SANDY CLAY (CL) |  | SILTY SAND (SM)  |
|  | CLAY (CH)                           |  | SILT (ML), CLAYEY SILT (ML), SANDY SILT (ML), SILTY CLAY AND CLAYEY SILT (CL-ML) |
|  | CLAYEY SAND (SC)                    |  | SAND (SP) AND SP-SM) GRAVELLY SAND   |

**TAIL**



INTERMOUNTAIN POWER PROJECT  
 PROFILE A-A'  
 SUBSURFACE SOIL INVESTIGATION  
 COMBUSTION BY-PRODUCTS LANDFILL  
 FIGURE 4



**I  
P  
P**

**INTERMOUNTAIN POWER PROJECT**

**CONCEPTUAL SITE PLAN 31**

**COMBUSTION BY-PRODUCTS LANDFILL**

**FIGURE 5**

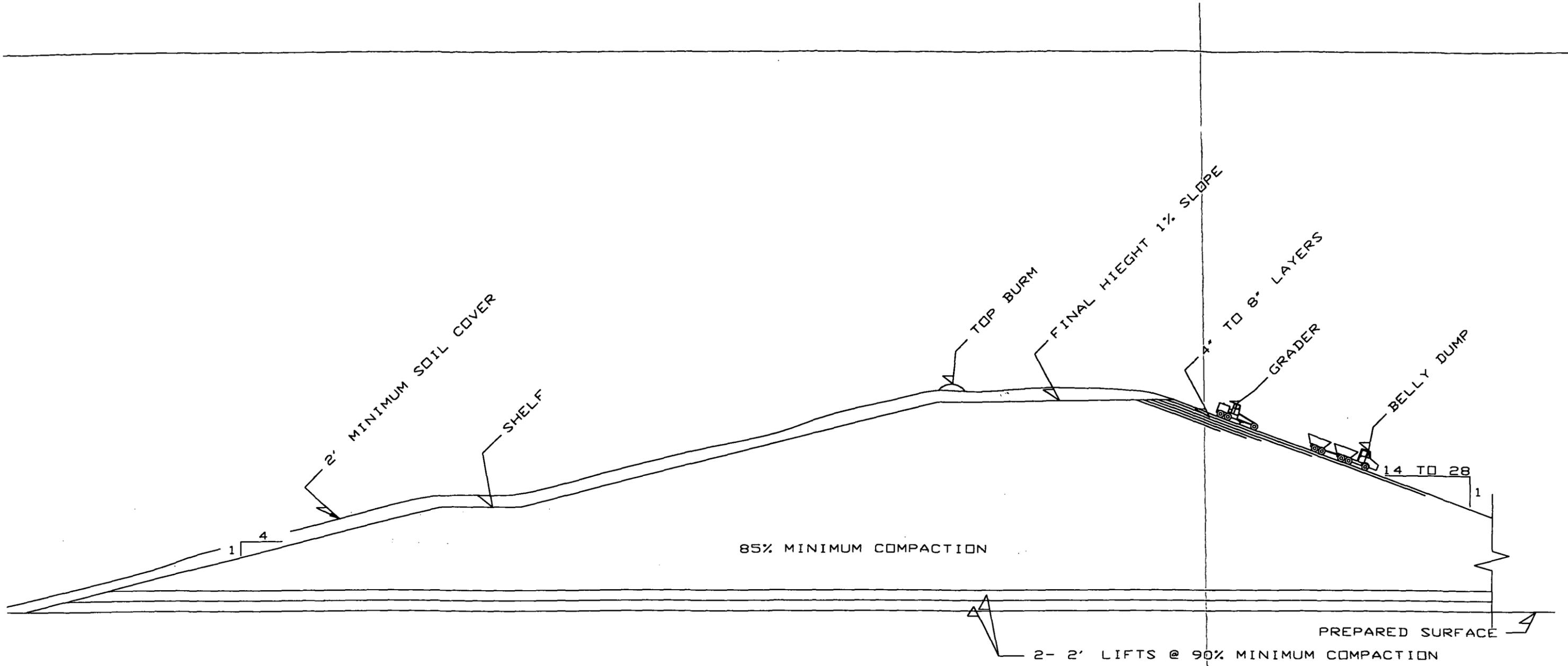
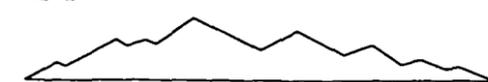
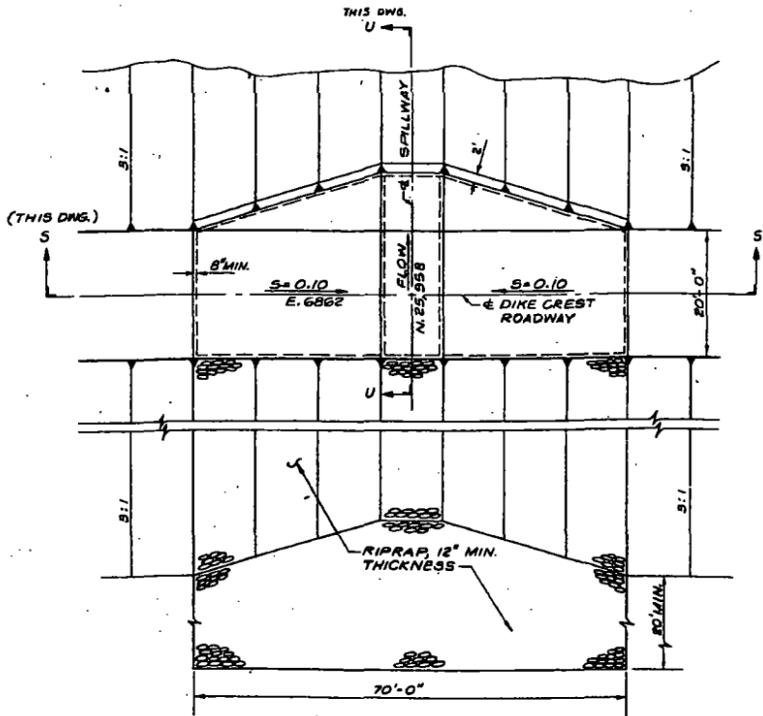
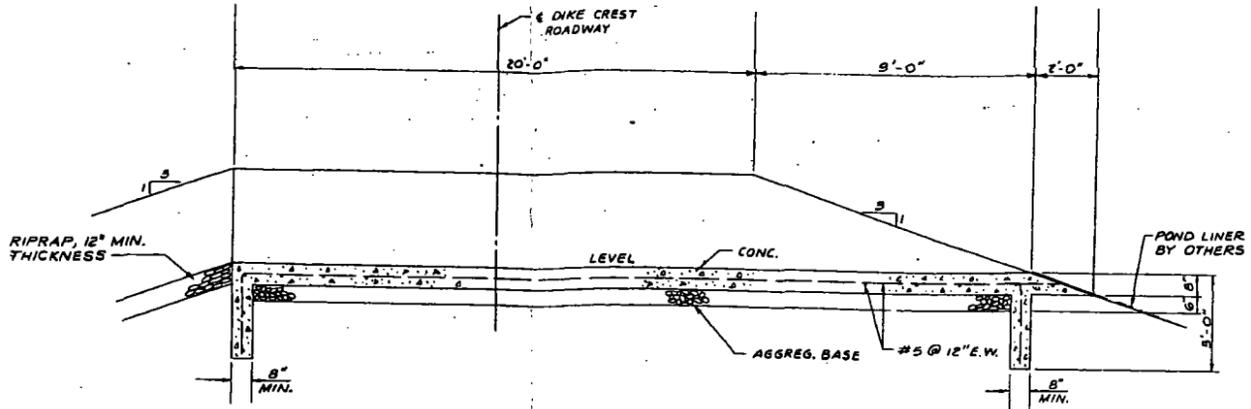


FIG 6

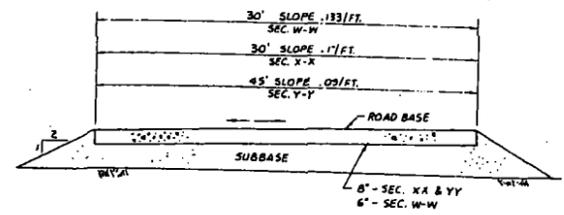
DRAWING TITLE				IPP			
COMBUSTION BY-PRODUCTS LANDFILL CONSTRUCTION SECTION A-A				 INTERMOUNTAIN POWER SERVICE CORPORATION			
REF. DWGS				BRUSH WELLMAN ROAD DELTA, UTAH			
NO.	DATE	BY	REVISION	DRAWN BW	DATE 02/20/01	CH'D	DATE
				W. O. NO. 91-09516-00		SHT NO. 32	



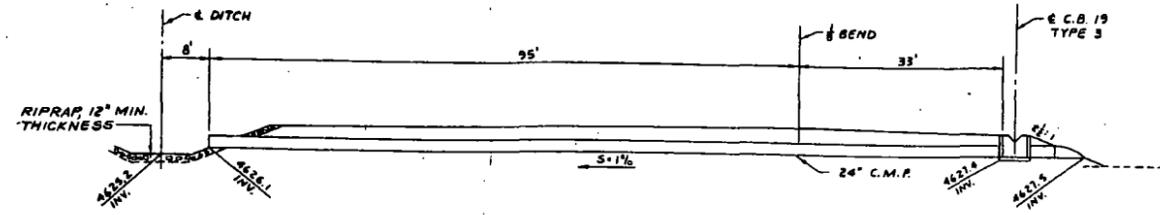
PLAN OVERFLOW SPILLWAY  
95TU-53041



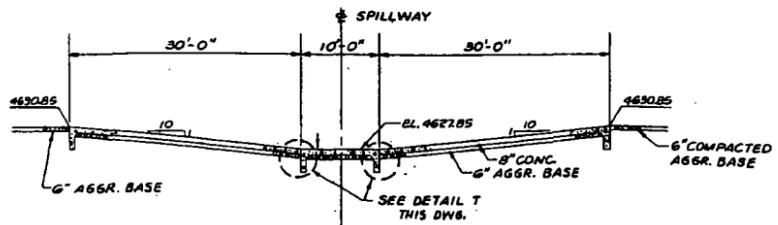
SECTION U-U  
THIS DWG.



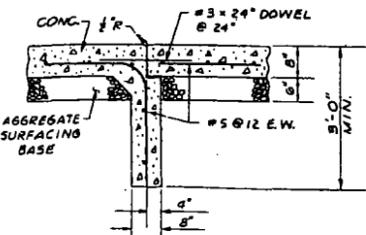
SECTION W-W, X-X & Y-Y  
85TU 53041 & 53042



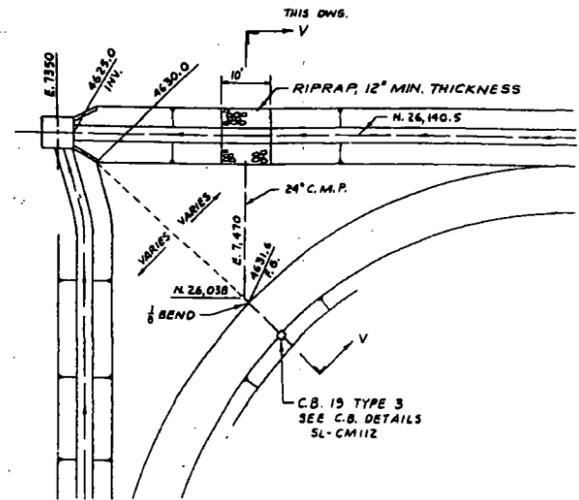
PROFILE V-V  
THIS DWG.



SECTION S-S  
(THIS DWG.)



DETAIL T  
THIS DWG.



DETAIL AT CATCH BASIN 19  
95TU-53041

Fig #10

9255-9ASF-S9005

V.C. CHASE / E.L. KING  
J. SCHNEIDER

NO.	REVISIONS	DATE
1	OVERDO: 12" MIN. THICK. WAS CLASS 12 RIPRAP	
2	ADD. CHG. TO TITLE	
3	AS BUILT (CB-1) ADD. SEC. W-W, X-X & Y-Y	

DESIGNED BY A. SEPULVEDA	CHECKED BY G. HERRERA	ENGINEERING APPROVAL R. L. HERRERA
DRAWING APPROVAL E. L. KING	SCALE NONE	OWNER/CLIENT APPROVAL

DRAWING APPROVAL E. L. KING	SCALE NONE	OWNER/CLIENT APPROVAL
DRAWING APPROVAL E. L. KING	SCALE NONE	OWNER/CLIENT APPROVAL

CIVIL-DETAILS AND SECTIONS - GRADING  
COMBUSTION BY-PRODUCT LANDFILL AREA  
INTERMOUNTAIN GENERATING STATION

36

SL-CM113

N. 26.000

N. 25.000

N. 24.000

N. 23.000

E. 6.000

E. 10.000

E. 11.000

CURVE DATA				CURVE DATA			
CURVE	Δ	R	RADIUS COORDINATES	CURVE	Δ	R	RADIUS COORDINATES
			NORTH EAST				NORTH EAST
1	90°00'00"	204'	22,971 3,814	14	136°00'00"	349'	22,440.53 8,485
2	"	218'	"	15	150°00'00"	265'	"
3	"	203'	22,876 7,719	16	60°00'00"	16'	21,825.59 8,922.22
4	"	218'	"	17	"	30'	"
5	"	218'	22,792 3,635	18	75°00'00"	18'	22,791 8,919.67
6	61°00'00"	185'	22,932 7,922	19	"	101'	"
7	"	175'	"	20	"	185'	"
8	"	219'	"	21	90°00'00"	15'	22,842 10,929
9	"	294'	"	22	"	25'	"
10	75°00'00"	185'	22,787 8,050.34	23	"	163'	"
11	128°17'00"	458'	22,640.93 8,405	24	"	184'	"
12	"	444'	"	25	"	260'	"
13	154°00'00"	364'	"				

NOTE: DETAILS & SECTIONS SEE SL-CM118  
**Fig #11**  
 9255-9ASF-S9007

REF: SL-CM108 - GRADING  
 SL-CM109

NO.	REVISIONS
1	ISSUED FOR CONSTRUCTION

NO.	DATE	BY	DESCRIPTION
1	7-2-22	J.P. SCHMIDTKE	ISSUED FOR CONSTRUCTION

NO.	DATE	BY	DESCRIPTION
1	7-2-22	J.P. SCHMIDTKE	ISSUED FOR CONSTRUCTION

SCALE: 1"=100'

DESIGNED BY: A. SEPULVEDA

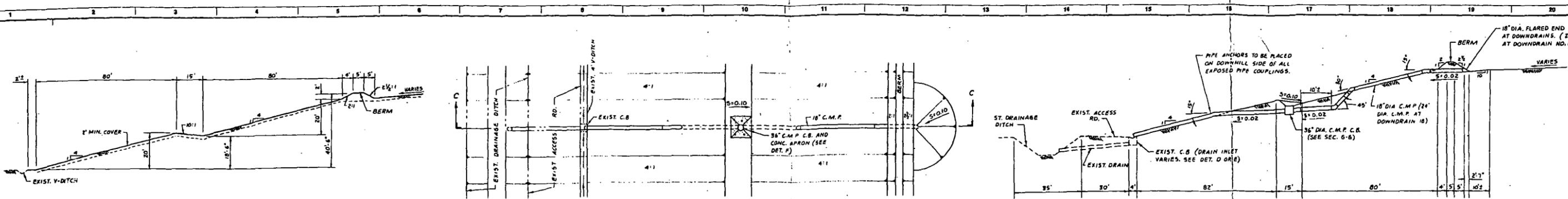
CHECKED BY: J.P. SCHMIDTKE

DATE: 7-2-22

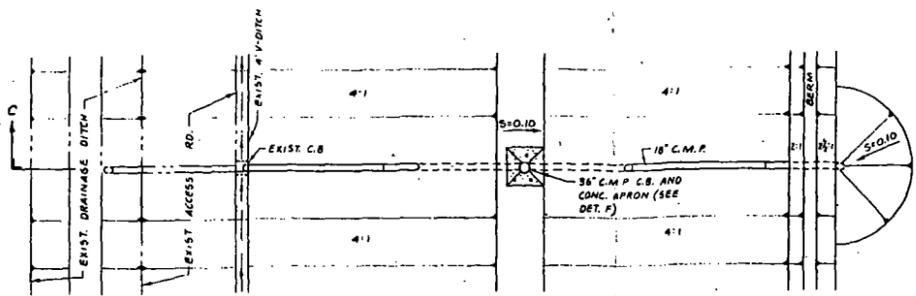
PROJECT: COMBUSTION BY-PRODUCT LANDFILL AREA INTERMOUNTAIN GENERATING STATION

IPP INTERMOUNTAIN POWER PROJECT

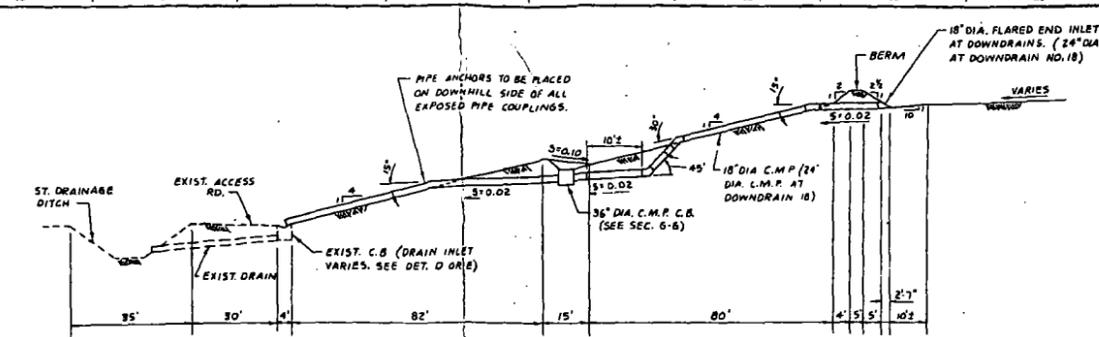
N. 26.000  
 N. 25.000  
 N. 24.000  
 N. 23.000  
 E. 6.000  
 E. 10.000  
 E. 11.000



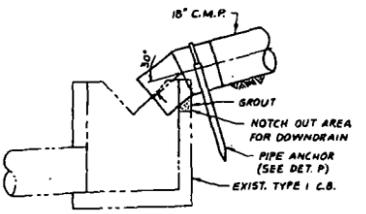
SECTION A-A  
(SL-CM116 & 117)



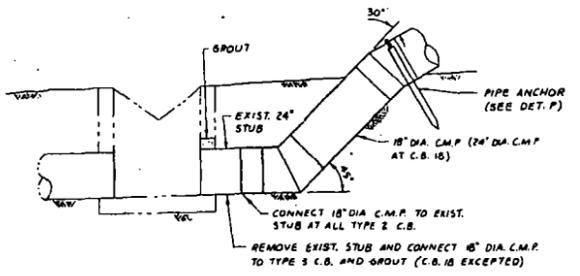
DETAIL B  
TYPICAL DOWNDRAIN PLAN  
(SL-CM116 & 117)



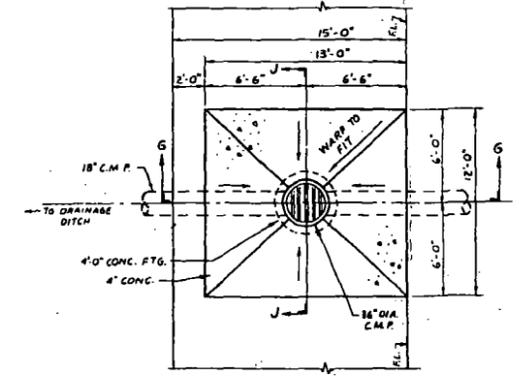
SECTION C-C  
(THIS DWG.)



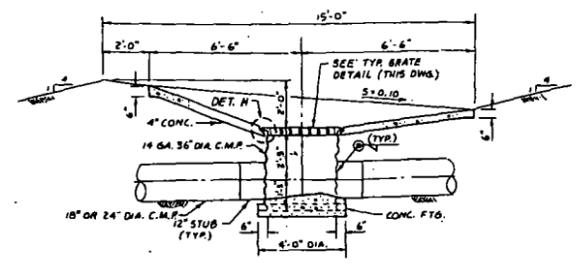
DETAIL D  
(CATCH BASIN TYPE 1)  
(THIS DWG.)



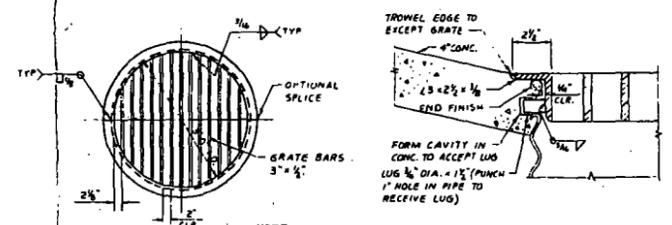
DETAIL E  
(CATCH BASIN TYPE 2 & 3)



DETAIL F



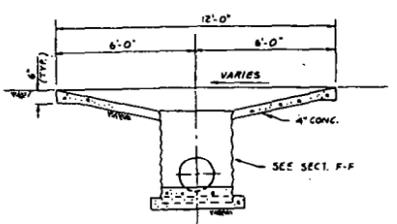
SECTION 6-6  
(THIS DWG.)



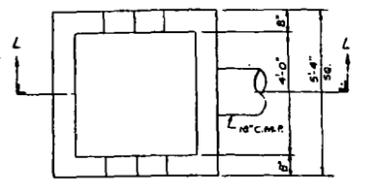
TYPICAL GRATE DETAIL  
(THIS DWG.)

NOTE:  
1. ALL GRATES AND FRAMES TO BE GALVANIZED.  
2. GRATES SHALL BE PLACED SO THAT THE BARS PARALLEL DIRECTION OF PRINCIPAL SURFACE FLOW.

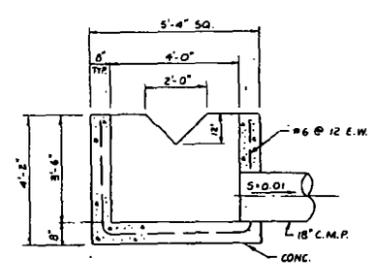
DETAIL H  
(THIS DWG.)



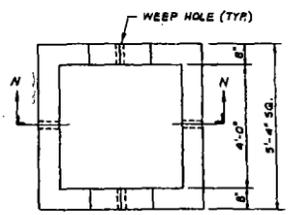
SECTION J-J  
(THIS DWG.)



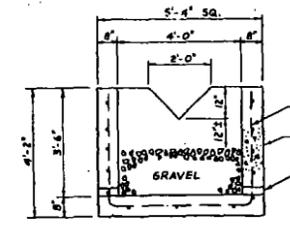
DETAIL K  
(CATCH BASIN NO. 27 & 29 TYPE 1)



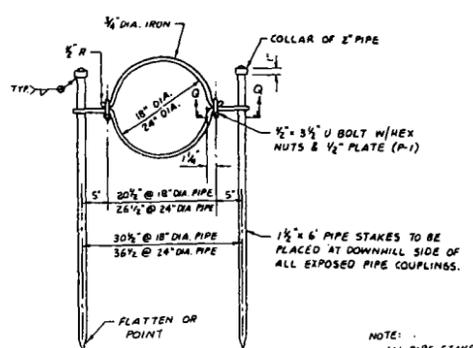
SECTION L-L



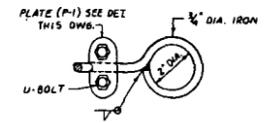
DETAIL M  
CATCH BASIN 20  
ENERGY DISSIPATOR (TYPE E.D.)



SECTION N-N  
(THIS DWG.)



DETAIL P  
TYPICAL ANCHOR ASSEMBLY



SECTION Q-Q  
(THIS DWG.)

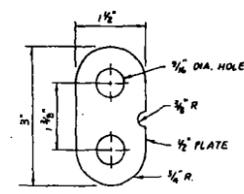
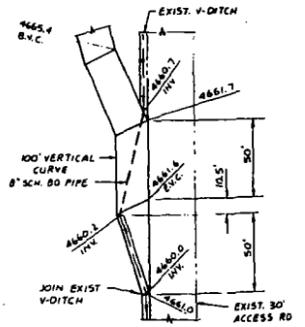


PLATE (P-1) DETAIL  
(THIS DWG.)



DETAIL R  
(SL-CM117)

DOWNDRAIN INSTALLATION SCHEDULE

NOTE: DOWNDRAIN NO. CORRESPONDS WITH EXIST. CATCH BASIN NO. AT TOE OF LANDFILL SLOPE.

CELL NO.	DOWNDRAIN NO.	TYPE OF EXIST. C.B.	18\"/>												
5	7	1	1	2	2	1	17	190	52	8					
6	7	1	1	2	2	1	17	190	52	8					
7	7	1	1	2	2	1	17	190	52	8					
8	7	1	1	2	2	1	17	190	52	8					
9	1	1	1	2	2	1	17	230	52	10					
27	7														
28	7														
10	1	1	1	2	2	1	17	190	52	8					
11	1	1	1	2	2	1	17	190	52	8					
2	1	1	1	2	2	1	17	190	52	8					
3	1	1	1	2	2	1	17	190	52	8					
12	1	1	1	2	2	1	17	190	52	8					
7	1	1	1	2	2	1	17	190	52	8					
13	1	1	1	2	2	1	17	190	52	8					
14	3	1	1	2	2	20		185	52	7					
26	1	1	1	2	2	1	17	250	52	10					
15	3	1	1	2	2	20		185	52	7					
16	1	1	1	2	2	1	17	190	52	8					
20	6	1	1	2	2	1	17	190	52	8					
17	1	1	1	2	2	1	17	185	52	7					
25	1	1	1	2	2	1	17	230	52	10					
18	3	1	1	2	2	20		185	52	7					
19	3	1	1	2	2	20		185	52	7					
21	2	1	1	2	2	20		185	52	7					
22	2	1	1	2	2	20		185	52	7					
23	2	1	1	2	2	22		225	52	9					
24	2	1	1	2	2	20		185	52	7					
29	1	1	1	2	2	1	17	190	52	8					
TOTAL	27	1	27	54	54	16	494	1	2	2	20	585	185	194	217

Fig #12  
9255-9ASF-S9008

REVISIONS

NO.	DESCRIPTION	DATE
1	DO NOT CHANGE DWS NO. TO ADD CIVIL TO TITLE.	

OWNER/AGENT APPROVAL

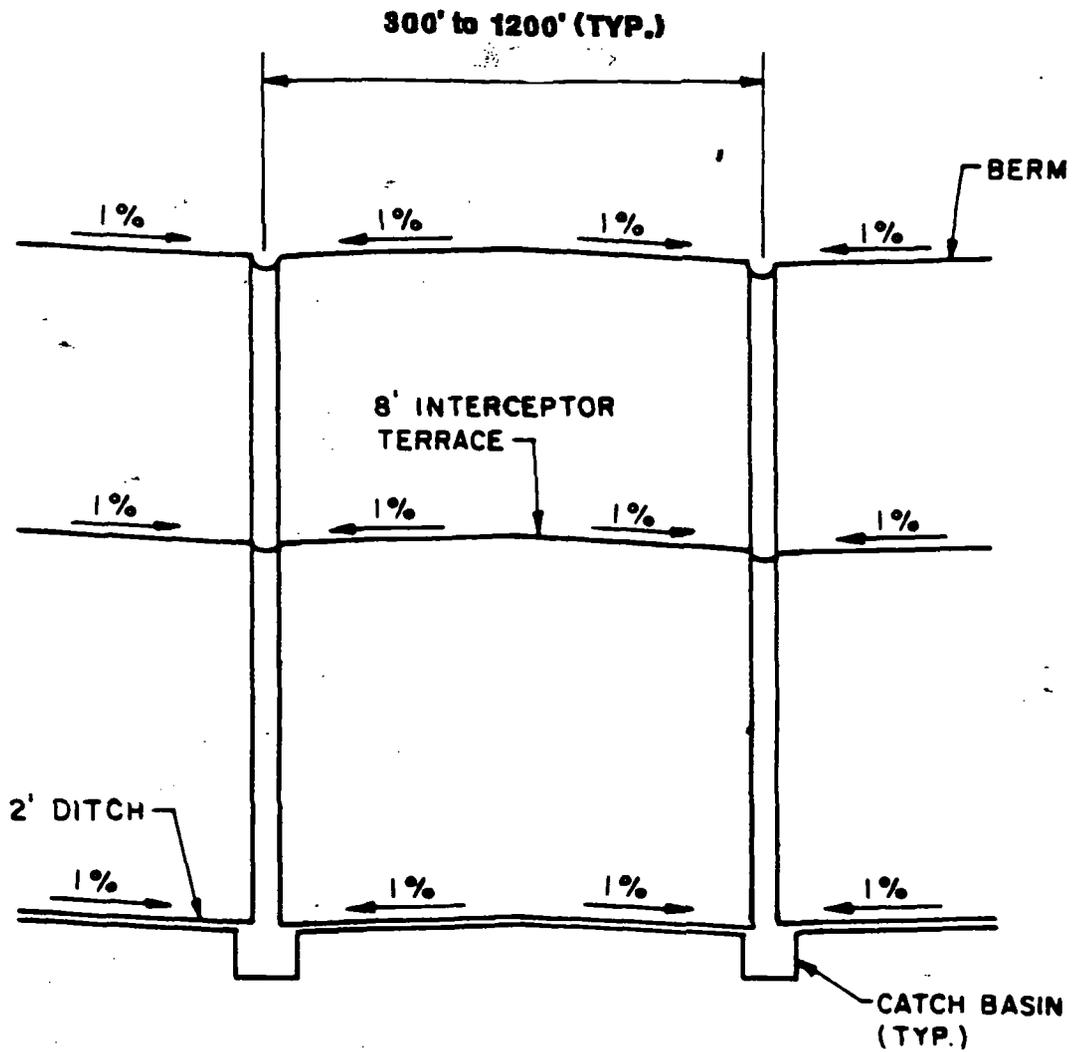
SCALE: 1/8"=1'-0"

CIVIL-DETAILS AND SECTIONS-FINAL GRADING AND DRAINAGE COMBUSTION BY-PRODUCT LANDFILL INTERMOUNTAIN GENERATING STATION

IPP

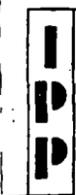
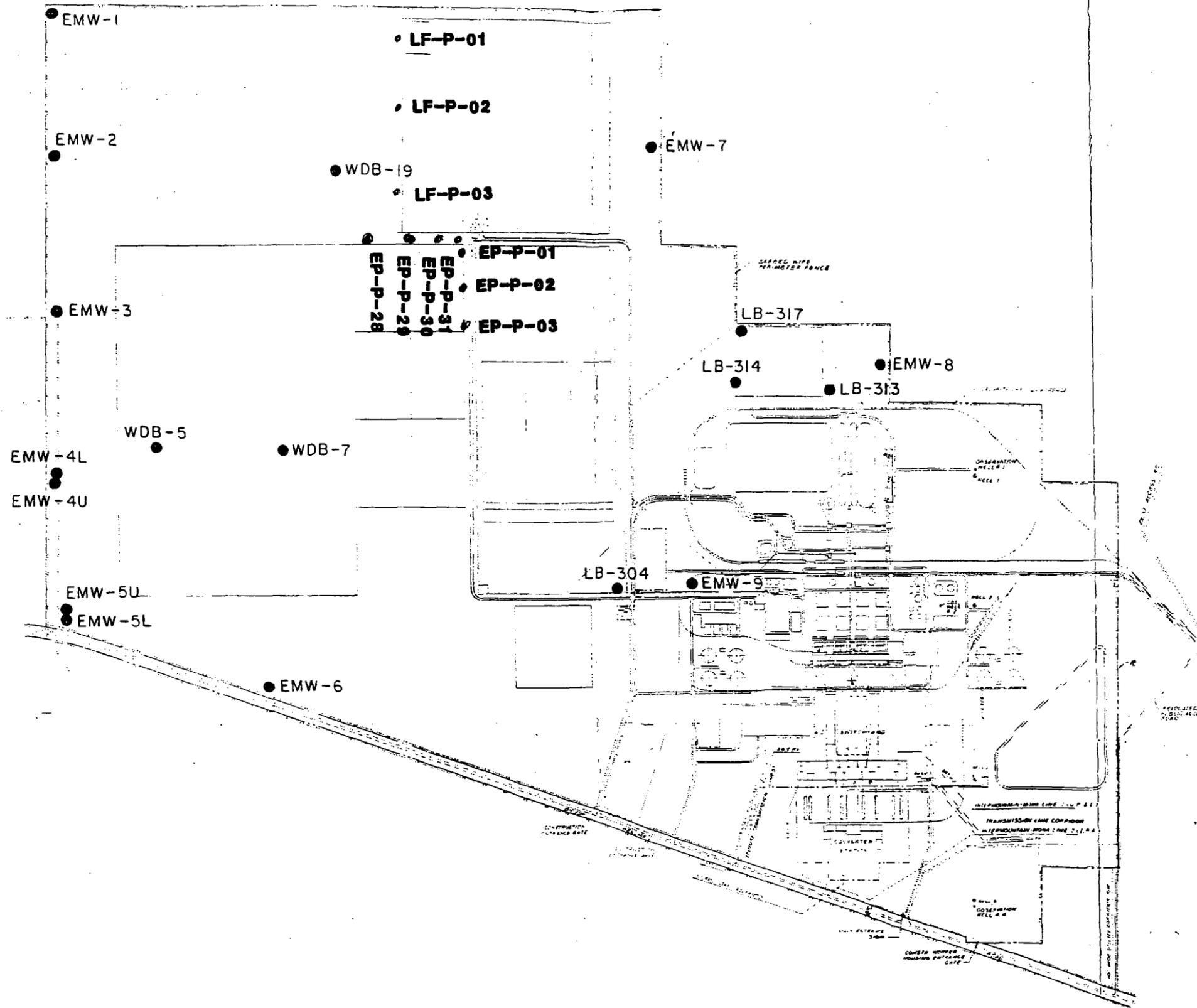
38





INTERMOUNTAIN POWER PROJECT 40  
 TYPICAL SLOPE DRAINAGE ELEVATION  
 COMBUSTION BY-PRODUCTS LANDFILL

FIGURE 14

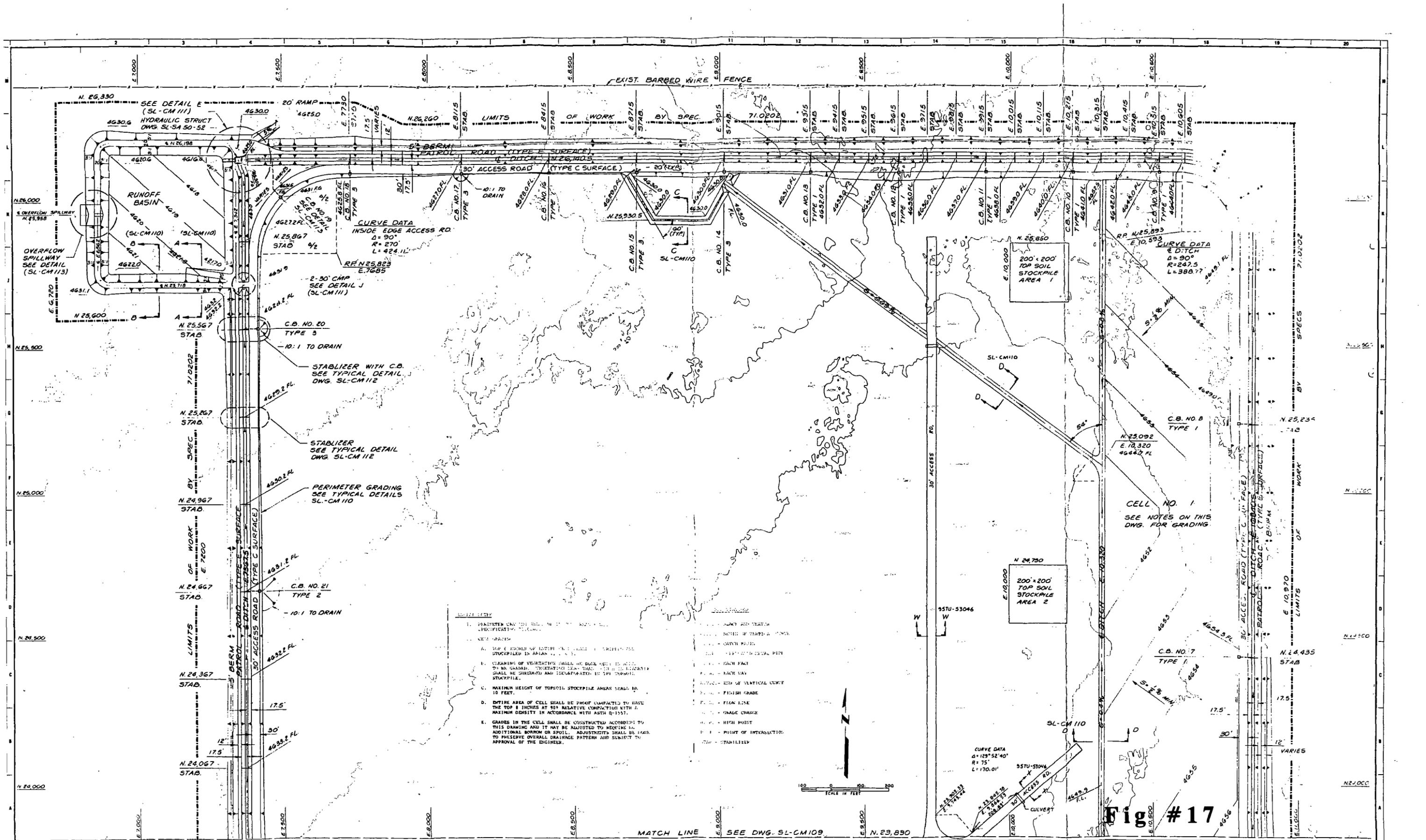


INTERMOUNTAIN POWER PROJECT

OBSERVATION WELLS

FIGURE 15





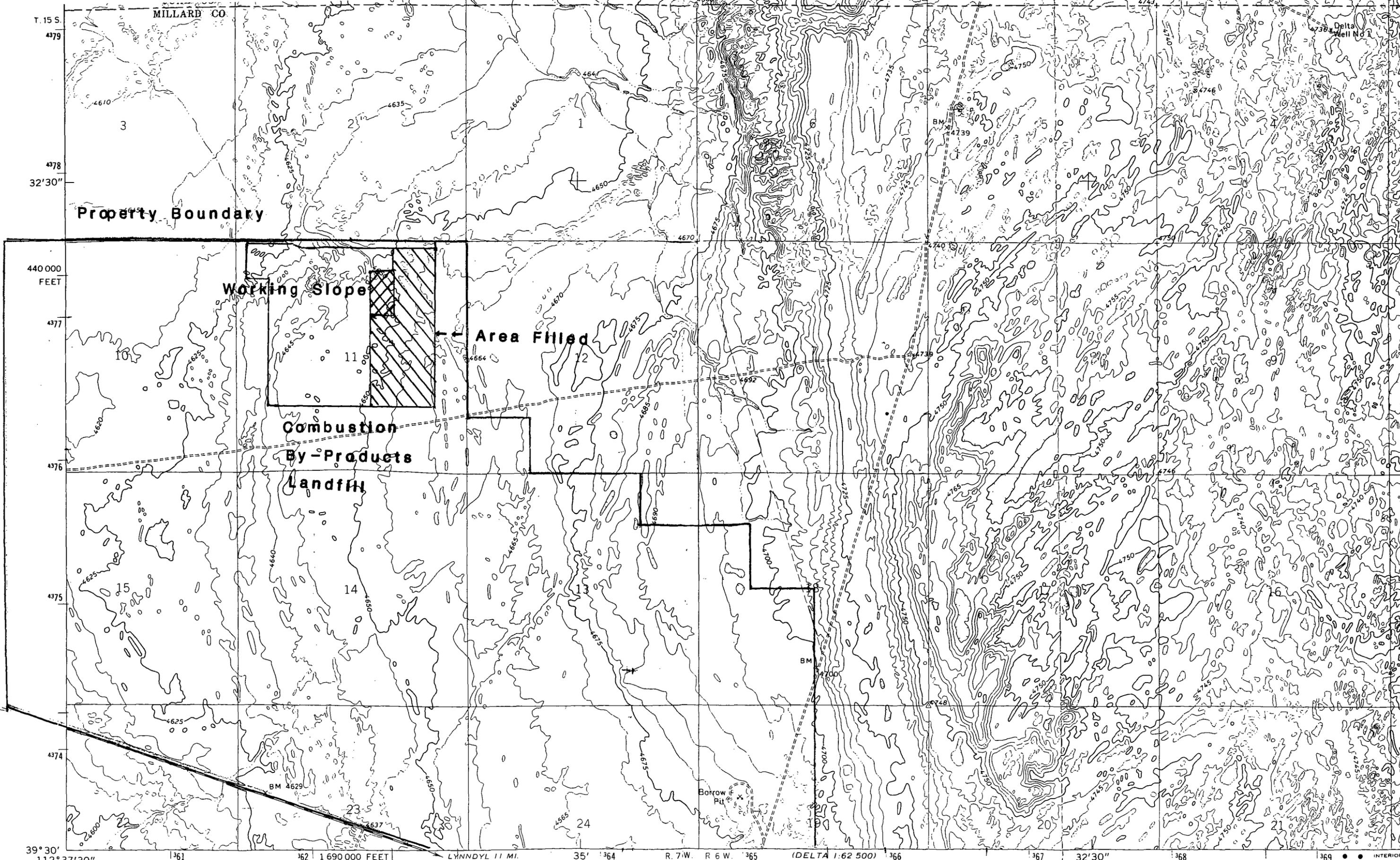
- NOTES**
- PERIMETER GRADING SHALL BE CONSTRUCTED TO MAINTAIN A MINIMUM OF 1% GRADE TO THE DITCH.
  - TOP SOIL STOCKPILE AREAS SHALL BE CONSTRUCTED TO MAINTAIN A MINIMUM OF 1% GRADE TO THE DITCH.
  - CLEARING OF VEGETATION SHALL BE DONE ONLY IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. ALL CLEARING SHALL BE CHECKED AND APPROVED BY THE ENGINEER.
  - MAXIMUM HEIGHT OF TOPSOIL STOCKPILE AREAS SHALL BE 10 FEET.
  - ENTIRE AREA OF CELL SHALL BE PROOF COMPACTED TO HAVE THE TOP 8 INCHES AT 95% RELATIVE COMPACTION WITH A MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557.
  - GRADES IN THE CELL SHALL BE CONSTRUCTED ACCORDING TO THIS DRAWING AND IT MAY BE ADJUSTED TO REQUIRE AN ADDITIONAL BORROW OR SPILL. ADJUSTMENTS SHALL BE MADE TO PRESERVE OVERALL DRAINAGE PATTERN AND SUBJECT TO APPROVAL OF THE ENGINEER.

**Fig # 17**

MATCH LINE SEE DWG. SL-CM109

REVISIONS NO. DESCRIPTION 1 (1/3 & 1/4) ADD BAR SCALE 2 (DITCH) MAKE CHANGE DIM. NO. 8 3 (DITCH) ADD CIVIL TO TITLE 4 (DITCH) BUILD (1/4" x 1/4") TO (1/4" x 1/4") ADD ROAD	DRAWING REVISION RELEASE APPROVAL [Signature] DATE: 10/18/03	ENGINEER APPROVAL [Signature] DATE: 10/18/03	SCALE 1" = 100' DATE: 10/18/03	OVER APPROVAL [Signature] DATE: 10/18/03	CIVIL-GRADING COMBUSTION BY-PRODUCT LANDFILL AREA INTERMOUNTAIN GENERATING STATION 9255-9ASF-S9000

SL-CM108



MILLARD CO

T. 15 S.

4379

4378

Property Boundary

440 000 FEET

4377

Working Slope

Area Filled

Combustion  
By-Products  
Landfill

4376

4375

4374

39° 30'

112° 37' 30"

1690 000 FEET

LYNNDYL 11 MI.

35'

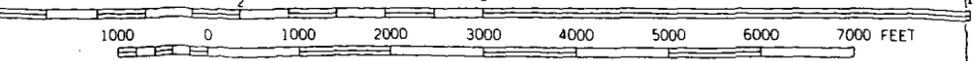
R. 7 W.

R. 6 W.

(DELTA 1:62 500)

32' 30"

SCALE 1:24 000



MILE

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1970. Field checked 1971

Projection and 10,000-foot grid ticks: Utah coordinate



16°

Fig #18

Primary highway, hard surface

Secondary highway, hard surface

LTA 1:62 500  
34621

RC

**Appendix 1**

**Soil Boring Data and Well Logs for the  
Combustion By-Products Landfill**

## APPENDIX BORINGS

This appendix presents a description of field procedures and logs of borings drilled and sampled in the Waste Disposal area of the Inter-mountain Power Project. Six (6) small diameter (6-7/8 inch) exploratory borings were drilled at locations shown in Figure 1 (main text) using rotary wash drilling equipment, to depths ranging from 50 to 90 feet. The purpose of drilling rotary wash borings was to:

- o determine the subsurface stratification,
- o obtain high quality undisturbed soil samples, for laboratory testing using a Pitcher Sampler,
- o establish a network shallow of groundwater observation wells.

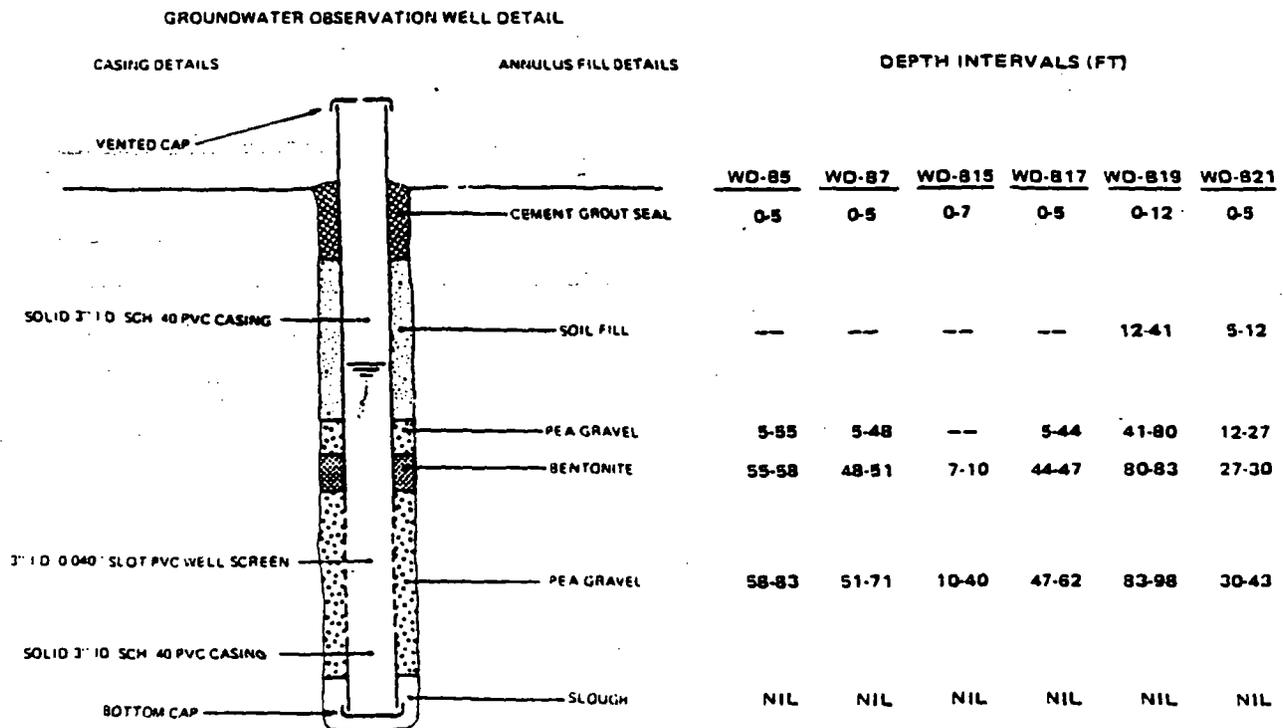
### Soil Classification

Soil samples obtained from the borings were visually classified in the field by qualified soils technicians. Subsequently, these classifications were verified in the field and Long Beach laboratories by visual classification and by index testing. Visual classifications were conducted in accordance with ASTM D-2488. Classification based on index tests were in accordance with Unified Soil Classifications System (ASTM D-2487). The soil descriptions shown on the boring logs represent a composite of all soil classification data generated during the investigation.

Groundwater Observation Wells

Each of the six borings was converted to a groundwater observation well. Each boring was initially drilled for sampling purposes using bentonite drilling mud and a 4-7/8-inch bit. The conversion to a groundwater monitoring well involved the following steps:

1. The boring was reamed out to 6-7/8-inch diameter using Revert as the drilling fluid.
2. Upon completion of step 1, the boring was flushed until water coming out of the hole was clear.
3. PVC casing with 0.40-inch slot size well screen was placed in the hole (see sketch).
4. The annulus between the casing and borehole wall was backfilled with pea gravel, site soils, bentonite pellets, and grout as shown in the sketch.



**See Figure #2 for Well Location****BORING LOG EXPLANATION SHEET**

S	Standard Split Spoon (ASTM D-1586)
D	Drive sample
P	Pitcher tube sample (ASTM D-1587)
PERM	Permeability Test (See Appendix D)
ES	Expansion - Shrinkage Potential Test (See Appendix D)
CON	Consolidation Test (See Appendix D)
DS	Direct Shear Test (See Appendix D)
UU	Unconsolidated Undrained Triaxial Shear Test (See Appendix D)
C	Compaction Test (See Appendix D)
SG	Specific Gravity Test (See Appendix D)
	Groundwater Level

$$\text{Percent Recovery} = \frac{\text{Length of soil in the sampler}}{\text{Length of sampler penetration}}$$

Undrained shear strength = pocket penetrometer test results unless otherwise specified

Grain size distribution ASTM D 422

Atterberg limits ASTM D 423 and D424

Moisture content ASTM D-2216



Silty clay (CL), sandy clay (CL)



Clay (CH)



Sand (SP) and (SP-SM), gravelly sand (SP)



Sandy silt (ML), clayey silt (ML), silt (ML), silty clay and clayey silt (CL-ML)



Clayey sand (SC)



Silty Sand (SM)

LABORATORY TEST DATA										PENETRATION RESISTANCE (BLOWS/FOOT)					LITHOLOGIC DATA	
TESTS REPORTED ELEMENTS	GRAIN SIZE DISTRIBUTION			ATTERBURG LIMITS		UNSATURATED SHEAR STRENGTH (PSF)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	% RECOVERY	DEPTH (FEET)					
	% GRAVEL	% SAND	% FINES	LIQUID LIMIT (%)	PLASTICITY INDEX (%)											
DS							8	112	P	90	0		SAND (SP & SP-SM), light brown, loose to dense, fine to medium; occasional fine gravel.			
							6	111	P	100	10					
							9	106	P	65	15					
							7	108	P	79	20		SILTY SAND (SM), brown, dense, fine; layer of silty clay at about 19'			
DS				28	9		16	98	P	96	25		CLAYEY SILT (ML-CL), gray, stiff to hard; trace of very fine sand; clay layer at about 25'.			
COM PERM SG	2	98	34	14	> 4.5		22	98	P	87	30		SILTY CLAY (CL-CH), brown to reddish brown, medium to high plasticity, stiff to hard, isolated thin lenses of silt and silty sand.			
UU					4.3		28	98	P	100	40					
COM PERM SG	0	100	39	19	4.5		23	103	P	92	45					
					> 4.5		27	100	P	80	55		CLAY (CH), gray and reddish brown, very stiff to hard; high plasticity.			
					2.8		31	93	P	76	65					
									S	100	70		SILTY SAND (SM), gray, medium dense, fine.			
					3.0		18	109	P	100	75		SANDY CLAY (CL), gray, stiff, low to medium plasticity, thin layers of silty sand and sand below 68'.			
					> 4.5		24	97	P	100	80		CLAY (CH), reddish brown, hard, high plasticity.			
					> 4.5		18	106	P	100	85		SAND (SP), gray brown, medium dense, fine.			
									P	100	90		SILTY SAND (SM), gray brown, medium dense, fine.			

ELEVATION: 4824'

TYPE OF BORING: ROTARY WASH

DATE DRILLED: 4-1-80

FOR EXPLANATION OF SYMBOLS USED ON THIS BORING LOG REFER TO INITIAL SECTION OF THIS APPENDIX

49



INTERMOUNTAIN POWER PROJECT  
80-164

LOG OF BORING NO. WD-8-5

LABORATORY TEST DATA							PENETRATION RESISTANCE (BLOWS/FOOT)					LITHOLOGIC DATA	
TESTS REPORTED (ILLUMINATED)	GRAIN SIZE (PERCENTAGE)			ATTERBURG LIMITS		UNSATURATED WATER CONTENT (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	% RECOVERY	DEPTH (FEET)	LITHOLOGIC DATA	
	% GRAVEL	% SAND	% FINES	LIQUID LIMIT (%)	PLASTICITY INDEX (%)								
						4.6	24	102	P	92	0	CLAY (CH), brown, hard, high plasticity.	
											5	T.D. = 82.5'	
											10		
											15		
											20		
											25		
											30		
											35		
											40		
											45		
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											60		
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											155		
											160		
											165		
											170		
											175		
											180		
											185		
											190		
											195		
											200		

ELEVATION: 4624'  
 TYPE OF BORING: ROTARY WASH  
 DATE DRILLED: 4-1-80

50



INTERMOUNTAIN POWER PROJECT  
 80-164

LOG OF BORING NO. WD-B-5

FOR EXPLANATION OF SYMBOLS USED ON THIS BORING LOG, REFER TO DETAIL SECTION OF THIS APPROVAL

LABORATORY TEST DATA										PENETRATION RESISTANCE (BLOWS/FOOT)			LITHOLOGIC DATA		
TEST REPORT NO.	GRAIN SIZE DISTRIBUTION			ATTENDING LABS		MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	% RECOVERY	DEPTH (FEET)					
	% GRAVEL	% SAND	% FINES	LABORATORY	PLASTICITY INDEX (%)										
COM PERM						8	108			75		SAND (SP), brown, medium dense, fine to medium some gravel at about 3'.			
				40	20	3.8	26	90		100		SILTY CLAY (CL-CH), gray, very stiff to hard, medium to high plasticity; thin lenses of silt below 10'.			
						4.3									
						> 4.5	22	90		68		SAND (SP), brown, medium dense, fine.			
						> 4.5	11	107		84		SANDY CLAY (CL), gray, stiff, low to medium plasticity.			
						4.0	22	98		84		SILTY SAND (SM), gray, medium dense, fine.			
												CLAY (CH), gray to reddish brown, hard, high plasticity.			
						4.0	29	96		92					
						> 4.5	28	99		76			CLAYEY SILT (CL-ML), brown, stiff, low to nonplastic.		
													CLAY (CH), very stiff to hard.		
												CLAYEY SILT (CL-ML), some very fine sand.			
												SAND (SP), fine to medium; layer of clay at about 62'; layer of silty fine sand at about 65'.			
						10	108			95		SANDY CLAY (CL), very stiff to hard.			
												T.O. = 71.0'			

ELEVATION: 4626'

TYPE OF BORING: ROTARY WASH

DATE DRILLED: 4-2-80

51



INTERMOUNTAIN POWER PROJECT  
80-164

LOG OF BORING NO. WD-8-7

FOR EXPLANATION OF SYMBOLS USED ON THIS BORING LOG, REFER TO REPTAL SECTION OF THIS APPENDIX



LABORATORY TEST DATA										PENETRATION RESISTANCE (BLOWS/FOOT)			LITHOLOGIC DATA		
TESTS REPORTED BY SYMBOL	GRAIN SIZE DISTRIBUTION			ATTERBERG LIMITS		UNCORRECTED LINEAR STRENGTH (PSI)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	REFUSAL	SAMPLE TYPE	% RECOVERY	DEPTH (FEET)			
	% GRAVEL	% SAND	% FINES	LIQUID LIMIT (%)	PLASTICITY INDEX (%)										
							7	100		P	60	0	SAND (SP), brown, dense; gravelly above about 3'; fine below about 3'.		
							2.5	20	91			5	SILTY SAND (SM), brown, dense, fine.		
							17	98				10	SILTY CLAY (CL), light brown, very stiff, medium plastic, blocky.		
							3.3	91	28			15	SAND (SP), brown, dense, fine.		
							2.3	30	90			20	SANDY SILT (ML), brown, stiff, low plasticity.		
							4.0	28	93			25	SILTY CLAY and CLAY (CL & CH), brown to gray, stiff to hard, medium to high plasticity; thin layer of clayey silt at about 21'.		
							1.8	36	87			30			
							2.3	33	90			35			
												40			
												45			
												50			
							24	102				55	CLAY (CH), dark gray, stiff to hard, high plasticity layer of fine sand at about 52'.		
							1.3	27	103			60			
												65			
												70			
												75			
												80			
												85			
												90			
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												725			

LABORATORY TEST DATA										PENETRATION RESISTANCE (BLOWS/FOOT)			LITHOLOGIC DATA		
TEST RECORD NO.	GRAIN SIZE DISTRIBUTION			LIQUID LIMITS		UNSATURATED WATER CONTENT (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	RECOVERY	DEPTH (FEET)				
	% GRAVEL	% SAND	% FINES	LIQUID LIMIT (%)	PLASTICITY INDEX (%)										
COM 0 PERM SG	12	88	23	5	2.0	6	107	P	100	0	SAND (SP), brown, dense, fine; weakly to moderately cemented below 7.5'	0	0		
						20	97	P	88	1					
						21	97	P	72	10					
						25	94	P	100	15					
						33	88	P	100	20					
COM PERM UU	45	24	1.5	2.0	36	86	P	100	25	SILTY SAND (SM), brown, medium dense, fine.	25	0			
					34	89	P	100	30	SANDY SILT (CL-ML), light brown, stiff, slightly plastic.					
					32	91	P	100	35	SILTY CLAY (CL), light brown, very stiff, low to medium plasticity.					
					28	94	P	100	40	SILTY CLAY (CL-CH), light brown to gray, very stiff to hard, medium plasticity.					
					32	91	P	100	45						
COM UU	40	23	2.0	1.8	38	86	P	100	50	SILTY SAND (SM), gray, dense to very dense, fine	50	0			
					35	91	P	88	55						
					36	87	P	100	60						
COM 0 PERM UU SG	0	100	54	35	1.8	93	28	P	95	65		65	0		

LABORATORY TEST DATA										PENETRATION RESISTANCE (BLOWS/FOOT)			LITHOLOGIC DATA		
TESTS REPORTED (ELEMENTS)	GRAVEL OR FINE DISTRIBUTION			LIT. NO. 100		UNDRAINED SHEAR STRENGTH (PSI)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE						
	% GRAVEL	% SAND	% FINES	LIQUID LIMIT (%)	PLASTICITY INDEX (%)										
						3.8	24	100	P	84	CLAY (CH), gray, very stiff, high plasticity.				
						4.5	23	104	P	80	SILTY SAND (SM), gray, very dense, fine.				
											SILT (ML), light brown, hard, low plasticity to nonplastic.				
							22	102	P	85	SAND (SP), brown, medium dense, fine; occasional clay lenses.				
											T.D. = 98.0'				

ELEVATION: 4833'

TYPE OF BORING: ROTARY WASH

DATE DRILLED: 4-3 & 4-80

FOR EXPLANATION OF SYMBOLS USED ON THIS BORING LOG REFER TO INITIAL SECTION OF THIS REPORT

55



INTERMOUNTAIN POWER PROJECT  
80-164

LOG OF BORING NO. WD-B-19



**LABORATORY TEST DATA**

GRAIN SIZE DISTRIBUTION		ATTERBERG LIMITS		UNGRAINED SHEAR STRENGTH (PSF)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)
% SAND	% FINES	LIQUID LIMIT (%)	PLASTICITY INDEX (%)			
44	56	20	103			
8	72	20				
		19	91			
		27	87			
		25	91			
		32	89			
		45	15			
		33	88			

**PENETRATION RESISTANCE (BLOWS/FOOT)**

DEPTH (FEET)	REFUSAL	SAMPLE TYPE	% RECOVERY
0			
5		D	100
10		P	40
15		P	20
20		P	32
25		P	92
30		P	48
35		P	56
40		P	100
45		P	56
50		P	92
55		P	44
60		P	28
65		P	100
70		P	100
75		P	36
80			

**LITHOLOGIC DATA**

0 - 5	SAND (SP), brown, loose, medium to fine, medium gravel
5 - 10	SANDY CLAY (CL), brown, medium stiff, low plasticity
10 - 15	SILTY SAND (SM), light brown, medium to fine
15 - 20	SAND (SP), brown, medium dense, fine
20 - 25	SANDY SILT (ML), brown, stiff, low plasticity
25 - 30	CLAYEY SAND (SC), brown, dense, fine, high plasticity
30 - 35	SILTY SAND (SM), brown, dense, fine
35 - 40	SANDY SILT (ML), brown, medium stiff, low plasticity, fine sand
40 - 45	SILTY CLAY (CL), brown, very stiff, high plasticity, thin inner beds of fine sand
45 - 50	SAND (SP), brown, medium dense, medium to fine
50 - 55	SILTY CLAY (CL), brown, medium stiff, medium plasticity
55 - 60	SAND (SP), brown, loose, medium
60 - 65	SILTY SAND (SM), yellow brown, medium dense, medium to fine
65 - 70	SAND (SP), reddish brown, medium to coarse, fine gravel
70 - 75	CLAYEY SAND (SC), reddish brown, dense fine
75 - 80	SILTY SAND (SM), brown, medium dense, medium to fine

VATION: 4674.9'

TYPE OF BORING: ROTARY WASH

DATE DRILLED: 4-26-81



INTERMOUNTAIN POWER PROJECT  
80-164

LOG OF BORING NO. LB-B-313

FOR EXPLANATION OF SYMBOLS USED ON THIS BORING LOG REFER TO INITIAL SECTION OF THIS APPENDIX

LABORATORY TEST DATA										PENETRATION RESISTANCE (BLOWS/FOOT)			LITHOLOGIC DATA		
TEST REPORTED ELEMENTS	GRAIN SIZE DISTRIBUTION			ATTERBURGH LIMITS		UNGRAINED SAND STRENGTH (TSR)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	% RECOVERY	DEPTH (FEET)				
	% GRAVEL	% SAND	% FINES	LIQUID LIMIT (%)	PLASTICITY INDEX (%)										
1	58	41	25	12			21	101	P	84			SAND (SP), brown, loose, coarse to medium		
0	70	30					19	120	P	40			CLAYEY SAND (SC), brown, dense, medium		
							30	91	P	48			SILTY SAND (SM), brown, loose, medium to fine		
													CLAYEY SAND (SC), reddish brown, medium dense, fine		
													SILTY SAND (SM), brown, medium dense, fine		
													SANDY CLAY (CL), grayish yellow, medium stiff, medium plasticity		
													SAND (SP), grayish tan, loose, medium, very little fines (< 5%)		
													CLAYEY SAND (SC), brown, dense, fine		
													SAND CLAY (CL), grayish yellow, medium stiff, medium plasticity		
													SILTY SAND (SM), brown, medium dense, fine		
													T.D. = 52.5'		

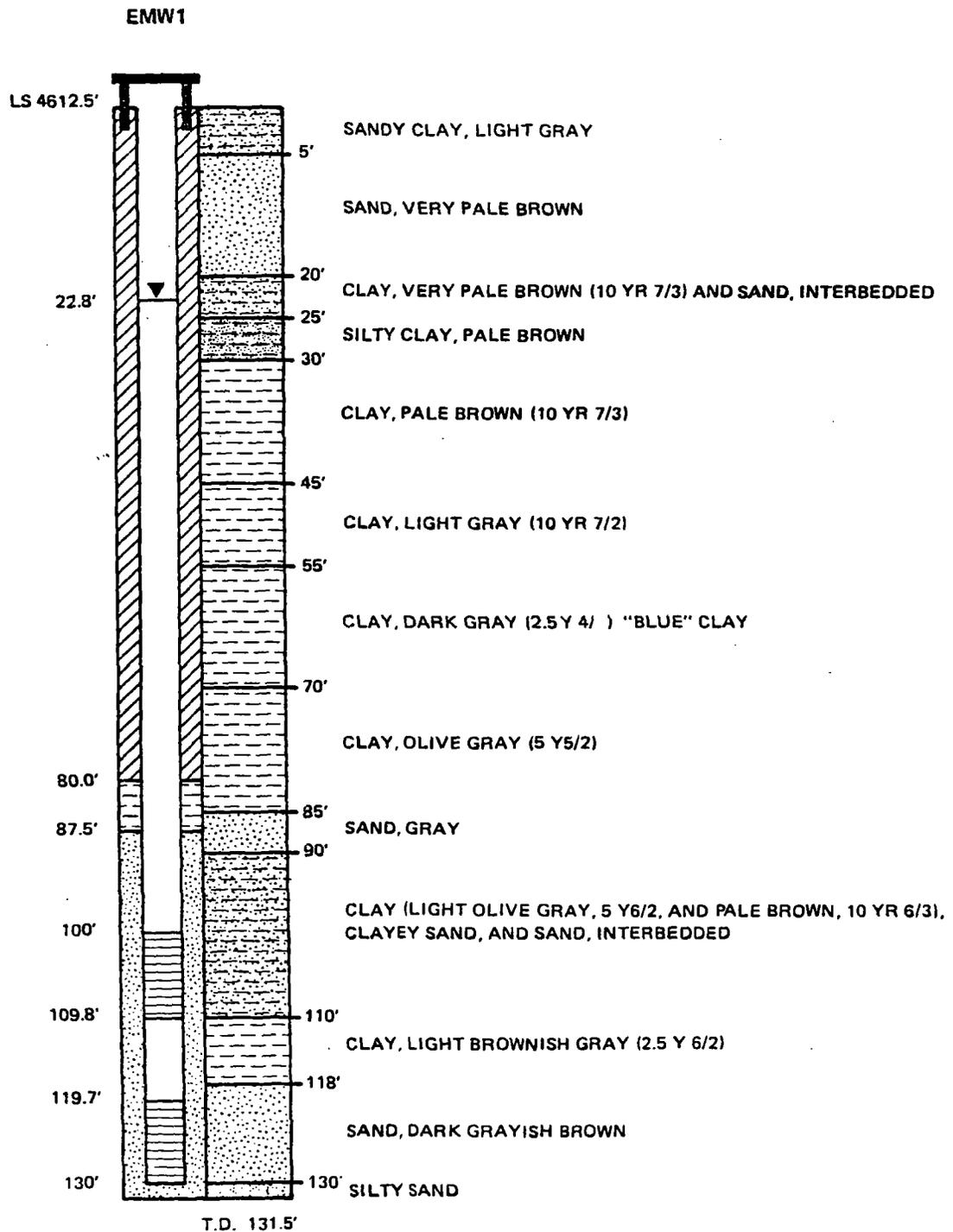
ELEVATION: 4663.20'  
 TYPE OF BORING: ROTARY WASH  
 DATE DRILLED: 4-26-81



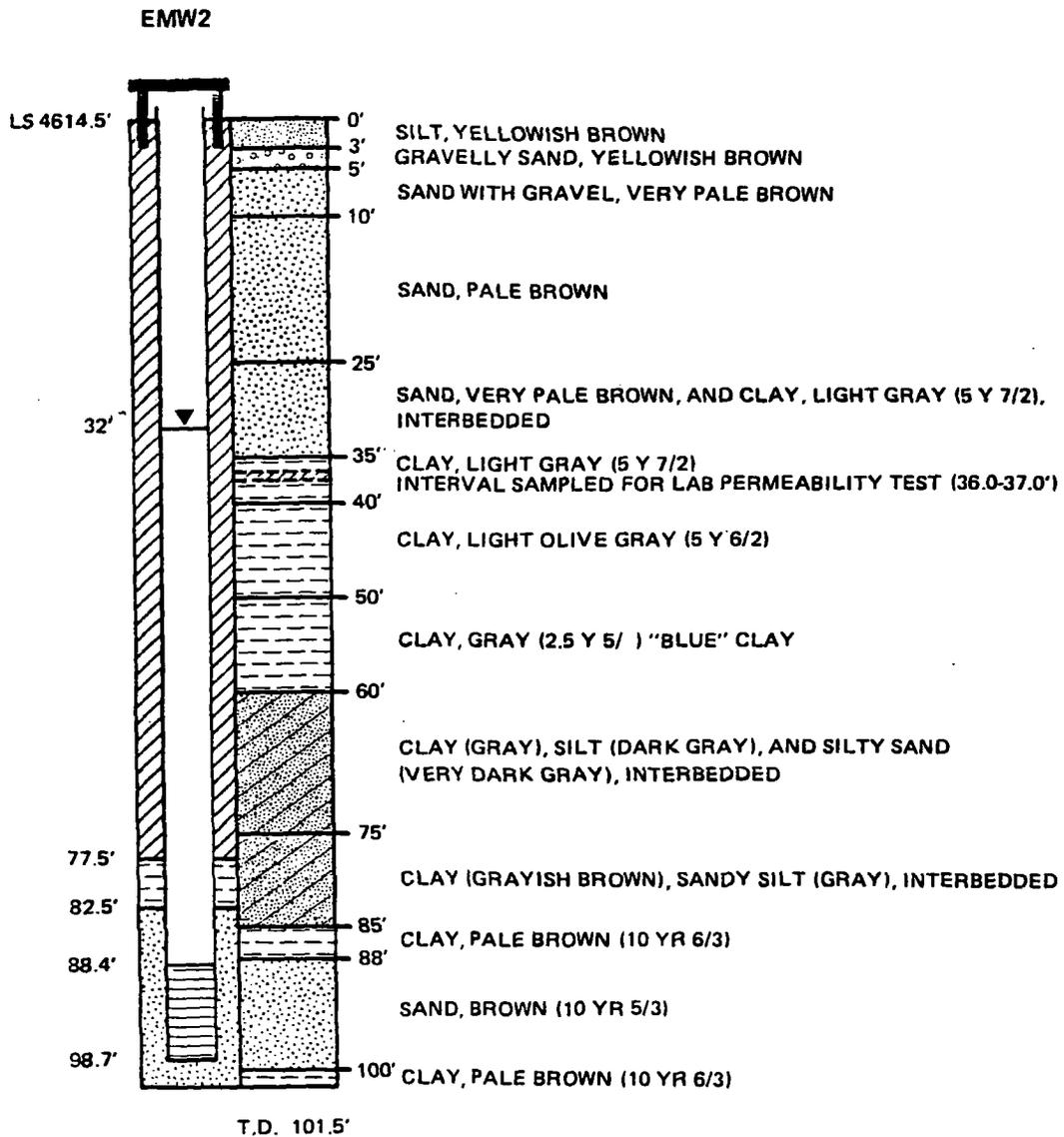
INTERMOUNTAIN POWER PROJECT  
 80-164  
 LOG OF BORING NO. LB-B-314

FOR EXPLANATION OF SYMBOLS USED ON THIS BORING LOG REFER TO INITIAL SECTION OF THE APPENDIX

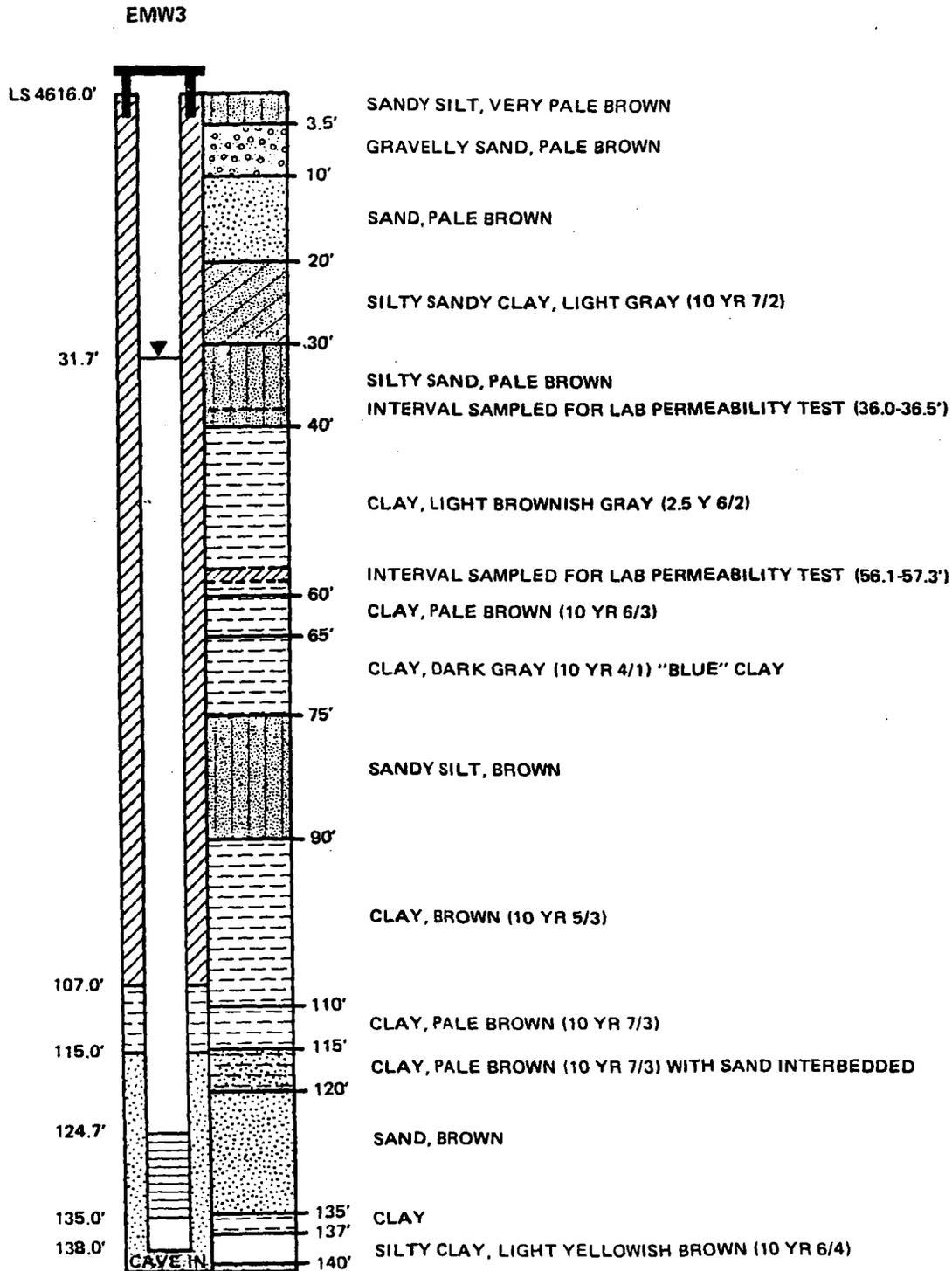




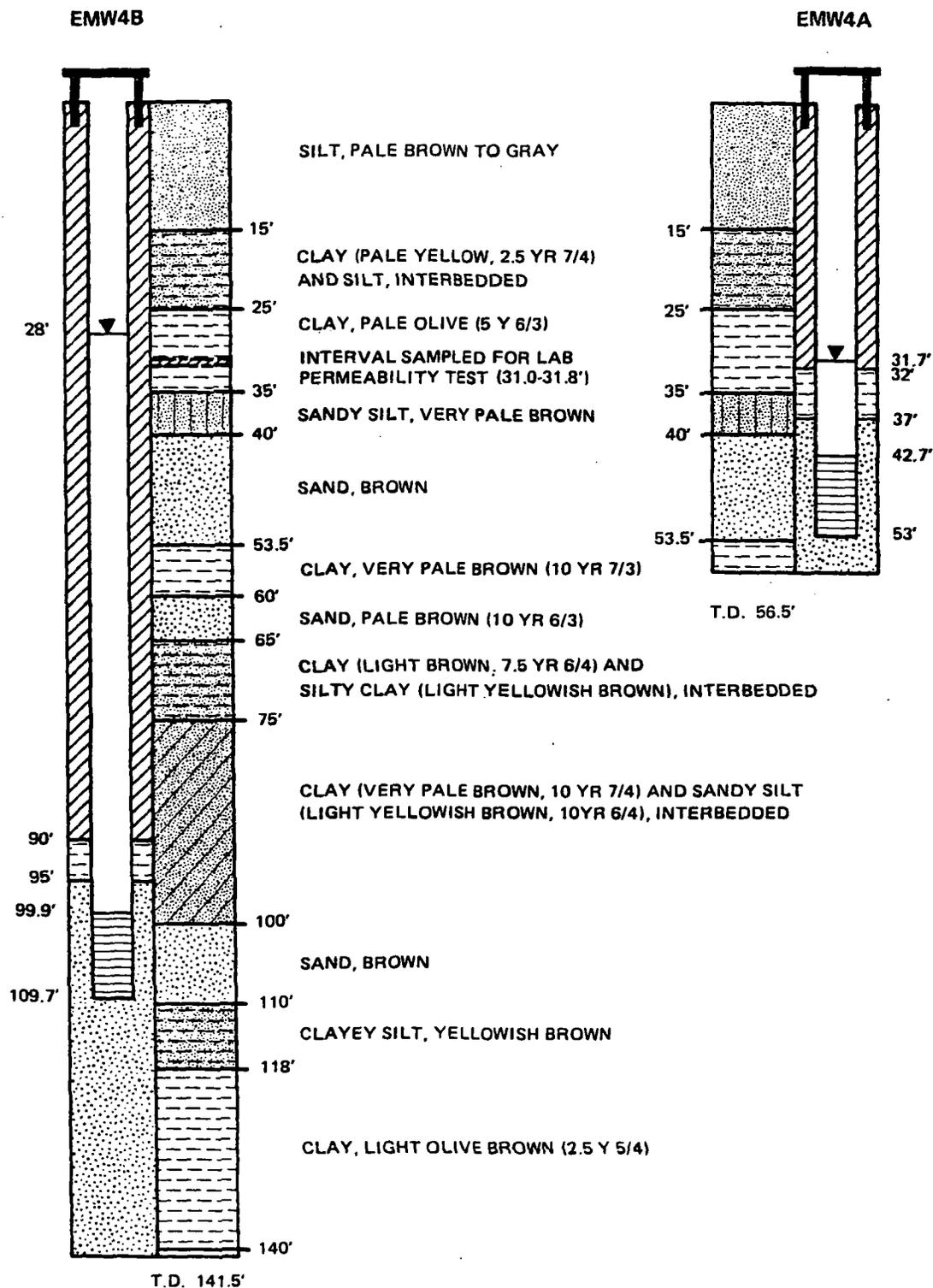
	PROJECT NO.:	82-523
	INTERMOUNTAIN POWER PROJECT	
LITHOLOGY AND WELL DESIGN MONITOR WELL 1		
11-82	FIGURE D-1	



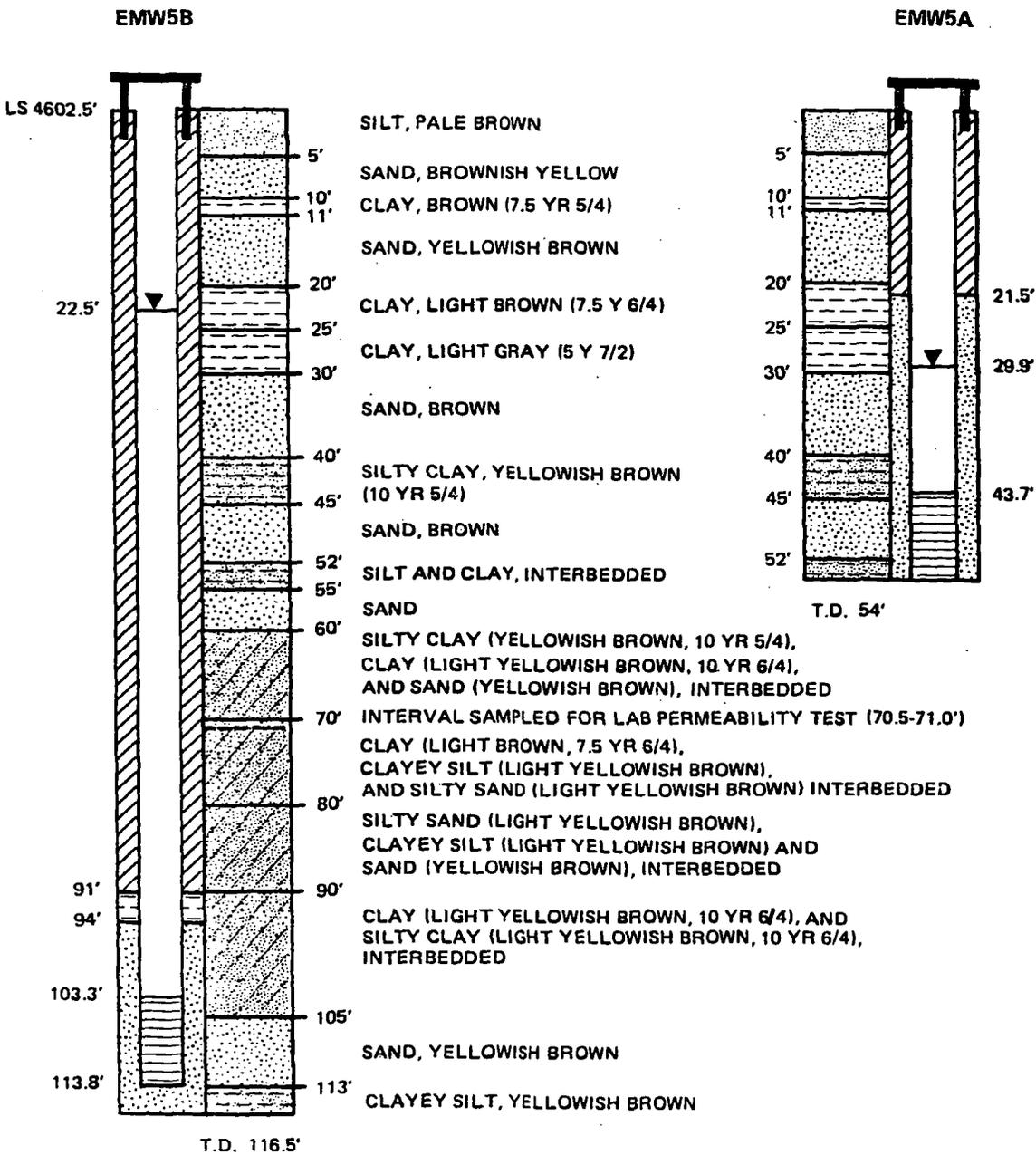
 <small>The Earth Technology Corporation</small>	PROJECT NO.: 82-523  INTERMOUNTAIN POWER PROJECT
<b>LITHOLOGY AND WELL DESIGN          MONITOR WELL 2</b>	
11-82	FIGURE D-2



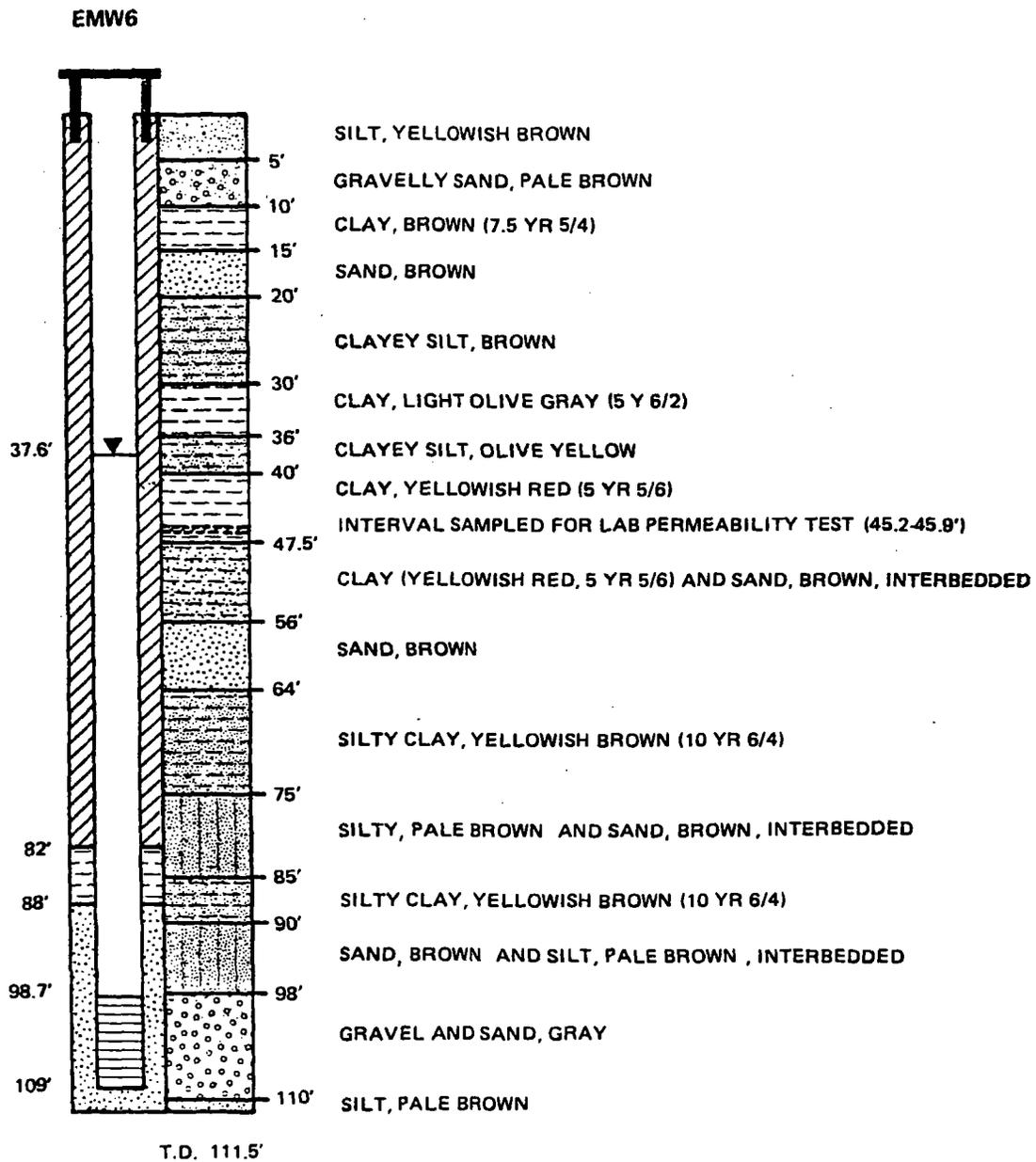
	PROJECT NO.: 82-523
	INTERMOUNTAIN POWER PROJECT
<b>LITHOLOGY AND WELL DESIGN MONITOR WELL 3</b>	
11-82	FIGURE D-3



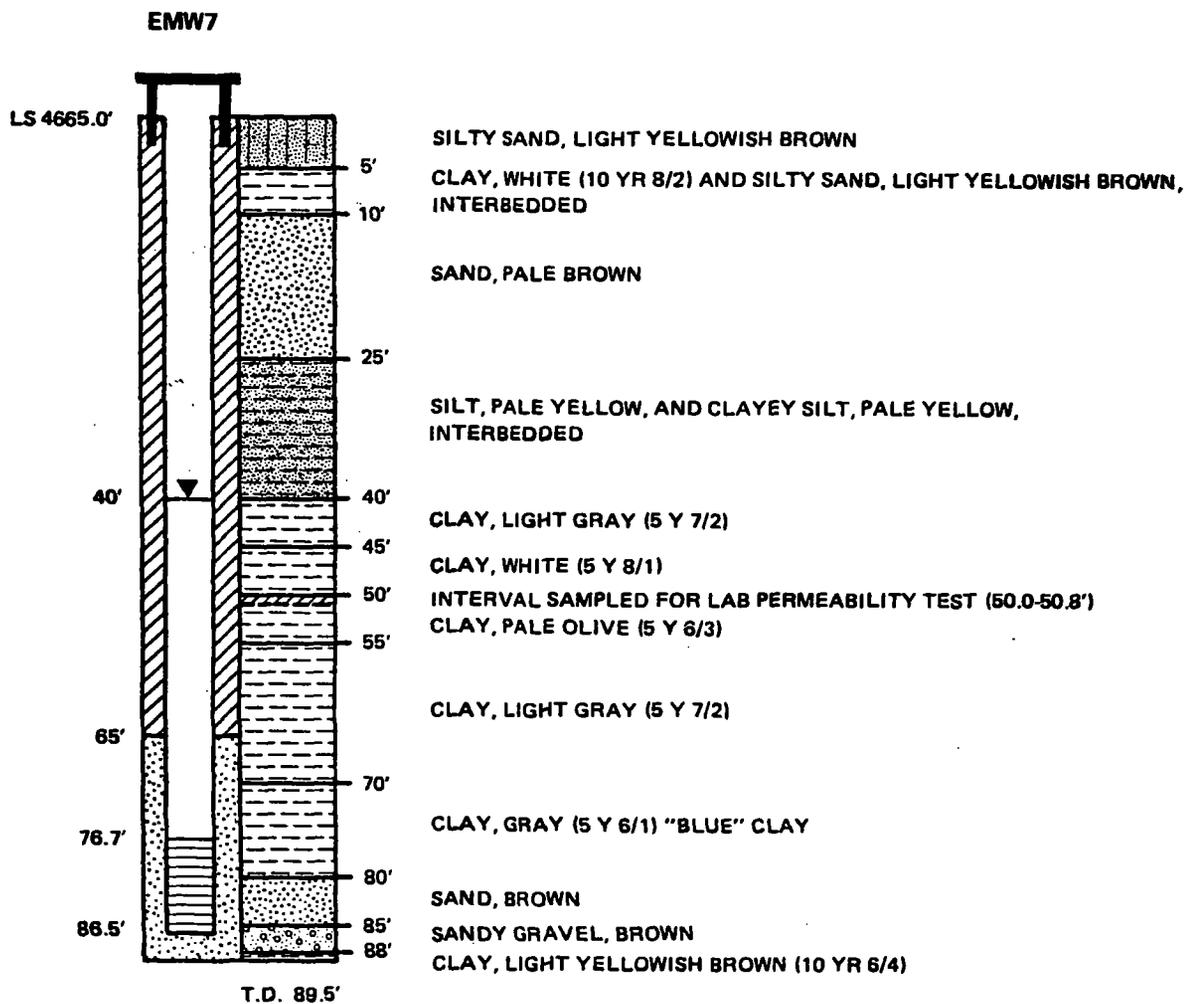
	PROJECT NO.: 82-523
	INTERMOUNTAIN POWER PROJECT
<b>LITHOLOGY AND WELL DESIGN MONITOR WELLS 4A AND 4B</b>	
11-82	FIGURE D-4



	PROJECT NO.: 82-523
	INTERMOUNTAIN POWER PROJECT
<b>LITHOLOGY AND WELL DESIGN MONITOR WELLS 5A AND 5B</b>	
11-82	FIGURE D-5

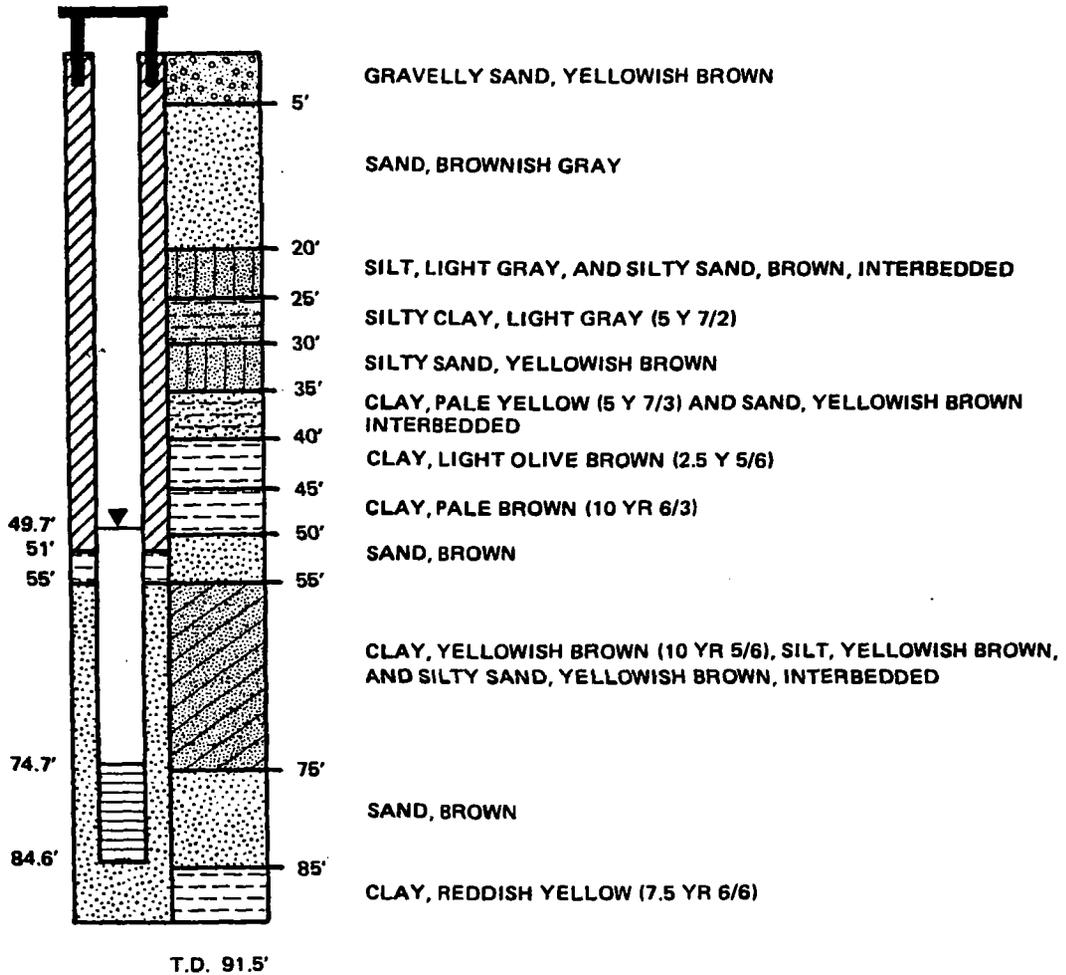


 <small>The Earth Technology Corporation</small>	PROJECT NO.: 82-523  INTERMOUNTAIN POWER PROJECT
<b>LITHOLOGY AND WELL DESIGN          MONITOR WELL 6</b>	
11-82	FIGURE D-6

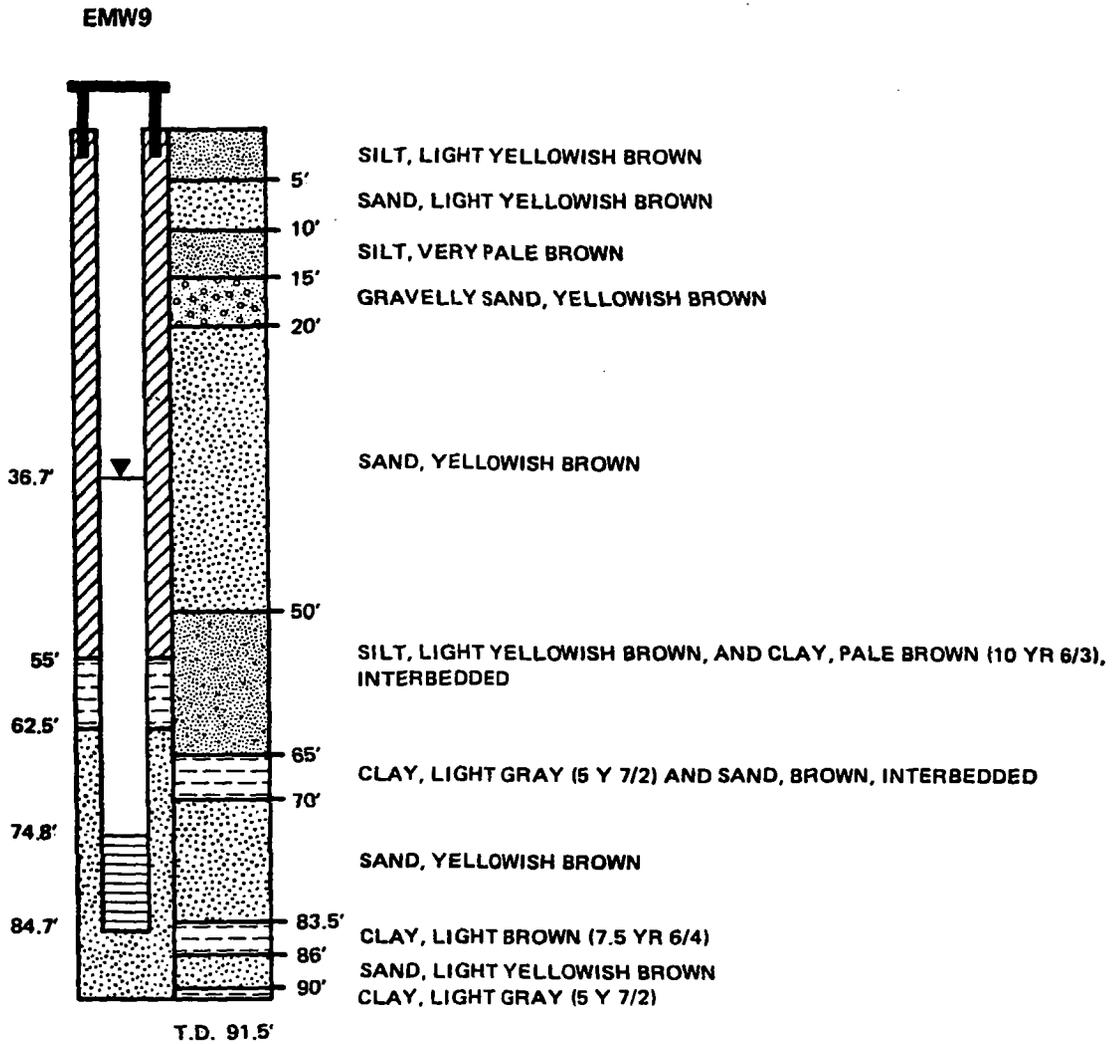


	PROJECT NO.: 82-523
	INTERMOUNTAIN POWER PROJECT
<b>LITHOLOGY AND WELL DESIGN MONITOR WELL 7</b>	
11-82	FIGURE D-7

EMW8



 The Earth Technology Corporation	PROJECT NO.: 82-623
	INTERMOUNTAIN POWER PROJECT
LITHOLOGY AND WELL DESIGN MONITOR WELL 8	
11-82	FIGURE D-8



 <small>The Earth Technology Corporation</small>	PROJECT NO.: 82-523  INTERMOUNTAIN POWER PROJECT
<b>LITHOLOGY AND WELL DESIGN          MONITOR WELL 9</b>	
11-82	FIGURE D-9

**Appendix 2**

**Analysis of Conditioned Sludge**



# WAL, Inc.

6385 W. 52nd Ave., #5 (303) 420-7700 Arvada, CO 80002

July 23, 1991

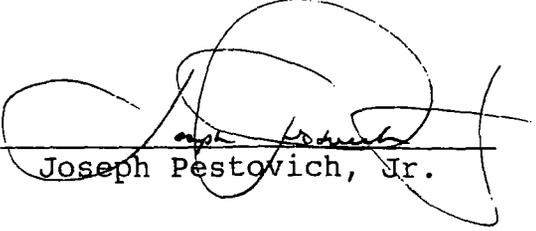
Ms. Cindy Jones  
Intermountain Power Service Corporation  
Rt.1 Box 864  
Delta, Utah 84624

RE: WAL# 91213  
PO# 90-33515  
RELEASE# 015

## ANALYTICAL REPORT

### CONCENTRATION, ug/g

<u>ELEMENT</u>	<u>SLUDGE 6-26-91</u>
Arsenic	≤10
Barium	700
Cadmium	≤3
Chromium	41
Lead	≤5
Mercury	0.18
Selenium	≤10
Silver	≤5
Fluorine	700
Aluminum	5.92, Wt.%
Antimony	≤10
Molybdenum	34
Copper	29
Vanadium	21
Nickel	31
Zinc	26
Thallium	≤2
Beryllium	2
Strontium	1100

  
Joseph Pestovich, Jr.

**Appendix 3**

**Patent to Intermountain Generating Facility Land Site**



Serial: Utah 45949

# The United States of America,

To all to whom these presents shall come, Greeting:

WHEREAS,

Intermountain Power Agency

is entitled to a Land Patent pursuant to Section 203 of the Act of October 21, 1976 (90 Stat. 2750; 43 U.S.C. 1713), for the following described lands:

Salt Lake Meridian, Utah

T. 15 S., R. 6 W.,  
Sec. 18, SW $\frac{1}{2}$ NW $\frac{1}{2}$ , SW $\frac{1}{2}$ ;  
Sec. 19, NW $\frac{1}{2}$ , N $\frac{1}{2}$ SW $\frac{1}{2}$ , SW $\frac{1}{2}$ SW $\frac{1}{2}$ .

T. 15 S., R. 7 W.,  
Sec. 10, all;  
Sec. 11, all;  
Sec. 12, SW $\frac{1}{2}$ SW $\frac{1}{2}$ ;  
Sec. 13, SE $\frac{1}{2}$ NE $\frac{1}{2}$ , E $\frac{1}{2}$ SE $\frac{1}{2}$ , W $\frac{1}{2}$ E $\frac{1}{2}$ , W $\frac{1}{2}$ ;  
Sec. 14, all;  
Sec. 15, all;  
Sec. 22, Lots 1, 2, 4, 6, 9;  
Sec. 23, Lots 1, 3, 5, 6, N $\frac{1}{2}$ NW $\frac{1}{2}$ , SE $\frac{1}{2}$ NE $\frac{1}{2}$ ;  
Sec. 24, Lots 1, 2, 5, 7, N $\frac{1}{2}$ , N $\frac{1}{2}$ SE $\frac{1}{2}$ .

Containing 4,614.78 acres

NOW KNOW YE, that there is, therefore, granted by the UNITED STATES unto the above claimant the land above described; TO HAVE AND TO HOLD the said land with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said claimant, its successors and assigns, forever;

EXCEPTING AND RESERVING TO THE UNITED STATES:

1. A right-of-way thereon for ditches and canals constructed by the authority of the United States. Act of August 30, 1890, 26 Stat. 391; 43 U.S.C. 945 (1970);
2. All minerals in the land above described, with the right to prospect for, mine and remove the same under applicable law and such regulations as the Secretary may prescribe.



IN TESTIMONY WHEREOF, the undersigned authorized officer of the Bureau of Land Management, in accordance with the provisions of the Act of June 17, 1948 (62 Stat. 476); has, in the name of the United States, caused these letters to be made Patent, and the Seal of the Bureau to be hereunto affixed.

GIVEN under my hand, in SALT LAKE CITY, UTAH the THIRTY-FIRST day of AUGUST in the year of our Lord one thousand nine hundred and EIGHTY-ONE and of the Independence of the United States the two hundred and SIXTH.

By Dean C. Stjepanek

ACTING State Director  
Utah State Office  
Bureau of Land Management

Patent Number 43-81-0024

**Appendix 4**

**Quarterly Inspection Forms**

# Quarterly Combustion By-Products Landfill Inspection Check List

A check in the shaded boxes indicate abnormal condition

Date of Inspection	Inspection Item	Yes	No	Has the problem been corrected. Date Completed
	Are the access roads to the Combustion By-Products landfill adequately treated to control fugitive dust from vehicles?			
	The drainage ditches surrounding the Combustion By-Products Landfill clear of debris			
	The storm water runoff basin have adequate capacity for a storm event.(less ½ full)			
	The storm water runoff basin liner in good shape			
	Any signs of bad erosion on finished sides of landfill slopes			
	Conditioned sludge is being compacted to greater than 80%(Conditioned sludge is being placed, graded and compacted by wheeled equipment resulting in >80% compaction.)			
	Material placed in landfill greater than 70% solids. (Conditioned sludge does not show any plastic or flowing characteristics)			

Inspector's Name & Signature. \_\_\_\_\_  
Print Signature

Date of inspection: \_\_\_\_\_

Additional Notes:

**Appendix 5**

**Training Classes for Operators of the Landfill**

**REQUIRED PERIODIC RE-TRAINING BY JOB CLASSIFICATION**

**Department: OPERATIONS**

**Job Classification: OPERATING SUPERVISOR #69**

<b><u>Course #</u></b>	<b><u>Core Training</u></b>	<b><u>Retraining Period (Yrs.)</u></b>
1005	Driver's License (Site)	3
1035	Emergency Procedures	1
1050	Environmental Policy PAI #191	2
1010A	Fire Extinguisher (Basic)	2
1010A.1	Fire Extinguisher Practical	2
1020	Hazard Communications	1
	<b><u>Specific Craft Training to be Tracked</u></b>	
1045	Audiometric Test (Hearing)	1
2434	Chlorine Systems	3
2799.22	Chlorine Systems Refresher	1
1020C	Confined Space Entry	1
1001	CPR	2
1001.P	CPR Practical	2
1009M	Fire Command - 8 Hr. Refresher Course	1
1003	First Aid	3
1038	Hearing Conservation Class 1 YR.	1
1002E	Pulmonary Function Test	1
1002D	Respirator Certification	1
1002D.1	Respirator Practical	1
2436	Operation of Air Emission Producing	1
1219	Sexual Harassment	1

# REQUIRED PERIODIC RE-TRAINING BY JOB CLASSIFICATION

Department: OPERATIONS

Job Classification: FUEL EQUIPMENT OPERATOR I #49

<u>Course #</u>	<u>Core Training</u>	<u>Retraining Period (Yrs.)</u>
1005	Driver's License (Site)	3
1035	Emergency Procedures	1
1050	Environmental Policy PAI #191	2
1010A	Fire Extinguisher (Basic)	2
1010A.1	Fire Extinguisher Practical	2
1020	Hazard Communications	1
<u>Specific Craft Training to be Tracked</u>		
1045	Audiometric Test (Hearing)	1
1020C	Confined Space Entry	1
1001	CPR	2
1001.P	CPR Practical	2
1003	First Aid	3
1038	Hearing Conservation Class - 1 Yr.	1
2436	Operation of Air Emission Producing	1
1002E	Pulmonary Function Test	1
1002D	Respirator Certification	1
1002D.1	Respirator Practical	1

**Appendix 6**

**Cost Estimate for Closure of the Combustion By-Products Landfill  
Financial Assurance  
Intermountain Power Agency Annual Report**

## Cost Estimate for Closure of the Combustion By-Products Landfill

Intermountain Power Service Corporation (IPSC) has a class IIIb landfill located at the Intermountain Generating Station in Delta, Utah. The landfill is located in Township 15 South, Range 7 West, N ½ of section 11 and covers approximately 339 acres. The following is an estimate of the cost to close the Combustion By-Products Landfill. (This is the estimate submitted for the 2006 Solid Waste Landfill Annual Report.) The basis for the estimation is the landfill area of 339 acres is divided into the following areas:

- 275 acres of seven disposal cells of 39 acres each
- 40 acres of roads, runoff ditches, and berms
- 18 acres of buffer area with natural growth
- 6 acres of runoff basin

A worst case condition would be having one cell in the non-reclaimed state that would have to be reclaimed. Cost for seeding and soil moving and grading is the same as the Sanitary Landfill, as submitted to the State of Utah last year.

- Seeding, mulching and, if needed, fertilizing one cell, the roads and pond area.

85 acres at \$703.50/acre = \$59,797

- Covering one cell of 39 acres with 2 feet of soil based on the cost of 262/yard per hour.

$(2\text{ft}) \times (39 \text{ acres}) \times (43,560 \text{ cu ft/acre ft}) / (27 \text{ cu ft/cu yd}) / (262 \text{ cu yd/hr}) \times (\$638/\text{hr}) = \$306,434$

- Moving soil from the berm to cover the roads and ditch (40 acres).

\$172/hr estimate - 120 hours = \$20,640

- Moving the soil from pond dikes to fill in pond.

\$172/hr estimate - 24 hours = \$4,128

- **WORST CASE ESTIMATE = \$391,000**

However, having a full cell open is not a very likely condition. To fill a cell takes approximately five to seven years. The permit renewals are on a five-year schedule. Having half of a cell open would be a more realistic concept. Since hauling the soil is the greatest expense, the cost would be \$209,845 if only a half cell was left to reclaim (65.5 acres in item #1 and half of item #2).

- **REALISTIC ESTIMATE = \$224,064**

The source of information for costs to reclaim both the Sanitary and Combustion By-Products Landfills is based on cost estimated from local contractors in the Delta and Salt Lake City area. These estimates are not actual bids to do the work. The original estimates were gathered from the same sources back in 2000 to prepare the annual solid waste reports to the State of Utah. Each year the amounts were increased by the rate of inflation which has averaged around three to 4 percent. The application has a copy of the estimates for the annual report submitted in February 2006.

To check the numbers for this submittal contractors were contacted in May and June of 2006 to confirm the costs submitted in the 2006 annual update were inline with reclamation costs today. The costs submitted for the 2006 annual update is IPSC's estimate for closure of the Combustion By-Products Landfill are in line with current costs for reclamation. Contractors contacted were:

- Rancho Equipment (Delta, Utah)
- Wheeler Equipment (Salt Lake City, Utah)
- Bureau of Land Management (Fillmore, Utah) for seed cost estimates
- Intermountain Farmers (Delta, Utah) for fertilizer estimates

The contractors above provided the following cost estimates:

- Cat 631E Scraper, 21 yds struck (31 yds heaped), based on 24 yards .....  
..... \$2,000/day or \$18,000/month, plus \$70/hr fuel (20 gph use), plus \$50/hr operator
- Cat 970 front end loader with operator ..... \$100/hr
- Small backhoe ..... \$65/hr
- Labor Rate to pick up trash ..... \$20/hr
- Seed Drill ..... \$85/hr or \$10/acre
- Native Seed @ \$30/lb @ 9 lb/acre ..... \$270/acre
- Fertilizer @ \$260/ton @ 20 lb N/acre ..... 150 lb fertilizer/acre = \$20/acre
- Straw mulch @ 30/ton @ 4,000 lb/acre ..... \$60/acre
- Mulch crimper straight disk ..... \$85/hr or \$10/acre

**Combustion By-Products Landfill:**

Covering one cell of 39 acres with 2 feet of soil. 2ft X 39 acres X 43,560 cu ft/acre ft/27cu ft/cu yd/168 cu yd/hr X \$255/hr (Hauling distance 5,000 feet, so can haul 168 cu yds/hr, using the monthly rate since a total of 740 hours is needed)	\$168,600
Moving the soil from the berm to cover the road and drainage ditch 120 hours with loader @ \$100/hr	\$12,000
Moving the soil in pond dikes to fill pond 24 hours @ \$100/hr	\$2,400
Seeding and mulching one cell and roads and pond 85 acres @ \$370/acre	\$31,500
<b>Total</b>	<b>\$214,500</b>

Intermountain Power Agency (IPA) is using R315-309-9 (Corporate Financial Test) to meet the financial assurance requirements required. IPA meets the requirement of R315-309-2(a)(i), b(i), and (c). Attached is a copy of the Intermountain Power Agency Annual Report for 2005.

On page 14 and 15 of the report, IPA bonds (insured) are rated AAA by Standard and Poor's and Fitch, and Aaa by Moody's. The uninsured bonds are rated A+ and A1 respectively. This meets the requirement of R315-309-2(a)(i). The net tangible worth of IPA exceeds the requirements of R315-309-2(b)(i). On page 29 of the annual report the reserve account of \$33,381,000 exceeds the 10 million required. As per R315-309-2(c) IPA has assets in the United States, namely the power plan in Delta, Utah.

# Landfill Post-Closure Care Cost Estimates

## Sanitary and Combustion By-Products Landfills

Intermountain Power Service Corporation (IPSC) has two landfills at the Generating site located near Delta Utah. With the two landfill sites located less than a mile apart, post-closure costs for the two landfills are figured together. This way travel and mobilization costs are reduced as work can be done on both site in one visit. Costs for each landfill can be split up based in the area of each landfill. Both landfills are Class IIIb landfills. They do not require ground water monitoring and analysis, gas monitoring and collection, or a leachate collection/disposal system or maintenance on these systems.

The post-closure plan consists of annual inspections of the landfills, Maintenance of roads, fences, and surface drainage ditches and touching up small areas with vegetation reseeding. IPSC has observed that letting an area revegetate naturally has provided superior coverage and resilience than remediate seeding. Plants that grow from natural seed once established do better. By the time the landfill is scheduled for closure, a large share of the landfills should be reseeded.

### Post Closure Costs for Both Landfills:

Annual site inspections and recordkeeping: \$500/inspection/ year X 30 yr = \$15,000

Spot vegetation reseeding on 1% of the landfill area per year  
4 acres/year X \$441\*/ acre X 30 yr = \$52,920

Maintenance of site(fences, ditches, and slopes of landfills)  
40 hours/yr X \$75.00/hr X 30 yrs = \$90,000

Total post closure costs for both landfills \$157,920

\* Reclamation costs minus the scraper time to place soil (pg81). 1 hour / acre backhoe time plus 3.0 cu yards of soil per acre @ \$2.00/yd = 370 + 65 + 6 = \$441

The costs are divided between each landfill based on area.

Area combustion By-Products Landfill = 339 acres

Area Sanitary Landfill = 52 acres

Cost for Combustion By-Products Landfill =  $339/52 + 339 \times \$ 157,920 =$  \$136,920

Cost for Sanitary Landfill =  $52/52 + 339 \times \$157,920 =$  \$ 21,000

The financial assurance requirements for the combustion by-products landfill closure costs is already in place. The corporate financial test ( R315-309-9) is being used to meet the required financial assurance. The increased costs associated with post-closure costs of the combustion by-products landfill will be covered by the existing corporate financial mechanism.

The financial assurance requirements for the sanitary landfill, an account with the Utah Public Treasurers Investment Fund(PTIF) has been opened by IPA. Once the State agrees with the estimate for post-closure costs, that amount will be added to IPA's PTIF account.



## Intermountain Power Agency

Annual Report 2005

The Intermountain Power Agency (IPA) is an organization of 23 Utah municipalities formed to finance, construct, operate and maintain the Intermountain Power Project. The Los Angeles Department of Water and Power serves as Operating Agent. The Intermountain Power Service Corporation (IPSC) staffs the generating station and related facilities.

The Intermountain Power Project (IPP) includes a two-unit coal-fired generating station, two transmission systems, a microwave communication system and a railcar service center, all built as a joint undertaking by 36 utilities in Utah and California.



### Intermountain Power Agency

10653 South River Front Parkway

Suite 120

South Jordan, Utah 84095

801.938.1333

[www.ipautah.com](http://www.ipautah.com)

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## Executive Summary



During Fiscal 2005 the Intermountain Power Project added another banner operating year to its outstanding operating record. The year was not without its challenges, however, particularly the higher cost of coal. Because of increases in the cost of coal, for the first time in many years the average unit cost of power increased for the Project's participants.

However, management rose impressively to meet those challenges by taking advantage of opportunities to contain fuel costs. Because of those efforts, 2005 finished with near record gross generation, continuing an eight year trend of operating at peak levels. Through good management, the Project was once again able to maintain standards for reliability and efficiency that far exceed industry averages. And the Project remained on solid financial footing, maintaining good credit ratings and a decline in debt service expenses.

In spite of rising fuel costs, Project managers finished the fiscal 2005 year more than \$10 million under budget, resulting in a year-end credit to project participants.

Total operating revenues increased \$38 million in 2005 compared to 2004. This was due to increased project costs arising

primarily from increased fuel costs and debt principal payments billed to the purchasers.

Traditionally, IPP's largest cost component in its power production is debt service. Fiscal 2005 continued a trend of declining interest expense, due to declining overall Project debt. \$127 million of scheduled principal maturities were paid during 2005.

IPP's continuing record of reliability, high performance, and financial stability, especially given the particular challenges it faced in 2005, leaves it well positioned for the power generation needs of our purchasers.

Ray Farrell  
Chairman of the Board  
Intermountain Power Agency

Reed Searle  
General Manager  
Intermountain Power Agency

## Fiscal 2005 Highlights

In spite of the challenging fuel market in 2005, IPP continued to far exceed industry standards for similar-sized coal-fueled facilities, according to the North American Electric Reliability Council (NERC).

### NOTABLE HIGHLIGHTS

- Gross generation at 14,879 gigawatt hours, the second highest in IPP's history.
- Net generation at 14,014 gigawatt hours.
- An equivalent availability of 91.72 percent, compared to the 2004 NERC industry average of 89.43 percent for similarly-sized coal units.
- A net capacity factor of 88.88 percent, compared to the 2004 NERC average of 80.94 percent.
- A heat rate of 9,545 BTUs per kilowatt hour.
- Equivalent forced outage rate of 1.48 percent, compared to the 2004 NERC industry average of 3.47 percent.

### FINANCIAL HIGHLIGHTS

The principal amounts of bonds outstanding decreased to \$3.370 billion from \$3.575 billion in 2004.

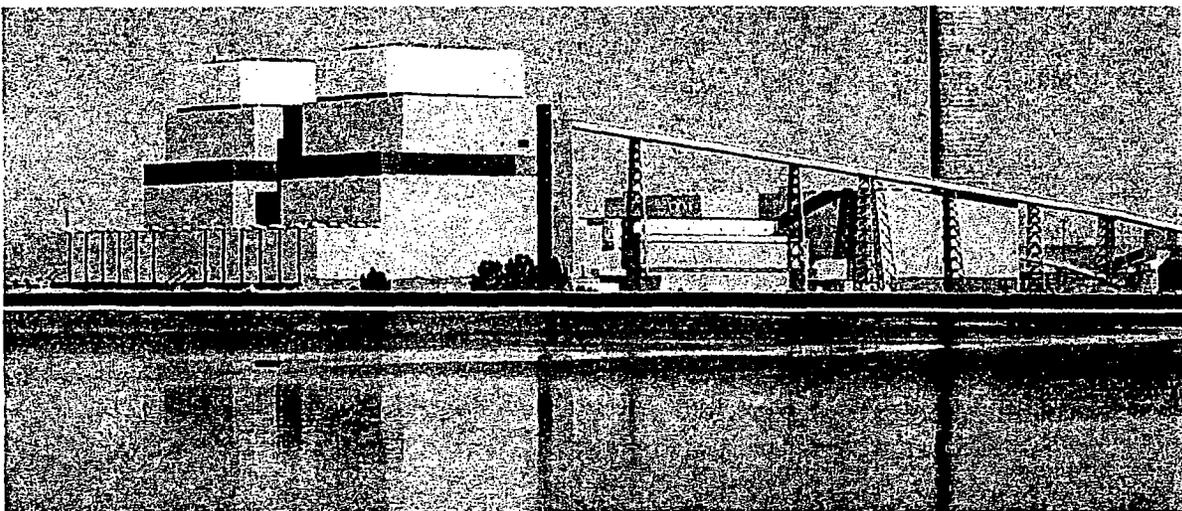
Average invested assets totaled \$516.7 million down from \$535.1 million in fiscal 2004 and earnings on investments decreased to \$13.9 million from \$ 14.8 million in 2004 for a rate of return of 2.70 percent.

Fiscal 2005 saw no changes in credit ratings and IPA's weighted average borrowing cost increased from 4.44 percent to 4.66 percent.

### OPERATING EXPENSES

Total fuel expenses increased \$10 million from 2004, due primarily to a seller's shortage by IPA's largest coal supplier (requiring incremental market priced coal). The market-priced coal was not only more expensive, but was of a lower quality, requiring approximately 3 percent more coal to achieve the same level of generation.

The increase in net loss on coal sales of \$9 million resulted from more difficult operating conditions in certain operating



## Fiscal 2005 Highlights (Continued)

coal mines in which IPA has an ownership interest. At times, the sales price—previously negotiated during a buyer's market for coal—was lower than the operating costs, resulting in a net loss.

An additional factor in increased operating expenses of \$6 million was due principally to increases in the obligations for retirement benefits.

### DEALING WITH COAL CHALLENGES

Five of the six long-term coal contracts that IPA holds were affected by notices of force majeure in 2005 because of unanticipated mining problems. In six months alone, IPA lost the coal equivalent of almost two months of normal burn at the Intermountain Generating Station. Many customers of Utah coal were forced to pay inordinately high prices. Others were forced to shutdown altogether and wait for the Utah coal market to recover. Fortunately, the IPA Coal Managers were able to obtain alternative supplies at fairly reasonable prices.

These efforts kept IPP operating capacity at peak levels even though this was a challenging period of market upheaval and price spikes.

### UNIT 3

Planning continues for the proposed construction of a third generating unit at the plant site. Certain interested parties entered into a Development Coordination Agreement that outlines the process for building Unit 3, such as obtaining an air quality permit, finalizing construction schedule and other details.

### SAFETY

One of IPSC's goals is to get injured personnel back to work by providing on-site treatment. IPSC's employees' participation in the Wellness Program has increased dramatically and the OSHA lost time rate history shows a steady decline (.86 in 2003 compared to .77 in April 2005). Walk-A-Thons, lifestyle changes and other healthy programs are encouraged for employees and their families. The Staywell Center again

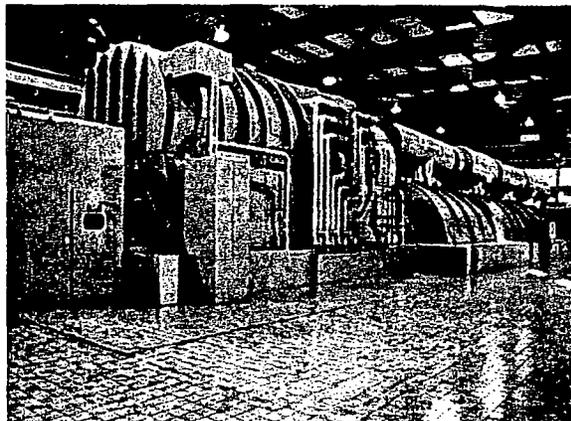
received the Gold Plus award from the Governor's Utah Council for Work Site Health Promotion. This award acknowledges specific written policies for wellness and safety programs, implementation of a quality safety program, and documentation demonstrating success, benefit cost ratio and outcomes.

### MAINTENANCE HIGHLIGHTS

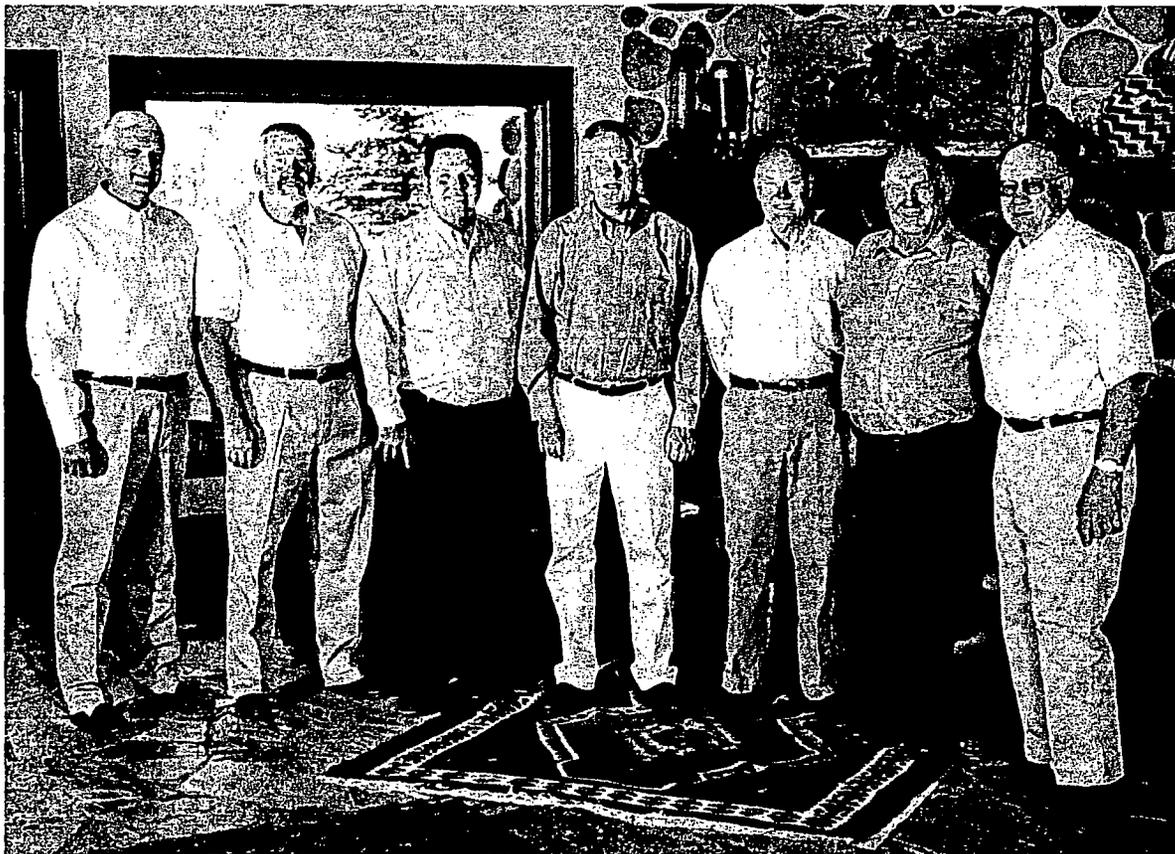
IPP's outstanding record of reliability is due to a variety of programs that focus on predicting the optimum time for scheduled maintenance of plant components. This maintenance strategy allows plant systems to remain in operation for as long as possible, while reducing the probability of a system breakdown. Preventative maintenance programs generated a savings of about \$2 million in fiscal 2005.

High operating performance was maintained in Fiscal 2005, even though IPP used a lower quality coal. IPP maintenance crews were successful in keeping the pulverizers functioning at full capacity, while using a 20 percent ash coal.

IPP is committed to staying in the forefront of new technology. During Fiscal 2005, Phase Two of the Digital Control System Upgrade (DCS) on Unit 1 was completed. The DCS is a four-year, approximately \$15 million project that will replace both of the Unit's original control panels with the latest digital technology.



## IPA Board of Directors



*From left to right:*

CLIFFORD C. MICHAELIS, *Treasurer* WALTER MEACHAM, *Director* GARY O. MERRILL, *Director* TED L. OLSON,  
*Secretary* RUSSELL F. FJELDSTED, *Director* R. LEON BOWLER, *Vice Chairman* RAY FARRELL, *Chairman*

## IPP Coordinating Committee



*From left to right:*

DAVID WRIGHT, *Riverside* CLIFFORD C. MICHAELIS, *Utah Municipalities* REED T. SEARLE, *IPA General Manager*  
KEVIN ALDER, *PacifiCorp* RANDY EWELL, *Mt. Wheeler Power, Inc.* MARK MAZAK, *Anaheim*  
R. LEON BOWLER, *Rural Electric Cooperatives* RUWEN LIU, *Glendale* GARY MERRILL, *Murray*  
ENRIQUE MARTINEZ, *Los Angeles Dept. of Water and Power* ERIC THARP, *Los Angeles Dept. of Water and Power*  
RUSSELL FJELDSTED, *Logan* JAY PANZICA, *Pasadena* RICHARD CORBI, *Burbank*

## 2005 Financial and Operating Summary

### DEBT OUTSTANDING (as of July 1, 2005)

Weighted Average Borrowing Cost	4.66%
Fixed Rate Bonds	\$1,501,731,000
Subordinated Notes	1,111,248,000
Variable Rate Put Bonds	310,800,000
Commercial Paper	384,000,000
Auction Reset Notes	62,800,000

<b>Total</b>	<b>\$ 3,370,579,000</b>
--------------	-------------------------

### BOND RATINGS

	Moody's	Standard & Poor's	Fitch
Revenue Refunding Bonds	A1	A+	AA-
Insured Bonds (AMBAC, MBIA, FGIC, FSA)	Aaa	AAA	AAA
Refunded Bonds	Aaa	AAA	AAA
1985 Series E & F Bonds	A1/VMIG1	AAA/A1	AAA/F1+
Commercial Paper	NR	A1	F1+
Defeased Bonds	NR	NR	AAA

### INVESTMENT PERFORMANCE

Average Invested Assets	\$ 516,722,000
Realized Investment Portfolio Earnings	\$ 13,939,000
Rate of Return	2.70%

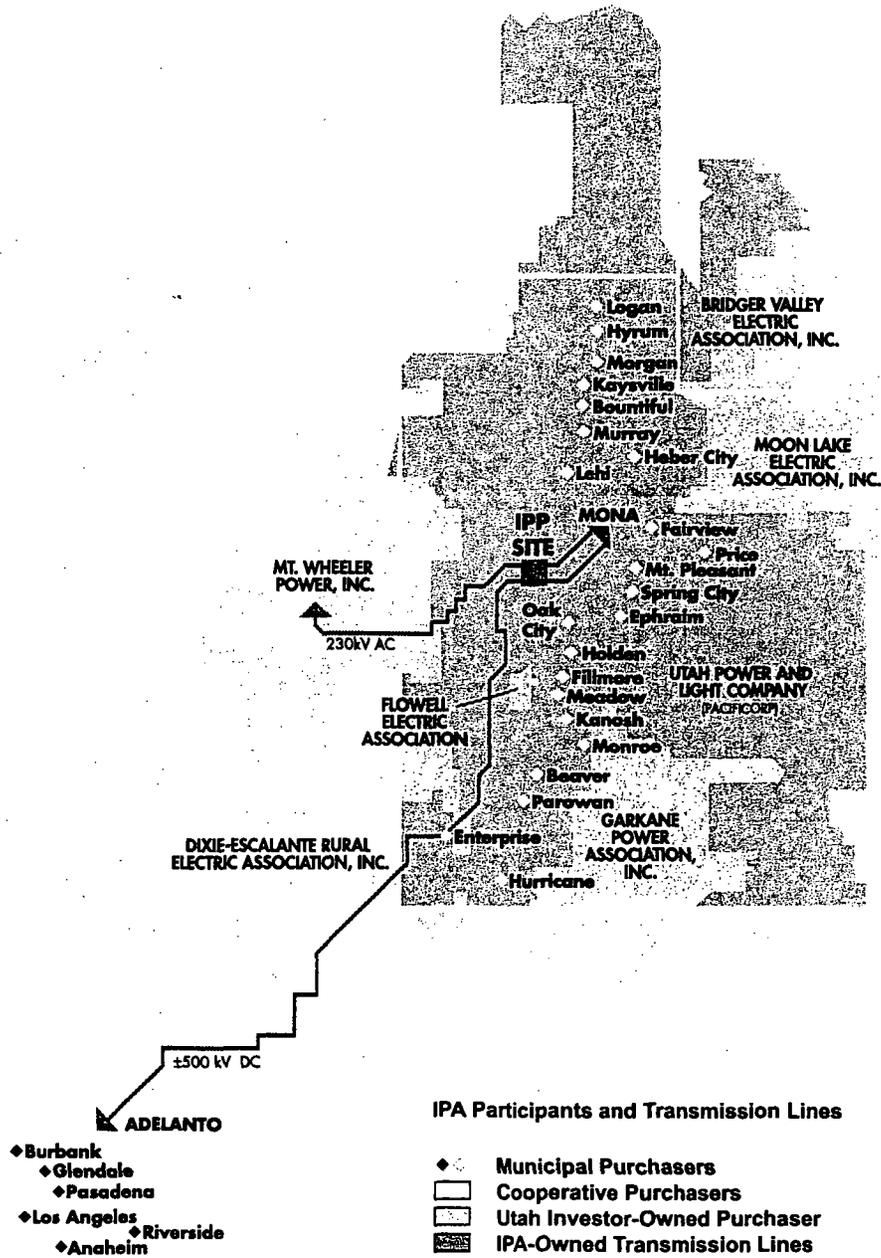
### OPERATING SUMMARY

	2005	2004	2003	2002	2001
Gross Generation (gWh)	14,879	15,021	14,096	13,995	14,078
Equivalent Availability	91.72%	93.62%	92.19%	93.25%	93.78%
Net Capacity Factor	88.88%	91.55%	89.75%	90.98%	91.65%
Coal Usage (Ktons)	5,905	5,778	5,401	5,340	5,345
Heat Rate (BTU/kWh)	9,545	9,535	9,517	9,536	9,510

## Participants' Adjusted Generation Entitlement Shares

	Generation Entitlement Share
<b>CALIFORNIA PURCHASERS</b>	
Los Angeles Department of Water & Power	44.617 %
City of Anaheim	13.225
City of Riverside	7.617
City of Pasadena	4.409
City of Burbank	3.371
City of Glendale	1.704
Total: 6 California Purchasers	74.943 %
<b>UTAH MUNICIPAL PURCHASERS</b>	
Murray City	4.000 %
Logan City	2.469
City of Bountiful	1.695
Kaysville City	.739
Heber Light & Power	.627
Hyrum City	.551
Fillmore City	.512
City of Ephraim	.503
Lehi City	.430
Beaver City	.413
Parowan City	.364
Price	.361
Mount Pleasant	.357
City of Enterprise	.199
Morgan City	.190
City of Hurricane	.147
Monroe City	.130
City of Fairview	.120
Spring City	.060
Town of Holden	.048
Town of Meadow	.045
Kanosh	.040
Town of Oak City	.040
Total: 23 Utah Municipal Purchasers	14.040 %
<b>COOPERATIVE PURCHASERS</b>	
Moon Lake Electric Association, Inc.	2.000 %
Mt. Wheeler Power, Inc.	1.786
Dixie-Escalante Rural Electric Association, Inc.	1.534
Garkane Power Association, Inc.	1.267
Bridger Valley Electric Association	.230
Flowell Electric Association	.200
Total: 6 Cooperative Purchasers	7.017 %
<b>UTAH INVESTOR-OWNED PURCHASER</b>	
Utah Power & Light Company (PacifiCorp)	4.000 %
<b>TOTAL: 36 PURCHASERS</b>	<b>100.000 %</b>

# Participants and Transmission Lines Map



## Independent Auditor's Report

TO THE BOARD OF DIRECTORS OF INTERMOUNTAIN POWER AGENCY:

We have audited the accompanying consolidated balance sheets of Intermountain Power Agency ("IPA") as of June 30, 2005 and 2004, and the related consolidated statements of revenues and expenses and cash flows for the years then ended. These financial statements are the responsibility of IPA's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of IPA's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of IPA as of June 30, 2005 and 2004, and the results of its operations and its cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

Management's Discussion and Analysis is not a required part of the basic consolidated financial statements, but is supplementary information required by the Governmental Accounting Standards Board. We have applied certain limited procedures, which consisted principally of inquiries of management regarding the methods of measurement and presentation of the supplementary information. However, we did not audit the information and express no opinion on it.

Our audits were conducted for the purpose of forming an opinion on the basic consolidated financial statements taken as a whole. The additional information in the supplemental schedule is presented for the purpose of additional analysis and is not a required part of the basic consolidated financial statements. This schedule is the responsibility of IPA's management. Such additional information has been subjected to the auditing procedures applied in our audits of the basic consolidated financial statements and, in our opinion, is fairly stated in all material respects when considered in relation to the basic consolidated financial statements taken as a whole.

*Deloitte & Touche LLP*  
September 26, 2005

**Deloitte.**

## Management's Discussion and Analysis

The Intermountain Power Agency (IPA) is a political subdivision of the State of Utah formed by twenty-three Utah municipalities pursuant to the provisions of the Utah Interlocal Co-operation Act. IPA owns, operates and maintains, a two-unit, coal-fired, steam-electric generating plant and switchyard located in Millard County, Utah and transmission systems through portions of Utah, Nevada and California (the Project). IPA has irrevocably sold the entire capacity of the Project pursuant to Power Sales Contracts (the Contracts) to 36 utilities (the Purchasers). The Purchasers are unconditionally obligated to pay all costs of operation and maintenance and debt service, whether or not the Project or any part thereof is operating or operable, or its output is suspended, interrupted, interfered with, reduced, or terminated. IPA's consolidated financial statements are prepared in accordance with accounting principals generally accepted in the United States of America (GAAP) and consist of Management's Discussion and Analysis, consolidated balance sheets, consolidated statements of revenues and expenses, consolidated statements of cash flows and notes thereto. The consolidated balance sheets report IPA's assets and liabilities as of the end of the fiscal year. Investments are stated at fair value. No net assets are reported in the consolidated balance sheets because IPA is completely debt financed and the Contracts contain no provision for profit. The Contracts govern how and when Project costs become billable to the Purchasers. Expenses determined in accordance with GAAP that are not currently billable under the Contracts are deferred as net costs to be recovered from future billings to participants in IPA's balance sheets. The deferred GAAP expenses will be recovered in future periods when they become billable Project costs in future participant billings. Over the life of the Project, aggregate GAAP expenses will equal aggregate billed Project costs. The consolidated statements of revenues and expenses report the results of operations and the consolidated statements of cash flows report the resulting cash flows for the fiscal year. Net costs recovered (net costs to be recovered from billings to participants) reported in the consolidated statements of revenues and expenses reflects the extent to which billable Project costs are greater (less) than GAAP expenses during the fiscal year. The following table summarizes the financial condition and operations of IPA for 2005 and 2004 (in thousands):

	2005	2004
<b>Assets</b>		
Utility plant, net	\$ 1,337,681	\$ 1,393,688
Investments	606,638	601,988
Net costs to be recovered from future billings to participants	1,049,839	1,062,996
Other	114,106	133,114
<b>Total</b>	<b>3,108,264</b>	<b>3,191,786</b>
<b>Liabilities</b>		
Long-term debt	2,525,710	2,597,965
Commercial paper notes	384,000	386,200
Other	198,554	207,621
<b>Total</b>	<b>3,108,264</b>	<b>3,191,786</b>
<b>Revenues and Expenses</b>		
Operating revenues, net	606,231	567,794
Fuel	(178,487)	(168,633)
Other operating expenses	(201,755)	(196,106)
Net loss on coal sales	<u>(12,309)</u>	<u>(3,031)</u>
Operating income	213,680	200,024
Net interest charges	(203,113)	(213,974)
Nonoperating income	2,590	3,445
<b>Net costs recovered (net costs to be recovered from future billings to participants)</b>	<b>\$ 13,157</b>	<b>\$ (10,505)</b>

## Financial Highlights

REVENUES AND EXPENSES – Operating revenues increased \$38 million in 2005 when compared to 2004. The growth in revenue resulted from a corresponding growth in 2005 Project costs billed to the Purchasers that included a \$12 million increase for bond, subordinated note and commercial paper notes principal requirements, a \$13 million increase for previously deferred GAAP expenses recovered in current billings and a \$1 million decrease for capital improvements and required fund deposits.

Fuel expenses increased \$10 million from the prior year due to the following factors: a seller's shortage by IPA's largest coal supplier requiring incremental market priced coal; due to only lower quality coal being available on the market, declining fuel quality requiring approximately 3% more coal to achieve the same level of generation and a market price increase in cost of coal. The market price increase affected both the cost of purchasing coal above that supplied under the existing long-term coal contracts, and a full year of the redetermined price from IPA's largest single long-term coal contract as opposed to one-half year of the redetermined price during 2004. The increase in other operating expenses of \$6 million is principally due to increases in the obligations for retirement benefits.

The increase in net loss on coal sales of \$9 million from 2004 resulted from more difficult operating conditions in certain operating coal mines in which IPA has an ownership interest. The resulting higher operating costs at times exceeded the sales price in certain coal supply agreements that were executed when there was a buyers' market for coal.

The decrease in net interest charges of \$11 million is comprised of a reduction in interest on bonds and subordinated notes payable of \$5 million and an increase in earnings on investments of \$7 million offset by an increase in other interest charges of \$1 million. The reduction of interest on bonds and subordinated notes payable is primarily attributable to principal payments of \$127 million. The increase of earnings on investments is primarily attributable to a decrease in unrealized losses of \$8 million.

The decrease in non-operating income of \$1 million principally results from the effects of certain previously received purchasers' funds being recorded into income. At the time of receipt, these funds were recorded as a direct reduction to net costs to be recovered from future billings to participants to be recognized as income when expended for certain bond retirement and financing costs. During 2004, \$2 million of these funds were so expended and have been reflected as non-operating income.

UTILITY PLANT – The increase in utility plant of \$19 million resulted principally from expenditures to complete the replacement of air heater elements and a scrubber forced oxidation system as well as other major activities during 2005 that continue into 2006 including the installation of a digital control system, replacement of induced draft fan drives, and repairs to concrete water lines. Approximately \$13 million has been committed for ongoing work for these projects during 2006.

LONG-TERM DEBT – \$127 million of scheduled principal maturities were paid during 2005.

Standard & Poor's and Fitch rate the insured revenue refunding bonds AAA. Standard & Poor's rates the uninsured revenue refunding bonds A+, the variable rate bonds AAA/A1 and the commercial paper A1. Fitch rates the uninsured revenue refunding

## Financial Highlights (Continued)

bonds AA-, the variable rate bonds AAA/F1+ and the commercial paper F1+. Moody's rates the insured revenue refunding bonds Aaa, the uninsured revenue refunding bonds A1 and the variable rate bonds A1/VMIG1. Moody's did not rate the commercial paper. The bond ratings remain unchanged from 2004.

ELECTRIC INDUSTRY RESTRUCTURING – Federal and certain state legislatures and regulators, including the California State Legislature and the California Public Utilities Commission, have taken previous action to increase competition in electric markets and among electric utilities. These actions have been contributing factors to increased volatility in the electric power markets in California. In response to this volatility, the California State Legislature and the California Public Utilities Commission have acted reversing some of their previous actions and imposing additional regulation and involvement that may have the effect of reducing competition. Legislative and regulatory actions, both nationally and in California, have had and may yet have significant (yet hard to quantify) effects on IPA and the Purchasers.

## Consolidated Balance Sheets

June 30, 2005 and 2004 (in thousands)

	2005	2004
<b>ASSETS</b>		
UTILITY PLANT:		
Electric plant in service	\$ 2,861,999	\$ 2,843,168
Less accumulated depreciation	(1,524,318)	(1,449,480)
Total	1,337,681	1,393,688
RESTRICTED ASSETS:		
Securities purchased under agreements to resell	165,069	199,928
Investments	370,779	334,127
Interest receivable	1,943	3,200
Total	537,791	537,255
CURRENT ASSETS:		
Securities purchased under agreements to resell	55,426	61,352
Investments	13,315	3,329
Interest receivable	106	52
Receivable from participants	3,438	13,680
Fuel inventories	21,007	22,091
Materials and supplies	17,898	16,013
Other	7,359	7,021
Total	118,549	123,538
OTHER ASSETS:		
Unamortized bond expense - net	16,491	18,475
Net costs to be recovered from future billings to participants	1,049,839	1,062,996
Deferred fuel costs - net	17,994	21,843
Other	29,919	33,991
Total	1,114,243	1,137,305
<b>TOTAL</b>	<b>\$ 3,108,264</b>	<b>\$ 3,191,786</b>

*See notes to consolidated financial statements.*

## Consolidated Balance Sheets

June 30, 2005 and 2004 (in thousands)

	2005	2004
<b>LIABILITIES</b>		
LONG-TERM PORTION OF BONDS PAYABLE - Net	<u>\$ 1,572,048</u>	<u>\$ 1,627,798</u>
LONG-TERM PORTION OF SUBORDINATED NOTES PAYABLE - Net	<u>818,306</u>	<u>843,301</u>
ADVANCES FROM SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY	<u>11,550</u>	<u>11,550</u>
NON-CURRENT LIABILITIES:		
Pension and post-retirement obligations	60,029	43,233
Asset retirement obligations	25,360	23,947
Total	<u>85,389</u>	<u>67,180</u>
CURRENT LIABILITIES:		
Commercial paper notes	384,000	386,200
Current maturities of bonds payable	91,105	72,710
Current maturities of subordinated notes payable	44,251	54,156
Interest payable	49,149	49,273
Accrued credit to participants	10,807	38,412
Accounts payable and accrued liabilities	41,659	41,206
Total	<u>620,971</u>	<u>641,957</u>
COMMITMENTS AND CONTINGENT LIABILITIES (Notes 1, 4, 5, 9, and 11)		
<b>TOTAL</b>	<b>\$ 3,108,264</b>	<b>\$ 3,191,786</b>

*See notes to consolidated financial statements.*

## Consolidated Statements of Revenues and Expenses

For the Years Ended June 30, 2005 and 2004 (in thousands)

	2005	2004
<b>OPERATING REVENUES:</b>		
Power sales to participants	\$ 617,038	\$ 606,206
Less credit to participants	(10,807)	(38,412)
<b>Total</b>	<b>606,231</b>	<b>567,794</b>
COAL SALES	27,012	34,449
COST OF COAL SALES	39,321	37,480
<b>NET LOSS ON COAL SALES</b>	<b>12,309</b>	<b>3,031</b>
<b>OPERATING EXPENSES:</b>		
Fuel	178,487	168,633
Operation	63,370	55,506
Maintenance	35,782	34,417
Depreciation	78,976	82,312
Taxes and payment in lieu of taxes	23,627	23,871
<b>Total expenses</b>	<b>380,242</b>	<b>364,739</b>
<b>OPERATING INCOME</b>	<b>213,680</b>	<b>200,024</b>
<b>NONOPERATING INCOME:</b>		
Participant funds expended for debt reduction, refinancing and/or other financing costs	-	1,898
Other	2,590	1,547
<b>Total nonoperating income</b>	<b>2,590</b>	<b>3,445</b>
<b>INTEREST CHARGES:</b>		
Interest on bonds and subordinated notes payable	160,178	165,081
Financing expenses (principally amortization of bond discount, bond expense, and refunding charge on defeasance of debt)	56,034	54,013
Charge on defeasance/retirement of debt (Note 4)	-	809
Accretion of asset retirement obligations	1,413	1,334
Earnings on investments	(14,512)	(7,263)
<b>Net interest charges</b>	<b>203,113</b>	<b>213,974</b>
<b>NET COSTS RECOVERED ( TO BE RECOVERED) FROM BILLINGS TO PARTICIPANTS</b>	<b>\$ 13,157</b>	<b>\$ (10,505)</b>

*See notes to consolidated financial statements.*

## Consolidated Statements of Cash Flows

For the Years Ended June 30, 2005 and 2004 (in thousands)

	2005	2004
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>		
Cash received from power billings to participants	\$ 588,868	\$ 534,592
Cash received from coal sales	30,050	32,180
Other cash receipts	1,640	1,402
Cash paid to suppliers	(319,850)	(288,533)
<b>Net cash provided by operating activities</b>	<b>300,708</b>	<b>279,641</b>
<b>CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES</b>		
	<u>None</u>	<u>None</u>
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:</b>		
Proceeds from issuance of bonds	-	62,800
Defeasance and retirement of bonds	-	(71,080)
Bond issuance costs	(16)	(1,148)
Bond and subordinated note principal paid	(126,866)	(137,044)
Commercial paper principal paid	(2,200)	-
Interest paid on bonds and subordinated notes	(157,126)	(158,654)
Additions to electric plant in service	(21,913)	(26,558)
Other	(2,449)	(5,172)
<b>Net cash used in capital and related financing activities</b>	<b>(310,570)</b>	<b>(336,856)</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Purchases of investments	(1,246,238)	(345,789)
Proceeds from sales/maturities of investments	1,199,581	580,735
Interest on investments	15,734	22,311
<b>Net cash (used in) provided by investing activities</b>	<b>(30,923)</b>	<b>257,257</b>
<b>NET INCREASE (DECREASE) IN SECURITIES PURCHASED UNDER AGREEMENTS TO RESELL</b>	<b>(40,785)</b>	<b>200,042</b>
<b>SECURITIES PURCHASED UNDER AGREEMENTS TO RESELL:</b>		
Beginning balance	261,280	61,238
<b>Ending balance</b>	<b>\$ 220,495</b>	<b>\$ 261,280</b>

*See notes to consolidated financial statements.*

## Consolidated Statements of Cash Flows

For the Years Ended June 30, 2005 and 2004 (in thousands)

	2005	2004
<b>RECONCILIATION OF OPERATING INCOME TO NET</b>		
<b>CASH PROVIDED BY OPERATING ACTIVITIES:</b>		
Operating income	\$ 213,680	\$ 200,024
Other nonoperating income	2,590	1,547
Depreciation	78,976	82,312
Amortization	9,628	10,268
Financing expenses, net of amortization of bond discount, bond expense, and refunding charge on defeasance of debt	(2,599)	(2,452)
<b>Changes in operating assets and liabilities:</b>		
Receivable from participants	10,242	(11,108)
Fuel inventories	1,084	10,216
Materials and supplies	(1,885)	(744)
Other current assets	(338)	551
Pension and post retirement obligations	16,796	14,551
Accounts payable and accrued liabilities	139	(3,430)
Accrued credit to participants	(27,605)	(22,094)
<b>NET CASH PROVIDED BY OPERATING ACTIVITIES</b>	<b>\$ 300,708</b>	<b>\$ 279,641</b>

**SUPPLEMENTAL SCHEDULE OF NONCASH INVESTING AND FINANCING ACTIVITIES:**

Accounts payable and accrued liabilities included at June 30, 2005 and 2004, \$2,933,000 and \$2,619,000, respectively, that financed additions to electric plant in service and other assets.

*See notes to consolidated financial statements.*

# Notes to Consolidated Financial Statements

For the Years Ended June 30, 2005 and 2004

## 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

**ORGANIZATION AND PURPOSE** – Intermountain Power Agency (IPA), a separate legal entity and political subdivision of the State of Utah, was formed in 1977 by an Organization Agreement pursuant to the provisions of the Utah Interlocal Co-operation Act. The IPA Organization Agreement, as amended, has a term of sixty-seven years or longer in certain circumstances. IPA's membership consists of 23 municipalities which are suppliers of electric energy in the State of Utah. IPA's purpose is to own, acquire, construct, operate, maintain and repair a two-unit, coal-fired, steam-electric generating plant and switchyard located in Millard County, Utah and transmission systems through portions of Utah, Nevada and California (the Project). The operation and maintenance of the Project is managed for IPA by the Department of Water and Power of the City of Los Angeles (LADWP) in its capacity as Operating Agent pursuant to the Operating Agreement. LADWP has also contracted to purchase a portion of the electric energy generated from the Project (see Note 9). Personnel at the generating plant are employed by Intermountain Power Service Corporation (IPSC), a separate legal entity. Under a Personnel Services Contract (PSC), IPA is required to pay all costs incurred by IPSC, including employee pensions and benefits offered by IPSC to its employees.

**BASIS OF CONSOLIDATION** – The consolidated financial statements include the accounts of IPA and a proportionate share of the accounts of certain unincorporated operating coal mines in which IPA has acquired a 50% undivided interest in the assets and liabilities thereof.

**COAL OPERATIONS** – As part of IPA's fuel supply management program, IPA has acquired an undivided interest in the assets, liabilities and reserves of certain operating coal mines and has entered into arrangements for the management of the mines. IPA uses a portion of the coal taken from the mines for fuel. IPA's cost of such coal is the production cost adjusted for gains or losses resulting from coal sales to third parties.

**USE OF ESTIMATES IN PREPARING FINANCIAL STATEMENTS** – The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

**BASIS OF ACCOUNTING** – IPA maintains its records substantially in accordance with the Federal Energy Regulatory Commission Uniform System of Accounts, as provided by its Contracts (see Note 9), and in conformity with accounting principles generally accepted in the United States of America. IPA applies all of the pronouncements of the Governmental Accounting Standards Board (GASB). IPA also applies the pronouncements of the Financial Accounting Standards Board (FASB) that do not conflict with or contradict GASB pronouncements.

**UTILITY PLANT** – Electric plant in service is stated at cost which represents the actual direct cost of labor, materials, and indirect costs, including interest and other overhead expenses, net of related income during the construction period. Depreciation of electric plant in service is computed using the straight-line method over the estimated useful lives of the assets which range from five to thirty-five years and has historically included, in addition to assets recorded related to asset retirement obligations (see Note 8), estimates for other future costs related to the retirement of the Project recorded pursuant to Statement of Financial Accounting Standards

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

(SFAS) No. 71, *Accounting for the Effects of Certain Types of Regulation* accumulating to \$154,464,000 which amount is included in accumulated depreciation at June 30, 2005 and 2004. Retirements of electric plant in service, including the cost of removal and salvage, are charged to accumulated depreciation.

**PAYMENTS-IN-AID OF CONSTRUCTION** – IPA and the Southern California Public Power Authority (SCPPA), which is comprised of certain California Purchasers (see Note 7), have entered into the Southern Transmission System Agreement, as amended, (STS Agreement) whereby SCPPA has made payments-in-aid of construction totaling approximately \$633,908,000 to IPA for costs associated with the acquisition and construction of the southern transmission system of the Project (STS). Such payments-in-aid are recorded as reductions to utility plant.

**SECURITIES PURCHASED UNDER AGREEMENTS TO RESELL** – Securities purchased under agreements to resell are stated at fair value. Investments underlying securities purchased under agreements to resell are held by IPA as beneficial owner in book-entry form.

**INVESTMENTS** – The IPA Bond Resolution, as amended, stipulates IPA may invest in direct obligations of the United States Government and certain United States Government agencies; direct and general obligations of States; certificates of deposit and bankers' acceptances of certain qualifying banks; and repurchase agreements collateralized by securities which IPA would otherwise be permitted to purchase. Investments are held by IPA as beneficial owner in book-entry form. Management believes there were no investments held by IPA during the years ended June 30, 2005 and 2004 which were in violation of the requirements of the Bond Resolution.

Investments are stated at fair value. All investment income, including changes in fair value of investments, is recognized in the consolidated statements of revenues and expenses and reported as earnings on investments.

**FUEL INVENTORIES, MATERIALS, AND SUPPLIES** – Fuel inventories, principally coal, have been purchased for the operation of the utility plant. Such inventories are stated at cost (computed on a last-in, first-out basis). The replacement cost of fuel inventory is approximately \$3,300,000 greater than the stated last-in, first-out value at June 30, 2005 and \$5,000,000 greater at June 30, 2004. Materials and supplies are stated at average cost.

**UNAMORTIZED BOND EXPENSE, BOND DISCOUNT, AND REFUNDING CHARGE ON DEFEASANCE OF DEBT** – Unamortized bond expense and discount related to the issuance of bonds and the unamortized refunding charge related to the refunding of certain bonds are deferred and amortized using the interest method over the terms of the respective bond issues. Bonds payable have been reported net of the unamortized bond discount and refunding charge on defeasance of debt in the accompanying consolidated balance sheets.

**NET COSTS TO BE RECOVERED FROM FUTURE BILLINGS TO PARTICIPANTS** – Billings to participants are designed to recover power costs as set forth by the power sales contracts which principally include current operating expenses, scheduled debt principal and interest, and deposits into certain funds. Pursuant to SFAS No. 71, expenses determined in accordance with Generally Accepted Accounting Principles (GAAP), that are not currently billable as power costs, are deferred and classified as other assets in the accompanying consolidated balance sheets. The deferred GAAP expenses will be recovered in future periods as they become power costs and are included in future participant billings (see Note 3). Over the life of the plant, aggregate GAAP expenses will equal aggregate billable power costs.

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

Federal and certain state legislatures and regulators, including the California State Legislature and the California Public Utilities Commission, have taken previous action to increase competition in electric markets and among electric utilities. These actions have been contributing factors to increased volatility in the electric power markets in California. In response to this volatility, the California State Legislature and the California Public Utilities Commission have acted reversing some of their previous actions and imposing additional regulation and involvement that may have the effect of reducing competition. Legislative and regulatory actions, both nationally and in California, have had and may yet have significant (yet hard to quantify) effects on IPA and the Purchasers. If these effects, which are not currently determinable, were to cause the Purchasers to be unable to meet their future power sales contract payment obligations, IPA may then be required to apply the provisions of SFAS No. 101, *Regulated Enterprises - Accounting for the Discontinuation of the Application of SFAS 71* which requires that assets and liabilities recognized pursuant to SFAS No. 71 be removed from the balance sheet when the SFAS No. 71 application criteria is no longer met unless those costs continue to be recoverable through a separate regulatory billing.

**LONG-LIVED ASSETS** – Impairment of long-lived assets is determined in accordance with SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*. IPA evaluates the carrying value of long-lived assets based upon current and anticipated undiscounted cash flows, and recognizes an impairment when such estimated cash flows will be less than the carrying value of the asset. Measurement of the amount of impairment, if any, is based upon the difference between carrying value and fair value.

**DEFERRED FUEL COSTS** – Deferred fuel costs represent payments to renegotiate coal purchase commitments of existing coal supply contracts. These payments are being amortized as additional fuel cost over the future periods benefited under the renegotiated coal contracts.

**PENSION AND POST-RETIREMENT OBLIGATIONS** – IPA sponsors a defined benefit pension plan and a post-retirement medical plan that are accounted for pursuant to GASB Statement No. 27, *Accounting for Pensions by State and Local Governmental Employers*. No disclosures related to these plans are presented herein because amounts are not significant. IPSC sponsors contributory, defined benefit and post-retirement medical plans for its employees. Such pension and benefit amounts related to IPSC are accrued by IPA when they are determined to be expenses in accordance with SFAS No. 87, *Employers' Accounting for Pensions*, and SFAS No. 106, *Employers' Accounting for Post-retirement Benefits Other Than Pensions*, and will be paid to IPSC when they become billable under the PSC. The IPSC pension accumulated benefit obligation at June 30, 2005 and 2004 was approximately \$64,732,000 and \$45,000,000, respectively, and the fair value of assets held by the plan at June 30, 2005 and 2004 was approximately \$38,713,000 and \$33,270,000, respectively. The IPSC post-retirement medical plan accumulated post-retirement benefit obligation at June 30, 2005 and 2004 was approximately \$44,500,000 and \$39,000,000, respectively, and the fair value of assets held by the plan at June 30, 2005 and 2004 was approximately, \$10,490,000 and \$7,497,000, respectively. A liability has been recorded in the accompanying consolidated balance sheets equaling the excess of the benefit obligations over the fair value of the assets held by these plans.

**CONSOLIDATED STATEMENTS OF CASH FLOWS** – In reporting cash flows, IPA considers securities purchased under agreements to resell with an original maturity of three months or less to be cash equivalents. As more fully discussed in Note 4, the IPA Bond Resolution required the establishment of certain funds and prescribes the use of monies in these funds. Accordingly, the assets held in certain of these funds are classified as restricted in the accompanying consolidated balance sheets. In accordance with the GASB requirements, restricted securities purchased under agreements to resell are considered cash equivalents.

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

RECENTLY ISSUED STANDARDS ADOPTED – In July 2004, the GASB issued Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions* (GASB No. 45). GASB No. 45 requires state and local governmental employers to account for and report the annual cost of other postemployment benefits (OPEB) and the outstanding obligations and commitments related to OPEB in essentially the same manner as currently required pension obligations. Annual OPEB costs for most employers will be based on actuarially determined amounts that, if paid on an ongoing basis, generally would provide sufficient resources to pay benefits as they come due. The provisions of GASB No. 45 do not require governments to fund their OPEB plans. An employer may establish its OPEB liability at zero as of the beginning of the initial year of implementation. However, the unfunded actuarial liability is required to be amortized over future periods. GASB No. 45 is effective for IPA for periods beginning after December 15, 2006. IPA does not expect the adoption of GASB No. 45 to have a material impact on the consolidated financial statements.

In March 2005, the FASB issued Interpretation No. 47, *Accounting for Conditional Asset Retirement Obligations, an interpretation of FASB Statement No. 143* (FIN No. 47). FIN No. 47 clarifies that the term conditional asset retirement obligation, as used in SFAS No. 143, refers to a legal obligation to perform an asset retirement activity in which the timing and/or method of settlement are conditional on a future event that may or may not be within the control of the entity. The obligation to perform the asset retirement activity is unconditional even though uncertainty exists about the timing and/or method of settlement. Accordingly, an entity is required to recognize a liability for the fair value of a conditional asset retirement obligation if the fair value of the liability can be reasonably estimated. FIN No. 47 also clarifies when an entity would have sufficient information to reasonably estimate the fair value of an asset retirement obligation. FIN No. 47 is effective no later than the end of fiscal years ending after December 15, 2005. IPA does not expect the adoption of FIN No. 47 to have a material impact on the consolidated financial statements.

RECLASSIFICATION – Certain reclassifications have been made in the prior year financial statements to conform to classifications adopted in the current year which included, among others, a reclassification in the consolidated statement of cash flows to reflect accounts payable and accrued liabilities of \$2,619,000 at June 30, 2004 that financed additions to electric plant in service and other assets.

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

### 2. INVESTMENTS AND SECURITIES PURCHASED UNDER AGREEMENTS TO RESELL

At June 30, 2005 and 2004, securities purchased under agreements to resell and investments were as follows (in thousands):

	2005		2004	
	Fair Value	Weighted Average Maturity (Days)	Fair Value	Weighted Average Maturity (Days)
Securities purchased under agreements to resell:				
Restricted				
Held in funds established by the IPA Bond Resolution	\$ 165,069	1	\$ 199,928	1
Current:				
Held in funds established by the IPA Bond Resolution	53,209	1	59,138	1
Held in other funds	<u>2,217</u>	1	<u>2,214</u>	1
Total current securities purchased under agreements to resell	55,426		61,352	
Investments held in funds established by the IPA Bond Resolution:				
Restricted:				
U.S. Treasury Notes	17,194	423	22,582	619
U.S. Government Agencies	<u>353,585</u>	1,080	<u>311,545</u>	1,925
Total restricted investments	370,779		334,127	
Current - U.S. Government Agencies	13,315	1,518	3,329	1,316
<b>Total</b>	<b>\$ 604,589</b>	<b>674</b>	<b>\$ 598,736</b>	<b>1,047</b>

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

### 3. NET COSTS TO BE RECOVERED FROM BILLINGS TO PARTICIPANTS

Net costs to be recovered from billings to participants for the years ended June 30, 2005 and 2004 and the accumulated totals as of June 30, 2005 and 2004 consisted of the following (in thousands):

	For the Years Ended June 30,		Accumulated Totals as of June 30,	
	2005	2004	2005	2004
<b>Items in accordance with GAAP not billable to participants under the power sales contracts:</b>				
Interest expense in excess of amounts billable			\$ 452,454	\$ 452,454
Depreciation expense	\$ 78,976	\$ 82,312	1,629,706	1,550,730
Amortization of bond discount, bond expense, and refunding on defeasance of bonds	53,435	51,561	825,631	772,196
Accretion of interest on zero coupon bonds	3,176	5,644	348,564	345,388
Charge on retired debt	-	809	136,141	136,141
Cumulative effect of a change in accounting principle	-	-	18,241	18,241
Accretion of asset retirement obligations	1,413	1,334	4,210	2,797
Unrealized (gains) losses on investments	(539)	7,534	1,589	2,128
Amortization of deferred fuel costs	3,849	7,542	51,385	47,536
Accrued interest earnings	607	2,475	2,133	1,526
Accrued liabilities	14,701	10,421	56,604	41,903
Other	449	1,233	20,968	20,519
<b>Amounts billed to participants under the bond resolution and the power sales contracts:</b>				
Bond and subordinated note principal	(146,744)	(134,763)	(1,964,327)	(1,817,583)
Deferred fuel costs	-	-	(32,228)	(32,228)
Capital improvements	(23,019)	(27,180)	(195,804)	(172,785)
Reduction of required fund deposits	539	3,481	4,952	4,413
Participant funds expended for debt reduction, refinancing and/or other financing costs (Note 9)	-	(1,898)	(291,214)	(291,214)
<b>Total</b>	<b>(13,157)</b>	<b>10,505</b>	<b>1,069,005</b>	<b>1,082,162</b>
Net participant funds expended from (deposited into) the Bond Retirement and Financing Account (Note 9)	-	1,898	(19,166)	(19,166)
<b>(Net costs recovered) net costs to be recovered from billings to participants</b>	<b>\$ (13,157)</b>	<b>\$ 12,403</b>	<b>\$ 1,049,839</b>	<b>\$ 1,062,996</b>

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

### 4. BONDS PAYABLE

To finance the construction of the Project, IPA has sold Revenue and Revenue Refunding Bonds (the Senior Bonds) pursuant to IPA's Power Supply Revenue Bond Resolution adopted September 28, 1978, as amended and supplemented (the Bond Resolution) and IPA has sold Subordinated Revenue Refunding Bonds (the Subordinated Bonds) pursuant to IPA's Subordinated Power Supply Revenue Resolution adopted March 4, 2004, as supplemented (the Subordinated Bond Resolution). As of June 30, 2005 and 2004, for the Senior Bonds and the Subordinated Bonds (collectively, the Bonds) the principal amount of coupon bearing bonds and accreted value of zero coupon bonds payable consisted of the following (in thousands):

Series	Bonds Dated	Final Maturity on July 1	2005	2004
<b>Senior Bonds</b>				
1985 E	10-23-85	2018	\$ 161,700	\$ 167,800
1985 F	10-23-85	2018	162,400	168,400
1988 A	10-01-88	2006	941	1,506
1988 B	10-01-88	2006	12,163	19,458
1989 A	5-15-89	2006	6,475	9,008
1989 B	5-15-89	2006	6,267	8,725
1993 A	2-01-93	2004	-	1,510
1993 B	5-01-93	2004	-	455
1993 C	8-03-93	2014	13,330	19,960
1996 A	5-22-96	2014	86,755	86,755
1996 B	4-03-96	2016	214,495	227,695
1996 C	4-03-96	2017	67,525	67,525
1996 D	2-01-96	2023	120,980	121,675
1996 E	10-04-96	2009	69,010	85,130
1997 A	4-02-97	2016	19,060	19,215
1997 B	4-02-97	2019	249,855	250,295
1998 A	9-01-98	2020	268,855	273,855
1999 A	4-06-99	2019	37,765	39,495
2002 A	6-04-02	2013	95,835	95,835
2003 A	4-11-03	2021	287,225	287,225
2003 B	4-11-03	2005	15,495	15,495
<b>Subordinated Bonds</b>				
2004 A	3-10-04	2022	62,800	62,800
<b>Total Bonds payable</b>			<b>1,958,931</b>	<b>2,029,817</b>
Unamortized bond premium			7,505	12,536
Unamortized refunding charge - net			(303,283)	(341,845)
Current maturities of bonds payable			(91,105)	(72,710)
<b>LONG-TERM PORTION OF BONDS PAYABLE</b>			<b>\$ 1,572,048</b>	<b>\$ 1,627,798</b>

Interest rates on the Bonds payable outstanding at June 30, 2005 range from 2.20% to 6.50%.

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

The changes in Bonds payable for the years ended June 30, 2005 and 2004 are as follows (in thousands):

	2005	2004
Beginning balance	\$ 2,029,817	\$ 2,108,559
Additions:		
Accretion of interest on zero coupon bonds	1,824	2,723
Refunding Bonds issued	-	62,800
Deductions:		
Principal maturities and sinking fund payments	(72,710)	(74,125)
Bonds defeased/retired	-	(70,140)
<b>Ending balance</b>	<b>\$ 1,958,931</b>	<b>\$ 2,029,817</b>

The principal amounts of future maturities, sinking fund requirements and interest to be paid for the Bonds outstanding as of June 30, 2005 are shown below (in thousands). The interest amounts below are calculated based upon an interest rate of 2.408% for the 1985 Series E and F Bonds and the 2004 Series A Bonds which represents the weighted average interest rate on these bonds at June 30, 2005:

Year ending June 30:	Principal	Interest
2006	\$ 91,105	\$ 93,355
2007	102,520	88,196
2008	115,075	83,295
2009	124,125	77,247
2010	133,630	70,394
2011 - 2015	514,915	266,747
2016 - 2020	668,435	126,203
2021 - 2024	<u>209,970</u>	<u>13,098</u>
Total maturity value of bonds payable	1,959,775	
Less unaccreted interest on zero coupon bonds	(844)	
<b>Total</b>	<b>\$ 1,958,931</b>	<b>\$ 818,535</b>

The Bond Resolution stipulates that the Senior Bonds are direct and special obligations of IPA payable solely from and secured solely by (1) the proceeds from the sale of bonds (2) all revenues, rents, income, and receipts attributable to the Project and interest on all monies or securities held pursuant to the Bond Resolution and (3) all funds established by the Bond Resolution. The Subordinated Bond Resolution stipulates that the Subordinated Bonds are direct and special obligations of IPA payable from and secured by amounts on deposit in the Subordinated Indebtedness Debt Service Account. The Bond Resolution and the Subordinated Bond Resolution require that after the required monthly deposits of revenues have been made to the Operating Fund and the Debt Service Fund that revenues in amounts sufficient to provide for the debt service requirements of Subordinated Bonds be deposited each month into the Subordinated Indebtedness Debt Service Account. The security for the Subordinated Bonds has the same priority as the security for the Commercial Paper Notes (see Note 6); is senior to the security for the Subordinated Notes Payable and is junior to the security for the Senior Bonds.

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

FUNDS ESTABLISHED BY THE BOND RESOLUTION – The Bond Resolution requires that certain funds be established to account for IPA's receipts and disbursements and stipulates the use of monies, investments held in such funds and balances that are to be maintained in certain of the funds. Balances in the other funds are determined by resolution of the IPA Board of Directors. A summary of funds established by the Bond Resolution and the aggregate amount of assets held in these funds, including accrued interest receivable as of June 30, 2005 and 2004 is as follows (in thousands):

	2005	2004
Restricted assets:		
Debt Service Fund:		
Debt Service Account	\$ 133,389	\$ 116,204
Debt Service Reserve Account	241,096	243,708
Subordinated Indebtedness Fund -		
Debt Service Account	11,424	10,951
Reserve and Contingency Fund:		
Renewal and Replacement	2,641	1,430
Reserve Account	33,381	31,407
Self-Insurance Fund	7,438	7,388
General Reserve Fund (Note 9)	108,422	126,167
<b>Total restricted assets</b>	<b>537,791</b>	<b>537,255</b>
Operating Fund	66,630	62,519
<b>Total</b>	<b>\$ 604,421</b>	<b>\$ 599,774</b>

The reconciliation of the Operating Fund to the current assets as reported in the June 30, 2005 and 2004 consolidated balance sheets is as follows (in thousands):

	2005	2004
Current assets reported in consolidated balance sheets:		
Securities purchased under agreements to resell	\$ 55,426	\$ 61,352
Investments	13,315	3,329
Interest Receivable	106	52
Less securities purchased under agreements to resell not held in funds required by the Bond Resolution	(2,217)	(2,214)
<b>Operating Fund</b>	<b>\$ 66,630</b>	<b>\$ 62,519</b>

EARLY REDEMPTION OF BONDS – Bonds outstanding at June 30, 2005 are generally subject to redemption, in whole or in part, prior to maturity at the option of IPA. Redemption prices range from 100% to 102%, depending on the redemption period, plus accrued interest to the date of redemption.

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

**BONDHOLDER TENDER OPTION** – Currently, interest rates on the 1985 Series E and F bonds are adjustable periodically to rates based upon prevailing market conditions for maturities up to semiannual durations. The bondholders of these issues may, and in certain circumstances must, tender their bonds for redemption at par on any interest rate adjustment date.

**CREDIT AND LIQUIDITY FACILITIES** – IPA has obtained certain liquidity facilities to provide funds, if required, to pay the outstanding principal and interest of the 1985 Series E and F bonds. These liquidity facilities are in the form of standby bond purchase agreements and are in an amount equal to the outstanding principal portion of the 1985 Series E and F bonds. The liquidity facilities, if utilized, create subordinated bank notes. At June 30, 2005 and 2004, there were no borrowings under these agreements.

**COVENANTS** – The Bond Resolution has imposed certain covenants upon IPA which, among others, include a promise to establish rates sufficient to pay the bondholders scheduled interest and principal payments and to make such payments on a timely basis, keep proper books of record and account, and comply with certain financial reporting and auditing requirements. Management believes that it is in compliance with these covenants as of June 30, 2005 and 2004.

**DEFEASANCE OF DEBT** – During the year ended June 30, 2004, the proceeds of the sale of the 2004 Series A Bonds and certain other funds were used to retire \$68,269,000 of previously issued Bonds. Accordingly, all amounts related to the retired Bonds were removed from the consolidated balance sheet that resulted in an increase in the refunding charge on defeasance of debt of \$6,756,000. The aggregate outstanding principal amount of coupon bearing bonds and the maturity value of zero coupon bonds considered to be extinguished through defeasance at June 30, 2005 was \$328,825,000.

During the year ended June 30, 2004, \$1,871,000 of prior series Bonds were retired with cash held for such purposes by IPA (see Note 9). Accordingly, all amounts related to the retired Bonds were removed from the consolidated balance sheet, which resulted in a charge on retired debt during the year ended June 30, 2004 of \$809,000. Because these Bonds were not defeased through a refunding, the charge on defeased debt has been reflected as an expense in the accompanying consolidated statements of revenues and expenses.

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

### 5. SUBORDINATED NOTES PAYABLE

IPA and the California Purchasers (see Note 9) have entered into the Intermountain Power Project Prepayment Agreement (Prepayment Agreement). Pursuant to the Prepayment Agreement, a California Purchaser, upon providing IPA sufficient funds, can direct IPA to defease certain outstanding Bonds. In consideration for IPA's use of the California Purchaser's funds to defease outstanding Bonds, IPA issues to the California Purchaser a subordinated note or notes payable. Such subordinated notes payable are not subject to early redemption by IPA and are not transferable by the holder, but otherwise carry terms substantially equivalent to the defeased Bonds (subject to certain adjustments) and are junior and subordinate to Bonds payable and commercial paper notes. As of June 30, 2005 and 2004, the principal amount of interest bearing subordinated notes payable and the accreted value of certain other subordinated notes payable consisted of the following (in thousands):

Note Holder	Issue Date	Final Maturity	2005	2004
LADWP	2/10/2000	7/1/2020	\$ 488,922	\$ 516,197
LADWP	3/2/2000	7/1/2023	552,815	552,815
LADWP	5/2/2000	7/1/2021	58,630	58,630
LADWP	9/7/2000	7/1/2021	96,413	121,942
<b>Total subordinated notes payable</b>			<b>1,196,780</b>	<b>1,249,584</b>
Unamortized discount			(81,079)	(84,291)
Unamortized refunding charge			(253,144)	(267,836)
Current maturities of subordinated notes payable			(44,251)	(54,156)
<b>Long-term portion of subordinated notes payable</b>			<b>\$ 818,306</b>	<b>\$ 843,301</b>

The changes in subordinated notes payable for the years ended June 30, 2005 and 2004 are as follows (in thousands):

	2005	2004
Beginning balance	\$ 1,249,584	\$ 1,309,582
Additions - accretion of interest on zero coupon bonds	1,352	2,921
Deductions - principal maturities	(54,156)	(62,919)
<b>Ending balance</b>	<b>\$ 1,196,780</b>	<b>\$ 1,249,584</b>

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

The principal amounts of future maturities and interest to be paid of subordinated notes payable as of June 30, 2005 are as follows (in thousands):

Year ending June 30:	Principal	Interest
2006	\$ 44,251	\$ 58,499
2007	32,878	55,237
2008	31,778	53,275
2009	14,032	53,049
2010	31,166	50,731
2011 - 2015	389,687	201,980
2016 - 2020	347,970	109,716
2021 - 2024	305,018	7,116
<b>Total</b>	<b>\$ 1,196,780</b>	<b>\$ 589,603</b>

### 6. COMMERCIAL PAPER NOTES

An amended subordinated indebtedness resolution allows IPA to issue Commercial Paper Notes in amounts not to exceed \$386,200,000 outstanding at any one time. The Commercial Paper Notes outstanding at June 30, 2005 of \$384,000,000 bear interest at 2.20% to 2.85% with remaining maturities ranging between 1 and 132 days.

IPA has entered into certain credit agreements equal to the outstanding principal portion of the Commercial Paper Notes. The credit agreements will provide funds, if required, to pay the outstanding principal of the Commercial Paper Notes. The credit agreements, if utilized, create subordinated bank notes. At June 30, 2005 and 2004, there were no borrowings under these agreements.

### 7. ADVANCES FROM SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY

In accordance with the STS Agreement, SCPPA has funded an allocable portion of IPA's working capital reserves. The advances from SCPPA run concurrently with the life of the Project. Management believes that advances from SCPPA in the accompanying financial statements meet those required under the STS Agreement.

### 8. ASSET RETIREMENT OBLIGATIONS

IPA's transmission facilities are generally located upon land that is leased from the Federal and certain state governments. Upon termination of the leases, the structures, improvements and equipment are to be removed and the land is to be restored. Because these leases are expected to be renewed indefinitely and because of the inherent value of the transmission corridors, the leases have no foreseeable termination date and, therefore, the fair value of Asset Retirement Obligations (ARO) related to the transmission facilities cannot be reasonably estimated. IPA also has certain ARO related to other long-lived assets at or near the generation station site. These obligations are related to the reclamation of certain rights-of-way, wastewater ponds, settling ponds, landfills and other facilities that may affect ground water quality.

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

The reconciliation of the ARO for the fiscal years ended June 30, 2005 and 2004 is as follows (in thousands):

	2005	2004
Beginning balance	\$ 23,947	\$ 22,613
Accretion expense	1,413	1,334
Ending balance	\$ 25,360	\$ 23,947

### 9. POWER SALES AND POWER PURCHASE CONTRACTS

IPA has sold the entire capacity of the Project pursuant to Power Sales Contracts, as amended (Contracts), to 36 utilities consisting of six California municipalities (California Purchasers), Utah Power & Light Company (UP&L), twenty-three Utah municipalities (Utah Municipal Purchasers) and six rural electrical cooperatives (Cooperative Purchasers) (collectively, Purchasers). The California Purchasers, UP&L, Utah Municipal Purchasers and the Cooperative Purchasers have contracted to purchase approximately 75%, 4%, 14%, and 7%, respectively, of the capacity of the Project. The Contracts expire on June 15, 2027 and, as long as any of the Bonds are outstanding, cannot be terminated nor amended in any manner which will impair or adversely affect the rights of the bondholders. Under the terms of the Contracts, the Purchasers are obligated to pay their proportionate share of all operation and maintenance expenses and debt service on the Bonds and any other debt incurred by IPA, whether or not the Project or any part thereof is operating or operable, or its output is suspended, interrupted, interfered with, reduced, or terminated. In accordance with the Contracts, billings in excess of monthly power costs, as defined, are credited to Purchasers taking power in any fiscal year (Participants). IPA had accrued credits to Participants of \$10,807,000 as of June 30, 2005 and \$38,412,000 as of June 30, 2004, which have been charged to operating revenue of the respective years. Such credits to Participants are applied in the subsequent year to reduce power billings in accordance with the Contracts.

A Bond Retirement and Financing Account (BRFA) within the General Reserve Fund was established by the Forty-First Supplemental Power Supply Revenue Bond Resolution (the Forty-First Supplemental Resolution). Amounts deposited into the BRFA are to be used to purchase, redeem or defease outstanding IPA debt; for contributions required to be made by IPA in refunding bond issues; or for other financing costs since the BRFA was established. The Purchasers have elected to deposit funds into the BRFA in addition to the funds required to be paid by them to IPA for power supply costs. The participant funds deposited into the BRFA have been recorded as a direct reduction to net costs to be recovered from future billings to participants. Such funds deposited into the BRFA are recorded as revenue, under SFAS No. 71, when they are expended for related bond retirement and financing costs. During the year ended June 30, 2005, \$1,898,000 was expended for financing costs and has been reflected as nonoperating income in the accompanying consolidated statements of revenue and expenses. The total amount of unrecorded revenues remaining in the BRFA as of June 30, 2005 and 2004 was \$19,166,000.

### 10. RELATED PARTY TRANSACTIONS

LADWP, as Operating Agent, performed engineering and other services for the Project totaling approximately \$16,287,000 and \$18,161,000 for the years ended June 30, 2005 and 2004, respectively, which has been billed to IPA and charged to operations or utility plant, as appropriate. Operating Agent prepaid billings totaling \$1,236,000 are included in other current assets at June 30, 2005.

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

Power sales payments received from LADWP for the years ended June 30, 2005 and 2004 totaled \$387,336,000 and \$377,262,000, respectively. The receivables from LADWP at June 30, 2005 and 2004 were \$1,363,000 and \$6,061,000, respectively.

Power sales payments received from another of the California Purchasers, the City of Anaheim, for the years ended June 30, 2005 and 2004 totaled \$81,457,000 and \$79,980,000, respectively.

Subordinated notes payable have been issued to LADWP (see Note 5). Interest expense, including interest accretion, on the subordinated notes payable of \$59,427,000 and \$62,806,000 has been recorded for the years ended June 30, 2005 and 2004, respectively, of which \$4,824,000 and \$4,961,000 was payable at June 30, 2005 and 2004, respectively.

### 11. COMMITMENTS AND CONTINGENT LIABILITIES

**COAL SUPPLY** – At June 30, 2005, IPA was obligated under short and long-term take or pay coal supply contracts for the purchase and transportation of coal to the plant. The cost of coal is computed at a base price per ton, adjusted periodically for various price and quality adjustments. The contracts require minimum purchases of coal over the lives of the contracts through 2012 as follows (computed using the current price under the contracts) (in thousands):

Year ending June 30:

2006	\$	175,105
2007		168,699
2008		128,155
2009		101,551
2010		91,512
Thereafter		89,041

**Total** \$ 754,063

The actual cost of coal purchases under the coal supply contracts for the years ended June 30, 2005 and 2004 was \$127,171,000 and \$136,479,000, respectively.

**OTHER COMMITMENTS AND CONTINGENT LIABILITIES** – In June 2003, certain individuals and entities owning dairy farms in Utah and California brought suit in California court against, among others, IPA, LADWP and IPSC alleging damages to the plaintiffs' dairy cattle resulting from stray voltage allegedly emitted from the STS. Although the prayer for relief in the complaint does not specify the damages sought, elsewhere in the complaint the plaintiffs identify the amount of \$100,000,000 in compensatory damages. In administrative notices of claim filed with IPA prior to the filing of the suit, the plaintiffs identified special damages of \$100,000,000 and general damages in the same amount.

Based upon a motion filed by the defendants in the case, the California courts have stayed the suit in California, ruling that if the plaintiffs wish to proceed with litigation, they should do so in Millard County, Utah. The plaintiffs have refiled the suit in Salt Lake County. A motion to dismiss or to transfer the venue to Millard County has been argued before the court. A ruling on the motion is pending.

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

Based upon preliminary investigation, management does not believe that IPA is responsible for the alleged stray voltage and will vigorously defend these claims. In the event, however, that damages were to be awarded to the plaintiffs and such damages were payable by IPA, (the amount of which, if any, is not presently determinable) such damages in excess of insurance reimbursements would be recovered through future participant billings.

### 12. ESTIMATED FAIR VALUE OF FINANCIAL INSTRUMENTS

The estimated fair value of a financial instrument is the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale. The carrying amounts of securities purchased under agreements to resell and the commercial paper notes are considered reasonable estimates of fair values. Quoted market prices are used to estimate fair value of investments. The fair value of bonds payable was estimated using yields derived from market prices for similar securities. Under these yields, market prices were estimated to call date, to par call date, and to maturity. The lower of the three price estimates was used for each individual maturity.

The carrying amounts and estimated fair values of financial instruments as of June 30, 2005 and 2004 are as follows (in thousands):

	2005		2004	
	Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value
<b>Financial assets:</b>				
Securities purchased under agreements to resell	\$ 220,495	\$ 220,495	\$ 261,280	\$ 261,280
Investments	384,094	384,094	337,456	337,456
<b>Total financial assets</b>	<b>\$ 604,589</b>	<b>\$ 604,589</b>	<b>\$ 598,736</b>	<b>\$ 598,736</b>
<b>Financial liabilities:</b>				
<b>Bonds payable:</b>				
Long-term portion	\$ 1,867,826	\$ 1,975,130	\$ 1,957,107	\$ 2,073,518
Current maturities	<u>91,105</u>	<u>91,105</u>	<u>72,710</u>	<u>72,710</u>
<b>Total bonds payable</b>	<b><u>1,958,931</u></b>	<b><u>2,066,235</u></b>	<b><u>2,029,817</u></b>	<b><u>2,146,228</u></b>
<b>Subordinated notes payable:</b>				
Long-term portion	1,152,529	1,234,303	1,195,428	1,220,092
Current maturities	<u>44,251</u>	<u>44,251</u>	<u>54,156</u>	<u>54,156</u>
<b>Total subordinated notes payable</b>	<b><u>1,196,780</u></b>	<b><u>1,278,554</u></b>	<b><u>1,249,584</u></b>	<b><u>1,274,248</u></b>
Commercial paper notes	384,000	384,000	386,200	386,200
<b>Total financial liabilities</b>	<b>\$ 3,539,711</b>	<b>\$ 3,728,789</b>	<b>\$ 3,665,601</b>	<b>\$ 3,806,676</b>

## Notes to Consolidated Financial Statements (Continued)

For the Years Ended June 30, 2005 and 2004

### 13. SUBSEQUENT EVENTS

On July 20, 2005, IPA issued subordinated notes payable to LADWP in the amount of \$92,385,000. The proceeds from the issuance of the subordinated notes were used to defease \$92,385,000 of previously issued Bonds. In connection therewith, IPA deposited cash and U.S. Government securities into an irrevocable trust, the principal and interest from which will be sufficient for the payment of the remaining principal and interest payments on the defeased Bonds until the first call dates of the respective issues. Accordingly, all amounts related to the defeased Bonds were subsequently removed from the balance sheet which resulted in an increase in the refunding charge on defeasance of debt of \$6,584,000. The refunding reduced total debt service payments over the next 14 years by \$2,989,000 and results in an economic gain (i.e., the difference between the present value of the debt service payments on the old and the new debt) of \$1,093,000.

In July 2005, IPA entered into three forward starting interest rate exchange agreements (Swaps). The Swaps have a combined notional amount of approximately \$356,000,000. In April 2006, IPA plans to issue variable rate refunding bonds to refund its remaining 1996 Series B Bonds. Coincident with the refunding, the Swaps will synthetically convert the variable rate on the refunding bonds to a fixed rate of 3.775%. The combined terms and notional amounts of the Swaps exactly match the refunding bonds.

## Supplemental Schedule

Supplemental Schedule of Changes in Funds Established by the  
IPA Revenue Bond Resolution for the Years Ended June 30, 2004 and 2005 (in thousands)

	Restricted Assets											
	Revenue Fund	Operating Fund	Debt Service Fund		Subordinated Indebtedness Fund		Reserve and Contingency Fund			Self- Insurance	General Reserve	Total
			Debt Service Account	Debt Service Reserve Account	Debt Service Account	Debt Service Reserve Account	Renewal and Replacement	Reserve Account				
BALANCE, JULY 1, 2003	NONE	\$ 53,339	\$ 116,656	\$ 252,145	\$ 12,672	\$ 16,303	\$ 1,138	\$ 38,409	\$ 7,515	\$ 152,329	\$ 650,506	
<b>ADDITIONS:</b>												
Proceeds from issuance of Bonds	—	—	—	—	—	—	—	—	—	62,800	62,800	
Power billings received	\$ 534,592	—	—	—	—	—	—	—	—	—	534,592	
Other revenues	1,402	—	—	—	—	—	—	—	—	—	1,402	
Investment earnings	20,752	(159)	(3)	(11,134)	(1)	(451)	(328)	(798)	(127)	(488)	7,263	
Other assets	—	—	—	—	—	—	—	—	—	1,700	1,700	
<b>Total</b>	556,746	(159)	(3)	(11,134)	(1)	(451)	(328)	(798)	(127)	64,012	607,757	
<b>DEDUCTIONS:</b>												
Defeasance of bonds	—	—	672	3,507	—	—	—	—	—	66,901	71,080	
Operating expenditures	—	258,288	—	—	—	—	—	—	—	224	258,512	
Construction expenditures	—	—	—	—	—	—	26,558	—	—	—	26,558	
Interest paid	—	—	87,774	—	70,880	—	—	—	—	—	158,654	
Bond and subordinated note principal paid	—	—	74,125	—	62,919	—	—	—	—	—	137,044	
Other assets	—	—	—	—	—	—	—	—	—	5,493	5,493	
Bond issuance costs	—	—	—	—	—	—	—	—	—	1,148	1,148	
<b>Total</b>	—	258,288	162,571	3,507	133,799	—	26,558	—	—	73,766	658,489	
<b>TRANSFERS:</b>												
Transfer of revenues to other funds	(556,746)	267,627	162,122	—	132,079	—	39,273	—	—	(44,355)	—	
Other transfers	—	—	—	6,204	—	—	—	(6,204)	—	—	—	
Excess fund balances released to Revenue Fund	15,852	—	—	—	—	(15,852)	—	—	—	—	—	
Excess fund balances released to General Reserve Fund	(15,852)	—	—	—	—	—	(12,095)	—	—	27,947	—	
<b>Total</b>	(556,746)	267,627	162,122	6,204	132,079	(15,852)	27,178	(6,204)	—	(16,408)	—	
BALANCE, JUNE 30, 2004	NONE	\$ 62,519	\$ 116,204	\$ 243,708	\$ 10,951	NONE	\$ 1,430	\$ 31,407	\$ 7,388	\$ 126,167	\$ 599,774	

(Continued)

## Supplemental Schedule

Supplemental Schedule of Changes in Funds Established by the  
IPA Revenue Bond Resolution for the Years Ended June 30, 2004 and 2005 (in thousands)

	Restricted Assets										
	Revenue Fund	Operating Fund	Debt Service Fund		Subordinated Indebtedness Fund		Reserve and Contingency Fund		Self-Insurance	General Reserve	Total
			Debt Service Account	Debt Service Reserve Account	Debt Service Account	Debt Service Reserve Account	Renewal and Replacement	Reserve Account			
<b>BALANCE, JULY 1, 2004</b>	NONE	\$ 62,519	\$ 116,204	\$ 243,708	\$ 10,951	NONE	\$ 1,430	\$ 31,407	\$ 7,388	\$ 126,167	\$ 599,774
<b>ADDITIONS:</b>											
Power billings received	\$ 588,868	—	—	—	—	—	—	—	—	—	588,868
Other revenues	1,640	—	—	—	—	—	—	—	—	—	1,640
Investment earnings	17,307	10	106	(2,612)	—	—	105	(213)	50	(241)	14,512
Other receipts	—	—	—	—	—	—	—	—	—	50	50
Other assets	—	—	—	—	—	—	—	—	—	152	152
<b>Total</b>	<b>607,815</b>	<b>10</b>	<b>106</b>	<b>(2,612)</b>	<b>—</b>	<b>—</b>	<b>105</b>	<b>(213)</b>	<b>50</b>	<b>(39)</b>	<b>605,222</b>
<b>DEDUCTIONS:</b>											
Operating expenditures	—	292,357	—	—	—	—	—	—	—	97	292,454
Construction expenditures	—	—	—	—	—	—	21,913	—	—	—	21,913
Interest paid	—	—	85,671	—	71,455	—	—	—	—	—	157,126
Bond and subordinated note principal paid	—	—	72,710	—	54,156	—	—	—	—	—	126,866
Commercial paper principal paid	—	—	—	—	2,200	—	—	—	—	—	2,200
Bond issuance costs	—	—	—	—	—	—	—	—	—	16	16
<b>Total</b>	<b>—</b>	<b>292,357</b>	<b>158,381</b>	<b>—</b>	<b>127,811</b>	<b>—</b>	<b>21,913</b>	<b>—</b>	<b>—</b>	<b>113</b>	<b>600,575</b>
<b>TRANSFERS:</b>											
Transfer of revenues to other funds	(607,815)	296,458	175,460	—	128,284	—	30,565	2,187	—	(25,139)	—
Excess fund balances released to General Reserve Fund	—	—	—	—	—	—	(7,546)	—	—	7,546	—
<b>Total</b>	<b>(607,815)</b>	<b>296,458</b>	<b>175,460</b>	<b>—</b>	<b>128,284</b>	<b>—</b>	<b>23,019</b>	<b>2,187</b>	<b>—</b>	<b>(17,593)</b>	<b>—</b>
<b>BALANCE, JUNE 30, 2005</b>	NONE	\$ 66,630	\$ 133,389	\$ 241,096	\$ 11,424	NONE	\$ 2,641	\$ 33,381	\$ 7,438	\$ 108,422	\$ 604,421