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A Report on the Pipe Organ
At the El Dorado County Fairgrounds, Placerville, CA

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1. Scope, Purpose and Rationale

In January 2015 Mary Cory, Administrator for the El Dorado County Historical Museum in Placerville, California, contracted with my firm to survey the present state of the Bergstrom pipe organ owned by the Museum and located at the adjacent Fairgrounds. On January 23 two of my associates, Rick Simms and Paul Dessau, and I inspected the organ to gather data and to photograph the instrument onsite. At that time we also met with Ms. Cory and Mr. Mans Kjellin of the Museum.

This report documents the history, location, specification and condition of the organ in order to update records at the Museum and at the Organ Historical Society and to provide a basis upon which to estimate the cost and procedures involved in dismantling and crating the organ for removal and eventually for possible future conservation efforts.

Our examination of the instrument and our knowledge of the scarcity of Bergstrom's surviving instruments argues for at least careful preservation and if possible a thorough conservation or restoration effort. Such instruments played an important role in the religious and social life of their time and place. This artifact of considerable visual and tonal beauty is likely one of the last three or four of Bergstrom's organs in existence. In our view this organ is eminently and worthily restorable to playing condition, should that be desired.

Because John Bergstrom was one of the very earliest and most prolific of nineteenth-century organ builders in California, where such builders were far less numerous than in states further east, it would be a serious loss to our local cultural patrimony should we fail to recognize and preserve what is now the largest remaining instrument by this highly regarded artisan.

This written report is accompanied by an extensive collection of photos made at the time of our visit and supplied on a removable thumb drive delivered to the Museum. Four sample photos are attached to the copy emailed this date to the Museum.

While we have not copyrighted this information, we would appreciate credit whenever this report or portions of it may be supplied to other parties.

2. History and Provenance

John Bergstrom (1823-1907), an organ builder originally from Gothenburg, Sweden, operated his business in San Francisco first as a cabinet maker, later as an organ builder, from 1865-1891 assisted by his two sons and other staff. The earliest pipe organ from Bergstrom's San Francisco operation is dated from around 1872. After relocating his firm to Minneapolis, MN, John Bergstrom returned to San Francisco where he resumed building organs from 1893-1898.

An article and photo in the *[El Dorado County?] Times* of December 1, 1954 shows the organ in the "old" Federated Church of Placerville and states that it was "brought to Placerville from the First Methodist church in Oakland in 1910, but it was believed to have been at least 40 years old then." A placard now affixed to the front of the organ case reads: "First Pipe Organ in El Dorado County / Purchased for $2500.00 in 1904 by the Placerville Methodist Church. Dismantled, moved and restored through months of tireless effort by Mr. and Mrs. Neal Sisson."

A chronological list of organs made by the Bergstrom firm published in *Forgotten Organ Builders of Old California 1855-1900* by James Lewis (Exeter, NH: 2012) shows a total of sixty-six organs, including one built for the First Methodist Church of Oakland in 1883. This list is nearly identical with a booklet advertising organs by John Bergstrom & Sons printed in the late nineteenth century which shows organ number 28 built for the First Methodist Episcopal Church, Oakland, CA. A description of the firm's "Size No. 8" from the same document shows a specification exactly matching that of the organ in Placerville.

Lewis' description and photo of the Oakland organ (pp. 20-22) matches very closely the organ in Placerville with the exception of the presence of two reed stops in the Swell division. As we were unable to inspect thoroughly the Swell box due to lack of convenient access (there is at present only a low, narrow, horizontal tuning hatch on the front of the Swell box for servicing what was once the Oboe/Bassoon), it may be that a second reed stop was provided for, though space for it seems unlikely. The original Oboe/Bassoon rank in the Swell division has been replaced by a Gamba, likely of much later, possibly German manufacture. This appears to be the only change to have been made over the years to the organ's specification, an alteration that could be remedied by replacing the Gamba rank with a period Oboe/Bassoon of typical scale.

The case design, mechanical stop and key action, wind system, tonal specification and facade decoration are typical of late nineteenth-century American instruments, not surprising as Bergstrom had worked with an organ building company in Boston

before moving west. The quality of the workmanship is very high, exhibiting careful joinery, excellent wood, well-laid out mechanical and wind connections, tasteful decorative elements and professionally built pipework. What once may have been decorative rosettes or medallions of uncertain shape are missing in the cabinetry above the console.

A search for inscriptions that might further identify the date of manufacture, craftsmen and original location of the organ inside the bungs on the Swell and Great chests and on external surfaces of other components unfortunately did not yield much information. Similarly constraints of time did not permit a thorough investigation and cataloging of all the various components of the organ, but enough information has been obtained with great certainty, we believe, to identify the builder as John Bergstrom of San Francisco. It was likely completed in the year 1883 for the First Methodist Church of Oakland.

2. Present Location

The Bergstrom Organ is located in the Fairgrounds in an exhibit hall of cinder block construction with an arched roof supported by wooden trusses built in the early 1950's. The hall is about 100 feet long, 50 feet wide and 25 feet high. The organ is located in the center of the hall toward the back wall about 15 feet forward. The hall is on ground level with a concrete slab floor and is accessed by a pair of single width doors at the front and at the rear. The room appears to be rain proof and is equipped with an overhead gas heater and electrical lighting.

3. Case

The case is in the style of American Victorian organs of the late nineteenth century, of solid wood which shows multiple applications of stain and paint. Presently the case appears dark brown. The case footprint is 14 feet 8 inches wide by 11 feet deep by 22 feet height. The tall C of the Open Diapason in the center of the facade has been cut down to fit in the building. A metal truss rod approximately 1.5" in diameter passes horizontally though holes cut in the two sides of the case and is attached to the side walls of the building at a height of about 19'. Mr. Kjellin believes this and other similar rods in the building do not serve as structural support but rather as a means of displaying exhibit materials.

The case has an impost at seven feet above the floor. On either side of the console are two side panels that can be removed to allow access on each side of the case. Small windows fitted with clear acrylic or similar material have been cut into each of these side panels to provide a view of the interior of the organ.

The front of the case is in three parts with two side panels that remove to provide access. Six stenciled facade pipes from the Pedal Cello and one from the Open

Diapason are arranged in two side flats of seven pipes each, while a center flat of thirteen pipes contains the lowest notes of the Open Diapason. Presently the placement of the pipes in the side flats is not symmetrical, probably due to inattention. Below the center flat is the attached console, which sits on a raised platform that supports the pedalboard and the bench. The straight, flat pedal keys are slightly recessed in the raised platform. This platform projects outward in front of the case 3 feet 1 inch wide by 5 feet 3 inches deep.

Behind the case is a wooden box, 3 feet 6 inches square by 4 feet high, containing an electrical blower. There is no back to the case itself, the pipes of the 16' Bourdon rank providing a partial wall together with the back of the swell box.

4. Wind System

The original water motor has been removed and replaced by an electrical blower with a 10-inch galvanized duct to the existing reservoir that distributes the air to the various chests. There is a butterfly valve in the duct that is attached to the top of the reservoir by a string to regulate the wind pressure. When the top of the reverse double-fold reservoir falls due to a sudden request for air, the butterfly valve opens allowing more air to the reservoir.

Below the reservoir are the three original single-fold feeder bellows with a maximum opening of 7½". These are coupled to a crankshaft originally powered by perhaps a water motor. The bellows are under the double-rise reservoir. The reservoir is 8' wide by 5' 6" deep. The Great and Swell Chest trunks are both 7½" by 9½" outside dimensions. The Pedal Chest trunk also measures 4½" by 7" o.d. There are two wind trunks to the offset Cello chests measure 4¾" x 4¾" o.d.

Two drawings showing the general layout of the wind system appear at the end of this report.

5. Console

The organ has a compass of 58 keys and corresponding pipes from C to a^3 on both the Great and Swell. The octave span is 6-5/16 inch. Keys are of wood covered in ivory for the naturals, ebony for the sharps, all are present, nine keys are missing parts of the ivory coverings. It should be noted that strict new regulations govern replacement of elephant ivory, which may affect restoration efforts. The pedal has a compass of 27 wooden keys from CC to d^1 with an octave span is 18-3/8 inch.

The console is arranged with four stop jambs on either side of the keyboards. Stop knobs have angled engraved ivory faces. The oval ivory nameplate centered above the upper manual reads "Bergstrom & Co. / San Francsico".

Three sets of two buttons each between the keyboards control the manual and pedal couplers. Starting from the left the first set controls what is assumed to be the Swell to Pedal coupler, as the label is missing; the second set controls the Great to Swell coupler, but the label is broken; and the right-most set controls the Great to Pedal coupler. The buttons activate large pneumatic motors to move the couplers; without wind pressure, however, we were unable to describe their action in more detail. Two of the couplers are probably also controlled by two foot pedals below the keydesk.

The left jamb contains the Swell and Bass stop knobs with stop names given here as on they appear on the organ:

The top tier stops are the Sw. Oboe and Sw. Bassoon, reflecting the treble/bass split of this rank. As noted above, this reed stop has been replaced by an 8' Gamba though the stop labels have not been changed. The second tier includes the Sw. Flautino, and the Sw. Flute Traverso, while on third tier are the Sw. Stopd. Diapason, Sw. Viola Treble and Sw. Viola Bass. The lowest tier includes the Ped. Cello (label missing) and the Ped. Bourdon.

The right jam contains the stop knobs for the Great:

On the top tier are the Sw Tremulant and Gr. Dulciana. The second tier includes the Gr. Fifteenth, Gr. Twelfth (label missing) and Gr. Melodia. The third tier has Gr. Octave, Gr. Flute Harmonic. The fourth tier has an open hole perhaps for a blower signal, to the right of which is the Gr. Open Diapason.

There is a construction grade metal electrical box to the left side of the console to start the blower motor. Above the switch is a small slit in the panel that likely contained a wind gauge. The mechanization for that is not present.

The bench is on a platform 3 foot 1 inch deep by 5 feet 3 inches wide and about 7 inches high. The pedal keys are slightly lower than the surface of the platform. We believe that the bench has been modified to add a back support, though such a change appears already present in a photo of the organ from the First Methodist Church in Oakland, presumably before it was moved to Placerville.

6. Playing Action

The organ has a tracker key action of typical construction. The trackers are of 1/16" x 3/8" wood material. Key dip is estimated to be 5/8". The great trackers are fanned out to meet the pull downs of the chest, probably using backfalls. The great chest has 8 pipes of the lower octave offset on the right side to balance space and weight. The swell has a roller board to distribute the key trackers to the chest.

The pedal keys have trackers that traverse the lower portion of the organ under the reservoir to the back roller board under the Bourdon chest. The rollers extend to each end of the roller board to provide trackers to the two offset Cello chests.

The upper keyboard appears to be the Great, while the lower keys control the Swell.

7. Wind Chests

There are five chests, Great, Swell, Pedal, and two for the offset Cello.

The Great measures 94½" wide 40½" deep and 10½" high. There is a wind trunk on the left side. The Swell chest is 82" wide, 32" deep and 8" high. The two chests are the typical slider tracker pull-down construction. Wooden pallets are covered in two layers of material, one leather, one felt? Leather seals on bungs and on pallets show signs of stiffening. The Swell chest bung has been sealed with duct tape on most of three sides.

The Pedal chest is of tracker pull-down and ventil construction.

The two Cello chests are placed on either side of the interior at the impost level with a ventil to control the air supply. The left side chest is 45" wide 11½" deep and 12" high with 14 pipes. The lowest six pipes are offset to the facade using conduits of zinc about 1¼" in diameter.

The right side is 42" wide, 9½" deep and 12" high with 13 pipes. The lowest six pipes are in the facade using conduits of zinc about 1-¼ inches in diameter.

Specifications

Modern Names	Stop Knob Names
Great	
8' Diapason	Gr. Open Diapason
8' Stopped Diapason	Gr. Flute Harmonic
4' Octave	Gr. Octave
4' Harmonic Flute	Gr. Melodia
2-2/3' Twelfth	Blank
2' Octave	Gr. Fifteenth
8' Dulciana	Gr. Dulciana
Swell	
8' Oboe (replaced by a Gamba)	Sw. Oboe [divided stop]
8' Bassoon (replaced by a Gamba)	Sw. Bassoon [divided stop]
8' Flautino	Sw. Flautino
4' Flute Tranverso	Sw. Flute Traverso

8’ Stopped Diapason		Sw. Stopd Diapason
8’ Treble Viola		Sw. Viola Treble [divided stop]
8’ Bass Viola		Sw. Viola Bass [divided stop]
	Pedal	
16’ Bourdon		Ped. Bourdon
8’ Cello		Ped. Cello [label missing]

Accessories:
couplers: Great to Swell, Great to Pedal, Swell to Pedal [missing label]
Swell tremulant, balanced swell shoe, two pedal hitch downs [unknown function]

8. Pipework

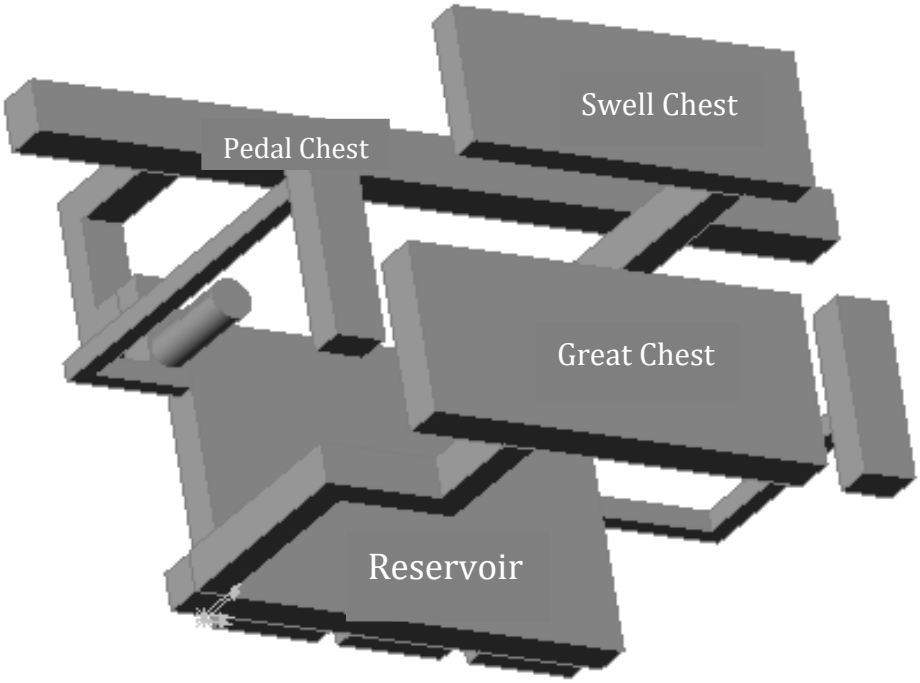
In addition to the missing Oboe/Bassoon rank noted above, subsequently replaced with the Gamba rank, all ranks of the Swell division are present and complete. Missing from the Great division are nine pipes from the Dulciana rank and one from the Twelfth. One of the highest pipes in the Pedal Bourdon is also missing. Some of the pipes in the Great division have been placed in wrong locations, many are bent, and there is considerable damage from inattentive cone tuning or cutting slits into the tops of the pipes. Many of the pipes are fitted with tuning collars.

Standard pipe making materials were used: zinc, spotted metal (an amalgam of tin and lead) and wood. We did not see pipes of pure tin or lead. Generally there is considerable dirt all over the chests and pipework. All rackboards are present and in good condition. The stenciling on the facade pipes is generally is good condition and quite attractive, though the colors may have faded.

Flue Pipe Scales in inches, lowest C

Name	**ID**	**Cut up**	**Width**
Diapason (Tenor E)	3	5/8	2½
Stpd Diapason	3 ¼ wide x 4 deep		
Octave	3-316	1-9/16	2-3/8
Harmonic Flute	2-3/8		
Twelfth	1-7/8	9/16	
Octave	1½		
Duliciana	2¼	7/16	1-11/16

Bergstrom Wind System 1
The two small violoncello chests are on each side.
The three feeder bellows are under the reservoir.



Bergstrom Wind System 2
The two small violoncello chests are on each side.