

# Build a 9'x11' HO Shelf Layout of the Trona Railway



By Bruce Petty

You can hear them long before the old Baldwin diesels are seen crossing the desert basin with train load of phosphates. This train is leaving Trona for Searles Junction, the Kerr-McGee Plant is in the background. *Photo by; Bruce Petty*

The Trona Railway's Baldwin diesels, rumbled across the Mojave Desert basin ringed by far distant Mountain Ranges. Soon the heavily laden potash train pulls into the Searles Station interchange, located midway along Southern Pacific's Jawbone branch, running from Mojave to Lone Pine, CA. An old pair of Baldwin diesels pull into one of the yard tracks to drop their string of loaded hopper cars. The crew then makes a runaround move to pick empties and their caboose for the 30 mile trip back to the Kerr-McGee plant at Trona, CA. This is one of my nostalgic memories of how it was in 1973 on the Trona Railway when I photographed the line.

The mammoth Kerr-McGee plant before 1971, was owned by American Potash & Chemical Company, sets along the old shore line of Searles Dry Lake. The crusted white surface gives little indication of what lies few feet below. Brine, rich in chemical salts is pumped from the lake bed into the plant for processing into dried Soda Ash and other chemicals used in industry.

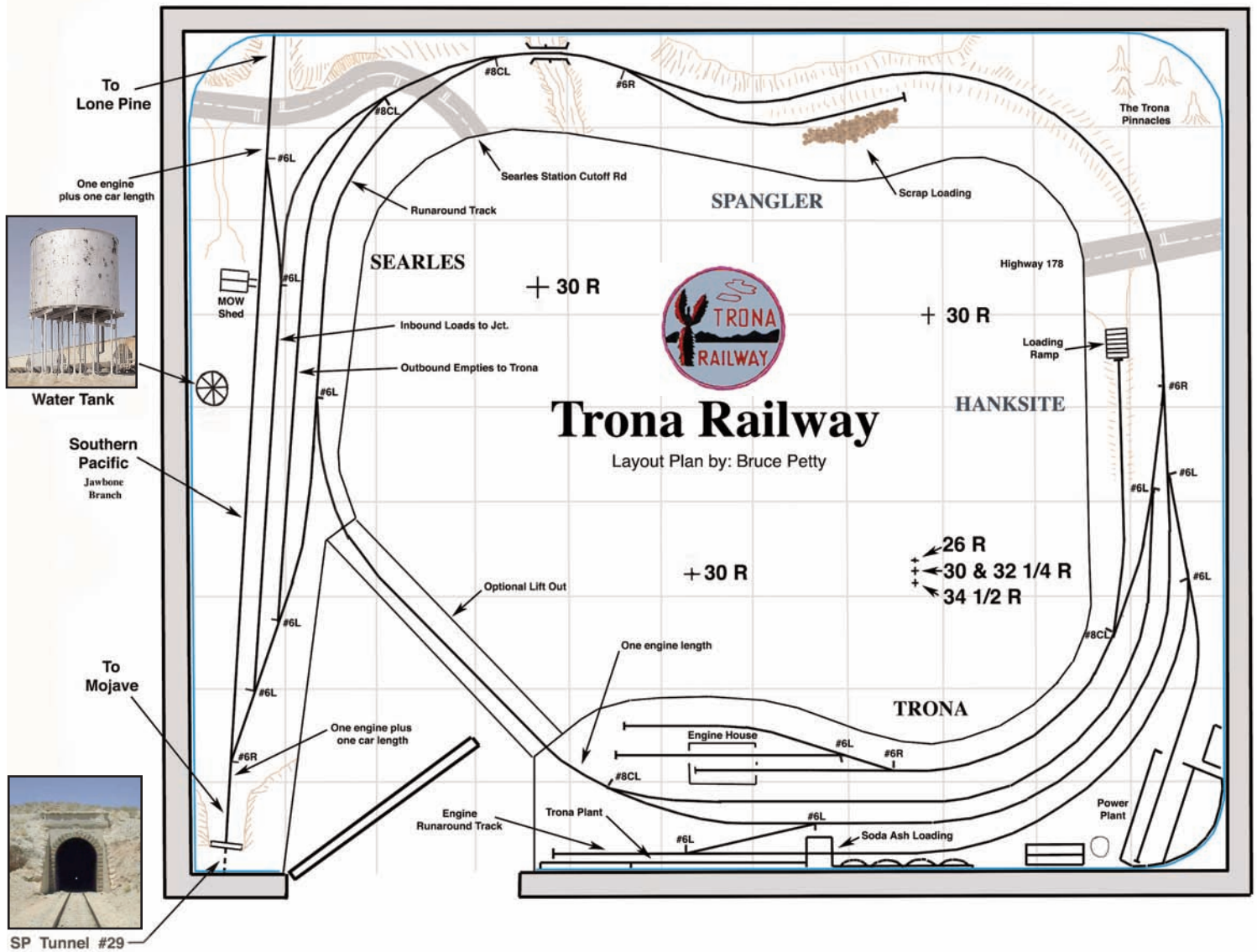


## HO Layout Design

The Trona Railway would make a fine short line to model for any time period from its construction date in 1914. However, the layout I've designed here, is modeled during the late 1960s through early 70s. This was at a time when Trona was still running their three Baldwin AS 616's and the two huge double ended Baldwin DT-6-6-2000's. The Baldwin's were a sight to watch work.

This 9'x11' layout is designed as a small linear walk around (shelf type), for primarily a switching operation. The track work is level and sits 54 inches above the floor. This is a good height for my viewing angle of the layout and the #6 turnouts will not look as sharp as they really are. Keeping the center of the room open also provides ample space for visiting modelers not to feel crowded. With an average shelf width of 18 inches deep, the room then shrinks to about 6 x 7 feet for standing space. This is not a lot of space, but it will work for visitors..

Modular frames are constructed, using 1x2 inch pine, with a 3/8 inch plywood surface to be set on standard metal book shelf brackets mounted to the wall. The first reason I build shelf layout in modular sections is the cutting of lumber and messy scenery work to be done outside the house. This outdoor work really helps with keep the train room clean, especially when under the layout will be furniture, book cases and the modeling desk. Modules can also be taken down, turned over to do electrical wiring work on the underside. This is a



really good idea for us older modelers!

The second reason is someday moving to another house with a larger train room. The layout can be expanded with additions to the SP, Jawbone branch to run both the Lone Pine Local and Trona Turn to Searles Junction.

## Track Work

I can say from experience, that doing any sort of switching work on track with a grade can set free rolling cars (such as made by Atlas) to go their own way. Most freight cars used on the Trona for my modeling period were 50 foot covered hoppers, so 30 inch radius curves are used to give a train a better look when running.

Walthers, code 83, #6 standard and #8 curved turnouts with Micro Engineering code 83 flex track is used on SP's Jawbone and on the Trona main.



*Photo taken in 1994 by: Bruce Petty*

Modeling this huge Potash Plant can done as a low relief structure with a lot of selective compression. This would still give the desired overall monolithic effect along the wall of the layout with the doorway. Using the Walthers, Valley Cement kit, #933 - 3098, would be a good start for kit bashing. The diesel shop is seen at the left side of the picture is made of corrugated metal, and could be scratch built easily using Evergreen styrene.



Trona's Baldwin's await the next run in front of the four bay diesel shop. Selective compression can be used to model this structure into a two bay diesel shop on the layout.



Trona's only caboose sits along side the diesel shop ready for the next run. An Atlas HO Scale modern international caboose makes a good start.



A meet at Searles Junction with the Lone Pine Local, Trona's Baldwin's pull into a yard track with loads to be later picked up by another SP train called the Trona Turn. (1973)

At the road crossing at Searles Station the Baldwin's are run light back to Trona. *Four photos taken in 1973 by; Bruce Petty*

Yard tracks between turnouts at Serials and at the Trona plant can be code 70. I've also added a lift section to connect across the doorway from Trona to Searles for continuous running. This feature can be used to add scale miles to a small layout and for visitors who just like to watch a train run.

Hand throw turnout control is done by using a simple method from under the layout. A .030 Dia. steel wire that is used to operate the switch points comes through a brass tube under the layout and is bent to a 90 degree angle allowing 4 inches to be left over. I glue a ceramic jewelry bead with a hole onto the end of the wire. Two sheet rock screws are screwed on each side of the wire's throw to hold the switch points in place. This method has worked well for my shelf layout and easy to install within a few minutes. This also allows for detailed switch stands to be used.



## Scenery

Scenery can drop and rise for fills and cuts on the right of way so to give an allusion of grade.

Desert Scenery is fairly easy to model by using light desert type earth colors. I also wanted to maintain some open space between the trackwork and the backdrop to give the allusion of distance with **"Painting a Backdrop of Far Distant Mountains"** (this article still needs to be published by MR). Another MR article (April 2006) **"Landscaping a Layout with Live Cactus Plants"** would fit in nicely on this layout.

Midway between Trona and Searles, it passes some unique geological feature, the Trona Pinnacles. This unusual landscape consists of primarily of calcium carbonate tufa spires, some as high as 140 feet, rising from the bed of the Searles Dry Lake basin. I placed a few of these geological features in one corner of the layout plan using a few small spires to be modeled for the effect.

## Control System

For this size of layout, I prefer using DC, with a MRC, Control Master 20, power supply with several on/off switches

placed in areas of the layout power for engines parked at the diesel shop and the SP trackage at Searles.

## Operating Concept

I've already modeled the SP's side of this Potash Train known as the "Trona Turn" for running at our model railroad club. The SP operated this train from Searles to the Port of Los Angeles and back. Most of this potash was loaded onto the ships heading overseas.

On the Trona layout, the yards are small holding 6 to 8 cars per track, so only one Baldwin AS-616 is needed for an operating session. Time "On Duty" starts at the engine house as the crew leaves with one of the Baldwin's and caboose to make up their train. The crew then leaves the caboose on the main track as the engine moves to the top of the yard to back into the power house spur to pick up the empty coal hoppers and back again to pull the potash hoppers at the plant's loading track. All the cars are pulled ahead to clear the switch and

backed down the main to the caboose. The train is now ready to leave Trona for Searles.

The doorway crossing can be used to extend the running time by racking up some scale miles to Searles and back.

Pulling into one of the empty yard tracks at Searles, the crew drops the loads and make a runaround move to pull the empty hoppers for the return trip. Any cars other than potash hoppers are now switched to the end of the train for later set out at Trona. The caboose that was left at the end of the loaded cars is picked up for the return trip to Trona.

Back at Trona, the train pulls into the potash loading track and the engine runs around against the caboose. The hoppers are pushed forward and the coal loads are cut off to be switched into the power plant. Other switching duties may include, a flat car with heavy machinery for the plant to be switched to the end loading dock spur and a gondola to the scrap track spur at Spangler. At the end of the shift, the caboose set back

next to the engine house and the Baldwin it serviced inside.

As you can see, a layout with 19 turnouts can provide plenty of operating time for switching work. A scale days work could take an hour or more to complete.

## Trona's Diesels

Stewart Hobbies, manufactures a Baldwin AS-616 that can be painted black with silver ends and lettered with the Microscale, #HO-87-209 decal sheet.

Brass models of an AS-616's and the double ended Baldwin, DT-6-6-2000 were made many years ago and they do come up for auction on Ebay occasionally. I would suggest replacing their junky motors with a modern can motor and plastic universal drive shafts. This improves running considerably for slow speed switching work.

Also on the Trona roster during this time period modeled are an EMD, SW 1200, SD9, SD40R and a GE 80 ton switcher used within the plant area.



## Lightweight Shelf Layout Construction Tips



**1.** Cabinet grade 1"x 8" lumber can be cut down on a table saw into 1"x 2" material to build the frame work for each module unit. Each frame can be overlaid with 1/2" plywood, then glued and screwed.

**2.** Make sure the frame is square while sitting on a flat surface while putting the screws.



**3.** A handy laser level can be used to mark the height placement of where each metal book shelf bracket will be mounted to each stud in the room. On top of the bracket is screwed a 1"x 2" x a half inch longer than the module's width. Adding a short block to the back will keep the module frame from sliding forward. Once the modules are all screwed together, they are allowed to float on the bracket assemblies.



# Freight cars to Trona



Many styles of two and three bay covered hoppers that were seen running on the Trona Railway during the 60s and 70s are now manufactured and lettered. They can easily be found at the local hobby shop or on Ebay.

## Accurail

SP & SSW, 3-Bay Center-Flow Covered Hopper

## Athearn and Walthers

Kerr-McGee, 50 foot, plug door box cars.

## Atlas Model Co.

ACF, 3Bay Cylindrical Hoppers

SP #1033 & 1050

ACFX #62012, Kerr-McGee

SHPX #60514, FMC Chemicals

ACFX #60741, Stauffer Chemical Co.

SHPX #62016 & 62017, TRONA CHEMICALS

## 2-Bay Standard Side Covered Hoppers

NAHX #31244 & 31242, TRONA,

American Potash & Chemical Co.

NAHX #31050, Kerr McGee.

## MDC Co.

2-Bay Standard Side Covered Hoppers

NAHX # 31014 & 31050

## Proto2000

PS2-CD High Sided Covered Hopper

NAHX 47057 & 47086

## InterMountain

Cylindrical Hopper, TRONA CHEMICALS

A few other types of cars to include in trains to Trona: —Two or three open top D&RGW and UP hoppers

carrying coal for the power plant.

—Tank cars are needed for diesel fuel for the railroad and heavy equipment.

—An occasional SP gondola will also be needed for scrap iron loading.

—Standard 50 foot box cars are used for bagged product loading.



## Weathering Potash Hoppers

Loading Potash is dusty business, it settles on all parts of the car including the trucks. With rain and weather on the road, streaks on the sides form and also seals this potash coating of the white chemical to the car. I use a wash of Latex, flat white indoor house paint, mixed with a little alcohol to give this affect. A flat edged brush can be used to pull white streaks down the car side.