

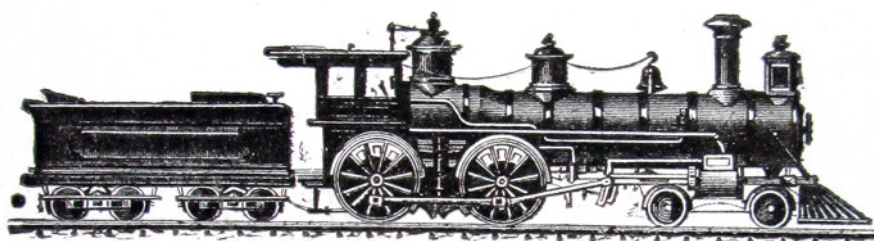
Part 6

Ecuadorian steam locomotive list

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v1.23 December 2025

This file can be found, along with the five Chilean parts in the series and files for a number of other South American countries, at <http://www.railwaysofthefarsouth.co.uk/05x03chileansteamlocos.html>



These lists, though benefitting from modern technology in both research and presentation, build upon those produced by many other investigators, from Wilfred Beckerlegge and Paul Dewhurst in the 1920s to John Kirchner and Allen Copeland eighty or ninety years later. As such, their content will, I hope, be helpful for researchers and authors in the future.

Feel free to use this material, though an acknowledgement would be appreciated.

General introduction

These lists grew from the publication of the book *Railways at the End of the World* (The Araucaria Press, Casterton, Cumbria, UK ISBN 978-0-9928622-0-6), back in 2014. During the research undertaken when gathering information for that volume, it had sometimes been frustrating when locomotives in southern Chile could not be easily identified. Once the book had been published there was more time available, and it gradually became obvious that a list of the engines of the Chilean state railways (*EFE*) would have to cover the whole country to be of any use, and thus it expanded all the way up to Arica. Then, during the Covid pandemic, the first moves were made to extend these lists to some of the other smaller South American countries.

The foundations were built upon earlier lists created by others such as Allen Copeland, John Kirchner, and Reimar Holzinger. Additional information has been added bit by bit to their work. Photographs too have been inserted, though these have been kept small, partly to reduce the file sizes and partly to minimise the risk that copyright owners will object. The main purpose of the images is in any case to enable locos spotted in other photographs elsewhere to be identified. When high-resolution versions are likely to be available from museums and archives, this has been flagged up, to encourage interested readers to purchase what they need from those who care for historic drawings or photographs.

As news of this work has spread, assistance has come from other researchers, including in particular Chris West, Claus Gaertner and Martin Murray. Grateful thanks is due to their selfless willingness to share information and images. Whilst many of the written sources consulted have been in Spanish, these lists are currently solely available in English. This partly results from my own lack of linguistic confidence, but is also a reflection of the fact that keeping a fast-changing document synchronised in two different tongues is very time-consuming. Nevertheless, quotes from historic documents have usually been left in Spanish and it is to be hoped that in the future a Spanish version of the whole work can be created.

Close examination of these pages is likely to remain strictly a minority interest, whilst even fewer are likely to print out all 5200+ pages! Thus the files have been designed to be read on screen, with hyper-links from the contents page to aid in finding each section. The density of information is likely to discourage browsing on a mobile phone, but hopefully the layout is suitable for display on tablets as well as larger computers.

It will be obvious that this is a work still in progress, with updates being uploaded to the web roughly on a quarterly basis at present. Comments, additional items of information or images, and suggestions to improve the layout, would all be very much appreciated, and the author can be contacted at martincoombs11@gmail.com

This Ecuadorian list

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Introducción general

Estas listas tienen su origen en la publicación del libro *Railways at the End of the World* (The Araucaria Press, 1 Fel-lview, Casterton, Cumbria, LA6 2SA, Reino Unido. ISBN 978-0-9928622-0-6), en 2014. Durante la investigación realizada para recopilar información para dicho volumen, a veces resultaba frustrante que las locomotoras del sur de Chile no se pudieran identificar fácilmente.

Tras la publicación del libro, se dispuso de más tiempo, y poco a poco se hizo evidente que una lista de las locomotoras de los Ferrocarriles Estatales de Chile (EFE) tendría que abarcar todo el país para ser útil, por lo que se amplió hasta Arica. Posteriormente, durante la pandemia de COVID-19, se dieron los primeros pasos para extender estas listas a algunos de los otros países sudamericanos más pequeños.

Las bases se construyeron sobre listas anteriores creadas por otros autores, como Allen Copeland, John Kirchner y Reimar Holzinger. Poco a poco, se ha ido añadiendo información adicional a su trabajo. También se han insertado fotografías, aunque de tamaño reducido, en parte para reducir el tamaño de los archivos y en parte para minimizar el riesgo de objeción de los titulares de los derechos de autor. El objetivo principal de las imágenes es, en cualquier caso, permitir la identificación de las locomotoras que aparecen en otras fotografías en otros lugares. Se ha informado sobre la disponibilidad de versiones en alta resolución en museos y archivos para animar a los lectores interesados a adquirir lo que necesiten de quienes se interesan por los dibujos o fotografías históricas.

A medida que se ha difundido la noticia de este trabajo, otros investigadores, como Chris West, Claus Gaertner y Martin Murray, han colaborado. Les agradezco enormemente su desinteresada disposición para compartir información e imágenes. Si bien muchas de las fuentes consultadas están en español, estas listas actualmente solo están disponibles en inglés. Esto se debe en parte a mi falta de confianza en el idioma, pero también a que mantener sincronizado un documento en constante evolución en dos idiomas diferentes requiere mucho tiempo. No obstante, las citas de documentos históricos se han mantenido generalmente en español y es de esperar que en el futuro se pueda crear una versión en español de toda la obra. Es probable que el análisis minucioso de estas páginas siga siendo un interés minoritario, y es probable que aún menos impriman las más de 5200 páginas. Por lo tanto, los archivos se han diseñado para su lectura en pantalla, con hipervínculos desde la página de contenido para facilitar la búsqueda de cada sección. La densidad de información probablemente desaconseje la navegación en un teléfono móvil, pero esperamos que el diseño sea adecuado para su visualización tanto en tabletas como en ordenadores de mayor tamaño.

Es evidente que este es un trabajo en curso, con actualizaciones que se suben a la web aproximadamente trimestralmente. Se agradecerán comentarios, información o imágenes adicionales, y sugerencias para mejorar el diseño. Se puede contactar con el autor en martincoombs11@gmail.com

Esta lista ecuatoriana

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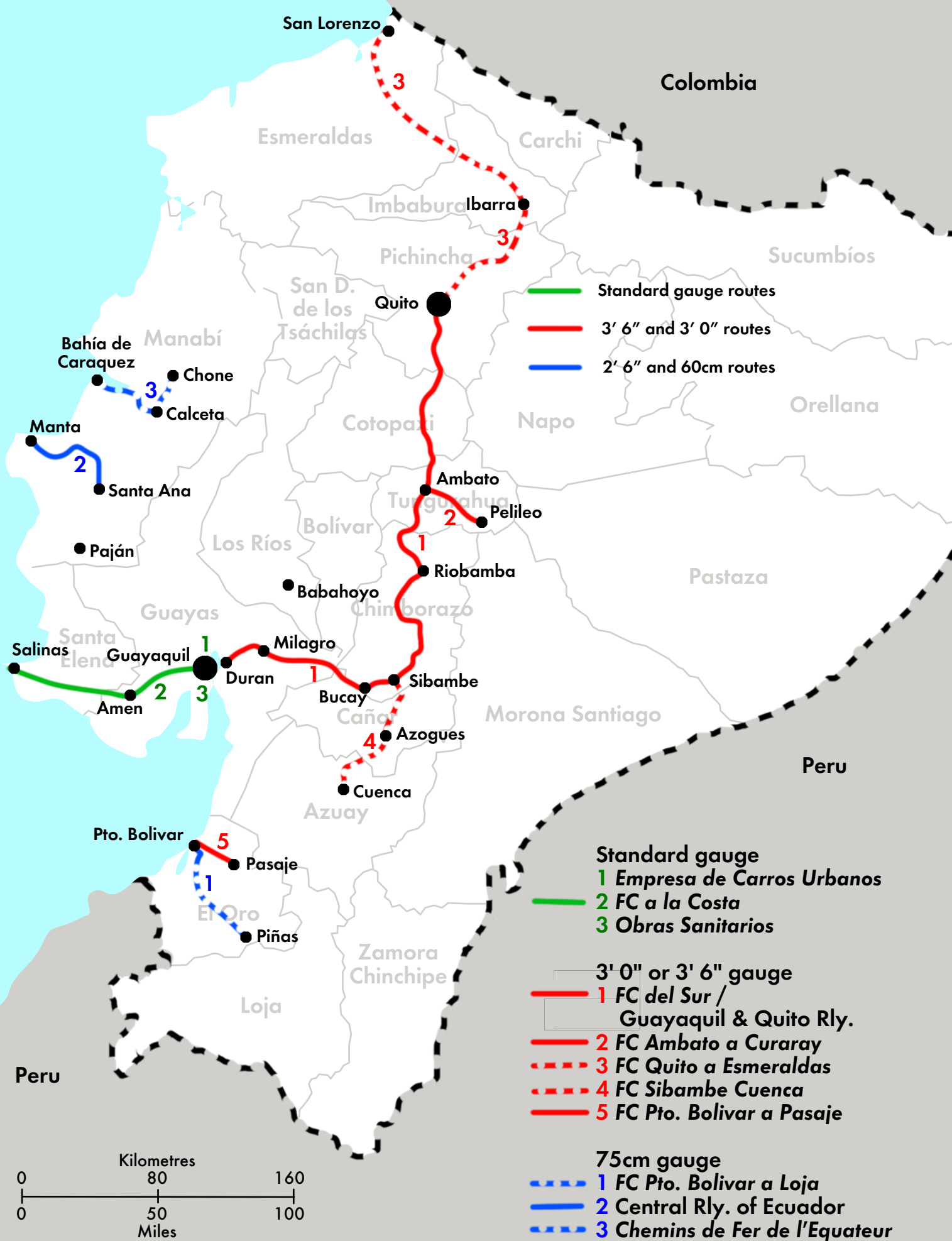
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The railways of Ecuador



Other parts of this work

This is one of a number of PDF files covering the steam locomotives of Chile and other South American countries across a wide variety of gauges. The other files can be accessed by clicking on the red hyperlinks listed below.

Part 1	Chilean broad gauge locos
Part 2	Chilean intermediate gauge locos
Part 3	Chilean metre gauge locos
Part 4	Chilean sub-metric gauge locos
Part 5	Chilean locos listed by builders
Part 6	Ecuadorian locomotives
Part 7	Bolivian locomotives
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Part 16	Central American countries locomotives
Part 17	Cuban public railway locomotives
Part 18	Cuban industrial railway locomotives
Part 19	Cuban locomotives listed by builders
Part 20	West Indian island locomotives (other than Cuba)

Notes and sources

The structure of this document is based upon the earlier ones for Chilean locos. The starting point was the lists in *World of South American Steam* 1973 by Ken Mills and Roy Christian, and a later typed list by Reimar Holzinger in SLS Library file L8655. Further sources are as listed. In general the locos ordered for the wider gauges have been covered first, then 3' 6" and 3' 0", 75cm and 2' 6" gauge lines, and finally any 60cm and 2' 0" gauge railways.



An Ecuadorian postage showing a steam loco, though not one that ever worked in the country. Whilst the FC a la Costa did have a standard gauge 4-6-0, it was German-built rather than from the USA as this machine clearly is.

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- [1] *Ferrocarriles al oriente : de Ambato al Curaray, de Machala a Cuenca, de Puerto Bolívar por Loja al Marañón*. 1922, Jaramillo Alvarado, Pio. <https://babel.hathitrust.org/cgi/pt?id=uiug.30112066764538&view=1up&seq=11>
- [2] *World of South American Steam*, 1974, Roy Christian and Ken Mills, privately published.
- [3] https://es.wikipedia.org/wiki/Ferrocarril_Transandino
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- [5] *Railways of South America part 2*, William R. Long and George S. Brady. The 1926 US Dept. of Commerce report.
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- [8] *The Guayaquil & Quito Railway*, 19??, F. W. Bennett, in *Bulletin of the American Geographical Society*. <https://archive.org/details/jstor-197954>
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- [11] *Locomotives Roster - Railways of South America, part III Ecuador*, John Kirchner and Allen Copeland. 2010?
- [12] *Ecuadorian National Railways – The last steam-worked Andean Railway – part 1 and part 2*, Ian Thomson, 1992-3, in *Locomotives International* nos. 15 and 18.
- [13] *El Ferrocarril mas difícil del Mundo*, Galo García Idrovo. 2007, Instituto de Investigación Histórica y Cultura Popular ‘Nuevo Alausi’, Quito. https://www.academia.edu/25598515/Ferrocarril_mas_dificil_del_mundo?email_

work_card=view-paper

[14] List by Nick Tindall in *Locomotives International* issue no. 17, p35, December 1992.

[15] *El Ecuador, Guia Comercial Agricola e Industrial de la República*, Guayaquil, 1909, first spotted by Henry Gunston in Guayaquil municipal library but nowadays available at <https://babel.hathitrust.org/cgi/pt?id=txu.059173024317458&view=1up&seq=5>

[16] *The Guayaquil and Quito Railway - Views of the Country and Construction of the Line*, The Guayaquil & Quito Railway Co. 1901-2? Available at <https://babel.hathitrust.org/cgi/pt?id=mdp.39015018285240&view=1up&seq=2>
NB There may be different versions of this as Henry Gunston in CRJ no. 123 of 2001 mentions photos which are not in the version whose URL is shown here.

[17] *Historia del Ferrocarril del Sur*, Roberto Crespo Ordóñez, 1933, Quito.

[18] Ferrocarril de Esmeraldas a Quito : rectificaciones a las rectificaciones / Ernesto Franco. <https://babel.hathitrust.org/cgi/pt?id=txu.059173027776440&view=1up&seq=34&skin=2021> References to loco for contractor around p30. P41 reference to Mallet locos being most suitable. NB German engineer involved which may have bearing on purchase of German locos.

[19] *Historia del ferrocarril trasandino* por J. Mora López. 1908. <https://babel.hathitrust.org/cgi/pt?id=chi.083716965&view=1up&seq=1&skin=2021>

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[21] *Exposición del contratista del ferrocarril central a las HH. Cámaras Legislativas de 1890*, <http://repositorio.casadelacultura.gob.ec/handle/34000/18191>

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[23] *Informe especial del Ministerio de obras públicas sobre el ferrocarril transandino al Congreso de 1903*. <https://babel.hathitrust.org/cgi/pt?id=njp.32101066879048&view=1up&seq=167&skin=2021> For anyone studying the construction of the G&QR in any detail this and the following are amazing troves of correspondence about all manner of details.

[24] *Informe especial del Ministerio de obras públicas sobre el ferrocarril transandino al Congreso de 1904*. <https://babel.hathitrust.org/cgi/pt?id=njp.32101066879055&view=1up&seq=20&skin=2021>

[25] *Informe a la nación / Ministro de Obras Públicas y Comunicaciones*. 1898, Quito, Ecuador : Imprenta del Ministerio de Hacienda. <https://babel.hathitrust.org/cgi/pt?id=uc1.c2808076&view=1up&seq=178&skin=2021>

[26] *Anexos al Informe presentado a la Nación por el Sr. Ministro de Obras Públicas*, 1920-21. <https://babel.hathitrust.org/cgi/pt?id=nyp.33433108202478&view=1up&seq=7&skin=2021> This volume of 478 pages contains a vast amount of detail about the finances and operations of the G&QR during the year 1920.

[27] *Informe del Presidente del Concejo a la M.I. Corporación Municipal en 1922*, Guayaquil, pp28-9. <https://babel.hathitrust.org/cgi/pt?id=uc1.b3100083&view=1up&seq=5&skin=2021>

[28] *Diseño de Super Estructura de Puentes Isostaticos Metalicos Ferroviarios en el Ecuador...*, Paolo Roberto Escobar Almeida, Thesis 2011,

[29] *South American Railways in the 1960s*, Henry Finch, Turntable Publishing, 2021.

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[31] *Contestacion de la Compañía del Ferrocarril de Quayaquil a Quito, al informe de los Ingenieros Paez y Navarro.*, 1911. <https://repositorio.bne.gob.ec/xmlui/bitstream/handle/34000/19360/FBNCCE-Anon-6671-PUBCOM.pdf?sequence=2&isAllowed=y>

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[33] *Informe del Ministro de Obras y Crédito Públicos al Congreso Constitucional de 1894*, Ministerio de Obras y

Crédito Público, 1894, Quito, Ecuador :Imprenta del Clero, Talleres Salesianos y EE. CC. <https://repositorio.flacsoandes.edu.ec/handle/10469/12347>

[34] *Reports and Accounrts, The Guayaquil & Quito Railway Company*, 1904. See at the Guildhall Library, City of London, in Stock Exchange annual reports volume 880, Foreign Railway Reports 1904-5 E-N.

Dimensions

Imperial unit driving wheel and cylinder dimensions, ie. in inches, have been added if it seems likely that they were originally created in that system.

Photographs

Photos have been added here solely to aid in the identification of locos seen in other images elsewhere. They have been found from many different sources, and may still be in copyright. For those reasons, and to keep the file sizes down, they are of low resolution, the majority being only 600 pixels across. The names of photographers will be added as time permits. As these documents are likely to have a very limited readership and are not being produced commercially, it is hoped that copyright holders will understand and permit their presence here. If not, please contact the author and they can be removed.

Baldwin loco classes and specification sheets

Baldwin loco details in the following lists usually include the class and a volume and page reference to the the appropriate spec. sheet. These can be found at <https://digitalcollections.smu.edu/digital/collection/rwy/id/32> amongst the collections at the DeGolyer Library of Southern Methodist University in Texas. An explanation of Baldwin's class system can be found at <https://guides.smu.edu/c.php?g=1029481&p=7460937>

6.1 Standard gauge railway systems in Ecuador

6.1.1 *La Empresa de Carros Urbanos*

Background

Standard gauge. Urban tramway system in Guayaquil.

0-4-0 d/w ?, cyls, 6x10", built by Porter in 1905 and 1907

Ordered by W. R. Grace & Co. for *Empresa de Carros Urbanos*. Presumed for this operation but not certain.

1	w/n 3362
?	w/n 3942

0-4-0 d/w ?, cyls. 10x16", built by Porter in 1907

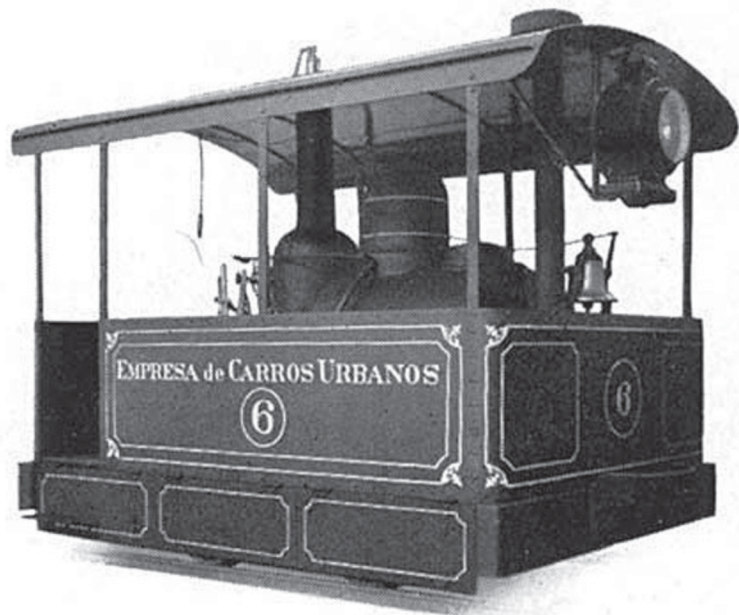
Ordered by W. R. Grace & Co. for *Empresa de Carros Urbanos*. Presumed for this operation but not certain. The cylinders are certainly much larger than on the other locos for this operator.

1	w/n 3935
2	w/n 3936

0-4-0T d/w 18", cyls 5x8", built by Porter in 1909

Ordered via W. R. Grace for *Empresa de Carros Urbanos*, Guayaquil. 3 tons. RL numbers below were as listed in Bob Lehmuth's Porter list.

1, or 4 according to RL	w/n 4270
2, or 5 according to RL	w/n 4271
3, or 6 according to RL	w/n 4272
4, or 7 according to RL	w/n 4318
5, or 8 according to RL	w/n 4319
6, or 9 according to RL	w/n 4320



5" x 8" cylinders, class B-S-M-K, 56½-inch gauge, plate frames, inside cylinders, machinery entirely concealed; a noiseless steam motor for hauling small passenger and freight cars; quite a number in service.

Image from a Porter catalogue via the late Christopher
Walker's collection and the late Allen Morrison's archive.

0-4-0T d/w 18", cyls 4½x8", built by Porter in 1909

Ordered via W. R. Grace for *Empresa de Carros Urbanos*, Guayaquil. Bob Lehmuth's Porter list also shows these running numbers.

7	w/n 4430
8	w/n 4431
9	w/n 4432
10	w/n 4433
11	w/n 4435
12	w/n 4435

0-6-0T d/w ?, cyls. ?, built by O&K in 1909

20hp locos, ordered by *Empresa de Carros Urbanos*, Guayaquil, Ecuador

?	w/n 3281
?	w/n 3282
?	w/n 3283
?	w/n 3284

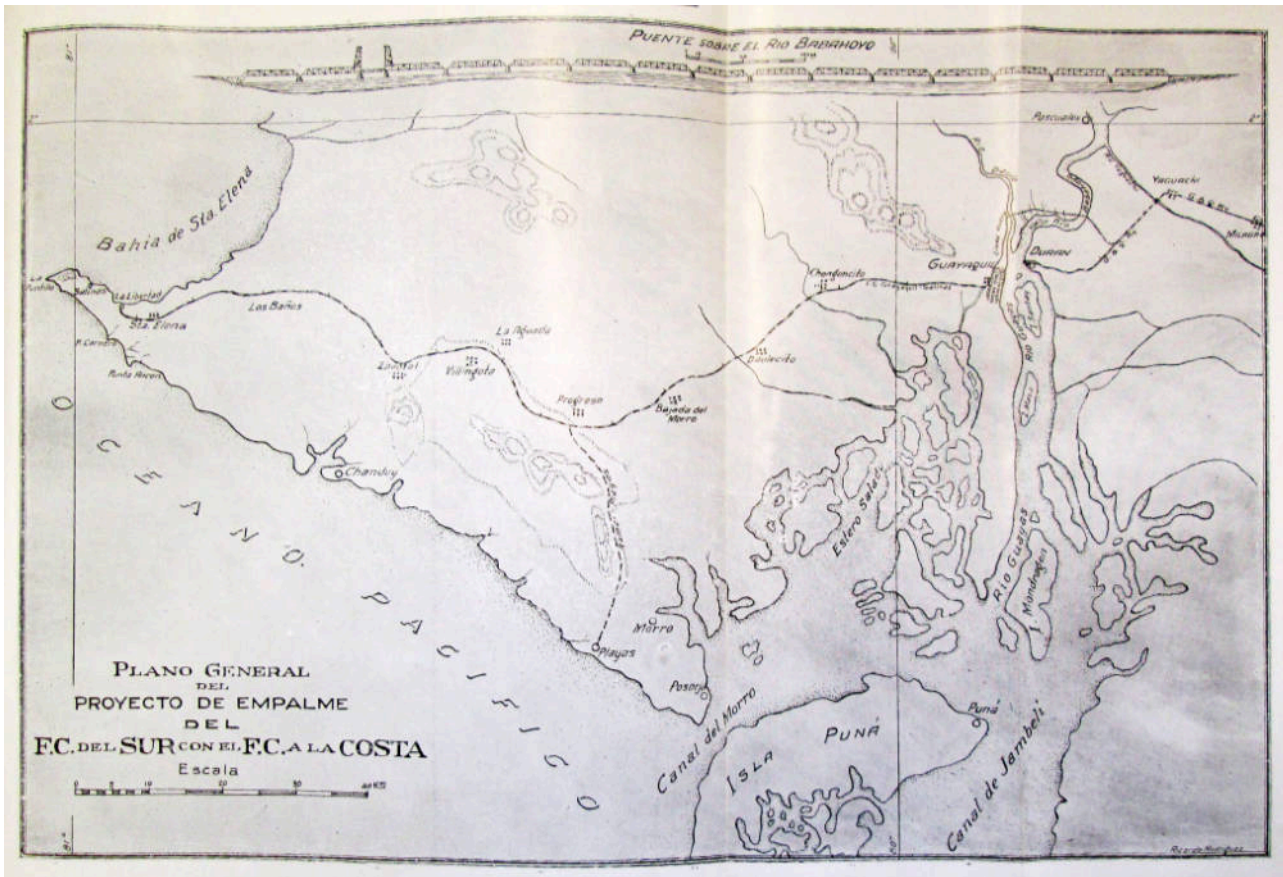
Spare boiler 3285 was also sent out at the same time in September 1909.

6.1.2 El FC a la Costa

1912-1953

Background

This ran from Guayaquil to Salinas out to the west, and was built to standard gauge. The decree authorising its construction was signed in 1909, and in 1912 works began. The original intended terminus was at Playas but the plan was altered to continue to Salinas.



A map from the President's report to Stockholders of the G&QR at the end of 1931. This particular map was created to illustrate how the G&QR could be extended west to join with the FC a la Costa, not a practical proposition given the cost of the bridge over the Babahoyo river which would have been necessary.

A report from 1921

Source [27] includes the following paragraphs:

Junta del Ferrocarril a la Costa

Esta Junta que con tesonero afán he venido trabajando por unir esta ciudad con el Puerto de Salinas por medio de línea ferrea, muy pronto coronará con éxito sus valiosos esfuerzos.

Obra de tanta importancia, llevada a cabo con la más estricta economía, fue iniciada hace muchos años con escasísimos recursos: un timbre sobre cajetilla de cigarrillos. y un pequeñísimo impuesto sobre introducción de aguardiente en el Cantón, con los que se logró terminar los trabajos de terraplenes, después de algunos años de incansable labor. Fue en 1921, después de un año de recibir el aumento de las rentas creadas por el Congreso de 1919, que entró en un período de franca actividad, ejecutándose actualmente el trabajo de enrielladura, el que ha avanzado hasta el kilómetro 50 en el sitio denominado «Bajada del Morro». En el trayecto comprendido en los 23 primeros kilómetros se han construido seis puentes de importancia, entre ellos, el magnífico que cruza el Estero Salado sobre cuya bondad y solidez se tiene el informe de competentes ingenieros:

Como material rodante tiene dos locomotoras, una de 100 toneladas y otra de 120 toneladas, dos carros para pasajeros, un carro de gaso-lina para inspecciones y seis plataformas. Cuenta además con una magnífica pala a vapor de gran capacidad para el lastraje de la vía, lo que facilita y alijera este trabajo.

Algunos de los miembros de esta Corporación y gran parte de los ciudadanos del Cantón, en el viaje de prueba efectuado en Noviembre último, han podido apreciar ya los trabajos que se efectúan, así como la clase de material rodante que se emplea.

El I. Concejo, en sesión de 12 de Junio del presente año acordó dar un voto de aplauso al Presidente y miembros de la Junta mencionada, por Su indefatigable labor y el éxito alcanzado.

The Board of the Railway to the Coast

This Board, which with tenacious desire has been working to unite this city with the Port of Salinas by means of a railway line, will soon crown its valuable efforts with success.

Work of such importance, carried out with the strictest economy, was started many years ago with very few resources: a doorbell on a cigarette pack. and a very small tax on the introduction of liquor in the Canton, with which it was possible to finish the embankment works, after some years of tireless work. It was in 1921, after a year of receiving the increase in revenues created by the Congress of 1919, that it entered into a period of frank activity, currently executing the rerailing work, which has advanced to kilometer 50 at the site called "Descent of the Morro". On the route included in the first 23 kilometers, six important bridges have been built, among them, the magnificent one that crosses the Estero Salado on whose goodness and solidity there is the report of competent engineers:

As rolling stock it has two locomotives, one of 100 tons and another of 120 tons, two passenger cars, a gasoline car for inspections and six platforms. It also has a magnificent large-capacity steam shovel for ballasting the track, which facilitates and lightens this work.

Some of the members of this Corporation and a large part of the citizens of the Canton, in the test trip carried out last November, have already been able to appreciate the work that is carried out, as well as the kind of rolling stock that is used.

The I. Council, in session on June 12 of this year, agreed to give a vote of applause to the President and members of the aforementioned Board, for their tireless work and the success achieved.

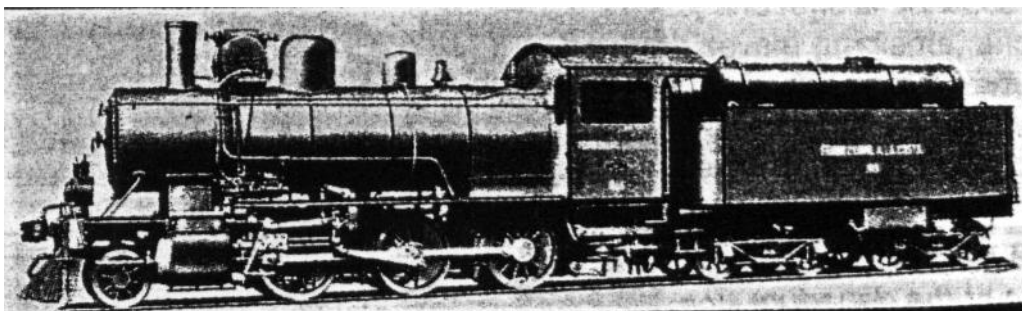
It operated from 1922 to 1954, reaching Santa Elena in 1926, La Libertad in 1934 and Salinas finally in 1936. The principal purpose was to enable the *guayaquileños* to reach the coastal resorts easily, in particular because the city had an unhealthy climate especially in the winter.

The full journey took five hours, and there was a single mixed train each day in either direction though later *autocar-riles* took most of the passenger traffic. A branch from Amen south to Playas was also planned but it seems likely that it was never completed. The railway was originally owned by the municipality of Guayaquil, but after the *Revolución Juliana* in July 1925 the government took control.

2-6-0 d/w 1200mm, cyls. 480x600mm, built by Henschel in 1922

Ordered via *Metallgesellschaft Frankfurt* for *FC de la Costa*. 100 tons. Weight in service 50.25T.

? w/n 19266 [11] states photo seen of a mogul numbered 45.



The three images in this style each came from a Henschel catalogue of around 1930. The tenders seem to bear the words 'FERROCARRIL A

LA COSTA', but there are also illegible words on the cabsides.



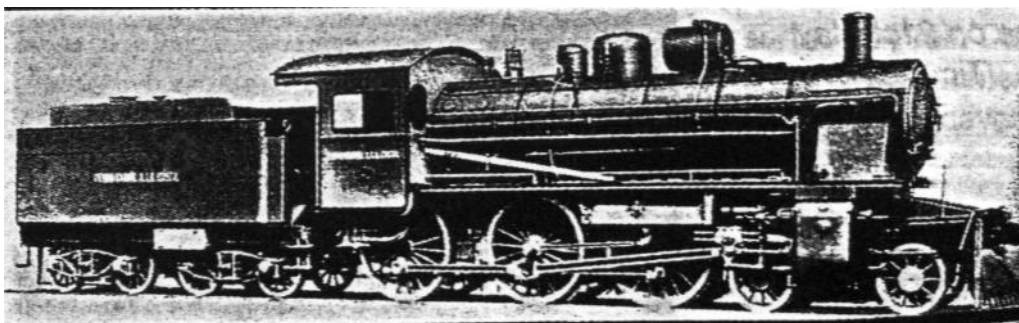
The transverse-mounted feed-water-heater drum behind the chimney suggests that this poor quality photo shows the 2-6-0 rather than the 4-6-0 listed below.

4-6-0 d/w 1750mm, cyls. 550x630mm, built by Henschel in 1923

112 tons. Superheated, weight of loco in service 64.3T, which is difficult to reconcile with the 112 tonne figure.

?

w/n 19649

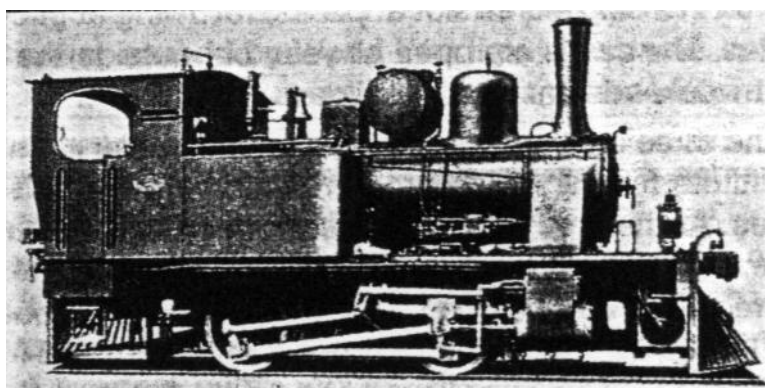


0-4-0T d/w 950mm, cyls. 320x500mm, built by Henschel in 1924

Ordered via Ferrostaal. Weight in service 27.5T.

?

w/n 20290



0-6-0T d/w 1100mm, cyls. 400x550mm, built by Henschel in 1925

Ordered via Ferrostaal. Weight in service 40.5T.

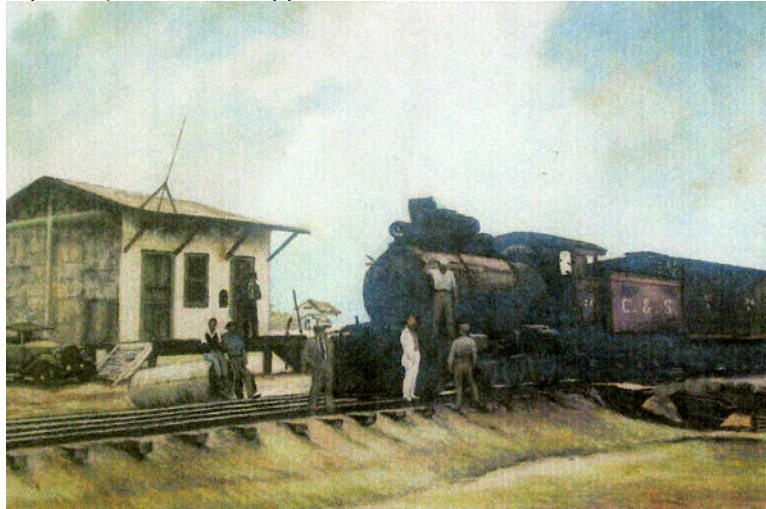
?

w/n 20480

Numbers and a name

As mentioned above, one loco was later numbered **45**, and apparently had the nickname of the '*Mastodonte de hierro*', whilst another report mentions a loco numbered **8**. All of the locos operated by government-run railways were eventu-

ally numbered in a single sequence, as listed in Appendix 3.



Whilst this painting does not show much detail of the locomotive – seemingly a 2-6-0 – it was probably created from a photo, and thus what little detail is visible may well be accurate. In particular there would appear to be a cabside number, possibly **14**, and tender-side lettering showing G & S probably for 'Guayaquil and Salinas'. The building behind is apparently the station at Santa Elena.

The fleet in 1948

Source [22], from 1949 states on page 295 that there were five locomotives on this line. The identity of the fifth one is totally unknown.

Accidents and then closure

The route into Guayaquil involved a wooden bridge over the Estero Salado, and it was this that became the railway's downfall – literally on October 29th 1941 when it collapsed under a train of 300 excursion passengers departing from Guayaquil, though fortunately killing only the driver. This was at least in part because the passengers were in open wagons from which they could swim rather than trapped in closed carriages. From then on the trains started from the railway's depot rather than closer in to the city. Apparently operations though the 1940s saw a general decline in efficiency and maintenance, until another accident occurred on June 22nd 1950. This one was a collision between locomotive **45** and an *autocarril* **26** resulting in twenty-five deaths and twenty injuries. That was the death knell for the line, and in October 1953 closure was announced, taking effect the following April.

	D.	L.	M.	M.	J.	V.	S.
Octubre	5	6	7	8	9	10	11
1.941	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	30	31	—

DIARIO

Año VIII |

PORTOVIEJO,—Ecuador, Jueves 30 de

Trágico Accidente Ocurrió Ayer En Ferrocarril De La Costa

Una locomotora con siete plataformas que conducía mas de 300 pasajeros cayeron en las lodosas aguas del Salado por haber cedido un puente.

Hay muertos y heridos.

Guayaquil 29.—A las 6 y 15 de la mañana de hoy ha tenido lugar un trágico accidente que por poco deja mayor número de víctimas, accidente que se debe a la desprecupación de los que tienen sobre sí la Dirección de Empresas al servicio público.

Un convoy integro del ferrocarril a la cresta se hundió en el estero del Salado cuando transportaba mas de 300 personas, al ceder el viejo puente de madera por el cual pasa el ferrocarril en referencia.

A las 6 y 15 de la mañana, como de costumbre, salió una máquina manejada por el profesional Enrique Vanchong, convoyando varias plataformas en las cuales viajaban mas de 300 personas, todos empleados y obreros de la fábrica Sin Eduardo de la Cemento Rocafuerte. Al pasar el convoy sobre el puente del estero salado, el maquinista notó que crujía en forma estrepitosa y de inmediato valiéndose de las palancas de comando frenó a fin de detener el carro pero ya el puente se desplomaba y la máquina así como su convoy integro se precipitaba a las aguas lodosas del Salado, perdiendo la vida el maquinista que se esforzó por salvar la de los pasajeros.

A esto siguió momentos de verdadero horror, escenas de confusión, gritos y yes que atrajeron al lugar de la catástrofe a gran cantidad de público que prestó ayuda a los accidentados. La circunstancia especial de que los obreros y empleados de la fábrica de Cemento viajaban en plataformas y no en carrocerías, vagones, contribuyó

a que no lamentemos mayor número de víctimas, sin embargo hay gran cantidad de heridos graves y otros con heridas leves, temiéndose que fallezcan algunos dentro de las próximas 24 horas.

Cuando este Corresponsal llegó al lugar de los sucesos un obrero era presa de los más terribles tormentos. Había sido aprisionado en la pierna derecha por el convoy fracturándole ese miembro pero poco a poco la marea subía y ante la imposibilidad de sacarlo de la trampa en que había caído se pensó hacerle una operación urgente dentro agua amputándole un miembro. El obrero que se llama Bolívar Andrade pedía a gritos que mejor le quitasen la vida con un disparo para librarse de tan horrible tormento. Mientras la marea subía el agua que ya le llegaba al pecho lo amenazaba con ahogarlo ante las miradas de sus compañeros y amigos que procuraban salvarlo de esa muerte segura.

Después de titánicos esfuerzos se logró libertarlo y llevándolo a la playa se desmayó por la abundante sangre que ha perdido y los horribles dolores sufridos. Hay 17 heridos graves los que fueron alojados en clínicas y hospitales. Se cree fuundamente que pueden haber mayor número de muertos y los familiares de esas preautas víctimas recorren el estero en canoas para ver si descubren algo. Enorme confusión reina en el lugar del siniestro y siete plataformas permanecen bajo el agua lodosa del salado junto con la locomotora, calculando

Están Adelantados Gestiones para nuevo Empréstito

Quito.—28.—El Ministro de Hacienda informó oficialmente que se encontraban bien adelantadas las gestiones encaminadas a conseguir un empréstito en Nort-América. Agregó que los técnicos agrícolas a su llegada se encargarán de hacer estudios sobre nuevas orientaciones que debe dar a la producción agrícola del país.

Archiduque Felix de Austria Visitará el País

Quito.—29 — Por informaciones dadas por la Panagra se sabe que próximamente llegará a esta capital el archiduque Felix de Austria. Que probablemente estará en esta ciudad el diez de noviembre.

se grandes pérdidas para el ferrocarril pues se cree que dicha locomotora quedará inutilizada y será imposible extraerla del lecho del estero.

Las autoridades y empleados de la Compañía cooperan en el salvamento de los pasajeros, y se culpa a la imprevisión de los Directores y Gerentes de la Compañía de este desastre, pues hace tiempo que la prensa ha denunciado el ruinoso estado de ese puente y el enorme peligro que corrían los pasajeros al cruzar el puente, lo que ha venido a cumplirse trágicamente en un accidente de magnitud. El puente es de madera y fue construido hace 21 años, habiendo sido planificado y construido con máximo de duración garantizado por siete años, es decir que ha servido 14 años más de lo previsto por sus constructores. Siendo el Gerente un Ingeniero se culpa principalmente a él de este desastre, pues si no era cuido debió salvar su responsabilidad, si en verdad se preocupó por reconstruir ese puente que constituyó siempre una amenaza para los pasajeros del ferrocarril.

6.1.3 *Obras sanitarios de Guayaquil*

Background

Standard gauge

0-4-0ST d/w 24" cyls. 6x10, built by Vulcan Iron Works in 1914

Ordered via J. G. White Engineering Co.

1 w/n 2329

2 w/n 2330

6.2 4' 0" gauge railway systems in Ecuador

6.2.1 *La Aduana de Guayaquil*

Background

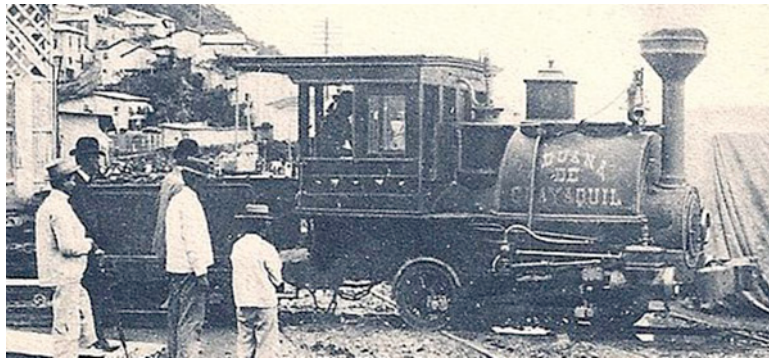
Guayaquil Customs Office. 3 miles of track?

0-4-0ST d/w 24", cyls. 7x12", built by Porter in 1887

Ordered via F. G. Pierra & Co. for *Aduana de Guayaquil*.

1 w/n 822

2 w/n 902



Porter 0-4-0ST no. 2.



Order received Jan'y 19, 1887.
 For delivery March 1887. (Possibly April depending on date of rail)
 For

J. G. Pierra & Co.
New York, N.Y.
(For Ecuador, S.A.)

Cab lettering

Fuel tender

Tank lettering

Number

General style of page 26 of catalogue "Matter" with 4 wheels full tenderCylinders 7 by 12 - P.O. - 48"Gauge of track 48 inches.Driving wheels 4 in number 24 inches diameter (Steel Tire)

Pony wheels - in number - inches diameter

Saddle Tank 200 gallons capacity. inch diameter Tender WheelFuel woodcarried in separate tender on 4 wheelsDraw Bar 25"[20 diam, seasoned white oak frame, sheet steelPump and one (1) number 2 Eclipse

injector

Cylinder oilers 2 - 3/4" - 5 - Detroit Bullseye lubricatorWheel covers angle iron finish.Cab Hardwood (The hull to be as little inside cab as possible)Pilot NoHeadlight NoBrake HandSyphon NoGrate Bars 1 two bar 21 inches long

rocking grates.

5 three bar 21 inches long

lead grates.

dead plate { 22 inches long

bearing bars.

Pat. 701, 4623 { 9 inches wide

drop grate

crossbar and brackets

Stack wood burning.Boiler; firebox 30 long by 24 wide at grates and 2448 flues 48 1/4 long by 13 1/4 diameter.

Memorandum. Height of mine entry not to be less than, - above rail.

Width of mine entry - inches at bottom - inches at top.

Traveling engineer No Water Gauge; Yes.Rigid wheel base 4-8.Shipped March 26th 1887on P. N. & P. R. R.by (Union Line)To S. H. Paynecar 3995.1879

Name

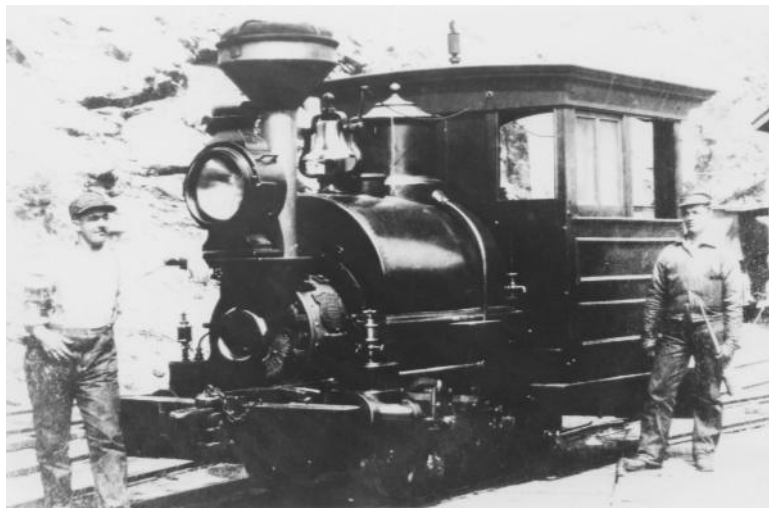
Aduana de GuayaquilGuayaquil, Ecuador?Pacific Mail S. S. Co's DockFoot of Canal StNew York - N.Y.Pat. 26th for 100 lbs. or 2000 lbs.(2 Boxes Maches, 1 Box 2 Pcs Tender)2 Pcs. New Wheel on axle

The Porter spec. page for the first of these Aduana locos, no. 822.

Reproduced by courtesy of the Restoration & Archiving Trust, in
 whose collections it was found.



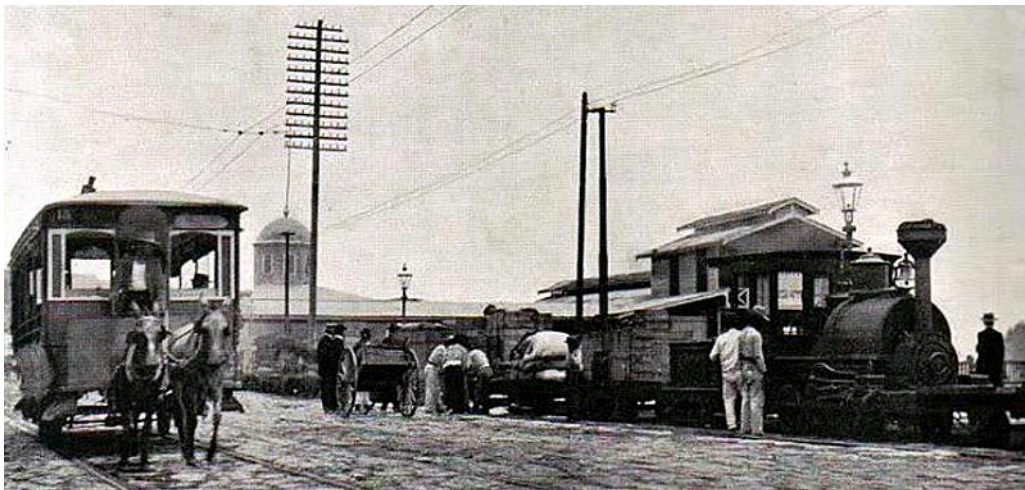
An image from the 1909 Guía de Ecuador [15].



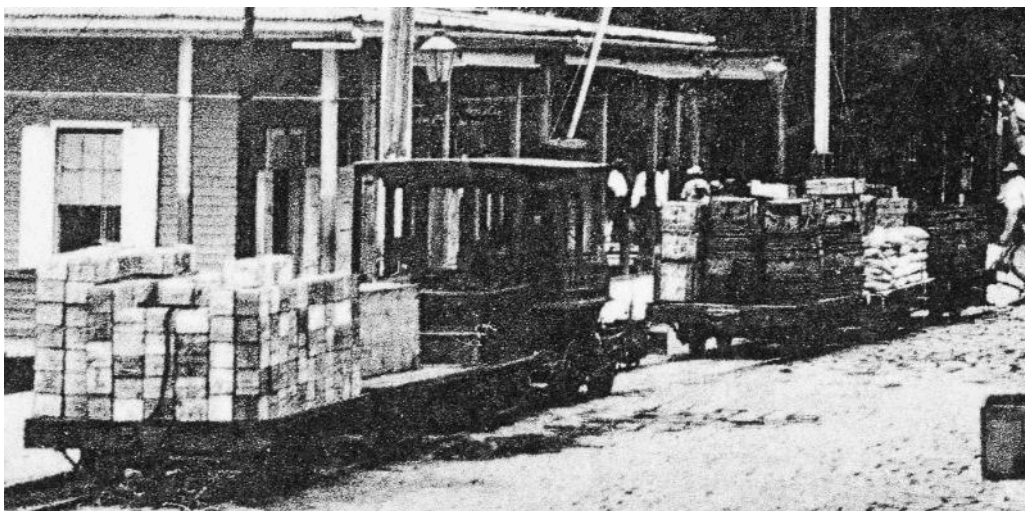
This fourth image was found in the late Christopher Walker's file on the *FC de la Aduana* but it is not clear whether it definitely represents a loco from this railway or merely a generic small Porter saddle tank. Certainly the cab is different from those illustrated above.



This view of the waterfront at Las Peñas in Guayaquil before 1896, was clearly found on a broken glass negative. Just left of the big white pole is a Porter saddle tank.



Another aduana Porter 0-4-0ST with a horse tram along the waterfront.





ADUANA DE GUAYAQUIL

Whilst this pic from *El Cojo Ilustrado* of Caracas, from 1896, is of very poor quality, it does seem to show a slightly different style of loco outside the aduana building and with a small tender in tow.

0-4-0T d/w 24", cyls. 7x12", built by Porter in 1912

3 w/n 5174

0-4-0T d/w 24", cyls. 7x12", built by Porter in 1924

Ordered via Wonham Bates & Goode for *Banco Dermetri*, then to *Aduana de Guayaquil*, possibly after use elsewhere or maybe just a paper transaction. Equipped with 4-wheel tender [Copeland].

4 w/n 6878

One of these is on display at the modern port [11]. A card from Chris West's archives stated that this loco had been examined in 1975 and that the numbers 0969 had been found on a crosshead and 11643 on a 24" wheel. A similar engine may have gone to *Ingenio Valdez* as 'ELI'.



6.3 3' 6" and 3' 0" gauge railway systems

6.3.1 The predecessor of the G&Q: *El FC de Yaguachi or from 1875 el FC del Sur*

1872-1898

Background

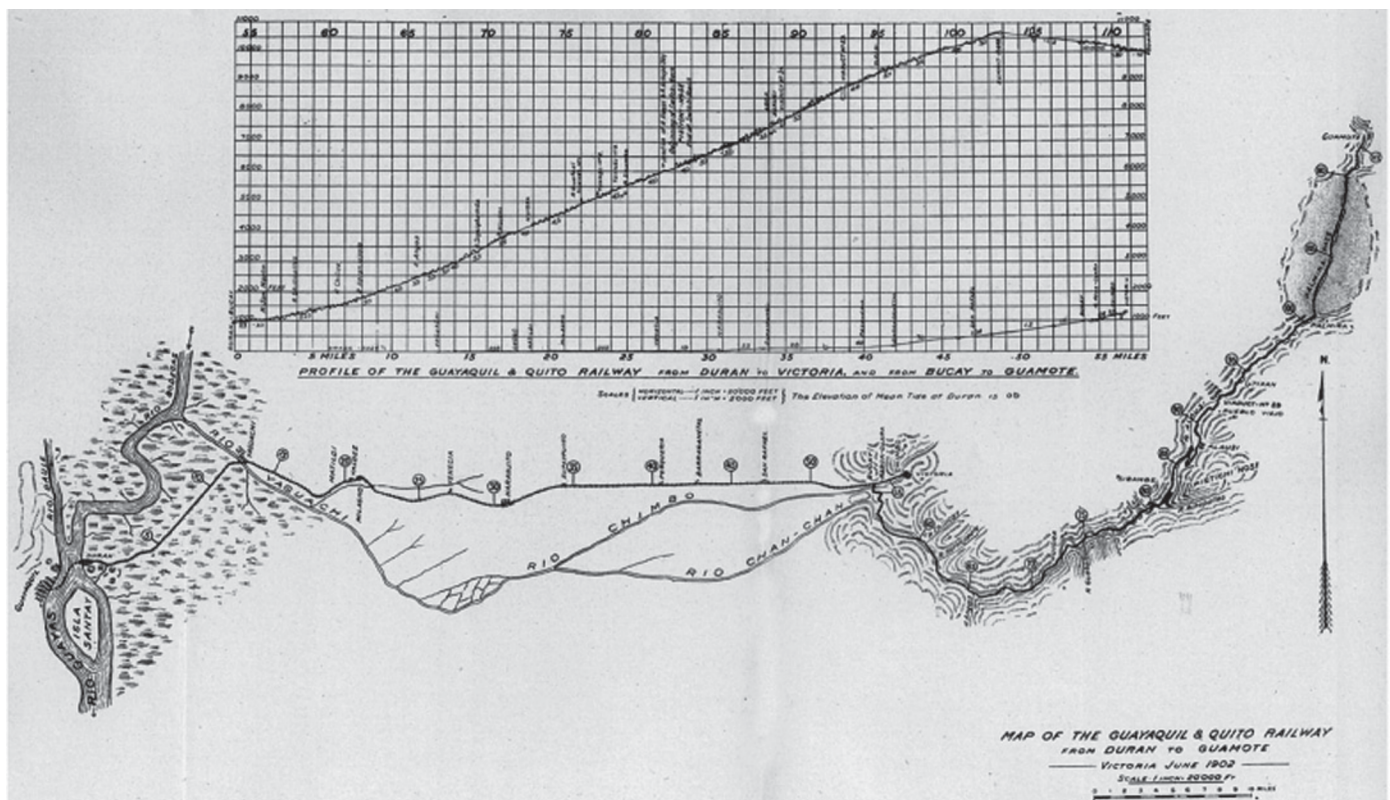
This was the beginning of the attempts to link Guayaquil with Quito by rail. Construction began first on the 3' 0" gauge from Yaguachi which was on the Río Chanchan and presumably could be accessed by river-boats. Work on the *FC de Yaguachi* started in 1872, but by a government regulation in 1875 the name was changed to the *FC del Sur*.

The first two locomotives arrived in October 1873 [10] and the first train ran between Yaguachi station and Milagro before the end of that year. Public services may not have started until May 1874. This length totalled 91 km.

From 27th January 1875 the railway became known the *Ferrocarril del Sur*. Barraganeta was reached in 1884 and Bucay at the foot of the mountains in 1888. At around the same time an extension west from Yaguachi to Durán (later known as Estación Eloy Alfaro for some years) was completed, giving much improved access to Guayaquil. Chimbo became the terminus for twenty years whilst various engineers contemplated the enormous task of climbing into the Andes.

In 1897 the railway seems to have been sequestered by the government after the failure of a previous arrangement with a *Cía. Anonima de Obras Públicas*, but by then negotiations were already in hand for the extension into the mountains.

From 1899 onward this railway was regauged to 3' 6". It became the Guayaquil and Quito railway, see the following section.



This map from source [8] shows the southern half of the G&Q. Of interest is the fact that the FC del Sur had originally run to Victoria where the hills began, but the eventual G&Q route branched off a short way before that, at the point that later became known as Bucay. The gradient profile is in two parts, the plains section being almost flat and easily missed at first glance.

2-4-0 d/w 36", cyls. 10x16", built by Porter in 1872

NB The Porter specification book A had for this loco the builder's number 135 crossed out and 171 inserted which, it will be noted, brings this engine up with the other loco supplied to this railway (ie. Porter no. 170). It also showed: delivered 11/15/1872 to North & South Rly narrow gauge (of Georgia). However, it may never have left Porter's yard, as the order book page for no. 171 has that number crossed out and 135 written over the top. "Name plates changed, Name on tender 'FERROCARRIL DE YAGUACHI', Shipped 23 Aug 1873, 8 wheel tender. Source [13] states that the original names of locos nos. **1** and **2** were chosen by Ing. Curtis, but that the gentlemen so honoured preferred that they be renamed for the two cities which would be linked by the railway. The renamings may therefore have taken place almost as soon as the engines arrived in Ecuador.

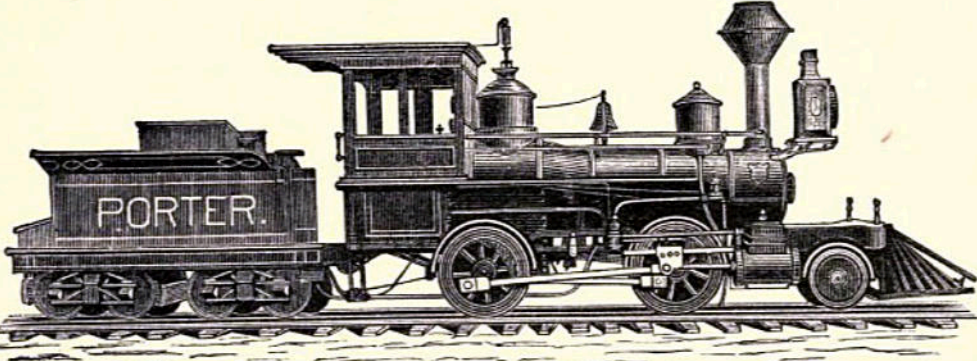
1 'G. GARCIA MORENO'

w/n 135/171

Ordered as the **3** 'SENATOR BURNS' for the North & South Railway of Georgia, which then went bankrupt.

Soon renamed 'QUITO'

Sold 1873 to the *FC de Yaguachi* as 'G. GARCIA MORENO', but immediately renamed 'QUITO' and then transferred to the *FC del Sur* as **1** 'QUITO'. Sr. Garcia Moreno was the Ecuadorian president at the time.



Cylinders { diameter.....	10 inches.	11 inches.
stroke.....	16 inches.	16 inches.
Diameter of driving wheels.....	36 to 40 in.	40 to 44 in.
Diameter of truck wheels.....	24 to 26 in.	26 to 28 in.
Rigid wheel-base of engine.....	6 ft. 6 in.	6 ft. 6 in.
Total wheel-base of engine.....	13 ft. 3 in.	14 ft. 3 in.
Wheel-base of engine and tender.....	29 ft. 6 in.	32 ft. 9 in.
Length over all of engine and tender.....	36 ft. 6 in.	40 ft. 0 in.
Weight of engine in working order.....	28,000 lb.	32,000 lb.
Weight on driving wheels.....	24,000 lb.	26,000 lb.
Weight on two-wheel radial-bar truck.....	4,000 lb.	6,000 lb.
Water capacity of tender tank.....	800 gals.	1,050 gals.
Weight per yard of lightest steel rail advised.....	30 lb.	30 lb.
Hauling capacity on a level, in tons of 2,000 lb.....	625 tons.	700 tons.

Whilst the above sketch and dimensions are taken from an 1889 Porter catalog there seem to have been few changes in the design during the preceding seventeen years. The tender seen below appears to have been rather longer than that shown in the catalog, but presumably tenders were supplied according to customers' requirements.

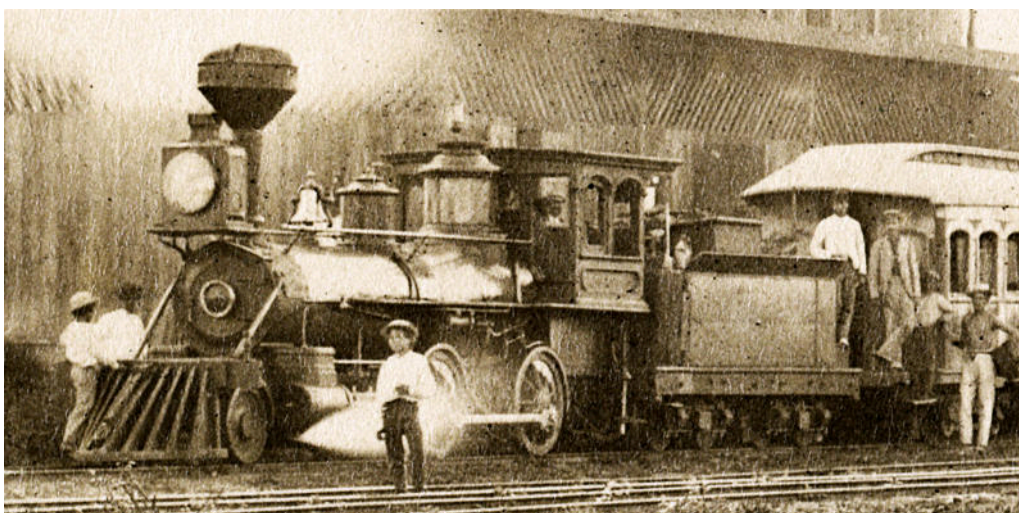


Photo supposedly taken at Yaguachi in 1877. This loco is either a 2-4-0 or a 4-4-0 and thus could well be no. **1**.



The surviving boiler of no. **1**, as photographed in 1933. Note the very shallow firebox.

0-6-0 d/w 33", cyls. 12x16", built by Porter in 1873

2 'F. JAVIER LEON'

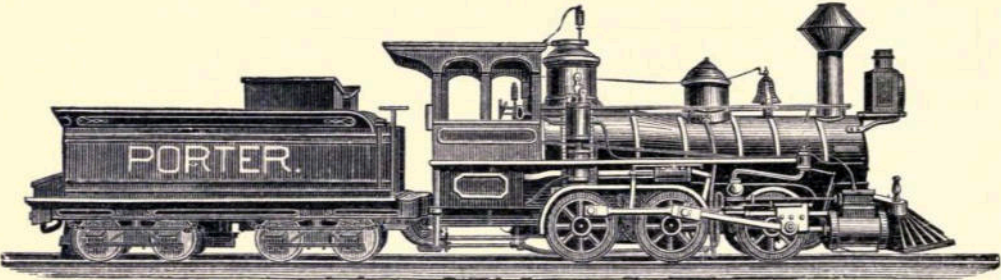
w/n 170

Soon renamed '**GUAYAQUIL**'

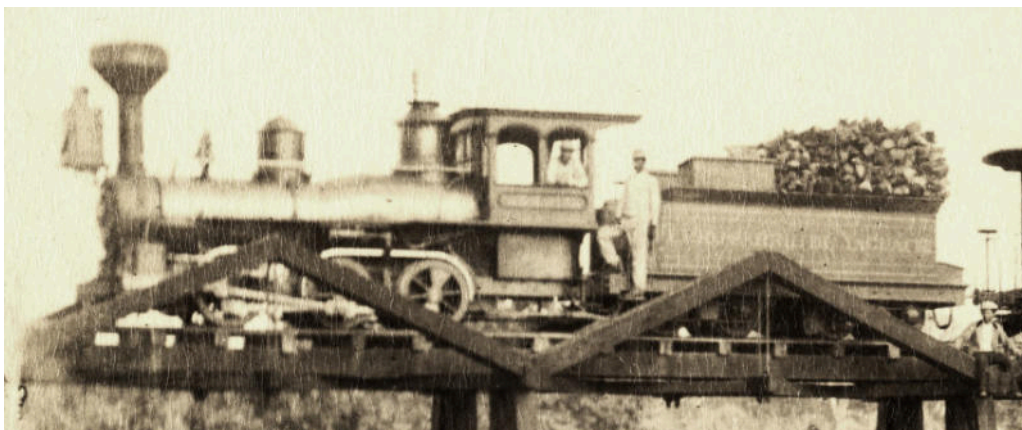
Ordered for *FC de Yaguachi* as '**F. JAVIER LEON**' and with tender to be inscribed '**FERROCARRIL DE YAGUACHI**'. Then to *FC del Sur* as **2 'GUAYAQUIL'** Copeland says was out of use by 1895. It has been suggested that at some point it was known as '**JOSÉ JAVIER EGUIGUREN**'. Copeland explains that Sr. Leon was the Minister of Foreign Relations of the government in which Sr. Eguiguren was acting President and Minister of Agriculture (Hacienda) during 1875. Copeland says was out of use by



A very poor quality image, seemingly a photo taken of a display photo in a museum, but showing the 'F. C. DE YAGUACHI' lettering on the tender and confirming the loco name on the cabside.

SIX-WHEEL-CONNECTED LOCOMOTIVE, WITH TENDER.					
					
Cylinders	diameter.....	10 inches.	11 inches.	12 inches.	12 inches.
	stroke.....	16 inches.	16 inches.	16 inches.	18 inches.
Diameter of driving wheels..		33 inches.	33 inches.	36 inches.	36 inches.
Wheel-base of engine.....		7 ft. 8 in.	8 ft. 1 in.	8 ft. 1 in.	9 ft. 0 in.
Wheel-base of engine and tender.		28 ft. 0 in.	28 ft. 0 in.	29 ft. 0 in.	29 ft. 6 in.
Length over all of engine and tender.....		35 ft. 0 in.	39 ft. 0 in.	40 ft. 0 in.	41 ft. 0 in.
Weight of engine in working order (all on drivers).....		28,000 lb.	30,000 lb.	33,000 lb.	36,000 lb.
Water capacity of tender tank ..		800 gals.	1,050 gals.	1,050 gals.	1,050 gals.
Weight per yard of lightest steel rail advised		25 lb.	30 lb.	30 lb.	30 lb.
Hauling capacity on a level, in tons of 2,000 lb.		750 tons.	800 tons.	875 tons.	975 tons.
					1,100 tons.

Part of a page from the 1889 Porter catalog. As was commented in relation to 2-4-0 no. 1, Porter locos seem to have changed very little in design during the 1870s and '80s.



This engine is an 0-6-0 and has the same style as the previous one. Thus it is very likely to be another Porter product and probably no. 2. The single splashers

running over the second and third pairs of drivers was a Porter distinguishing feature at the time. One puzzle is that the steam dome seen below appears to be much larger than that in the photo above. Note also the lettering on the tender, which in the original can be read as 'FERROCARRIL DE YAGUACHI'.



The above pair of photos both show an 0-6-0, probably no. **2**.

The larger diameter dome and sand-dome, than those seen in the previous picture, may suggest that the engine had been reboilered.

4-4-0 d/w ?, cyls. ?, built by Grant around 1877

It seems likely that this engine was by Grant's Locomotive Works of Paterson, New Jersey, (and then briefly of Chicago). It appears in the Grant lists by O'Connor and by Robert Dubits though not in that by Gene Connelly. Henry Gunston's list in *CRJ* no. 126 of 2001 has this loco as Baldwin 4146, which was indeed named 'CUENCA' but was for 4' 7" gauge and for the *FC Trocha* military railway in Cuba.

3? 'CUENCA?'

w/n 1166?



These two photos show the aftermath of a derailment at Naranjito. The identity of the loco is uncertain, but it is not the machine illustrated later as no. **5** as the order of dome and sand-dome is reversed on that engine.



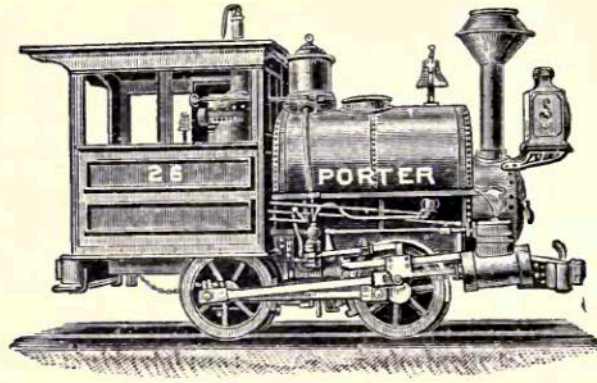
0-4-0T d/w 24", cyls. 7x12", built by Porter in 1881

Sent via Albert Miller at Guayaquil to *FC del Sur* as **1 ‘NUEVE DE OCTUBRE’** according to the Porter order book. Miller was the General Manager of the *FC del Sur* from 1875 onward. Other sources associate this loco with the name **‘MASCOTA’**. The name **‘NUEVE de OCTUBRE’** celebrates the achievement of independence in Guayaquil in 1820, so is unlikely to have been a political football to be adopted or rejected on a whim.

1 ‘NUEVE de OCTUBRE’ w/n 443

Soon renamed **‘MASCOTA’**

According to [11] was present at opening of the Yaguachi bridge in 1888 along with **‘GUAYAQUIL’**, **‘QUITO’** and **‘CUENCA’**. “it was, despite its size, the fastest and was later used on express trains.” [11]. Still in use for specials and light freight work in 1895 [11]. Possibly sold to Ingenio Valdez as their **‘ELI’**.



Cylinders	diameter.....	5 inches.	6 inches.	7 inches.	8 inches.	9 inches.
	stroke	10 inches.	10 inches.	12 inches.	14 inches.	14 inches.
Diameter of driving wheels.....		22 inches.	23 inches.	24 inches.	28 inches.	30 inches.
Wheel-base.....		4 ft. 0 in.	4 ft. 0 in.	4 ft. 8 in.	5 ft. 0 in.	5 ft. 3 in.
Length over all.....		10 ft. 0 in.	11 ft. 0 in.	12 ft. 7 in.	14 ft. 0 in.	15 ft. 1 in.
Weight in working order (all on drivers) ...		8,500 lb.	12,000 lb.	15,000 lb.	18,000 lb.	22,000 lb.
Capacity of saddle tank.....		125 gals.	150 gals.	200 gals.	250 gals.	325 gals.
Weight per yard of lightest steel rail advised.....		14 lb.	16 lb.	20 lb.	25 lb.	30 lb.
Hauling capacity on a level, in tons of 2,000 lb.		175 tons.	275 tons.	375 tons.	450 tons.	550 tons.

The third column of dimensions in this 1889 Porter catalog table matches the engine that came here in 1881.

74
4/5781

Locomotive No 443
for Albert Miller, of Guayaquil, Ecuador, S.A.
To P. G. Pierra Rev. - 60 Liberty St. - N.Y.
Cylinders - 7 x 12
Gauge - 36"
Drivers - 4 - 24" - with steel tires
Tank - on Boiler - 200 galls.
Fuel - wood carried in cab
Grate - , Stack -
Engine - No. 2. Eclipse
Draw Bar - 25"

General Style - "Mattie"
Lettering on Cab "Nueve de Octubre."
Number - "1"

A page from the Porter order book.

Two more locos?

Roberto Crespo Ordóñez' history of the *FC del Sur* published in 1933 [17] states that the *FC del Sur* name first appeared in 1875. As the first section from Yaguachi to Milagro had only opened the previous year it looks as though the *FC del Yaguachi* name was very short-lived. In 1880 it was anticipated that the whole line through to Quito would require fifteen engines. Two 20-ton engines were to be purchased in 1885, but that may not have occurred. In 1887 a *decreto* was passed to extend back to Duran, and permission to purchase two more locos was included in that. Those two were presumably the Baldwins 4 and 5, though in 1888 when the Duran to Yaguachi section opened the four engines in service were 'QUITO', 'GUAYAQUIL', 'CUENCA' and 'MASCOTA'.

2-6-0 d/w 37", cyls. 14x18", built by Baldwin in 1880

Class 8-22 D 23, trial 3rd Sept. 1880, shipped 22nd Sept. 1880. See extra order 184 of 10th Jan 1902. Radley & Hunter stack. Name on brass plate on cab. Tender sides to carry "FERRO CARRIL del SUR" No number. Built to 3' 0" gauge. BLW class 08-22D no. 23. Spec. in vol. 10 p 77. Ordered for Southern Railroad of Ecuador. Name to be on brass plate on cab. Radley and Hunter stack. The name recalled the date when Gral. Veintimilla seized power.

4 'OCHO de SETIEMBRE'

w/n 5256

Possibly renamed after deposing of Gral. Veintimilla in 1884. Copeland says was in restricted use owing to poor state of boiler in 1893. Involved in an accident resulting in its derailment in January 1894: "ocasionado por el encuentro súbito con un caballo que saltó a la línea en el momento que pasaba la máquina: esto accidente causó la paralización del tráfico, durante dos días, entre Yaguachi y Chimbo." [33, p110]. Still in use 1904 but may have gone to *FC del Oro* around 1910.

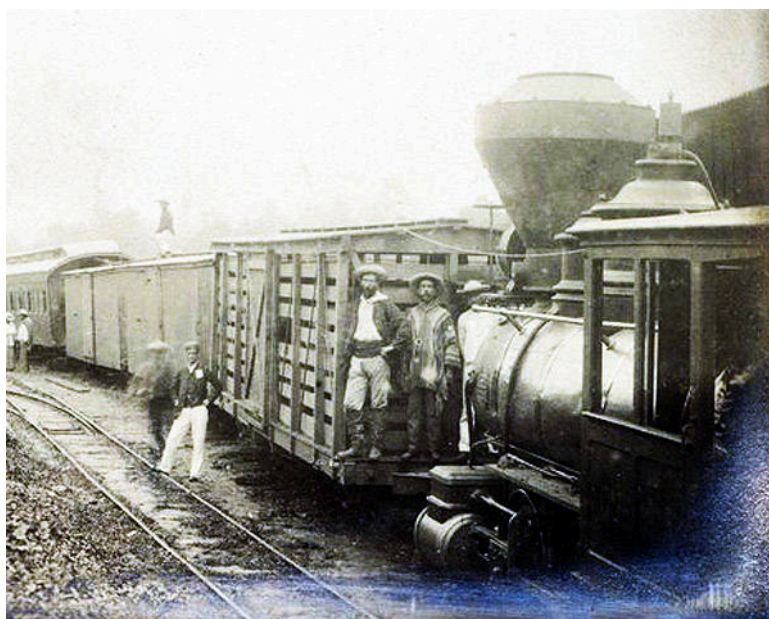


This photo shows loco no. **4** about to leave Duran station with a freight [15]. The two photos below may well show the same machine, as all three engines have the steam dome mid-way along the boiler barrel preceded by a sand-dome. However, there are minor discrepancies.

- a) Picture 1, taken incidentally during the G&QR era, shows a straight stack, rather than the Radley & Hunter pattern in pics 2 and 3. This might be after a change to the burning of oil.
- b) Picture 2 shows no rear overhang to the cab roof, unlike in the other two images.
- c) The sand-domes in pictures 2 and 3 seem to be smaller than that visible in the first photo.
- d) The cabside in pic 3 has an upright mid-way along the lower panel, unlike that in pic 1.
- e) In the high-res version, the cabside in pic 3 seems to bear the name '**GUAYAQUIL**', which supposedly belonged to loco no. **2**, an engine with a very different style of cab.
- f) The loco in pic 1 has an air reservoir beneath the RHS of the cab, unlike that in pic 2.



As an aside, the Chimbo bridge seen here was designed by Gustave Eiffel himself, or at least by his staff.



4-4-0 d/w 43"?, cyls. 13x18", built by Baldwin in 1880

Class 8-20 C 17, trial 3rd Sept. 1880, shipped 22nd Sept. 1880. Radley & Hunter stack. Name on brass plate on cab. Tender sides to carry "FERRO CARRIL del SUR" No number. Built to 3' 0" gauge. Spec. in vol. 10 p 76. Ordered for Southern Railroad of Ecuador. Added note says: "8-20 C 17. To enable this engine to run curves of 60 metres Radius the Eng truck wheels were changed to 24" dia. See letter of Jas. MacNiall 30 Jany. 88." Spec. page spells name as 'VEINTMILLA' whilst BLW register book spells it 'Vientimilla': General Veintemilla was President of Ecuador from 1876 to 1883. D/w possibly 41".

5 'GENERAL I. de VEINTEMILLA'

w/n 5250

Possibly renamed after deposing of Gral. Veintemilla in 1884. Collided with no. **3** at Naranjito in 1898 and both were rebuilt [Copeland]. Possibly sold to *FC del Oro* in 1910 or thereabouts.



This photo at Yaguachi station shows a 4-4-0 but one very different from the machines illustrated earlier. This is probably loco no. **5**. Note the steam dome ahead of the sand dome, a very unusual feature and one not seen in any other photo in this section. The Baldwin spec. sheet for no. **5** does specify a straight boiler and the dome to be in the forward position.



This photo shows the big station building at Durán under construction. The loco partially visible on the left would seem to be the Baldwin 4-4-0 illustrated above.

4-6-0 d/w 46", cyls. 16x20", built by Baldwin in 1888

Class 10-26 D no. 60, spec. is in vol. 14 p 214. Built to 3' 0" gauge. Ordered via F. G. Pierra & Co. Wood fired.

6 'SIBAMBE'

w/n 9593

In good condition 1895 but confined to yard during rainy season as was too heavy for waterlogged track [Copeland].

In use 1896, when was reported as “newest locomotive”.
Later possibly named ‘LEONIDAS PLAZA’, but see notes
below re G&QR no. 14. Rebuilt to 3' 6".

Bases for a contract in 1890

In September 1890 the Ecuadorian Congress passed a decree setting out the bases for a contract for an extension of the *FC del Sur* up as far as Riobamba [32]. The appended specifications included the following:

MATERIAL RODANTE.

Ocho (8) locomotoras para trenes de carga y pasajeros.
Dos (2) locomotoras para el servicio de estaciones.
Doce (12) coches de primera clase para pasajeros.
Quince (15) coches de segunda clase para pasajeros.
Treinta (30) carros cerrados para carga.
Treinta y cinco (35) carros abiertos para carga.
Treinta y cinco (35) id. para ganado.
Quince (15) carros de mano para el servicio.
Ferrocarriles portátiles para las construcciones en la cantidad que fuere necesaria.
Una balanza de plataforma.

The fleet in 1895

Source [17] states (on page 51 apparently) that when a report on the existing railway was presented to President Eloy Alfaro in 1895 it mentioned four locomotives, of which two were in a poor state. Source [20], an undated report on the proposed extension up the hill, suggests that “8 locomotoras para trenes de carga y de pasajeros” and “2 locomotoras para el servicio de estaciones” would be needed, presumably in addition to those already in service. Note that eight moguls were indeed purchased when the scheme developed further, though there was no sign of any machines specifically for shunting.

MATERIAL RODANTE.

8 locomotoras para trenes de carga y pasajeros.
2 locomotoras para el servicio de estaciones.
10 coches de primera clase para pasajeros.
15 id. de segunda id. id.
20 carros cerrados para carga.
25 id. abiertos id. id.
25 id. para ganado.
15 id. de mano para el servicio,

Locos nos. 7, 8 and 9?

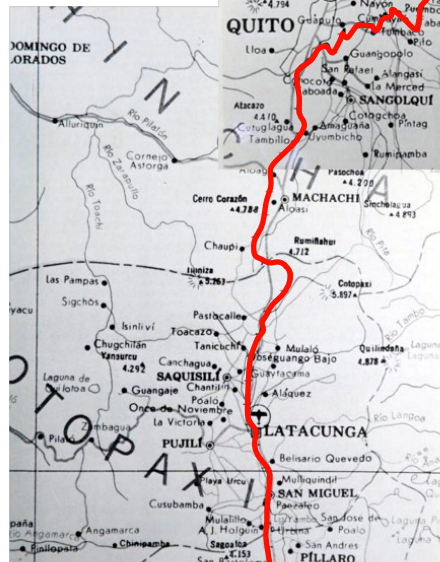
Copeland speculates about the nature of these engines. I am less convinced that they actually existed. The new

G&QR ordered eight new Baldwin moguls in 1900-1, which were then numbered **7-14**, though with solely numbers **10-11** being constructed to 3' 0" gauge and the remainder to 3' 6". This may have been the first use of numbers **7** and above. On the other hand Copeland talks of seeing an accident photo showing a 2-6-0 with evenly-spaced drivers including blind centre wheels, looking like a Baldwin with straight stack and three domes and the number **9**. He does, however, admit that the photo might be from elsewhere. Copeland also suggests that a loco no. **8** had been in use at Chimbo in 1898, but give no source for this assertion.

2-6-0 d/w 42", cyls. 17x20", built by Baldwin in 1900

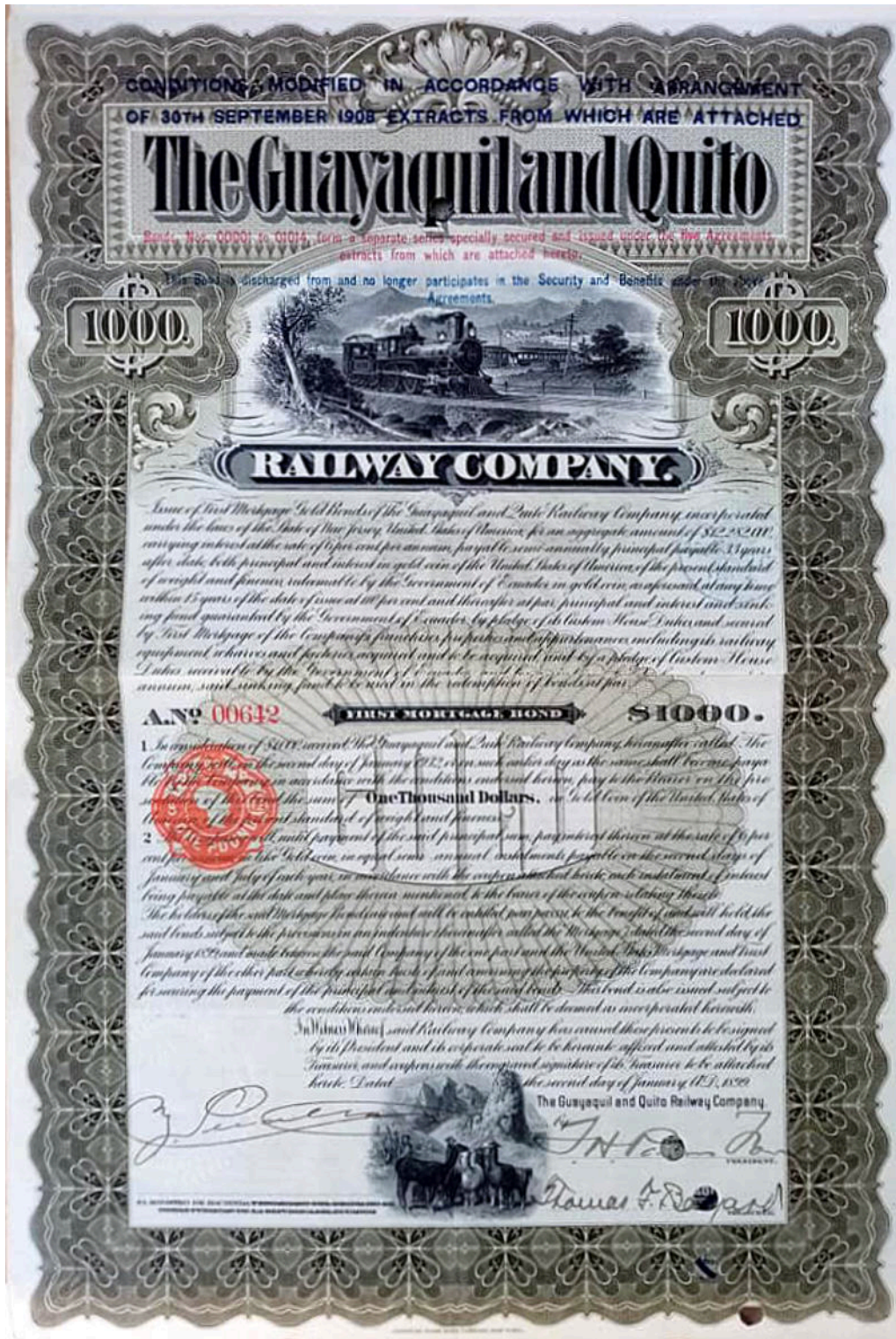
Ordered by Ecuadorian Association of Edinburgh Scotland. The first two of this type were built to 3' 0" gauge but with regauging to 3' 6" in mind. They might even have been assembled for 3' 6" gauge immediately on arrival, though that has not yet been confirmed. The next six were built to 3' 6" gauge and are listed in the following section. They had larger 48" wheels. The tenders of the first four were labelled 'GUAYAQUIL & QUITO RAILWAY Co. OF ECUADOR' with the remainder merely carrying 'GUAYAQUIL & QUITO RAILWAY'. Livery was to be olive green and gold. The first two were class 8-28D nos. 180-1. Why were these two numbered **10** and **11**? The 3' 6" gauge engines took the numbers **7, 8, 9, 12, 13, 14**.

10	w/n 18060	In operation by July 1901 [23].
11	w/n 18114	In operation by July 1901 [23]. Later became 8 'DURAN' on the G&QR.



6.3.2 The Guayaquil & Quito Railway

1898-

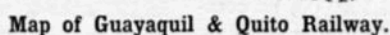


Background

The previous section saw the 3' 0" gauge *FC del Sur* stuck at Chimbo and suffering from a severe shortage of traffic. “The first great Liberal president, Eloy Alfaro, came to power in 1895 determined to conclude a contract that would carry the railroad through to Quito. An English engineer, Sigvald Muller, was commissioned to make a new survey of the route and in 1897 Archer Harman, a representative of a North American syndicate, arrived in Quito to negotiate a contract. This was approved by Congress on June 14, 1897.” [7] The Guayaquil & Quito Railway Co. was incorporated in New Jersey, and took over the *FC del Sur* in 1898. Work began in 1899, including regauging the existing *FC del Sur* route to Chimbo. Track reached Riobamba in 1905 and Quito in 1908.

In 1925 a majority stake was sold to the government, however, the name ‘Guayaquil & Quito’ has continued to be

The most famous feature of the railway is *el Nariz del Diablo*, a zigzag around a huge rock bluff above Sibambe station. It was originally known as *el Nariz de Pistishi* [16], but the ‘Devil’s Nose’ name already appear in an article in *The Railway Times* in 1909.





A steam excavator in use during construction of the G&QR. No technical details are known.

Locos inherited from the earlier FC del Sur:

2-4-0T d/w 36", cyls. 10x16", built by Porter in 1872

1¹ 'QUITO' w/n 135 Ex *FC del Sur* no. 1, ex *FC de Yaguachi*. Possibly never rebuilt to 3' 6" gauge.

0-6-0 d/w ?", cyls. 12x16", built by Porter in 1873

2¹ 'GUAYAQUIL' w/n 170 Ex *FC del Sur* no. 2, ex *FC de Yaguachi*. Possibly never rebuilt to 3' 6" gauge.

4-4-0 d/w ?, cyls. ?, built by Grant around 1877

3¹ w/n 1166 Ex *FC del Sur* no. 3. Had been rebuilt from 3' 0" gauge to 3' 6"

2-6-0 d/w 37", cyls. 14x18", built by Baldwin in 1880

4¹ ('OCHO de SETIEMBRE') w/n 5256 Being regauged during July 1902 [23]. Ex *FC del Sur* no. 4. Transferred to the *FC del Oro*, Puerto Bolivar a Pasaje in 1910 when war threatened and that line had been regauged to 3' 6". It is not known whether they ever returned, but probably not as that railway still possessed two out of service locos in 1925.



This photo has already been seen in the previous section on the FC del Sur, but the obtaining of a better quality image has not only made this larger reproduction possible, but also revealed that the tender bears the mark 'G & Q R', thus probably dating it to between 1898 and 1910.

4-4-0 d/w 43", cyls. 13x18", built by Baldwin in 1880

5¹ ('GENERAL I. de VEINTIMILLA') w/n 5250 Ex *FC del Sur* no. **5**. Had been rebuilt from 3' 0" gauge to 3' 6". but possibly renamed.

Transferred to the *FC del Oro*, Puerto Bolivar a Pasaje in 1910 when war threatened and that line had been regauged to 3' 6". It is not known whether they ever returned, but probably not as that railway still possessed two out of service locos in 1925.

4-6-0 d/w 46", cyls. 16x20", built by Baldwin in 1888

6¹ 'SIBAMBE' w/n 9593

Ex *FC del Sur* no. **6**. Being regauged during July 1902 [23]. According to Walker, Gunston et al this loco was later named '**LEONIDAS PLAZA**'. However, this seems likely to be the result of a mix-up with loco. no. **14**, see below. Sr. Leonidas Plaza became Ecuadorian president in 1901, and it is quite plausible that a locomotive might have been renamed after him at that time.



Two views of 4-6-0 no. **6**, identifiable by its dome over the firebox, a feature which distinguishes it from all the later G&Q locomotives.



These older engines in 1900

Source [23] page 14 reports: "*Observo que los gastos de reparación de las máquinas números 4 y 6 del equipo perteneciente al Gobierno tornado por la Compañía al hacerse cargo de la administración y explotación del ferrocarril, máquinas que al parecer necesitaban sustituirse por otras nuevas para atender debidamente al servicio, fueron en justicia cargados á la cuenta de "Mejoras" que se salda por la de "Construcción Company": pero en Agosto año 1902 se transfirió el resumen de esos cargos (\$ 4.195.63) á la de "Reparación de Locomotoras",—recargando así el valor de esta cuenta. En el mismo caso se hallan las máquinas números 3 y 5, y sigue cargándose á esta cuenta todo el gasto que se hace hasta dejarlas habilitadas para el servicio.*"

2-6-0 d/w 42", cyls. 17x20", built by Baldwin in 1900

Ordered by Ecuadorian Association of Edinburgh Scotland. The first two of this type were built to 3' 0" gauge but with regauging to 3' 6" in mind. The first two were class 8-28D nos. 180-1. An erecting card drawing 674A-46 3756 for these two engines is in the DeGolyer Library collection. Why were these two numbered **10** and **11**? The 3' 6" gauge engines took the numbers **7, 8, 9, 12, 13, 14**. Source [23] p112 from December 1900 states: "*En el vapor "Cacique" de Grace y Cía, llegado á Guayaquil en estos días, hemos recibido dos de las nuevas locomotoras de alta potencia. Esperamos que cerca de lo fecha 1o. de Enero, se embarcarán en Nueva York dos locomotoras más y 20 carros*". However, it is not clear which engines were being referred to.

10	w/n 18060	In operation by July 1901 [23]. Ex <i>FFCC Ecuatorianos</i> no. 10 , re-gauged from 3' 0". In service 1955.
11	w/n 18114	In operation by July 1901 [23]. Ex <i>FFCC Ecuatorianos</i> no. 11 , re-gauged from 3' 0". In service 1955. Later became 8 'DURAN' . Re-built 1955, possibly using boiler no. 8? In use 1972 [JK]. Under repair 1975 [MCC]. Under light overhaul 1991 [12]. In use Duran/Bucay 1992 [14]. Has piston valve cylinders. Last reported serviceable at Duran. Carried plate reading "70% reconstruida Talleres Duran"



An un-dated view of no. **10**, but obviously on some special occasion.

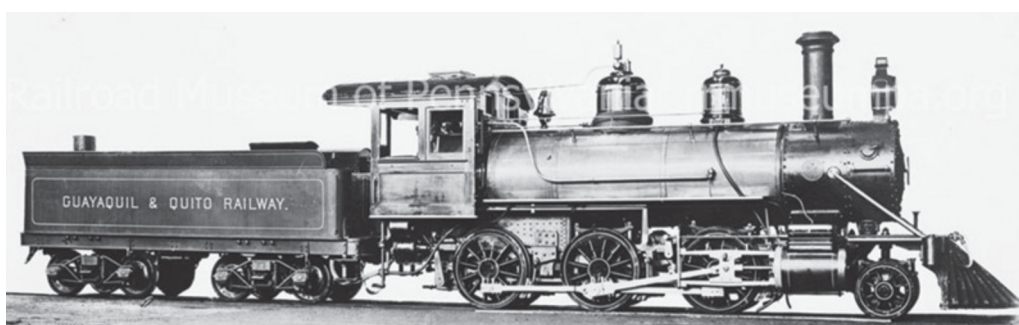
Locos purchased new by the G&QR:

2-6-0 d/w 48", cyls. 17x22", built by Baldwin in 1901

Ordered by Ecuadorian Association of Edinburgh Scotland. The first two of this type had been built to 3' 0" gauge but with regauging to 3' 6" in mind (and had cyls. 17x20"). The next six however, nos. **7-9** and **12-14** were built to 3' 6"

gauge. The tenders of the first four were labelled 'GUAYAQUIL & QUITO RAILWAY Co. OF ECUADOR' with the remainder merely carrying 'GUAYAQUIL & QUITO RAILWAY'. Livery was to be olive green and gold. Class 8-28D 182, 183, 200-2 for the 3' 6" engines, and 8-28D 180-181 for the 3' 0" gauge pair.

7	w/n 19153	1901	Trial 15-6-1901, shipped 27-6-1901. Rebuilt Duran 1944 using boiler no. 7 and piston valves. In service 1955. In use 1971 [RZ], 1975 [MCC], 1991 [12] and 1992 [14]. Stored undercover at Duran for many years, but minus tender. This engine is now plinthed at Montecristi. It has bolt-on piston valve chests rather than replacement piston valve cylinder castings.
8	w/n 19154	1901	Trial 15-6-1901, shipped 27-6-1901. First official loco into Ruta Urbina in Quito on 25th June 1908, though [11] suggests that one of the Shays may actually have reached that point rather earlier. May have been fitted with side tanks for a while, see below. In service 1955. Later carried 25959 plate from scrapped BLW 0-6-6-0 []. In use 1972 [JK] carrying plates from no. 18. Derelict 1975 [MCC]. A 2-6-0 plinthed in very poor condition at Machala on the erstwhile <i>FC de El Oro</i> is said to be no. 8. It still had slide valves until the end of its working life.
9	w/n 19346	1901	Trial 10-8-1901, shipped 24-8-1901. In service 1955.
12	w/n 18427		In operation by July 1901 [23]. In service 1955.
13	w/n 18428		In operation by July 1901 [23]. In service 1955.



BLW image 01497-1 available from the Railroad Museum of Pennsylvania.



No. 7 as running in 1975. The differences are legion, including the loco having been reboilered with a shorter smokebox and a stove-pipe chimney, turbo-generator and electric headlight, bolt-on piston valve chests with outside steam-pipes, solid pilot/cow-catcher, and a different and taller tender. The sand-dome is also larger in diameter, and the cab window layout is different in a steel cab rather than a wooden one.



The smokebox number-plate from G&QR 2-6-0 no. **8**, by courtesy of Richard Stratford. Richard points out that such Baldwin plates only gained the definite article 'The' after 1914 when the company changed from being a partnership, and he suggests that the plate may be a replacement cast at Duran, a supposition supported by there being no Baldwin code number on the reverse.



No. **12** is seen after a derailment somewhere on the G&QR. Date unknown.



And another mogul derailed; this time no. **13** in June 1926, and showing that by then it had received 'bolt-on' piston valve chests.

The construction period

Sources [23] and [24] comprise 750 pages of correspondence and accounts relating to the construction of the G&QR during 1903 and 1904. The references to locomotives have been extracted and placed in Appendix 4 at the end of this document.

In particular, there are mentions of:

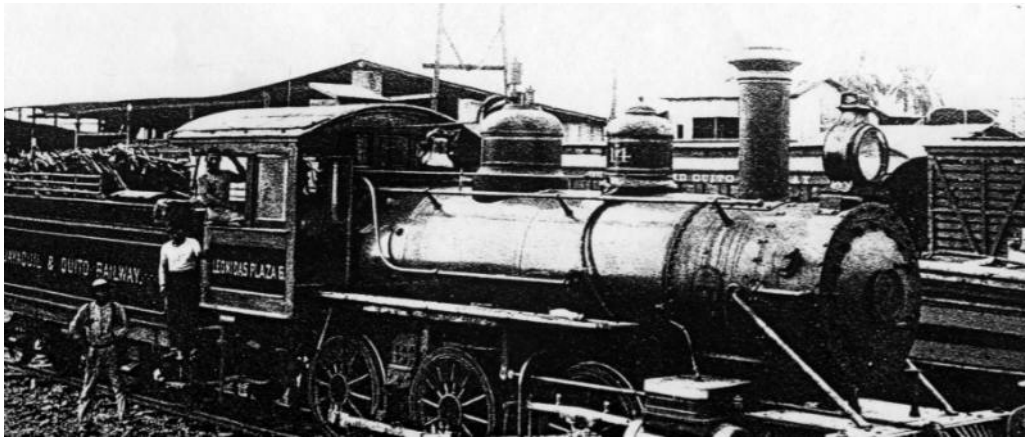
- the old *FC del Sur* locomotives nos. **3, 4, 5** and **6**, including their regauging to 3' 6". There is a mention that other material transferred from the earlier railway (and presumably including locos **1** and **2**) was unserviceable.
- the ordering, shipping, arrival and erection of moguls **7-14** and Shays **15** and **16**.
- accidents which had involved engines nos. **7, 8**, and **3** and **5**.
- Individual locomotive costs and mileages during May 1904.

2-6-0 d/w 48", cyls. 17x22", built by Baldwin in 1901

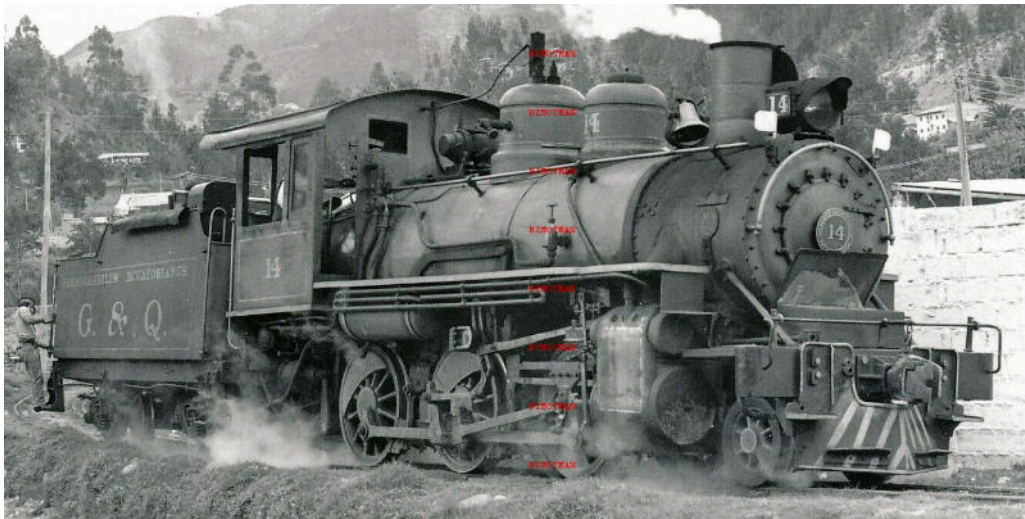
Ordered by Ecuadorian Association of Edinburgh Scotland for Guayaquil & Quito Railway. Class 8-28D 203. In July 1903 source [23] page 99 reported: "*Desde mi último informe hemos agregado una locomotora más al servicio del Ferrocarril, completando así el numero de catorce locomotoras.*"

14 'LEÓNIDAS PLAZA G.' w/n 19347 Trial 10-8-1901, shipped 24-8-1901. Ex *FFCC Ecuatorianos* no. **10**, regauged from 3' 0". In later years had piston valve cylinders and double air pumps. Rebuilt 1959 using boiler from no. **9** [Copeland] and given Walschaerts valve gear [Koch]. Under over-

haul 1972 [JK]. In use 1975 [MCC]. Transferred to Cuenca 1990 [12], and in service there 1992 [14]. Last reported serviceable at Ibarra around 2009.



A photo of no. **14** bearing the name '**LEÓNIDAS PLAZA G.**' after an Ecuadorian General. Date unknown, location possibly at Duran. This suggests that other G&QR locos may have borne names during the early years. This photo appeared in *The Railway Times* in July 1909.



No. **14** in later years, with piston valve cylinder blocks, a shorter chimney, a steel sheet pilot, and all the usual air brake equipment.

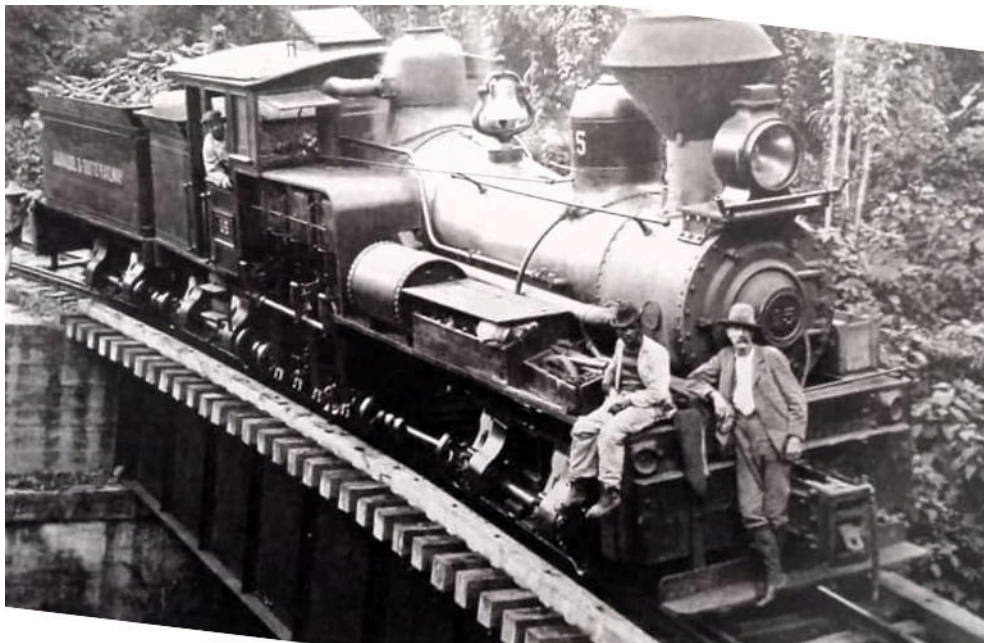
0-4+4+4-0 Three truck Shays d/w 32", 3 cyls. 12x12", built by Lima in 1901 and 1903

Ordered via the Ecuadorian Association Ltd. 50 ton locos. Source [23] p61 reports from December 1900: "*The Lima Locomotive and Machine Cia.*", se ha obligado á construir dos locomotoras denominadas "Shay", para usarlas en las secciones donde hay fuerte gradiente: una de estas locomotoras está ya en viaje, por la via de Panamá, y la otra entregarán, á más tardar, el 15 de Junio venidero." First two shipped May 30 and July 8 1901.

15¹ w/n 650

16¹ w/n 648

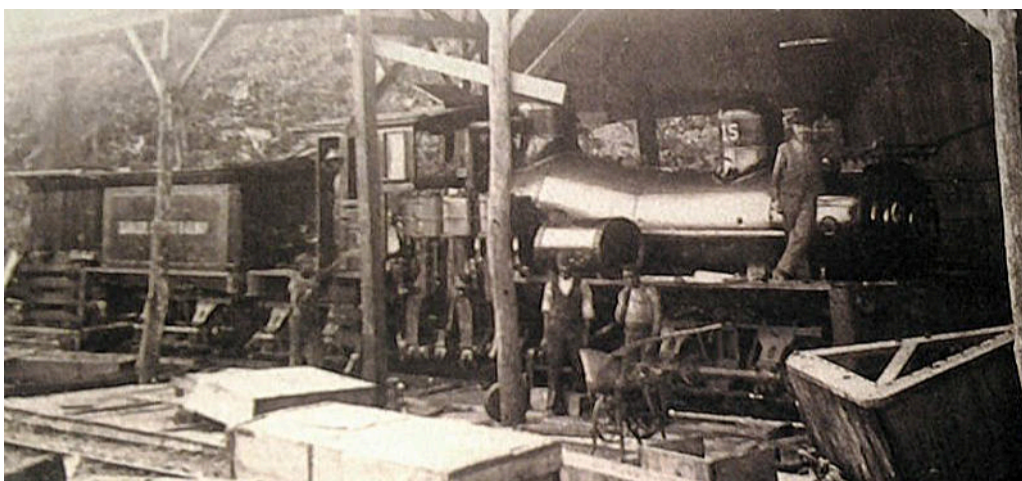
Brian Fawcett in *Railways of the Andes*, quotes John MacIntyre as saying "When I arrived in 1910 there were some old Shays on the rip track outside Duran shops but none of this type remained in service."



No. **15** . It looks as though these locos ran on wood fuel.



This photo of no. **16** from the Shay website at <https://www.shaylocomotives.com/> shows only one minor difference from no. **15** above, the much smaller toolbox on the running plate in front of the air reservoir.



Shay no. **15** being worked on in a crude wooden shed somewhere.

It looks as though the bunker has been removed and placed on a wooden trestle behind the tank.

0-4+4+4-0 Three truck Shays d/w 32?", 3 cyls. 14½x15", built by Lima in 1903 but not delivered

Ordered via the Ecuadorian Association Ltd. 70 ton locos? Note that these two would have been considerably larger and heavier than the first two. The Shay website gives d/w 40" for the standard gauge bogies later fitted to these engines, and thus the original d/w sizes can only be guessed at.

17¹ w/n 761 Order for this loco cancelled after completion but before delivery.

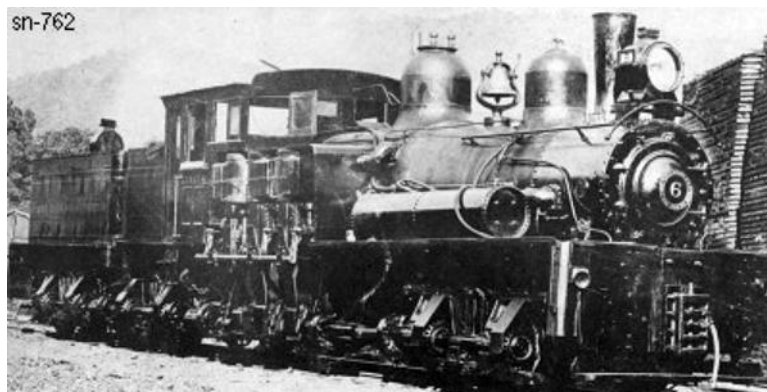
18¹ w/n 762 Order for this loco cancelled after completion but before delivery.

[11] reports two other Shays, a two truck loco and also Lima 761 lettered for the G&Q in various publicity photos.

The Shay website says of the latter: "First built c3-1903 as a 42" gauge for The Ecuadorian Association Ltd., Guayaquil, Ecuador Guayaquil & Quito RY #**17¹**, even photographed but cancelled before shipment. Re-gauged to std. and sold as new." to the Copper Belt Railway, then to the D&RGW. And for 762, similarly to be G&QR no. **18¹**, but then sold to the Cherry River Boom & Lumber Co. of Richwood, West Virginia as their no. 6.



This image from the Shay website shows no. **17** completed and lettered for the G&QR before the order was cancelled and the engine eventually regauged to standard for sale to the Copper Belt Railway in Colorado. Obvious differences from the locos seen above include the straight stack, the wrapover cab roof and a rather longer air reservoir on the running plate.



The intended G&QR no. **18** as regauged to standard and sold to the Cherry River Boom & Lumber Co. Photo from the Shay website.

Cancellation of the additional Shay order

In March 1911 Archer Harman, as President of the G&QR, commented as follows [31]:

NECESARIOS.

“b) La compra de dos locomotoras “Shay”.

“Después de investigaciones, los Directores tuvieron que decidir que las locomotoras “Shay” no podían emplearse ventajosamente en este ferrocarril, y muchas otras mejoras fueron sustituidas en lugar de los \$ 40,000 destinados para la compra de estas locomotoras.

“Además encontrará usted una lista de los tra-

“The purchase of two ‘Shay’ locomotives. After investigation, the Directors had to decide that the ‘Shay’ locomotives could not be used to advantage on this railroad, and many other improvements were substituted in lieu of the \$40,000 earmarked for the purchase of these locomotives.”

One of the most interesting points here is why this decision was only being announced in 1911 when the larger Shays were supposedly built in 1903.

The Ecuadorian Association Ltd. of Scotland

Paolo Roberto Escobar Almeida, 2011, [28] states: “*En Escocia, Archer montó la Ecuadorian Association, Ltd., con respaldo financiero británico y escocés. Es muy probable que, durante este viaje, Archer se haya reunido con el acaudalado Sir James Sivewright. La Association, constituida en febrero de 1899 con un capital de £100.000, se formó para construir y equipar el ferrocarril de Durán a Quito. La Association también asumió el contrato entre el Consejo de Tenedores Extranjeros de Bonos y la G&Q para comprar la deuda externa del Gobierno del Ecuador.*”

In Scotland, Archer set up the Ecuadorian Association, Ltd., with British and Scottish financial backing. It is very likely that, during this trip, Archer met the wealthy Sir James Sivewright. The Association, incorporated in February 1899 with a capital of £100,000, was formed to build and equip the Durán-Quito railway. The Association also assumed the contract between the Council of Foreign Bond Holders and the G&Q to buy the foreign debt of the Government of Ecuador.”

Thus many of the locos listed in this section were ordered initially by the Ecuadorian Association Ltd.

The 1902 fleet list

[11] quotes the G&QR Co.’s annual report in 1902 as listing the following engines. The running numbers have been interpreted by the current author, and are in some cases difference from those assumed by Copeland. Tons mean short tons, ie. 2000 lbs per ton.

2 x 50-ton geared Shay type	(Lima specs. give weight as around 90,000lbs. = 45 tons. for	Nos. 15-16
8 x 45-ton BLW mogul type	(BLW specs. give weight as around 83,000lbs. = 41.5 tons. for	Nos. 7-14
1 x 35-ton BLW mogul type	(BLW spec. gives weight as around 66,000(?) lbs. = 33 tons. for	No. 6?
1 x 25 ton Grant passenger type	(Grant lists give weight as 50,000 lbs. = 25 tons. for	No. 3
1 x 25-ton BLW mogul type	(BLW spec. gives weight as around 52,000 lbs. = 26 tons. for	No. 4
1 x 25-ton BLW atlantic type	(BLW spec. gives weight as around 48,000 lbs. = 24 tons. for	No. 5?

It is clear that the BLW specification books tend to give slightly lighter weights than those given in the G&QR annual report. Nevertheless, it is possible to be reasonably confident that the loco numbers given here are the correct ones. Quite why loco no. **5** is shown as an atlantic type is not known, though the spec. in vol. 10 page 77 does have a handwritten addition saying “See Extra order 184 1/10/02”. Unfortunately the 1902 extra order books are not available in the usual locations. If examined they might give us a clue.

Incidentally, a report of December 26th 1900, in source [23, p61], states: “*“The Baldwin Locomotive works”, se ha comprometido á construir 18 locomotoras. De éstas, ya ha recibido la Compañía cuatro, y otras cuatro, según aviso de esta casa, serán entregadas hasta el 1o. de Setiembre próximo.*” This suggests that the original seven 2-6-0s, 2-6-0 no. **14**, the two Mallets and the eight Vaclain 2-8-0s, had all been ordered by that date.

The 1904 fleet list

The Reports and Accounts of the company for 1904 [34], reported: “14 locomotives, Note. – Of these 2 are 50-ton geared engines of Shay type; 8 are 45-ton Baldwin locomotives, Mogull (sic) type; 1 35-ton Baldwin Locomotive, Mogull type; 1 25-ton Baldwin Locomotive, Mogull type; 1 25-ton Baldwin Locomotive, Atlantic type; and 1 25-ton Graqn Locomotive, Passenger type.” This list is therefore identical to that shown above for 1902, including the reference to an Atlantic type locomotive which remains a puzzle.

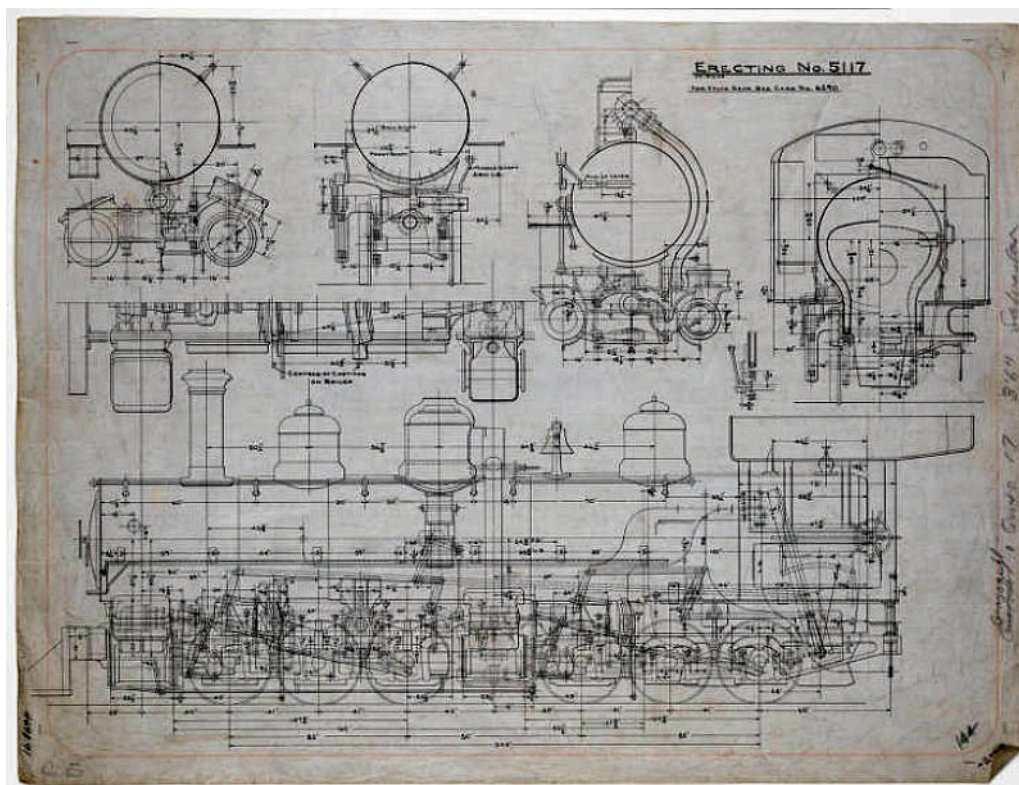
0-6-6-0 Mallet d/w 37”,cyls. 12½/19x20, built by Baldwin in 1905

Ordered via Dutilh-Smith MacMillan & Co. for G&Q Rly. Class 12-19/32 DD 5-6. Spec. is in vol. 28 p59. It rather looks as though the additional Shays listed above had been cancelled directly in favour of ordering these two Mallets. Tender sides were to be lettered ‘GUAYAQUIL AND QUITO RAILWAY’. Engines to be painted in olive green and aluminium. Erecting card drawing numbered 469A-91 5117 is in the DeGolyer Library collection.

17² w/n 25870 Trial 15-6-1905, shipped 12-7-1905. Scrapped, works plate was on **8** in 1975 [MCC].

18² w/n 25959 Trial 1-7-1905, shipped 12-7-1905. Scrapped?

[11] says not a success and did not track well. One boiler later in stationary use at Duran.



This low-resolution image of the Baldwin erecting drawing for the 0-6-6-0 Mallets is available at <https://digitalcollections.smu.edu/digital/collection/rwy/id/5117>

High-res versions can be purchased.

2-8-0 d/w 42”, cyls. 13½/13½x22 (4 cyl. Vaucrain simple) built by Baldwin in 1906

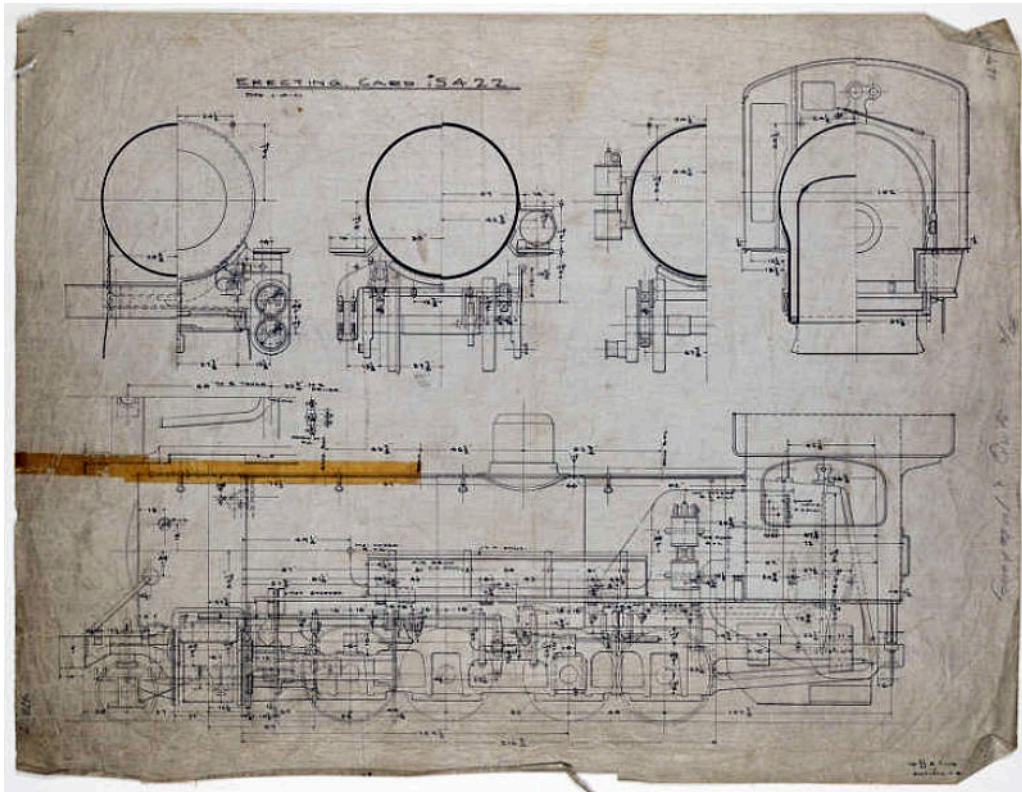
Ordered via Dutilh-Smith MacMillan & Co. for G&Q Rly. Class 10-21/21 E 1-8, Tender sides were to be lettered ‘GUAYAQUIL AND QUITO RAILWAY’. Engines to be painted in olive green and aluminium. Erecting card drawing numbered 473-17 5422 is in the DeGolyer Library collection.

19 w/n 27615 Trial 1-3-1906, shipped 24-3-1906. Renumbered to **27** by 1920. In service 1955.

20 w/n 27638 Trial 1-3-1906, shipped 24-3-1906. The 1955 list shows BLW no. 27638 as G&Q no. **23**. Rebuilt as no. **59**?

21 w/n 27649 Trial 1-3-1906, shipped 24-3-1906. In service 1955.

22	w/n 27650	Trial 1-3-1906, shipped 24-3-1906. In service 1955.
23	w/n 27651	Trial 1-3-1906, shipped 24-3-1906. The 1955 list shows BLW no. 27651 as G&Q no. 28 . Derelict at Riobamba in October 1967 [29].
24	w/n 27652	Trial 1-3-1906, shipped 24-3-1906. In service 1955.
25	w/n 27703	Trial 10-3-1906, shipped 24-3-1906. In service 1955. Sold?
26	w/n 27749	Trial 16-3-1906, shipped 24-3-1906. In service 1955. Sold?



This low-resolution image of the Baldwin erecting drawing for the Vauclain-cylindered 2-8-0s is available at <https://digitalcollections.smu.edu/digital/collection/rwy/id/2442>
High-res versions can be purchased.



BLW image 02130 available from the Railroad Museum of Pennsylvania.
Note the relatively tall chimney. For some reason all new locos ordered after this batch had much shorter stacks, and some earlier locos had their chimneys shortened.



An accident to one of the Vaucrain-cylindred locos, as shown in the *Baldwin Magazine* during the 1920s. This image may well have been reversed for publication, unless the air reservoir on one or more of these engines had been moved to the right hand side. However, it has been reversed again here.



Vaucrain 2-8-0 no. **23** in about 1920, having lost both its chimney cap and the lagging around its cylinders.



A view of the left hand side of one of the Vaucrain locos, after a turbo-generator had been installed immediately in front of the cab. Note that the chimney has been shortened but the sand-domes seem to be taller than those seen in the builders' photo above.



No. **21** after a derailment. The location and date are unknown but it can be seen that the loco now carries an electric headlamp but not yet replacement valve chests or knuckle coupler.



The cylinder blocks from the Vaucrain four-cylindered 2-8-0s were modified by having 'bolt-on' piston valve chests affixed in place of the original slide valves to improve their efficiency. The left hand image shows no. **22** in that modified state in 1936, whilst the right hand photo shows a derelict loco's modified cylinders and valve chest in the yard at Duran in 1975.

2-8-0 d/w 42", cyls. 13½x22 (4 cyl. Vaucrain simple) built by Baldwin in 1906

Ex no. **19**, renumbered to **27** by 1920, possibly so that the growing fleet of 2-8-0s could all be numbered in the 20s.

27

w/n 27615

In service 1955.

Loco references in President's reports to Stockholders

1914 report (ie. written March 1915): "The cars and locomotives for this road (Ambato á Curaray) have been erected in our shops..."

"The condition of the (ie. our) locomotives is much improved, and can now be considered satisfactory."

1916 report:

"One of the engines (Consolidation type) was converted into an Oil Burner and exhaustive tests made with native oil demonstrated its economic advantage as compared with coal. It is now proposed to convert all our engines into Oil Burners, as soon as we can make a suitable contract for oil, (the local supply unfortunately being insufficient), erect storage tanks and provided the necessary equipment. This change should result in an important economy in operation."

Work of equipping the passenger and freight cars with heavier axles and automatic couplers was continuing at this time.

"FUEL SITUATION: During the first seven months of the year, the monthly fuel expense had, on account of the greatly increased cost of coal and ocean freight rates, reached a figure where we were confronted with heavy net losses. Under these circumstances, it was necessary to find a substitute for coal, if operation was to be continued. As Ecuador produces oil, our attention was first turned in the direction of fuel oil, but the local supply was found to be insufficient, and further, that it was impossible to arrange for its importation. The use of wood then became imperative, and we were fortunate in being able to quickly secure large quantities of firewood, which mixed with coal, have since been used in all of our engines, shops and floating equipment. Under these new conditions, train operation at first was very difficult, but a marked improvement soon followed, and our trains are now running practically as heretofore,"

1919 report:

Boilers and fireboes were renewed in Engines **8**, **12** and **14**, and these Engines thoroughly overhauled, The large Engines of the Consolidation type are in excellernt condition while all old Engine Tanks have been re-built or repaired. There were very few mentions of individual locomotives in the Directors' reports for 1921, 1922, 1923, 1925, but in 1931 the following appeared:

"In the year 1928 we purchased three articulated type 'Garratt' locomotives. Everything expected of these locomotives in actual service has been fulfilled, their chief advantage being the hauling of 60% more tonnage on same fuel consumption than the Consolidation type up the severe grades in the Chanchán valley."

and "In 1930 we constructed in our Eloy Alfaro terminal shops one of our best Consolidation type locomotives, numbered **33**, using spare parts accumulated in our general storehouse. The splendid construction of this locomotive demonstrated the ability of our mechanics. The cost of this engine was \$/. 91.425.

1935 report:

Three new boilers were bought this year at a total cost of S/.298.844.70 and these boilers were fitted to engines which had to be completely overhauled so that they might leave our workshops practically practically as new engines."

"As previously mentioned in this report, a complete overhaul of engines has been carried out in our shops during this year and this work should be continued until all the deferred maintenance that has been accumulating for years back is brought up to date. If traffic goes on increasing at the rate it has done this year, two new locomotives will be needed and the necessary funds appropriated towards this end. A careful study of Diesel, Diesel Electric and steam locomotives is being made but it is my opinion that the steam locomotive, at the present moment, will serve our purpose better than any other system until such time as the complications brought about by a complete revolutionary system, be better understood locally and adapted. "

1936 report:

"The large traffic movement gave small opportunity for heavy engine repairs and locomotives, badly in need of general overhaul, have been working continuously. This is not good for the mechanism of the locomotive nor for the service as bad running and engine failures are the logical results of keeping engines in bad condition. The addition of two new engines recently purchased will allow us to remedy the situation and give our traction the required attention to repairs with more satisfactory service all round. During the latter part of the year, engine No. **35** Consolidation type,

2-8-0 built in Duran shops was put into service so that we shall have three more engines in the coming year than we had in 1936. ”

1938 report:

“I contracted for two Baldwin locomotives of the Consolidation type but we had to forego signing the contract because of the dearth of dollars on the market. Faced with this difficulty, I concentrated all the activities of the shops at Eloy Alfaro on a general overhaul of a great number of locomotives which resulted in our being able to keep up the service efficiently. A fitting opportunity is however not being lost sight of to acquire these two units which must be done with the least possible delay.”

2-6-0 d/w 42", cyls. 17x20", built by Baldwin 1914

5² w/n 41160 *FC Ambato y Curaray* no. 2, listed as on *FCQ-E* in 1955.

6² w/n 41159 *FC Ambato y Curaray* no. 1, listed as on *FCQ-E* in 1955.

2-6-0 d/w 48". cyls. 17x22", built by Baldwin in 1916

4² w/n 44459 *FC Sibambe Cuenca* no. 1, listed as on *FCQ-E* in 1955.

A ‘switch engine’ puzzle

The photo below was found amongst a set of pictures of Duran in the archive of the late Christopher Walker. There were no clues as to their origin. This particular image appears to show a Baldwin tank loco in the siding immediately north of the Duran station building, facing east as if about to depart. However, the G&QR is not known to have had any tank engines. The loco does also seem to have a tender full of wood attached.

If this was indeed a Baldwin-built tank engine, possibly of similar design to those 2-6-2Ts that ran in Colombia and Venezuela on the *FC de Cúcuta* and the *Gran FC de Tachira*, then its identity is a complete puzzle. Alternatively, it is possible that it was one of the G&QR’s Baldwin moguls with added side tanks.

I am inclined towards that latter hypothesis, for several reasons:

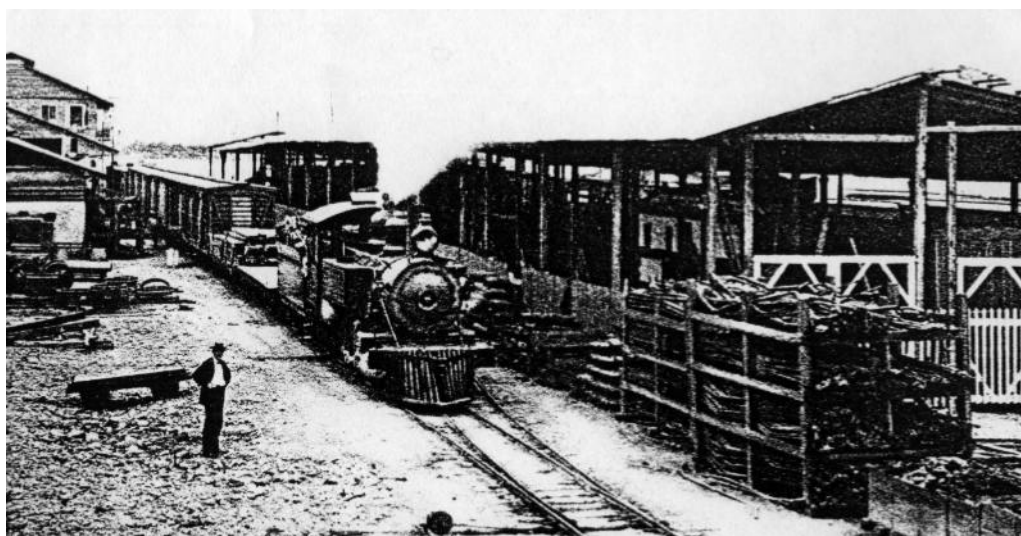
1 There is only one sand dome, solely for forward running, as on the G&Q moguls, rather than two for operating in either direction, on the Baldwin 2-6-2Ts mentioned earlier.

2 The cab sides do not extend down below the floor as on those tank locos and there is no sign of a bunker.

3 The side tanks are relatively shallow compared to those on the Colombian and Venezuelan engines.

4 The front number plate of the engine, though not totally clear, does appear to show the number 8.

Whilst a number of past researchers have examined the G&Q fleet in detail, only Henry Gunston seems to have noticed this phenomenon, and he too considered that the tanks must have been temporary additions to engine no. 8.



The building in the left background with a clerestory does appear to be the main Duran station building, with the loco and train seemingly about to depart from a siding on the north side, and the river visible in the background.

More recently, examination of a number of the President's reports to Stockholders, found at the London Metropolitan Archives in Clerkenwell, disclosed references to a single 'switch' engine. along with seven 'moguls'. Whilst it would be possible for the first reference, in 1917, to have related to a sole survivor of the earlier ex-*FC del Sur* locos, the description continued through into the 1930s. Given that eight G&QR 'moguls' had been built, it began to look as though one of them had been adapted in some way.

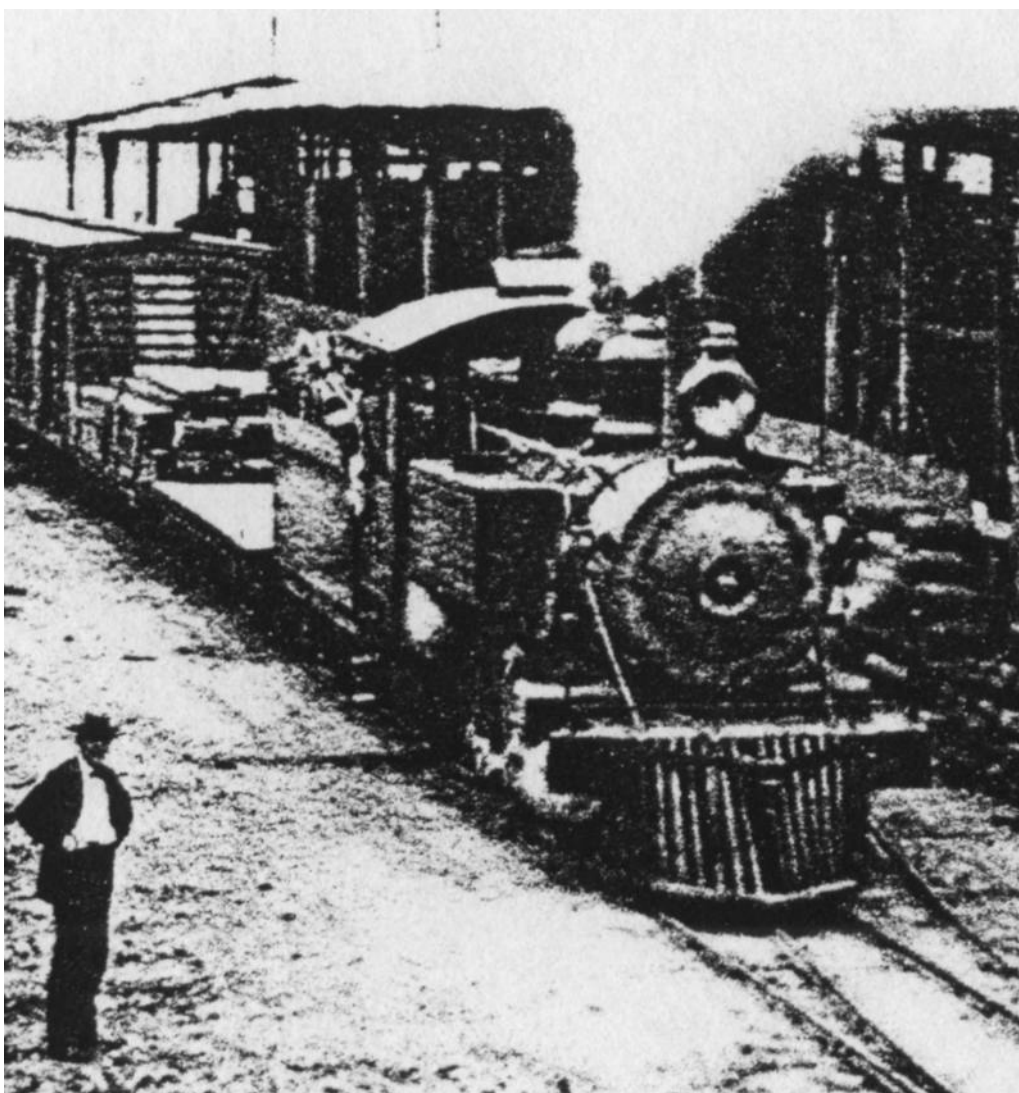
TABLE NO. 11		
STATEMENT OF ROLLING STOCK		
DECEMBER 31, 1917		
Engines—Switch.....	1	
Engines—Mogul Type.....	7	
Engines—Consolidation Type.....	8	16

EXHIBIT No. 5	
EQUIPMENT IN SERVICE 1936	
LOCOMOTIVES	
	DEC. 31
	1936
Garratt	3
Consolidation	15
Mogul	6
Switch	1
Total	25

Additional evidence comes in the form of a table, published in a President's report in the mid-1930s but listing locomotive capital expenditure at the beginning of the decade. One line is devoted to 'two locomotive tanks', possibly as a replacement pair at that late date.

ADDITIONS AND BETTERMENTS - CHARGED TO CAPITAL FOR FIVE YEARS ENDED DECEMBER 31st 1931 (Concluded)						
(IN SUQUES)						
EQUIPMENT	1927	1928	1929	1930	1931	TOTAL
LOCOMOTIVES						
Two new Locos. (Balance)	21,380.88	8,841.88				30,222.76
Three new Locos. (Garratt)		34,438.58	981,965.53	33,838.15	16,420.33	1,066,671.59
One Locomotive No 33				91,425.36		91,425.36
Two Locomotive Tanks		868.30	5,167.95	11,922.11		17,958.36
Total Locomotives	21,380.88	44,148.76	987,133.48	137,185.62	16,420.33	1,206,287.07
FREIGHT TRAIN CARS						
35 New Box Cars (Balance)	29,850.08					29,850.08
50 New Box Cars		480,632.51	6,145.11	12,710.38	8,739.19	508,227.32
6 Oil Tank Cars	132.51	69,715.17	2,009.10	* 224.63		71,632.15
2 Tank Cars				24,171.93	1,026.28	25,198.21
Total Freight Train Cars	29,982.59	550,347.81	8,154.21	36,657.68	9,765.47	634,907.76
PASSENGER TRAIN CARS						
3 New Passenger Cars		232,702.48	6,099.97	12,710.37	8,739.15	260,251.97
FLOATING EQUIPMENT						
Lighter No 6	33,521.87		11,114.74	16,134.36		60,770.97
Motor Launch "Telégrafo"		1,200.00				1,200.00
Oil Barge "Dictador" (Sold)		* 10,000.00				* 10,000.00
Total Floating Equipment	33,521.87	* 8,800.00	11,114.74	16,134.36		51,970.97
TOTAL EQUIPMENT	84,894.34	818,399.05	1,012,502.40	202,688.03	34,933.95	2,153,417.77
TOTAL ROAD AND EQUIPMENT	203,688.77	1,098,184.38	1,548,042.67	707,694.09	249,590.50	3,807,170.41

* Credit Item.

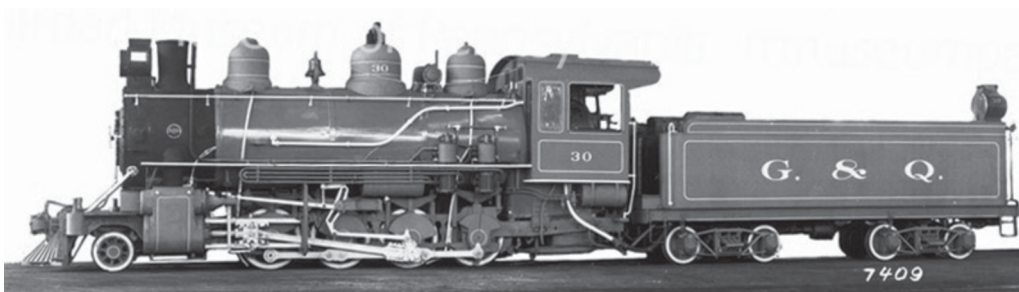


An enlargement of the locomotive image seen above, to show the points mentioned in the notes above.

2-8-0 d/w 42", cyls. 19x22", built by Baldwin in 1920

For G&Q Rly. Class 10-32 E 155-7. Tender sides to be lettered 'G. & Q.' First locos delivered as oil burners.

- | | | |
|-----------|-----------|---|
| 28 | w/n 52869 | Trial Jan-1906, shipped 11-2-1920. Renumbered 34 after 1945 rebuild. Derelict at Riobamba in October 1967 [29]. |
| 29 | w/n 52915 | Trial Jan-1906, shipped 12-2-1920. Renumbered 35 . |
| 30 | w/n 52934 | Trial Jan-1906, shipped 13-2-1920. Derelict 1975 [MCC]. Copeland says rebuilt 1930 and renumbered 33 ? However, the 1955 list shows this loco still as no. 30 . |



BLW image 07409-1 available from the Railroad Museum of Pennsylvania.

These would appear to have been the first G&Q locos to have been supplied with piston valves, and it looks as though there is a knuckle coupler fitted too.

A report from 1920-1921

Source [26] includes an update on the condition of the G&QR, written by the *Interventor del FC el Sur* (note how the name had not changed to reflect the new operator despite their twenty years in place), including the following para-

graph about the loco fleet.

"LOCOMOTORAS.—Nº 6: se halla fuera de servicio; le falta aun el caldero.—No 8: se encuentra reparandose en los talleres de Duran.—No 20. como la anterior se encuentra en los talleres.—No 27: está en muy mal estado para el servicio, pues le falta la caja de fuego.—No 9: por hallarse en malas condiciones, pues necesita de un nuevo caldero, se la emplea solo en el patio y cambios de Duran.—No 29: se le pone actualmente un tanque para petróleo (esta es una de las nuevas locomotoras adquiridas en este año por la Compañía).—Las maquinas Nos. 28, 29 y 30, son las nuevas y tienen un solo cilindro de 19 pulgadas de diametro; por este motivo son al parecer inferiores a las de la clase No 20 en las que hay dos cilindros de 13½ pulgadas cada uno.—Por lo expuesto, deducira Ud., Senor Ministro, que aun cuando se ha aumentado el numero de locomotoras con las tres últimamente adquiridas, no por eso el servicio ha podido mejorar, porque varias de ellas se encuentran si no inutilizadas, a lo menos reparandose en los talleres."

Locomotora	Nº	Sin caldero	
"	6	"	
"	7		80.400 peso en libras
"	8		80.400 " "
"	9		80.400 " "
"	10		por averiguarse
"	12		80.400 peso en libras
"	13		por averiguarse
"	14		80.400 peso en libras
"	20		145.160 " "
"	21		145.160 " "
Locomotora	Nº	Sin caldero	145.160 peso en libras
"	22		145.160 " "
"	23		145.160 " "
"	24		145.160 " "
"	25		145.160 " "
"	26		145.160 " "
"	27		145.160 " "
"	28	nueva locomotora	144.400 " "
"	29	" "	144.400 " "
"	30	" "	144.400 " "

LOCOMOTORAS QUE SE HALLAN EN EL TALLER

- Máquina Nº 6.—Se encuentra fuera de servicio más de un año, necesita especialmente un caldero.
- Máquina Nº 8.—Necesita reparaciones generales, se cree que podrá ponerse en servicio al 30 de Noviembre.
- Máquina Nº 20.—Necesita reparaciones generales, se cree que podrá ponerse en servicio en Diciembre.
- Máquina Nº 29.—Se le está poniendo tanque para petróleo y se espera porérsela al servicio después de pocos días.
- Máquina Nº 27.—Le falta la caja de fuego (fire-box). No podrá ponerse al servicio hasta Marzo de 1921.
- Máquina Nº 9.—En servicio actual solamente en los cambios de Durán, necesita un nuevo caldero que se lo está construyendo en los talleres. No podrá hacer servicio en la línea del Norte, sino después de muchas reparaciones, hasta Marzo de 1921.

CILINDROS DE LAS LOCOMOTORAS

Las de la clase Nº 20, doble cilindro de 13½ pulgadas cada una, con una superficie total entre los dos de 286,26 pulgadas cuadradas,

Las locomotoras Nos. 28, 29 y 30 (nuevas), un solo cilindro de 19 pulgadas de diámetro con un total de 283, 52 pulgadas cuadradas.

**El cuadro siguiente demuestra el estado del equipo
durante el año de 1919**

LOCOMOTORAS

Para servicio de pasajeros.....	7
Para servicio de carga.....	8
Para servicio de patio y cambios.....	1
Total.....	16

Inventario general del equipo de la Compañía del Ferrocarril del Sur al 31 de Diciembre de 1920

LOCOMOTORAS

		Aumento	Disminución
Para servicio de pasajeros.....	10	....	3
„ „ carga.....	8		
„ „ cambios.....	1		
Total.....	19		3

The Río Chanchán disasters, of 1925 and other dates

There seems to have been more than one serious accident involving the river Chanchán, but whether they were all washouts after heavy rainfall or involved actual derailments is not yet clear. One was supposed to have involved a loco no. 5, at Km 110 where its wheels then lay for many years. At one point the railway company was seriously considering re-routing the track away from the river.



Workers attempt the salvage of a Baldwin boiler from the rushing waters after a wreck.

2-8-0 d/w 54", cyls. 19x26", built by Baldwin in 1926

For G&Q Rly. Class 10-32 E 182-3. Tenders to be lettered 'G. & Q.'

- | | | | |
|----|-----------|------|--|
| 31 | w/n 58956 | 1926 | Trial 18-1-1926, shipped 10-2-1926. In service 1955. In steam at Riobamba in October 1967 [29]. In use 1975 [MCC]. OoS Duran 1987. |
| 32 | w/n 58957 | 1926 | Trial 18-1-1906, shipped 10-2-1926. In service 1955. |



No. 32 wrecked near Riobamba. Date and circumstances unknown.

2-8-0 d/w 44", cyls. 18x24", built by Baldwin in 1927

- | | | |
|----|-----------|--|
| 15 | w/n 60182 | Ex FC Sibambe Cuenca no. 2.
In use 1975 on Sibambe Cuenca line with tender inscribed
'Ferrocarriles Ecuatorianos S. C.' [MCC]. Plinthed in Riobamba. |
|----|-----------|--|



15 departs from Sibambe for Cuenca in April 1975 in this shot by MCC.

Changing fuels on the G&Q

Judging by the diamond stacks and Radley & Hunter stacks fitted to the early *FC del Sur* locos, wood was the fuel of preference from the 1870s to the 1890s. From 1900 onward chimneys were straight and the fuel then seems to have been British or Australian coal, though locos built in the 1920s for the *FC Ambato a Curaray* and the *FC Quito Esmeraldas* had rails on their tenders which could have been intended to hold in either wood or coal. From the late 1920s, however, it was clear that oil was becoming the energy source of choice. The Garratts illustrated below were built with fuel tanks, as were all subsequent 2-8-0s. That should be no surprise, for from the 1920s Ecuador had its own growing petroleum industry.

2-6-2+2-6-2 Garratts d/w 38", cyls. 15½x20", built by Beyer Peacock in 1929

101 'ELOY ALFARO'	w/n 6527	Renumbered 51 ¹ possibly on arrival in Ecuador.
102 'PRESIDENTE AYORA'	w/n 6528	Renumbered 52 ¹ possibly on arrival in Ecuador.
103 'ARCHER HARMAN'	w/n 6529	Renumbered 53 ¹ possibly on arrival in Ecuador.

All later acquired rebuilt bunkers, and one, possibly **101**, supposedly “blew up” in 1933 with fatal results, and a replacement boiler was ordered! [11] speculates about contradictory evidence as to whether these locos started out with their **51-53** numbers or the **101-3** designations. BP works photos show the higher numbers, which they may later have reverted to after some years bearing **51-53**. Originally painted red and may have started that trend on the G&Q [11]. In 1977 there was a boiler in Duran workshops (from **103**), a bunker (used as a fuel tank) at Bucay and some cylinders in the Chan Chan River [info from the late Gavin Hamilton’s Garratt locomotives website, including additional information from Jack Neville]. The wreck in the river may have been **102** after an accident at Km. 105.

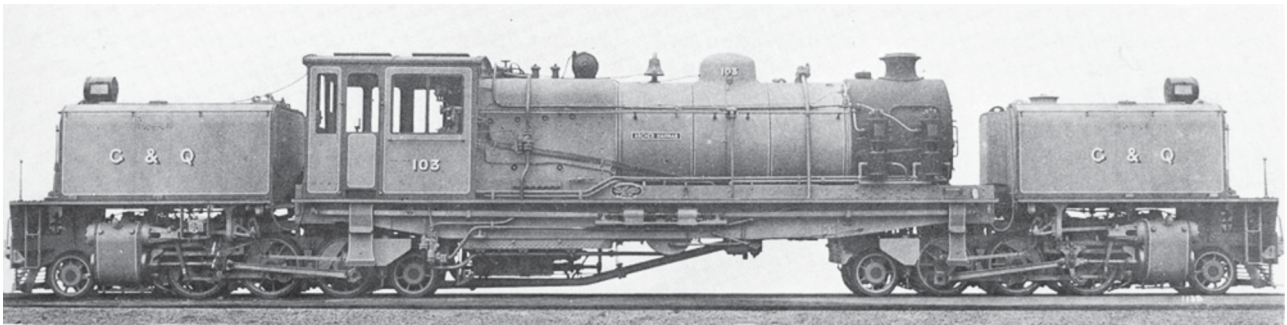
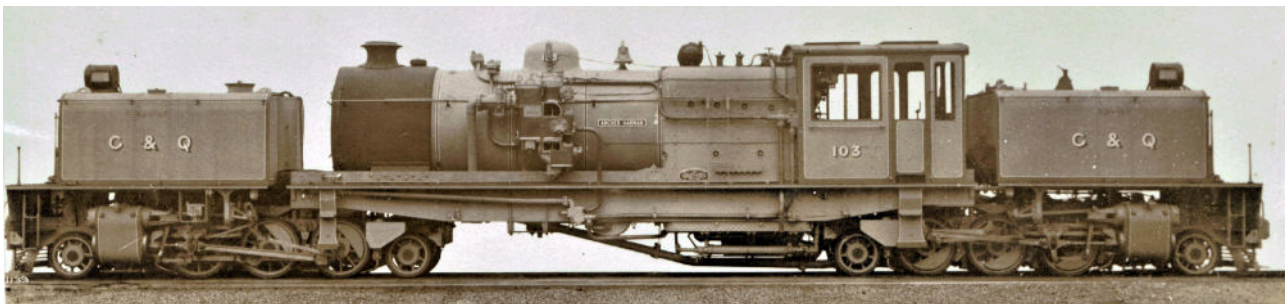


Photo from Beyer, *Peacock locomotive builders to the world*, by Hills and Patrick, 1982.



This Beyer Peacock builders’ picture is by courtesy of Sr. Pablo Moraa.

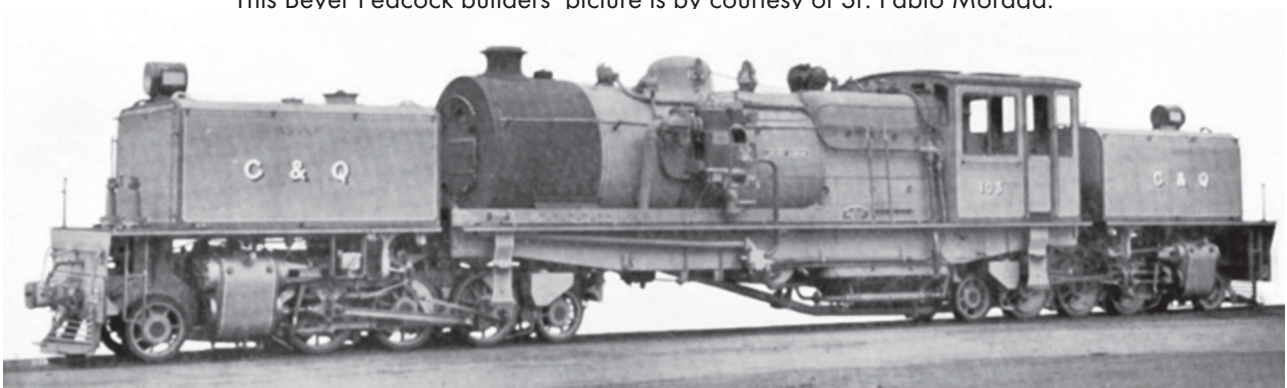
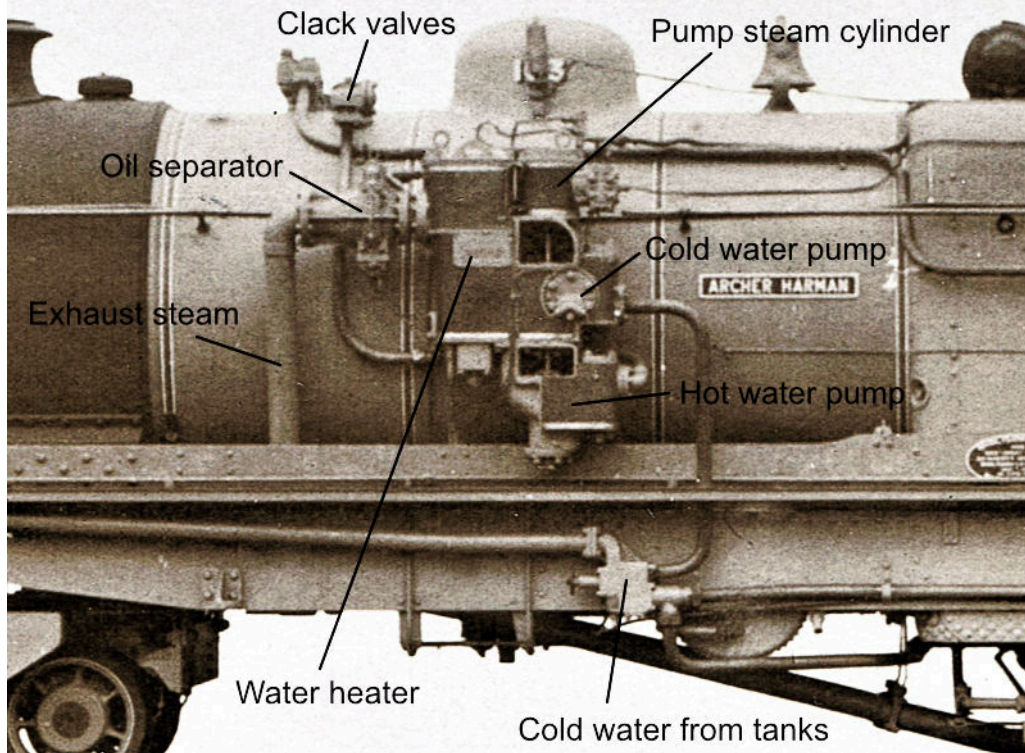
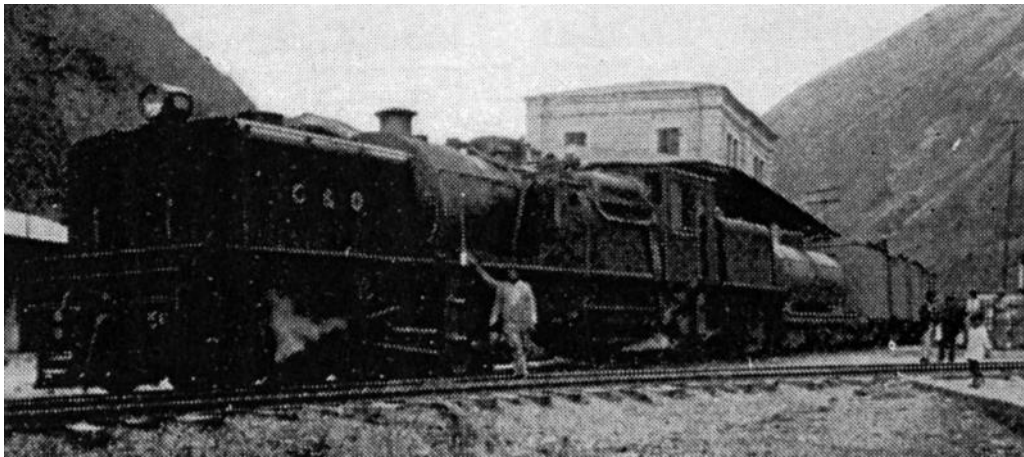


Photo from the late Gavin Hamilton’s Garratt Locomotives website, <https://beyergarrattlocos.co.uk>
The device alongside the boiler is a Worthington feedwater heater.

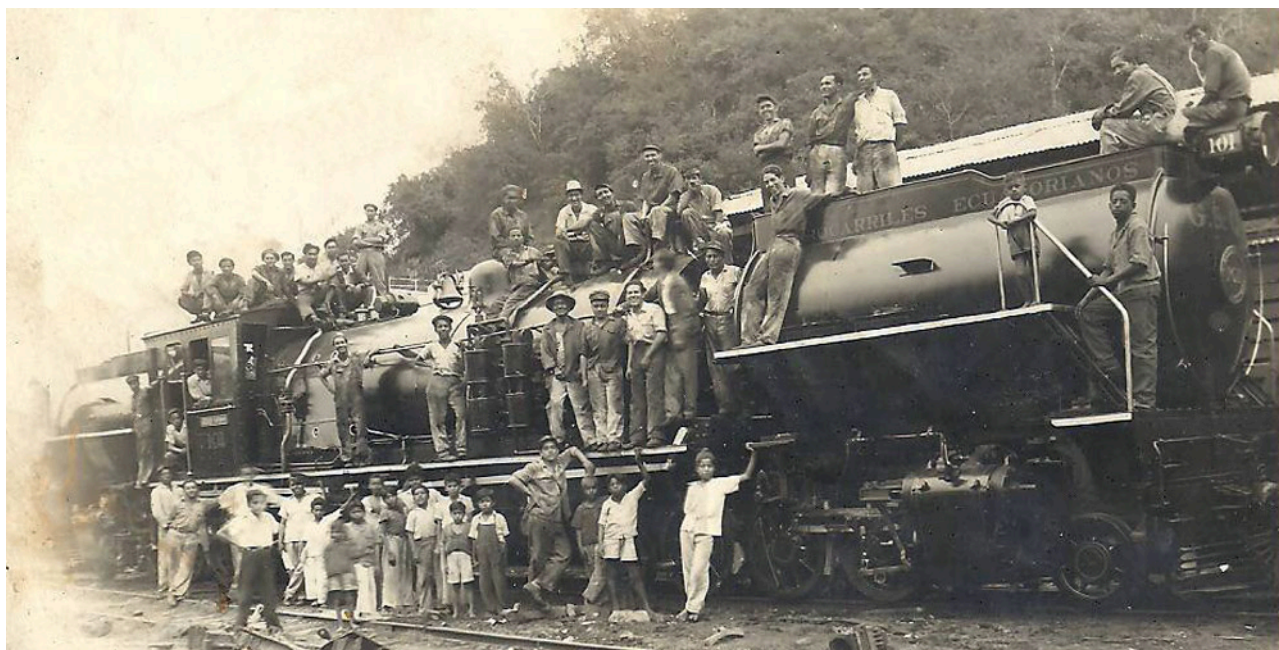
Worthington feed-water heater, types B, B-2, BL or BI-2



The cold water from the front and rear tanks is drawn to the heater by the cold-water pump. The heater mixes the water directly with the exhaust steam, rather than being a heat exchanger. The now hot water is then pumped toward the clack valves and into the boiler by the hot water pump. Both pumps are driven directly by the steam cylinder at top right, much as a Westinghouse air pump is driven by a steam cylinder at the top.

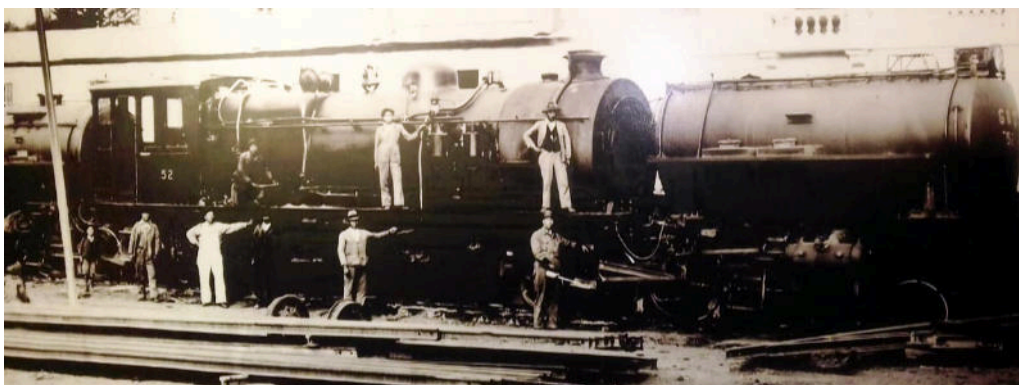


One of the Garratts on a downhill train, possibly at Huigra.



Two unattributed photos provided by courtesy of the late Gavin Hamilton show how the Garratts were rebuilt with cylindrical tank and bunker aligned to the boiler in Algerian style. 'FERROCARRILES ECUATORIANOS' is painted along the vertical plates at the top of the tank, and 'G. & Q.' across the circular front. It also would appear that this engine has a round-topped firebox, and it may therefore have been no. **101** after its explosion in 1933.





Garratt no. **52** with cylindrical tanks, but without the smoke-deflector-like fairings along the top of the front tank, and the handrails leading up to the high level running plates.



For many years one of the Garratt tanks remained in use as a fuel tank at Bucay. Gavin Hamilton collection, photographer unknown.



A bogie frame from a Garratt still lies in the Chan-Chan river 500m south of Estacion Ochoa. This may have been from no. **102** after its accident at Km. 105, and makes one wonder whether the engine ever worked again.

The photo was posted on Facebook by Renee Paredes Cupidos.

2-8-0 d/w 44", cyls. 17x24", built by Duran Shops in 1930

33	w/n –	This was built at Duran shops from spare parts in 1930, as explained in the 1931 President's report to stockholders. Derelict 1975 [MCC]. (RH thought this was Baldwin 52865, but that went to the Philippines. Copeland suggested that it might have been originally no. 30, or more correctly that it had been built from spare BLW parts.) Under repair at Riobamba in October 1967 [29].
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2-8-0 d/w 42", cyls. 19x22", built by Baldwin in 1920

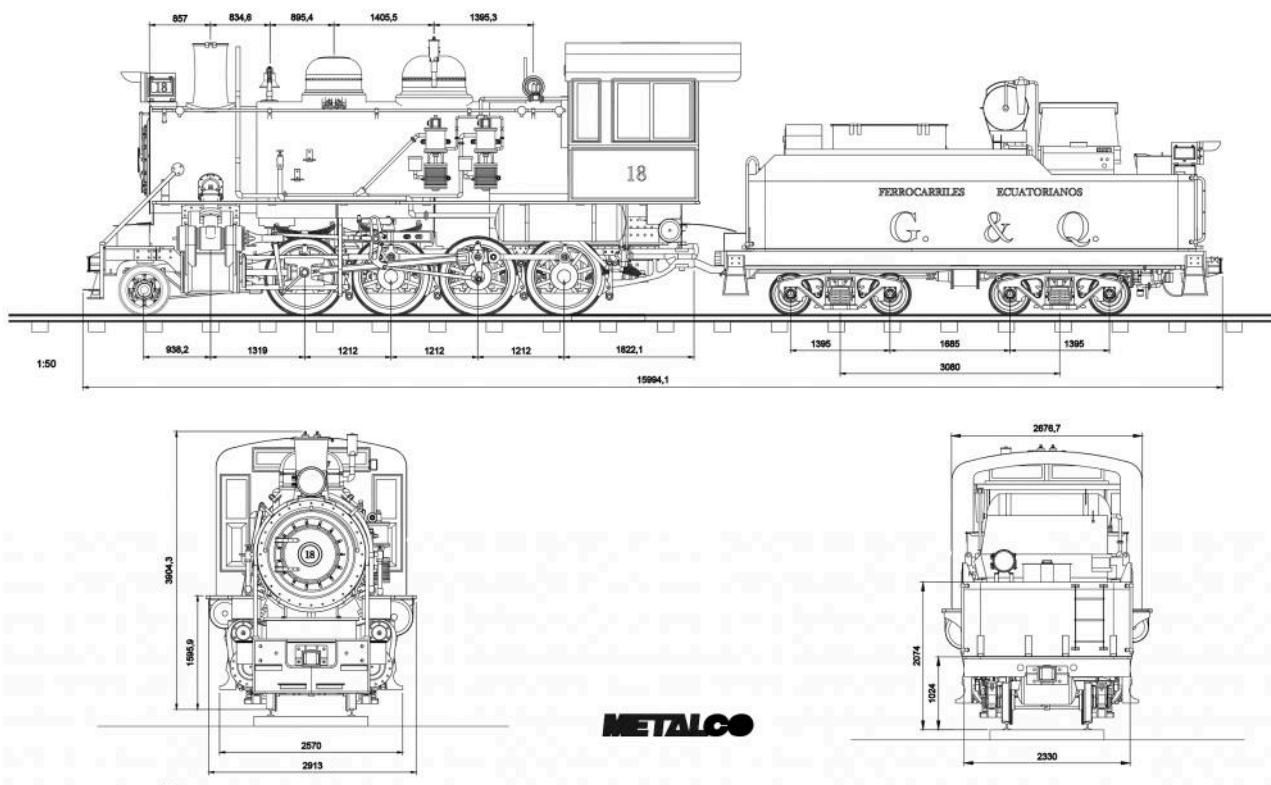
34	w/n 52869	Trial Jan-19??, shipped 11-2-1920. Ex 28. Listed as no. 34 in 1955.
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2-8-0 d/w 44", cyls. 17x24", built by Baldwin in 1931

18 ³	w/n 61619	<i>FC Quito a Esmeraldas</i> no. 3 In use 1975 on Sibambe Cuenca line [MCC]. Under repair 1991-2 [12]. Last reported dumped at Duran, though another report said it was operational at Quito in 2008. Identifiable by its inside frames, unlike the original G&Q locos.
16 ²	w/n 73065?	Was this the loco which exploded in 1969, killing the crew, and was then scrapped?



No. 18 after overhaul by Metalco for tourist train use, and a drawing produced by the company at that time.



2-8-0 d/w 44", cyls. 18x24", built by Baldwin in 1935

17³

w/n 61872

Ex FC Sibambe Cuenca no. 4. Under repair 1975 [MCC]. In use at Duran in 1988 [12]. Newly repainted 1992 [12] and in use then [14]. Last reported OoS at Bucay, though a 2009 report said it was operational at Quito.



Date of photo unknown. There seems little changed from when the loco was built. The chimney has been shortened and the tender is now mounted on cast bogies but that is all.

2-8-0 d/w 44", cyls. 17x24", built by Duran Shops in 1936

35 'JULIO MIGUEL PAEZ' w/n –

1936 President's report says built in Duran shops that year, though others have speculated might be ex 29 after 1936 rebuild? Listed as no. 35 in 1955. Withdrawn Jan 1967 [12], but [29] says 35 was in steam at Riobamba in October that year. Derelict 1975 [MCC] and 1987 [12].

2-8-0 d/w 54", cyls. 19x26", built by Baldwin in 1937 (36-7) and 1939 (38-9)

36

w/n 62052

G&Q Rly., trial 3-1937, shipped 12-3-1937. Class 10-2 E 184. Listed in fleet in 1955.

37

w/n 62053

G&Q Rly., trial 3-1937, shipped 12-3-1937. Class 10-2 E 185. Listed in fleet in 1955. [11] says was used on line north from Quito in 1950s-60s.

- 38 w/n 62293 G&Q Rly., trial 3-1939, shipped 19-7-1939. Class 10-2 E 186. Listed in fleet in 1955. Under repair at Riobamba in October 1967 [29]. Last reported dumped at Riobamba 1979-1992 [14].
- 39 w/n 62294 G&Q Rly., trial 3-1939, shipped 19-7-1939. Class 10-2 E 187. Listed in fleet in 1955.



BLW image 11348-1 available from the Railroad Museum of Pennsylvania.
The tenders pictured above and below differ greatly; one being long and the other extremely short. It is also clear that both were built with oil tanks already fitted.



BLW image 16359-1 available from the Railroad Museum of Pennsylvania.

Table of expenditure on locos 1938

EXHIBIT N° 9			
WORK EFFECTED AT SHOPS "ALFARO" COVERED BY AUTHORIZED ESTIMATES FOR EXPENSES, (A. F. E.), FOR THE YEAR 1938.			
CLASS OF VEHICLE		CLASS OF WORK	TOTAL
ACCOUNT 308			
Locomotive	No 8	Slight repair	S/. 1.072,74
"	9	General	23.743,10
"	12	"	17.047,15
"	13	Slight	2.914,20
"	21	General	36.727,73
"	23	"	45.326,83
"	25	"	9.125,99
"	27	"	24.542,08
"	28	"	37.497,15
"	31	"	22.092,83
"	32	"	20.815,66
"	33	"	30.040,84
"	34	"	21.217,22
"	51	"	41.967,12
"	53	"	41.965,96

2-8-0 d/w 54" cyls. 19x22", built by Baldwin in 1940 (40-1), 1944 (43-5), 1945 (42), 1946 (48-51) and 1947 (46-47)

- 40 w/n 62447 Listed in fleet in 1955.
- 41 w/n 62448 Listed in fleet in 1955. Withdrawn June 1973 [12]. Derelict 1975 [MCC]. In Duran yard 1987.
- 42 w/n 71522 Listed in fleet in 1955. Derelict 1975 [MCC].

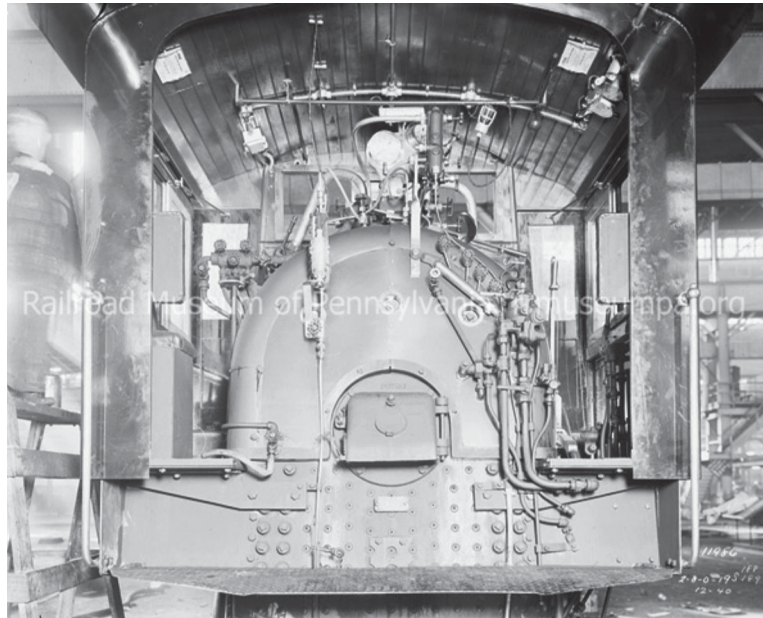
43	w/n 70186	Listed in fleet in 1955. In use 1972 [JK]. Under repair 1975 [MCC]. OoS Bucay 1988 [12] and 1992 [14].
44	w/n 70891	Listed in fleet in 1955. In use 1975 [MCC]. In use Duran 1988 [12] and Bucay 1992 [14]. Last reported dumped at Bucay, or stored undercover there minus driving wheels 2009.
45	w/n 70323	Listed in fleet in 1955. Was working in 1962. In steam at Riobamba in October 1967 [29]. In use 1975 [MCC]. Still existed 1978. On Bucay-Alausi <i>mixto</i> April 1988 [12]. Under repair at Duran in 1992 [14]. Last reported at Quito, stored in open with smokebox front removed 2009.
46	w/n 71582	Listed in fleet in 1955. Under repair 1975 [MCC]. In use 1979. Under repair Bucay 1988 [12] and 1992 [14]. Last reported stored at Bucay minus driving wheels 2009.
47	w/n 71523	Listed in fleet in 1955. Last general overhaul Oct 1967 [12], and [29] says was in use at Quito that month and looking very clean and fresh. In use 1971 [RZ]. Withdrawn Dec 1974 [12]. Derelict 1975 [MCC].
48	w/n 72695	Listed in fleet in 1955. Last general overhaul July 1969 [12]. Derelict 1975 [MCC].
49	w/n 72696	Listed in fleet in 1955. Derelict 1975 [MCC]. Last reported derelict at Duran.
50	w/n 72697	Listed in fleet in 1955. Last general overhaul May 1969 [12]. Derelict 1975 [MCC]. Still in works yard in 1987 [12].
51 ²	w/n 72698	Listed in fleet in 1955. Under repair 1975 [MCC]. Dumped at Bucay 1987 but gone by 1989 [14].



BLW image 11985 available from the Railroad Museum of Pennsylvania.



BLW image 11984-1 available from the Railroad Museum of Pennsylvania.



BLW image 11986 available from the Railroad Museum of Pennsylvania.



BLW image 16368-1 available from the Railroad Museum of Pennsylvania.



44 leaving Bucay uphill in April 1975. MCC's own image.

2-6-2+2-6-2 Garratts d/w 38", cyls. ?", built by Beyer Peacock in 1929

- | | | |
|--|----------|---|
| 51¹ 'ELOY ALFARO' | w/n 6527 | Ex 101 . Derelict Bucay 1955. Later renumbered again to 51 , probably on the arrival of the 1946 Baldwins. Listed under that number in 1955, but almost certainly withdrawn by that time. |
| 52¹ 'PRESIDENTE AYORA' | w/n 6528 | Ex 102 Later renumbered again to 52 , probably on the arrival of the 1946 Baldwins. Wrecked 1953. |
| 53¹ 'ARCHER HARMAN' | w/n 6529 | Ex 103 Later renumbered again to 53 , probably on the arrival of the 1946 Baldwins. Derelict Duran 1955. |

"So their trio of Garratts was short-lived. Last trace was the front tank of No. **25** (probably **52** was meant, MCC) which I spotted on a water tower in Bucay loco yard in 1991" Nick Lera

The fleet in 1949

Source [22], sections of which are displayed in appendix 2, gives the followings summary of the steam loco fleet as it was in 1949:

7 Locomotoras "MOGUL" (Clase 10) con una excepción la locomotora No. 10 — de las cuales, tres son de vapor recalentado. The G&Q originally had seven moguls, so none seem to have been lost.

9 Locomotoras "CONSOLIDATION" (Clase 20) con una sólo de vapor saturado. There were eight Vauclain 4-cylinder simples, so which other loco had been lumped in with that group?

10 Locomotoras "CONSOLIDATION" (Clase 30) con ligeras variaciones en tres unidades.

12 Locomotoras "CONSOLIDATION" (Clase 40/50) y These were presumably all of nos. 40 to 51.

3 Locomotoras "GARRATT" 2-6-2--2 6 2— (Clase 100). All three Garratts were clearly still in use at that time.

This summary totals 41 engines, though strangely a few lines further on the total is given as 42. It rather looks as though in 1949 none of the locomotives of the peripheral lines to San Lorenzo, Curaray or the unfinished Cuenca railway had yet been brought into the main G&QR fleet.

2-8-0 d/w 54" cyls. 19x22", built by Baldwin in 1951-3 (52-58)

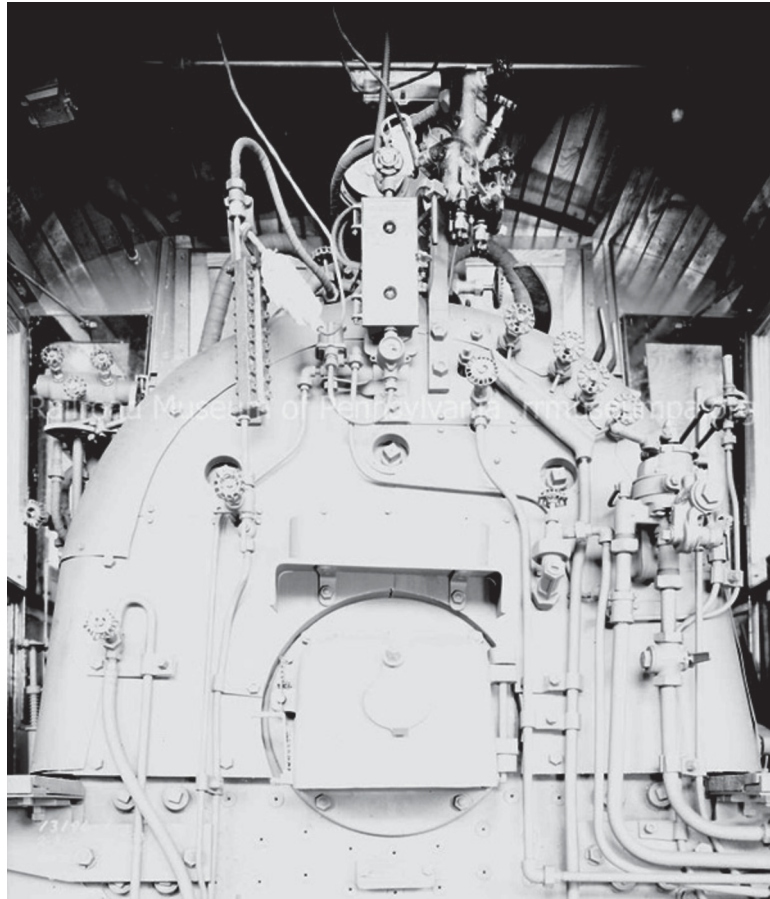
52²	w/n 75584	Delivered to Ecuadorian State Railways. Last General overhaul March 1963 [12]. In use 1975 [MCC]. But [12] says reduced to boiler and frame 1975 and still derelict 1987.
53²	w/n 75585	Delivered to Ecuadorian State Railways. In use 1971 [RZ] and 1975 [MCC]. Under overhaul 1991 [12]. Under repair at Bucay in 1992 [14]. Last reported operational at Riobamba.
54	w/n 75586	Delivered to Ecuadorian State Railways. Last general overhaul Aug 1964 [12] and withdrawn April 1969. In use 1971 [RZ] and 1972 [JK]. Derelict 1975 [MCC]. Dumped Duran yard 1987[12].
55	w/n 75587	Delivered to Ecuadorian State Railways. Last general overhaaul Oct 1967 [12]. Derelict 1975 [MCC]. Last reported dumped at Duran partly scrapped. Remains in Duran yard 1991.
56	w/n 75588	Delivered to Ecuadorian State Railways. Last general overhaul Aug 1970 [12]. Derelict 1975 [MCC]. Cab stored in Duran workshops 2009.
57	w/n 75589	Delivered to Ecuadorian State Railways. Last overhaul Nov. 1969 [12]. Derelict 1975 [MCC].
58	w/n 75590	Delivered to Ecuadorian State Railways. In use 1975 [MCC]. In service 1991 [12]. Under repair at Duran 1992 [14]. Had been repainted 1992 [12]. 2009 report says stored operational at Quito.



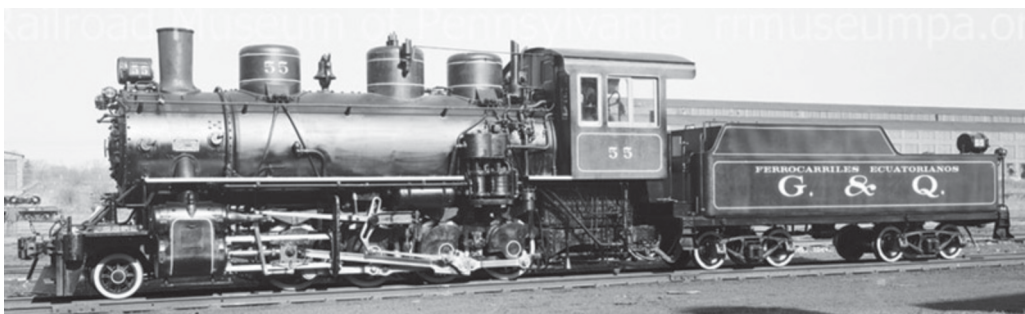
BLW image 13196 available from the Railroad Museum of Pennsylvania.



BLW image 13195-1 available from the Railroad Museum of Pennsylvania.



BLW image 13196-1 available from the Railroad Museum of Pennsylvania.



BLW image 16296 available from the Railroad Museum of Pennsylvania.
Note the dustbin domes fitted to this final batch of 2-8-0s, perhaps because the traditional Baldwin shape was by the 1950s seen as rather old-fashioned.



The worksplate on BLH-built no. **54** from 1953, as it lay derelict in 1975.

No. **20**? rebuilt Duran 1955-59?

59

w/n ?

Rebuilt 1959, with boiler from no. **20** [12]. Last general overhaul June 1970 [12]. Derelict 1975 [MCC].



Whilst the precise identity of no. **59** has not yet been confirmed, this smokebox plate seen in 1975 states that it was a rebuild and gives a clue as to why it might have been given a new number for PR reasons.

Renumberings

A number of researchers have attempted to make sense of the various renumberings that took place. Whilst the sequence is not totally clear it does seem likely that **19** became **27** so that all the Vaucrain 4-cylindere engines would be numbered in the twenties, and that **28** and **29** became **34** and **35** so that all of the more modern 2-cylindere 2-8-0s would be numbered in the thirties or above.

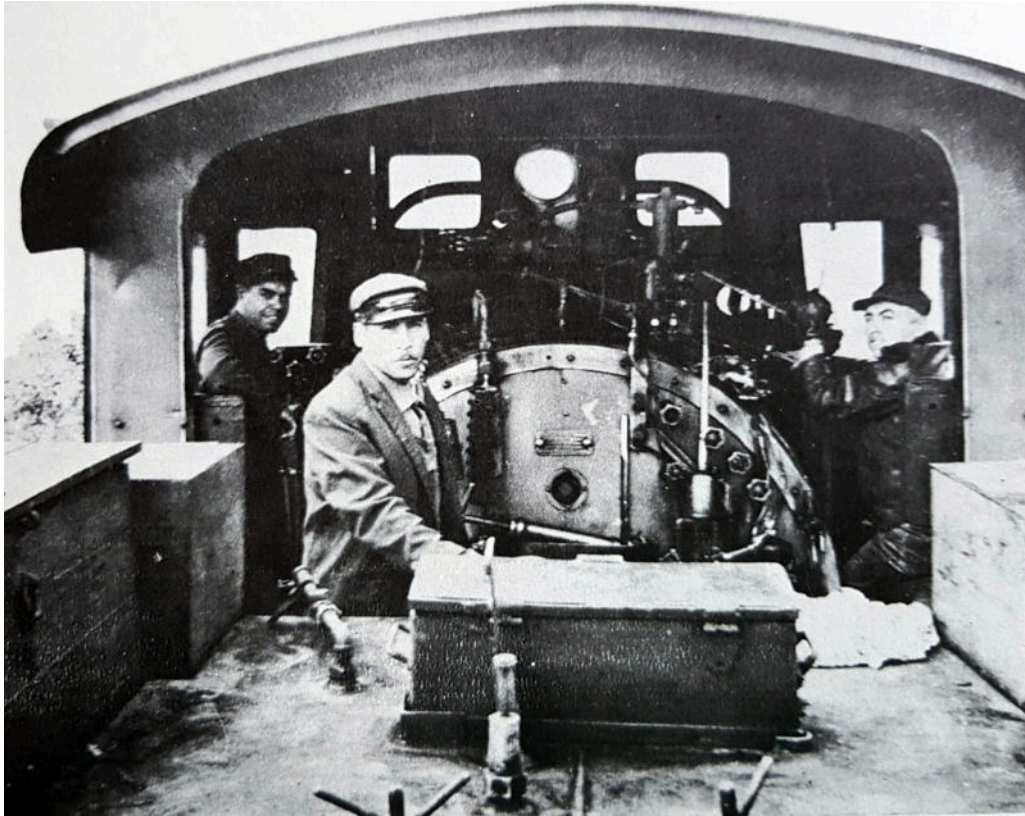
Somewhere in amongst those changes the three Garratts were renumbered from **101-3** to **51-3**, possibly immediately

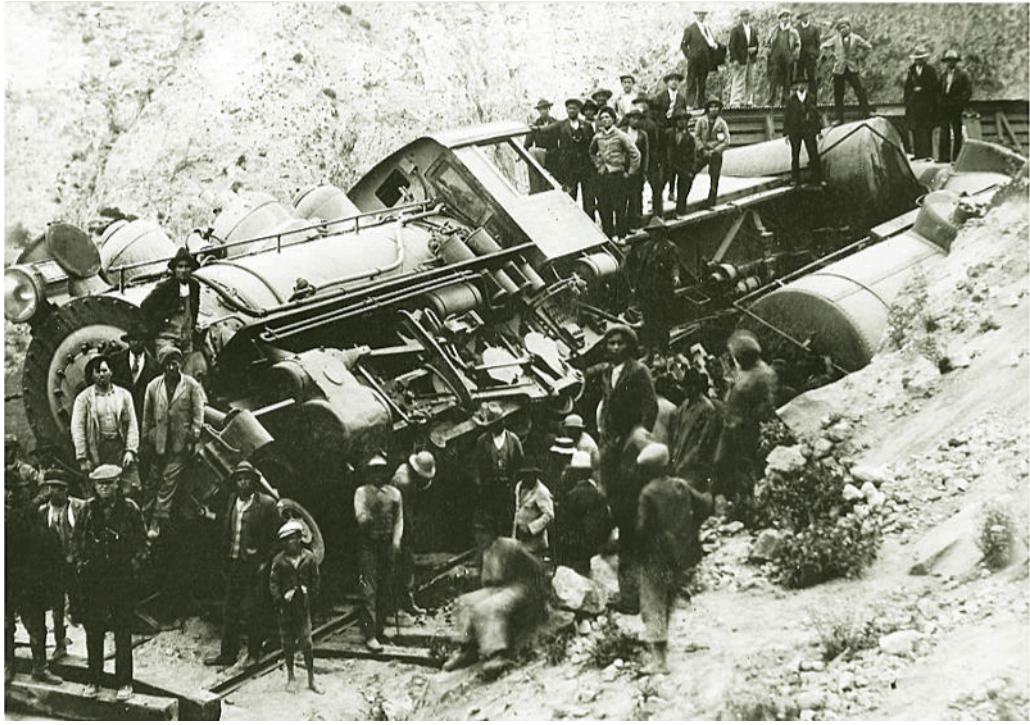
on their arrival, but were later renumbered back to **101-3** perhaps as the numbers of the fleet of 2-8-0s crept up into the fifties.

At some point after 1955 the four engines on the as-yet-incomplete Cuenca branch were renumbered from **1-4** to **15-18**, but the *FC Quito-Esperanzas (FC Q-SL)* engines retained their single figure numbers.

Recent photos of survivors

Photos of each of the surviving G&Q locos are displayed on Rob Dickinson's *International Steam* website at <http://internationalsteam.co.uk/trains/ecuador08.htm>





6.3.3 *El FC Ambato a Curaray*

Background

180 miles planned eastward from Ambato into Amazonia. This was proposed in 1905. Work began 1911 (or possibly 1913) and continued until 1922. After strong lobbying by the residents of Pelileo the route was diverted to access that town and the first section was opened to that point, about 25 km. No further lengths were opened and, the traffic being minimal, the government in 1939 gave permission for the line to be closed and the track materials used for the Cuenca line.

Two locos of 16 and 20 tons. were supposedly owned by the line, but this does not square with the engines listed below, which would have been rather heavier than that.

2-6-0 d/w 48", cyls. 17x22", built by Baldwin in 1914

Ordered via Fox Brothers for Govt. of Ecuador Curaray railway, Class 8x22 D 303-4, Specs vol 49 p133, painting in black and gold, Tender sides to carry 'FERROCARRIL AL CURARAY' and 'GOBIERNO DEL ECUADOR' Le Chatelier counter-pressure brake to be fitted. Trials 3rd Feb 1914, Shipped 12 Feb 1914.

- | | | |
|----------|-----------|--|
| 1 | w/n 41159 | Became <i>FCQ-E</i> no. 6 and later G&Q no. 6 ² . |
| 2 | w/n 41160 | Became <i>FCQ-E</i> no. 5 and later G&Q no. 5 ² . |

One of these was possibly loaned to the *FCS-C* in 1919.



BLW image 04877-1 available from the Railroad Museum of Pennsylvania.



No. **2** is seen here standing on a steel bridge.



Whilst the date and location of this bridge deflection test picture is not clear, the loco is definitely one of the Ambato a Curaray pair. The single cab side window, air reservoir beneath the running board, and stovepipe chimney distinguish them from the original G&Q moguls.

6.3.4 *El FC Quito a Esmeraldas* later known as the *FC Quito a San Lorenzo*

Background

There had been an 1890 proposal for a railway from Esmeraldas to Las Palmas, which was to have had one loco of no less than ten tonnes weight [32].

A through route was first authorised in 1905, when a concession and contract was agreed with a French syndicate. The gauge was to be 3' 6". Nothing happened and so a new contract was signed with O&K of Germany. Work commenced in 1916, but in 1920 the management of the work moved to an Ecuadorian junta under an American engineer. The junta planned to continue work on the 3' 6" gauge to Ibarra, and then to use 2' 0" gauge onward until regauged later. By 1924 trains were running from Quito northward for 47 km, and from Ibarra south for 48 km. Some British locos had apparently been purchased by the contractors around 1924.

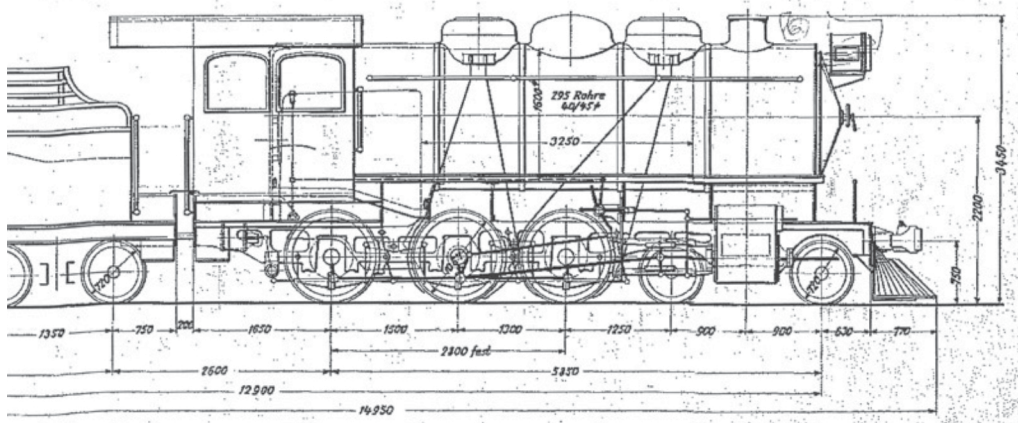
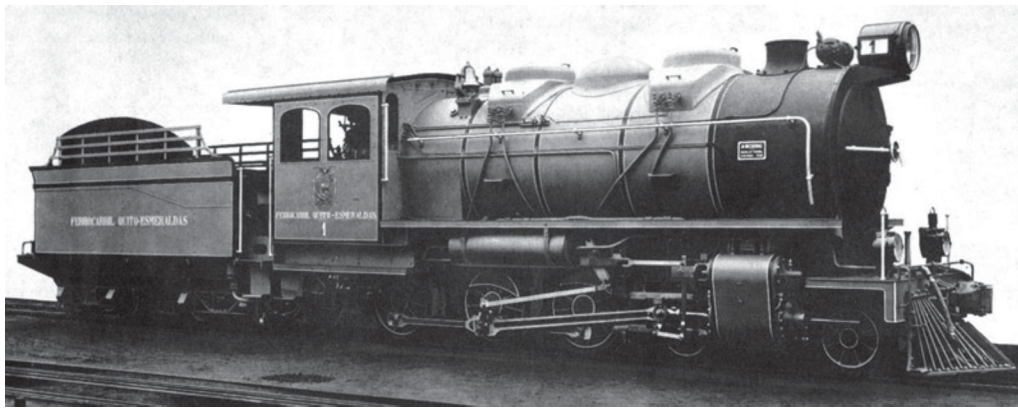
The line was eventually opened to Ibarra in 1929, to Carchi in 1948 and to San Lorenzo in 1957, all on the 3' 6" gauge

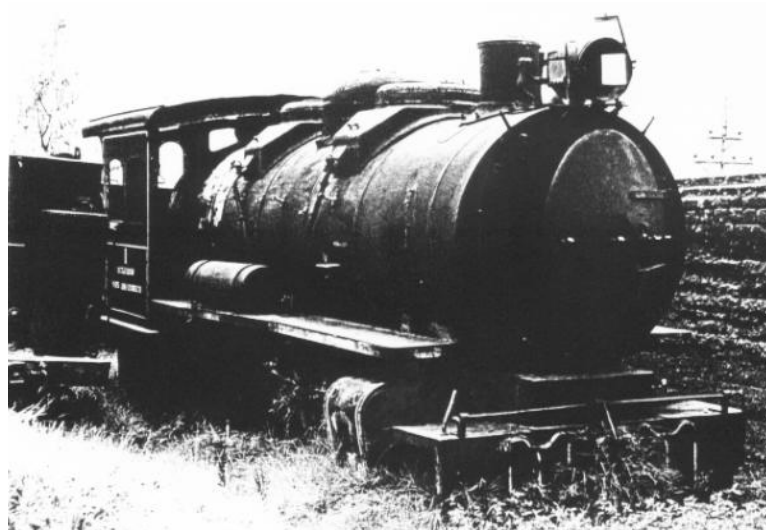
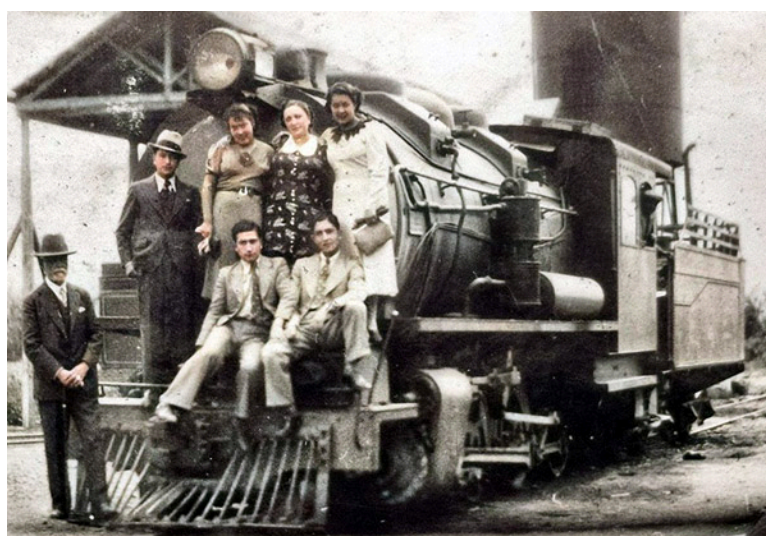
4-6-0 d/w 1067mm 42", cyls. 430x500mm, built by Borsig in 1926

Ordered for Quito Esmeraldas railway

- | | | |
|----------|-----------|--|
| 1 | w/n 11921 | In 1955 list as <i>FCQ-E</i> no. 1 . Transferred to G&Q as no. 1² |
| 2 | w/n 11922 | In 1955 list as <i>FCQ-E</i> no. 2 . Transferred to G&Q as no. 2² |

The remains of no. **1** were still lying derelict at Chiriacu Works in Quito in 1967 and 1975.





Borsig no. 1 lies derelict in Quito, probably during the 1970s.

2-8-0 d/w 42", cyls. 17x22", built by Baldwin in 1931

Class 10-28E 157 Govt. of Ecuador for *FC Quito a Esmeraldas*. Saturated steam not superheated. Note inside frames unlike all the G&Q 2-8-0 locos.

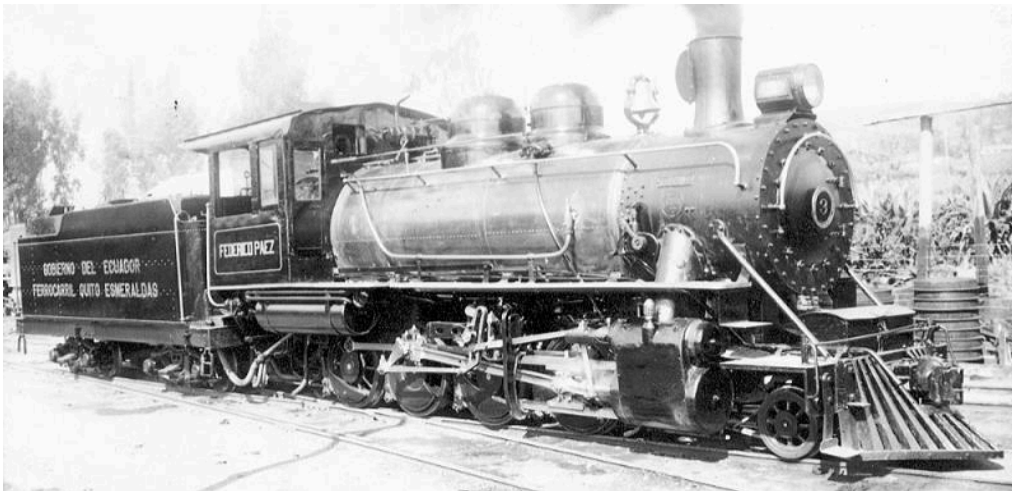
3 'FEDERICO PAEZ'? w/n 61619 Trial 4-1931, shipped 24-4-1931, Transferred to *FCS-C* as no **3²** then

returned here before 1955 as no. **3**, before becoming **18**? Present at

Chiriacu in October 1967 [29].



BLW image 10790-3 available from the Railroad Museum of Pennsylvania.



No. **3** this time bearing its name, '**FEDERICO PAEZ**', on the cab side.



FCQE no. **3** on a short mixed train in a street, supposedly at Atuntaqui north of Ibarra. The original ribbed wooden pilot has been replaced by one of sheet steel.

2-6-0 d/w 48", cyls. 17x22", built by Baldwin in 1916

Ordered for *FC Sibambe Cuenca*. as their no. **1**.

4 w/n 44459 Was originally *FC Sibambe Cuenca* no. **1**. In 1955 list as *FCQ-E* no. **4**. Present at Chiriacu works in 1967 [29].

4. Present at

2-6-0 d/w 48", cyls. 17x22", built by Baldwin in 1914

Ordered for Curaray railway, transferred later to *FCQSL*. [11] says one was first renumbered **3** at this location before they became **6**² and **5**² in the full *FFCC Ecuatorianos* fleet.

5 w/n 41160 Was originally *FC Ambato a Curaray* no. **1**. In 1955 list as *FCQ-E* no. **5**. Present at Chiriacu works in 1967 [29].

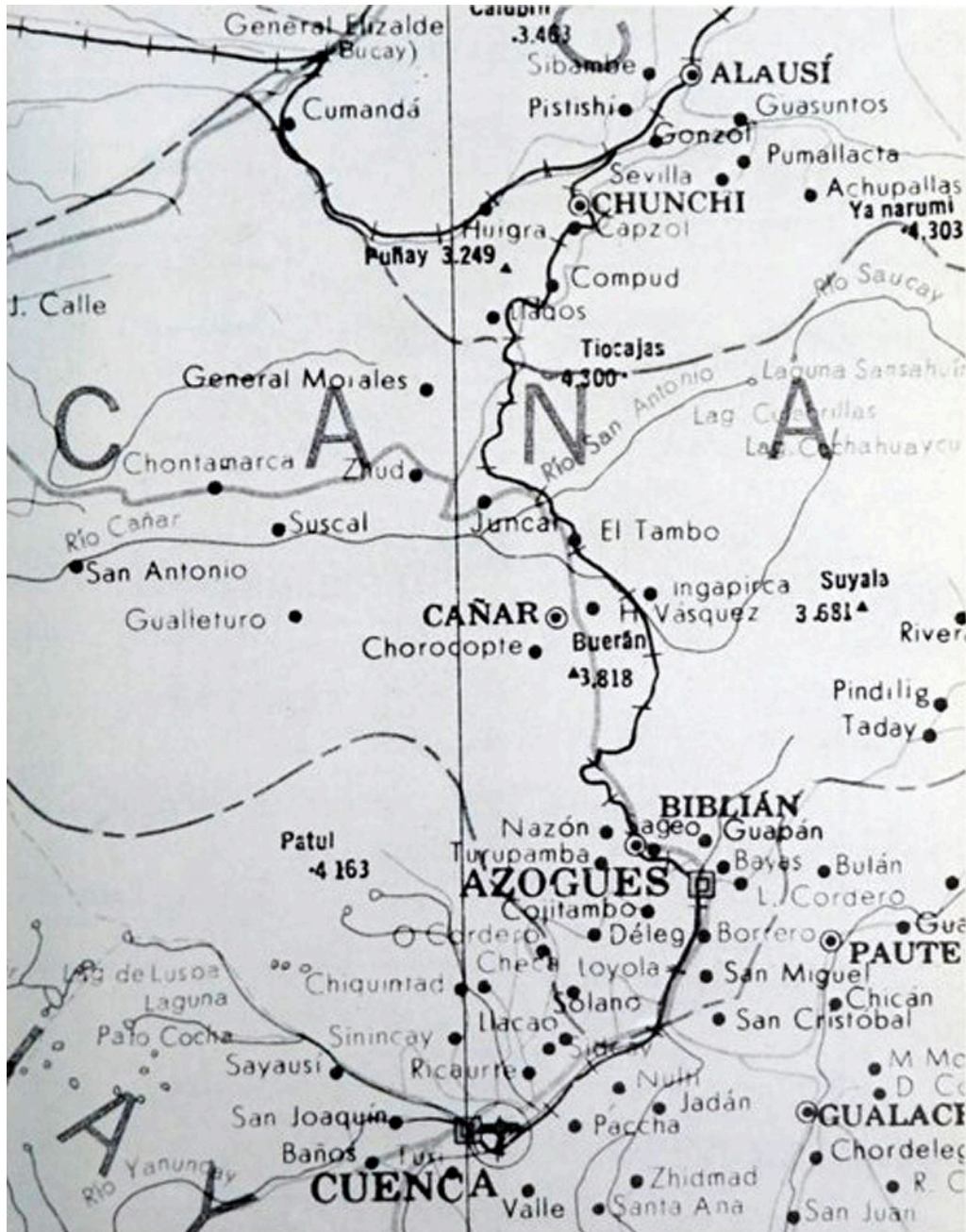
6 w/n 41159 Was originally *FC Ambato a Curaray* no. **2**. In 1955 list as *FCQ-E* no. **6**.

6.3.5 *El FC Sibambe Cuenca*

Background

A concession was first granted in 1907, from Huigra rather than Sibambe, but no progress being made it was cancelled in 1912. O&K began work in 1914 but the First World War got in the way so only 11 miles was completed. A new contract was signed in 1925 with the *Cía. Constructora del Azuay*. – hence the cabside name on loco no. 4 which is actually the name of the province.

The line was opened to Tipococha in 1926, to Azogues in 1948, and to Cuenca in 1965.



2-6-0 d/w 48", cyls. 17x22", built by Baldwin in 1916

Class 8 28 D 311, Ordered via Fox Brothers for Govt. of Ecuador Cuenca RR. Tender sides to carry 'FERROCARRIL A CUENCA'.

1 w/n 44459 Later became *FCQSL* no. 4 [11].

2-8-0 d/w 38", cyls. 18x20", built by Baldwin in 1927

Ordered for *FC S-C*. BLW class 10-30E no. 231. Spec. is in vol. 79 p295.

2 'CHANAR' or 'CAÑAR' w/n 60182 In 1955 list as *FCS-C* no. 2. Renumbered in *EFE* series after 1955

as no. **15²** or **45?**

2-8-0 d/w 42", cyls. 17x22", built by Baldwin in 1931

Class 10-28E 157 Govt. of Ecuador for *FC Quito a Esmeraldas*. Saturated steam not superheated. Note inside frames unlike all the G&Q locos.

3

w/n 61619

Built as *FC Quito a Esmeraldas* **3**. then to *FCS-C* as no. **3**. What happened to this engine? Transferred (?) back to *FCQ-E* before 1955. In 1955 list as *FCQ-E* no. **3**. Later renumbered **18?**

NEGATIVE NO. 13,170

THE BALDWIN LOCOMOTIVE WORKS

2-8-0 TYPE LOCOMOTIVE

Class 2-8-0, 18 S 233 Road No. 3

Built for **Guayaquil & Quito Railway Co., for
F. C. Sibambe - Cuenca (Ecuador)**

(Order covers 1 locomotive, No. 3)

Gauge 3' 6"
Cylinders 18" x 20"
Valves, piston 8" diam.

BOILER

Type Straight Top
Diameter 62"
Working pressure 190 lb.
Fuel Oil

Firebox

Material Steel
Staying Radial
Length 60 1/8"
Width 54 1/4"

Tubes

Diameter	2 1/4"	5 1/2"
Number	96	22
Length	14' 6"	14' 6"

Heating Surface

Firebox	89.8 sq. ft.
5 1/2" flues	456 sq. ft.
2 1/4" tubes	814 sq. ft.
Thermic syphons	12.6 sq. ft.
Total	1372.4 sq. ft.
Superheater	367 sq. ft.
Grate area	22.6 sq. ft.
Firebox volume	103 cu. ft.
Min. gas area	4.33 sq. ft.

DRIVING WHEELS

Diameter, outside	38"
Diameter, center	32"
Journals, main	7 1/2" x 7"
Journals, others	7 1/2" x 7"

ENGINE TRUCK WHEELS

Diameter, front	24"
Journals	4 1/4" x 8"

WHEEL BASE

Driving	10' 6"
Rigid	10' 6"
Total engine	17' 6"
Total engine & tender	45' 5 3/4"

WEIGHT

In Working Order

Av. pair drivers	29,000 lb.
On driving wheels	116,000 lb.
On truck, front	11,000 lb.
Total engine	127,000 lb.
Total tender	67,500 lb.

TENDER

Wheels, number	Eight
Wheels, diameter	28"
Journals	3 3/4" x 7"
Tank capacity	2,500 U. S. gal.
Fuel capacity	1,500 U. S. gal.

Tractive force	27,600 lb.
Service	Freight

Construction No. 73,065 Built May, 1946 Drawing No. 34

Equipped with Type "A" superheater, thermic syphons, hand lever reverse, cast iron cylinders, and air brake on all driving and tender wheels, with two 9 1/2" air pumps.

2-8-0 d/w 38", cyls. 18x20", built by Baldwin in 1935 and 1946

First one ordered for *FCS-C*. Spec. page gives d/w as 38" and cyls. as 18x20", but Connolly's BLW list says 18x24" and d/w 44".

4 'AZUAY'

w/n 61872

Cyls. 18x20", Govt. of Ecuador for *FC Sibambe Cuenca* trial 9-1935, shipped 10-9-1935. Class 10-30 E 232. In 1955 list as *FCS-C* no. 4. Renumbered in *EFE* series after 1955 as 17²

3

w/n 73065

Built as *FC S-C* no. 3. In 1955 list as *FCS-C* no. 3. Renumbered in *EFE* series after 1955 as no. 16, Exploded killing crew in 1969 and was scrapped [11].



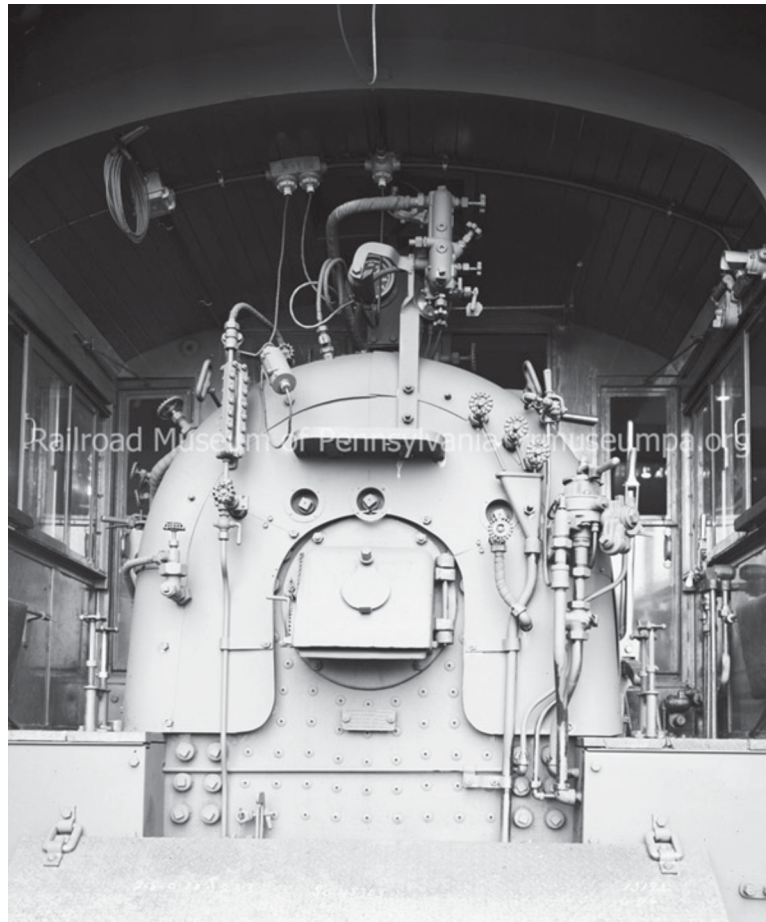
BLW image 11163-1 available from the Railroad Museum of Pennsylvania. Note the province name '**AZUAY**' above the number on the cabside.



BLW image 13170-1 available from the Railroad Museum of Pennsylvania.



BLW image 13171 available from the Railroad Museum of Pennsylvania.



BLW image 13172 available from the Railroad Museum of Pennsylvania.

6.3.6 *FFCC Ecuatorianos*

Background

1940s [22]

In 1975 and since, the title *Ferrocarriles Ecuatorianos* has been used to designate the nationally-owned railways, including along the sides of loco tenders, but quite when this wording formally came into use is as yet unknown. One of the preceding photos in section 6.3.2, illustrating a G&QR Garratt in its rebuilt state, shows the words ‘FERROCAR-RILES ECUATORIANOS’ along the tank top, which suggests that the phrase may have been in use as early as the 1940s.

In 2008 the president Rafael Correa named the railroad a “national cultural patrimony”[2] and indicated that it would be restored. The *EFE* was transformed into a public corporation: *Ferrocarriles del Ecuador Empresa Publica (FEEP)*.

6.3.7 FC Puerto Bolivar a Pasaje Los FFCC de El Oro – línea ancha

Background

The FC de El Oro, or more accurately los FFCC de El Oro, the railways of the El Oro province, were two lines on two gauges – 75cm and 3' 6" – commencing from Puerto Bolivar which was on the outskirts of the town of Machala. Here we consider the wider of the two.

The original plan was for a standard gauge railway, but whilst work began in the 1890s it did not reach completion. Source [25] from 1898 then states: "*La obra del Ferrocarril de Puerto Bolivar al Pasaje esta terminada hasta esta ciudad (ie. Machala), y pronto llegaran los materiales que faltan para continuar los trabajos hasta el Pasaje. Con dichos materiales llegaran tambien la locomotora y carros para pasajeros y carga, que han sido pedidos a los EE. UU. de America.*" A longer report from this source forms Appendix 5 at the end of this file.

The first test runs on this replacement 3' 0" gauge (source 7 says 75cm gauge) were made in 1902 from Pto. Bolivar pier, and Pasaje had been reached by August 1903 (others say 1908). Two branches were then approved. One to El Guabo was built but destroyed by flooding in 1911, whilst the other, from Pasaje to Buenavista was never seriously begun though several wooden bridges were completed.

The length was 26.5 km. From 1903 to 1910 it was of 3' 0" gauge, though [11] says actually 920mm. Then, in 1910 when war with Peru seemed likely, it was in such a bad state that it had to be regauged to 3' 6" so that stock from the G&Q could operate. The photo below showing the original locos was supposedly taken in 1920 so those engines must have been regauged. The El Oro Mining & Railway Co. seem to have been the builders but in 1925 it was being managed by the Junta de Obras Públicas de El Oro. There were apparently discussions taking place with the Southern Pacific Banana Co. for them to take the line over and extend it four miles to serve a proposed plantation [5].

The railway operated from 1903 to 1971, when a decree authorised the closure of both routes.

In 1925 it was reported as having four locos, of which only two were in use [5]. They were apparently all of about 25 tons weight.

0-4-4T d/w 37" cyls. 10x16" built by Pittsburgh in 1898

1¹ 'MACHALA' w/n 1842

The first loco, used for test trains in 1899, was named 'MACHALA'.
Later rebuilt to 3' 6" gauge and renumbered 3.



An illustration of 'MACHALA' as displayed in a Pittsburgh Locomotive Works advert in *Railway & Locomotive Engineering* of June 1901.

0-4-4T d/w 37", cyls. 10x16", built by ALCo in 1903 and 1909

2¹ w/n 29536

Possibly second hand from American Railroad & Lumber Co. Later rebuilt to 3' 6" gauge and renumbered 4. Plinthed at Duran without its rear end, and numbered 6. 3' 0" gauge. This is a puzzle. In 1949, source

1² 'MACHALA' w/n 46574

[22], seemingly numbered 26, and with d/w 32¼" and cyls. 14x16". d/w 30". This needs checking as the loco is also listed for the *Cie. Francaise des Chemins de Fer de l'Equateur*. In 1949, according to source [22], seemingly here in El Oro numbered 24.

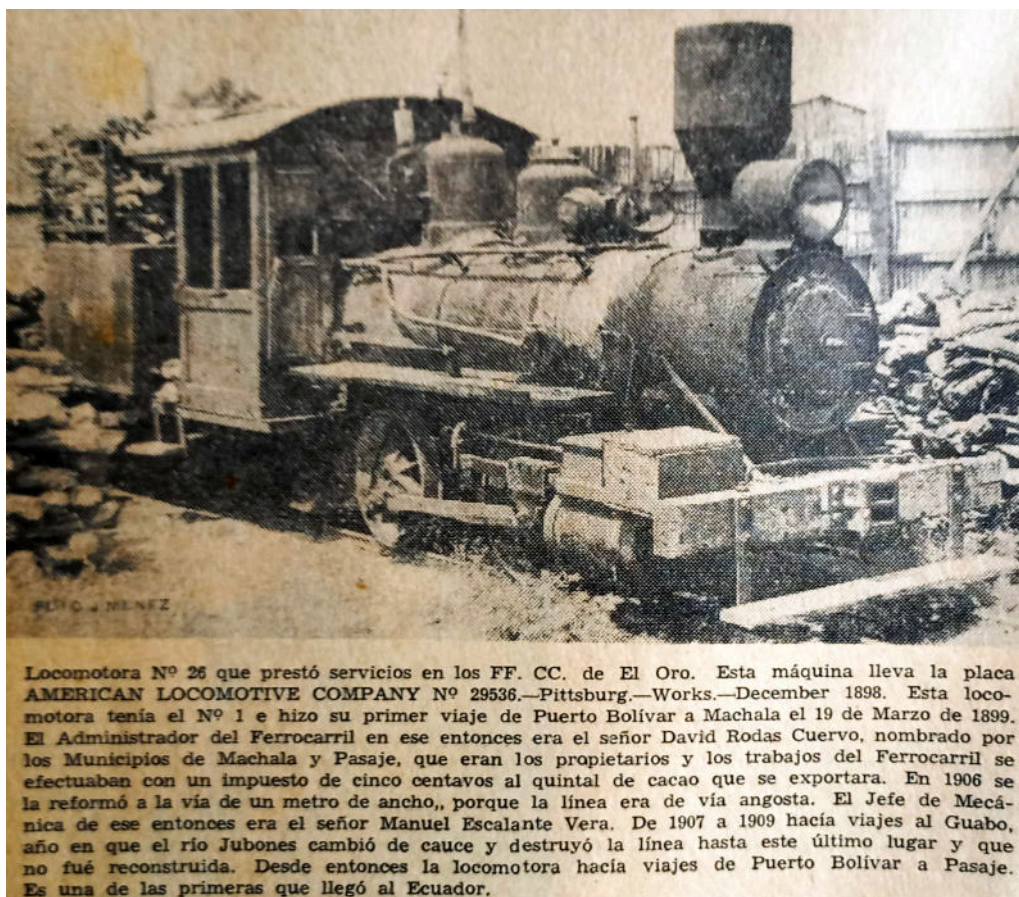


Photo supposedly taken in 1920, probably in Machala.



One of the 0-4-4Ts about to depart.



This apparent model loco on a plinth in Duran is reputed to have been created round the remains of no. **1**. I have to admit that I am not entirely convinced by this.

Locos transferred in

After the regauging of 1910 the following locos were transferred from *FC del Sur*. These would probably have been the very oldest that the G&Q possessed at the time. Whether they ever returned to the G&Q is not known, but it seems unlikely.

2-6-0 d/w 37", cyls. 14x18", built by Baldwin in 1880

Supposedly transferred from G&QR around 1910.

1³ w/n 5256 Ex *FC del Sur* and G&QR no. **4** 'OCHO de SETIEMBRE'

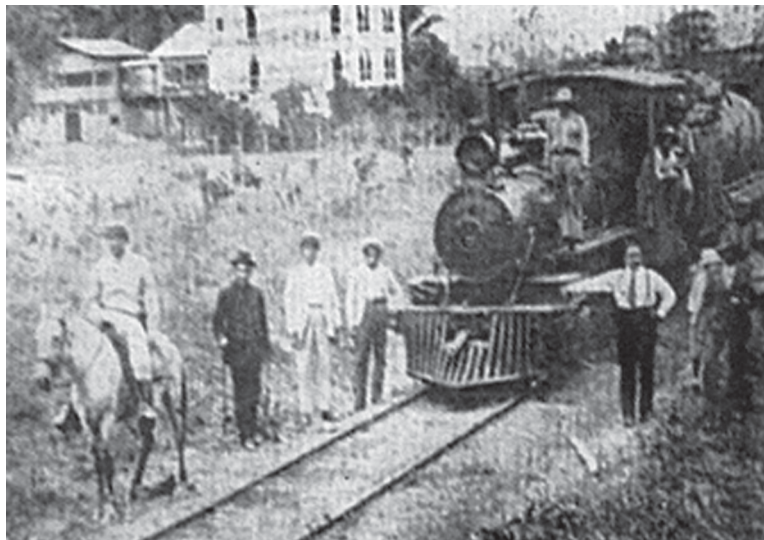
4-4-0 d/w 43", cyls. 13x18", built by Baldwin in 1880

Supposedly transferred from G&QR around 1910.

2² w/n 5250 Ex *FC del Sur* and G&QR no. **5** 'GEN. I. de VEINTEMILLA'

Copeland [11] affirms that the ex-G&Q locos **4¹** and **5¹** (ex *FC del Sur* nos. **4** and **5**) which arrived on the *FC Puerto Bolivar a Pasaje* in 1910 were then designated nos. **12** and **22**. This renumbering may have taken place later

when the two southern lines were formally designated los *FFCC del Oro*. Also one other?



It is possible that this shows no. 1³.

2-6-0 d/w 48", cyls. 17x22", built by Baldwin in 1901

Ordered by Ecuadorian Association of Edinburgh Scotland. The first two of this type had been built to 3' 0" gauge but with regauging to 3' 6" in mind (and had cyls. 17x20"). The next six however, nos. **7-9** and **12-14** were built to 3' 6" gauge. The tenders of the first four were labelled 'GUAYAQUIL & QUITO RAILWAY Co. OF ECUADOR' with the remainder merely carrying 'GUAYAQUIL & QUITO RAILWAY'. Livery was to be olive green and gold. Class 8-28D 200-2.

8

w/n 19154

This loco must have shipped down from Duran to Machala specifically for display, as it had been at Duran looking rather derelict in 1975 [MCC]. It still had slide valves until the end of its working life. Whether it had genuinely previously worked on the *FC de El Oro* is not known.



No. **8** stands in Machala looking extremely derelict. It has even lost several of the tyres from its driving wheels and the slide valve chests from above its cylinders. This makes me think that it might have arrived from Duran in that condition, as those iron/steel parts rarely go missing from plinthed locos.

6.3.8 The Babahoyo to Los Ríos railway

Background

“The Babahoyo railway is owned by the municipality of Babahoyo. The road is of 3-foot 6-inch gauge and has been constructed as far as Guaranda, a distance of 19 miles.” [] This was north-east of Babahoyo. Further work toward Balzapampa (22.87 miles seems never to have been completed. Dawn Wiles’ dissertation [7] explains that several different contractors worked on the construction but when the trackbed was completed the First World War was in progress and it proved impossible to import materials and rolling stock. As a temporary measure the roadbed was widened and made into a road. After the war the focus of the government’s attention had turned to roads, and no further effort was made to complete the railway.

The acquisition of two locos of thirty tonnes weight had been specified in the contract documents [6].

6.3.9 FC Provincial de Manabí

1904-1911

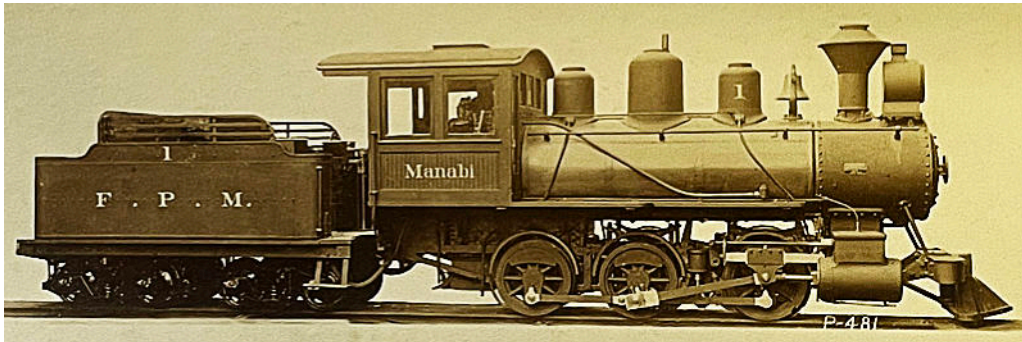
Background

Metre gauge? Began construction in 1904, extending several kilometres from Puerto Larrea, under the direction of Col. Tomás Larrea during the government of Gral. Leonidas Plaza. All assets were acquired by the French in 1908, see section 7.4.3. Info from source [11].

0-6-0 d/w 33", cyls. 12x16" built by ALCo Pittsburgh in 1904

Ordered via W. R. Grace.

1 'MANABÍ' w/n 29966



FC Provincial de Manabi no 1 ALCo publicity card photo.

CIW 2202

AMERICAN LOCOMOTIVE COMPANY, *Ecuador*

NEW YORK.

Class 060-38

Name, Manabí.

Road Number, 1

BUILT FOR THE F. P. M. R. R.

GAUGE OF TRACK	CYLINDERS		DRIVING WHEEL DIAMETER	BOILER		FIRE BOX		TUBES		
	Diam.	Stroke		Diameter	Pressure	Length	Width	Number	Diameter	Length
3'-3 $\frac{3}{4}$ "	12"	16"	33"	42"	150 lbs.	57 $\frac{3}{4}$ "	19 $\frac{1}{4}$ "	124	1 $\frac{3}{4}$ "	8'-0"

WHEEL BASE			WEIGHT IN WORKING ORDER—POUNDS.		
Driving	Engine	Engine & Tender	Driving	Engine	Tender
8'-1"	8'-1"	26'-1 $\frac{1}{2}$ "	38200	38200	23000

FUEL	HEATING SURFACES, SQUARE FT.			GRATE AREA SQ. FT.	MAXIMUM TRACTIVE POWER	FACTOR OF ADHESION
	Tubes	Fire Box	Total			
Wood	450.1	59.4	509.5	7.72	8900 lbs.	4.29

Tender, Type 8-Wheeled.

Capacity, Water 1050 Gals.

Fuel, 1 $\frac{1}{2}$ Cords.

NEGATIVE No. P-481

FC Provincial de Manabi no 1 ALCo publicity card details.

6.3.10 *El FC del Estero Salado*

Background

At Guayaquil, 3' 0" gauge. In 1881 ran from the *malecon* along the length of calle 9 de octubre.

0-4-0ST d/w ?, cyls. 7x12", built by Porter in 1881

Ordered via Albert Miller who was also GM of the *FC del Sur*.

? w/n 443

6.3.11 Obras Publicas de la Municipalidad de Guayaquil

Gauge 3' 0"

0-4-0T d/w 24", cyls. 5x10" built by Baldwin in 1916

Ordered via the Rosco Trading Co Inc. Order not yet found in Baldwin lists.

? w/n 44279

6.4 2'6" and 2' 5½" / 75cm gauge railway systems

6.4.1 *El FC Puerto Bolivar a Loja* *Los FFCC de El Oro – linea angosta*

1919-1971

Background

The *FC de El Oro*, or more accurately *los FFCC de El Oro*, the railways of the El Oro province, were two lines on two gauges – 75cm and 3' 0"/3' 6" – commencing from Puerto Bolivar which was on the outskirts of the town of Machala. This was the narrower half, the *Ramal Austral*, known locally as the *Ferrocarril del Amarillo*. First work began in 1919, concession transferred to Manuel Navarro and Carlos Brown in 1924. From Puerto Bolivar it ran through Machala, Santa Rosa (reached in 1930), Bellavista, San Antonio, Sandías, El Jobo, Arenillas, Zaragoza, Mates, Tahuín, Playas, and Piedras. This last town had two stations, one for general use, and the second specifically for the American staff of SADC, the South American Development Company, which worked mines at Portovelo. There was apparently a private car for *los gringos*. From Arenillas onward the route was climbing, and part of the uppermost section of the line is now flooded beneath the Tahuin reservoir.

The total length was 75km. Work began in 1900, Machala to Puerto Bolivar, using the gauge of 2' 5½" or 75 cm. Although run by the government for the major part of their lives, the El Oro railways were handed over to the local municipalities in 1951.

Three locos of 15-20 tons were specified in the concession, to burn wood or petroleum.

1925 there were four locos, only two of which were in use. Loco weight was 25 tons.

Both routes operated until 1971.

2-8-0 d/w 27"685mm, cyls. 14 3/8"x16" 365x405mm, built by Borsig in 1925

750mm gauge, for *Ferrocarril Puerto Bolivar Loja y Cuenca*, Quito/Ecuador

- | | | |
|---|-----------|--|
| 1 | w/n 11872 | Passenger type [11]. Copeland suggests that this one may have been a 2-6-0, but Merte's Borsig list clearly shows both as 2-8-0s.
Recorded in source [22], 1949, as no. 22 . |
| 2 | w/n 11873 | Freight type [11]. Recorded in source [22], 1949, as no. 23 . |



This is probably one of the two Borsigs.

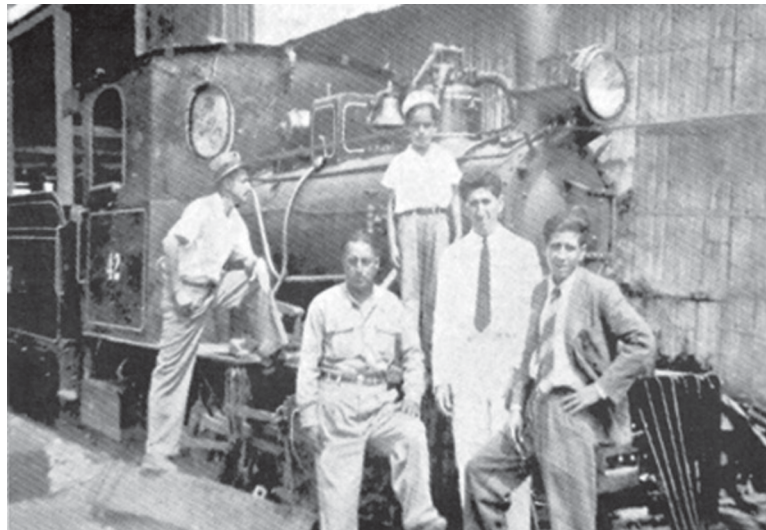


2-6-0 d/w 30", cyls. 10x16", built by Porter in 1927

3 'LOJA' w/n 7079 Ordered for FC Puerto Bolivar a Loja, 18 tons, then became El Oro railway no. **10**. Listed in 1949 , source [22], as no. **21**. [11] says seen in a 1968 photo at Machala.



The photos below seems to show this loco as no. **3**, but it is not yet clear whether it was the Porter mogul listed above.



Clearly this relatively small engine is of German origin, but its builder is unknown. Its number, **42**, will have been within the combined coastal railways fleet list. The regulator valve mounted on top of the dome suggests that this loco might have been a HanoMAG product.

The 1926 fleet

[5] reports that the line had three 15-20 ton locos in 1926, which suggests that there had been another engine since no. **3** was only constructed in late 1927.

0-4-0(T?) d/w 18½", cyls. 5x10", built by Vulcan Iron Works in 19??

Ordered for ? Recorded here in 1949.

20 w/n 2968

Combined fleet numbers

The *FC del Oro* locos on both 75cm and 3' 6" gauges, as well as others on the *FC a la Costa* and the *FC Bahía á Chone*, were eventually numbered in a single list. The following table is, however, very incomplete and needs further work.

10 Porter 2-6-0 7079 of 1927, ex no. **3**. Later no. **21**.

12 Baldwin 3' 6" gauge loco ex G&Q? See section 6.3.7.

18 Kerr Stuart 0-6-0 ex FC Manta - Santa Ana 2-6-2T.

19 Kerr Stuart 0-6-0 ex FC Manta - Santa Ana 2-6-2T.

20 VIW 2968 0-4-0

21 Porter 7079 2-6-0, see above.

22 Borsig 2-8-0 11872 of 1925, ex no. **1**, later no. **25**?

23 Borsig 2-8-0 11873 of 1925, ex no. **2**

24 ?

25 Borsig 2-6-0 12085 of 1928

26 ALCo 0-4-4T 29536 of 1903, ex no. **2** and later no. **4**. By 1940s was an 0-4-0.

42 German-built 0-4-0? ? of ?

22? Baldwin 3' 6" gauge loco ex G&Q? See section 6.3.7.

This numbering system applied across several government-owned *FFCC Litorales* lines including the *FC Central*, see next section.

It is unlikely that this was a continuous sequence starting from **1**. Alternatively it might have contained discrete groups beginning at **1**, **10**, **20**, **30** and **40**, perhaps related to haulage capacity or type of usage.

6.4.2 *El FC Manta a Santa Ana* *The Central Railway of Ecuador* 1909-1947

Background

This was built by a British company, registered in 1909, the Central Railway of Ecuador Ltd, though businessmen from Montecristi seem to have been the driving force, eg. M. P. Gozenbach. 75cm was the gauge. The track was only completed as far as Porto Viejo, 25 miles, by 1913. However, it reached Santa Ana in 1920. The total length 0-6-0 was about 60 km or 37 miles, though some further work toward Pajan had been undertaken. The principal traffic was agricultural, *tagua* or ivory nuts, and coffee. The gauge and standards had been specified as identical to the French line described next, as they seemed likely to join up. [5] Source [7] explains that this was truly 'bandit country' and that the railway as a result had a colourful and difficult existence. The operating company apparently withdrew in 1946 and whilst the government may well have continued to run the line, its future was precarious. [11] says govt. took over in 1923 but that needs confirmation. Closure was around 1947.

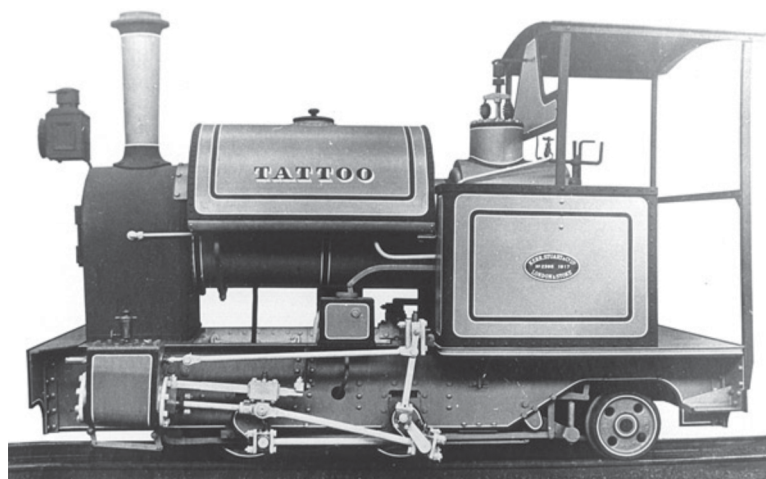
Early loco proposal

Source [30] from 1890, suggested that the proposed railway would require:

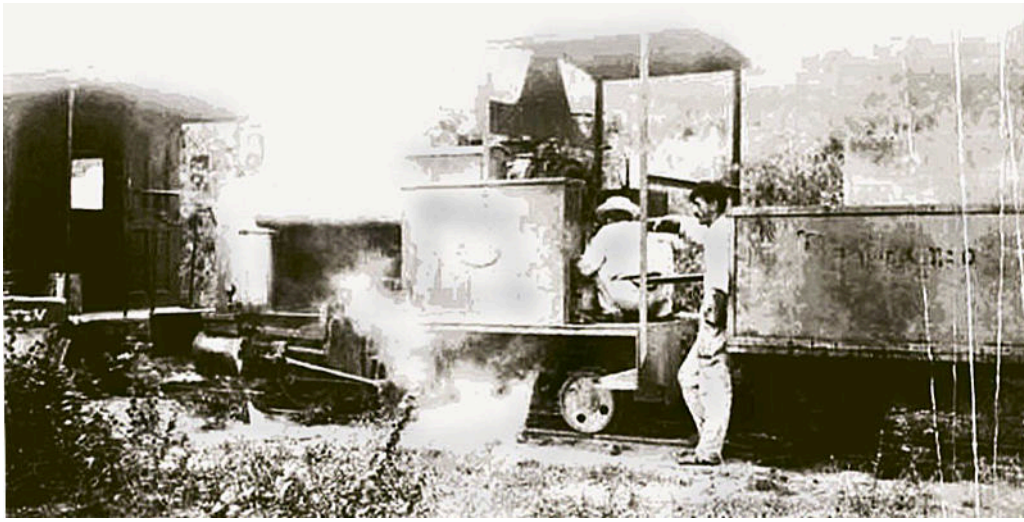
11ª El número de locomotoras, carros y wagones será el siguiente:
Dos locomotoras para pasajeros.
Dos id. para carga.
Diez carros abiertos para id.
Diez id. cerrados para id.
Cinco wagones de primera clase,
Diez id. de segunda y una balanza de plataforma.
Dado en Quito, Capital de la República, 6 de mayo de 1890.

0-4-2ST d/w ?, cyls. 7x12", built by Kerr Stuart in 1911

1 'ALFARO' w/n 1143 Tattoo class loco. May also have carried initials C. R. E. on tank.



A builder's publicity photo of a Tattoo class loco, though do note that this is a later engine with outside Hackworth valve gear rather than the inside Stephenson gear that would have been fitted to 'ALFARO'.



Not a good quality pic, but the only one found showing the FC Central's own Tattoo loco. It rather looks as though it has been equipped with a tender.

2-6-2T d/w 22¾", cyls. 11x15", built by Kerr Stuart in 1911

'C. R. E. No. 2' w/n 1210

'C. R. E. No. 3' w/n 1211 [11] says later numbered 31.



Whilst this extremely poor photo came from a Guayaquil webpage, it could very well be a Kerr Stuart loco and is therefore more likely to have been taken on this railway.



Just a little better; a photo taken at Manta and almost certainly showing one of the KS 2-6-2Ts.



One of the 2-6-2Ts of the FC Central del Ecuador is seen with the first train
 to reach the site of Portoviejo station. The loco bears the number 1,
 which conflicts with information gained from other sources.

2-6-0 d/w 37", cyls. 14x18", built by Baldwin in 1913

2' 5½" gauge, Radley & Hunter stack, 8 wheeled tender, cyls. 14x18", d/w 37", 2-6-0, 'FC CENTRAL DEL
 ECUADOR' on tender sides. Class 08-22D 332, Specs vol 49 p131. Ordered via the Railway Finance & Construc-
 tion Co. Trials 5th Nov 1913, Shipped 14 Nov 1913.

21 w/n 40865



BLW image 04752-1 available from the Railroad Museum of Pennsylvania.





2-6-2T d/w 22¾", cyls. 11x15", built by Kerr Stuart in 1923

3²? w/n 4289

If this was a second number 3, then what had happened to the earlier one? [11] says later numbered 32.

The fleet in 1920

Source [26] includes a report by the Interventor of this railway, including a rolling stock section which reads as follows:

"INFORME del Interventor del Ferrocarril Manta-Santa Ana

República del Ecuador.—Intervención del Ferrocarril Central.— Manta, mayo 6 de 1921.

Señor Gobernador de la Provincia.

Portoviejo.

...

Material Rodante

El ferrocarril dispone de dos locomotoras en mal estado de conservación, No. 2 y No. 21. La segunda fue retirada del servicio, a fines de octubre, por haber perdido una de las ruedas centrales, la misma que pedida por cable a los Estados Unidos, está recientemente llegada y se la está colocando a la máquina, a fin de que reemplace, a la No. 2 que es excesivamente vieja y expuesta a constantes daños. Ambas locomotoras están continuamente reparándose, y sólo a la pericia del Jefe del Taller se debe el que el tráfico no haya sufrido mayores alteraciones en su itinerario, ya que, encontrándose la 21 sin la rueda central, la No. 2 ha sido la que ha soportado el peso del servicio en este último semestre, a pesar de su estado de postración. También se debe a los conocimientos del Maquinista la regularidad del servicio, pues en ocasiones he podido ver que la máquina se ha dallado dos y tres veces en el trayecto y el Maquinista, haciendo remiendos, ha logrado que mal o bien ésta prosiga su marcha; pero estas reparaciones solo son momentáneas y ocasionan continuas pérdidas apreciables de tiempo y no pocos perjuicios y mortificaciones a los viajeros que reniegan de servicio tan caro y tan molesto.

In una palabra, el material rodante con que contamos, es escasísimo y mal conservado, de suerte que, de conformidad con mi—informe confidencial de noviembre último al Señor Ministro de Obras Públicas, me permito insistir en la conveniencia de adquirir, siquiera, un carro de primera clase con capacidad para cuarenta pasajeros y otro de segunda clase, puesto que de los inútiles e inadecuados que existen, el uno está reparándose desde octubre que se destruyó a consecuencia de un choque y el otro, es completamente viejo, con pocos asientos que se llaman de primera y ninguno

de segunda. Para esta clase que no hay, naturalmente, no se venden pasajes, si no a título de primera aunque los pasa-jeros urgidos por la necesidad toman las plataformas y expuestos a las chispas, al sol y a las lluvias aceptan a más no poder un viaje asaz incómodo. La adquisición de estos carros es de necesidad tan inaplazable como lo es la de una locomotora más, puesto que, como digo anteriormente, las dos que existen son de notoria vejez. La Compañía ha traído algunos materiales de repuestos y ha aumentado la existencia de herramientas, con lo cual ha sido posible atender a la reparación del actual material y de consiguiente al mantenimiento del servicio, pues de lo contrario, habríamos soportado constantes desperfectos si no la paralización completa.”

The fleet in 1925

1925 had 3 locos. Weight on drivers 30,000 to 40,000 lbs. cyls. 12 to 14 inches. The railway then acquired a pair of very early Kerr Stuart diesels in 1929, nos. 4430-1, built soon after the prototype 4415 that worked on the WHR.

One of the locos named ‘**MANUEL CORDOVA**’ was the first to arrive in Portoviejo.

Railcars

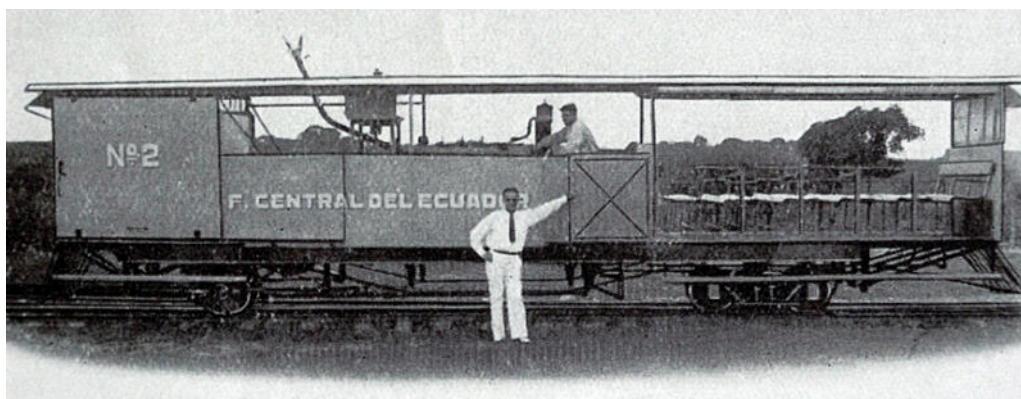
Whilst these files focus on steam locomotives, this railway purchased two very early and unusual diesel railcars from Kerr Stuart in 1929. They have been listed and illustrated here for interest, and to prevent their identities from getting mixed up with those of the steam engines.

4-2-0 McLaren-Benz-engined railcars built by Kerr Stuart in 1929?

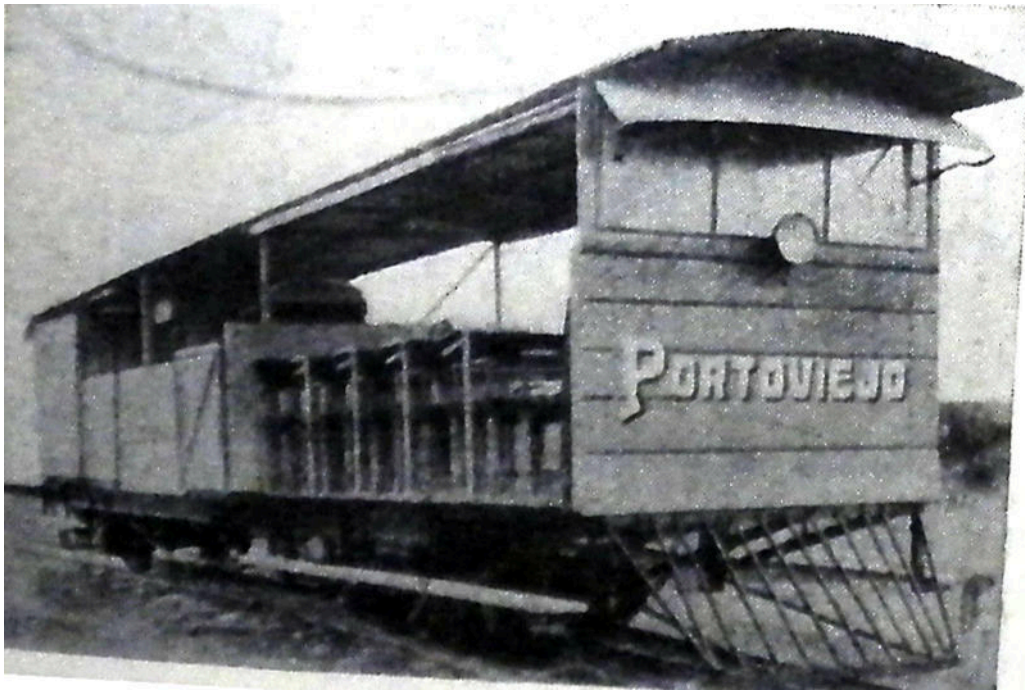
Ordered for Central Railway of Ecuador. Brian Rumary’s KS list has two 60hp 0-6-0DMs (nos. 4430-1) built for this railway in 1929 but lists no other possibilities and says that no builders’ numbers were used other than those in his list. The second photo below shows the place-name ‘PORTOVIEJO’ emblazoned across the end of one railcar, but it is not clear whether this was intended as a vehicle name or a permanently-affixed destination display.

1? w/n ?

2 w/n ?



These two images were found by Chris West in McLaren literature at the Museum of English Rural Life in Reading.

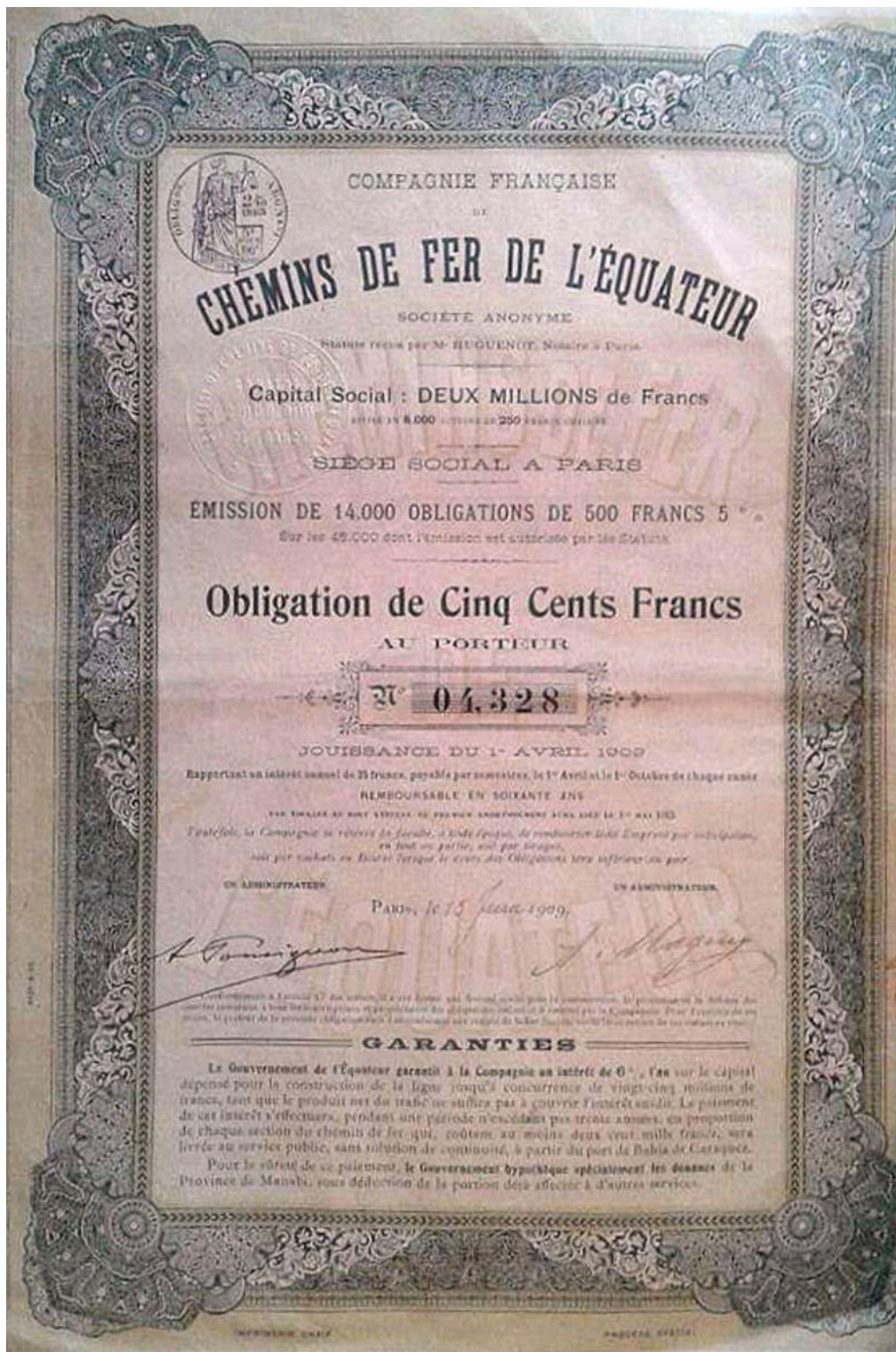


Closure of the line

By 1949 the railway had closed and two of the Kerr Stuart steam locos had been sent to Puerto Bolivar. Source [22] gives them as 0-6-0Ts there, but if that was indeed the case it is not known whether the pony trucks had been removed at Manta or on their arrival in El Oro province.

6.4.3 FC Bahía de Caraquez a Chone

Le Compagnie Francaise des Chemins de Fer de l'Equateur.
1909-



Background

Proposals for a railways in the province of Manabí dated from 1884, with plans firming up from 1902 and a concession granted to M. Catefort and then to the above company in 1909. The owner (which took over the earlier metre gauge scheme see section 6.3.9) was the *Compagnie Francaise des Chemins de Fer de l'Equateur*, and the gauge 0.75m. This operated from 1911 to 1966. It ran from Bahía de Caraquez to Chone, 78km, but was later cut back to Canuto in 1918 and to Calceta in 1925, 55km. The company originally had had ambitions to reach as far as Quito (350km), with a branch to Guayaquil, and another from Calceta south to meet the British line at Porto Viejo. [5]

Plans around 1887

Government decrees relating to this railway proposal in 1887 [21] suggest that there would need to be “*Dos locomotoras para pasajeros*” and “*dos id. para carga*,”

con necesarias,
11. El número de locomotoras, carros y wagones será el siguiente:
Dos locomotoras para pasajeros.
Dos id. para carga.
Diez carros abiertos para id.
Diez id. cerrados para id.
Cinco wagones de primera clase.
Diez id. de segunda y una balanza de plataforma.
Dada en Quito, Capital de la República, a seis de

Bases for a contract in 1890

In September 1890 the Ecuadorian Congress passed a decree setting out the bases for a contract for a railway from the Bahía de Caraquez to Quito [32]. The appended specifications included the following:

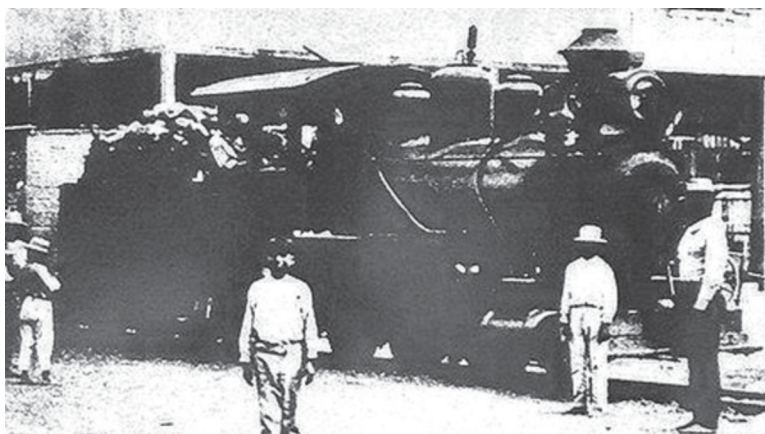
clase que fuesen necesarias.
11. El número de locomotoras, carros y wagones será el siguiente:
Cinco locomotoras para pasajeros.
Seis id. para carga.
Treinta carros abiertos para id.
Veinte id. cerrados id. id.
Diez wagones de 1.^a clase.
Veinte id. de 2.^a id.

Treinta carros para ganado, y
Una balanza de plataforma.
Sin perjuicio de aumentar el material rodante cuando el tráfico lo hiciere necesario.

0-6-0 d/w 33", cyls. 12x16" built by ALCo Pittsburgh in 1904

Ordered via W. R. Grace & Co.

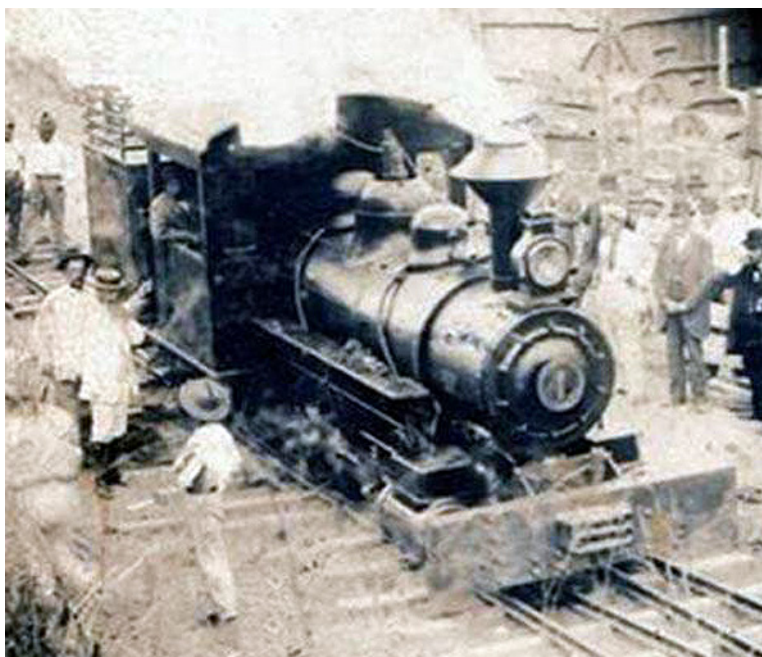
1? ‘MANABÍ’ w/n 29966 Eventually renumbered as 10.



This loco is also currently anonymous, though it would seem to have been American-built.

0-4-4T d/w 30" cyls. 10x16" built by ALCo Pittsburgh in 1909

2? 'MANABÍ' w/n 46574



This could well have been an 0-4-4T but that has not yet been confirmed.
The photo above was found on an Ecuadorian historical website, labelled as showing a train on the Bahía to Chone railway.

2-6-0 d/w 37", cyls. 13x18", built by Baldwin in 1911

Class 8 20 D 138, spec. in vol 36 p 330. Oil-burning, weight 45,000 lb. This would probably have been the heaviest of the identified locos listed here, which might have connotations for the 1925 comment about a loco being too heavy.

3 w/n 36036

No. **1** may have been renumbered **10**.

There may also have been a number **11**, unidentified, but noted as the largest in 1925.

2-4-0 d/w 37", cyls. 11x16", built by Baldwin 1911

Class 6 16 C 28, spec. in vol 39 p 286. Oil-burning, weight 32,000 lb.

12 w/n 36372



BLW image 03543 available from the Railroad Museum of Pennsylvania.

Reported fleet

In 1910 apparently two locos: 1 x 30-35T at Pto. Larrea (ex *FPM* no. **1**), and 1 x 18T *Americana* (no. **2**).

In 1912 four locos: 16T wood-fired - possibly no. **2**, 24T wood-fired - possibly no. **3**, 18T oil-fired - no. **12**, 34T oil-

fired - no. **1**.

In 1920 a report by the Interventor mentions two engines under repair but gives no details [26].

In 1925 it was reported as having three locos: an 0-4-0 with cyls. 10x16" and of 18 tonnes; an 0-4-0 of 30 tonnes; and a loco of 45 tonnes, disused because it was too heavy.

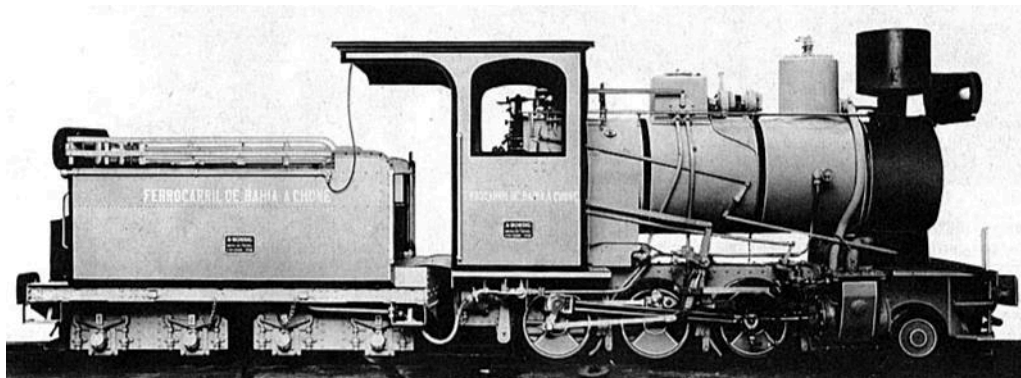
Apparently the smallest loco was known as '*la burra*' and the largest was no. **11**. Another was supposedly no. **21**, though an engine with that number ran nearby on the *FC Manta a Santa Ana*. The locos burnt *tagua*, from the ivory palm.

2-6-0 d/w 27", cyls. 12 5/8"x16", built by Borsig in 1928

Borsig list says delivered to *Ferrocarril Bahia - Caragues*, Guayaquil, Ecuador.

? w/n 12084

? w/n 12085 In 1949 recorded as on Pto. Bolivar a Pasaje 3' 6" gauge line as no. **25**.



A Borsig builders' photo of loco 12084, from the book *120 Jahre Lokomotivfabrik Borsig*, 1985. Received by courtesy of Jens Schindler.

The fleet in 1949

Source [22] states that the railway possessed two locomotives in 1949 [22, p295] but later points out that they are no longer in use and are unlikely to have an active future [22, p383].

6.5 Sugar plantation railway systems

Context

So far it is the sugar plantations and mills on the low ground around Guayaquil that seem to have had the majority of the industrial steam locos. The early sugar mills or *ingenios* included:

Hacienda San Pablo from 1875 to 1881, Valdez in Milagro, from 1892 Santa Rosa which was renamed Isabel María, and Carlos Lynch at Yaguachi which was renamed San Carlos in 1897.

Smaller *ingenios* included: Nuques, San José, Luz María.

Also there were Aztra, Tababuela, Ecudos, Monterrey, and Iancam,

Ingenios operating in 1909 included: Valdez, San Carlos, Luz María y Matilde, Inés María, Rocafuerte, El Cóndor, María, Santa Ana, and San Pablo.

Ingenios operating in 1922 included: all of the above except María, plus Adelina María, Supaipungo, Eulalia, Chonana, Esperanza, and La Compañía. [source: *Los Ingenios en el desarrollo del capitalismo en el Ecuador 1900-1954*, Rafael Guerrero Ciese].

6.5.1 Santos y Cía., Alejandro, *Ingenio Ines María*

2' 6" gauge.

0-4-0ST d/w 24", cyls. 6x10", built by Baldwin in 1908

Class 4-06 C 6, spec. in vol 32 p 232. Radley & Hunter stack. Ordered via Alejandro Santos y Cía.

‘LILLIPUT’ w/n 32793



A photo from source [15] in 1909, captioned as at Ingenio Ines María.

0-6-0 d/w 24", cyls. 8x12", built by Baldwin in 1916

Ordered via W. R. Grace & Co. for Carrilo y Cía. Trial 18 April 1916, Shipped 11 May 1916. Location probably Guayaquil area. Class 06-10 D 8, spec. is in vol. 54 p 324. Supplied with Radley & Hunter stack and canopy instead of cab.

‘INES MARÍA 2’ w/n 43209



BLW image 05864 available from the Railroad Museum of Pennsylvania.

6.5.2 Ingenio Valdez



Background

Compañía Azucarera Valdez, S. A., 3' 0" gauge. It has been suggested that the use of 3' 0" gauge here is a relic of the original *FC del Sur* that was later regauged to 3' 6" to form the G&QR. “*En 1925 el transporte de caña de los canteros a la fábrica se lo realizaba en cuatro máquinas Baldwin, denominadas ‘DOLORES’, ‘VICTORIA’, ‘ENRIQUE’ y ‘RAFICA’.*” <https://historiacantonmilagro.wordpress.com/9-historia-del-ingenio-valdez/>
Steam was in service until 1976.

?-?-?T d/w ?, cyls. ?, built by ? in ?

Ordered for ?

1 w/n ?

?-?-?T d/w ?, cyls. ?, built by ? in ?

Ordered for ?

2 w/n ?

One of the above may have been a Porter 0-4-0STT from the *Aduana de Guayaquil* 4' 0" gauge system, named ‘**ELI**’. [11] says the frame and motion were latterly in use at the mill as a winding engine.



However, this photo of a loco numbered 5 'ÉLI' suggests that it was a Baldwin.

0-4-0ST d/w ?, cyls. ?, built by Knowlson & Kelley of Troy NY in 1883

[11] reports that this loco was reputed to have been a G&QR construction loco.

? 'ENRIQUE' w/n 7

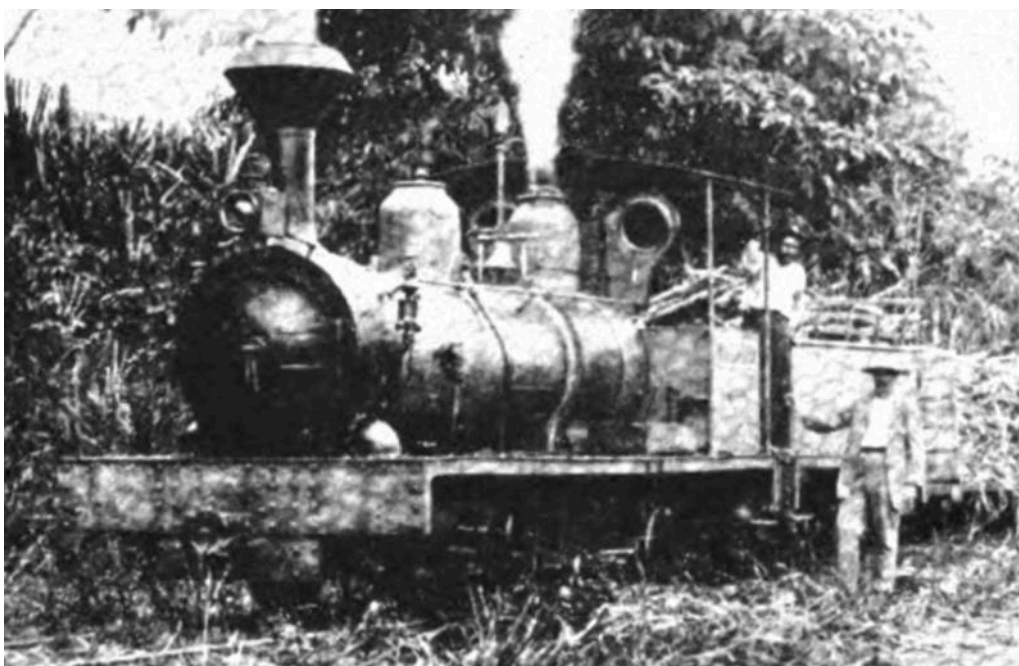
[11] says the frame and motion were latterly in use at the mill as a winding engine.

0-4-2TT d/w ?, cyls. 9x16"?, built by Falcon in 1886-7

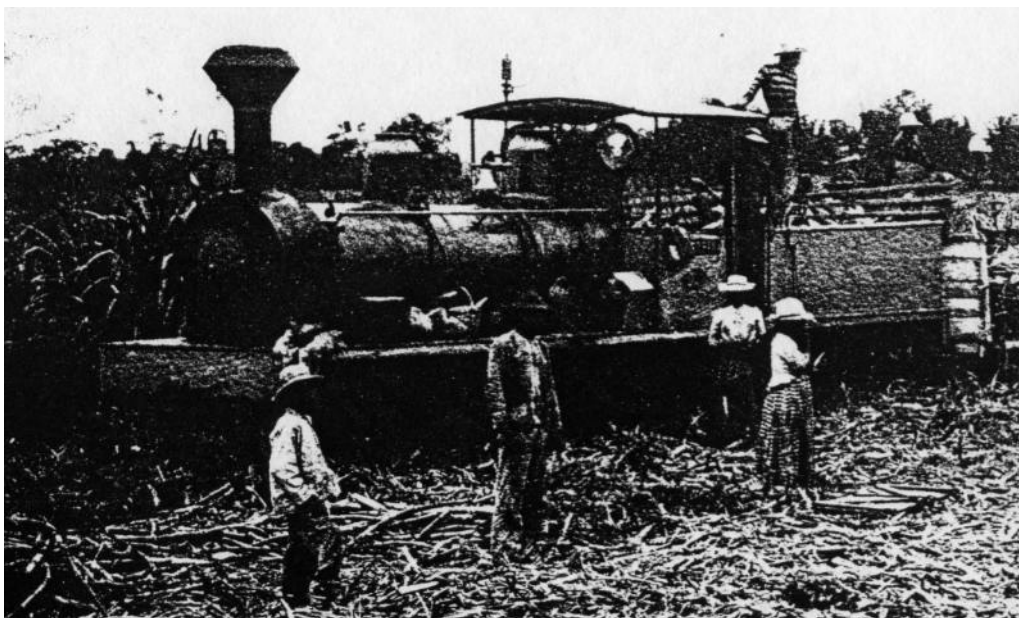
It has been suggested that this loco was built by Falcon/Brush for Kerr Stuart before the latter started building their own engines. Possibly KS no. 1?

2² 'VICTORIA' w/n 530

[11] says the frame and motion were latterly in use at the mill as a winding engine.



Henry Gunston and others identified this loco as having been built by Falcon, and noted the characteristic features of that builder, such as the steam pipe elbows either side of the smokebox, and the sand-dome. Published in [15] in 1909.



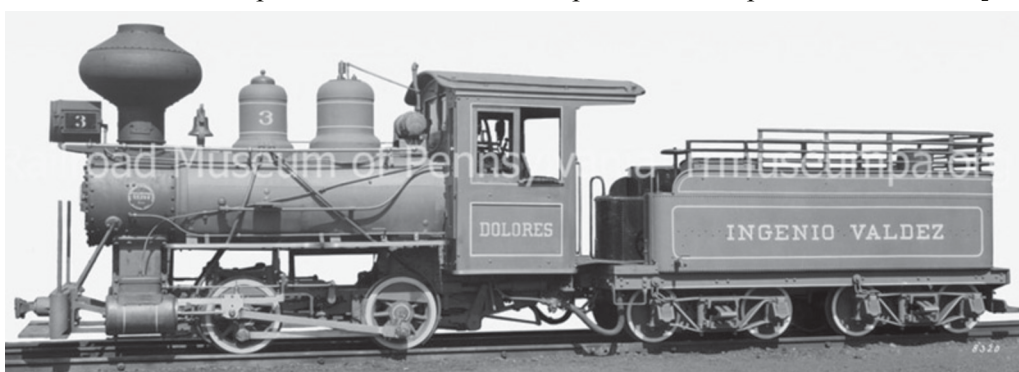
Another photo of the Falcon/Kerr Stuart loco.

0-4-0 d/w 30", cyls 8½x14", built by Baldwin in 1922 and 1925

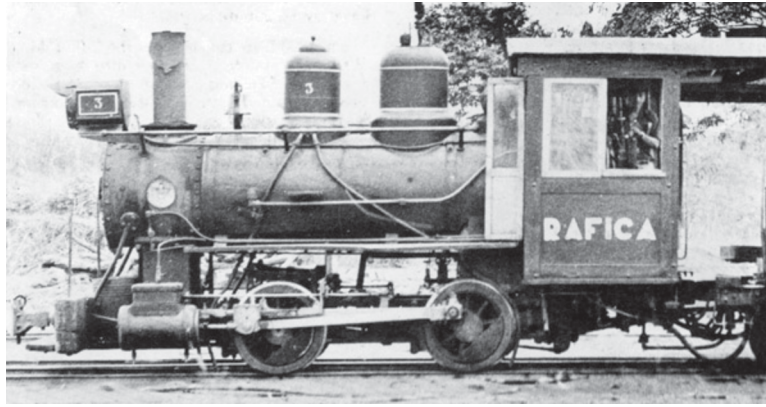
Class 4-11 C 424 and 430, Trial 7th March 1922, Shipped 24th March 1922.

3¹ later 2³ **'DOLORES'** w/n 55298 **'INGENIO VALDEZ'** to be painted on tender sides. Spec. in vol. 66 p 148. In use 1972 [JK].

3² **'RAFICA'** w/n 58415 Name to be painted in gold leaf on sides of cab. **'INGENIO VALDEZ'** to be painted on tender sides. Spec. in vol. 78 p 202. In use 1972 [JK].



These two images were taken by John Kirchner in August 1972 and were published in *World of South American Steam*.



'RAFICA', no. 3, as seen by John Kirchner in 1972.

6.5.3 Ingenio San Carlos

Background

Two locos were here on 3' 6" gauge in the early 1970s.

At Naranjito. From Conducta to the mills, there was 5 km. or so of 60cm gauge. Five locos were here at the beginning of the 1970s.

?-?-?T d/w ?, cyls. ?, built by ? in ?

Ordered for ?

1 w/n ?

0-4-2ST d/w ?, cyls. 8½x12", built by Fowler in 1906

Ordered via A Ruffer & Sons for Carlos Lynch, Naranjito, Ecuador. Builder's photo B950 is apparently available, probably from the MERL in Reading.

‘SAN CARLOS No. 2’ w/n 10804

2-4-0TT d/w ?, cyls. ?, built by O&K in 1910

3 w/n 4187 60hp. Ordered for *Ingenio San Carlos Lynch*, Guayaquil,
Nowadays displayed at mill.

0-4-0T d/w ?, cyls. ?, built by Henschel in 1922

Ordered for Ingenio San Carlos, Sent via *Metallgesellschaft Frankfurt*

4 w/n 19237 Nowadays stored.

0-4-0 d/w ?, cyls. 9x14", built by Davenport in 1919

5 w/n 1733 Ordered via Allied Sugar Machinery Co. 8-wheeled tender.
Connelly's Davenport list states that it was later rebuilt as an 0-4-2T,
but the photos below contradict the idea that it became a tank loco.
It was stored, then displayed in a park at El Guasmo, and later cut up.



Photo by Fred Springer, found at
<https://cronostatos.com/indigno-final-para-centenaria-locomotora-del-guasmo/>
with Vicente Adum Gilbert's excellent short article on the loco.



Ing. San Carlos no. **5** as plinthed in the Parque Stella Maris at El Guasmo south of Guayaquil. Don Vicente Adum Gilbert, on whose page these photos were found, reported that the engine had later been scrapped.

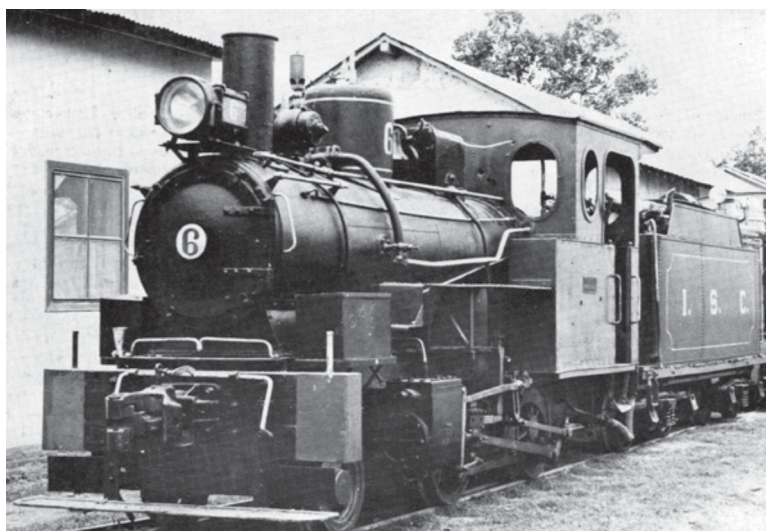
Nos. **6** to **8** were 3' 6" gauge.

2-4-0WTT d/w ?, cyls. ?, built by O&K in 1913

6

w/n 7118

Ordered for Ingenio San Carlos, Union Balmaria Guayaquil, Ecuador (1993 vh)



O&K2-4-0WTT no. **6** in 1972, photo by John Kirchner from *World of South American Steam*.



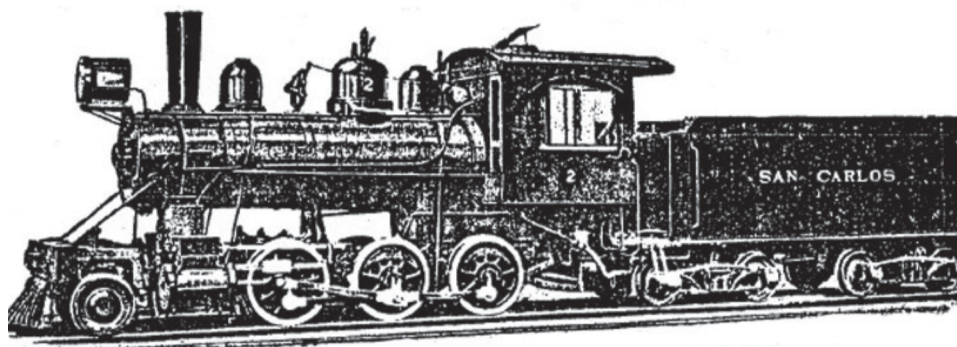
A rather more recent, though undated, shot from the Flickr photostream at <https://www.flickr.com/photos/railphotoart/>

2-6-0 d/w ?, cyls. 12x16", built by Glover Machine Works of Marietta, Georgia, in 1919

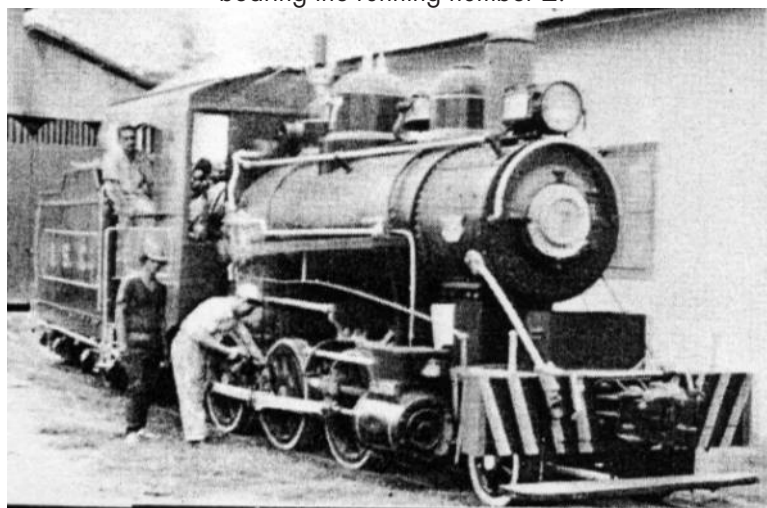
World of South American Steam, published by Ken Mills and Roy Christian in 1973, suggested that there were two locos by Glover at this location. However, only one, no. 121637, has been explicitly identified in the Glover lists.

7 w/n 121637 Nowadays stored.

8 w/n possibly 131815-6 0-6-0 for Kunhardt & Co. via J. M. Motley.



An image from a Glover catalog showing a 2-6-0 for San Carlos but strangely bearing the running number 2.



This undated photo of no. 7 found in Christopher Walker's archive seems to show that the chimney was shortened in later life, and that a different tender was fitted.

A 2-6-0?

A film clip taken by Ivor Harding and in the collection curated by the Industrial Railway Society at <https://onedrive.live.com/?authkey=!AP7RhGOYX3YT8ZE&id=8988A45C3BC87325!178378&cid=8988A45C3BC87325> in film no.

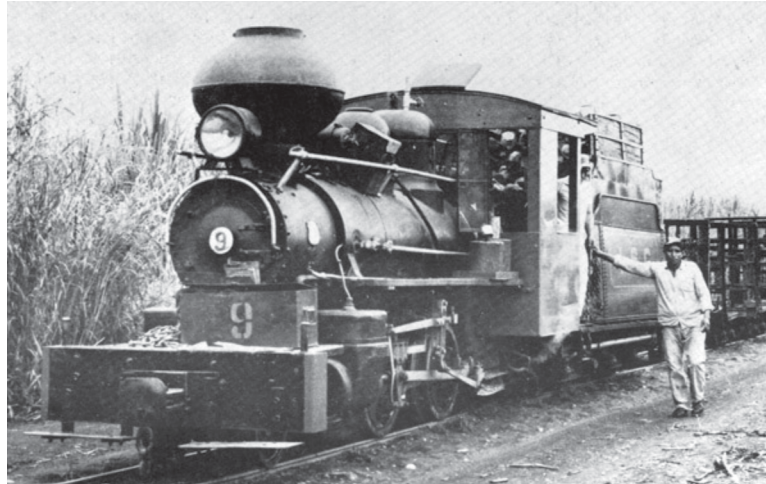
30, appears to show a 3' 6" gauge 2-6-0 in action here. The date is unknown but was presumably toward the end of commercial rail operations.

2-4-0 d/w 30", cyls. 9x14", built by Porter in 1924

via E. T. Brooks Co. for Ingenio San Carlos at Naranjito, Ecuador, 13 tons.

9 w/n 6892 In use 1972 [JK]. Nowadays stored.

10 w/n 6893 Displayed at Naranjito.



Porter 2-4-0 no. **9** in 1972, photo by John Kirchner from *World of South American Steam*.

6.5.4 *Ingenio Luz María y Matilde*

Background

60cm gauge. Keith Taylorson in *The Narrow Gauge* no. 100 says the rail system closed around 1970.

0-4-0T d/w ?, cyls. ?, built by Decauville in 1891

‘MATILDE’ w/n 131 Supplied to/via Homero Morla. 5 tonnes.

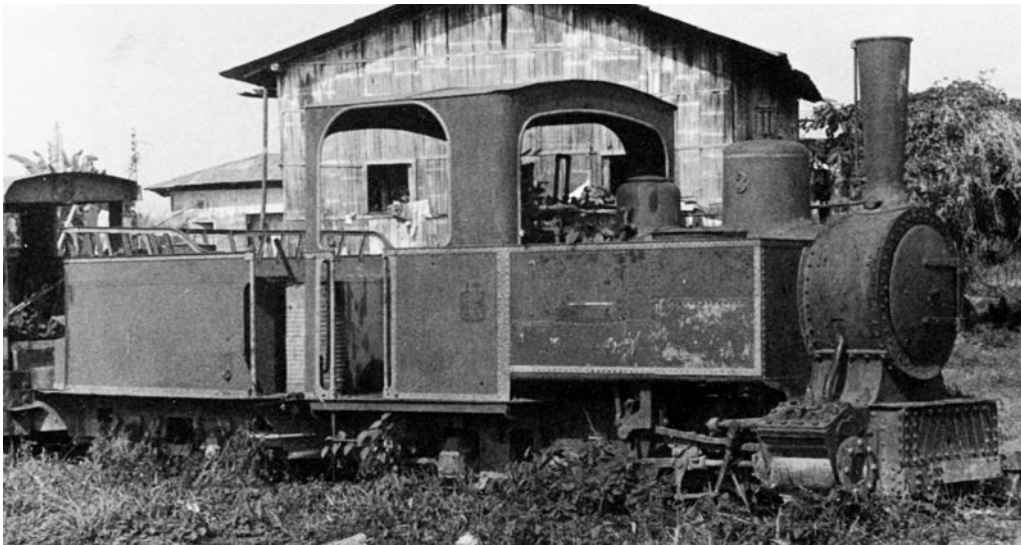


This was stated to be the first of the three Decauvilles here, **‘MATILDE’**, when found at Wikimedia Commons.

0-4-2T d/w ?, cyls. ?, built by Decauville in 1895

Ordered via Lefranc et Raynal for *sucrerie Luz Maria*, Chobo, Ecuador

3 ‘SAN NICOLAS’ w/n 190 May still exist. Was derelict for many years. 7.5 tonnes.



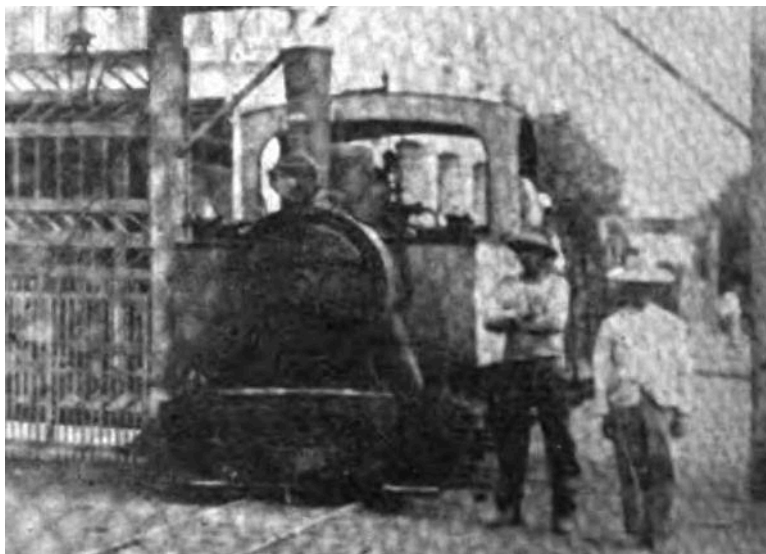
‘SAN NICOLAS’ as seen by Trevor Rowe in 1979. The tender has a professionally-made look and may well have arrived with the locomotive.

0-4-0T d/w ?, cyls. ?, built by Decauville in 1898

‘LUZ MARÍA’ w/n 282 Ordered via Seminario Freres & Co. for the *Sucrerie de Luz María*, Chobo, Ecuador. 5 tonnes.



Whilst this clearly looks like a Decauville loco, it is not known which one of the three it is.



A photo published in [15] in 1909, showing an Ingenio Matilde Decauville loco.



And another from the same source, possibly showing the same engine.



An image from the same source but this time captioned as at Ingenio Luz María,
presumably before the two estates were merged.

6.5.5 Ingenio Rocafuerte

Background

Gauge 75cm. Owners Julian Aspiazu and Giovani Malnati B.

0-4-0 d/w 26" cyls. 9x12" built by Baldwin in 1908

Ordered via G. Amsinck y Cía., Guayaquil, Ecuador. Class 4-11C no. 373. Spec. is in vol. 32 p 246. Fuel wood or coal. Straight stack. Central buffer 12" above rail and with drawhook just below it. Loco weight about 19,000 lbs. No name or number, but 'INGENIO ROCAFUERTE' to be painted on tank-sides. All springs one plate heavier than usual.

?

w/n 32818



A photo from source [15] in 1909, showing a train at Ingenio Rocafuerte.

This is almost certainly the loco illustrated above.

6.5.6 *Ingenio Nugues*

600mm gauge. Owners Jose Nugues. At Babahoyo.

0-6-0T d/w ?, cyls. ?, built by O&K in 1923

? w/n 10508 100hp. Ordered for José Nugues, Ecuador

6.5.7 Ingenio Adelina María

Background

500mm gauge. At Balao on south coast. Plantation producing sugar, bananas and cacao.

0-4-0T d/w ?, cyls. ?, built by Decauville in 1901 and 1912

Possibly ordered by Dario Morla.

? w/n 328

? 'MIRAMAR' w/n 639

6.5.8 United Fruit Co. at Tenguel in El Oro province

Background

2' 6" gauge. Operated from 1945 to 1966 with diesel haulage. [Richard Yudin in LI issue 17].

6.6 Other industrial lines

6.6.1 Anglo-Ecuadorian Oilfields Ltd.

Background

Location unknown. 60cm gauge. An offshoot of Lobitos Oilfields Ltd. in Peru. Operated 1919 to 1975, then became part of Burmah Oil which was in turn absorbed by BP. The archives are at the University of Warwick but have not been examined.

Whilst the company had diesel locos including three by Hudson-Hunslet in 1946-7, Allen Copeland [11] suggests there may have been earlier engines possibly from the 1920s onward.

6.7 Unidentified customers

2' 6" gauge

0-4-0T d/w 22" cyls. 5x10" built by Vulcan Iron Works in 1919

Ordered via the Allied Machinery Co. of America for Ivan Landis Co. of Guayaquil. It is not known whether this was an agent or an end-user.

? w/n 2968

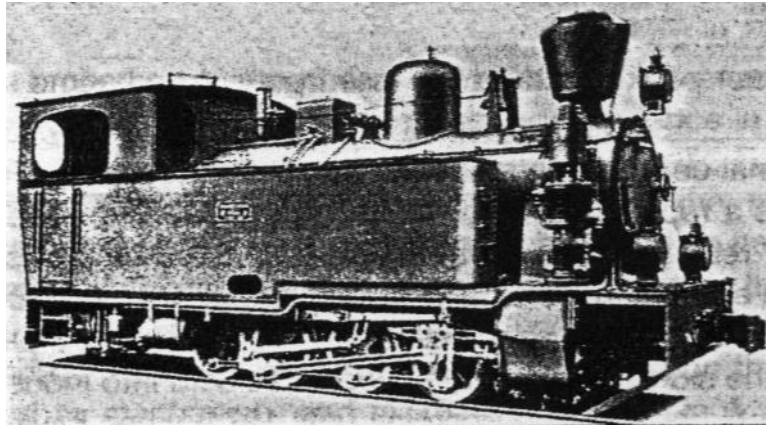
3' 6" gauge

0-8-0T d/w 720mm, cyls. 350x360mm, built by Henschel in 1926

Ordered via Ferrostaal. Customer unknown. Could be anywhere in Ecuador, but very likely somewhere on the G&QR or connected routes. Weight in service 29.2T.

? w/n 20666

? w/n 20667



This illustration of the Henschel 0-8-0T design for Ecuador was published in a Henschel catalogue around 1930.

3' 0" gauge

0-4-0 d/w?, cyls. 8x16", built by Porter in 1874

Delivered via Amory Edwards Co., NYC, prob. for Ecuador. But Bob Lehmuth's Porter list says it was for Cuba.

w/n 195

? w/n ?

John Kirchner, in notes found in Chris Walker's archive, suggested that Decauville locos also came to Ecuador.

102 2-1891 0-4-0T 500mm gauge 3T for Simon of Ecuador

391 7-1903 0-4-0T 600mm gauge 5.0T for Fleum et Mortier, Mathilde?

59512-1910 0-4-2T 7.5T for Block et Cie. Mathilde?



This magazine illustration appeared in an article celebrating the opening of the railway to Esmeraldas, ie. to San Lorenzo. The tank loco to the left, draped in palm leaves and flags, has not been identified. It might have belonged to a contractor, or to the port at San Lorenzo.

6.8 Appendices

6.8.1 Appendix 1 The EFE fleet list from 1955

Background

This is a 1955 loco list for the G&Q, S-C and Q-E network. It was found in the late Christopher Walker's collection, and has clearly been annotated by him or others. However, other hand-written additions are in Spanish and probably by railway staff. In order to display this at an adequate size it has been turned sideways and divided into two.

Caracteristicas del Equipo - Fuerza Motriz										JUNIO 1955	
Nº	AÑO DE IDENTIFICACIÓN Y DEL MOTOR.	VAPOR	FABRICANTE	TIPO	SIMBOLO :	EN SER. VICIO DESDE	WEP/MSVC		C.O.	C.O.	
							VE	DIA. AREA			
ON FILE CARD											
1		S	Borsig	10-WHEELED	4-6-0	1926	2	16 1/2	195		
2		S	"	"	4-6-0	1926	2	16 1/2	195		
3	10-26-E-157	R	Baldwin Locm. Works	CONSOLIDATION	2-8-0	2-23-31	2	18	20		
4	8-28-D-301-41159	S	"	MOGUL	2-6-0	1916	2	17	22		
5	8-28-D-301-41160	S	"	"	EX 2-6-0	1914	2	17	22		
6	8-28-D-303-41159	S	"	"	2-8-0	1914	2	17	22		
7	10-30-E-2316012	S	Baldwin Locm. Works	CONSOLIDATION	2-8-0	1914	2	18	20		
8	10-30-E-233-73065	R	"	"	2-8-0	6-16-46	2	18	20		
9	10-30-E-232-61827	S	"	"	2-8-0	1939	2	18	20		
10	10-30-E-232-61827	S	GENERAL ELECTRIC CO.	ARTICULATED	0-4-4-0	1945					
11	8-28-D-200-19153	R	Baldwin Locm. Works	MOGUL	2-6-0	1901	2	17	22		
12	8-28-D-201-19154	S	"	"	2-6-0	1905	2	17	22		
13	8-28-D-202-19156	R	"	"	2-6-0	1901	2	17	22		
14	8-28-D-180-3060	S	"	"	2-6-0		2	17	22		
15	8-28-D-182-18427	R	RECONSTRUCTED BY FS 4-8-1 1955	"	2-6-0	4-5-85	2	17	22		
16	8-28-D-183-18428	S	Baldwin Locm. Works	"	2-6-0	1900	2	17	22		
17	8-28-D-203-19347	S	"	"	2-6-0	1900	2	17	22		
18	10-31-E-3-27649	R	"	CONSOLIDATION	2-8-0	1901	2	17	22		
19	10-31-E-4-27650	R	"	"	2-8-0	1906	4	13 1/2	22		
20	10-31-E-2-27638	R	"	"	2-8-0	1906	4	13 1/2	22		
21	10-31-E-6-27652	R	"	"	2-8-0	1906	4	13 1/2	22		
22	10-31-E-7-27703	R	"	"	2-8-0	1906	4	13 1/2	22		
23	10-31-E-8-27749	R	"	"	2-8-0	1906	4	13 1/2	22		
24	10-31-E-1-27615	S	"	"	2-8-0	1906	4	13 1/2	22		
25	10-31-E-1-27615	R	RECONSTRUCTED BY FS 1945	"	2-8-0	1906	4	13 1/2	22		
26	10-31-E-3-27651	S	Baldwin Locm. Works	"	2-8-0	1906	4	13 1/2	22		
27	10-32-E-157-52934	R	"	"	2-8-0	1920	2	19	22		
28	10-32-E-182-52956	R	"	"	2-8-0	1926	2	19	22		
29	10-32-E-183-52957	R	"	"	2-8-0	1926	2	19	22		
30	10-32-E-183-52957	R	"	"	2-8-0	1920	2	19	22		
31	10-32-E-183-52957	R	"	"	2-8-0	1920	2	19	22		
32	10-32-E-156-5	R	"	"	2-8-0	1920	2	19	22		
33	10-32-E-156-5	R	"	"	2-8-0	1920	2	19	22		
34	10-32-E-156-5	R	"	"	2-8-0	1920	2	19	22		

OK

me 18 del
Thruail S.O

I sent you
trap
date

15
16
17

Lat 1000 lat 1000

287

Fin loc 34
Fin loc 35

6.8.2 Appendix 2 Extracts from papers on the coastal railways from 1949

Background

Whilst these PDF files normally focus very narrowly on the steam locomotives of the relevant railways, so little is known about the minor Ecuadorian lines that these extracts have been reproduced here to enlighten readers. They were found in source [22], *Congreso Nacional de Ferrocarriles. (1949). Memorias del Primer Congreso Nacional de Ferrocarriles. Septiembre de 1949. Suplemento No.1.* Imprenta del Ferrocarril del Sur. Quito. That volume consists of a large number of documents totalling 456 pages, with all of the following extracts being from the latter parts of the tome.

The *Spanish text is rendered in italic*, and **English auto-translations with minimal correction are in red**.

There are eleven numbered sections:

- 1 A summary list of the G&QR loco types (p219)**
 - 2 A short summary of the history of the railways of El Oro province (p282 onward)**
 - 3 A similar short history of the railway between the Bahía de Caraquez and Chone (p283 onward)**
 - 4 Thirdly, the history of the FC a la Costa (p284 onward)**
 - 5 More detail about the Guayaquil á Salinas standard gauge railway (p293 onward)**
 - 6 A letter summarising the most urgent needs for each of these railways (p300 onward)**
 - 7 Another letter supporting what was said in the previous one**
 - 8 A much more detailed 1941 paper on the Bahía to Chone railway**
 - 9 Comment on the preceding Bahía – Chone paper**
 - 10 A very long paper on the two railways in El Oro province**
 - 11 An appendix to the preceding paper listing each steam loco in El Oro**
-

1 A summary list of the G&QR loco types (pp219, 221)

TEMA N° 22

TALLERES DE REPARACION: REPARACION PESADA; BEPARACION LIVIANA.

AUTOR: SR. ANGEL MUÑOZ.

RELATOR: SR. J. RODRIGO CHAVEZ.

...

6o. — NUESTRAS OBLIGACIONES ACTUALES.—

En la actualidad, poseemos las siguientes locomotoras vapor:

a

7 Locomotoras "MOGUL" (Clase 10) con una excepción la locomotora No. 10 — de las cuales, tres son de vapor re-calentado.

9 Locomotoras "CONSOLIDATION" (Clase 20) con una sóla de vapor saturado.

10 Locomotoras "CONSOLIDATION" (Clase 30) con ligeras variaciones en tres unidades.

12 Locomotoras "CONSOLIDATION" (Clase 40/50) y

3 Locomotoras "GARRATT" 2-6-2--2 6 2— (Clase 100).

Además, nuestro equipo de transporte se : compone de, aproximadamente las siguientes unidades en servicio:

Clase 100 — 22 unidades.

200 -- 13

300 13

400 5

500 51

600 7

700 20
800 36
900 — 80
1000 7
1100 45
1200 60
1300 11
2000 — 8

dando un total de 42 locomotoras a vapor de varios tipos y aproximadamente 378 unidades del equipo rodante que tendríamos que atender en forma rotativa y normal en nuestros talleres, para corregir el desgaste natural, pero severo de dichas unidades.

TOPIC N° 22

REPAIR WORKSHOPS: HEAVY REPAIR; LIGHT REPARATION.

AUTHOR: MR. ANGEL MUÑOZ.

RAPPORTEUR: MR. J. RODRIGO CHAVEZ.

...

6th. — OUR CURRENT OBLIGATIONS.—

Currently, we own the following steam locomotives:

7 "MOGUL" locomotives (Class 10) with one exception locomotive No. 10 — of which three are superheated steam.

9 "CONSOLIDATION" locomotives (Class 20) with only one of saturated steam.

10 "CONSOLIDATION" locomotives (Class 30) with slight variations in three units.

12 "CONSOLIDATION" locomotives (Class 40/50) and

3 "GARRATT" Locomotives 2-6-2--2 6 2— (Class 100).

In addition, our rolling stock fleet is made up of approximately the following units in service:

Class 100 — 22 units.

200 -- 13

300 13

400 5

500 51

600 7

700 20

800 36

900 — 80

1000 7

1100 45

1200 60

1300 11

2000 — 8

giving a total of 42 steam locomotives of various types and approximately 378 units of rolling stock that we would have to attend to on a rotating and normal basis in our workshops, to correct the natural but severe wear of said units.

2 A short summary of the history of the railways of El Oro province (p282 onward)

FERROCARRILES DÉ EL ORO.— El esfuerzo mancomunado o conjunto de los hijos de la Provincia de El Oro, que en la zona baja de la indicada Provincia producían cacao de la mejor calidad en el País, y que debían movilizar sus productos al lugar de exportación, que es Puerto Bolívar, hizo que naciera el Ferrocarril Puerto Bolivar — Pasaje.

Fueron estos productores los que reunidos en juntas acordaron suscribir acciones para financiar la construcción de su Ferrocarril, de la arteria capaz de llevar con facilidad y rapidez el producto de sus esfuerzos agrícolas hacia la Puerta de Salida del País, para que esos productos regresen transformados en oro, en divisas extranjeras que

servirían a toda la Nación para efectuar el intercambio comercial con las otras Naciones del Universo. Fué así como ya en el año de 1905 encontramos al Ferrocarril Puerto Bolívar — Pasaje en operación cumpliendo con el cometido para el que fuera creado.

Su extensión relativamente pequeña, pues recorre solamente 25 kilómetros, no representa una distancia favorable para la operación del Ferrocarril; Pero en cambio los lugares por los que atraviesa como Machala, Santa Inés, El Cambio del Guabo, Unión Colombiana, Juanadamas y Cuenca, son lugares de gran producción agrícola, que proporcionan a este pequeño Ferrocarril la carga necesaria para que su equipo se mantenga operando constantemente. En la actualidad los embarques de bananos son tan grandes que, prácticamente el ferrocarril se encuentra insuficiente para atender sus despachos. Otros productos como cacao, café, arroz, etc. también se movilizan en esta línea, por cuyas razones debe ser mantenida en perfecto estado de operación, aunque el manejarla signifique pérdida para la Empresa. El Gobierno de la Nación debe comprender perfectamente que si la operación de este Ferrocarril tiene un coeficiente menor que 100, en cambio es el medio más conveniente, por no decirlo único para movilizar la producción de guineo (bananos) que proporciona fuertes sumas de dinero al Erario Nacional, por concepto de Impuestos a la Exportación, y que trae también las divisas provenientes de la venta de este producto, que son la base de la economía en todos los países. Si el ferrocarril suspendiera su actividad en ese Sector, la producción de bananos a exportarse perdería en calidad, por cuanto el transporte en camiones u otros medios que no son el ferrocarril en esa Zona, malogran la fruta y el precio de la misma rebaja en su costo, llegando en muchos casos a no ser aceptada. Esta es una de las muchas razones que existen para comprobar que un ferrocarril, por pequeño que éste sea presta indirectamente un enorme concurso en la economía de los pueblos. Su existencia debe mantenerse y como hemos manifestado el Gobierno debe no solamente sostenerlos sino inocrementarlos, ya que es el directamente beneficiado con la operación de los mismos.

Otro Ferrocarril que en la Provincia de El Oro se encuentra en operación es el llamado Puerto Bolívar — Loja. El Gobierno Ecuatoriano compenetrado de la necesidad de unir el puerto más cercano a Loja, capital de la Provincia de su nombre, acordó unir estas dos poblaciones, encontrándose la primera al nivel del mar y la segunda a 2.220 metros sobre el nivel del mar, en la parte sur del Callejón Interandino Ecuatoriano.

Por la zona en que su línea debía atravesar, se le ha reconocido mucha importancia en cuanto a estrategia militar se refiere, y por lo que a utilidad comercial se entiende, la ciudad de Loja y la zona que debe abastecer es tan importante que la razón de construcción del Ferrocarril estaba más allá de justificada. La inversión del capital para la construcción de esta obra recibiría más allá de los intereses comerciales que para el cálculo que justifique esta clase de inversiones, se considera técnicamente. Para lograr obtener el dinero necesario, el Gobierno puso en vigencia el Impuesto del "Timbre Puerto Bolívar" con valor de 10 centavos, el mismo que debía ser adherido a todos los documentos comerciales, bancarios, legales, etc. Era pues un impuesto que toda la ciudadanía del País lo pagaba para lograr que el Ferrocarril Puerto Bolívar — Loja se construya.

Lamentablemente este Ferrocarril llevó su enrielladura solamente hasta la población de Piedras distante 75 kilómetros de lugar de origen: Puerto Bolívar.

Su línea une poblaciones de importancia como Machala, Santa Rosa, Arenillas y Piedras, teniendo además estaciones secundarias bastante ricas en producción agrícola, especialmente en maderas finas de construcción y maderas incorruptibles. Bien podemos decir que la zona comprendida entre Arenillas y Piedras donde se encuentran las Estaciones de Zaragoza, Mates, Tagüin y Playas, es una de las principales zonas productoras de madera en el País, es de ahí que se proporciona las maderas finas para las construcciones de muebles, como son bálsamo, palo de vaca, amarillo; las maderas incorruptibles como el guayacán, cascol, coquito, algarrobo, matasarna y otras; maderas denominadas blancas o suaves, como el laurel, el cedro, el roble, etc. Producción, toda esta, que proporciona el medio de vida de los habitantes de esta sección de la Provincia, aparte de los productos agrícolas comestibles y frutos en general. Esta producción proporciona también carga para el movimiento del ferrocarril en viaje hacia Puerto Bolívar; en unión de productos de la zona de Santa Rosa, como el tabaco, arroz y café que también son transportados aunque en pequeña escala por el ferrocarril debido a la competencia que en esta zona ofrecen los medios fluviales, con embarcaciones a motor y a vela. En el mismo sentido de viaje, o sea hacia Puerto Bolívar el ferrocarril transporta desde Piedras la producción de las minas de oro de la South American Development Corporation, situada en Portovelo, Asiento

Minero con varios años de operación en el País.

En el otro sentido del tráfico, es decir de Puerto Bolívar hacia Piedras el ferrocarril transporta todas las mercaderías requeridas por las zonas de Loja y Zaruma, siendo exclusivo en este transporte durante la época invernal, en que las carreteras suspenden su tráfico por malas condiciones de la superficie de rodadura. La importancia militar de este ferrocarril (de la que no trataremos), quedó comprobada en el último conflicto internacional.-

RAILWAYS DÉ EL ORO.— The joint or joint effort of the children of the Province of El Oro, who in the lower area of the indicated Province produced cocoa of the best quality in the Country, and who had to mobilize their products to the place of export, which is Puerto Bolívar, gave rise to the Puerto Bolívar — Pasaje Railway. It was these producers who, meeting in meetings, agreed to subscribe actions to finance the construction of their Railway, of the artery capable of easily and quickly carrying the product of their agricultural efforts to the Exit Gate of the Country, so that these products return transformed into gold, in foreign currencies that would serve the entire Nation to carry out commercial exchange with the other Nations of the Universe. It was thus that already in the year 1905 we found the Puerto Bolívar — Pasaje Railroad in operation fulfilling the task for which it was created.

Its relatively small extension, since it covers only 25 kilometers, does not represent a favorable distance for the operation of the Railroad; But on the other hand, the places through which it crosses, such as Machala, Santa Inés, El Cambio del Guabo, Unión Colombiana, Juanadamas and Cuenca, are places of great agricultural production, which provide this small railway with the necessary load so that its equipment keeps operating constantly. Currently, banana shipments are so large that the railway is practically insufficient to handle their shipments. Other products such as cocoa, coffee, rice, etc. They are also mobilized in this line, for which reasons it must be kept in perfect operating condition, even if handling it means loss for the Company. The Government of the Nation must fully understand that if the operation of this Railway has a coefficient of less than 100, on the other hand it is the most convenient means, if not the only one, to mobilize the production of bananas (bananas) that provides large sums of money to the National Treasury, by way of Export Taxes, and which also brings in foreign currency from the sale of this product, which is the basis of the economy in all countries. If the railway were to suspend its activity in that Sector, the production of bananas to be exported would lose in quality, since transport by trucks or other means that are not the railway in that Zone, spoil the fruit and the price of the same decreases in its cost, arriving in many cases to not be accepted. This is one of the many reasons that exist to verify that a railway, no matter how small it may be, indirectly lends an enormous contribution to the economy of the towns. Their existence must be maintained and, as we have stated, the Government must not only support them but also increase them, since it is the direct beneficiary of their operation.

Another railway that is in operation in the province of El Oro is called Puerto Bolívar — Loja. The Ecuadorian Government, aware of the need to unite the closest port to Loja, capital of the Province of its name, agreed to unite these two towns, the first being at sea level and the second at 2,220 meters above sea level, in the southern part of the Ecuadorian Interandean Alley.

Because of the area that its line had to cross, it has been recognized as very important in terms of military strategy, and as far as commercial utility is concerned, the city of Loja and the area that it must supply is so important that the reason construction of the Railroad was beyond justified. The capital investment for the construction of this work would receive beyond the commercial interests that for the calculation that justifies this kind of investment, is considered technically. In order to obtain the necessary money, the Government put into effect the "Puerto Bolívar Stamp" Tax with a value of 10 cents, the same that had to be adhered to all commercial, banking, legal documents, etc. It was therefore a tax that all the citizens of the country paid to get the Puerto Bolívar — Loja Railroad built.

Unfortunately, this railway took its railing only to the town of Piedras, 75 kilometers away from its place of origin: Puerto Bolívar.

Its line joins important towns such as Machala, Santa Rosa, Arenillas and Piedras, also having secondary stations quite rich in agricultural production, especially in fine construction wood and incorruptible wood. We can well say that the area between Arenillas and Piedras, where the Zaragoza, Mates, Tagüin and Playas Stations are located, is one of the main wood-producing areas in the country, it is from there that fine wood is provided for constructions. of furniture, such as balsam, cow stick, yellow; incorruptible woods such as guayacán, cascol, coquito, algarrobo, matasarna and others; white or soft woods, such as laurel, cedar, oak, etc. Production, all this, which provides the livelihood of the in-

habitants of this section of the Province, apart from edible agricultural products and fruits in general. This production also provides cargo for the movement of the railroad on its way to Puerto Bolívar; together with products from the Santa Rosa area, such as tobacco, rice and coffee, which are also transported, albeit on a small scale, by rail due to the competition offered by rivers in this area, with motor and sailing boats. In the same direction of travel, that is, towards Puerto Bolívar, the railroad transports from Piedras the production of the gold mines of the South American Development Corporation, located in Portovelo, a Mining Seat with several years of operation in the Country.

In the other direction of traffic, that is, from Puerto Bolívar to Piedras, the railway transports all the merchandise required by the areas of Loja and Zaruma, being exclusive in this transport during the winter season, when the roads suspend their traffic due to poor conditions of the rolling surface. The military importance of this railway (which we will not deal with), was proven in the last international conflict.

3 A similar short history of the railway between the Bahía de Caraquez and Chone, which was originally intended to run all the way to Quito (p283 onward)

FERROCARRIL DE BAHIA. — CHONE — QUITO. — En la zona norte de la Provincia de Manabí y siguiendo completamente la cuenca del río Chone que desemboca en el Océano Pacífico frente a la población de Bahía de Caráquez, corre el ferrocarril de Bahía hasta Chone en una longitud de 79 kilómetros, y que por razones que no es del caso analizar no pudo continuar su ruta hasta Quito, la misma que debía cruzar por Pescadillo, Río Morena, pasar junto a las Montañas de Convento, la zona de Santo Domingo de los Colorados y llegar a Quito recorriendo una enorme zona sumamente rica agrícola y que sólo en los últimos años ha logrado ser penetrada por las carreteras que el Estado construye por las rutas que debía seguir el ferrocarril.

En el año de 1908 el Gobierno del Ecuador contrató la construcción de este ferrocarril, con una Compañía Francesa, la misma que inició los trabajos y llevó el ferrocarril hasta la población de Chone. En 1912 ya se mantenía tráfico en esta línea. Las poblaciones de Bahía de Caráquez, Tosagua, Calceta, Canuto y Chone han recibido la valiosa influencia del tráfico ferroviario. Los productos agrícolas de esta rica zona de la Provincia de Manabí, entre los que figuran cacao, caucho, tagua, algodón, maní, frutas en general y otros, han sido movilizadas para llevarlos a los lugares de consumo y exportación.

La Compañía Francesa continuó administrando el Ferrocarril Bahía – Chone hasta el año de 1914, en que por haberse declarado la Primera Guerra Europea los principales Jefes de la Organización tuvieron que marchar a Francia llamados por su Patria ante el caso de guerra presentado. A consecuencia de esta guerra el tráfico de este ferrocarril se suspendió, hasta que algunos años más tarde el Gobierno del Ecuador, lo tomó a cargo para reiniciar su servicio, pasando a ser depositario de las pertenencias de esta Compañía hasta la presente fecha. Las inversiones que el País tuvo que hacer para rehabilitar y lograr mantener la vía utilizable para el tráfico han sido muy grandes, de manera que si se efectuara un balance entre los valores de la extinguida Compañía Francesa y las inversiones del Gobierno, seguramente sumaría una cifra mayor el último concepto, no habiendo pues lugar a reclamo efectivo de parte de ninguna entidad particular sobre la propiedad de este Ferrocarril.

El Ferrocarril de Bahía a Chone debe mantener su servicio aunque su operación produzca saldo desfavorable (en la actualidad produce ganancias) por cuanto es el medio exclusivo de transporte terrestre durante el invierno, y sirve a poblaciones de importancia reconocida, para las que el Gobierno está obligado a prestar toda atención, es decir, que el Ferrocarril cumple su finalidad de servicio público, como cumplen todos los Ferrocarriles del País, no debiendo ser considerado como negocio de una empresa particular llamada a tener utilidades directas de aplicación propia. El beneficio es recibido por el Estado indirectamente, al movilizar la Producción de la zona y llevar a la misma todos los artículos de sus necesidades., coito son las mercaderías, víveres, maquinarias, etc.

La Empresa de los Ferrocarriles del Estado ha pasado también a ser depositaria de este Ferrocarril, actualmente, de acuerdo con el Decreto Ejecutivo N° 1563 del 2 de Agosto de 1946, que otorga esta obra como uno de sus bienes.

FERROCARRIL DE BAHIA. — CHONE — QUITO. — In the northern part of the Province of Manabí and completely following the basin of the Chone River that flows into the Pacific Ocean in front of the town of Bahía de Caráquez, the railway runs from Bahía to Chone for a length of 79 kilometers, and that by reasons that it is not the

case to analyze, he could not continue his route to Quito, the same one that he had to cross through Pescadillo, Río Morena, pass by the Montañas de Convento, the area of Santo Domingo de los Colorados and reach Quito through a huge area extremely rich agriculturally and that only in recent years has managed to be penetrated by the roads that the State builds along the routes that the railway should have followed.

In the year 1908, the Government of Ecuador contracted the construction of this railway, with a French Company, the same one that began the works and took the railway to the town of Chone. In 1912 there was already traffic on this line. The populations of Bahía de Caráquez, Tosagua, Calceta, Canuto and Chone have received the valuable influence of rail traffic. The agricultural products of this rich area of the Manabi Province, including cocoa, rubber, tagua, cotton, peanuts, fruits in general and others, have been mobilized to take them to the places of consumption and export. The French Company continued to administer the Bahia - Chone Railway until 1914, when the First European War was declared, the main Chiefs of the Organization had to go to France called by their Homeland in the case of war presented. As a result of this war, the traffic of this railway was suspended, until a few years later the Government of Ecuador took it over to restart its service, becoming the depositary of the belongings of this Company until the present date. The investments that the Country had to make to rehabilitate and manage to keep the road usable for traffic have been very large, so that if a balance were made between the values of the extinct French Company and the Government's investments, it would surely add up to a figure The latter concept is greater, therefore there is no place for an effective claim by any particular entity on the property of this Railway.

The Bahía a Chone Railway must maintain its service even though its operation produces an unfavorable balance (currently it produces profits) because it is the exclusive means of land transportation during the winter, and serves populations of recognized importance, for which the Government is obliged to pay all attention, that is to say, that the Railroad fulfills its purpose of public service, as do all the Railways of the Country, and should not be considered as the business of a private company called to have direct profits of its own application. The benefit is received by the State indirectly, by mobilizing the Production of the area and bringing to it all the articles of its needs, coitus are merchandise, food, machinery, etc.

The State Railway Company has also become the depositary of this Railway, currently, in accordance with Executive Decree No. 1563 of August 2, 1946, which grants this work as one of its assets.



I rarely display general railway views in these loco files, but as photos of this line are so rare, here is one found on the Facebook page of the group *Amigos del Ferrocarril Ecuador (ADFE)*. Unfortunately the locomotive is not identifiable.



4 Thirdly, the history of the *FC a la Costa* (p284 onward)

FERROCARRIL GUAYAQUIL — SALINAS. — El Ferrocarril del epígrafe o también llamado Ferrocarril a la Costa, cuya Gerencia desempeñamos actualmente, parte de la ciudad de Guayaquil para llegar a Salinas, en la Península de Santa Elena, punto más occidental de la Costa Ecuatoriana (91° Longitud Oeste), donde se encuentra localizado el mejor Balneario del País, punto de reunión de las familias guayaquileñas para pasar la rigurosa estación invernal. Goza de magníficas playas, y la tranquilidad, de sus aguas, que se encuentran defendidas por rompeolas naturales, ya que es una bahía bastante cerrada, hace del Balneario un lugar seguro y apetecible. Su clima, aún en la calurosa estación invernal se presenta bastante fresco, con poca precipitación fluvial, lo cual atrae a los turistas conocedores

de las magníficas condiciones de salubridad e higiene, y de las pocas molestias que la estación invernal presenta en otros lugares de la Cinta.

Hasta el año de 1936 en que Salinas estaba conectado a Guayaquil principalmente por vía marítima, y también por caminos carreteros de tercer orden, la población de Salinas era escasamente visitada por el turismo; a medida que las paralelas del ferrocarril se acercaban a la Costa, la zona referida iba tomando mayor importancia, y toda vez que fué terminada la construcción, y llegara el ferrocarril a su punto terminal, el crecimiento de la población, el aumento de las construcciones en la zona urbana, fueron tan grandes, que de un lugar que bien podríamos decir poblado exclusivamente por pescadores se ha llegado a tener al andar de pocos años la bellísima población, con villas de construcción completamente modernas, con calles pavimentadas, y con las condiciones que la vida requiere en toda población grande, para llenar las condiciones sociales en general. Está muy claramente demostrado en esta forma que la influencia social del Ferrocarril a la Costa, como de todo Ferrocarril en el País es tangible a la observación de cualesquiera personas, por cuanto los hechos. así lo demuestran desde todos los puntos de vista que se desea observar. En la actualidad se encuentra completamente confirmado el deseo de la población de Guayaquil, que allá por los primeros años del presente siglo luchaba por conseguir una vía terrestre hacia el mar; una vía que facilite la salida de las diversas familias que sentían la necesidad fisiológica de 'pasar la época del invierno, que coincide con las vacaciones escolares, en un balneario, donde el aire puro del mar, inyectaría a los pulmones de los individuos. cantidades de yodo y otros elementos necesarios para el metabolismo y funciones orgánicas. Bien se decía que los balnearios son como los pulmones de la población, donde se regenera la sangre, y se guarda reserva de energías para la lucha por la vida.

Por otro lado la importancia minera de la Península bien podemos indicar que es primordial en la República: todo el petróleo y sus derivados obtenidos en las refinerías del lugar; y, la sal común, de consumo doméstico ordinario tiene también la, hegemonía de producción en estos lugares. Los pozos petroleros, de Ancón y las refinerías de La Libertad proporcionan toda la gasolina, kerosene, diesel oil, aceites lubricantes, etc.

Sin embargo de existir este enorme volumen de producción, el ferrocarril no ha podido captarlo para su transporte. La falta de un equipo apropiado ha hecho que las empresas petroleras busquen sus propios medios de transportación y es así como han formado sus flotas de buques tanques para traer todo el petróleo y derivados, inclusive los millones de galones de petróleo crudo que anualmente consume el Ferrocarril del Sur. Si el ferrocarril tuviera equipo apropiado este tráfico sería captado con toda seguridad, por tratarse de consumo de los ferrocarriles y además también se podría obtener el transporte del consumo particular.

En lo que se relaciona a la producción de sal, ésta si se encuentra en manos del Ferrocarril a la Costa para su transporte de Salinas a Guayaquil.

En los años en que se pensaba en la construcción del Ferrocarril a la Costa, no se precisó el lugar al que debía llegar, se deseaba solamente salir al mar, y por tanto el volumen de carga (petróleo y derivados, y la sal común) que se producen en la Península de Santa Elena, no fué, pues el factor determinante para iniciar la construcción del ferrocarril. Es bien sabido que para construir un ferrocarril o cualquier obra de servicio público, se debe considerar el interés comercial, que el capital invertido en esta construcción debe producir, para satisfacer la inversión. En el caso del Ferrocarril Guayaquil — Salinas, en ningún momento se consideró este punto, como base para su construcción. Uno de los precursores de la obra dice: "...Hacia mucho tiempo que el vecindario de Guayaquil anhelaba por la adquisición de un elemento rápido de transporte para trasladarse a los balnearios del mar, en la época ardorosa del invierno o durante los períodos insalubres de la población, siquiera para cambiar de aires y gozar por momentos de la benéfica influencia del Océano, sin mayor interrupción de las labores ordinarias en este activo y populoso centro del comercio y de la industria".

Se ve claramente pues que no estaba determinado el lugar donde se debía llegar. Se deseaba salida al mar, para proporcionar a la ciudadanía de Guayaquil el mejor medio de viaje corto, seguro y cómodo. El ferrocarril, en ese tiempo era la única forma de lograr este deseo, y es así, como se inició la campaña de su construcción, para luego tener "Un ferrocarril, decimos, exclusivamente sanitario, para llenar una imperiosa necesidad pública en orden a la conservación de la salud, al reparo de las fuerzas y al natural esparcimiento entre las fatigosas faenas de la vida cotidiana". La Idea de construcción del ferrocarril se mantenía en el ánimo de todo el País y de la población de Guayaquil en es-

pecial, por ser más tarde los principales beneficiados con este medio de transporte.

Cuando el General Leonidas Plaza, se encontraba como Presidente de la República, realizó un viaje especial hasta el Puerto del Morro, con numerosa comitiva a fin de observar la posibilidad de construir un pequeño ferrocarril entre Playas (General Villamil) y dicho puerto, que cubriría una distancia aproximada de 25 kilómetros, a fin de navegar seguramente hasta el Puerto del Morro desde Guayaquil y después proseguir por ferrocarril hasta Playas. Este proyecto se lo abandonó por insuficiente, por no reunir las condiciones que la población deseaba, o sea el viaje desde Guayaquil a un balneario; pensando luego en la construcción del ferrocarril de Guayaquil a Playas, y es así como el 11 de Agosto de 1909, la ciudadanía de Guayaquil elevó al Congreso la siguiente solicitud: "Honorables Legisladores:—Los suscritos, propietarios y vecinos del puerto de Guayaquil, con el debido respeto exponemos:—Que en 17 de Febrero de 1905 fué dictada por el I. Concejo Municipal de este Cantón, una ordenanza para el cobro del impuesto de tabaco elaborado, de conformidad con el Decreto Legislativo de 34 de Octubre de 1900 y reformada en 12 de Octubre de 1904.— Esa contribución indirecta, resultó de fácil recaudación, por cuanto; su misma equidad la hizo aceptable y no produjo resistencia alguna de los consumidores, que fueron los únicos a quienes afectaba, sin que su industria padeciera por el gravamen, dado el hecho, público y notorio, de que los industriales si bien conservaron el tipo de precio, disminuyeron la cantidad del artículo en la venta — Y así el Municipio hizo la recaudación desde el mes de Marzo de 1906 con resultados provechosos. Más por razones que ignoramos, quedó derogado el Decreto Legislativo que dió origen a la Ordenanza; y la Provincia del Guayas quedó privada de una renta considerable que estaba denominada a obras públicas de verdadera importancia.— Ahora bien; si como lo hemos expresado y comprobado, el impuesto no afectaba en nada a la industria de elaboración del tabaco, resulta ahora que la disminución proporcional que introdujeron los industriales, prevaleció y prevalece hasta el día, a pesar de haber desaparecido el impuesto. De donde resulta que los consumidores continúan sufriendo los efectos del impuesto, no ya con beneficio público, sino con beneficio exclusivo de los industriales mencionados; y en este punto, la costumbre ha consagrado los efectos de la contribución aún habiendo desaparecido el impuesto.— Por estas razones que constituyen hechos evidenciados, tanto por no ser esa contribución onerosa ni pesada para los consumidores, que son quienes la cubren, y por estar dedicado el producto de ella al progreso seccional, pedimos a los Representantes de la Nación que restablezcan el impuesto de que se trata, en la forma y condiciones prescritas por el Decreto Legislativo a que nos hemos referido.—Y como el I. Ayuntamiento de Guayaquil ya en otra forma ha proyectado la construcción de la Casa Municipal y plaza del mercado, pedimos que la renta producida por el impuesto de que se trata, se dedique exclusivamente a la construcción de un ferrocarril entre esta ciudad y alguna de las poblaciones de nuestra costa, donde con mejores ventajas se pueda establecer una estación balnearia y de convalecencia; y que para los efectos de la recaudación y administración de la renta, así como para llevar a cabo la obra enunciadas el Concejo Municipal elija el personal de una Junta que se encargue de todo aquello, facultando, además, al mismo Municipio para contratar un empréstito garantizado por el impuesto de que hablamos.— No se oculta a los Honorables Legisladores el positivo beneficio público que se desprenderá de tan acertadas resoluciones.—Sabido es que la ciudad de Guayaquil sufre enormemente, durante la estación de las lluvias, por las epidemias que se desarrollan; y es sabido también que, así la cuestión de habitaciones, en los balnearios de la costa, como el considerable gasto que ocasiona la traslación a ellos, con las dificultades y lo moroso del viaje, etc., etc., todo lo cual resulta que sólo las personas y familias que cuentan con medios considerables, pueden trasladarse a tales puntos para defender o recuperar su salud.— Por otra parte, con el ferrocarril de que se trata, ganarán en mucho aquellas secciones de la costa, que hoy se hallan abatidas, sin que nada propenda a su desarrollo. Los terrenos del tránsito adquirirán valor; y hasta en caso dado, contaría el Gobierno con un rápido medio de transporte para cualquier emergencia.—Todas estas consideraciones y muchas otras que no se ocultan al ilustrado criterio de los Honorables Legisladores, estamos seguros de que les inspirarán una resolución favorable en la solicitud que respetuosamente elevamos; resolución que significará un beneficio indiscutible de gran importancia para esta próspera sección de la República.— Honorables Legisladores, Guayaquil, Agosto 11 de 1909.—(Firmado)--Julián Coronel, Julio Burbano Aguirre, Juan Illingworth, Ed. Game, F. Urbina J., Juan Marcos (Continúan muchísimas firmas de lo más representativo de Guayaquil)."

El Honorable Congreso de la República, haciéndose eco del pedido de los guayaquileños, emitió el siguiente Decreto, que transcribo. "EL CONGRESO DE LA REPUBLICA DEL ECUADOR., Decreta—Art. 19—Constrúyase un ferro-

carril que, partiendo de la ciudad de Guayaquil, termine en una de las poblaciones de la costa, cuya construcción correrá a cargo de la Municipalidad.— Art. 29 — Autorízase con este objeto al Municipio de Guayaquil para que pueda recaudar un impuesto sobre el consumo del tabaco que se introduzca en la provincia del Guayas, o se elabore en la misma Provincia — Los cigarros recortados, por el mazo de 25, pagarán cinco centavos.— Los cigarros de pico ordinarios, por el mazo de 21, diez centavos.— Los de pico, finos por la caja de 50 cigarros, cincuenta centavos.— Los de pico, extranjeros, por la caja de 50 cigarros, un sucre.— Los cigarrillos nacionales, por -cajetilla de 15 o menos, un centavo.— Los cigarrillos haba-nos, por cajetilla de 15 o menos, dos centavos.— La Municipalidad de Guayaquil destinará para esta obra hasta cuatro centavos, de la parte que le corresponda en el impuesto sobre el ramo de aguardientes.— Art. 39 — El Concejo podrá, caso de estimarlo conveniente, formar una Junta encargada de la construcción de la obra y la recaudación e inversión del impuesto, en este caso la Junta nombrará un Colector especial, el que deberá sujeta-se a la Ley de Hacienda— El Colector ganará un tanto por ciento mensual a juicio del Municipio, sobre el producto de este impuesto.— Art. 49 — Terminada la construcción del ferrocarril, este impuesto de que habla el artículo 29, se destinará a la construcción de la Casa Municipal.— Art. 59 — Autorízase a la Municipalidad de Guayaquil para que expropie el terreno que debe ocupar la línea, pagando el costo con los fondos destinados al efecto.— Art. 59 — Autorízase también para que garantice con este impuesto los contratos que contraiga, para los objetos Indicados en los Arts. 19, 49 y 59, de este Decreto.— Dado en Quito, Capital de la República, a ocho de Noviembre de 1909.— El Presidente de la Cámara del Senado.— Bartolomé Huerta.— El Presidente de la Cámara de Diputados.— Abelardo Montalvo.— El Secretario de la Cámara del Senado.— Enrique Bustamante L.— El Secretario de la Cámara de Diputados.— Timoleón Guevara.— Palacio Nacional en Quito, a 10 de Noviembre de 1909.— Ejecútese. — Eloy Alfaro.— El Ministro de lo Interior, Obras Públicas, etc., etc.— A. Reyes V.— Es copia.— El Subsecretario de lo Interior.— J. M. Pérez E. ",

De la lectura de los documentos anteriormente transcritos se desprende que la idea que primó para la construcción del Ferrocarril a la Costa fué, como hemos Manifestado anteriormente, la de conseguir el más fácil y rápido acceso a los balnearios de la Costa, sin perseguir la finalidad del lucro o negocio, aún cuando esto no quedaba desechado, como lo indicaremos a continuación.

La idea de llevar el Ferrocarril a la Costa no tuvo en principio lugar fijo y determinado como punto de destino. Con todo se pensó en Playas, y por este motivo la ruta siguió por las poblaciones de Chongón, Bajada y Progreso hasta Zapotal, en lugar de haber tomado la dirección que la llevaría por Juntas, Julio Moreno, Sube y Baja hasta los Baños de Santa Elena o muy aproximada a estos lugares, donde actualmente hay una carretera de servicio público. Cuando la construcción del ferrocarril llegó a la población de Progreso se pensó ya en llevar el ferrocarril hasta Salinas y entonces nuevamente reuniones de los personeros que administraban la construcción del ferrocarril manifestaban razones como puede observarse por la cita que del "Folleto el Ferrocarril a la Costa" del Sr. Ricardo González Rubio hacemos a continuación:

"Y, en efecto, el día que tengamos un ferrocarril a Salinas, que es el punto geográfico más, ventajoso de la Costa del Guayas, ese tendrá que ser el antepuerto de Guayaquil, por razones superiores de utilidad y necesidad públicas, y que habrá qué habilitarlo legalmente para los servicios que está llamado a prestarnos.— Entre esos servicios debemos considerar el arribo de los grandes trasatlánticos que pasan a diario por las cercanías, y que no vienen a Guayaquil, ora por su mucho calado, ora por no perder 48 horas en entrada y salida si visitaran nuestro puerto fluvial. Habilitado Salinas, allí se detendrían sin ningún retardo ni apartarse de su ruta, y podrían dejar siquiera pasajeros y correspondencia, sin que este servicio contribuyera en manera alguna a restarle su importancia al movimiento comercial del Puerto de Guayaquil, por donde el cargamento sería siempre desembarcado.— Y no hablemos sólo de los trasatlánticos ni de los buques de mayor calado; pues hasta los vapores de tráfico ordinario en el Pacífico, nos darían grandes facilidades si pudieran tocar en Salinas para dejar la valija y pasajeros; pues de esta manera vendrían estos a Guayaquil y recibiríamos aquella eón muchas horas de anticipación, dada la estadía en Puriá que en ocasiones es de una noche entera, y la pesada espera de las mareas Para franquear la barra y evitar los bajos hasta el arribo al Puerto Mayor."

Con esta manera de pensar en el año 1913 se determinó la continuación de los trabajos de Progreso para' Salinas y no para Playas, aún cuando también se estaba considerando la construcción de un ramal a esta población. Así las

cosas continuaron hasta que por último en el año de 1936 el ferrocarril llegaba triunfalmente con su enrioladura a la terminal de Salinas.

El servicio del Ferrocarril a la Costa desde su arribo a Salinas no ha sufrido interrupción; el movimiento de transporte de pasajeros de primera y de segunda clase efectuado en autocarriles de preferencia y también en trenes de vapor ha sido eficiente a pesar de que sus medios no han sido siempre perfectos ni han alcanzado en número a cubrir completamente todos los pedidos solicitados. El equipo ha tenido muchas veces que efectuar trabajos superiores físicamente al objeto para el que han sido creados; y este servicio ininterrumpido, hasta cierto punto ha sido inapropiado, porque las consecuencias que acarrea un mantenimiento diferido se traduce por falta de efectividad en el servicio de autocarriles y locomotoras.

Por otro lado tratando de la administración que han tenido los tres ferrocarriles de la costa, debemos anotar que la serie de pasos que han sufrido administrativamente en forma de cambios de una modalidad a otra ha sido más allá de perjudicial por cuanto no ha sido posible considerar un plan de trabajo definido, para ponerlo en vigencia después de un sereno estudio, pues cada administración lo ha cambiado por otro por considerarlo inoficioso para nuevamente emprender en planes de trabajo que no han llegado a ser realidad, por cuanto nuevas administraciones los han dejado a un lado y así sucesivamente.

Hasta el año de 1938 los ferrocarriles de la Costa, el ferrocarril del Norte y el del Sibambe a Cuenca estuvieron bajo el mando directo del Gobierno, aunque los dos últimos nombrados siempre tuvieron sus Juntas de Control para las construcciones de sus vías.

En el año indicado se forma por mandato del Congreso Nacional una Junta denominada "Junta Directiva de los Ferrocarriles del Estado", estando a su cargo la administración de los Ferrocarriles Nacionales con la excepción del Guayaquil a Quito.

Al finalizar el año 1937 el Gobierno Militar del General Alberto Enríquez disolvió la Junta en mención y los ferrocarriles pasaron nuevamente a estar bajo la dependencia del Gobierno, y entonces los fondos provenientes de la explotación de estas líneas debían entrar directamente a las arcas fiscales; los valores necesarios para gastos de operación debían salir también del Tesoro Público. Esto significaba una grave dilación para el trabajo y operación de los ferrocarriles y entonces la Dirección General de los mismos adscrita al Ministerio, inició una campaña para conseguir la independencia económica, o sea poder contar con los fondos provenientes de la operación de los ferrocarriles directamente, librándose del engorroso trámite administrativo del Gobierno: es decir, logrando la autonomía económica, y para esto formuló el siguiente proyecto de Decreto para ser considerado por la H. Asamblea Nacional del Mío 1938 y que tiene el siguiente texto:

GUAYAQUIL — SALINAS RAILROAD. — The Ferrocarril of the epigraph or also called Fertocarril a la Costa, whose Management we currently carry out, departs from the city of Guayaquil to reach Salinas, on the Santa Elena Peninsula, the westernmost point of the Ecuadorian Coast (91° West Longitude), where the best spa in the country is located, a meeting point for Guayaquil families to spend the rigorous winter season. It enjoys magnificent beaches, and the tranquility of its waters, which are defended by natural breakwaters, since it is a fairly closed bay, makes the Spa a safe and attractive place. Its climate, even in the hot winter season, is quite cool, with little rainfall, which attracts tourists who are aware of the magnificent health and hygiene conditions, and the few inconveniences that the winter season presents in other parts of the city. Headband.

Until 1936, when Salinas was connected to Guayaquil mainly by sea, and also by third-order highways, the population of Salinas was scarcely visited by tourism; As the parallels of the railway approached the Coast, the referred area was taking on greater importance, and once the construction was finished, and the railway reached its terminal point, the growth of the population, the increase in construction in the urban area, they were so large, that from a place that could well be said to be populated exclusively by fishermen, it has come to have, in just a few years, the most beautiful population, with completely modern construction villas, with paved streets, and with the conditions that life requires in any large population, to fill social conditions in general. It is very clearly demonstrated in this way that the social influence of the Railroad to the Coast, as of all Railroads in the Country, is tangible to the observation of any person, as far as the facts are concerned. This is demonstrated from all the points of view that you want to observe. At present, the desire of the population of Guayaquil, who back in the early years of this century was struggling to get

a land route to the sea, a route that facilitates the exit of the various families who felt the need, is fully confirmed. physiological condition of 'spending the winter season, which coincides with school vacations, in a spa, where the pure sea air would inject individuals' lungs. quantities of iodine and other elements necessary for metabolism and organic functions. It was well said that spas are like the lungs of the population, where blood is regenerated, and energy reserves are kept for the struggle for life.

On the other hand, the mining importance of the Peninsula we can well indicate that it is essential in the Republic: all the oil and its derivatives obtained in the local refineries; and, common salt, for ordinary domestic consumption, also has the hegemony of production in these places. The oil wells of Ancón and the refineries of La Libertad provide all the gasoline, kerosene, diesel oil, lubricating oils, etc.

However, if this enormous volume of production exists, the railway has not been able to capture it for its transport. The lack of appropriate equipment has made the oil companies look for their own means of transportation and this is how they have formed their fleets of tankers to bring all the oil and derivatives, including the millions of gallons of crude oil that the Railroad consumes annually. from the south. If the railroad had appropriate equipment, this traffic would be captured with complete certainty, since it is consumption of the railroads and, moreover, transportation could also be obtained for private consumption.

Regarding the production of salt, it is in the hands of the Ferrocarril a la Costa for its transportation from Salinas to Guayaquil.

In the years when the construction of the Railroad to the Coast was thought of, the place where it should arrive was not specified, it was only wanted to go out to sea, and therefore the volume of cargo (oil and derivatives, and salt common) that occur in the Santa Elena Peninsula, was not, therefore, the determining factor to start the construction of the railway. It is well known that to build a railway or any public service work, the commercial interest must be considered, that the capital invested in this construction must produce, to satisfy the investment. In the case of the Guayaquil — Salinas Railroad, at no time was this point considered as the basis for its construction. One of the forerunners of the work says: ".... For a long time the neighborhood of Guayaquil longed for the acquisition of a rapid element of transport to move to the seaside resorts, in the hot season of winter or during the unhealthy periods of the population, even to change the air and enjoy at times the beneficial influence of the Ocean, without major interruption of ordinary work in this active and populous center of commerce and industry".

It is clearly seen then that the place where one should arrive was not determined. Access to the sea was desired, to provide the citizens of Guayaquil with the best means of short, safe and comfortable travel. The railway, at that time, was the only way to achieve this desire, and that is how the construction campaign began, to later have "A railway, we say, exclusively sanitary, to fill an urgent public need in order to preservation of health, to the protection of strength and natural relaxation between the tiring tasks of daily life".

The Idea of building the railway was kept in the spirit of the entire country and of the population of Guayaquil in particular, as they were later the main beneficiaries of this means of transport.

When General Leonidas Plaza. was as President of the Republic, he made a special trip to Puerto del Morro, with a large entourage in order to observe the possibility of building a small railway between Playas (General Villamil) and said port, which would cover an approximate distance of 25 kilometers, in order to navigate safely to Puerto del Morro from Guayaquil and then continue by rail to Playas. This project was abandoned because it was insufficient, because it did not meet the conditions that the population wanted, that is, the trip from Guayaquil to a spa; thinking later of the construction of the railroad from Guayaquil to Playas, and that is how on August 11, 1909, the citizens of Guayaquil submitted to Congress the following request: "Honorable Legislators:—The undersigned, owners and residents of the port of Guayaquil, With due respect, we state:—That on February 17, 1905, the I. Municipal Council of this Canton issued an ordinance for the collection of the tobacco tax drawn up, in accordance with the Legislative Decree of October 34, 1900, and reformed on October 12, 1904.— This indirect contribution was easy to collect, because its very fairness made it acceptable and it did not produce any resistance from consumers, who were the only ones affected, without their industry suffering from the tax, given the fact, public and notorious, that the industrialists, although they kept the type of price, reduced the quantity of the article in the sale — And so the Municipality made the collection from and 1 March 1906 with profitable results. More for unknown reasons, the Legislative Decree that gave rise to the Ordinance

was repealed; and the Province of Guayas was deprived of a considerable income that was earmarked for public works of real importance.— Now then; If, as we have stated and verified, the tax did not affect the tobacco processing industry at all, it now turns out that the proportional reduction introduced by the industrialists prevailed and prevails to this day, despite the disappearance of the tax. From where it turns out that consumers continue to suffer the effects of the tax, not for public benefit, but for the exclusive benefit of the aforementioned industrialists; and at this point, the custom has consecrated the effects of the contribution even though the tax has disappeared.— For these reasons that constitute evidenced facts, both because that contribution is not onerous or heavy for the consumers, who are the ones who cover it, and since its product is dedicated to sectional progress, we ask the Representatives of the Nation to restore the tax in question, in the form and conditions prescribed by the Legislative Decree to which we have referred.— And as I. The Guayaquil City Council has already projected the construction of the Municipal House and the market place in another way. We ask that the income produced by the tax in question be dedicated exclusively to the construction of one railway between this city and some of the towns on our coast, where with better advantages a spa and convalescent station can be established; and that for the purposes of the collection and administration of the rent, as well as to carry out the aforementioned work, the Municipal Council elects the personnel of a Board that is in charge of all that, empowering, in addition, the Municipality itself to contract a loan guaranteed by the tax of which we speak.— The Honorable Legislators are not blind to the positive public benefit that will result from such successful resolutions.— It is known that the city of Guayaquil suffers enormously, during the rainy season, from the epidemics that develop; and it is also known that, as well as the question of rooms, in the seaside resorts of the coast, as well as the considerable expense that the transfer to them causes, with the difficulties and delay of the trip, etc., etc., all of which results in only individuals and families who have considerable means can go to such points to defend or recover their health. On the other hand, with the railway in question, those sections of the coast, which today are depressed, will greatly gain, without anything tending to its development. The transit lands will acquire value; and even in a given case, the Government would have a rapid means of transportation for any emergency.— All these considerations and many others that are not hidden from the enlightened criteria of the Honorable Legislators, we are sure that they will inspire a favorable resolution in the request that we respectfully raise; resolution that will mean an indisputable benefit of great importance for this prosperous section of the Republic.— Honorable Legislators, Guayaquil, August 11, 1909.— (Signed)--Julián Coronel, Julio Burbano Aguirre, Juan Illingworth, Ed. Game, F. Urbina J., Juan Marcos (Many signatures of the most representative of Guayaquil continue)."

The Honorable Congress of the Republic, echoing the request of the people of Guayaquil, issued the following Decree, which I transcribe. "THE CONGRESS OF THE REPUBLIC OF ECUADOR., Decrees—Art. 19—Build a railway that, departing from the city of Guayaquil, ends in one of the towns on the coast, whose construction will be the responsibility of the Municipality.— Art. 29 - The Municipality of Guayaquil is authorized for this purpose so that it can collect a tax on the consumption of tobacco that is introduced in the province of Guayas, or is made in the same Province - The trimmed cigars, for the bundle of 25, will pay five cents.—Ordinary pico cigars, for the pack of 21, ten cents.—The pico, fine, for the box of 50 cigars, fifty cents.—The pico, foreign, for the box of 50 cigars, one sucre.— National cigarettes, per pack of 15 or less, one cent.— Havana cigarettes, per pack of 15 or less, two cents.— The Municipality of Guayaquil will allocate for this work up to four cents, from the that corresponds to the tax on the aguardie branch Before.— Art. 39 — The Council may, if it deems it convenient, form a Board in charge of the construction of the work and the collection and investment of the tax, in this case the Board will appoint a special Collector, who must be subject to to the Treasury Law— The Collector will earn a monthly percentage in the opinion of the Municipality, on the proceeds of this tax.—Art. 49 — Once the construction of the railway is finished, this tax referred to in article 29, will be allocated to the construction of the Municipal House. — Art. 59 — Authorize the Municipality of Guayaquil to expropriate the land that the line should occupy, paying the cost with the funds earmarked for that purpose.—Art. 59—It is also authorized to guarantee the contracts it contracts with this tax, for the objects indicated in Arts. 19, 49 and 59, of this Decree.— Given in Quito, Capital of the Republic, on November 8, 1909.— The President of the Chamber of the Senate.— Bartolomé Huerta.— The President of the Chamber of Deputies.— Abelardo Montalvo.—The Secretary of the Chamber of the Senate.—Enrique Bustamante L.—The Secretary of the Chamber of Deputies.—Timoleón Guevara.—National Palace in Quito, November 10, 1909.—Execute. — Eloy Alfaro.— The

Minister of the Interior, Public Works, etc., etc.—A. Reyes V.—It is a copy.—The Undersecretary of the Interior.—J. M. Pérez E." ,

From the reading of the previously transcribed documents, it can be deduced that the idea that prevailed for the construction of the Ferrocarril a la Costa was, as we have stated previously, that of achieving the easiest and quickest access to the resorts of the Coast, without pursuing the of profit or business, even when this was not ruled out, as we will indicate below.

The idea of taking the Railroad to the Coast did not initially have a fixed and determined place as a destination. However, Playas was thought of, and for this reason the route continued through the towns of Chongón, Bajada and Progreso to Zapotal, instead of having taken the direction that would take it through Juntas, Julio Moreno, Sube and Baja to the Baños de Santa Elena or very close to these places, where there is currently a public service road. When the construction of the railway reached the town of Progreso, it was already thought of taking the railway to Salinas and then again meetings of the officials who managed the construction of the railway expressed reasons, as can be seen from the citation that the "Brochure the Ferrocarril a la Costa " of Mr. Ricardo González Rubio we do next:

"And, in fact, the day we have a railway to Salinas, which is the most advantageous geographic point of the Guayas Coast, that will have to be the outer port of Guayaquil, for superior reasons of utility and public necessity, and that there will be what to legally enable it for the services it is called upon to provide us.—Among those services we must consider the arrival of the large ocean liners that pass nearby daily, and that do not come to Guayaquil, either because of their deep draft, or because they do not lose 48 hours in entry and exit if they visited our fluvial port, enabled Salinas, they would stop there without any delay or deviate from their route, and they could even leave passengers and correspondence, without this service contributing in any way to diminish its importance to the commercial movement of the Port of Guayaquil, through which the cargo would always be unloaded.—And let's not just talk about the transatlantic liners or the larger ships, because even the traffic steamers As usual in the Pacific, they would give us great facilities if they could touch in Salinas to leave the bag and passengers; because in this way these would come to Guayaquil and we would receive that eon many hours in advance, given the stay in Puriá that sometimes is a whole night, and the heavy waiting for the tides to cross the bar and avoid the shallows until arrival at the Major Port."

With this way of thinking, in 1913 the continuation of the Progreso works was determined for Salinas and not for Playas, even though the construction of a branch to this town was also being considered. This is how things continued until finally, in the year 1936, the railway arrived triumphantly with its reeling at the Salinas terminal.

The Railroad service to the Coast since its arrival in Salinas has not been interrupted; the movement of first and second class passenger transport carried out on preferential coaches and also on steam trains has been efficient despite the fact that their means have not always been perfect nor have they reached the number to completely cover all the requests requested. The equipment has had many times to carry out works physically superior to the object for which they have been created; and this uninterrupted service, up to a certain point, has been inappropriate, because the consequences of deferred maintenance translates into a lack of effectiveness in the service of coaches and locomotives.

On the other hand, dealing with the administration that the three railways of the coast have had, we must note that the series of steps that they have undergone administratively in the form of changes from one modality to another has been beyond detrimental because it has not been possible to consider a defined work plan, to put it into effect after a serene study, since each administration has changed it for another, considering it useless to once again undertake work plans that have not become a reality, since new administrations have left them to one side and so on.

Until 1938, the coastal railways, the Northern railway and the Sibambe to Cuenca railway were under the direct control of the Government, although the last two named always had their Control Boards for the construction of their tracks.

In the indicated year, by mandate of the National Congress, a Board called "Board of Directors of the State Railways" was formed, being in charge of the administration of the National Railways with the exception of Guayaquil to Quito. At the end of 1937, the Military Government of General Alberto Enríquez dissolved the Board in question and the railways once again became dependent on the Government, and then the funds from the exploitation of these lines had to enter directly into the fiscal coffers. ; the values necessary for operating expenses should also come from the Public Treasury. This meant a serious delay for the work and operation of the railroads and then the General Directorate. of

the same attached to the Ministry, began a campaign to achieve economic independence, that is, to be able to count on the funds coming from the operation of the railways directly, getting rid of the cumbersome administrative procedure of the Government: that is, achieving economic autonomy, and for this he formulated the following draft Decree to be considered by the H. National Assembly of Mío 1988 and which has the following text:

5 More detail about the Guayaquil á Salinas standard gauge railway (p293 onward)

CARACTERISTICAS Y EQUIPO DE LOS FERROCARRILES DE 'LA COSTA.—SU INFLUENCIA EN LA ECONOMIA NACIONAL.—INDICACIONES PARA MANTENIMIENTO PROPIO

Para un conocimiento exacto tanto de las vías de los Ferrocarriles del Litoral, como también del equipo que ellos poseen para su servicio, haremos figurar en datos precisos y simplificados todas las características que a este punto se refieren, mediante un cuadro, a continuación:

CHARACTERISTICS AND EQUIPMENT OF THE RAILWAYS OF THE COAST.—THEIR INFLUENCE ON THE NATIONAL ECONOMY.—INDICATIONS FOR SELF-MAINTENANCE

For an exact knowledge of both the routes of the Ferrocarriles del Litoral, as well as the equipment they have for their service, we will include in precise and simplified data all the characteristics that refer to this point, by means of a table, below :

III.—TREN RODANTE

	Guayaquil Salinas	P. Bolívar Pasaje	P. Bolívar Piedras	Bahía Chone
a).—Servicio a vapor:				
1.—Locomotoras: total	5	3	5	2
2.—Locomotoras: potencia total H. P.	2.000	400	1.400	450
3.—Coches de pasajeros: total	8	2	2	—
4.—Coches de pasajeros: total ejes	16	8	6	—
5.—Coches de pasajeros: total asientos	320	80	80	—
6.—Furgones: total	15	7	7	7
7.—Furgones: total ejes	54	28	28	14
8.—Vagones: total	8	7	4	2
9.—Vagones carga: total ejes	32	28	16	8
10.—Vagones carga capacidad útil total toneladas	200	140	40	50
b).—Servicio eléctrico:				
11.—Coches motores: total	—	—	—	—
12.—Coches motores: total ejes	—	—	—	—
13.—Coches motores: total asientos	—	—	—	—
14.—Acoplados: total	—	—	—	—
15.—Acoplados: total asientos	—	—	—	—
c).—Servicio coches motores:				
16.—Coches motores: total	16	2	3	9
17.—Coches motores: ejes	57	8	12	36
18.—Coches motores: total asientos	537	68	81	110 y 25 tons. car.
19.—Acoplados: total	—	—	1	—
20.—Acoplados: total asientos	—	—	28	—

En el Ferrocarril Guayaquil—Salinas transportador exclusivo de la producción de sal de las bodegas de Salinas a la ciudad de Guayaquil y a la población de Eloy Alfaro para su despacho al interior de la República ha venido reclamando un aumento en el valor del transporte por cada quintal. El precio fijado en el Convenio del año 19" que fué de

S/. 2,80 para los 162 kilómetros de vía, además de los transportes urbanos necesarios, no ha variado desde entonces, a pesar de que todas las actividades comerciales, industriales y agrícolas han subido sus precios en el transcurso de este lapso. Con una clara comprensión y aprobación a este pedido de aumento, el Gobierno Constitucional del Sr. Carlos Julio Arosemena en el año de 1949, estuvo dispuesto para acceder, haciendo justicia al Ferrocarril de la Costa, y proporcionarle en esta forma una positiva ayuda para su quebrantada economía. Al terminar la administración el Sr. Arosemena, dejó pendiente el dictado de la autorización necesaria para conseguir estos propósitos, y en la actualidad se están haciendo iguales gestiones ante la administración Constitucional del Exmo. Sr. Dn. Galo Plaza Lasso, quien como profundo conocedor de la materia ferroviaria, por haber sido propugnador del mejoramiento de las ferrovías, no tendrá inconveniente, estamos seguros de autorizar este pedido. De conseguirse el aumento en el transporte de la sal, se logrará en parte; que el Ferrocarril Guayaquil — Salinas pueda mantenerse con sus propios medios.

On the Guayaquil-Salinas Railroad, the exclusive transporter of salt production from the Salinas warehouses to the city of Guayaquil and to the town of Eloy Alfaro for shipment to the interior of the Republic, has been demanding an increase in the value of transportation for each quintal . The price set in the Agreement of the year 19", which was S/. 2.80 for the 162 kilometers of track, in addition to the necessary urban transport, has not changed since then, despite the fact that all commercial activities, Industrial and agricultural prices have increased during this period With a clear understanding and approval of this request for an increase, the Constitutional Government of Mr. Carlos Julio Arosemena in 1949 was willing to agree, doing justice to the Railway de la Costa, and in this way provide him with positive help for his broken economy. When Mr. Arosemena finished his administration, he left pending the issuance of the necessary authorization to achieve these purposes, and at present the same steps are being taken before the Constitutional administration of Mr. Mr. Galo Plaza Lasso, who as a profound connoisseur of railway matters, for having been an advocate of the improvement of the railways, will have no doubts Next, we are sure to authorize this request. If the increase in salt transport is achieved, it will be achieved in part; that the Guayaquil — Salinas Railroad be able to maintain itself with its own means.

Debe considerar que las carreteras son construidas por el Gobierno que es propietario de los ferrocarriles, paralelamente a las ferrovías, alcan-zando con esto que les tráficos ferroviarios disminuyan y que el poco vo-lumen que se logra captar hay que transportarlo a tarifas de competencia, o sea que en lugar de ayudar a los ferrocarriles trata más bien de exter-minarlos. En el Ferrocarril de Guayaquil a Salinas hemos probado como la construcción del carretero de Guayaquil a Playas restó a su tráfico de pasajeros un cuarenta por ciento más o menos de sus entradas por ese con-cepto, y por este motivo se encuentra atravesando una fuerte crisis econó-mica. También la desaparición de la actividad de la Compañía Petrolera "Internacional", y otras actividades de la Península de Santa Elena, como la llegada al País de unidades modernas de transporte por carretero, con mayor potencia y capacidad, en la post—guerra, restaron gran parte del volumen de transporte al ferrocarril, que sin embargo no dejó de prestar en ningún momento su servicio regular en el tráfico de carga y pasajeros, hasta la presente fecha, el mismo que es necesario y urgente mejorarlo y transformarlo modernizándolo completamente.

You must consider that the highways are built by the Government that owns the railways, parallel to the railways, thus achieving that the railway traffic decreases and that the little volume that is managed to capture must be transported at competitive rates, that is, Instead of helping the railways, it tries rather to exterminate them. In the Railway from Guayaquil to Salinas we have proven how the construction of the highway from Guayaquil to Playas subtracted more or less forty percent of its revenues from its passenger traffic, and for this reason it is going through a strong economic crisis. Also the disappearance of the activity of the "International" Oil Company, and other activities of the Santa Elena Peninsula, such as the arrival in the country of modern road transport units, with greater power and capacity, in the post-war period, reduced a large part of the volume of transport to the railway, which, however, did not cease to provide at any time its regular service in cargo and passenger traffic, until the present date, the same that it is necessary and urgent to improve and transform it by modernizing it completely.

Se ha tratado ampliamente por personas profundamente conocedoras en la rama ferrocarrilera, el problema de la re-

ducción en el ancho de la vía standard del Ferrocarril a la Costa para alcanzar el ancho de vía del Ferrocarril del Sur que une Guayaquil con Quito: Se trata de pasar del ancho de 1,445 mis. que es el ancho de vía del Ferrocarril a la Costa, al de 1.06 mts. que es el de la vía del Ferrocarril del Sur. Existe el proyecto de unir la terminal de Eloy Alfaro en el Ferrocarril del Sur, con Guayaquil, mediante el servicio de ferry-boats para pasar los vagones cargados hasta la ciudad de Guayaquil, eliminando la costosa operación de los trasbordos sucesivos de la carga. Teniendo el equipo rodante del Ferrocarril del Sur ya en Guayaquil, sería muy halagador y de enorme importancia y provecho nacional el poder llevarlo por la vía del Ferrocarril a la Costa hasta la terminal de Salinas, efectuando la reducción del ancho de vía indicada.

The problem of reducing the width of the standard track of the Ferrocarril a la Costa to reach the track width of the Ferrocarril del Sur that connects Guayaquil with Quito has been extensively dealt with by people deeply knowledgeable in the railway branch: It is about passing of the width of 1,445 mis. which is the track width of the Railroad to the Coast, at 1.06 meters. which is the one on the Southern Railway. There is a project to unite the Eloy Alfaro terminal on the Southern Railway with Guayaquil, through the ferry-boat service to pass the loaded wagons to the city of Guayaquil, eliminating the costly operation of successive cargo transfers. . Having the rolling stock of the Ferrocarril del Sur already in Guayaquil, it would be very flattering and of enormous importance and national benefit to be able to take it along the Coastal Railroad to the Salinas terminal, reducing the gauge indicated.

6 A letter summarising the most urgent needs for each of these railways (p300 onward)

INFORME DE LOS RELATORES

Quito, a 22 de Septiembre de 1949.

Señor Don

LUIS CORDOVEZ BORJA,

Presidente del I Congreso Nacional de Ferrocarriles.

CIUDAD.

Señor Presidente:

La Comisión de Explotación, después de haber estudiado los trabajos presentados por los señores Ing. Pablo Habil, Rodrigo Chávez, Ing. Jorge Zavala e Ing. Luis F. Cevallos, y que tienen relación con problemas de los Ferrocarriles Bahía—Chone, Quito—San Lorenzo, Guayaquil—Salinas y las de El Oro, ha llegado a las siguientes conclusiones: FERROCARRIL' BAHIA - CHONE. -- Solicitar aumento de la subvención para el incremento del material rodante y mejoramiento de las condiciones de la vía.

FERROCARRIL QUITO — SAN LORENZO.-1o.) Terminación de la construcción del ferrocarril, para lo que debe solicitarse la financiación más rápida y conveniente para los intereses de la Empresa;

2o.) Paralización de los trabajos de la carretera denominada auxiliar y que se la ha hecho con fondos del ferrocarril, recomendando que la construcción adopte una modalidad que no requiera el uso de tal carretera;

3o.) Que la subvención asignada en el Presupuesto Nacional para la construcción de este ferrocarril, se destine una cantidad suficiente para la compra de equipo rodante y afirmado de la vía en la sección últimamente puesta al servicio.

FERROCARRIL GUAYAQUIL — SALINAS. — Que se estudie la posibilidad para alcanzar un nuevo contrato para el transporte de la sal, y obtener un aumento de dicho transporte, ya que desde el año de 1946 en que suscribió el contrato se han elevado los precios por tarifas en otros medios de transporte;

2o.) Estudio de las posibilidades de reducir el ancho de la vía con el fin de aprovechar el sistema de ferry—boats que la Empresa ha estudiado para el' Ferrocarril del Sur, con lo que se habría obtenido el transporte directo para los productos de la Península de Santa Elena que vienen al interior del País (combustible y sal común). FERROCARRILES DE EL ORO.— Estudiar el plan de extensión de la vía férrea en combinación con servicio marítimo y carretera para el transporte de pasajeros y carga entre Guayaquil y Loja, plan que debe contemplar la financiación por parte de la Empresa.

La Comisión también recomienda que el Congreso obtenga del Gobierno Nacional una disposición que obligue a to-

das las Instituciones Oficiales de transporte de materiales, víveres, pasajeros, etc., por ferrocarril con pago inmediato de fletes.

Por cuanto en el Decreto que crea el Consejo de Ferrocarriles, del Estado el Art. 34 le exonera el pago de todo impuesto y la tasa Fiscal o Municipal, la Comisión solicita que en adelante no se pague los impuestos que gravan a la gasolina y otros materiales, para lo que habría que hacer las gestiones necesarias. Del señor Presidente, atentamente,

J. RODRIGO CHAVEZ G., ING. JORGE ZAVALA G.,
SECRETARIO. PRESIDENTE.

RAPORTEURS' REPORT

Quito, September 22, 1949.

Mr Don

LUIS CORDOVEZ BORJA,

President of the I National Congress of Railways.

TOWN.

Mr. President:

The Exploitation Commission, after having studied the papers presented by Messrs. Pablo Habil, Rodrigo Chávez, Jorge Zavala and Luis F. Cevallos, and which are related to problems of the Bahía Railways— Chone, Quito-San Lorenzo, Guayaquil-Salinas and those of El Oro, has reached the following conclusions:

RAILROAD' BAHIA - CHONE. -- Request an increase in the subsidy to increase rolling stock and improve road conditions.

RAILROAD QUITO — SAN LORENZO.-1st.) Completion of the construction of the railway, for which the fastest and most convenient financing for the interests of the Company must be requested;

2nd.) Stoppage of the works on the so-called auxiliary highway, which has been carried out with funds from the railway, recommending that the construction adopt a modality that does not require the use of such highway;

3rd.) That the subsidy assigned in the National Budget for the construction of this railway, be allocated a sufficient amount for the purchase of rolling equipment and affirmed of the track in the section recently put into service.

GUAYAQUIL — SALINAS RAILROAD. — That the possibility of reaching a new contract for the transport of salt be studied, and obtain an increase in said transport, since since the year 1946 in which the contract was signed, prices have been raised by tariffs in other means Of transport;

2nd.) Study of the possibilities of reducing the width of the track in order to take advantage of the ferry-boat system that the Company has studied for the Southern Railway, with which direct transportation for the products of the Santa Elena Peninsula that come to the interior of the country (fuel and common salt). EL ORO RAILWAYS.— Study the extension plan for the railway in combination with maritime and road services for the transport of passengers and cargo between Guayaquil and Loja, a plan that should contemplate financing by the Company.

The Commission also recommends that Congress obtain from the National Government a provision that obliges all Official Institutions to transport materials, provisions, passengers, etc., by rail with immediate payment of freight.

Since in the Decree that creates the State Railways Council, Article 34 exempts it from paying all taxes and the Fiscal or Municipal rate, the Commission requests that from now on the taxes on gasoline and other materials, for which Ras would have to make the necessary arrangements. From the President, sincerely,

J. RODRIGO CHAVEZ G., ENG. JORGE ZAVALA G.,
SECRETARY. PRESIDENT.

7 Another letter supporting what was said in the previous one

RELACION DEL TEMA no. 61

Al comenzar a desarrollar el Tema No 61, su autor, el Sr. Ing. Jorge. Zavala Gangotena, hace una relación sumamente

interesante, sobre la iniciación de los Ferrocarriles a la Costa y las razones que motivaron dicha iniciación y su importancia. Con respecto a los Ferrocarriles de El Oro, compuesto de dos ramales, que tienen por terminal Pasaje y Piedras; demuestra que a pesar de la corta distancia del primero, o sea, del ramal que va al Pasaje, es de suma importancia, sobre todo por el fuerte movimiento de embarques de bananos que se los transporta por ferrocarril. Con relación al ramal a Piedra; igualmente hace resaltar su importancia, demostrando que a pesar de no haberse llegado con las paralelas hasta Loja, como fué el proyecto inicial, cumple con el cometido, sobre todo al dar vida a los lugares por donde atraviesa, constituyendo esto, un adelanto para la Nación, fuera de la importancia que tiene como en lo que a estrategia militar se refiere. Estoy absolutamente de acuerdo con el autor del presente trabajo, que el Supremo Gobierno debe incrementarlos y sostenerlos a los Ferrocarriles del Estado, no sólo porque su progreso redundará en beneficio del erario nacional, sino que debe velar por sus propios intereses, pues los Ferrocarriles, son pertenencias del Estado.

FERROCARRIL BAHIA — CHONE Elogio la manera de pensar del señor Ing. Zavala, en todas sus partes y con respecto a este ferrocarril. Aún más, como se trata de una Provincia rica, en: donde todos los habitantes trabajan, (cosa media extraña en la Costa), está destinada a ir muy lejos en su deseo de progreso y bienestar, por tanto, los servicios ferroviarios actuales, deben ser mejorados, procediendo a la adquisición de los equipos necesarios, pues los actuales en su mayor parte se hallan en malas condiciones, fuera de ser insuficientes. Este ferrocarril podría cubrir con sus entradas, cualquier empréstito que se hiciera para mejorar sus servicios.

FERROCARRIL GUAYAQUIL — SALINAS

Leyendo el trabajo presentado sobre este ferrocarril, no sólo se conoce la 'historia de tan importante arteria de transporte, sino que, uno se topa con la realidad a la que ha llegado el Ferrocarril Guayaquil — Salinas, de tanta importancia para la Nación, descrita tan claramente y con lujo de detalles efectivos y verdaderos. Los responsables de la actual situación del Ferrocarril Guayaquil Salinas y también de los demás Ferrocarriles del Estados seguramente no comprendieron o no quisieron aceptar, que el tiempo transcurre y que el progreso se impone, sin aceptar errores de tremendas consecuencias. No me queda sino, solicitar a todos los señores Miembros del Primer Congreso Nacional de Ferrocarriles, tomen muy en cuenta los puntos tratados y presentar al señor Ing. Zavala, mis felicitaciones por sus magníficos trabajos, que serán muy beneficiosos, no sólo para el Ferrocarril Guayaquil — Salinas, sino para todos los Ferrocarriles del País.

FELIX ORTEGA E., RELATOR.

RELATED TO THEME no. 61

When beginning to develop Topic No. 61, its author, Mr. Ing. Jorge. Zavala Gangotena, makes an extremely interesting relationship, on the initiation of the Railways to the Coast and the reasons that motivated said initiation and its importance. With respect to the El Oro Railways, made up of two branches, which have Pasaje and Piedras as terminals; He shows that despite the short distance of the first, that is, the branch that goes to the Passage, it is extremely important, especially due to the strong movement of shipments of bananas that are transported by rail.

In relation to the branch to Piedra; It also highlights its importance, demonstrating that despite not having reached Loja with the parallel lines, as was the initial project, it fulfills the task, especially by giving life to the places through which it crosses, constituting this, an advance for the Nation, apart from its importance as far as military strategy is concerned. I absolutely agree with the author of this work, that the Supreme Government must increase and support the State Railways, not only because their progress will benefit the national treasury, but also because they must look after their own interests, since the State Railways them, they are State property.

BAHIA — CHONE RAILROAD I praise Mr. Ing. Zavala's way of thinking, in all his parts and with respect to this railroad. Even more, since it is a rich Province, where all the inhabitants work, (a rare average thing on the Coast), it is destined to go very far in its desire for progress and well-being, therefore, the current railway services, They must be improved, proceeding to the acquisition of the necessary equipment, since the current ones are mostly in poor condition, apart from being insufficient. This railway could cover with its income, any loan made to improve its services.

GUAYAQUIL — SALINAS RAILROAD

Reading the work presented on this railway, not only is the 'history of such an important transport artery known, but one comes across the reality that the Guayaquil — Salinas Railway, of such importance for the Nation, has reached. ,

described so clearly and with great detail effective and true. Those responsible for the current situation of the Guayaquil Salinas Railway and also of the other State Railways surely did not understand or did not want to accept that time passes and that progress is imposed, without accepting mistakes with tremendous consequences. I have no choice but to request all the Members of the First National Railway Congress to take into account the points discussed and to present Mr. Ing. Zavala with my congratulations for his magnificent work, which will be very beneficial, not only for the Railway. Guayaquil — Salinas, but for all the Railways of the Country.

FELIX ORTEGA E., RAPPORTEUR.

8 A much more detailed 1941 paper on the Bahía to Chone railway

TEMA No. 61

ESTUDIO SOBRE LAS POSIBILIDADES DE MANTENIMIENTO PROPIO DEL FERROCARRIL BAHIA - CHONE.

AUTOR: SR. ING. PABLO HAHN.

RELATOR: SR. EDIVIUNDO

Los pueblos de incipiente cultura, son tardíos en la conquista de su mejoramiento y progreso, porque no se encuentran capacidades para vencer las grandes dificultades que se presentan, en el desarrollo y evolución de sus múltiples actividades.

El factor de más importancia en la lucha progresista de las comunidades, fue siempre el transporte y las comunicaciones, sin los cuales toda actividad social quedaría paralizada, mejor dicho, sumida en el estancamiento y la inacción, que tanto perjudica a los Estados.

Echemos una mirada retrospectiva a los orígenes de una de las más importantes empresas de transportes de la Provincia de Manabí: El Ferrocarril Bahía — Chone y encontramos que, nuestras apreciaciones, consignadas en este estudio, a manera de prólogo, quedan justificadas.

Medio siglo ha decufrido, desde que la ciudad de Bahía de Caráquez dió los primeros pasos en la búsqueda de un "destino mejor" hasta alcanzar importancia como puerto de Importación y Exportación, por estar ubicado en una de las bahías más bellas y seguras del Pacífico.

En la época a que nos referimos, el tránsito motorizado era casi desconocido y las comunicaciones y transportes estaban sujetos a las dificultades de extensos y penosos caminos, que tenían que recorrerse en muchos días, a lomo de acémilas o a pié. Fué entonces, cuando la iniciativa creadora, acarició la idea de construir un ferrocarril que, partiendo del puerto de Bahía de Caráquez, cruzan por las importantes poblaciones de Tosagua, Calceta, Canuto y Chane, y de allí, hasta Santo Domingo de los Colorados; abarcando así toda esa fértil región, cuya riqueza vegetal y mineral es incalculable para terminar en la señorial ciudad de Quito.

Por su interesante situación geográfica, Bahía de Caráquez estaba destinada a ser punto central del desarrollo económico de la zona norte de Manabí.

El Gobierno del Ecuador, estudió el problema con verdadero interés y comprendió la urgente necesidad de construir una vía Tápida y estable, que penetraría a las fuentes de producción, facilitando así el intercambio comercial y agrícola que, hasta entonces, era lento y de escaso provecho para la Nación.

El Gobierno suscribió la concesión correspondiente con tma compañía francesa y los trabajos de construcción del ferrocarril se iniciaron en el año 1908. Pero en la obra realizada, no hubo la suficiente experiencia por parte de los constructores, o éstos, por razones de orden económico, que ces lo más admisible, no construyeron una vía de primera clase y resolvieron el problema, sin considerar el futuro costo de mantenimiento y de explotación. Sea como fuese, lo cierto es que la vía se construyó demasiado baja, muy cerca del río Tosagua y en terreno anegadizo y. con gradientes y contragradientes que, claramente demuestran que se trató. de economizar gastos en la movilización de tierra de los terraplenes.

Con seguridad, nos atrevemos a decir, que por la misma cuestión económica no se llevó a nabo ningún trabajo definitivo, ni se hizo ninguna obra de arte, habiéndose construido los puentes en forma provisional, de madera de mangle, que todavía abunda en ciertos parajes contiguos a la vía, entre los kilómetros 8 y 33. Talvez por no tener material adecuado para hacer el.afirmado de la vía, ésta no fue lastrada y se la dejó en condiciones desfavorables, como es de

suponer.

No obstante, la primera 'locomotora, creemos que llegó a Chone en-tre los años 1912 y 1913 lo que constituyó un verdadero triunfo para quienes se empeñaron en tan ardua empresa, contando con los medios económicos tan estrechos. Pero cuando ya parecía que la empresa ferrocarrilera iba a entrar en una era floreciente y acaso se esperaba obtener de ella un rendimiento que permitiera costear parte de las inversiones hechas o formar un fondo de amortización, etc., estalló la primera guerra mundial, exactamente, el año 1914 y con el estallido de la guerra, sufre esta obra de tanta importancia, un golpe fatal, que la deja casi paralizada; pues los miembros de la compañía francesa tuvieron que repatriarse y entregaron la administración del ferrocarril a un Depositario designado al efecto por el gobierno ecuatoriano. Este Depositario y los que le sucedieron posteriormente, bien claro se vé, fueron personas sin ninguna experiencia en el manejo y administración del ferrocarril; pues, durante la primera estación Invernal que siguiera a la llegada de la locomotora a Chorlo, el tránsito tuvo que suspenderse, por las malas condiciones de la vía, situación que cada año se agravó más, hasta llegar a una total paralización del servicio.

No hemos podido documentarnos con estadísticas para confrontar las entradas de ese tiempo, porque no las hay, pero es de suponer, que las pocas y posibles entradas – si las hubo – se emplearon en el pago del personal administrativo, no siendo suficiente. para atender el mejoramiento de la vía, la cual se mantuvo en malas condiciones hasta el año 1927, año en el cual se estableció la Sección de Ferrocarriles en el Ministerio de OO. PP. Desde entonces se pudo observar un pequeño mejoramiento, ya en la parte administrativa, como en los aspectos técnicos que exige toda empresa de ferrocarril. Pero aún así, tampoco se ha podido poner en condiciones de prestar servicios durante todo el año, haciéndolo únicamente en los meses de verano y suspendiendo su actividad en la estación de invierno, por la inestabilidad de la vía.

Pensamos que debido á la falta de apoyo moral y económico no se pretendió siquiera poner este ferrocarril en condiciones mejores. Sus entradas por concepto de fletes y pasajes en los años de 1927 a 1936, son las siguientes:

1.927	S/. 49.890,00
1.928	49.109,00
1.929	57.220,00
1.930	84.610,00
1.931	56.380,00
1.932	24.480,00
1.933	42.890,00
1.934	95.840,00
1.935	90.120,00
1.936	100.350,00

Cifras que dan un total de SEISCIENTOS NOVENTA Y CINCO MIL OCHOCIENTOS SETENTA SUCRES, en diez años y un promedio anual de sólo SESENTINUEVE MIL QUINIENTOS SETENTA SUCRES, lo cual da una idea bien clara del poco rendimiento del ferrocarril, en relación con el desarrollo de la región.

Hemos demostrado cómo hasta en 1936 la Empresa del Ferrocarril pudo subsistir en un medio completamente contrario a la realidad, sufriendo constantes dificultades que, para nosotros, derivan de las fallas de carácter técnico que se descuidaron mucho, por las razones ya expuestas, en otra parte de este estudio.

A partir del año 1936 después que se hizo cargo de su dirección la Junta Administrativa de Ferrocarriles Nacionales, que más tarde gozó de mayor autonomía, la Empresa del Ferrocarril experimenta una apreciable reacción en su rendimiento económico, debido al importante cambio que se introdujo en el sistema de tracción, usando autocarriles, tanto para carga, como pasajeros y destinando las locomotoras para el servicio de transporte de agua para el consumo de la ciudad de Bahía de Caráquez y lugares intermedios. Se consiguió con esta reforma, mantener el tránsito durante todo el año, pese a los desperfectos de la vía, y sobre todo, regular el servicio con un itinerario fijo, que antes no había sido posible establecer.

El primer autocarril fué construido en el año ya citado y hoy, podemos declarar con satisfacción, que disponemos hasta de diez' unidades, que facilitan el intercambio de productos y pasajeros entre las ricas regiones de los cantones Chone – Bolívar y Sucre, diariamente y en ventajosas condiciones para la Empresa y para quienes disfrutan de sus

servicios.

Si comparamos los rendimientos anteriores con los que se siguieron a partir del año 1937 a 1948, encontrarnos una gran diferencia, que es suficiente prueba del mejoramiento y progreso efectivo del ferrocarril; lo que se ha logrado mediante la tinsa dirección de la actual Empresa de Ferrocarriles del Estado. A fin de facilitar el estudio comparativo de la Empresa que tantos sacrificios y luchas ha costado, consigno a continuación una pequeña estadística:

1.987	S/. 139.780,00
1.938	217.465,00
1.939	240.235,00
1.940	252.735,00
1.941	251.640,00
1.942	406.170,00
1.943	578.875,00
1.944	031.340,00
1.945	696.04000
1.946	785.360,00
1.947	606.410,00
1.948	072.970,00

Cantidades que arrojan un total de CINCO MILLONES CUATRO-CIENTOS NOVENTA Y TRES MIL SEISCIENTOS VEINTE SUCRES, en los últimos doce años.

Si es verdad que las entradas han ascendido considerablemente, no es menos cierto que los gastos de mantenimiento de la vía y del equipo rodante, también han ido en ritmo ascendente, con la agravante de que no hay material adecuado para lastrado a todo lo largo de la vía. Continuamente se hizo intentos de lastrar secciones de la vía con material arenoso que se encuentra en el kilómetro 10, pero con resultados desfavorables. Lo cierto es que, cualquier programa de mejoramiento de este ferrocarril, ha tenido gire ser pospuesto por la falta de medios económicos y también es cierto que este ferrocarril no ha merecido el interés de los poderes públicos, para su mejor desenvolvimiento, que podría ser una de las mejores del país si se la atendiera debidamente.

Hasta aquí, las condiciones de la vía del ferrocarril Bahía – Chone son las mismas de hace veinte años y más. Mientras no se pueda lastrar la línea en su totalidad, con material adecuado, será imposible mantener la vía en condiciones de estabilidad y seguridad durante todo el año.

Hay que tener presente, que todos los años, en la temporada de invierno, la vía se inunda en grandes secciones, hasta un metro de altura del nivel de las aguas y en las demás secciones, sobre todo, en la sección de Calceta a Chone, se forman grandes fangales, con el consiguiente hundimiento de la línea, que ocasionan trabajos de nivelación que demoran meses y con el resultado de que apenas terminados dichos trabajos está en las puertas el próximo invierno, que se encarga de borrar lo hecho. Hay que notar que casi la totalidad de los rieles están en servicio desde hace 40 años y se encuentran deformados. Por falta de chavetas y pernos, muchísimos rieles están unidos con medias chavetas y hace años que este ferrocarril no ha sido provisto de clavos. Sólo el año pasado se pudo conseguir una cantidad de clavos viejos de la línea del ferrocarril de Manta – Santa Ana, que se los está usando. Todos los puentes necesitan reparaciones urgentes y amplias.

El material rodante se encuentra en nó mejores condiciones. Los carriles No. 1-2-7--4-10-11 y 12 fueron construidos en los talleres de este ferrocarril en los años de 1936 a 1942 y se encuentran en el limite de su capacidad, Debido al excesivo servicio que han prestado y a la desconsideración e indiferencia del personal que los ha manejado, se encuentran en un estado de no ofrecer mucha seguridad y sólo a mosto de grandes sacrificios, se los puede mantener en servicio; sacrificios que se complican por la falta y dificultad de adquirir los materiales necesarios.

Los carriles No. 6 y 13 fueron construidos en los años 1946 y 1947 respectivamente y se encuentran en buenas condiciones. Del material rodante más pesado, como locomotoras, coches, cisternas y furgones, ya no tiene objeto hablar, porque es casi seguro que no entrarán más en servicio en este ferrocarril.

Cuando se construyó este ferrocarril, Bahía era el principal puerto marítimo de la costa de Manabl, debido a su fácil y seguro acceso. Había establecimientos de comercio de bastante consideración, que absorbían la producción de las

regiones de Tosagua, Calceta, Canuto y Chone y proveían a los productores de mercadería de consumo. Desgraciadamente en el transcurso de los años se ha dejado embancar; la entrada a la bahía, o sea al puerto, hasta el grado que hoy día, embarcaciones de mediano tonelaje, tienen dificultades para llegar hasta el puerto. Como consecuencia, el tráfico marítimo ha buscado otro puerto de más fácil acceso y ha encontrado este en Manta, que ha adquirido en los últimos años importancia insospechada, razón por la cual, casas comerciales importantes de Bahía, han tenido que liquidar sus negocios, o se han radicado también en Manta, con lo cual el movimiento comercial de Bahía ha decaído enormemente. Claro está que el comercio de Manta exigía la entrega de los productos en Manta, por lo cual hubo la necesidad de construir caminos que pusieran en comunicación directa a Manta con las regiones productoras y así se formaron las famosas carreteras de verano.

Es indudable que estas carreteras se amplían y mejoran en el transcurso del tiempo y como generalmente los propietarios de los vehículos motorizados tienen gran influencia en las decisiones de las autoridades cantonales, también Bahía está haciendo una constante propaganda en favor de la construcción de una carretera de Bahía a Tosagua, más o menos paralelo a la línea y para empalmar con los caminos a Chone, Calceta, Portoviejo y Manta, que en este caso sería la liquidación definitiva del ferrocarril.

Sin embargo, pasarán todavía muchos años hasta que se pueda construir carreteras estables para todo el año, por la absoluta falta de material pétreo para el afirmado a una distancia más o menos razonable. Por ese motivo, el servicio del ferrocarril mientras tanto, es imprescindible durante las épocas de invierno, para salvar de un completo aislamiento a las regiones de Tosagua, Calceta, Junín, Canuto y Chone.

Este desenvolvimiento tuvo su retroceso al estallar la última guerra que motivó dificultades en la adquisición de vehículos motorizados y repuestos, y fué ésto uno de los motivos por los cuales el ferrocarril pudo mantener sus entradas más o menos estables y hasta cierto punto aumentarlas. Esta situación cambió radicalmente tan pronto terminó la guerra. Ya desde el año 1946 la circulación de vehículos motorizados principió a llegar a cifras insospechadas y en la actualidad el número de camiones sobre-pasa la capacidad productiva de la región. Llegan casos en que a trompadas se disputan los pocos bultos por llevar. Desde hace dos años el ferrocarril ha querido defenderse de la competencia de los camiones, elevando la tarifa en la época de invierno, para luego bajarlas cuando se inicia el tráfico por las carreteras; pero este sistema ha creado una cierta odiosidad del público contra el ferrocarril, porque éste no acepta que el ferrocarril también tiene gastos, y sólo por el hecho de que el ferrocarril es obra nacional, cree que está en la obligación de prestar sus servicios un poco más que gratuito. Hay además otros factores que accionan contra un más normal y eficaz desarrollo del ferrocarril, factores que por su índole, son difíciles de mencionarlos aquí.

Es muy difícil llegar a conclusiones definitivas con respecto a la suerte futura de este ferrocarril. Los problemas que afronta éste son de muy diversa índole, que residen principalmente en aspectos morales y sociales y que no son posibles de variar.

Hay una marcada indiferencia en todo lo que se relaciona con el ferrocarril y sin embargo el servicio de éste todavía será, indispensable por muchos años, porque pasará mucho tiempo hasta que se pueda construir y mantener carreteras estables por todo el año. Durante las estaciones de invierno, toda la región de Bahía hasta Chone, no tiene otra vía que el ferrocarril, para comunicarse con el resto de la República. Por la actual situación y el actual monto de producción, sería de tener mucho optimismo en creer que el ferrocarril llegaría a tener un rendimiento suficientemente alto para atender sus gastos, porque por las condiciones de la vía y del material rodante, los gastos de mantenimiento siempre serán altos. Se podría tener alguna esperanza de mejoramiento económico del ferrocarril, sólo en el caso de un apreciable aumento de producción y que se estableciera nuevos y más activos comercios o industrias en Bahía.

En resumen, tomando en cuenta todos los factores adversos a un mayor incremento de las entradas del Ferrocarril Bahía – Chone, se llega a la conclusión de que difícilmente se puede admitir la posibilidad de equilibrar las entradas con los gastos.

Termino así este breve estudio, que lo someto a la consideración de quienes, más autorizados que el suscrito, tienen experiencia y conocen la verdadera realidad de esta clase de empresas.

Bahía de Caráquez, Agosto de 1941

The peoples of incipient culture, are late in the conquest of their improvement and progress, because there are no capacities to overcome the great difficulties that arise, in the development and evolution of their multiple activities.

The most important factor in the progressive struggle of the communities was always transportation and communications, without which all social activity would be paralyzed, rather, plunged into stagnation and inaction, which harms the States so much.

Let's take a retrospective look at the origins of one of the most important transport companies in the Province of Manabí: The Bahía — Chone Railroad and we find that our assessments, recorded in this study, as a prologue, are justified. Half a century has passed, since the city of Bahía de Caráquez took the first steps in the search for a "better destination" until reaching importance as an Import and Export port, for being located in one of the most beautiful and safest bays in the Pacific. .

At the time we are referring to, motorized traffic was almost unknown and communications and transportation were subject to the difficulties of extensive and arduous roads, which had to be covered in many days, on the back of mules or on foot. It was then, when the creative initiative, caressed the idea of building a railway that, starting from the port of Bahía de Caráquez, crosses through the important towns of Tosagua, Calceta, Canuto and Chane, and from there, to Santo Domingo de los Colorados; thus covering all that fertile region, whose vegetable and mineral wealth is incalculable to end in the stately city of Quito.

Due to its interesting geographical location, Bahía de Caráquez was destined to be the central point of the economic development of the northern area of Manabí.

The Government of Ecuador studied the problem with real interest and understood the urgent need to build a rapid and stable road, which would penetrate to the sources of production, thus facilitating commercial and agricultural exchange, which, until then, was slow and of little benefit. for the Nation.

The Government signed the corresponding concession with a French company and the railway construction work began in 1908. But in the work carried out, there was not enough experience on the part of the builders, or they, for economic reasons, which is the most admissible, they did not build a first-class road and solved the problem, without considering the future cost of maintenance and operation. Be that as it may, the truth is that the road was built too low, very close to the Tosagua River and on flooded land. with gradients and counter-gradients that clearly show that it was treated. of saving expenses in the mobilization of earth from the embankments.

With certainty, we dare to say, that for the same economic reason no definitive work was carried out, nor was any work of art made, the bridges having been built provisionally, of mangrove wood, which is still abundant in certain places. contiguous to the road, between kilometers 8 and 33. Perhaps due to not having adequate material to make the road surface, it was not ballasted and was left in unfavorable conditions, as is to be expected.

However, we believe that the first locomotive arrived in Chone between 1912 and 1913, which was a true triumph for those who engaged in such an arduous undertaking, counting on such limited economic means. But when it seemed that the railway company was going to enter a flourishing era and perhaps it was expected to obtain from it a return that would allow it to pay for part of the investments made or form a sinking fund, etc., the First World War broke out, exactly, in 1914 and with the outbreak of the war, this work of such importance suffers a fatal blow, which leaves it almost paralyzed; because the members of the French company had to repatriate and handed over the administration of the railway to a Depositary designated for that purpose by the Ecuadorian government. This Custodian and those who succeeded him later, it is quite clear, were people without any experience in the management and administration of the railway; Therefore, during the first winter season that followed the arrival of the locomotive in Chorlo, traffic had to be suspended due to the poor conditions of the track, a situation that worsened each year, until reaching a total paralysis of the service.

We have not been able to document with statistics to compare the entries of that time, because there are none, but it is to be assumed that the few and possible entries – if there were any – were used in the payment of administrative per-

sonnel, not being enough. to address the improvement of the road, which remained in poor condition until 1927, the year in which the Railway Section was established in the Ministry of OO. P.P. Since then, a small improvement could be observed, already in the administrative part, as well as in the technical aspects that every railway company demands. But even so, it has not been able to provide services throughout the year, doing so only in the summer months and suspending its activity in the winter season, due to the instability of the road.

We think that due to the wool of moral and economic support, he even tried to put this railway in better conditions. His entries for freight and passages in the years from 1927 to

<i>1927</i>	<i>S/. 49.890,00</i>
<i>1928</i>	<i>491090,00</i>
<i>1929</i>	<i>57.220,00</i>
<i>1930</i>	<i>84.610,00</i>
<i>1931</i>	<i>56.380,00</i>
<i>1932</i>	<i>24.480,00</i>
<i>1933</i>	<i>42.890,00</i>
<i>1934</i>	<i>95.840,00</i>
<i>1935</i>	<i>90.120,00</i>
<i>1936</i>	<i>100.350,00</i>

Figures that give a total of SIX HUNDRED AND NINETY-FIVE THOUSAND EIGHT HUNDRED AND SEVENTY SUCRES, in ten years and an annual average of only SIXTY-NINE THOUSAND FIVE HUNDRED AND SEVENTY SUCRES, which gives a very clear idea of the poor performance of the railway, in relation to the development of the region.

We have shown how, until 1936, the Railway Company was able to subsist in an environment completely contrary to reality, suffering constant difficulties that, for us, derive from failures of a technical nature that were largely neglected, for the reasons already stated, elsewhere. of this study.

Starting in 1936, after its management was taken over by the Administrative Board of National Railways, which later enjoyed greater autonomy, the Railway Company experienced an appreciable reaction in its economic performance, due to the important change that was introduced in the traction system, using railcars, both for cargo and passengers and allocating the locomotives for the transport service of water for consumption in the city of Bahia de Caráquez and intermediate places. With this reform, it was possible to maintain traffic throughout the year, despite the damage to the road, and above all, to regulate the service with a fixed itinerary, which had not previously been possible to establish. The first autorail was built in the aforementioned year and today, we can declare with satisfaction that we have up to ten 'units, which facilitate the exchange of products and passengers between the rich regions of the Chone - Bolívar and Sucre cantons, daily. and in advantageous conditions for the Company and for those who enjoy its services.

If we compare the previous yields with those that followed from the year 1937 to 1948, we find a great difference, which is sufficient proof of the improvement and effective progress of the railway; what has been achieved through the careful direction of the current State Railway Company. In order to facilitate the comparative study of the Company that has cost so many sacrifices and struggles, here are a few statistics:

<i>1987</i>	<i>S/. 139.780,00</i>
<i>1938</i>	<i>217.465,00</i>
<i>1939</i>	<i>240.235,00</i>
<i>1940</i>	<i>252.735,00</i>
<i>1941</i>	<i>251.640,00</i>
<i>1942</i>	<i>406.170,00</i>
<i>1943</i>	<i>578.875,00</i>
<i>1944</i>	<i>031.340,00</i>
<i>1945</i>	<i>696.04000</i>
<i>1946</i>	<i>785.360,00</i>
<i>1947</i>	<i>606.410,00</i>

Amounts that yield a total of FIVE MILLION FOUR-HUNDRED AND NINETY-THREE THOUSAND SIX HUNDRED AND TWENTY SUCRES, in the last twelve years.

If it is true that the entries have risen considerably, it is no less true that the cost of maintaining the track and the rolling stock have also increased, with the aggravating circumstance that there is no adequate ballast material along the entire length of the track. route. Attempts were continually made to ballast sections of the road with sandy material found at kilometer 10, but with unfavorable results. The truth is that any improvement program for this railway has had to be postponed due to lack of economic means and it is also true that this railway has not deserved the interest of the public powers, for its better development, which could be a one of the best in the country if properly cared for. Up to this point, the conditions of the Bahía – Chone railway are the same as they were twenty years ago and more. As long as the line cannot be ballasted in its entirety, with adequate material, it will be impossible to maintain the track in stable and safe conditions throughout the year.

It must be borne in mind that every year, in the winter season, the road is flooded in large sections, up to a meter high from the water level and in the other sections, especially in the section from Calceta to Chone, large mudflats are formed, with the consequent sinking of the line, which causes leveling work that takes months and with the result that as soon as these works are finished, the next winter is on the doorstep, which is responsible for erasing what has been done. It should be noted that almost all the rails have been in service for 40 years and are deformed. For lack of cotter pins and pins, a great many rails are joined with half cotters, and this railway has not been provided with nails for years. Only last year it was possible to obtain a quantity of old nails from the Manta-Santa Ana railway line, which are being used. All bridges need urgent and extensive repairs.

The rolling stock is in no better condition. Railcars No. 1-2-7--4-10-11 and 12 were built in the workshops of this railway in the years from 1936 to 1942 and are at the limit of their capacity, due to the excessive service they have provided. and due to the disregard and indifference of the personnel who have handled them, they are in a state of not offering much security and only at the must of great sacrifices can they be kept in service; sacrifices that are complicated by the lack and difficulty of acquiring the necessary materials.

Cars No. 6 and 13 were built in 1946 and 1947 respectively and are in good condition. Of the heavier rolling stock, such as locomotives, coaches, tankers and boxcars, there is no longer any point in talking, because it is almost certain that they will no longer enter service on this railway.

When this railway was built, Bahía was the main seaport on the coast of Manabí, due to its easy and safe access. There were quite considerable trade establishments, which absorbed the production of the Tosagua, Calceta, Canuto and Chone regions and provided the producers with consumer goods. Unfortunately, over the years, the entrance to the bay, that is, to the port, has been left aground to the extent that today, medium-tonnage vessels have difficulty reaching the port. As a consequence, maritime traffic has sought another port with easier access and has found this one in Manta, which has acquired unsuspected importance in recent years, which is why important commercial houses in Bahía have had to liquidate their businesses, or they have also settled in Manta, with which the commercial movement of Bahía has fallen enormously. It is clear that the trade of Manta required the delivery of the products in Manta, for which there was a need to build roads that put Manta in direct communication with the producing regions and thus the famous summer highways were formed.

There is no doubt that these highways are expanded and improved over time, and since motor vehicle owners generally have great influence on the decisions of the cantonal authorities, Bahía is also making constant propaganda in favor of the construction of a highway from Bahía to Tosagua, more or less parallel to the line and to connect with the roads to Chone, Calceta, Portoviejo and Manta, which in this case would be the definitive liquidation of the railway. However, it will still be many years before stable roads can be built for the whole year, due to the absolute lack of stone material for paving at a more or less reasonable distance. For this reason, the railway service, meanwhile, is essential during the winter season, to save the regions of Tosagua, Calceta, Junín, Canuto and Chone from complete isolation.

This development had its setback when the last war broke out, which caused difficulties in the acquisition of motorized vehicles and spare parts, and this was one of the reasons why the railway was able to maintain its income more or

less stable and to a certain extent increase it. This situation changed radically as soon as the war ended. Since 1946, the circulation of motorized vehicles began to reach unsuspected figures and today the number of trucks exceeds the productive capacity of the region. There are cases in which the few packages to be carried are disputed in a fist-fight. For two years the railroad has wanted to defend itself from the competition of the trucks, raising the rate in the winter season, and then lowering them when traffic begins on the highways; but this system has created a certain hatred of the public against the railway, because it does not accept that the railway also has expenses, and only because the railway is a national work, it believes that it is obliged to provide its services a little more than free. There are also other factors that act against a more normal and efficient development of the railway, factors that, due to their nature, are difficult to mention here.

It is very difficult to reach definitive conclusions regarding the future fate of this railway. The problems that it faces are of a very diverse nature, which reside mainly in moral and social aspects and that are not possible to vary.

There is a marked indifference in everything related to the railway and yet its service will still be indispensable for many years, because it will be a long time before stable roads can be built and maintained throughout the year. During the winter seasons, the entire region from Bahía to Chone has no other way than the railroad to communicate with the rest of the Republic. Due to the current situation and the current amount of production, it would be very optimistic to believe that the railway would have a sufficiently high yield to meet its expenses, because due to the conditions of the track and the rolling stock, maintenance costs will always be tall. There could be some hope of economic improvement of the railroad, only in the case of an appreciable increase in production and the establishment of new and more active businesses or industries in Bahía.

In summary, taking into account all the adverse factors to a greater increase in the revenues of the Bahía – Chone Railway, the conclusion is reached that it is difficult to admit the possibility of balancing the revenues with the expenses. This is how I end this brief study, which I submit for the consideration of those who, more authoritative than the undersigned, have experience and know the true reality of this type of company.

Bahía de Caráquez, August 1941

9 Comment on the preceding Bahía – Chone paper

Del estudio hecho por el señor Ing. Pablo Hahn, Gerente del Ferro-carril Bahía—Chone, de las condiciones en que opera ese ferrocarril se deduce que en un futuro próximo correrá la misma suerte que los de Ambato a Pellico y de Manta a Santa Ana; fatalmente todos los ferrocarriles que operan en el país con recorridos menores de 100 kilómetros, no pueden mantenerse con sus propios recursos y llega un momento en que es preferible, por muchas razones, levantar sus líneas. Por las apreciaciones generales hechas por el autor de la zona a la que sirve el Ferrocarril Bahía—Chone se llega a la...conclusión de que será muy difícil mejorar los ingresos por las múltiples circunstancias adversas en que obligadamente desarrolla su operación, pues, como el Puerto de Bahía ha quedado colocado en segundo plano todos los productos son llevados directamente al Puerto de Manta, naturalmente sin utilizar el servicio ferroviario. No creo oportuno hacer grandes inversiones de capital en el mejoramiento de la vía porque ni aún así se obtendrá resultados satisfactorios ya que la producción de la región servida por el ferrocarril es muy limitada, se comprueba esto estudiando los ingresos obtenidos durante los años 1943-1944-1945 y 1946, durante los cuales, como consecuencia del estado de guerra mundial, el ferrocarril mantuvo exclusividad en el transporte; durante este periodo el equilibrio operativo mejoró notablemente pero en ningún caso las entradas llegaron a cubrir los gastos. Hay que admitir, como bien lo señala el Ing. Rabo, la importancia social de mantener el servicio ferroviario hasta cuando existan carreteras estables y puedan ser utilizadas durante toda la época del año, pero será imposible, por las circunstancias anotadas, que el ferrocarril pueda mantenerse con sus propios recursos. Finalmente el trabajo presentado tiene apreciaciones justas y un estudio de la zona servida por el ferrocarril, aún cuando no llega a conclusiones tendientes a obtener mejores ingresos, será una base para resoluciones por parte del Primer Congreso de Ferrocarriles.

EDMUNDO CUVI REDIN, RELATOR.

From the study made by Mr. Ing. Pablo Hahn, Manager of the Bahía – Chone Railway, of the conditions in which this

railway operates, it can be deduced that in the near future it will suffer the same fate as those from Ambato to Pellico and from Manta to Santa. Ana; Fatally, all the railways that operate in the country with routes of less than 100 kilometers cannot support themselves with their own resources and there comes a time when it is preferable, for many reasons, to lift their lines. From the general assessments made by the author of the area served by the Bahía — Chone Railroad, the conclusion is reached that it will be very difficult to improve income due to the multiple adverse circumstances in which it necessarily develops its operation, since, as the Port of Bahia has been placed in the background, all products are taken directly to the Port of Manta, naturally without using the rail service. I do not think it opportune to make large capital investments in the improvement of the road because even then satisfactory results will not be obtained since the production of the region served by the railway is very limited, this is verified by studying the income obtained during the years 1943 -1944-1945 and 1946, during which, as a result of the state of world war, the railway maintained exclusivity in transportation; During this period, the operating balance improved notably, but in no case did the revenues cover the expenses.

It must be admitted, as Eng. Rabo points out, the social importance of maintaining the railway service until stable roads exist and can be used throughout the year, but it will be impossible, due to the circumstances noted, for the railway to support yourself with your own resources. Finally, the work presented has fair appraisals and a study of the area served by the railway, even when it does not reach conclusions aimed at obtaining better income, it will be a basis for resolutions by the First Railway Congress.

EDMUNDO CuVI REDIN, RAPORTEUR.

10 A very long paper on the two railways in El Oro province

TEMA No. 61

LOS FERROCARRILES DE EL ORO,
SU DESARROLLO Y POSIBILIDADES DE MANTENIMIENTO PROPIO.

AUTOR: SR. ING. LUIS F. CEVALLOS.

En virtud de la honrosa designación hecha en mi persona para que estudie el tema No. 61, en lo que respecta a los problemas de los Ferrocarriles chicos y al estudio de sus posibilidades de mantenimiento propio, me permito presentar a la Comisión Organizadora del Primer Congreso Nacional de Ferrocarriles este pequeño trabajo, en el que trato de hacer un estudio ajustado a la realidad y medida de las pocas facilidades para obtener los datos estadísticos necesarios, ya por la imposibilidad de trasladarse a varios lugares, ya por la escasez misma de ellos. La casi anarquía que todavía existe en la provincia, probablemente como consecuencia del colapso del año 1941, y principalmente la falta de archivos de estos ferrocarriles, destruidos en la invasión, son causas también que han impedídomé hacer a pesar de mis buenos deseos, un trabajo más completo.

De acuerdo con el tema este trabajo consta de dos partes: la primera que se concreta a presentar la realidad actual de estos Ferrocarriles; y la segunda, las mejoras que creo necesarias Introducir las y que tienden a buscar las posibilidades para un mantenimiento propio.

Antes de hacer la exposición sobre el estado actual de estos Ferro-rrrocarriles permítame hacer un poco de historia sobre los mismos para demostrar como, a pesar de los vehementes deseos de una generación que hizo honor, no sólo a su provincia, sino más aún, a su Patria, para llevar a feliz término la construcción de las vías férreas Puerto Bolívar — Cuenca y Puerto Bolívar — Loja, no pudo ver coronados sus esfuerzos debido a múltiples causas, especialmente la indiferencia oficial.

ORIGEN Y DESARROLLO DE LOS FERROCARRILES DE EL ORO,—

Para hacer la relación, sobre el origen y desarrollo de las ferrovias, en la provincia de El Oro, es preciso tener una idea de como fueron los oreñenses de fines del siglo pasado y principios de éste, cuando desde 1878, en que el Dr. Teodoro Wolf contrató la construcción del Ferrocarril Puerto Bolívar—Cuenca, siguiendo la dirección del río Jubones, había el proyecto de unir el litoral con el austro ecuatoriano: Los oreñenses, alejados geográficamente del corazón de la nación y de ciudades más adelantadas, procuraron poner a su provincia a la altura de las demás y nada mejor para que penetre la civilización y el progreso que unir su principal puerto llamado Puerto Bolívar con la ciu-

dad de Cuenca, que era ya un centro de cultura y de actividad comercial.

En virtud de ese afán de superación y en defensa de los intereses generales de esta provincia, algunos periodistas y presientes elementos intelectuales lucharon violentamente, en esta época, para que los Poderes Públicos presten la debida atención a esta parte de la Patria. Ante los reclamos insistentes y las gestiones de toda índole para la habilitación como puerto de un sitio de la costa cercano a Machala, que tenia todas las características para serlo, y que posteriormente se llamó Bolívar, se consiguió en 1866, del Congreso Nacional, la expedición de un Decreto que gravaba en veinte centavos cada quintal de cacao. Con los dineros recaudados y como paso previo para la habilitación de Bolívar como puerto, se construyeron los edificios de la Aduana, Resguardo y Capitania. El citado Decreto fué prorrogado por la Legislatura de 1889 y 1890, con el objeto de que se cumplieran las condiciones para las cuales fué expedido:

"En 1887 el General José Antonio Medina, oriundo de Centro América hizo contrato para la construcción del Ferrocarril Puerto Bolívar —Cuenca, pero fracasó en su intento por falta de cooperación económica del Gobierno".

En 1892, por Decreto Legislativo de 13 de Agosto, se facultó a la 'Municipalidad de Machala para que, de acuerdo con el Gobernador de la Provincia y dos propietarios elegidos por ella, proceda a la construcción del primer tramo del Ferrocarril Puerto Bolívar — Cuenca, o sea el que va de Puerto Bolívar a la población de Pasaje, pasando por la ciudad de Machala.

En el mismo año de 1892, el Municipio de Machala contrató con el Ingeniero inglés señor Azael Dune Pipper, la construcción del Ferrocarril, pero tuvieron que suspenderse los trabajos por falta de fondos. En 1894 se continuaron los trabajos bajo la dirección del ingeniero francés, señor Gastón Thoret, ayudado por el Capataz señor A. Troyani. Después de algunas interrupciones por diferentes causas, el 19 de Marzo de 1899 hizo su entrada en Machala la primera locomotora y en 1903, arribó a la población de Pasaje el Ferrocarril, cumpliéndose ad la primera etapa de esta gran obra.

En el año de 1896, las justas aspiraciones de estos pueblos que continuaban empeñados en incorporarse a la vida y progresos nacionales; se vieron convertidas en realidad, al declararse oficialmente habilitado el puerto que se conoce con el nombre de Bolívar y que fué bautizado solemnemente el 18 de Diciembre de 1883.

Para la ceremonia de la habilitación de Puerto Bolívar, que se efectuó el 24 de Julio de 1898, el Gobierno de ese entonces, presidido por el General Eloy Alfaro, delegó al General Juan Francisco Morales. El Decreto Legislativo de 13 de Abril de 1897 tuvo pues su cumplimiento, en la forma expuesta.

El esfuerzo, desinterés y afán de progreso de los mensores, dió otra vez sus frutos, al ponene, el 9 de Mayo de 1902, al servicio público el Muelle de hierro de Puerto Bolívar. Esta obra fué contratada por el Municipio de Machala y construida por el ciudadano francés señor Luis Jourjon bajo la dirección del ingeniero de la misma nacionalidad Sr.

Gastón Thoret

Conectado Puerto Bolívar con Machala y Pasaje y teniendo las facilidades portuarias para la entrada y salida de productos, el comercio y la agricultura fué incrementándose poco a poco, hasta llegar a ser las dos últimas poblaciones nombradas centros florecientes e importantes de progreso y actividad.

En 1903, el 10 de Octubre, por Decreto Legislativo se facultó a la Junta del Ferrocarril, que se había formado que construya dos ramales ferroviarios a las poblaciones de Guabo y Buenavista. En 1908 se comenzó a construir el ramal al Guabo de acuerdo con el plan del ingeniero Goiret y fué concluido en el mes de Junio de 1908. Desgraciadamente este ramal no rindió beneficio por mucho tiempo, pues una desviación del curso del río Jubones, destruyó en gran parte y por completo la vía férrea, aislando a la parroquia el Guabo, de Machala y Puerto Bolívar, e imposibilitando por tanto el tránsito de los trenes.

El ramal a la población de Buenavista no pudo ser construido por falta de dinero y fué relegándose poco a poco hasta que el conflicto con el Perú en 1910 acabó con la idea y no se volvió a pensar más en él.

El Ferrocarril permaneció bajo la administración Municipal hasta Setiembre de 1918 en que por Decreto Legislativo pasó a la Junta de Obras Públicas compuesta por el Gobernador de la Provincia, quien la presidía dos delegados por cada uno de los Municipios de Machala y Pasaje.

A pesar de los buenos deseos y del fervor patriótico que animaba a la generación de esa época, las finalidades del Decreto Legislativo de Octubre de 1919, que disponía la construcción del Ferrocarril de Puerto Bolívar a las ciu-

dades de Cuenca y Loja, siguiendo la dirección del Jubones, fueron desviadas hacia otro lado y como en el caso de la construcción del ramal a Buenavista, fué alejándose, cada vez más, la posibilidad de avanzar con esta gran obra de aliento, hasta abandonarla completamente. La Provincia de Loja y las poblaciones de la Provincia de El Oro como: Piñas y Zaruma, ya ni siquiera piensan en la continuación de la construcción de la vía férrea y más bien piden, por intermedio de Asambleas de Municipios, que se levanten los carriles para, aprovechando los terraplenes del Ferrocarril Puerto Bolívar — Piedras, avanzar con la carretera hasta Arenillas y, desde esta población, hacia un sitio de la costa llamado Puerto Pitahaya, cercano a la línea fronteriza que, según el Protocolo de Río de Janeiro, pasa por la mitad del estero de Hualtaco y en donde se encuentra el puerto ecuatoriano llamado Hualtaco, de un lado; y del otro, el puerto peruano, denominado Grau.

La poderosa Compañía Americana llamada South American Development Co., que inició, en 1894, más o menos, la explotación de las Minas de Oro de Portovelo, que antes estuvieron en manos de una Compañía inglesa, comenzó en Mayo de 1924 los trabajos para la construcción del Ferrocarril del Ramal Austral. Las sugerencias hechas al Gobierno por la Citada Compañía, con el fin de eludir la obligación que tenían de construir una carretera de vía ancha desde Zaruma hasta Santa Rosa, fueron las que determinaron la desviación de las finalidades del Decreto Legislativo de 1919.

El Ferrocarril, del Ramal Austral, avanzó sólo hasta Piedras después de cuatro años de firmado el contrato con el señor Ingeniero Manuel Adrián Navarro quien trabajó en compañía de los Ingenieros Brown y Fry.

La Junta de Obras Públicas manejó el Ferrocarril del Ramal Oriental, o sea Puerto Bolívar — Pasaje hasta 1926 en que el Gobierno Provisional nacido de la Revolución Juliana, ordenó su incautación. "A las protestas del Municipio de Machala, el Ministro de Gobierno contestó que, en virtud de las disposiciones generales del Presupuesto del Estado, los Ferrocarriles particulares hablan pasado al control del Estado, sin desconocer el Derecho de Propiedad que pudiera tener la Municipalidad Orense".

Los Ferrocarriles Orenses: Puerto Bolívar — Pasaje y Puerto Bolívar — Piedras estuvieron bajo la dependencia directa del Ministerio de Obras Públicas desde el año de 1926 hasta el año 1944 en que se creó por Decreto Supremo el Consejo Administrativo de Ferrocarriles y Transportes Ecuatorianos. Como un hecho curioso cabe anotar que, el ramal ferroviario Puerto Bolívar — Pasaje, fué construida para vía angosta de 75 cm., pero, en 1914, el Gobierno del General Eloy Alfaro, con fines militares, según se adujo, dispuso la entrega del Ferrocarril a la Empresa del Ferrocarril del Sur y fué Mr. Archer Herman, quien ordenó el ensanche de la vía a 42 pulgadas, para poder emplear, el momento dado, el material rodante de la principal ferrovia que había en el país. Se dispuso también el traslado de dos locomotoras y unos pocos vagones para el servicio del ramal Puerto Bolívar — Pasaje.

Terminado el conflicto y como Mr. Harman retuviera indebidamente el ferrocarril orense, se hicieron las gestiones necesarias para que se lo devuelva a sus legítimos dueños como en efecto se lo hizo en 1911, debido al Acuerdo dictado por el Congreso en Octubre de 1910.

ESTADO ACTUAL DE LOS FERROCARRILES

Por lo expuesto, se puede anotar fácilmente que, estos ferrocarriles han tenido que soportar un verdadero *vla-crucis* Administrados, en diversas épocas, por diferentes organismos, han permanecido estacionados por mucho tiempo y desde pocos años atrás, han ido desmejorando a pasos agigantados por la acción destructiva del servicio constante, del clima, por la falta de repuestos apropiados y de material para la relevación de sus equipos fijos y móviles. — El desgaste de todos sus elementos ha llegado a tal extremo que, se lo puede apreciar a simple vista, con sólo visitar el patio de la estación de Machala. En el mencionado patio, la mayoría del material existentes es digno de figurar en un museo de antigüedades, o mejor aún, en un cementerio de hierros viejos. Mucho material anticuado y fuera de uso de estos ferrocarriles, ha tenido que volvérselos a utilizar, por carecer de nuevos y apropiados, y, ha sido necesario también solicitar, a otras ferrovías, lo que ya no utilizan para que, arreglado y adaptado, pueda ser empleado. No pocas veces, ha sido indispensable desenterrar piezas que, años atrás, fueron arrojados por inútiles y en sitios rellenos posteriormente, para ponerlas, otra vez, en uso, por imposibilidad física de conseguirlas nuevas, tanto dentro como fuera del país.

Son también algunas las ocasiones en que, de los terrenos inundados, cercanos a los talleres del Ferrocarril del Sur, que están en la población de Eloy Alfaro, se ha sacado material abandonado por inservible, para darle alguna apli-

cación en los Ferrocarriles de El Oro.

Cabe decir en la actualidad que, el material fijo y rodante de estos Ferrocarriles, está formado, en su mayoría, por los desechos de otros Ferrocarriles como: el Manta — Santa Ana, Guayaquil — Salinas y del Sur.

Los Ferrocarriles de El Oro: Puerto Bolívar — Cuenca y Puerto Bolívar — Laja, no llegaron a las verdaderas terminales, pues el primero, avanzó sólo hasta la población de El Pasaje que está a 25 kilómetros de la orilla del mar; y, el segundo, a un sitio en plena montaña, llamado Piedras, que dista 75 kilómetros de Puerto Bolívar. En otras palabras, los Ferrocarriles oreños, que debieron construirse para ser considerados como principales, puesto que estaban llamados a establecer la comunicación entre centros de vida económica, política e intelectual, quedaron en el comienzo, desarticulados completamente, sin los medios necesarios para su desenvolvimiento y principalmente, con un complicado problema: su longitud, que al no poderla aumentar, determinará en un plazo no lejano la desaparición de los mismos.

Por el carácter del terreno, al Ferrocarril Puerto Bolívar — Pasaje, puede considerársele como construido en el plano. El Ferrocarril Puerto Bolívar — Piedras puede considerárselo como construido en el plano hasta el kilómetro 36, pues, de allí en adelante, atraviesa un terreno ligeramente accidentado con pequeñas quiebras en su mayor parte y con rampas cortas no mayores del 4%.

Ambos ferrocarriles son de tráfico mixto en distancias excesivamente cortas; de una sola vía; de 1,067 m. ó 42 pulgadas (ancho de callo) de entre-vía, para el ramal Puerto Bolívar — Pasaje; y, de 0,75 m. o 29-1/2 pulgadas de ancho interior, para el ramal Puerto Bolívar — Piedras.

Los ferrocarriles oreños utilizan locomotoras a vapor que trabajan con leña; y, por la trasmisión de la fuerza motriz, pertenecen a los de adhesión que se mueven sobre rieles.

ESTADO DE LA VIA

INFRAESTRUCTURA.—La pésima constitución del suelo, en la llanura cercana al mar, ocasionó no pocas dificultades para la construcción de los ferrocarriles en esta provincia. Fué necesario rellenar, pacientemente, tan terreno pantanoso y lleno de manglares hasta una altura que, la plataforma, no fuera cubierta por las grandes mareas en ciertas épocas del año. En otros sitios de la llanura, si bien no expuestos a las mareas, por estar un poco alejados de la orilla del mar, pero si sujetos a inundaciones, en la época invernal, por los bajos, fué también necesario que la plataforma se levantara sobre el terreno que la circundaba. Pero para obtener la explanación necesaria, en el caso de los terrenos cercanos al mar, se utilizó la concha para la consolidación del suelo; en cambio, en el otro caso, se empleó la misma tierra. El resto de los terraplenes de ambos ferrocarriles tierna construidos con el material que tenían a la mano; de ahí que las vías presenten diversos aspectos en toda su extensión.

La totalidad de las alcantarillas, que son numerosas, principalmente en el ramal Puerto Bolívar — Piedras, necesitan reparaciones serias, pues hállese con rajaduras unas, y otras en peligro de destruirse completamente. Hay que construir atarjeas para desagües; muros de sostenimientos de tierras; espolones para contener, desviar y repartir las aguas de los ríos en algunas zonas, como por ejemplo, en Santa Rosa, Arenillas y Tahuín; también puentes, en algunos lugares.

Se necesita refaccionar algunos muros de ala y construir otros, especialmente, los de ciertos puentes en la zona comprendida entre Tahuín y el Campamento de Playas, porque las rajaduras que presentan ya no permiten reparaciones. Todos los puentes de acero necesitan ser rasqueteados y pintados, especialmente los más grandes como son los de Guaruná, Santa Rosa, Arenillas y Piedras. La mayoría de los puentes de madera están en malas condiciones y aunque se trabaja en ellos, debido al poco dinero de que se dispone, apenas se puede repararlos y ligeramente en sus partes vitales, para evitar peligros inminentes.

Por lo expuesto es fácil darse cuenta de que la infraestructura en ciertas zonas del ramal Puerto Bolívar — Piedras y la mayor parte de la del ramal Puerto Bolívar — Pasaje necesita ser mejorada.

SUPERESTRUCTURA.--

Sobre la base o plataforma levantada, en la forma indicada anteriormente, se construyó la superestructura, utilizando como balasto los cantos rodados pequeños o la arena, según los sitios y la presencia de los citados materiales en ellos.

En estos Ferrocarriles de gran importancia, en ciertos aspectos, la superestructura casi no reúne las condiciones de

seguridad elegidas para el tráfico normal, pues, cuando fué construida, se la hizo con materiales no apropiados debido a la falta de ellos en las zonas por donde pasaba la vía, y, en el afán, seguramente patriótico, de avanzar lo más rápidamente, no se buscó la gravilla, o la piedra triturado que son los apropiados. Se utilizó pues, para la construcción de terraplenes y superestructuras, los materiales de características más económicas, dejando poner el futuro la terrible sarga de la consolidación de la vía, o sea para una época en que su costo sería muy elevado y casi fuera de las posibilidades económicas de los Ferrocarriles.

En efecto, el costo de explotación actual, de estos Ferrocarriles, es tan elevado que ni la subvención del Estado añadida a las entradas de operación alcanza para cubrirlo. Esto no quiere decir que la mala situación de estos Ferrocarriles se debe únicamente al mal estado de la superestructura, que fué construida apresuradamente y con falta de previsión; pues, hay otras causas de mucha importancia, como por ejemplo, la poca longitud de sus líneas, el no haber llegado a las terminales de Cuenca y Loja y la competencia de los carreteros. Pero sí debemos convenir que un buen porcentaje de las entradas de estos Ferrocarriles se irían en el supuesto caso de que se tratara de arreglar medianamente la superestructura.

Si a lo anterior se agrega, especialmente para el ramal Puerto Bolívar— Piedras, la rectificación de curvas y de la vía misma, en ciertas zonas, que ha sido, en general, construida con un sentido de economía mal entendida, si se toma en cuenta que atraviesa regiones de escaso o ningún rendimiento, se deduce fácilmente que el problema se agrave, pues, esos trabajos, obligarían al costo de explotación a elevarse.

Existe tal retraso en la renovación de rieles y durmientes que sin temor a equivocación puede afirmarse que hay zonas en las cuales están los mismos que fueron colocados cuando se construyeron estos ferrocarriles.

El tráfico relativamente liviano en la mayor parte del año ha permitido que resistan rieles y durmientes.

Respecto de pernos, tuercas, clavos, chavetas, etc., puedo afirmar que en estos Ferrocarriles no los tenemos de reserva y los que están en la vía se encuentran en tales condiciones de vejez que solamente en casos extremos son removidos con el máximo de cuidado para que no se dañen más, y poder volver a utilizarlos, cosa que no se consigue siempre.

Los rieles son removidos sólo cuando el patín y el alma se hallan en pésimo estado y ofrecen peligro para el tránsito de los trenes. En otras ocasiones, se corta el tramo de riel que está muy dañado y se utiliza el resto. La cantidad de rieles que tenemos de reserva es demasiada pequeña para la longitud de las dos vías, pues apenas alcanza para renovar contados kilómetros. El estado de los rieles de reserva que nos enviaron del Manta — Santa Ana es mejor que el de los que están en servicio, y son los de 36 libras por yarda.

Para el ramal Oriental o sea el Ferrocarril que va de Puerto Bolívar al Pasaje, no hay repuestos de rieles, por cuanto, los que están en servicio son de 55 y 40 libras por yarda, y, cuando es indispensable la renovación de uno o más de ellos nos vemos obligados a emplear los de 35 libras por yarda.

MANTENIMIENTO DE LA VÍA.--

El mantenimiento normal de la vía está retrasado en muchos años debido a las exiguas asignaciones constantes en los presupuestos. Y aunque el estado actual de la vía es pésimo, no es posible intentar siquiera obra alguna de mejoramiento, pues, las escasas posibilidades económicas, a duras penas, permiten mantenerla, con lo estrictamente necesario, para evitar peligros inmediatos.

A pesar de los esfuerzos desplegados por el personal de vía de estos Ferrocarriles para mantener la superestructura en condiciones de relativa seguridad, se tropieza con la falta de clavos de línea, chavetas, pernos, rieles, durmientes, etc. Carecen estos Ferrocarriles hasta de implementos para trabajos de vía y lo poco que hay, como palas, picos, carretillas, carros, gatas, de línea, etc., hace tiempo están en pésimas condiciones.

En ambas vías, hay rieles de 55, 40 y 36 libras por yarda y en la actualidad para renovación disponemos sólo de los últimos en pequeña cantidad que tampoco pueden ser utilizados por carecer de los accesorios necesarios. Como expresé antes, no siempre es posible utilizar los mismos materiales que se sacan de la vía porque se encuentran en tan mal estado que al cabo de pocos golpes no sólo se dañan sino que se desintegran. No se puede apretar los pernos de las chavetas, porque se rompen y cuando ello sucede las uniones de los rieles sólo quedan asegurados por dos o tres de ellos. Casi en su totalidad, ambas vías tienen, en las uniones de los carriles, sólo dos o tres pernos, ya porque se han roto unos o simplemente porque han sido sacados los anillos para asegurar las chavetas en otros sitios. Esto sig-

nifica un serio contratiempo para estos Ferrocarriles, por cuanto constituye un grave peligro, para el tránsito normal de trenes.

El volcamiento del mes de Febrero del presente año fué consecuencia principalmente del mal estado de la vía y si no se han producido mayor número de accidentes es debido al constante cuidado y al haberse formado un todo compacto, durmientes, rieles y balasto.

En estos Ferrocarriles se carece en absoluto de material de repuestos para cambios y los que se encuentran en servicio están en malas condiciones.

Uno de los trabajos de mayor Importancia, como es el lastrado de la vía, ha sido también diferido en muchos años, ya por la falta de un buen balasto y también porque, el que existe (canto rodado pequeño, arena), se encuentra muy distante y no ha habido vehículos para su transporte. En la actualidad para lastrar determinadas zonas ha sido preciso sacrificar el transporte de carga para llevar una plataforma o dos de balasto, perjudicándose con ello los ingresos. Las construcciones anexas y fijas han tenido que suspenderse debido a las escasas posibilidades económicas y las que se encuentran en malas condiciones no han podido ser reparadas por las mismas causas. Están por construirse 4 campamentos y prácticamente otro. Las estaciones de Puerto Bolívar, Machada y Pasaje necesitan de serias reparaciones, si acaso no se las desea hacer nuevas.

Seguramente el patriotismo y la necesidad son los factores que detienen a los trabajadores de vía en sus puestos, pues, los campamentos que existen y las casas que se arriendan con ese fin no prestan siquiera relativas comodidades. Llama poderosamente la atención como, los trabajadores de vía, que viven en campamentos alejados de las poblaciones y que tienen a su cargo la difícil tarea de la seguridad del tráfico, puedan soportar las condiciones climatéricas más desfavorables y la insalubridad de la región. MATERIAL RODANTE.—

Como los Ferrocarriles de El Oro comprenden dos vías distintas en longitud y en ancho, hay también dos clases de equipos rodantes para el transporte de carga y pasajeros. En el Anexo No. 1 se puede apreciar el número y el estado de todos los vehículos de que disponen estos ferrocarriles en cada uno de los ramales.

El escaso número de unidades, la falta de posibilidades económicas y la ninguna reserva en nuestras bodegas en lo que se refiere a repuestos y a material apropiado para reparaciones, ha hecho que este Ferrocarril venga muy a menuda en todos los aspectos. No hay un solo día del año, en que no sea preciso reparar las mismas locomotoras, autocarriles, vagones, etc., después de un viaje. Y es necesario exigir y pagar horas extras de trabajo para que el material rodante dé que se dispone esté listo para el siguiente día. Muchas ocasiones no hay tiempo suficiente, para efectuar reparaciones eficientes y duraderas. Se precisa hacer a medias y pronto los trabajos con el objeto de no interrumpir el servicio de carga y de pasajeros. Las piezas de máquinas, motores, vagones, etc., se gastan rápidamente por el continuo trabajo y en varias ocasiones, por falta de lubricación adecuada, debido algunas veces, a negligencia de los encargados de tenerlas en buen estado de funcionamiento, y en otras, al agotamiento de las reservas en nuestras bodegas que no han podido ser renovadas, en el momento oportuno, por falta de dinero, la tardanza en los envíos, etc. El mal estado de la vía y el indebido manejo de los vehículos ocasionan también no pocas dificultades. La falta de personal idóneo y la falta de responsabilidad son también factores decisivos en el proceso de destrucción del material rodante.

El tiempo de servicio, la acción del clima, la falta de atención adecuada han puesto a la mayoría del material rodante de estos Ferrocarriles en pésimo estado.

TALLERES.—

Los talleres se encuentran ubicados en la Estación de Machala y son poco apropiados para los trabajos que se realizan; casi podemos decir que carecen de lo más indispensable. La maquinaria que tiene, incluso el motor que la pone en acción está desgastada y no se la ha renovado. Después de la invasión peruana, o sea en 1942, en vista de los daños causados en el Taller de Mecánica, se dispuso el traslado de alguna maquinaria, bastante usada, de otros Ferrocarriles a éstos, para que se puedan hacer reparaciones más urgentes.

Sin embargo de la ayuda prestada por otros Ferrocarriles, Podemos afirmar que los talleres carecen todavía de algunas cosas indispensables. Todo hay que adaptarlo y las pérdidas de tiempo por este concepto son demasiado frecuentes con grave perjuicio para la Empresa.

TRANSPORTE—PASAJEROS Y CARGA.—

El movimiento de pasajeros y carga, en el ramal Puerto Bolívar —Piedras, ha sido y continuará siéndole mayor en el rumbo hacia la última terminal; en tanto que en el Ferrocarril Puerto Bolívar — Pasaje, se transporta más, en ambos rubros, en el recorrido hacia la primera estación. En el Ferrocarril del Amarillo, nombre con el cual también se conoce el Ramal Austral, o sea el que va de Puerto Bolívar a Piedras, el mayor movimiento de carga hacia la última estación, es debido a las importaciones que efectúa la Compañía Minera de Portovelo y el comercio de Loja, Zarina y Piñas.

Sin embargo debo expresar que, en la actualidad, nuestro mayor cliente, que es la South American Development Company, está movilizandocarga, cada vez, en menores cantidades y en las dos direcciones. Las razones para que la Compañía Minera importe y exporte menos, talvez sean economicas, o debidas a otros factores como ser el flete menor en transporte por carretera hasta o desde Puerto Bolívar y la Emerenciana.

Los comerciantes de Piñas, Zaruma y Loja, a raíz de la interrupcion de la via ferrea, ocurrida en el invierno pasado, con motivo de las inundaciones y destaves, estan ocupando menos los servicios ferroviarios porque transportan su cargo al o desde el puerto de la Emerenciana aduciendo varias razones como: el flete del barco que cobra lo mismo al sitio nombrado que a Puerto Bolívar, que es el principal de la provincia; la posesion de camiones que les permite, conducir los productos o mercaderias, en qualquier momento que lo desean; la falta de pago de fletes para, de acuerdo con sus conveniencias, recargar posteriormente el precio de las cosas que venden, la exclusion de varios agentes de comercio que, escalonadamente, a lo largo del camino, servian de intermediarios; la supresion de impuestos, y el acortamiento, segun ellos, de las distancias.

En el ramal austral, en la actualidad, es muy poco lo que se transporta, pues los camiones acaparan todo, aun el banano de exportation. Si a ello se agrega la politica seguida por los Agentes de las Compañias, por los productores y por los intermediarios de ganarse el flete para dejar el banano en la Emerenciana o en Puerto Bolívar, el daño que recibe el Ferrocarril por este concepto es mayor. Es tal la desesperacion de hacer dinero que importa poco que el producto no llegue en buenas condiciones y que el prestigio del Pais sufra por ello. Ademas hay que tener presente que como el precio del guineo ha bajado y las Compañias Bananeras actualmente se abstienen de comprarlo.

En el Anexo No. 2, que no es otra sino un cuadro comparativo de entradas se puede apreciar facilmente el movimiento de la Explotacion desde 1945, hasta el año 1948. Se ha tomado 1945 como punto de partido, por haber comenzado en ese año a incrementarse nuevamente la agricultura y el intercambio comercial, en la provincia.

Por todo lo expresado antes, podemos llegar facilmente a la conclusion de que, el estado actual de estos Ferrocarriles, es desastroso y que si no se toman las medidas necesarias, a su debido tiempo, pare detener el avance hacia su desaparicion que lo va haciendo a pasos agigantados, fatalmente sucedera a corto, plazo, pues Comites de Vialidad, Juntas Pro Mejoras, Concejos, etc., hacen los trabajos necesarios, consciente o inconscientemente, para que ello suceda.

OTROS FACTORES DETERMINANTES DE LA POSTRACION DE ESTOS FERROCARRILES.—

Una de las causas poderosas, para el atraso de los Ferrocarriles Orenses, es la competencia a muerte que le hace la carretera; pues los camiones en esta provincia, por ser fronteriza, toman infortunadamente y aproximadamente, con respecto a los ferrocarriles, parecidas direcciones hacia el interior. Ambos ramales ferroviarios y ambas carreteras principales tratan de seguir las principales rutas comerciales, que por no estar lo suficientemente pobladas no rinden mayor cosa.

El ramal Puerto Bolívar — Piedras, por ejemplo, que atraviesan una zona especial de 44 kilometros de longitud y que va desde el kilometro 1 (Puerto Bolívar) hasta el kilometro 44 (cercano a Arenillas), no rinde mayor beneficio con respecto a carga, por cuanto lo que se despacha, en ambas direcciones y de las estaciones de Machala, Santa Rosa y Arenillas es tan poco que, prácticamente, podría considerarse como nulo. Toda la carga es conducida por camiones a Puerto Bolívar o a la Emerenciana que es puerto sobre el río Pital, en el cantón Santa Rosa. Además, a lo largo de la faja de 44 kilómetros hay zonas como la comprendida entre Puerto Bolívar — Machala, Machala — Santa Rosa, que son inhóspitas: y otras como la de Santa Rosa — Bellavista, Bellavista — El Jobo que son deshabitadas y comprenden sólo potreros. A lo largo de toda la faja de 44 kilómetros, hay varias ciénagas formadas por acumulación de las aguas de desagüe de otras secciones.

La longitud de ambas vías, demasiado cortas, y los caminos paralelos, en la mayor parte de sus recorridos, que

aunque no buenos, permiten el rodar de los camiones, en cualquier tiempo, sin que les importe a los conductores su destrucción a corto plazo, agravan más el agudo problema de competencia de la carretera con estos pobres Ferrocarriles.

En esta parte, séame permitido expresar que, la carretera, en el afán de quitarle al Ferrocarril la carga y ante la ambición desmedida de hacer dinero por todos los medios, los dueños y conductores de camiones llegan a disputarse entre ellos mismos la primacía y cobran en la época de verano hasta S/. 2,50 por transporte de 1 qq., no sólo desde Piñas a la Emerenciana, si aún más hasta Puerto Bolívar. En la temporada invernal los camiones cobran S/. 6,00 por quintal de carga desde Piñas hasta Piedras solamente.

Además, con el servicio de "puerta a puerta", o sea desde la casa o almacén del remitente hasta la del consignatario, sin recargo alguno para la carga, perjudican al ferrocarril que se ve obligado, a recibirla o a entregarla en las bodegas de su pertenencia.

El barco constituye en la actualidad, para el Ramal Austral y en la sección comprendida entre Puerto Bolívar y Santa Rosa, el enemigo No. 1, por cuanto cobra de Guayaquil, el primer punto nombrado, lo mismo que al segundo, tanto en lo que respecta a pasajes como en lo que se refiere a fletes: Mientras el pasaje Guayaquil — Santa Rosa vía Puerto Bolívar paga S/. 24,30, el que se paga por el viaje directo es de sólo S/. 20,00.

El quintal de carga de Guayaquil a Santa Rosa, vía Puerto Bolívar pc, 12 flete ferroviario (término medio). En cambio en el transporte directo de Guayaquil a Santa Rosa, el quintal de carga paga solamente S/. 1,20.

Para abundar en razonamientos sobre el peligro que significa el bar-co para el desarrollo del Ferrocarril, en la sección Puerto Bolívar — Santa Rosa, debo expresar que al transporte marítimo se le quiere reconocer una especie de derecho o de conquista, en lugar de supervivencia, por haber sido los primeros en establecer servicio de pasajeros y carga y además por ser los armadores de todos los vapores que hay en la actualidad del cantón Santa Rosa. En otras palabras, los vapores han establecido una especie de monopolio en la sección nombrada antes. El establecimiento, por parte de los servicios marítimos y por carretera, de tarifas conforme a su libérrima voluntad, sin regulaciones, ni restricciones de clase alguna, están causando un grave daño al ramal Austral.

Aunque no se puede dejar de reconocer que, el factor principal para la obtención del tráfico, es el tipo de tarifa que se aplique, no es menos cierto que hay incompreensión, de parte de los servicios viales y marítimos, con respecto a estos Ferrocarriles, en lo que se refiere a tarifas; pues, "al aplicar en forma arbitraria ellas, indudablemente el comercio, industria y agricultura confieren sus transportes a las Empresas que coticen el tipo más reducido al objeto de obtener la mayor economía".

El público tiene, para los Ferrocarriles orenses, una antipatía marcada, por haberse convertido éstos en Agentes recaudadores de impuestos, cosa que no sucede con la carretera. Además, estos Ferrocarriles, son mal vistos por Autoridades e Instituciones que encuentran un obstáculo, en sus dirigentes, para poder utilizarlos en la medida de sus deseos, cosa a la cual han estado acostumbrados antes. Fastidia a las personas extrañas al Ferrocarril leyes y reglamentos, advertencias y órdenes, Itinerario y Tarifas que no están de acuerdo con sus intereses. Es muy común que personas que han recibido el beneficio de un pase, por ejemplo, para trasladarse de un lugar a otro se quejen de incomodidades y aún más hagan crítica paco sana hasta sobre pequeños detalles.

Parece que para la construcción del Ferrocarril Puerto Bolívar — Piedras no se tomaron en cuenta consideraciones fundamentales como: los Intereses nacionales, las consideraciones de orden Militar, el desarrollo futuro del mismo, las zonas de Influencia, etc. Si bien es cierto que el Ferrocarril a Piedras fué construido con un sentido de economía, creo que habría sido mejor trazarlo por la zona de producción que es aquella por donde actualmente pasa la carretera. Convengamos también que, cuando se construyó este Ferrocarril, era muy difícil prever su desarrollo posterior, por cuanto la visión del futuro nunca es precisa ni definida.

Antes de entrar a estudiar las posibilidades de mantenimiento de estos Ferrocarriles es necesario hacer algunas consideraciones previas, como las siguientes:

1a. Que como los Ferrocarriles tienen una gran importancia en la industria del transporte por lo mismo que están ligados a otras básicas, como la agricultura y ganadería, toca al Estado fundamentalmente velar por su mantenimiento y supervivencia, si es que hay factores que obstan al desenvolvimiento propio.

2a. Que a pesar de la oposición soterrada y casi general, auspiciada por determinados elementos, para que los Fer-

rocarreiles orenses persistan, no se puede negar que continuarán siendo, hasta que hayan carreteras verdaderamente estables, la piedra fundamental sobre la cual descansan, por muchos años, el comercio y la industria que, aunque incipientes todavía, son ya factores importantes en el desarrollo económico de esta provincia.

3a. Entiendo que el Estado no puede permitir que se pierdas por dilapidación, o por falta de mejoramiento, el principal sistema de comunicaciones, sobre el cual descansa la economía de la provincia.

4a. No creo que los Poderes Públicos cierren los ojos ante la cruda realidad del desfinanciamiento de los Ferrocarriles Orenses, que son importantes tanto comercialmente, para los transportes en masa de lo que entra y sale de la provincia; como estratégicamente, en determinadas circunstancias, para los movimientos vitales de tropas.

5a. Ningún plan, sobre posibilidades de mantenimiento propio, so podrá poner en práctica en estos Ferrocarriles, si se continúa permitiendo una competencia, incontrolada y desleal, de la carretera que escoje el tráfico donde le conviene, para cotizar menor tarifa que la ferroviaria. El Ferrocarril no puede cobrar lo que el tráfico puede soportar, porque justamente la carretera se preocupa de buscar las secciones servidas por él, en las cuales podría cobrar suficientemente el transporte de mercaderías de alto valor, y le deja las de costo menor, o sea aquellas para las cuales se han establecido tarifas más bajas. La política seguida por la carretera llega más lejos aún, pues, apenas se da cuenta que las mercaderías tienen mercados más amplios y el Ferrocarril trata de sacar beneficio cobrando un flete más elevado, llega ella con el dueño del camión y ofrece el transporte por las dos terceras Darla, o por la mitad del valor.

6a. La competencia perjudicial que hace la carretera a los ferrocarriles, ataca a la economía de los mismos dueños de camiones, a la de la Provincia y finalmente a la del PAIS.

POSIBILIDADES DE MANTENIMIENTO PROPIO

Por todo lo expresado, acerca del estado actual de estos Ferrocarriles, se puede concluir que, han llegado casi hasta el límite de vida y que todo lo que se haga en beneficio de ellos, si es que no se alargan sus vías; servirá únicamente para prolongar en unos años más su existencia.

Sin embargo creemos que, si se hacen ciertas economías, se introducen ciertas mejoras, se hacen algunas adquisiciones y se alarga la vía, estos Ferrocarriles podrán, con una bien entendida Ley de Coordinación de Transportes, salir airoso y pagarse su mantenimiento. Pero de una vez debemos manifestar que para ello se necesita de mucho dinero, millones de sucres, que la Empresa, en los momentos actuales, no está en condiciones de gastarlos.

"El primer paso que se debe dar" tendiente a conseguir economía, es el cambio de combustible: o sea dejar la leña que utilizan actualmente las locomotoras para emplear residuo de petróleo y las razones para ello, entre las principales, son las siguientes:

1o. Porque el precio de la leña es muy elevado. La tarea de leña que equivale 1,411 m. cúbicos cuesta S/. 22,00 y ya se ha pagado hasta S/. 24,00.

2o. Porque la leña que sacan actualmente es tan de mala calidad que no permite mantenerse el fuego en el horno y conservar las calorías necesarias para que la locomotora tenga en todo momento su potencia de arrastre.

3o. La leña aunque de mala calidad se encuentra, cada vez, más lejos de las vías y los leñadores, no quieren sacarla por el mismo precio. Muchos cortadores de leña, se niegan en la actualidad a sacarla por S/. 22,00 y piden S/. 25, 00 para hacerlo cuando se desocupen de sus siembras o cosechas.

4o. El tiempo que se demora en proveerse de leña, en los lugares donde se encuentra apilada, es entre hora y hora y media.

5o. El robo de la leña.

6o. Los perjuicios que causan a la vía las brasas que dejan las máquinas.

7o. Porque se podría suprimir el Ayudante de Fogonero, debido a lo corto de los recorridos.

8o. No tendría la Empresa que suprimir el servicio de carga por falta de leña.

9o. Porque podrían suprimirse las cuadrillas que viajan en los trenes.

10o. No se demorarían los trenes hasta 30 horas en un viaje redondo de 150 kilómetros.

Un factor de economía será la contratación de gente especializada en cada clase de trabajo, especialmente para el transporte de carga; pues los que hay actualmente no son lo suficiente aptos. Los trenes demoran en las estaciones el doble y el triple de tiempo debido a que los cargadores son personas no habituadas a esa clase de trabajos. Las demoras de trenes son todavía mayores cuando faltan los cargadores de transporte y es preciso recurrir a los de la vía

para hacer el trabajo. Aunque parezca contradictorio, se conseguirla economía suprimiendo los cargadores que viajan en los trenes y reemplazándolos por otros seleccionados y habituados a esa clase de labores, que trabajen en las estaciones con mejor diario que el actual, que es de S/. 8,30.

La presencia de un buen Jefe de Mecánica, en el Departamento de Equipo, que trate a toda costa de dar por tarea cierta clase de trabajos a los obreros, redundaría en positivo beneficio para la Empresa. Tal vez si se pudiera introducir el sistema de dar por contrato a los mismos ferroviarios las reparaciones de locomotoras, vagones, autocariles, etc., daría mejores resultados que los obtenidos actualmente al hacerlos trabajar por diario en cualquier reparación o construcción.

La mejora de los talleres en cuanto se refiere a maquinarias se hace no sólo necesaria, sino indispensable para obtener economía, pues actualmente se pierde un tiempo precioso haciendo muchas cosas a la mano o enviando a talleres de otros Ferrocarriles para que las construyan o las arreglen. Entiendo que por ser uno de los Ferrocarriles más alejados, importante no sólo para la provincia; sino más aún para el País, y por estar su material fijo y rodante expuesto, más que ningún otro, a los aires salinos, necesita tener un taller con toda la maquinaria necesaria, aunque sea de medio uso para desenvolverse.

Economía mal entendida sería aquella que, en el afán de disminuir el costo de operación, tratara de suprimir servicios o personal, sin discrimen alguno. Creo más importante dar al público todos los servicios que necesites luego de un sereno y meditado estudio, con un personal seleccionado y en el número suficiente; pero, con sueldos que permitan a los Individuos vivir, aunque no sea en condiciones excelentes, por lo menos racionalmente, o sea, sin que el espectro del hambre y la miseria, golpee constantemente la puerta.

Para obtener mejores entradas sería conveniente renovar el material rodante que se encuentra demasiado gastado, y si no fuere posible eso, debería darse el dinero necesario para la compra de repuestos, o material para las reparaciones.

La conclusión a la que puede llegarse, después de todo lo que se ha expuesto sobre los Ferrocarriles de El Oro, es la de que ellos están muriéndose, en primer término, por falta de ayuda material y luego por falta de espacio que podríamos llamar vital Los Ferrocarriles orenses para mejorar necesitan salir del molde estrecho al que se los ha condenado, precisan no sólo avanzar al interior de la provincia, sino más aún rebasar esos límites para unirse con otras regiones productoras y comerciales.

Infortunadamente nada quedan de los archivos de estos Ferrocarriles que fueron destruidos por la invasión del año 1941, pues de no haber sucedido así, se habrían obtenido datos muy importantes, sobre los estudios realizados en las cuencas de los ríos Jubones y Amarillo. Y debido a esto es que no me ha sido posible presentar, a su consideración, un plan sobre la conveniencia o inconveniencia de prolongar las vías férreas a Cuenca y a Loja separadamente; o, si era preferible, extender la primera para después hacer el ramal a la segunda, partiendo de cualquier punto de la anterior. Por lo pronto y hasta que se hagan verdaderos estudios sobre las posibilidades de empalmar el Ferrocarril Puerto Bolívar — Pasaje con el Sibambe — Cuenca, creemos que se debería prestar una atención conveniente al ramal Puerto Bolívar — Piedras en el sentido de aumentar su extensión en 8 kilómetros de la actual ruta comercial. Para aclarar la cuestión debo expresar que la estación Piedras se halla situada en un lugar poco apropiado, como es la explanación hecha, en media ladera, que tiene de un lado la colina, y, del otro, el barranco al pié del cual pasa el río. Además, el caserío de Piedras tiene muy contadas casas particulares, las construcciones de la Compañía Minera, la casita de la Estación, una bodega del Ferrocarril y otra del Estanco.

Actualmente el caserío de Piedras se halla conectado con la Vía Rodil por medio de una carretera que ha utilizado en su mayor parte los terraplenes del Ferrocarril. En años anteriores la Estación Piedras, tenía su importancia porque era punto obligado de llegada de los camiones que llevaban y traían pasajeros y carga de Piñas, Zarama, Pórtovelo, Loja, etc. Hoy se encuentra poco menos que abandonado el caserío nombrado antes, con motivo del arreglo de la "Manga de Torata", que es una sección de la Vía Rodil, por donde transitan los vehículos que van al puerto de la Emerenciana o al denominado, Puerto Bolívar.

La situación en que ha quedado el caserío de Piedras ha redundado en perjuicio para el Ferrocarril, pues sus entradas han disminuido notablemente y para mejorarlas estimamos que si la ruta comercial no viene al Ferrocarril, le toca a éste salir al encuentro de la carretera para disputarle los pasajeros y la carga. Para ello necesitase prolongar

la vía hasta el sitio denominado "Saracay", que está en la carretera a Loja, a 8 kilómetros de distancia.

El costo de la prolongación del Ramal Austral, no sería muy elevado, puesto que existen los terraplenes, en ciertos sitios. Estimamos que con S/. 2.500.000,00 se puede solucionar el problema aunque se construyan pequeños puentes como los de las quebradas Granada, Flores, Palma y Saracay, se haga una pequeña rectificación del trazado en el sitio Saracay y la construcción de edificios, bodegas, etc.

El caserío de Saracay se encuentra a las orillas del río Amarillo, y en una plataforma más amplia que la del caserío de Piedras. Tiene la ventaja este lugar de ser casi la bifurcación de la carretera principal que se dirigió por la "Manga de Torete" a Puerto Bolívar y la carretera que va hasta Piedras, que en la actualidad es secundaria. En caso de hacerse la terminal en el sitio Saracay, el caserío adquiriría importancia y se convertiría en una especie de punto obligado de la carretera parahacer un alto y descansar, circunstancia que aprovecharía el Ferrocarril para brindar al pasajero, que baja de la siena, estropeado y con una fuerte tensión nerviosa, la comodidad de un autocarril y los beneficios de un tren para conducir su carga.

Y como la prolongación de las vías férreas Puerto Bolívar — Pasaje y Puerto Bolívar — Piedras, hasta Cuenca y Loja respectivamente, es cuestión de unos S/. 200.000.000 que para invertirlos se necesita de un plan elaborado luego de un profundo estudio sobre las ventajas de la Inversión, creemos que se debe disputar a la carretera la preferencia por parte del público, luchando con su propia arma que es la movilidad y el servicio "puerta a puerta".

En estos Ferrocarriles, se puede, todavía, luchar hasta con ventaja contra la carretera si, en vista del impedimento material de extender la enrielladura hasta Guayaquil, se compra un barco. El alargamiento de las vías férreas sería de 72 millas náuticas que nos permitiría formular una sola tarifa, en la que estuvieren comprendidas fletes, de vapor, de ferrocarril, de camión, de embarque, etc., para carga desde Guayaquil a cualquier punto principal de la provincia de El Oro y Loja, donde se extendiera la vía férrea por medio de camiones.

Estamos firmemente convencidos que, al formular una tarifa en que, la suma de todos los servicios de fletes, embarques y desembarques, sea menor a la que actualmente pegan los comerciantes, por el transporte de su mercadería, desde Guayaquil al lugar del destino, serán los Ferrocarriles de El Oro los preferidos porque, además, pueden brindar seguridad y seriedad que no hay en la carretera. Si a lo anterior se agrega la indemnización en caso de pérdida, daños y mermas, estamos seguros que el público en general no nos abandonará, ya que los servicios que ofreceríamos serían baratos y eliminarían una serie de intermediarios que en la actualidad sirve únicamente para gravar más el valor de la mercancía.

Para la ampliación de los servicios que dejamos esbozados en sus lineamientos generales se necesitarían por lo menos S/. 2'500.000,00 ya que supondría la compra de un barco, 6 camiones de 7 toneladas, dos buses, instalaciones de bodegas y oficinas en Guayaquil, etc.

Con el objeto de buscar la forma que catos Ferrocarriles se mantengan por si solos, debemos expresar que para darle mayor vida y movimiento al Ramal Puerto Bolívar — Pasaje, cuyo trazado sigue una buena ruta, se debería pensar en tender nuevamente la enrielladura hasta la Iberia que está distante, en línea recta 4,5 km de la estación de bandera Domada el Cambio de El Guabo, y 5,5 km. por la carretera actual que antes fué de la vía férrea. El costo aproximado de esta obra sería el de S/. 500000,00 que rendiría inmediato beneficio al Ferrocarril.

Es importante la continuación del ramal a la Iberia, porque permitiría entrar a una zona productiva, de cacao, café, naranjas, etc. y banano para la exportación. Además, como todos los productos de la zona de El Guabo salen a la Iberia atravesando el río Jubones, se tendría también la posibilidad de sacarlos más rápidamente y en mejores condiciones de lo que pueden hacerlo en la actualidad los camiones.

Hemos pensado que también podría construirse un ramal, desde la estación de bandera llamada la Peaña (Ferrocarril Puerto Bolívar — Pasaje) hasta la población de Buenavista que es otra zona muy rica. La distancia, en línea recta de la Peaña a Buenavista, es de 8,5 kilómetros.

Séame permitido sugerir también la posibilidad de conectar la fe-rrovia Puerto Bolívar — Pasaje con el Ferrocarril del Sur, dando la vuelta por tendales.

Como cosas finales que sirvan para abonar nuestra tesis, en lo que se refiere a las mejoras, que se deben introducir, para procurar un propio mantenimiento de estos Ferrocarriles, séanos permitido expresar que todos los transportes de origen deben llegar a cualquier lugar de destino, al mismo precio que ofrece otro sector, utilizando para ello la

forma, sistema o vía conveniente. "Es conocido que el tráfico afluye donde se ofrezca transporte a menor precio, aunque exista lentitud e infrecuencia. Todo el tráfico será absorbido por el sector marítimo o la carretera, si se continúan accediendo a permitir las diferencias de tarifas".

No debemos pasar por alto que la velocidad "que hoy alcanzan los vehículos a motor que se desplazan por carretera y su gran movilidad (Ir a cualquier sitio) han creado un grave problema económico para el país, que es necesario tomarlo en cuenta seriamente para acometerlo con una visión vital y completa de los intereses nacionales. Se hace preciso, de aquí en adelante, coordinar debidamente no sólo las dos formas de comunicación por tierra, sino también las de aire y agua para obtener economía en el transporte, en beneficio de la nación, máxime que no son Incompatibles y que deben ser complementarios" para una buena defensa MILITAR.

No se debe permitir que estos Ferrocarriles sean abandonados a su suerte porque trabajan a pérdida. Una acción de esta clase podría calificársela como lesiva a los intereses de la Patria, La Indiferencia simplemente para los ferrocarriles fronterizos, debería considerarse como obra de anti-ecuatorianidad y más aún, en el caso de que sean considerados como necesarios dentro de un plan de defensa nacional. Entendemos que únicamente se justificarla el abandono total o parcial de un Ferrocarril que trabaja a pérdida cuando, la zona donde operan, esté servida y su prestación asegurada por otros medios de transporte que no los hay organizados en esta provincia.

Si no es posible poner en práctica todo lo enunciado como mejoras que se deben introducir para que estos Ferrocarriles se puedan mantener por sí mismo, por lo menos debería pensarse como cosas inmediatas: la mejora del material rodante de ambas vías, adquisición de un barco, de algunos autocarriles, la compra de repuestos y material para reparaciones, la mejora en parte de su material fijo y el aumento de los sueldos, para que el personal pueda seleccionarse automáticamente.

Las cosas mediatas serían: construcción del ramal a la Iberia, la prolongación de la ferrovia Puerto Bolívar — Piedras hasta Saracay, la compra de camiones y autobuses y la construcción del ramal a Buenavista.

Para terminar séanos permitido expresar que ésta es la época en que hay que tratar de ampliar el Campo de Tráfico de los Ferrocarriles de El Oro, por cuanto las perspectivas que se presentan son halagadoras con el incremento de la agricultura. Si se duda y se deja para después de algunos años el trabajo de rehabilitación, creemos que, posteriormente, no se podrá hacer nada en su beneficio, debido a que, los demás medios de transporte, habrán mejorado notablemente, obtenido sus conexiones, ganado la confianza del público y adquirido otras ventajas contra las cuales tendría que luchar el Ferrocarril lentamente y en inferioridad de condiciones.

Espero que las anotaciones hechas sirvan como un pequeño aporte para la resolución de los agudos problemas que confrontan no sólo estos Ferrocarriles, sino también los del PAIS.

ITEM No. 61

THE RAILWAYS OF EL ORO,

ITS DEVELOPMENT AND POSSIBILITIES OF OWN MAINTENANCE.

AUTHOR: MR. ENG. LUIS F. CEVALLOS.

By virtue of the honorable appointment made in my person to study topic No. 61, regarding the problems of the small railways and the study of their own maintenance possibilities, I allow myself to present to the Organizing Commission of the First Congress Nacional de Ferrocarriles this little work, in which I try to carry out a study adjusted to reality and measuring the few facilities to obtain the necessary statistical data, either because of the impossibility of moving to various places, or because of the scarcity of them. The almost anarchy that still exists in the province, probably as a result of the collapse of 1941, and mainly the lack of archives of these railways, destroyed in the invasion, are also causes that have prevented me from doing, despite my good wishes, a job more complete.

According to the theme, this work consists of two parts: the first one that is focused on presenting the current reality of these Railways; and the second, the improvements that I think are necessary to introduce them and that tend to look for the possibilities for their own maintenance.

Before exposing the current state of these railways, allow me to make a little history about them to show how, despite the vehement wishes of a generation that did honor, not only to its province, but even more, to his homeland, to successfully complete the construction of the Puerto Bolívar - Cuenca and Puerto Bolívar - Loja railways, could not see his efforts crowned due to multiple causes, especially official indifference.

ORIGIN AND DEVELOPMENT OF THE EL ORO RAILWAYS,–

To make the relationship, on the origin and development of the railways, in the province of El Oro, it is necessary to have an idea of what the people of Ourense were like at the end of the last century and the beginning of this one, when since 1878, when Dr. Teodoro Wolf contracted the construction of the Puerto Bolívar-Cuenca Railway, following the direction of the Jubones River, there was a project to unite the coast with the Ecuadorian Austro: The Orenses, geographically distant from the heart of the nation and from more advanced cities, tried to put its province on a par with the others and nothing better for civilization and progress to penetrate than to unite its main port called Puerto Bolívar with the city of Cuenca, which was already a centre of culture and commercial activity.

By virtue of this desire to improve and in defense of the general interests of this province, some journalists and intellectual elements of the presidency fought violently, at this time, so that the Public Powers pay due attention to this part of the Homeland. In the face of insistent claims and efforts of all kinds for the qualification as a port of a site on the coast near Machala, which had all the characteristics to be so, and which was later called Bolívar, in 1866, the National Congress obtained the issuance of a Decree that taxed each quintal of cocoa at twenty cents. With the money collected and as a previous step for the qualification of Bolívar as a port, the Customs, Resguardo and Capitanía buildings were built. The aforementioned Decree was extended by the Legislature of 1889 and 1890, in order to fulfill the conditions for which it was issued:

"In 1887, General José Antonio Medina, a native of Central America, made a contract for the construction of the Puerto Bolívar-Cuenca Railway, but his attempt failed due to the lack of economic cooperation from the Government." In 1892, by Legislative Decree of August 13, the 'Municipality of Machala was empowered so that, in agreement with the Governor of the Province and two owners chosen by it, proceed with the construction of the first section of the Puerto Bolívar - Cuenca Railway, that is, the one that goes from Puerto Bolívar to the town of Pasaje, passing through the city of Machala.

In the same year of 1892, the Municipality of Machala contracted with the English Engineer Mr. Azael Dune Pipper, the construction of the Railroad, but the works had to be suspended due to lack of funds. In 1894 the works continued under the direction of the French engineer, Mr. Gastón Thoret, helped by the Foreman Mr. A. Troyani. After some interruptions for different reasons, on March 19, 1899, the first locomotive entered Machala and in 1903, the railway arrived in the town of Pasaje, completing the first stage of this great work.

In the year 1896, the just aspirations of these peoples who continued determined to join national life and progress; became a reality, when the port known by the name of Bolívar was declared officially enabled and was solemnly baptized on December 18, 1883.

For the ceremony of the qualification of Puerto Bolívar, which took place on July 24, 1898, the Government of that time, chaired by General Eloy Alfaro, delegated General Juan Francisco Morales. The Legislative Decree of April 13, 1897 therefore had its fulfillment, in the exposed form.

The effort, selflessness and desire for progress of the idiots, gave its fruits again, when, on May 9, 1902, the Puerto Bolívar iron dock was put into public service. This work was contracted by the Municipality of Machala and built by the French citizen Mr. Luis Jourjon under the direction of the engineer of the same nationality Mr. Gastón Thoret. Connected Puerto Bolívar with Machala and Pasaje and having the port facilities for the entry and exit of products, trade and agriculture increased little by little, until the last two towns named flourishing and important centers of progress and activity.

In 1903, on October 10, by Legislative Decree, the Railway Board, which had been formed, was empowered to build two railway branches to the towns of Guabo and Buenavista. In 1908 the branch to Guabo began to be built according to the plan of the engineer Goiret and was completed in June 1908. Unfortunately this branch did not yield benefits for a long time, since a deviation from the course of the Jubones river destroyed in largely and completely the railway, isolating the parish of El Guabo, from Machala and Puerto Bolívar, and thus making the transit of trains impossible. The branch to the town of Buenavista could not be built due to lack of money and was relegated little by little until the conflict with Peru in 1910 put an end to the idea and no further thought was given to it.

The Railway remained under the Municipal administration until September 1918, when by Legislative Decree it passed to the Public Works Board composed of the Governor of the Province, who was chaired by two delegates from

each of the Municipalities of Machala and Pasaje.

Despite the good wishes and the patriotic fervor that animated the generation of that time, the purposes of the Legislative Decree of October 1919, which ordered the construction of the Puerto Bolívar Railway to the cities of Cuenca and Loja, following the direction of the Jubones, they were diverted to another side and as in the case of the construction of the branch to Buenavista, the possibility of advancing with this great work of encouragement was getting further and further away, until it was completely abandoned. The Province of Loja and the towns of the Province of El Oro, such as: Piñas and Zaruma, no longer even think about continuing the construction of the railway and rather ask, through Municipal Assemblies, that the rails be raised. for, taking advantage of the embankments of the Puerto Bolívar — Piedras Railway, to advance with the road to Arenillas and, from this population, to a place on the coast called Puerto Pitahaya, close to the border line that, according to the Protocol of Rio de Janeiro, passes through the middle of the Hualtaco estuary and where the Ecuadorian port called Hualtaco is located, on one side; and on the other, the Peruvian port, called Grau.

The powerful American Company called South American Development Co., which began, in 1894, more or less, the exploitation of the Portovelo Gold Mines, which were previously in the hands of an English Company, began in May 1924 the works for the construction of the Austral Branch Railway. The suggestions made to the Government by the Cited Company, in order to avoid the obligation they had to build a broad gauge highway from Zaruma to Santa Rosa, were what determined the deviation from the purposes of the Legislative Law of 1919.

The Railway, of the Austral Branch, advanced only to Piedras after four years of signing the contract with Mr. Engineer Manuel Adrián Navarro who worked in the company of Engineers Brown and Fry.

The Public Works Board managed the Eastern Branch Railway, that is, Puerto Bolívar — Pasaje until 1926, when the Provisional Government born of the Julian Revolution ordered its seizure. "To the protests of the Municipality of Machala, the Minister of Government replied that, by virtue of the general provisions of the State Budget, the private Railways had passed to the control of the State, without ignoring the Property Rights that the Orense Municipality could have".

The Orenses Railways: Puerto Bolívar — Pasaje and Puerto Bolívar — Piedras were under the direct dependency of the Ministry of Public Works from 1926 to 1944, when the Administrative Council of Ecuadorian Railways and Transportation was created by Supreme Decree. As a curious fact, it should be noted that the Puerto Bolívar — Pasaje railway branch was built for a 75 cm narrow gauge, but in 1914, the Government of General Eloy Alfaro, for military purposes, as alleged, ordered the delivery of the Ferrocarril to the Empresa del Ferrocarril del Sur and it was Mr. Archer Herman, who ordered the widening of the track to 42 inches, in order to be able to use, at the given moment, the rolling stock of the main railway in the country. The transfer of two locomotives and a few wagons was also arranged for the service of the Puerto Bolívar — Pasaje branch.

After the conflict ended and as Mr. Harman improperly retained the Orense railway, the necessary steps were taken to return it to its legitimate owners, as in fact it was done in 1911, due to the Agreement dictated by Congress in October 1910.

CURRENT STATE OF THE RAILWAYS

From the foregoing, it can be easily noted that these railways have had to endure a real *vla-crucis* Administered, at various times, by different agencies, they have remained parked for a long time and since a few years ago, they have been deteriorating step by step gigantic due to the destructive action of the constant service, the climate, the lack of appropriate spare parts and material for the relief of their fixed and mobile equipment. — The wear of all its elements has reached such an extent that it can be seen with the naked eye, just by visiting the courtyard of the Machala station. In the aforementioned patio, most of the existing material is worthy of appearing in an antiquities museum, or better still, in an old iron cemetery. Much old-fashioned and out-of-use material of these railways has had to be used again, due to the lack of new and appropriate ones, and it has also been necessary to request, from other railways, what they no longer use so that, arranged and adapted, it can Being Employed. Not infrequently, it has been essential to unearth pieces that, years ago, were thrown away as useless and in places filled later, to put them, again, in use, due to the physical impossibility of obtaining new ones, both inside and outside the country. There are also some occasions in which, from the flooded lands, near the workshops of the Ferrocarril del Sur, which are in the town of Eloy Alfaro,

material abandoned as unusable has been removed, to give it some application in the Ferrocarriles de El Oro.

It should be said at present that the fixed and rolling stock of these Railways is formed, for the most part, by the waste of other Railways such as: Manta — Santa Ana, Guayaquil — Salinas and del Sur.

The El Oro Railways: Puerto Bolívar — Cuenca and Puerto Bolívar — Laja, did not reach the true terminals, since the former only advanced to the town of El Pasaje, which is 25 kilometers from the seashore; and, the second, to a place in the middle of the mountain, called Piedras, which is 75 kilometers from Puerto Bolívar. In other words, the Orense Railways, which had to be built to be considered as main, since they were called to establish communication between centers of economic, political and intellectual life, were initially completely dismantled, without the necessary means for their development. and mainly, with a complicated problem: its length, which since it cannot be increased, will determine their disappearance in the not too distant future.

Due to the nature of the land, the Puerto Bolívar — Pasaje Railway can be considered as built on the plan. The Puerto Bolívar — Piedras Railway can be considered as built on the plane up to kilometer 36, since, from then on, it crosses a slightly uneven terrain with small cracks in its greater part and with short ramps no greater than 4%.

Both railways are of mixed traffic in excessively short distances; one way; of 1,067 m. or 42 inches (callus width) of gauge, for the Puerto Bolívar — Pasaje branch; and, 0.75 m. o 29-1/2 inches of interior width, for the Puerto Bolívar — Piedras branch.

Ourense railways use steam locomotives that work with firewood; and, due to the transmission of the driving force, they belong to those of adhesion that move on rails.

STATE OF THE ROAD

INFRASTRUCTURE.—The terrible constitution of the soil, in the plain near the sea, caused many difficulties for the construction of the railways in this province. It was necessary to patiently fill in such a swampy land full of mangroves up to a height that the platform would not be covered by the great tides at certain times of the year. In other places on the plain, although not exposed to the tides, because they are a little far from the seashore, but subject to flooding, in the winter season, due to the shallows, it was also necessary that the platform be raised on the land around it. But to obtain the necessary leveling, in the case of land near the sea, the shell was used to consolidate the soil; however, in the other case, the same land was used. The rest of the embankments of both railways were built with the material they had at hand; hence the roads present various aspects throughout their length.

All the culverts, which are numerous, mainly in the Puerto Bolívar — Piedras branch, need serious repairs, as some have cracks and others are in danger of being completely destroyed. It is necessary to build culverts for drainage; earth support walls; spurs to contain, divert and distribute the waters of the rivers in some areas, such as Santa Rosa, Arenillas and Tahuin; also bridges, in some places.

It is necessary to repair some wing walls and build others, especially those of certain bridges in the area between Tahuin and Campamento de Playas, because the cracks they present no longer allow repairs.

All steel bridges need to be scraped and painted, especially the larger ones such as Guarurnal, Santa Rosa, Arenillas and Piedras. Most of the wooden bridges are in poor condition and although they are being worked on, due to the little money available, they can hardly be repaired and only slightly in their vital parts, avoiding imminent dangers.

Based on the foregoing, it is easy to see that the infrastructure in certain areas of the Puerto Bolívar — Piedras branch and most of the Puerto Bolívar — Pasaje branch needs to be improved.

SUPERSTRUCTURE.--

On the base or raised platform, in the manner indicated above, the superstructure was built, using small boulders or sand as ballast, depending on the sites and the presence of the aforementioned materials in them.

In these Railways of great importance, in certain aspects, the superstructure hardly meets the safety conditions chosen for normal traffic, because, when it was built, it was made with inappropriate materials due to the lack of them in the areas where The road passed, and, in the eagerness, surely patriotic, to advance as quickly as possible, they did not look for the gravel, or the crushed stone that are appropriate for them. Therefore, for the construction of embankments and superstructures, the most economical materials were used, leaving for the future the terrible serge of the consolidation of the road, that is, for a time when its cost would be very high and almost beyond the economic possibilities of the railways.

Indeed, the current operating cost of these Railways is so high that not even the State subsidy added to operating income is enough to cover it. This does not mean that the poor condition of these Railways is due solely to the poor condition of the superstructure, which was built hastily and with lack of foresight; Well, there are other very important problems, such as, for example, the short length of its lines, not having reached the Cuenca and Laja terminals, and competition from highways. But we must agree that a good percentage of the income of these Railways would leave in the supposed case that it was a matter of moderately fixing the superstructure.

If we add to the above, especially for the Puerto Bolívar- Piedras branch, the rectification of curves and of the road itself, in certain areas, which has been, in general, built with a misunderstood sense of economy, if one takes into account Considering that it crosses regions with little or no performance, it is easy to deduce that the problem will worsen, since these works would force the operating cost to rise.

There is such a delay in the renewal of rails and sleepers that without fear of being mistaken it can be affirmed that there are areas in which the same ones that were placed when these railways were built are located.

Relatively light traffic for most of the year has allowed rails and sleepers to endure.

Regarding bolts, nuts, nails, cotter pins, etc., I can affirm that in these Railways we do not have them in reserve and those that are on the track are in such old-fashioned conditions that only in extreme cases are they removed with the utmost care. so that they are no longer damaged, and to be able to use them again, something that is not always achieved.

The rails are only removed when the flange and the core are in poor condition and pose a danger to train traffic. On other occasions, the section of rail that is badly damaged is cut and the rest is used. The amount of rails that we have in reserve is too small for the length of the two tracks, since it is barely enough to renew a few kilometers. The condition of the reserve rails sent to us from the Manta — Santa Ana is better than those in service, and they are 36 pounds per yard.

For the Eastern branch, that is, the Railway that goes from Puerto Bolívar to Pasaje, there are no spare rails, since those that are in service are 55 and 40 pounds per yard, and, when it is essential to renew one or more of them we are forced to employ those of 35 pounds per yard.

ROAD MAINTENANCE.--

The normal maintenance of the road is delayed by many years due to the meager constant allocations in the budgets. And although the current state of the road is terrible, it is not possible to even attempt any improvement work, since the scarce economic possibilities hardly allow it to be maintained, with what is strictly necessary, to avoid immediate dangers.

Despite the efforts made by the track crews of these Railways to keep the superstructure in a relatively safe condition, there is a lack of line nails, cotter pins, bolts, rails, sleepers, etc. These Railways lack even implements for track work and what little there is, such as shovels, picks, wheelbarrows, cars, jacks, line trucks, etc., have been in terrible condition for a long time.

On both tracks, there are rails of 55, 40 and 36 liveries per yard and currently for renovation we only have the last ones in small quantities that cannot be used either because they lack the necessary accessories. As I said before, it is not always possible to use the same materials that are removed from the road because they are in such poor condition that after a few hits they are not only damaged but also disintegrate. You can't tighten the cotter pins because they break and when they do the rail joints are only secured by two or three of them. Almost entirely, both tracks have only two or three bolts at the rail joints, either because some have broken or simply because the pins have been removed to secure the cotter pins in other places. This means a serious setback for these Railways, since it constitutes a serious danger for the normal traffic of trains.

The overturning of the month of February of this year was mainly a consequence of the poor condition of the road and if there have not been a greater number of accidents, it is due to constant care and to the fact that a compact whole has been formed, sleepers, rails and ballast.

In these Railways there is absolutely no spare parts material for changes and those that are in service are in poor condition.

One of the most important works, such as the ballast of the track, has also been deferred for many years, due to the

lack of good ballast and also because the one that exists (small boulders, sand), is very distant and there have been no vehicles for its transport. At present, in order to ballast certain areas, it has been necessary to sacrifice cargo transport to carry a platform or two of ballast, thus damaging income.

The annexed and fixed constructions have had to be suspended due to scarce economic possibilities and those that are in poor condition have not been able to be repaired for the same reasons. Four camps are about to be built and practically another. The stations of Puerto Bolívar, Machada and Pasaje need serious repairs, if they do not want to make new ones.

Surely patriotism and necessity are the factors that stop road workers in their jobs, since the camps that exist and the houses that are rented for that purpose do not even provide relative comfort. It is striking how the road workers, who live in camps far from the towns and who are in charge of the difficult task of traffic safety, can withstand the most unfavorable weather conditions and unhealthy conditions in the region.

ROLLING MATERIAL.-

As the El Oro Railways comprise two different length and width tracks, there are also two kinds of rolling stock for freight and passenger transport. In Annex No. 1 you can see the number and condition of all the vehicles available to these railways in each of the branches.

The small number of units, the lack of economic possibilities and the lack of reserves in our warehouses in terms of spare parts and appropriate material for repairs, has made this Railway very weak in all aspects. There is not a single day of the year, in which it is not necessary to repair the same locomotives, coaches, wagons, etc., after a trip. And it is necessary to demand and pay extra hours of work so that the rolling stock that is available is ready for the next day. Many times there is not enough time to carry out efficient and lasting repairs. It is necessary to do the work halfway and soon in order not to interrupt the cargo and passenger service. The parts of machines, motors, wagons, etc., wear out quickly due to continuous work and on several occasions, due to lack of adequate lubrication, sometimes due to negligence of those in charge of keeping them in good working order, and in others, to the depletion of reserves in our warehouses that could not be renewed, at the right time, due to lack of money, late shipments, etc. The poor condition of the road and improper handling of vehicles also cause many difficulties.

The lack of qualified personnel and lack of responsibility are also decisive factors in the process of destroying rolling stock.

The time of service, the action of the weather, the lack of adequate attention have put the majority of the rolling stock of these Railways in terrible condition.

WORKSHOPS.—

The workshops are located in the Machala Station and are inappropriate for the work being carried out; we can almost say that they lack the most essential The machinery that it has, even the engine that puts it into action is worn out and has not been renewed. After the Peruvian invasion, that is, in 1942, in view of the damage caused in the Mechanics Workshop, it was arranged to transfer some machinery, quite used, from other Railways to these, so that more urgent repairs can be made.

Despite the help provided by other railways, we can say that the workshops still lack some essential things. Everything has to be adapted and time wasted for this concept is too frequent, with serious damage to the Company.

TRANSPORTATION—PASSENGER AND CARGO.—

The movement of passengers and cargo, on the Puerto Bolivar —Piedras branch, has been and will continue to be greater on the way to the last terminal; while in the Ferrocarril Puerto Bolívar — Pasaje, more is transported, in both categories, on the way to the first station. On the Amarillo Railway, the name by which the Austral Branch is also known, that is, the one that goes from Puerto Bolívar to Piedras, the greatest movement of cargo towards the last station is due to imports carried out by the Portovelo Mining Company. and the trade of Loja, Zarina and Piñas.

However, I must express that, at present, our largest client, which is the South American Development Company, is moving cargo, each time, in smaller quantities and in both directions. The reasons for the Mining Company to import and export less, perhaps they are economic, or due to other factors such as the lower freight in road transport to or from Puerto Bolivar and the Emerenciana.

The merchants of Piñas, Zaruma and Loja, as a result of the interruption of the railway, which occurred last winter,

due to the floods and excavations, are occupying less the railway services because they transport their cargo to or from the port. of La Emerenciana adducing several reasons such as: the freight of the ship that charges the same to the named place as to Puerto Bolívar, which is the main one in the province; the possession of trucks that allows them to drive the products or merchandise. at any time they wish; the non-payment of freight to, according to their convenience, later recharge the price of the things they sell, the exclusion of various commercial agents who, gradually, along the way, served as intermediaries; the abolition of taxes, and the shortening, according to them, of distances. In the southern branch, at present, very little is transported, because the trucks hoard everything, even bananas for export. If to this is added the policy followed by the Agents of the Companies, by the producers and by the intermediaries of earning the freight to leave the bananas in the Emerenciana or in Puerto Bolívar, the damage that the Railroad receives for this concept is greater. The despair of making money is such that it matters little that the product does not arrive in good condition and that the prestige of the country suffers for it. In addition, we must bear in mind that as the price of bananas has fallen and the Banana Companies are currently refraining from buying it.

In Annex No. 2, which is nothing more than a comparative table of entries, one can easily see the movement of the Exploitation from 1945 to 1948. 1945 has been taken as the starting point, for having begun in that year to increase agriculture and trade again in the province.

For all that has been said before, we can easily come to the conclusion that the current state of these railways is disastrous and that if the necessary measures are not taken, in due time, to stop the progress towards their disappearance, which it is doing by leaps and bounds, it will inevitably happen in the short term, because Road Committees, Pro-Improvement Boards, Councils, etc., do the necessary work, consciously or unconsciously, to make it happen.

OTHER DETERMINING FACTORS OF THE PROSTRATION OF THESE RAILWAYS.—

One of the powerful causes for the backwardness of the Ferrocarriles Orenses is the competition to the death that the highway makes for it; because the trucks in this province, being border, take unfortunately and approximately, with respect to the railways, similar directions towards the interior. Both railway branches and both main roads try to follow the main commercial routes, which, because they are not sufficiently populated, do not yield much.

The Puerto Bolívar — Piedras branch, for example, which crosses a special zone 44 kilometers long and goes from kilometer 1 (Puerto Bolívar) to kilometer 44 (close to Arenillas), does not yield greater benefit with respect to cargo, since what is dispatched, in both directions and from the Machala, Santa Rosa and Arenillas stations is so little that it could practically be considered null. All the cargo is driven by trucks to Puerto Bolívar or to the Emerenciana, which is a port on the Pital River, in the Santa Rosa canton. In addition, along the 44-kilometer strip there are areas such as the one between Puerto Bolívar — Machala, Machala — Santa Rosa, which are inhospitable: and others such as Santa Rosa — Bellavista, Bellavista — El Jobo, which are uninhabited and include only paddocks. Along the entire 44-kilometer strip, there are several swamps formed by the accumulation of drainage water from other sections.

The length of both roads, too short, and the parallel roads, in most of their routes, which, although not good, allow trucks to roll, at any time, without the drivers caring about their destruction in the short term, further aggravate the acute competition problem of the road with these poor Railways.

In this part, allow me to express that, the road, in an effort to take away the load from the Railroad and with the excessive ambition to make money by all means, the owners and drivers of trucks come to dispute among themselves the primacy and charge in the summer season up to S/. 2.50 for transportation of 1 qq., not only from Piñas to La Emerenciana, but even more to Puerto Bolívar. In the winter season the trucks charge S/. 6.00 per quintal of cargo from Piñas to Piedras only.

In addition, with the "door-to-door" service, that is, from the sender's house or warehouse to that of the consignee, without any surcharge for the cargo, they harm the railroad, which is forced to receive it or deliver it to the warehouses of its belonging.

The ship currently constitutes, for the Southern Branch and in the section between Puerto Bolívar and Santa Rosa, enemy No. 1, since it charges from Guayaquil, the first named point, the same as the second, both in what regarding passages as in regard to freight: While the passage Guayaquil - Santa Rosa via Puerto Bolívar pays S / . 24.30, the one paid for the direct trip is only S/. 20.00.

The quintal of cargo from Guayaquil to Santa Rosa, via Puerto Bolívar pc,12 rail freight (medium term). On the other

hand, in the direct transport from Guayaquil to Santa Rosa, the quintal of cargo pays only S/. 1.20.

To abound in reasoning about the danger that the ship means for the development of the Railroad, in the Puerto Bolívar — Santa Rosa section, I must express that maritime transport is to be recognized as a kind of right or conquest, instead of survival, for having been the first to establish passenger and cargo services and also for being the owners of all the steamships that currently exist in the Santa Rosa canton. In other words, the steamers have established a kind of monopoly in the section named above. The establishment, by maritime and road services, of tariffs according to their free will, without regulations or restrictions of any kind, are causing serious damage to the Austral branch.

Although it cannot be ignored that the main factor for obtaining traffic is the type of rate that is applied, it is no less true that there is misunderstanding, on the part of the road and maritime services, with respect to these Railways, in what refers to rates; therefore, "by arbitrarily applying them, undoubtedly commerce, industry and agriculture confer their transportation to the Companies that quote the lowest rate in order to obtain the greatest economy."

The public has, for the Ourense Railways, a marked antipathy, for having become Tax Collecting Agents, something that does not happen with the highway. In addition, these Railways are frowned upon by Authorities and Institutions that find an obstacle, in their leaders, to be able to use them to the extent of their wishes, something to which they have been accustomed before. He annoys people outside the Railway laws and regulations, warnings and orders, Itinerary and Rates that are not in accordance with their interests. It is very common for people who have received the benefit of a pass, for example, to move from one place to another, to complain about inconvenience and even more so to criticize even small details.

It seems that fundamental considerations were not taken into account for the construction of the Puerto Bolívar — Piedras Railway, such as: national interests, military considerations, its future development, areas of influence, etc. Although it is true that the Piedras Railway was built with a sense of economy, I think it would have been better to trace it through the production area, which is the one where the highway currently passes. Let us also agree that, when this railway was built, it was very difficult to foresee its subsequent development, since the vision of the future is never precise or defined.

Before studying the possibilities of maintaining these railways, it is necessary to make some preliminary considerations, such as the following:

- 1a. That as the Railways have great importance in the transport industry for the same reason that they are linked to other basic ones, such as agriculture and livestock, it is up to the State fundamentally to ensure their maintenance and survival, if there are factors that hinder their own development .
- 2a. That despite the underground and almost general opposition, sponsored by certain elements, for the Ourense Railways to persist, it cannot be denied that they will continue to be, until there are truly stable roads, the fundamental stone on which they rest, for many years, trade and industry that, although still incipient, are already important factors in the economic development of this province.
- 3a. I understand that the State cannot allow the main communications system, on which the province's economy rests, to be lost due to dilapidation or lack of improvement.
- 4a. I do not believe that the Public Powers close their eyes to the harsh reality of the lack of financing of the Ferrocarriles Orenses, which are important both commercially, for the mass transport of the that enters and leaves the province; and strategically, in certain circumstances, for vital troop movements.
- 5a. No plan, on the possibilities of own maintenance, can be put into practice in these Railways, if uncontrolled and unfair competition continues to be allowed, of the road that chooses the traffic where it suits it, to quote a lower rate than the railway. The Railroad cannot charge what the traffic can support, because the highway is precisely concerned with finding the sections served by it, in which it could sufficiently charge the transport of high-value merchandise, and leaves it with the lower cost, that is, those for which lower rates have been established. The policy followed by the road goes even further, because as soon as it realizes that the goods have larger markets and the Railroad tries to make a profit by charging a higher freight, it arrives with the owner of the truck and offers transportation for the two-thirds Darla, or for half the value.
- 6a. The detrimental competition that the road makes to the railways attacks the economy of the truck owners themselves, that of the Province and finally that of the COUNTRY.

POSSIBILITIES OF OWN MAINTENANCE

For all that has been said, about the current state of these Railways, it can be concluded that they have almost reached the limit of life and that everything that is done for their benefit, if their tracks are not lengthened; it will only serve to prolong its existence for a few more years.

However, we believe that, if certain economies are made, certain improvements are made, some acquisitions are made and the track is lengthened, these Railways will be able, with a well-understood Transportation Coordination Law, to succeed and pay for their maintenance. But once and for all we must state that a lot of money is needed for this, millions of sucres, that the Company, at present, is not in a position to spend.

"The first step that must be taken" in order to achieve economy is the change of fuel: that is, leaving the firewood currently used by the locomotives to use petroleum residue and the reasons for this, among the main ones, are the following:

- 1st. Because the price of firewood is very high. The firewood task that is equivalent to 1,411 m. cubic costs S/. 22.00 and it has already been paid up to S/. 24.00.
- 2nd. Because the firewood that they currently take out is of such poor quality that it does not allow the fire to be maintained in the oven and conserve the necessary calories so that the locomotive has its pulling power at all times.
- 3rd. The firewood, although of poor quality, is increasingly further from the roads and the loggers do not want to take it out for the same price. Many firewood cutters currently refuse to remove it for S / . 22.00 and ask for S / . 25, 00 to do it when they are free from their crops or crops.
- 4th. The time it takes to provide firewood, in the places where it is stacked, is between an hour and an hour and a half.
- 5th. Theft of firewood.
- 6th. The damage caused to the road by the embers left by the machines.
- 7th. Because the Stoker's Assistant could be eliminated, due to the shortness of the routes.
- 8th. The Company would not have to suppress the loading service due to lack of firewood.
- 9th. Because the gangs that travel on the trains could be eliminated.
- 10th. Trains would not be delayed for up to 30 hours on a round trip of 150 kilometers.

An economy factor will be the hiring of people specialized in each type of work, especially for cargo transportation; because the ones that currently exist are not suitable enough. The trains take twice and three times as long at the stations because the loaders are people who are not used to this kind of work. Train delays are even greater when transport loaders are missing and it is necessary to call on track loaders to do the job. Although it seems contradictory, economy will be achieved by eliminating the porters who travel on the trains and replacing them with others selected and accustomed to this kind of work, who work in the stations with a better daily than the current one, which is S / . 8:30.

The presence of a good Mechanics Chief, in the Equipment Department, who tries at all costs to assign a certain type of work to the workers, would result in a positive benefit for the Company. Perhaps if it were possible to introduce the system of contracting out repairs to locomotives, wagons, coaches, etc., to the same railway workers, it would give better results than those currently obtained by making them work daily on any repair or construction.

The improvement of the workshops as far as machinery is concerned is not only necessary, but indispensable to obtain economy, since precious time is currently lost making many things by hand or sending them to workshops of other Railways to build or fix them. . I understand that because it is one of the furthest railways, it is important not only for the province; but even more so for the Country, and because its fixed and rolling stock is exposed, more than any other, to salty air, it needs to have a workshop with all the necessary machinery, even if it is of medium use to function.

Misunderstood economy would be one that, in an effort to reduce the cost of operation, tries to suppress services or personnel, without any discrimination. I think it is more important to give the public all the services they need after a serene and thoughtful study, with a selected staff and in sufficient numbers; but, with salaries that allow Individuals to live, even if it is not in excellent conditions, at least rationally, or sea, without the specter of hunger and misery constantly knocking on the door.

To obtain better income, it would be convenient to renew the rolling stock that is too worn, and if that is not possible,

the necessary money should be given for the purchase of spare parts, or material for repairs.

The conclusion that can be reached, after everything that has been exposed about the El Oro Railways, is that they are dying, first of all, due to lack of material help and then due to lack of space that we could call vital. In order to improve, the Ferrocarriles Orenses need to get out of the narrow mold to which they have been condemned, they need not only to advance to the interior of the province, but even more, to go beyond those limits to unite with other producing and commercial regions.

Unfortunately, nothing remains of the archives of these railways that were destroyed by the invasion of 1941, because if this had not happened, very important data would have been obtained on the studies carried out in the basins of the Jubones and Amarillo rivers. And because of this, it has not been possible for me to present, for your consideration, a plan on the convenience or inconvenience of extending the railways to Cuenca and Loja separately; or, if it was preferable, extend the first and then make the branch to the second, starting from any point of the previous one.

For the time being and until real studies are made on the possibilities of connecting the Puerto Bolívar — Passage Railroad with the Sibambe — Cuenca, we believe that appropriate attention should be paid to the Puerto Bolívar — Piedras branch in the sense of increasing its length by 8 kilometers from the current trade route. To clarify the matter, I must express that the Piedras station is located in an inappropriate place, such as the leveling done, in the middle of the slope, which has the hill on one side, and, on the other, the ravine at the foot of which the river passes. River. In addition, the Piedras farmhouse has very few private houses, the constructions of the Mining Company, the station house, a railway warehouse and another of the Estanco.

Currently, the Piedras farmhouse is connected to the Vía Rodil by means of a road that has used, for the most part, the embankments of the Railway. In previous years, the Piedras Station had its importance because it was an obligatory point of arrival for the trucks that carried and brought passengers and cargo from Piñas, Zarama, Pórtovelo, Loja, etc. Today the hamlet mentioned above is little less than abandoned, due to the repair of the "Manga de Torata", which is a section of the Vía Rodil, through which the vehicles that go to the Emerenciana port or the so-called Puerto Bolívar. The situation in which the village of Piedras has been left has resulted in damage to the Railway, since its revenues have decreased significantly and to improve them we estimate that if the commercial route does not come to the Railway, it is up to the latter to go out to meet the road to dispute passengers and cargo. To do this, it was necessary to extend the road to a place called "Saracay", which is on the highway to Loja, 8 kilometers away.

The cost of extending the Austral Branch would not be very high, since there are embankments in certain places. We estimate that with S/. 2,500,000.00 the problem can be solved even if small bridges are built such as those of the Granada, Flores, Palma and Saracay streams, a small rectification of the route is made on the Saracay site and the construction of buildings, warehouses, etc.

The Saracay hamlet is located on the banks of the Amarillo River, and on a larger platform than that of the Piedras hamlet. This place has the advantage of being almost the bifurcation of the main road that went through the "Manga de Torete" to Puerto Bolívar and the road that goes to Piedras, which is currently secondary. If the terminal were built on the Saracay site, the farmhouse would acquire importance and would become a kind of obligatory point on the road to stop and rest, a circumstance that the Railway would take advantage of to provide the passenger, who comes down from Siena, damaged and with a strong nervous tension, the comfort of a railcar and the benefits of a train to drive its load.

And as the extension of the Puerto Bolívar — Pasaje and Puerto Bolívar — Piedras railroads, to Cuenca and Loja respectively, it is a matter of about S/. 200,000,000 that, in order to invest them, a plan is needed after an in-depth study on the advantages of the investment, we believe that the preference of the public should be disputed over the highway, fighting with its own weapon, which is mobility and door-to-door service.

On these railways, it is still possible to fight even with an advantage against the highway if, in view of the material impediment to extending the railing to Guayaquil, a ship is purchased. The extension of the railways would be 72 nautical miles, which would allow us to formulate a single rate, which would include freight, steam, railway, truck, shipment, etc, for cargo from Guayaquil to any main point of the province of El Oro and Loja, where the railway was extended by means of trucks.

We are firmly convinced that, by formulating a rate in which the sum of all freight, loading and unloading services is

less than what merchants currently pay for the transportation of their merchandise from Guayaquil to the place of destination, they will be The Ferrocarriles de El Oro are preferred because, in addition, they can provide security and seriousness that are not on the road. If compensation in case of loss, damage and shrinkage is added to the above, we are sure that the general public will not abandon us, since the services we would offer would be cheap and would eliminate a series of intermediaries that currently serve only to tax plus the value of the merchandise.

For the expansion of the services that we have outlined in its general guidelines, at least S/. 2,500,000.00 since it would mean the purchase of a ship, 6 7-ton trucks, two buses, warehouse facilities and offices in Guayaquil, etc. In order to find a way for these railways to maintain themselves, we must express that in order to give more life and movement to the Puerto Bolívar — Pasaje Branch, whose layout follows a good route, we should think about laying the rerailing again to the Iberia which is distant, in a straight line, 4.5 km from the Domada el Cambio de El Guabo flag station, and 5.5 km. by the current road that was previously the railway. The approximate cost of this work would be S/. 500,000.00 that would render an immediate benefit to the Railroad.

The continuation of the branch to the Iberia is important, because it will allow it to enter a productive zone, of cocoa, coffee, oranges, etc. and bananas for export. In addition, as all the products from the El Guabo area go to Iberia through the Jubones river, it would also be possible to get them out more quickly and in better conditions than trucks can currently do.

We have thought that a branch could also be built, from the flagship station called La Peaña (Puerto Bolívar — Pasaje Railway) to the town of Buenavista, which is another very rich area. The distance, in a straight line from La Peaña to Buenavista, is 8.5 kilometres.

Allow me to also suggest the possibility of connecting the Puerto Bolívar — Pasaje railway with the Southern Railway, going round by tendales.

As final things that serve to support our thesis, in what refers to the improvements that must be introduced, to ensure proper maintenance of these Railways, let us express that all the transports of origin must arrive at any place of destination, at the same price offered by another sector, using the appropriate form, system or route. "It is known that traffic flows where transport is offered at a lower price, even if it is slow and infrequent. All traffic will be absorbed by the maritime sector or the road, if they continue to agree to allow the differences in rates."

We must not overlook the fact that the speed "attained today by motor vehicles that travel by road and their great mobility (Going anywhere) have created a serious economic problem for the country, which must be taken seriously in order to tackle it with a vital and complete vision of national interests. It is necessary, from now on, to duly coordinate not only the two forms of communication by land, but also those by air and water to obtain economy in transportation, for the benefit of the nation, especially that they are not incompatible and that they must be complementary" for a good MILITARY defense.

These Railways must not be allowed to be left to their own devices because they are working at a loss. An action of this kind could be described as harmful to the interests of the Homeland, La Indiferencia simply for the border railways, should be considered as an anti-Ecuadorian work and even more so, in the case that they are considered necessary within a plan of national defense. We understand that the total or partial abandonment of a Railway that works at a loss would only be justified when the area where they operate is served and its provision assured by other means of transport that are not organized in this province.

If it is not possible to put into practice everything stated as improvements that must be introduced so that these Railways can maintain themselves, at least it should be thought of as immediate things: the improvement of the rolling stock of both visas, the acquisition of a ship, of some coaches, the purchase of spare parts and material for repairs, the improvement of part of its fixed material and the increase in salaries, so that the personnel can be selected automatically.

The immediate things would be: construction of the branch to Iberia, the extension of the Puerto Bolívar — Piedras railway to Saracay, the purchase of trucks and buses and the construction of the branch to Buenavista.

To conclude, let us express that this is the time in which we must try to expand the Pi Oro Railroad Traffic Field, since the prospects that are presented are flattering with the increase in agriculture. If there is doubt and the rehabilitation work is left for a few years, we believe that, subsequently, nothing can be done for its benefit, because the other means

of transport will have improved remarkably, obtained their connections, won the public confidence and acquired other advantages against which the Railroad would have to fight slowly and in inferior conditions.

I hope that the notes made serve as a small contribution to the resolution of the acute problems that confront not only these Railways, but also those of the COUNTRY.

11 An appendix to the preceding paper listing each steam loco in El Oro

ANEXO No 1

DATOS SOBRE LOCOMOTORAS, AUTOCARRILES

LOCOMOTORAS:

Locomotoras disponibles en el Ferrocarril Puerto Bolivar -- Piedras.

Vía de 29-1/2 o 76 centímetros de ancho.

En este ramal tenemos seis locomotoras que permiten transportar en buenas condiciones, 4.200 quintales o sea 210 toneladas.

El número de locomotoras hábiles en la actualidad es de tres, con las cuales se pueden transportar un peso total de carga útil equivalente a 1200 quintales.

Están en reparación dos locomotoras que representan una potencia de transporte de 1.200 quintales de carga útil.

Hay una locomotora más, que por su pésimo estado, no se ha podido arreglarla y que podría transportar 800 quintales de carga útil.

Los datos que damos sobre lo que se puede transportar, con las locomotoras que tenemos, es para gradientes del 9-1/2%.

Con gradientes mínimas o a nivel, todas las locomotoras podrían transportar hasta 10.200 quintales.

Todas las locomotoras utilizan como combustible leña y su estado es regular.

La lista de las locomotoras es la siguiente:

Locomotoras Nos. 18 y 19:

Tipo.-0-6-0.

Diámetro de cilindres.-11-1/32".

Carrera del émbolo.—15".

Presión de vapor:---120 libras.

Diámetro tubos caldero.-1-3/4.—Número total 104.—Largo 8' 3/4".

Superficie total de calefacción.-30,40 m²

Area de parrilla.-0,72

Diámetro nadas motrices.-22-3/4".

Baso rigida de ruedas.-5' 6-1/2".

Baso total do ruedas.-5' 6-1/2".

Longitud total de la locomotora. —

Poso sobre las ruedas motrices. —

Peso total de locomotora.--

Peso de locomotora y ténder. —

Capacidad del tanque.-7.107 litros o 1 563 glns.

Capacidad del combustible.—(Leña) 7 m³.

Fuerza de tracción.—

Estas locomotoras están desarmadas y fueron remitidas de la Provincia de Manabi. Pertenecían al Ferrocarril Manta

— Santa Ana, cuyos rieles fueron levantados.— Tenemos informes que podian transportar hasta 1.000 quintales de

carga útil, excluido el peso constante del convoy.—En una inscripción, se puede leer lo siguiente: KEER—STUART.—

LONDON.— El tipo es 0-6-0. Se está comenzando a reparar la número 19, que está en mejores condiciones. Probablemente la número 18 no se la arregle, Por estar en pésimas condiciones.

En otras palabras, de las dos locomotoras, se trata de hacer una.

Locomotora No. 20:

Esta locomotora es pequeña y se la utiliza para remolcar una cisterna de agua de 8.000 litros y para trabajos de lastrado—Puede arrastrar fácilmente con gradientes mínimas o a nivel un vagón con 200 quintales de carga y una plataforma de 100 quintales.

La placa de esta locomotora dice VULCAN IRON WORKS.-1.919.— U. S. A.—No. 2968.—WILKES—BARRE. Sus características son las siguientes:

Tipo: 0-4-0.

Diámetro del cilindro.--5-1/33".

Carrera do émbolo..-10".

Presión de vapor.-120 libras.

Diámetro tubos caldeo.-1-3/8.—Número total 32.—Largo 5' 3",

Superficie total de calefacción.-6,90 m²

Area de Parrillas.-0,20 m².

Diámetro de ruedas motrices.-18-1/2".

Base rigida de ruedas.--36".

Base total do ruedas.-36".

Longitud total de la máquina.—11',

Peso sobre las ruedas motrices.—

Peso total de la locomotora-6 ton. aprox.

Capacidad del tanque.-270 glns.

Capacidad de combustible.—(Petrosiduo) 63 glns.

Fuerza do tracción.—(85% presión de vapor) 701 kgr. aprox.

Locomotora No. 21:

Esta locomotora mediana, es la que más se utiliza, especialmente en verano, que disminuye el movimiento de carga.

Tiene potencia para remolcar dos vagones de 200 quintales de capacidad cada unb, o sea 400 quintales, excluido el peso constante del convoy. Con gradientes mínimas o a nivel, puede remolcar hasta seis vagones de 200 quintales.

La placa de esta locomotora dice: H. K. PORTER.—COMPANY.— ' PITTSBURGE—lf. S. A.—N9 7079.

Sus características son las siguientes:

Tipo: 2-6-0.

Diámetro del cilindro-10".

Carrera de émbolo.-16".

Presión do vapor.-190 libras.

Diámetro tubos caldero,-2".—Número total 68.—Largo 7' 6".

Superficie total de calefacción.-28.87 m².

Area de parrilla.-0,78 m².

Diámetro ruedas motrices.-25--7/5.

Base rigida de ruedas.-7' 4".

Base total do ruedas.-12' 6".

Base total de ruedas locomotora y tender.-33' 10".

Peso sobre las ruedas motrices.-18'000 kgr. aprox.

Peso total de locomotora.-20.000 kgr. aprox.

Peso de locomotora y tender.-36.000 kgr. aprox.

Capacidad del tanque.-5.900 litros o 1.298 glns.

Capacidad del combustible.—(Leña) 5 m³

Fuerza de tracción.-4.000 kgr. aprox.

Locomotoras Nos. 22 y 23:

Estas locomotoras son las más grandes que tenemos.—Pueden remolcar cada una, hasta 5 carros de carga de 200 qq. de capacidad, excluido el peso constante del convoy, cuando están en perfecto estado de funcionamiento y los vagones

dotados de frenos, con gradientes mínimas o a nivel pueden remolcar, cada una hasta 12 vagones.
 Las placas de estas locomotoras dicen: "A. BORSIG".—G. M. B. H. BERLIN—TEGEL.—F. No. 11872.-1925.
 "A. BORSIG".—G. M. B. H. BERLIN—TEGEL.—F. No. 11873.-1925,
 Sus características son las siguientes:
 Tipo: 2-8-0.
 Diámetro de los cilindros.-14-3/8".
 Carroza del embolo.-16".
 Presión do vapor.—150 libras,
 Diámetro tubos caldera.-1-3/4".—Total tubos 184.—Largo 10'.
 Superficie total de calefacción.-68155 m2.
 Area de parrilla.—1,72 m2.
 Diámetro de ruedas motrices.-27".
 Base rigida de ruedas.-10' 4".
 Base total de ruedas.--16' 3".
 Base total de ruedas locomotora y tender.-36' 4".
 Peso sobre las ruedas motrices.—
 Peso total de locomotora.-45.000 kgr. aprox.
 Peso do locomotora y tender.-61000 kgr. aprox.
 Capacidad del tanque.-8.236 Mins o 1.811 glns.
 Capacidad del combustible.—(Leña) 7 m3.
 Fuerza de tracción.--(85% presión de vapor) 6.000 kgr. aprox.

**Locomotoras disponibles en el Ferrocarril Puerto Bolívar — Pasaje.
 la de 42" o 1,067 m. de ancho.**

En este ramal hay tres locomotora disponibles que permiten trans-portal hasta 4.800 quintales de carga útil o sea 240 toneladas, por tener la vía gradientes mínimas.

Actualmente el número de locomotoras hábiles es de dos, con las cuales se puede transportar hasta 3.200 quintales en 16 vagones de 200 quintales cada uno, pero no se dispone sino de 11 unidades en mal estado.

También las locomotoras de este ramal, utilizan leña como combus-tible. La calidad de la leña en este ramal es infe-rior al del austral.

La lista de las locomotoras, es la siguiente:

Locomotora No. 24.

De esta locomotora se ha comenzado su reparación y Sus características son similares a la No. 26.

Locomotora No. 25.

Esta locomotora puede remolcar hasta 8 vagones de 200 quintales cada una o sea que puede llevar hasta 1.600 quin-tales de carga útil, excluido el peso constante del convoy.

La placa de esta locomotora dice: "A. BORDIG" G/M B. A. BERLIN—TEGEL.—F. N9 12085-1928.

Sus características son las siguientes:

Tipo.—2 6 0.
 Diámetro de los cilindros.-12—.5/8".
 Carrera del émbolo.-16".
 do vapor.-160 libras.
 Diámetro tubos caldera.-1-3/4".—Número total 110.—Largo 7' 10".
 Superficie total de calefacción.-41 m2.
 Area de parrilla.-072 m2.
 Diámetro do ruedas motrices.-27".
 Base rigida de ruedas.-6' 3".
 Base total de ruedas.-11' 7".

Base total de ruedas locomotora y tender.-28' 1/2".

Peso sobre las ruedas motrices.—

Peso total de locomotora. —

Peso de locomotora y tender.—

Capacidad del tanque.-3,942 litros o 867 glns.

Capacidad del combustible.—(Leña) 4 m3.

Fuerza de tracción.—

Locomotora No. 26.

Esta puede arrastrar un convoy de 8 vagones de 200 quintales cada uno, o sea que puede transportar también 1.800 quintales de carga útil.

La placa de esta locomotora dice: "AMERICAN LOCOMOTIVE COMPANY No. 20536.—PITTSBURGH—WORK.—DECEMBER-1903. NB Probably actually 29536 ex 0-4-4T.

Sus características son:

Tipo. 0-4-0.

Diámetro de los cilindros.-14".

Carrera del émbolo.-16".

Presión do vapor.-125 libras.

Diámetro tubos caldera.—1-3/4.—Número tubos 69.—Largo 9'.

Superficie total de calefacción.-28,39 m2

Area de parrilla.-0,69 m2.

Diámetro ruedas motrices.-32-5/18".

Base rígida de ruedas.-4' 11".

Base total de ruedas.-4) 11'.

Longitud total de la máquina.-23' 4".

Peso sobre las ruedas motrices.-12.500 kgr. aprox.

Peso total de la locomotora.-20.000 kgr. aprox.

Capacidad del tanque.-2:500 litros. .

Capacidad del combustible.—(Leña) 3 m3.

Fuera de tracción.—

ANNEX No. 1

DATA ON LOCOMOTIVES, RAILCARS

LOCOMOTIVES:

Locomotives available on the Puerto Bolivar -- Piedras Railway. Track 29-1/2 or 76 centimeters wide.

In this branch we have six locomotives that allow us to transport, in good conditions, 4,200 quintals, that is, 210 tons. The number of capable locomotives at present is three, with which a total payload weight equivalent to 1,200 quintals can be transported.

Two locomotives are under repair, representing a transport power of 1,200 quintals of payload.

There is one more locomotive, which due to its terrible condition, has not been able to be fixed and that could transport 800 quintals of useful load.

The data we give about what can be transported, with the locomotives we have, is for gradients of 9-1/2%.

With minimal or level gradients, all locomotives could carry up to 10,200 quintals.

All locomotives use firewood as fuel and their condition is fair.

The list of locomotives is as follows:

Locomotives Nos. 18 and 19:

Type.-0-6-0.

Cylinder Dia.-11-1/32".

Plunger Stroke.—15".

Steam pressure.---120 lbs.

Boiler tube diameter.-1-3/4.—Total number 104.—Length 8' 3/4".

Total heating area.-30.40 m²

Grill area.-0.72

Diameter of motor swims.-22-3/4".

Rigid caster base.-5' 6-1/2".

Total base of wheels.-5' 6-1/2".

Total length of the locomotive. —

It poses on the drive wheels. —

Total weight of locomotive.--

Weight of locomotive and tender. —

Tank capacity.-7,107 liters or 1,563 glns.

Fuel capacity.—(Firewood) 7 m³.

Tractive force.-

These locomotives are unarmed and were sent from the Manabi Province. They belonged to the Manta — Santa Ana Railroad, whose rails were raised.— We have reports that they could carry up to 1,000 quintals of payload, excluding the constant weight of the convoy.—An inscription reads as follows: KEER—STUART. —LONDON.— The type is 0-6-0. Number 19 is beginning to be repaired and is in better condition. Number 18 probably won't fix it, because it's in terrible condition.

In other words, of the two locomotives, it is about making one.

Locomotive No. 20:

This locomotive is small and is used to haul an 8,000 liter water tanker and for ballast work—It can easily haul a 200 cwt freight car with a 100 cwt flatbed on level or minimal gradients.

The nameplate on this locomotive reads VULCAN IRON WORKS.-1919.— U. S. A.—No. 2968.—WILKES—BARRE. Its characteristics are the following:

Type: 0-4-0.

Cylinder Dia.--5-1/33".

Piston stroke..-10".

Steam pressure.-120 lbs.

Heating pipes diameter.-1-3/8.—Total number 32.—Length 5' 3",

Total heating area.-6.90 m²

Grill Area.-0.20 m².

Drive Wheel Dia.-18-1/2".

Rigid wheel base.--36".

Total base of wheels.-36".

Overall length of machine.—11',

Weight on drive wheels.—

Total weight of the locomotive-6 ton. approx.

Tank capacity.-270 glns.

Fuel capacity.—(Petrosiduo) 63 glns.

Traction force.—(85% vapor pressure) 701 kgr. approx.

Locomotive No. 21:

This medium-sized locomotive is the one that is used the most, especially in summer, which decreases the movement of cargo. It has the power to tow two wagons of 200 quintals of capacity each unb, that is, 400 quintals, excluding the constant weight of the convoy. With minimal or level gradients, it can tow up to six 200 cwt railcars.

The nameplate on this locomotive reads: H. K. PORTER.—COMPANY.— ' PITTSBURGE—If. S.A.—N9 7079.

Its characteristics are the following:

Type: 2-6-0.

Cylinder diameter-10".
 Plunger stroke.-16".
 Steam pressure.-190 lbs.
 Boiler tube diameter,-2".—Total number 68.—Length 7' 6".
 Total heating area.-28.87 m2.
 Grill area.-0.78 m2.
 Drive wheels diameter.-25--7/5.
 Rigid base of wheels.-7' 4".
 Total wheel base.-12' 6".
 Total base of locomotive wheels and tender.-33' 10".
 Weight on driving wheels.-18'000 kgr. approx.
 Total weight of locomotive.-20,000 kgr. approx.
 Weight of locomotive and tender.-36,000 kgr. approx.
 Tank capacity.-5,900 liters or 1,298 glns.
 Fuel capacity.—(Firewood) 5 m3
 Traction force.-4,000 kgr. approx.

Locomotives Nos. 22 and 23:

These locomotives are the largest we have.—They can each tow up to 5 freight cars of 200 qq. of capacity, excluding the constant weight of the convoy, when they are in perfect working order and the wagons equipped with brakes, with minimum gradients or at level, can tow, each one up to 12 wagons.

The plates of these locomotives read: "A. BORSIG".—G. M. B. H. BERLIN—TEGEL.—F. No. 11872.-1925.

"A. BORSIG".—G. M. B. H. BERLIN—TEGEL.—F. No. 11873.-1925,

Its characteristics are the following:

Type: 2-8-0.

Cylinder Bore.-14-3/8".

Piston carriage.-16".

Steam pressure.—150 pounds,

Boiler tube diameter.-1-3/4".—Total tubes 184.—Length 10'.

Total heating area.-68155 m2.

Grill area.—1.72 m2.

Drive wheels diameter.-27".

Rigid base of wheels.-10' 4".

Total wheel base.--16' 3".

Total base of locomotive wheels and tender.-36' 4".

Weight on drive wheels.—

Total weight of locomotive.-45,000 kgr. approx.

Weight of locomotive and tender.-61000 kgr. approx.

Tank capacity.-8,236 Mins or 1,811 glns.

Fuel capacity.—(Firewood) 7 m3.

Traction force.--(85% steam pressure) 6,000 kgr. approx.

Locomotives available on the Ferrocarril Puerto Bolívar — Pasaje.

42" or 1,067 m. gauge.

There are three locomotives available on this branch line that can transport up to 4,800 quintals of payload, or 240 tons, as the track has minimal gradients.

Currently the number of able locomotives is two, with which up to 3,200 quintals can be transported in 16 wagons of 200 quintals each, but only 11 units in poor condition are available.

The locomotives on this branch also use firewood as fuel. The quality of firewood in this branch is inferior to that of

the southern one.

The list of locomotives is as follows:

Locomotive No. 24.

Repair of this locomotive has begun and its characteristics are similar to No. 26.

Locomotive No. 25.

This locomotive can tow up to 8 wagons of 200 quintals each, meaning that it can carry up to 1,600 quintals of payload, excluding the constant weight of the convoy.

The nameplate on this locomotive reads: "A. BORDIG" G/M B. A. BERLIN—TEGEL.— F. N9 12085-1928.

Its characteristics are the following:

Type.—2 6 0.

Cylinder bore.-12-5/8".

Piston stroke.-16".

do steam.—160 lbs.

Boiler tube diameter.-1-3/4".—Total number 110.—Length 7' 10".

Total heating area.-41 m².

Grill area.-072 m².

Diameter of drive wheels.-27".

Rigid wheel base.-6' 3".

Total wheel base.-11' 7".

Total base of locomotive wheels and tender.-28' 1/2".

Weight on drive wheels.—

Total weight of locomotive. —

Weight of locomotive and tender.—

Tank capacity.-3,942 liters or 867 glns.

Fuel capacity.—(Firewood) 4 m³.

Tractive force.-

Locomotive No. 26.

This can pull a convoy of 8 wagons of 200 quintals each, that is, it can also carry 1,800 quintals of payload.

The plaque on this locomotive reads: "AMERICAN LOCOMOTIVE COM-PANY No. 20536.—PITTSBURGH—WORK.—DECEMBER-1903.

Their characteristics are:

Type. 0-4-0.

Cylinder diameter.-14".

Plunger stroke.-16".

Steam pressure.-125 lbs.

Boiler tube diameter.—1-3/4".—Number of tubes 69.—Length 9'.

Total heating area.-28.39 m²

Grill area.-0.69 m².

Drive wheels diameter.-32-5/18".

Rigid wheel base.-4' 11".

Total base of wheels.-4) 11'.

Overall length of machine.-23' 4".

Weight on the driving wheels.-12,500 kgr. approx.

Total weight of the locomotive.-20,000 kgr. approx.

Tank capacity.-2:500 liters. .

Fuel capacity.—(Firewood) 3 m³.

Out of traction.—

[Followed by similar level of detail for auto-carriles, coaches and wagons.]

6.8.3 Appendix 3 The *FFCC litorales* loco list in 1949

Background

It is clear that the minor railways running to the coast (ie Guayaquil to Salinas, Bahia de Caraquez to Chone, and the *FFCC del Oro* lines) were managed separately from the main G&QR, and that all their locomotives had been re-numbered at some point into one sequence.

Source [22] contains a list of accidents occurring during 1948 on those lines which includes the following locomotives, but it has not yet been possible to identify which railway every one was on. By that date the Manta to Santa Ana line had already closed and two Kerr Stuart 2-6-2Ts had been moved to Puerto Bolivar.

Number	1948
8	Possibly a loco on the <i>FC a la Costa</i> .
9	
10	On same line as location FA. No. 21 had previously been numbered 10 .
18	PB a Loja, KS 2-6-2T but recorded at PBaL as 0-6-0T. Kerr Stuart 0-6-0 ex FC Manta - Santa Ana 2-6-2T.
19	PB a Loja, KS 2-6-2T but recorded at PBaL as 0-6-0T. Kerr Stuart 0-6-0 ex FC Manta - Santa Ana 2-6-2T.
20	PB a Loja, VIW 2968 0-4-0.
21	PB a Loja, Porter 7079 2-6-0 of 1927, ex no. 10 , ex. no. 3 . There had also been a no. 21 rather earlier on the <i>FC Manta a Santa Ana</i> .
22	PB a Loja, Same line as no. 40 and as 35 . Borsig 2-8-0 11872 of 1925, ex no. 1 , later no. 25 ?
23	PB a Loja, Same line as no. 40 and location D. Borsig 2-8-0 11873 of 1925, ex no. 2 ,
24	PB a Pasaje, possibly ALCo 46574, 0-4-4T.
25	PB a Pasaje, Borsig 2-6-0 12085 of 1928
26	PB a Pasaje, ALCo 0-4-4T 29536 of 1903, ex no. 2 and later no. 4 . By 1940s may have been an 0-4-0.
30	
31	Same route as no. 40 and 45 , locations 131 and 185.
32	Possibly the third of the KS 2-6-2Ts from the <i>FC Manta á Santa Ana</i> .
35	(PB a Loja)
36	
38	
39	
40	(PB a Loja)
41	
42	(PB a Loja), German-built 0-4-0? ? of ?
43	
44	
45	Possibly the mogul on the <i>FC a la Costa</i> , Henschel 19266 of 1922.

49

50

Locations identified by letters, probably stations:

C

D

PA

BJ

P

BA

O

J

PS

NA

RH

JC

CS

FC

FA

NG

BA

Shucs.

Olimp.

Chobo

6.8.4 Appendix 4 Mentions of locomotives during G&QR construction works

Source [23] is *Informe especial del Ministerio de obras públicas sobre el ferrocarril transandino al Congreso de 1903*. <https://babel.hathitrust.org/cgi/pt?id=njp.32101066879048&view=1up&seq=167&skin=2021> Similarly source [24], detailed below, covers 1904. They total 750 pages. For anyone studying the construction of the G&QR in any detail these are amazing treasure troves of correspondence about all manner of details.

The following are the principal references to locomotives within the text:

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Enero 1o. de 1901 —Informe del Ingeniero de Gobierno al Sr Ministro de Obras Públicas.—

"Adquisicion de Material rodante y Equipo etc —Cuatro locomotoras y al rededor de 40 carros para carga ya han sido contratados por la Compañía del Ferrocarril y en adición se ha pedido nuevas carretillas para los carros actualmente en servicio, para poder emplear éstos cuando la vía esté enanchada á 42 pulgadas. Ya se han recibido dos de las locomotoras nuevas y se están armandolas en el taller de la Compañía en Durán, y ambas estarán listas para el servicio el 10. de Febrero más ó menos. Todo lo demás del material mencionado arriba será entregado de tiempo á tiempo en Guayaquil. tan pronto como esté completado, y se espera que todo estará aquí á principios del verano próximo probablemente en Julio, y como estos carros y locomotoras han de ser construidos para 42 pulgadas, el Ferrocarril entonces tendrá suficiente material rodante para la operacion del Ferrocarril, de suerte que el trabajo de cambiar el ancho de la vía puede efectuarse con muy poca dentara al tráfico, mientras el equipo actual se le altere para hacer frente á las necesidades nuevas".

Abril 1o. de 1901 —Carta del Sr. J. A. Harman al Sr. Ministro de Obras Públicas.—

"Material Rodante - La Compañía ha recibido ya en el Ecuador 4 de las nuevas locomotora que fueron construidas por "Baldwin locomotive Works," de Philadelphia. Igualmente hemos comprado 4 más de estas máquinas de Baldwin, y dos locomotoras de engranaje "Shay," todo ello está en route para el Ecuador, ó será embarcado en muy poco tiempo."

...

De acuerdo con el plan adopta lo por la Compañía y apobado por el Ingeniero de Gobierno y el Ministro de Obras Públicas, la Compañía debía colocar en la línea:

14 Locomotoras nuevas,

17 Carros de pasajeros, y

170 Carros para fletes

lo que debía componer el equipo entero entre Guayaquil y Quito.—La Compañía ha comprado pues 4 Locomotoras más, cuyo contrato ha sido hecho con la "Baldwin Locornotive Works,".—Hemos comprado casi el doble del número de carros para fletes previstos por el acuerdo, y 3 carros más para pasajeros. La Compañía juzgó hacer este aumento de carros de flete á causa de la indicación que los 170 no serían suficientes para manejar el negocio de la línea.—Los carros de flete fueron construidos por la "American Car & Foundry Company", y los carros de pasajeros por la "Jackson & Sharp Company". Además del indicado material rodante, la Compañía ha comprado nuevos trucks para vía de 42 pulgadas, para todos los carros que están ahora en el Ferrocarril del Sur. En este orden hemos de añadir que todas las máquinas y carros, de cualquier clase, han sido provistos de frenos de aire "Westinghouse" y frenos de mano para conseguir la mejor facilidad y seguridad en el manejo en las fuertes gradientes de la división de la sierra"

Page 114

Julio 1o. de 1901.—Informe del Sr. J. A. Harman al Sr. Ministro de Obras Públicas.—

"Material Rodante —Del nuevo material rodante hemos recibido, montado y puesto en operacion, 4 locomotoras Baldwin, Nos 10, 11, 12 y 13.—Tenemos en route de Nueva York una locomotora Shay y tenemos, para ser embarcados de Nueva York, 4 má locomotoras "Baldwin" y una más "Shay". Las locomotoras Shay están especialmente construidas para trabajar en la división de la Sierra.--Hemos recibido 60 carros de plataforma y tenemos en camino de

Nueva York á Guayaquil 75 más y 75 carros de bodega. Esto será aumentado en breve por loa carros bodega y 20 carros de pasajeros, todo lo cual está construido y prácticamente listo para su embarque en Nueva York. También hemos recibido nuevos "trucks" de acero de 42 pulgadas para todo el material rodante que originalmente estaba en el Ferrocarril del Sur,

Julio 1o. de 1902 —Informe del Sr. J. A. Harman al Sr. Ministro de Obras Públicas —

"Material Rodante.—Tenemos aún que recibir 3 locomotoras y 6 coches para pasajeros para completar el material rodante.—Al presente estamos cambiando el ancho de las antiguas máquinas Nos, 4 y 6.—Los carros de flete de todas clases, carros de mano, etc., han sido recibidos y puestos al servicio.

Octubre 1o. de 1902.—Informe del Sr. J. A. Harman al Sr. Ministro de Obras Públicas.—

Material Rodante.—Desde mi último informe del 1o. de Julio último, hemos puesto una locomotora más en servicio.

Enero 1o. de 1903.—Informe del Sr. J. A. Harman al Sr. Ministro de Obras Públicas.—

"Material Rodante.—Desde mi informe anterior, hemos agregado una locomotora más, completando el número de 12 en servicio.

Abril 1o. de 1903 —Informe del Sr. J. A. Harman al Sr. Ministro de Obras Públicas.—

"Material Rodante —Desde mi último informe, otra locomotora ha sido añadida al número en servicio del Ferrocarril, haciendo en total de 13 actualmente en servicio.

MEMORANDUM Material rodante y construcción de estaciones y bodegas

1900

Diciembre 30	2 Locomotoras nuevas compradas y recibidas por la Compañía.	24.000
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1901

Febrero 28	8 Locomotoras cada una \$ 12.000	96.000
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1902

Noviembre 30	1 Locomotora nueva	12.000
--------------	--------------------	--------

Diciembre 30	1 Locomotora nueva	12.000
--------------	--------------------	--------

1903

Febrero 28	1 Locomotora nueva	12.000
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Material rodante, depósitos, factorías. estaciones, corrales. enseres. & &

RESUMEN SEGUN LOS ESTADOS

1902

Abril	10 Locomotoras	12.000	120.000
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Noviembre	1 Locomotora	12.000
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Diciembre	1 Locomotora	12.000
-----------	--------------	--------

1903

Febrero	1 Locomotora	12.000
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CONTRATOS

Según los documentos que tenemos á la vista, la Compañía ha celebrado los siguientes contratos: por materiales necesarios para la construcción de la línea.

LOCOMOTORAS

Junio 19 de 1900.—Contrato con Burnham Williams de Philadelphia.

4 locomotoras Baldwin, tipo Mogul, á \$ 9.650

Peso en orden de marcha c/u 83.000 libras.

Febrero 8 de 1901.—Contrato con "Lima Locomotive & Machine Co." por 2 Locomotoras tipo "Shay", de 50

toneladas á \$ 8.865,00

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Anexo No. 3 MATERIALES

Según las copias entregadas por el Sr. Inspector de Aduanas, las que corresponden desde Noviembre 6 de 1899 hasta Mayo 21 de 1903, hacemos el resumen de llegadas, para la obra del ferrocarril, de los siguientes materiales:

...

LOCOMOTORAS

1900

Diciembre 18	Vapor Cacique	2 Locomotoras	Ks. 103.582	\$ 38.600
--------------	---------------	---------------	-------------	-----------

1901

Abril 3	Vapor Coya	2 Locomotoras	Ks. 103.568	\$ 38.600
---------	------------	---------------	-------------	-----------

Setiembre 11	Vapor Cumbal	1 Locomotoras	Ks. 51.842	\$ 17.730
--------------	--------------	---------------	------------	-----------

Setiembre 22	Vapor Patena	3 Locomotoras	Ks. 157.143	\$ 53.730
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1902

Enero 14	Vapor Capac	2 Locomotoras	Ks. 104.862	\$ 36.000
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Agosto 1o. de 1903 —Carta del Señor John A. Harman al Miuiistro de Obras Públicas.

"En cumplimiento á su solicitud telegráfica, del 10 do Julio, doy á U. un informe sobre el material rodante que posee la compañía del Ferrocarril, á saber:

1a. Compañía á importado:

10 Locomotoras;

101 Carros de cajón;

143 Carros de plataforma;

67 Carros para ganado;

2 Coches de primera clase;

3 Coches para expresos y equipaje;

1 Coche especial;

8 Coches de segunda clase;

50 Carros do empujar (push can);

86 Carros de palanca 21

Carros de estación (trucks);

3 Cycles de inspección;

2o. La Compañía ha armado y puesto en servicio:

10 Locomotoras;

75 Carros de cajón (1 destruido);

143 Carros de plataforma (2 destruidos);

53 Carros para ganado;

1 Coche especial;

2 Coches de primera clase;

3 Coches para equipaje y expreso;

50 Carros de empujar (push cars);

30 Carros de plataforma;

24 Carros de estación (trucks),

3 Cycles de inspección;

3o. La Compañía tiene en mano lo siguiente, sin armar:

26 Carros de cajón;

14 Carros para ganado;

6 Carros de plataforma;

4o. Del material rodante viejo entregado á la Compañía por el gobierno, hemos reconstruido lo siguiente:

4 Locomotoras;

2 Coches de primera clase

1 Coche especial;

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El resto del material rodante entregado por el Gobierno se halló inservible.

Por lo que antecede notará U. que la Compañía tiene en servicio actual, lo siguiente:

14 Locomotoras;

74 Canos de cajon;

141 Carros de plataforma;

53 Carros para ganado;

4 Coches de primera clase;

2 Coches speciale:

3 Coches para equipajes y expresos;

8 Coches de segunda clase;

50 Carros de empujar (push cars)

30 Carros de palanca;

24 Carros de estación (trucks);

3 Cycles de inspección; y,

Source [24] is *Informe especial del Ministerio de obras públicas sobre el ferrocarril transandino al Congreso de 1904*. <https://babel.hathitrust.org/cgi/pt?id=njp.32101066879055&view=1up&seq=20&skin=2021>

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Telegrama Durán. á 27 de Febrero de 1904 Sr. Ministro de Obras Públicas:

Ayer uno de los trenes de carga sufrió un grave accidente por haberse rodado la máquina y saltado de la línea Le avisaré las causas y detalles tan pronto investigue.

John A. Harman.

Nº 22 —Quito, á 28 de Marzo de 1904.

Sr. Carlos van Isschot:

El Sr. Presidente de la República quiere que Ud., en el cumplimiento de sus deberes, emita su opinión, de una manera franca y terminante, sobre el desastre ocurrido en un tren de carga en los últimos días del mes de Febrero de este ario: esto es si los daños ocasionado deben estimarse como fortuitos de manera que la Compañía no haya podido pre-veerlos ó evitarlos, ó si por el contrario ellos han prevenido de algún descuido ó falta por parte de la Empresa ó de sus empleados. Para informar al respecto está Ud. en posesión de los datos más indispensables, por no decir de los únicos que han de determinar su juicio al respecto; puesto caso que el accidente. según Ud. mismo fué debido á un daño sufrido por la bomba de aire en el trayecto entre Huigra y el lugar de la catástrofe y la imposibilidad de funcionar los bretes de aire comprimido. Ese daño en la bomba de aire y la consiguiente paralización de los bretes, debe ser calificado por Ud., corno perito en la materia, en los términos anteriormente sentados para que el Ministerio de mi cargo pue-da indicar, con algún fundamento el procedimiento que deben emplear en sus reclamaciones los damnificados con el citado desastre de Febrero último.

Dios y Libertad. C. S. Córdova.

Guamote, 29 de Marzo de 1904.

Sr. Ministro de Obras Públicas:

Quito

Tengo el honor de contestar á sus telegramas de 15 y 28 del presente, en los que se sirve Ud ordenarme inquirir acerca de las causas que motivaron el descarrilamiento de un tren de carga en la línea del ferrocarril, el día 26 de Febrero próximo pasado

Los pormenores que tengo el honor de enviarle han sido dados por el maquinista y fogonero, y confirmados por las declaraciones de los sobrevivientes del accidente.

El tren de carga estaba compuesto de la locomotora N° 8 **con su tender**, tres carros cargados con mercaderías de diferentes clases, una jaula que contenía 61 cochinos y, encerrado en la misma jaula el cuidador de animales; un carro abierto—de cargar carbón—vacío; total 4 carros cargados y uno vacío. La dirección y vigilancia del tren estaba á cargo de un empleado conducto, jefe del tren, un mecánico, un fogonero, un cuidador y tres breteros, ó sea un total de 8 personas.

El tren salió de la estación de Huigra —milla 25—en buen estado de servicio

Al llegar al río Augas—milla 65—comenzó la lluvia y el consiguiente estado resbalozo de los rieles; notó el maquinista que la acción de los frenos de aire comprimido no eran suficientes para mantener la velocidad normal del tren, y ordenó á los breteros cerrasen los frenos de mano, orden que fué cumplida y, viendo que, apesar de todo lo hecho (suprimida la rotación de las ruedas del convoy) continuaba descendiendo el tren, envió al cuidador á echar arena encima de los rieles, adelante de la máquina.

En este estado habría recorrido el tren una media milla. cuando á pocos metros antes de entrar en la curva de la "Nariz de Bolland", salió la máquina fuera de los rieles y cayó al río, arrastrando, tras de sí, á todo el convoy.

Estos datos no revelan, pues como causa inmediata del accidente, sino el estado de humectad de los rieles, y la falta de arena debido á súbita obstrucción de los tubos conductores de ésta. La línea se hallab , antes de la catástrofe, en buena condición y no sufrió desperfecto alguno.

En el momento del accidente, todos los empleados ocupaban sus respectivos puestos, y todos cumplieron con sus deberes.

PÉRDIDAS —Pecieron: el cuidador, uno de los breteros, cuyos cadáveres no pudieron ser hallados, fueron arrastrados por el río y el cuidador de los cochinos.

De los tres carros de mercaderías pudo salvarse gran parte.

Computada la carga, tanto por medio de las guías, como por los reclamos de los interesados, el valor de las pérdidas puede estimarse en unos \$ 1.200, de los que la Compañía ha abonado ya aproximadamente la mitad, y atiende á los reclamos á medida que se presentan.

MATERIAL RODANTE.—De la inspección hecha de la locomotora y tender se nota que estos no han sufrido gran daño; su reparación costará al rededor de unos \$ 1.000. De los carros de carga se perdió toda la parte de madera, cuyo valor se estima igualmente en unos mil sucses.

Los datos anteriormente expuestos no arrojan suficiente luz acerca de la causa inmediata del accidente que debemos, por este motivo, considerar como fortuito.

Repítome de Ud. Sr. Ministro, atto. S. S, C van Isschot

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Guamote, Mayo 7 de 1904

Sr. Ministro de Obras Públicas:

Quito.

En su oficio No. 41, de 22 de Abril próximo pasado, se sirvió Ud pedirme informe de la causa que motivó el descarrilamiento de un tren entre Alausi y Tixán el 19 del mismo mes; el número de muertos y heridos, su nacionalidad y los perjuicios ocasionados con tal accidente. Deseoso de comunicar á Ud. estos mismos detalles, ya me ha bía dirigido al Sr. Ingeniero en Jefe de la Compañía, el día 20 de Abril pidiéndole informes acerca del mismo suceso. Con fecha 22

del mismo mes me contestó el Sr Harman con la carta cuya copia le remito.

Hubiera deseado enviar á Ud. datos de otra fuente por ejemplo la información del Jefe del tren que sufrió el accidente, pero hasta ahora no he podido hacerlo, ocupado que estuve en Guayaquil con los Sres. Ministros de Beneficencia y de Guerra. Para no retardar más la contestación á su citado oficio, le envío los informes del Sr. Harman, y le remitiré los más datos que recoja, tati luego como me sea dable obtenerlos.

Pages 32-34

Durán, Abril 22 de 1904.

Sr. Carlos van Isschot:, &.

"He recibido su carta de Abril 20, y también la copia incluida, por la que le doy las gracias.

Las circunstancias relativas al accidente ocurrido á la máquina N° 7 en la mil a No. 91, en Abril 19 son las siguientes.

En ese lugar hubieron fuertes lluvias durante la noche anterior, las que arrastraron gran cantidad de lodo arcilloso sobre los rieles, en el corte al oeste del puente 59. Temprano, en la mañana del 19, la máquina No. 7 salió de Alausí con tres carros de durmientes con destino á Guamote. El conductor (Sr. James Power) reportó que al llegar al punto mencionado, encontrando los rieles cubiertos de lodo, paró su tren y procedió á limpiarlos; una vez hecho lo cual se puso el tren en marcha, habiendo antes arenado perfectamente los rieles con arena seca. Mientras el tren pasaba por dicho lugar, otra cantidad de lodo cayó bajo las ruedas, quedando todas ellas cubiertas de un lodo arcilloso y grasiento, de manera que la máquina comenzó á resbalar en vez de seguir adelante. Se detuvo el tren y se dió atrás para sacarlo del lodo, con el objeto de limpiar nuevamente los rieles y las ruedas; pero el maquinista no pudo detener su máquina, y cuando recurrió á los bretes ya el lodo resbaladizo los había inhabilitado para funcionar bien y el tren siguió rodando hacia atrás. Parece que entonces el maquinista perdió el juicio, pues él en ese momento debió aflojar los bretes de aire y hacer uso de los de agua para parar la máquina. No he podido comprobar que él hubiera hecho eso; el tren rodó completamente. La máquina se saltó de la línea en la curva del oeste del término del Barranco de Pueblo viejo. Los carros se soltaron de la máquina y permanecieron en la línea rodando hasta una distancia como de cien pies al extremo este del puente 5., en donde también se saltaron de la línea. Cuando la máquina se volteó, el maquinista (Calixto, nativo de la isla Martinica) quedó muerto bajo ella. El fogonero (un jamaicano llamado Ernest Grant) sufrió tantas quemaduras que murió pocas horas después. Ningún otro individuo empleado en el tren sufrió daño. Otro jamaicano llamado Joseph Mckay, antiguo bretero, que había sido despedido, y que iba en la máquina, seguramente con la aquiescencia del maquinista y del fogonero, también sufrió tantas quemaduras que murió. Un muchacho, hijo de uno de los reparadores de nuestra línea telegráfica, y que trabajaba en las inmediaciones del puente No. 58, se paró á ver rodar los carros y fué gravemente herido en la cabeza por los durmientes cuando se descarrilaron los carros; sin embargo el Dr. Crow me ha informado que este muchacho sanará.

Yo creo que el accidente se hubiera evitado si el maquinista hubiera hecho b en y pronto uso de los recursos de que disponía. Según reporte, los daños de la máquina y carros no son de consideración. El accidente ocurrido como á las ocho de la mañana del 19, y como á las 6 de la tarde estaba despejada la línea para el tráfico de trenes y al día siguiente corrieron estos como de costumbre".—Firmado; John A. Harman.

Es cuanto puedo informar por ahora, Sr. Ministro, en contestación á su oficio de 22 de Abril próximo pasado.

C. van Isshot.

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OBJECIONES

Reparaciones de locomotoras

Según las relaciones del Taller en la distribución del trabajo y materiales de Almacén, han introducido mejoras en las maquinas 3, 4 y 5 en esta forma:

Rol de pagos	Abril	\$ 824.33
	Mayo	451,13
	Junio	458,58

Julio 357,30
 Agosto 161,09 2.252,43

Cuenta Almacén Abril 669,88
 Mayo 386,32
 Junio 218,61
 julio 366,67
 Agosto 0,49 1.641,97

Valor total... S. 3.894,40
 que juzgo debe ser transferido á la cuenta "Mejoras."

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Reparación de locomotoras.-He anotado sus observaciones respecto á reparaciones y cambios que fueron hechos en las locomotoras Nos. **3, 4 y 5**, llamando la atención á que el costo de estos cambios y reparaciones debieran ser cargados á la Construcción Company argumentando que dichas maquinas fueron vendidas á la Compañía del Ferrocarril con la línea de Durán á Chimbo en conformidad con el contrato de Junio de 1897, artículo 6o. y que este artículo los dedica para reparaciones, materiales y mejoras en la línea entre Durán y Chimbo y que dichos cargos por cambios en las locomotoras **3, 4 y 5** debieran figurar en la Cuenta "Mejoras".

Me permito llamar la atención al hecho de que las maquinas Nos. **3 y 5** chocaron cerca de Naranjito por descuido de uno de los conductores que desobedeció sus ordenes. Los crecidos gastos hechos en estas máquinas fueron principalmente ocasionados por el choque. Encargaré al Señor Oribe de sacar una cuenta del actual gasto ocasionado por el ensanche de las máquinas **3, 4 y 5** y tendré en cuenta el asunto para cargar dicho costo á la Compañía Construcción para lo cual le pediré instrucciones á Mr. Archer Harman porque aparece en los libros antes del día 18 de Noviembre, las entradas que han sido hechas por mi predecesor.

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Taller

Distribución de Labor en el mes de Mayo 1904

...

Reparación de la Locomotora No. 4	26.20	
Id. id. id. id. 6	8.80	
Id. id. id. id. 7	203.25	
Id. id. id. id. 8	784.35	
Id. id. id. id. 9	149.03	
Id. id. id. id. 10	84.	
Id. id. id. id. 11	35.23	
Id. id. id. id. 12	46.	
Id. id. id. id. 13	111.03	
Id. id. id. id. 14	39.75	
Id. id. id. id. 15	146.75	1.634.41

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Distribucion del Material en el mes de Mayo 1904

Reparación de Locomotora N° 6	10.50
Id. id. id. id. 7	153.45
Id. id. id. id. 8	209.57

<i>Id.</i>	<i>id.</i>	<i>id.</i>	<i>id.</i>	9	82.69	
<i>Id.</i>	<i>id.</i>	<i>id.</i>	<i>id.</i>	10	17.	
<i>Id.</i>	<i>id.</i>	<i>id.</i>	<i>id.</i>	11	19.20	
<i>Id.</i>	<i>id.</i>	<i>id.</i>	<i>id.</i>	13	19.80	
<i>Id.</i>	<i>id.</i>	<i>id.</i>	<i>id.</i>	15	34.55	546.76

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1904

...

Gastos en el Locomotora No. 3	0.10	
Gastos en el Locomotora No. 4	32.60	
Gastos en el Locomotora No. 6	74.70	
Gastos en el Locomotora No. 7	31.20	
Gastos en el Locomotora No. 9	52.95	
Gastos en el Locomotora No. 10	11.20	
Gastos en el Locomotora No. 11	2.50	
Gastos en el Locomotora No. 12	109.80	
Gastos en el Locomotora No. 14	77.80	
Gastos en el Locomotora No. 16	4.70	
Gastos para las Locomotoras	32.97	472.42

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Consumo de Carbón, Leña, Aceite, etc. etc., en el mes de Mayo de 1904

MAQUINAS	MILLAS CORRIDAS	CARBÓN	LEÑA		ACEITE		KEROSENE	WAIPE	GRASA
		toneladas	tareas	rajas	máquina	cilindro			
					galones	galones	botellas	libras	libras
Locomotora N° 4.....	2.170	3	3	.....	16	16	13	8	.....
" " 6.....	1.457	71	.....	.....	14	14	13	11	.....
" " 7.....	1.798	52¾	.....	.....	15	15	15	3	.....
" " 9.....	1.564	48½	.....	.....	13	13	12	6½	.....
" " 11.....	845	15½	1	.....	3½	6½	2	3	.....
" " 12.....	1.566	47	6	.....	81	.....	.....	2	.....
" " 13.....	686	4¼	.....	.....	3½	4	1½	2	.....
" " 14.....	1.675	145¼	2	.....	28	28	.....	7	1½
" " 16.....	2.188	60½	.....	.....	23¾	35	3	7	7½
Suma.....	13.949	445¾	12	.....	197¾	131½	59½	49½	9
Vapor "Colón".....	.....	15	.....	18.600	10	.....	.....	2	.....
Taller.....	.....	22½	13	.....	9	.....	2	14	.....
Limpiadores.....	.....	.....	.....	.....	.....	.....	15	18	.....
Total.....	13.949	483¾	25	18.600	216¾	131½	76½	83½	9

Combustible

Para Locomotoras, 445¾ T. á \$ 15 y 12 tareas á \$ 4.....	\$ 6.734,25
" sostenimiento del Material Flotante, 15 T. á \$ 15 y 1.600 rajas á \$ 1.....	411,...
" Gastos varios del Equipo, 22½ T. á \$ 15 y 13 tareas á \$ 4.....	389,50
Consumo general de Combustible.....	\$ 7.534,75

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Reparation de Locomotoras.

—Si las máquinas Nos. **15** y **16** estan al servicio de la Construcción, sus reparaciones deben ser de Cta. de esta.
Según la distribución de labor y material en el Taller, la transferencia debe hacerse por \$ 186.

6.8.5 Appendix 5 An 1898 report on the *FC de El Oro* proposal

Source [25] Pages 104-107

Informe del Administrador Gerente del "Ferrocarril de "El Oro."

ESTADO ACTUAL DE LAS OBRAS.

Terraplenes.—Estos estan terminados desde la orilla del mar, en una extension de 6 kilometros ; demas de esto, se construen actualmente 500 metros de terraplenes para las YY ó pata de ganso que reemplazara en Bolivar a la tornamesa.

Enrielladura.—Estan enriellados 6 kilometros de via, desde la orilla del mar hasta esta ciudad. A los rieles, eclisas y pernos, se les ha pintado de alquitran en toda la extension de la via, para preservarlos del oxido que los destruía antes visiblemente, por ser el terreno demasiado abundante en salitre.

Muelle.—Para inaugurar el servicio de carga y descarga por Puerto Bolivar, la Junta Administrativa ordeno la fabricacion de un muelle provisional, que esta concluido desde hace mas de 6 meses, y consta: de una plataforma de 12 por 14 metros, entablada con tablones de 2 pulgadas ; una balsa que sube y baja con la marea, entablada con los mismos tablones ; una rampa para bajar del muelle a la balsa ; desde el muro a la parte entablada del muelle, hay 42 metros de via ferrea, para que pasen los carros a tomar la carga ; al centro de los rieles se ha entablado con los mismos tablones de 2 pulgadas ; la parte entablada del extremo, esta cubierta con fierro acanalado. Este muelle, le cuesta al Ferrocarril, la cantidad de Si. 2.250, sin contar la cubierta ; y debia reclamarse este valor a la Municipalidad encargada para la construccion del muelle. Esta Corporacion ha emprendido ultimamente el ensanche del muelle, continuando el entablado y cubierta, en una extension de 14 metros, concretando aquel y poniendo barandas en los puntos convenientes.

Muros.—Hay contruidos 42 metros lineales de manposteria y 200 metros mas en la construccion de muros de madera, para evitar que el mar arrastre la tierra, frente a los almacenes de Aduana.

Trocha.—Se ha terminado esta al Pasaje, en una extension de 23 kilometros por una latitud de 10 metros : esta linea, mediante un ligero movimiento de tierra, esta prestando importantes servicios como camino carretero; y a costa de muy poco podra construirse ahi la plataforma para la via ferrea, puesto que no existen accidentes de ninguna clase en el terreno ; no hay puentes, viaductos ni alcantarillas que construir ; y está fuera del radio de accion de las grandes avenidas del rio Jubones. Materiales.—Los acumulados para la obra son los siguientes : 25 pietas madera de mangle, para continuar el muro de madera en Bolivar ; 12 calces para estaciones, 1.6 piezas de madera para id. de 11 varas largo y 12 pulgadas por lado.

42 rieles sin eclisas ni pernos.

400 durmientes madera incorruptible.

500 laminas de fierro acanalado para techo, los postes, alambre y aisladores para la linea telefonica de Bolivar a esta ciudad.

150 piezas de madera de diversas clases y dimensiones para construccion.

1 taller de herreria con buena cantidad de herramienta.

Alguna herramienta de carpinteria.

Palas, picos, zapapicos, santiago, fragua portatil, carretillas y mas herramientas para trabajo.

Material en marcha de Nueva York a Bolivar.—Todo pagado.

Una locomotora de 14 toneladas.

Un carro para pasajeros montado sobre dos trucks,

Un carro id. plataforma para carga montada de igual manera.

5 carros de carga montados sobre dos trucks.

Una bomba a vapor (donkey) tie 7 caballos de fuerza.

Un carro tanque.

506 rieles con clavos, pernos y eclisas.

12 cambios y un puente rodante.

Trisiclos, etc., etc., para estaciones.

Construcciones.—Sin contar con los almacenes de Aduana y las dos casitas de Capitanía y Resguardo, la Obra del Ferrocarril tiene :

Una gran covacha en Bolívar para talleres y depósitos ; y otra no menos extensa para habitación de peones.

Una covacha pequeña en medio camino de Bolívar a Machala para depósito de agua y forraje y con pesebrera para el ganado de tiro.

Una bodega-estación en esta ciudad.

Una gran ramada para depositar el material rodante.

Una elegante oficina con sus departamentos necesarios en el centro de la población.

Un corral para el ganado de tiro con sus ramadas y pesebreras.

3 tanques de hierro capacidad para 2.000 litros de agua.

Un bote con todos sus aparejos.

Semovientes y enseres.-12 mulas, 2 caballos, aperos de tiro. Depósitos para transportes de agua.

Material rodante.

Un carro para pasajeros con capacidad para más de 25 personas.

carros para carga con capacidad para 50 quintales cada uno.

Cantidad gastada.—Contrato Pepper . . S/. 62.758,40

Administración Sr. José Madero S/. 17.351,50

Administración del suscrito S/. 59.300,

Contando en esta última cantidad el valor de los materiales por llegar que asciende a S/. 32.000.

S/. 139.409,90

Obras verificadas bajo las tres direcciones que se expresan con las cantidades arriba apuntadas (*)

Durante el Contrato Pepper, desde el 25 de Abril de 1893 al 14 de Febrero de 1894, S/. 62.758,40.

874 rieles con eclisas, clavos, etc.

Todo el fierro acanalado existe en depósitos y en ramaderas.

La covacha para los trabajadores.

Herramientas para los trabajos.

Cemento romano.

Cal.

200 metros cúbicos de piedra.

2.500 metros cúbicos de arena.

2.000 durmientes madera incorruptible.

2 tanques grandes de hierro.

1 canoa grande de id. (hoy destruida).

Las pilastras para un muelle de 56 metros de largo y 12 de ancho (el que está en servicio actualmente).

14 metros de muro de mampostería.

20 metros de muro de madera.

Bajo la dirección del Sr. José Madero, desde el 30 de Mayo de 1894 al 26 de Marzo de 1896, S/. 17.351,70.

26 metros lineales de muro de mampostería.

25 metros de muro de madera.

4 kilómetros de terraplenes, calzando los antiguos a fin de darles las dimensiones convenientes.

Enrielladura de 2 1/2 kilómetros de vía.

Adquisición de alguna herramienta y de 5.000 durmientes.

Dirección del suscrito.—Desde el 13 de Mayo al 25 de Julio de 1896; y por segunda vez desde el 4 de Octubre del 97, hasta la fecha, S/. 59.300.

2 kilómetros de terraplenes calzando los antiguos en las dimensiones proporcionales.

Enrielladura de 3 1/2 kilómetros de vía y pintura con alquitrán del armamento de ésta.

Nivelación y rastradura de la misma en una extensión de 6 kilómetros.

Compra de herramientas para el trabajo, pues todas las palas, picos y zapapicos se las llevaron para Cuenca los espedi-

cionarios de la segunda campaña a Cuenca.

Muelle.

150 metros lineales de muro de madera, la trocha de Machala al Pasaje.

Los materiales con excepcion de los adquiridos por los Sres. Pepper y Madero.

Los materiales que vienen de Estados Unidos, cuyocosto es de S/. 32.500.

Las construcciones del Ferrocarril, exceptuando la habitacion de los peones.

Los dos estanques grandes y el bote.

Ganado y aperos de tiro y material rodante.

Es cuanto tengo que informar en cumplimiento de lo ordenado por el Sr. Gobernador de la provincia.

TOMAS LARREA.

6.8.6 Appendix 6 El Ferrocarril a la Costa, de 1926 a 1954

Source: a post by Gaston Alarcon in July 2017 on the *Guayaquil Fotografias Antiguas* community on Skyscraper City.

<https://www.skyscrapercity.com/threads/guayaquil-fotograf%C3%ADas-antiguas-ii.1677964/page-91>

ESTACIÓN DEL FERROCARRIL A LA COSTA

En los terrenos donde esta actualmente el Estadio del Colegio Vicente Rocafuerte a la altura de la calle Luque

El Ferrocarril de la Península de Santa Elena o de la Costa funcionó desde 1926 hasta 1954. El decreto de su creación fue suscrito el 10 de noviembre de 1909, al siguiente año se conformó la Junta Constructiva que decidió que el tren sería entre Guayaquil y Playas. Pero dos años después se designó a Salinas como término del Ferrocarril. Esa designación no fue del agrado de todos y circularon hojas volantes de rechazo, así lo testimonia Alejandro Guerra Cáceres en Apuntes para la historia de la Península de Santa Elena, en el que se manifestaba: “Que conste que la gran masa proletaria ha reprobado el ferrocarril a un balneario. Los ricos, los influyentes y los de sangre azul deben costearse sus comodidades sin recurrir a los centavos de los infelices”.

Después de largos años, el 26 de septiembre de 1926, el tren arribó a Santa Elena. El tren partía de Guayaquil –la estación estaba donde es actualmente el colegio Vicente Rocafuerte– hacia Chongón-Daular-Bajada de Chongón (Cerecita)-San Isidro-San José de Amén (Progreso)-La Aguada (recinto Billingota)-Zapotál-San Vicente-Santa Elena, cuya estación estaba en el barrio Márquez de la Plata. En 1934, llegó a La Libertad y ocho años después –5 de octubre de 1936– a Salinas.

El historiador Rodolfo Pérez Pimentel, en el prólogo del libro de Villón, señala que el viaje duraba cinco horas, con paradas en cada estación, todos los días, desde ambas ciudades, partía a las 07:00 y llegaban a las 12:00.

La idea de establecer ferrocarriles en el Ecuador fue propuesta por don Vicente Rocafuerte Bejarano a comienzos de los años 1830, cuando retornó al país luego de pasar varios años en Europa y experimentar los comienzos de la instalación de ferrocarriles en Inglaterra. Luego don Gabriel García Moreno comenzó a poner en práctica las ideas de modernización y fue él quien comenzó la construcción del ferrocarril de Yaguachi a Quito. Fue específicamente en 1903 cuando se comenzó a discutir en serio la construcción de un ferrocarril a Santa Elena, bajo la iniciativa y financiación de una empresa privada concesionaria.

La intención era la explotación comercial de la tierra colindante con la línea férrea, con el consiguiente transporte de carga, y como servicio secundario estaría el transporte de pasajeros.

Pero ese no era el razonamiento que proponía la mayoría de guayaquileños para la construcción del ferrocarril a la costa. El razonamiento de la mayoría era sencillo:

Los guayaquileños necesitaban un medio económico para trasladarse a los balnearios de la costa por razones sanitarias y de esparcimiento, especialmente en la temporada invernal, en que la ciudad se tornaba insalubre. Por razones de economía se propuso inicialmente que el destino del ferrocarril fuera el balneario de Playas, con un ramal hacia Posorja. Debe quedar muy claro el motivo de la construcción del ferrocarril: Sanidad y esparcimiento. Por ello, inicialmente el ferrocarril a la costa fue denominado: “Ferrocarril Sanitario”.

Durante algunos años se discutió la forma de construir este ferrocarril, hasta que en

1909 un grupo de prestantes guayaquileños propusieron al Congreso que se reinstaurara un impuesto al tabaco introducido y elaborado en la provincia del Guayas, que había sido derogado y otro sobre el aguardiente, con el fin de aplicar sus ingresos a la construcción del Ferrocarril a Playas.

Estaba muy claro: Si los guayaquileños querían un ferrocarril sanitario y estaban dispuestos a pagarlo ellos mismos, entonces ¿por qué no aceptar la propuesta, que a fin de cuentas beneficiaría a todo el país?

El Congreso aceptó la propuesta, se emitió el decreto el día 8 de noviembre de 1909 y el presidente Alfaro lo sancionó el día 10 del mismo mes. El decreto disponía el establecimiento de una Junta en el Municipio de Guayaquil, que estaría a cargo de la recaudación del impuesto, la construcción y administración del ferrocarril a Playas. El Concejo

Cantonal de Guayaquil reaccionó de inmediato y para el 16 de diciembre ya se había discutido en 3° la “Ordenanza sobre Construcción del Ferrocarril a Playas”.

El 27 de diciembre se nombró a los integrantes de la primera Junta y para el 15 de enero de 1910 se había aprobado el Reglamento que regiría las operaciones

El proyecto original del ferrocarril tenía como destino Playas y se contemplaba la posibilidad de extender un ramal a Posorja

El año 1912 se tomó una decisión trascendental: El destino principal del ferrocarril ya no sería Playas sino el balneario de Salinas, construyéndose un ramal a Playas

Para llegar el tren a Guayaquil se hizo La construcción del puente sobre el Estero Salado.

La durabilidad no fue especificada, pero se lo consideró como sólido y muy bien construido. No era necesario recalcar que, siendo de madera, necesitaría de constante mantenimiento

El tren había llegado a Santa Elena en septiembre de 1926 completar los 18 kilómetros que faltaban hasta Salinas tomaría casi exactamente diez años. El tren entró por primera vez a la estación de Salinas el día 5 de octubre de 1936. No debemos olvidar que el objeto original del ferrocarril a la costa era el permitir el desplazamiento de un mayor número de habitantes de la ciudad de Guayaquil a los balnearios costeros. No fue construido para los ricos, quienes desde siempre habían tenido el dinero para pasar el invierno en la costa, de tal forma que debía facilitar el movimiento de todas las clases sociales.

El ramal a Playas, cuyo terraplén había sido construido, nunca fue enriellado y por ello fue desapareciendo o sirvió como ruta para el carretero. El tren nunca llegó a Playas, balneario que había sido su destino original.

El 29 de octubre de 1941, a las 6:45 AM, salió un convoy desde la estación de

Guayaquil hacia San Eduardo y al pasar sobre el puente del Salado, éste colapsó. Luego de ese accidente el tren ya no cruzaría el estero sino que se quedaría en la Ciudadela Ferroviaria, pero una vez superado el incidente, las actividades continuaron.

Durante los años 1940 el servicio continuó, aunque los equipos se fueron deteriorando cada vez más por falta de mantenimiento adecuado, el personal trabajaba con desgano, pues se percibía un ambiente de abandono por parte del Estado, dueño del ferrocarril.

Luego de 9 años, el 22 de junio de 1950, se dio otro accidente que fue el golpe de gracia para el ferrocarril a la costa, éste terrible accidente, sumado al hecho de que el carretero hasta Salinas y Playas ya era estable, acabó con la credibilidad del ferrocarril a la costa.

A pocos días, el 28 de junio, el Estado despedía a muchos de los trabajadores del ferrocarril, una señal clara de su fin. Casi sin movimiento y en un franco deterioro de todos los equipos y vías, era cuestión de tiempo para que se acabara con el ferrocarril. Así, el 28 de octubre de 1953 se resolvió suspender el servicio, pero un grupo de prestantes guayaquenses se resistían a que desapareciera el ferrocarril y por ello solicitaron que pasara a manos de la recientemente creada “Junta de mejoras y obras públicas de la península de Santa Elena”.

El Gobierno accedió, pero ya era muy tarde y la misma Junta resolvió liquidarlo.

Así, el 23 de abril de 1954 se oficializó el fin del Ferrocarril a la Costa.

Sus equipos fueron vendidos unos y entregados otros a la Empresa de Ferrocarriles del Estado. el producto de su liquidación se aplicó a la carretera Santa Elena – Manglaralto.

¡El automóvil había triunfado sobre el ferrocarril en el Ecuador

RAILWAY STATION TO THE COAST

On the land where the Vicente Rocafuerte School Stadium is currently located at Luque Street

The Railway of the Peninsula of Santa Elena or of the Coast worked from 1926 to 1954. The decree of its creation was signed on November 10, 1909, the following year the Construction Board was formed that decided that the train would be between Guayaquil and Playas . But two years later Salinas was designated as the terminus of the Railroad. That designation was not to everyone's liking and fliers of rejection were circulated, as Alejandro Guerra Cáceres testifies in Notes for the history of the Santa Elena Peninsula, in which he stated: "Let it be known that the great proletar-

ian mass has failed the railway to a resort. The rich, the influential and the blue blooded must afford their comforts without resorting to the pennies of the unhappy.

After long years, on September 26, 1926, the train arrived in Santa Elena. The train departed from Guayaquil – the station was where the Vicente Rocafuerte school currently is – to Chongón-Daular-Bajada de Chongón (Cerecita)-San Isidro-San José de Amén (Progreso)-La Aguada (Billingota campus)-Zapotál-San Vicente-Santa Elena, whose station was in the Márquez de la Plata neighborhood. In 1934, he arrived in La Libertad and eight years later –October 5, 1936– in Salinas.

The historian Rodolfo Pérez Pimentel, in the prologue of Villón's book, points out that the trip lasted five hours, with stops at each station, every day, from both cities, departing at 07:00 and arriving at 12:00.

The idea of establishing railways in Ecuador was proposed by Mr. Vicente Rocafuerte Bejarano in the early 1830s, when he returned to the country after spending several years in Europe and experiencing the beginnings of the installation of railways in England. Then Mr. Gabriel García Moreno began to put into practice the ideas of modernization and it was he who began the construction of the Yaguachi-Quito railway. It was specifically in 1903 when serious discussions began on the construction of a railway to Santa Elena, under the initiative and financing of a private company dealership.

The intention was the commercial exploitation of the land adjoining the railway line, with the consequent cargo transport, and as a secondary service would be the transport of passengers.

But that was not the reasoning proposed by the majority of Guayaquil for the construction of the railroad to the coast. The reasoning of the majority was simple:

The people of Guayaquil needed an economic means to move to the beach resorts for health and leisure reasons, especially in the winter season, when the city became unhealthy. For reasons of economy, it was initially proposed that the destination of the railway be the resort of Playas, with a branch to Posorja. The reason for the construction of the railway should be very clear: Health and recreation. For this reason, initially the railway to the coast was called: "Sanitary Railway"

For some years the way to build this railway was discussed, until in

1909 a group of Guayaquil leaders proposed to Congress that a tax on tobacco introduced and prepared in the province of Guayas, which had been repealed, and another on liquor be reinstated, in order to apply their income to the construction of the Railway to Playas

It was very clear: If the Guayacens wanted a sanitary railway and were willing to pay for it themselves, then why not accept the proposal, which would ultimately benefit the entire country?

Congress accepted the proposal, the decree was issued on November 8, 1909 and President Alfaro sanctioned it on the 10th of the same month. The decree provided for the establishment of a Board in the Municipality of Guayaquil, which would be in charge of collecting the tax, construction and administration of the railway to Playas. The Guayaquil Cantonal Council reacted immediately and by December 16 the "Ordinance on Construction of the Railway to Beaches" had already been discussed in 3rd.

On December 27, the members of the first Board were appointed and by January 15, 1910, the Regulations that would govern the operations had been approved.

The original railway project was destined for Playas and the possibility of extending a branch to Posorja was contemplated.

In 1912 a transcendental decision was made: the main destination of the railway would no longer be Playas but the resort of Salinas, building a branch to Playas

To get the train to Guayaquil, the construction of the bridge over the Estero Salado was made.

Durability was not specified, but it was considered solid and very well built. It was not necessary to emphasize that, being made of wood, it would need constant maintenance.

On October 29, 1941, at 6:45 AM, a convoy left the station of

Guayaquil to San Eduardo and when passing over the Salado bridge, it collapsed. After that accident the train would no longer cross the estuary but would remain in the Railway Citadel, but once the incident was over, the activities con-

tinued.

During the 1940s the service continued, although the equipment deteriorated more and more due to lack of proper maintenance, the staff worked with reluctance, since an atmosphere of abandonment by the State, owner of the railway, was perceived.

After 9 years, on June 22, 1950, there was another accident that was the coup de grâce for the railway to the coast, that terrible accident, added to the fact that the road to Salinas and Playas was already stable, ended with the credibility of the railway to the coast.

A few days later, on June 28, the State fired many of the railroad workers, a clear sign of its end. Almost without movement and in a clear deterioration of all the equipment and tracks, it was a matter of time before the railway was finished. Thus, on October 28, 1953, it was decided to suspend the service, but a group of Guayacenses leaders resisted the disappearance of the railway and therefore requested that it pass into the hands of the recently created "Board of improvements and public works of the peninsula of St. Helen".

The Government agreed, but it was already too late and the Board itself decided to liquidate it.

Thus, on April 23, 1954, the end of the Railroad to the Coast was made official.

Some of its equipment was sold and others delivered to the State Railway Company. the product of its liquidation was applied to the Santa Elena – Manglaralto highway.

The automobile had triumphed over the railway in Ecuador!

6.8.7 Baldwin erecting drawings for Ecuadorian locos available for purchase from the DeGolyer Library

Background

When the Baldwin works closed in 1956 C. W. Whitbeck was given permission to salvage what he could of the company's records and drawings. This was inevitably only a miniscule fraction of what had existed, but nevertheless is extremely valuable for researchers. Much of what he saved has now migrated to the DeGolyer Library of Southern Methodist University in Texas. Some is available online, whilst drawings and other items can be ordered.

Baldwin loco specification books

These hold a vast amount of information about individual batches of locos, though they were copied from microfilms which can make the identification of the appropriate pages more difficult – though not impossible – in some volumes. <https://digitalcollections.smu.edu/digital/collection/rwy/id/32>

Erecting drawings

About 4000 Baldwin general arrangement drawings are available – out of perhaps 50,000 or more. Lists – and other assets – can be found via https://txarchives.org/smu/finding_aids/00052.xml but note that it worth taking time to browse deeply, as the Txarchives and SMU libraries websites are not always easy to navigate.

Image services and permission to publish

<https://www.smu.edu/libraries/degolyer/using/images>

Reproduction fees

<https://www.smu.edu/libraries/degolyer/using/images/usage-fees>

Available drawings of Colombian engines

Low-res copies of those available online are displayed at the relevant points in this file. Details of those drawings and others are displayed below to assist anyone wishing to order high-res copies.

Index no.	Dwg. no.	Road name	Road no.	Year	Baldwin class and no.	Wheels	Dwg. type & size
674A-46	3756	Ecuadorian Association of Scotland	10-11	1900	08-28D 180-181	2-6-0	SE/CS 3
473-17	5422	Guayaquil & Quito		1906	10-00 21/21E 1-12	2-8-0	SE/CS 3
469A-91	5117	Guayaquil & Quito	17-18	1905	12-00 19/32DD 5-6	0-6-6-0	SE/CS 3

6.9 Index of loco builders

Works no.	Year	Wheels	Gauge	Owner and number and name	Section
ALCo					
29536	1903	0-4-4T	3' 0"	<i>FC Pto. Bolivar a Pasaje 2</i> then 4 , later <i>FFCC del Oro</i> 26	6.3.7
29966	1904	0-6-0	?	<i>FC Provincial de Manabí 1</i> , later <i>FC Bahía de Caraquez a Chone (CFCFE)</i> 10	6.3.9
46574	1909	0-4-4T	3' 0"	<i>FC Pto. Bolivar a Pasaje 1</i>	6.3.7
Baldwin					
5256	1880	2-6-0	3' 0"	<i>FC del Sur 4</i> ‘OCHO de SETIEMBRE’	6.3.1
5250	1880	4-4-0	3' 0"	<i>FC del Sur 5</i> ‘GENERAL I. de VEINTEMILLA’	6.3.1
9593	1888	4-6-0	3' 0"	<i>FC del Sur 6</i> ‘SIBAMBE’	6.3.1
18060	1900	2-6-0	3' 0"	<i>FC del Sur / G&QR 10</i>	6.3.1
18114	1900	2-6-0	3' 0"	<i>FC del Sur / G&QR 11</i>	6.3.1
18427	1900	2-6-0	3' 6"	<i>G&QR 12</i>	6.3.2
18428	1900	2-6-0	3' 6"	<i>G&QR 13</i>	6.3.2
19153	1901	2-6-0	3' 6"	<i>G&QR 7</i>	6.3.2
19154	1901	2-6-0	3' 6"	<i>G&QR 8</i>	6.3.2
19346	1901	2-6-0	3' 6"	<i>G&QR 9</i>	6.3.2
19347	1901	2-6-0	3' 6"	<i>G&QR 14</i>	6.3.2
25870	1905	0-6-6-0 Mallet	3' 6"	<i>G&QR 17</i>	6.3.2
25959	1905	0-6-6-0 Mallet	3' 6"	<i>G&QR 18</i>	6.3.2
27615	1906	2-8-0	3' 6"	<i>G&QR 19</i>	6.3.2
27638	1906	2-8-0	3' 6"	<i>G&QR 20</i>	6.3.2
27649	1906	2-8-0	3' 6"	<i>G&QR 21</i>	6.3.2
27650	1906	2-8-0	3' 6"	<i>G&QR 22</i>	6.3.2
27651	1906	2-8-0	3' 6"	<i>G&QR 23</i>	6.3.2
27652	1906	2-8-0	3' 6"	<i>G&QR 24</i>	6.3.2
27703	1906	2-8-0	3' 6"	<i>G&QR 25</i>	6.3.2
27749	1906	2-8-0	3' 6"	<i>G&QR 26</i>	6.3.2
32793	1908	0-4-0ST	2' 6"	<i>Ingenio Ines María</i> ‘LILLIPUT’	6.5.1
32818	1908	0-4-0	75cm	<i>Ingenio Rocafuerte</i> ?	6.5.5
36036	1911	2-6-0	75cm	<i>FC Bahía de Caraquez a Chone (CFCFE)</i> 3	6.4.3
36372	1911	2-4-0	75cm	<i>FC Bahía de Caraquez a Chone (CFCFE)</i> 12	6.4.3
40865	1913	2-6-0	75cm	Central Railway of Ecuador 21	6.4.2
41159	1914	2-6-0	3' 6"	<i>FC al Curaray 1</i> , later <i>G&QR 6</i>	6.3.3
41160	1914	2-6-0	3' 6"	<i>FC al Curaray 2</i> , later <i>G&QR 5</i>	6.3.3
43209	1908	0-6-0	2' 6"	<i>Ingenio Ines María 2</i>	6.5.1
44279	1916	0-4-0T	3' 0"	<i>Obras Públicas de la Muni. de Guayaquil</i> ?	6.3.11
44459	1916	2-6-0	3' 6"	<i>FC Sibambe Cuenca 1</i> , later to <i>FC Quito a Esmeraldas 4</i>	6.3.4
52869	1920	2-8-0	3' 6"	<i>G&QR 28</i>	6.3.2
52915	1920	2-8-0	3' 6"	<i>G&QR 29</i>	6.3.2
52934	1920	2-8-0	3' 6"	<i>G&QR 30</i>	6.3.2
55298	1922	0-4-0	3' 0"	<i>Ingenio Valdez 3</i> (later 2) ‘DOLORES’	6.5.2
58415	1925	0-4-0	3' 0"	<i>Ingenio Valdez 3</i> ‘RAFICA’	6.5.2
58956	1920	2-8-0	3' 6"	<i>G&QR 31</i>	6.3.2

58957	1920	2-8-0	3' 6"	G&QR 32	6.3.2
60182	1927	2-8-0	3' 6"	<i>FC Sibambe Cuenca 2</i> 'CHANAR', later to G&QR 15	6.3.5
61619	1931	2-8-0	3' 6"	<i>FC Sibambe Cuenca 3</i> , later to <i>FC Quito a Esmeraldas</i> 3 'FEDERICO PAEZ', later to G&QR 3	6.3.5
61872	1935	2-8-0	3' 6"	<i>FC Sibambe Cuenca 4</i> 'AZUAY', later to G&QR 17	6.3.5
62052	1937	2-8-0	3' 6"	G&QR 36	6.3.2
62053	1937	2-8-0	3' 6"	G&QR 37	6.3.2
62293	1939	2-8-0	3' 6"	G&QR 38	6.3.2
62294	1939	2-8-0	3' 6"	G&QR 39	6.3.2
62447	1940	2-8-0	3' 6"	G&QR 40	6.3.2
62448	1940	2-8-0	3' 6"	G&QR 41	6.3.2
70186	1944	2-8-0	3' 6"	G&QR 43	6.3.2
70323	1944	2-8-0	3' 6"	G&QR 45	6.3.2
70891	1944	2-8-0	3' 6"	G&QR 44	6.3.2
71522	1945	2-8-0	3' 6"	G&QR 42	6.3.2
71523	1947	2-8-0	3' 6"	G&QR 47	6.3.2
71582	1947	2-8-0	3' 6"	G&QR 46	6.3.2
72695	1946	2-8-0	3' 6"	G&QR 48	6.3.2
72696	1946	2-8-0	3' 6"	G&QR 49	6.3.2
72697	1946	2-8-0	3' 6"	G&QR 50	6.3.2
72698	1946	2-8-0	3' 6"	G&QR 51	6.3.2
75584	1951-3	2-8-0	3' 6"	G&QR 52	6.3.2
75585	1951-3	2-8-0	3' 6"	G&QR 53	6.3.2
75586	1951-3	2-8-0	3' 6"	G&QR 54	6.3.2
75587	1951-3	2-8-0	3' 6"	G&QR 55	6.3.2
75588	1951-3	2-8-0	3' 6"	G&QR 56	6.3.2
75589	1951-3	2-8-0	3' 6"	G&QR 57	6.3.2
75590	1951-3	2-8-0	3' 6"	G&QR 58	6.3.2

Beyer Peacock

6527	1929	2-6-2+2-6-2 G	3' 6"	G&QR 101 'ELOY ALFARO' later 51	6.3.2
6528	1929	2-6-2+2-6-2 G	3' 6"	G&QR 102 'PRESIDENTE AYORA' later 52	6.3.2
6529	1929	2-6-2+2-6-2 G	3' 6"	G&QR 103 'ARCHER HARMAN' later 53	6.3.2

Borsig

11872	1925	2-8-0	75cm	<i>FC Pto. Bolivar a Loja 1</i> , later <i>FFCC del Oro 25</i>	6.4.1
11873	1925	2-8-0	75cm	<i>FC Pto. Bolivar a Loja 2</i> , later <i>FFCC del Oro 23</i>	6.4.1
11921	1926	4-6-0	3' 6"	<i>FC Quito a Esmeraldas 1</i> , later to G&QR 1	6.3.4
11922	1926	4-6-0	3' 6"	<i>FC Quito a Esmeraldas 2</i> , later to G&QR 2	6.3.4
12084	1928	2-6-0	75cm	<i>FC Bahía de Caraquez a Chone (CFCFE) ?</i>	6.4.3
12085	1928	2-6-0	75cm	<i>FC Bahía de Caraquez a Chone (CFCFE) ?</i>	6.4.3

Davenport

1733	1919	0-4-0	60cm	<i>Ingenio San Carlos 5</i>	6.5.3
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Decauville Ainé

131	1891	0-4-0T	60cm	<i>Ingenio Luz María y Matilde</i> 'MATILDE'	6.5.4
192	1895	0-4-2T	60cm	<i>Ingenio Luz María y Matilde 3</i> 'SAN NICOLAS'	6.5.4

282	1898	0-4-0T	60cm	<i>Ingenio Luz María y Matilde ‘LUZ MARÍA’</i>	6.5.4
328	1901	0-4-0T	50cm	<i>Ingenio Adelina María ?</i>	6.5.7
639	1912	0-4-0T	50cm	<i>Ingenio Adelina María ‘MIRAMAR’</i>	6.5.7
Falcon					
530	1887	0-4-2TT	3' 0"	<i>Ingenio Valdez 2 ‘VICTORIA’</i>	6.5.2
Fowler					
10804	1906	0-4-2ST	60cm	<i>Ingenio San Carlos 2</i>	6.5.3
Glover Machine Works					
121637	1919	2-6-0	3' 6"	<i>Ingenio San Carlos 7</i>	6.5.3
131815?	1919	0-6-0	3' 6"	<i>Ingenio San Carlos 8</i>	6.5.3
Grant					
1166	1877	4-4-0	3' 0"	<i>FC del Sur 3?</i>	6.3.1
Henschel					
19237	1922	0-4-0T	60cm	<i>Ingenio San Carlos 4</i>	6.5.3
19266	1922	2-6-0	Std.	<i>FC de la Costa ?</i>	6.1.2
19649	1922	4-6-0	Std.	<i>FC de la Costa ?</i>	6.1.2
20290	1922	0-4-0T	Std.	<i>FC de la Costa ?</i>	6.1.2
20480	1922	0-6-0T	Std.	<i>FC de la Costa ?</i>	6.1.2
20666	1926	0-8-0T	3' 6"	Unidentified customer	6.7.1
20667	1926	0-8-0T	3' 6"	Unidentified customer	6.7.1
Kerr Stuart					
1143	1911	0-4-2ST	75cm	Central Railway of Ecuador 1 ‘ALFARO’	6.4.2
1210	1911	2-6-2T	75cm	Central Railway of Ecuador 2	6.4.2
1211	1911	2-6-2T	75cm	Central Railway of Ecuador 3	6.4.2
4289	1923	2-6-2T	75cm	Central Railway of Ecuador 3	6.4.2
Knowlson & Kelley					
7	1883	0-4-0ST	3' 0"	<i>Ingenio Valdez ? ‘ENRIQUE’</i>	6.5.2
Lima					
650	1901	3 truck Shay	3' 6"	G&QR 15¹	6.3.2
648	1901	3 truck Shay	3' 6"	G&QR 16¹	6.3.2
761	1903	3 truck Shay	3' 6"	G&QR 17¹ (order cancelled, loco not delivered)	6.3.2
762	1903	3 truck Shay	3' 6"	G&QR 18¹ (order cancelled, loco not delivered)	6.3.2
O&K					
3281	1909	0-6-0T	Std.	<i>La Empresa de Carros Urbanos ?</i>	6.1.1
3282	1909	0-6-0T	Std.	<i>La Empresa de Carros Urbanos ?</i>	6.1.1
3283	1909	0-6-0T	Std.	<i>La Empresa de Carros Urbanos ?</i>	6.1.1
3284	1909	0-6-0T	Std.	<i>La Empresa de Carros Urbanos ?</i>	6.1.1
4187	1910	2-4-0TT	60cm	<i>Ingenio San Carlos 3</i>	6.5.3
7118	1913	2-4-0WTT	3' 6"	<i>Ingenio San Carlos 6</i>	6.5.3
10508	1923	0-6-0T	60cm	<i>Ingenio Nugues ?</i>	6.5.6

Pittsburgh

1842	1898	0-4-4T	3' 0"	FC Pto. Bolivar a Pasaje 1 'MACHALA'	6.3.7
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Porter

135	1872	2-4-0	3' 0"	FC de Yaguachi 1 'GARCIA MORENO' later FC del Sur 1 'QUITO' , later to G&QR	6.3.1
170	1873	0-6-0	3' 0"	FC de Yaguachi 2 'F. JAVIER LEON' later FC del Sur 2 'GUAYAQUIL' , later to G&QR	6.3.1
195	1874	0-4-0	3' 0"	Unidentified customer	6.6.1
443	1881	0-4-0T	3' 0"	FC del Sur, or maybe FC del Estero Salado, ? 'MASCOTA'	6.3.1
822	1887	0-4-0T	4' 0"	La Aduana de Guayaquil 1	6.2.1
902	1887	0-4-0T	4' 0"	La Aduana de Guayaquil 2	6.2.1
4270	1909	0-4-0T	Std.	La Empresa de Carros Urbanos 1	6.1.1
4271	1909	0-4-0T	Std.	La Empresa de Carros Urbanos 2	6.1.1
4272	1909	0-4-0T	Std.	La Empresa de Carros Urbanos 3	6.1.1
4318	1909	0-4-0T	Std.	La Empresa de Carros Urbanos 4	6.1.1
4319	1909	0-4-0T	Std.	La Empresa de Carros Urbanos 5	6.1.1
4320	1909	0-4-0T	Std.	La Empresa de Carros Urbanos 6	6.1.1
4430	1909	0-4-0T	Std.	La Empresa de Carros Urbanos 7	6.1.1
4431	1909	0-4-0T	Std.	La Empresa de Carros Urbanos 8	6.1.1
4432	1909	0-4-0T	Std.	La Empresa de Carros Urbanos 9	6.1.1
4433	1909	0-4-0T	Std.	La Empresa de Carros Urbanos 10	6.1.1
4434	1909	0-4-0T	Std.	La Empresa de Carros Urbanos 11	6.1.1
4435	1909	0-4-0T	Std.	La Empresa de Carros Urbanos 12	6.1.1
5174	1912	0-4-0T	4' 0"	La Aduana de Guayaquil 3	6.2.1
6878	1924	0-4-0T	4' 0"	La Aduana de Guayaquil 4	6.2.1
6892	1924	2-4-0	60cm	Ingenio San Carlos 9	6.5.3
6893	1924	2-4-0	60cm	Ingenio San Carlos 10	6.5.3
7079	1927	2-6-0	75cm	FC Pto. Bolivar a Loja 3 'LOJA' , later FFCC del Oro 10	6.4.1

Vulcan Iron Works

2329	1914	0-4-0ST	Std.	Obras sanitarios de Guayaquil ?	6.1.3
2330	1914	0-4-0ST	Std.	Obras sanitarios de Guayaquil ?	6.1.3
2968	1919	0-4-0T	2' 6"	Unidentified customer	6.7.1
