Part 7

Bolivian steam locomotive list

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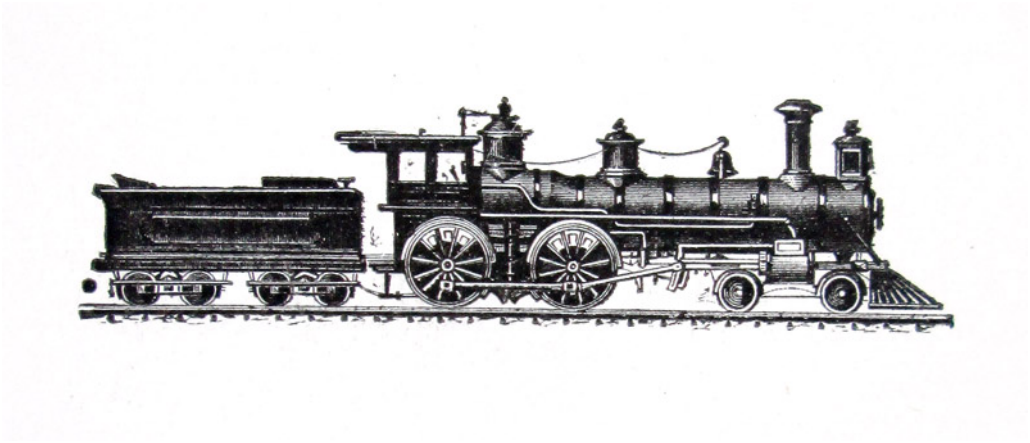
This file can be found, along with the five Chilean parts in the series and files for a number of other South American countries, at http://www.railwaysofthefarsouth.co.uk/05x03chileansteamlocos.html



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 hopefullyy the layout is suitablefor 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 Bolivian list

There are around 200 steam locos listed here. However, that is not the total of engines used in Bolivia. Many of the *FCAB* and *FCALP*'s early locos have already been documented in the Chilean lists and have not been duplicated here unless they ended up in the later separate fleets operating on the Bolivian divisions of those railways.

T

Introducción general

Estas listas tienen su origen en la publicación del libro *Railways at the End of the World* (The Araucaria Press, 1 Fellview, 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 boliviana

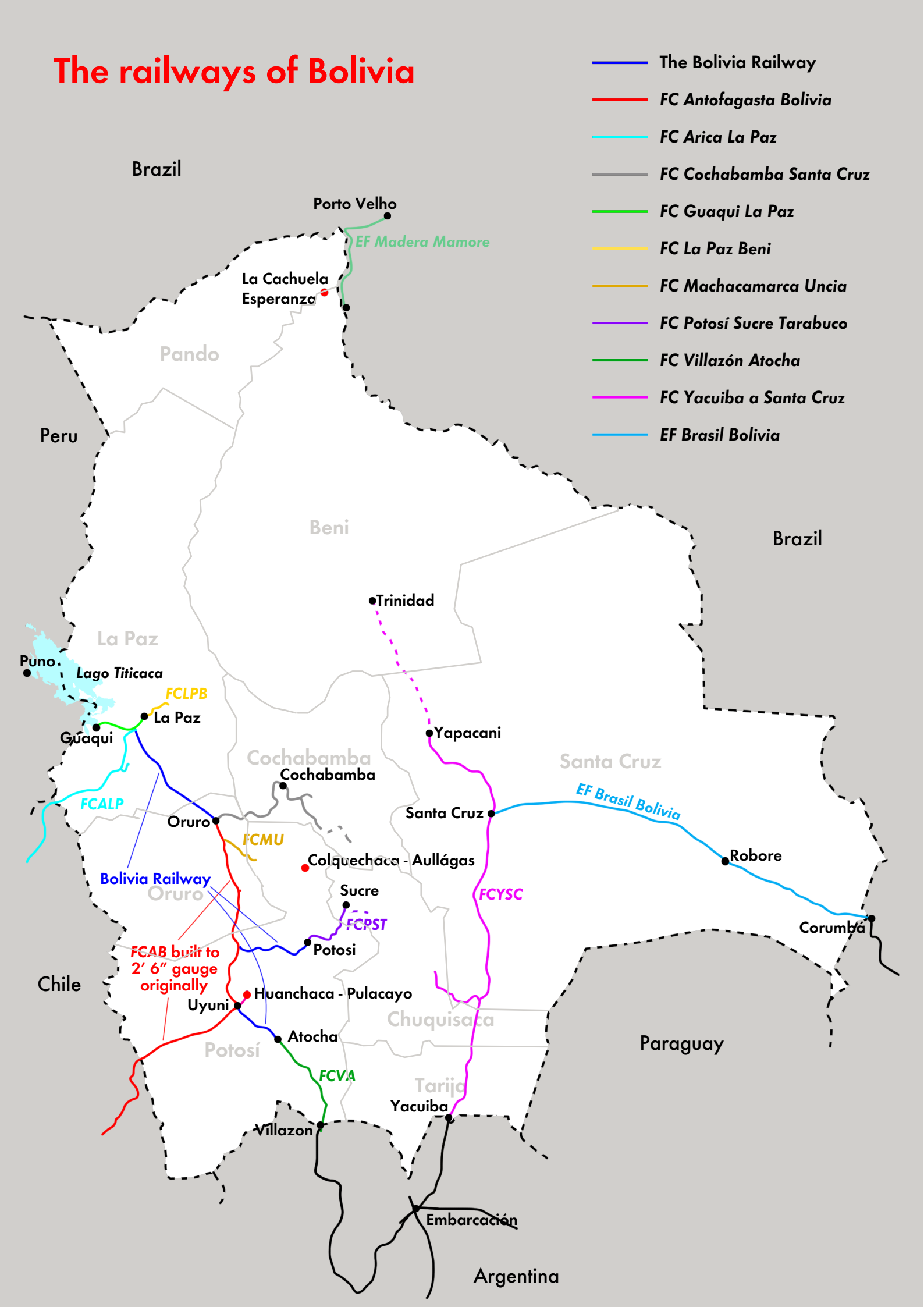
Hay alrededor de 200 locomotoras de vapor enumeradas aquí. Sin embargo, ese no es el total de máquinas utilizados en Bolivia. Muchas de las primeras locomotoras de FCAB y FCALP ya se han documentado en las listas chilenas y no se han duplicado aquí a menos que terminaran en las flotas separadas posteriores que operaban en las divisiones bolivianas de esos ferrocarriles.

List of contents

Red text = hyper-links to appropriate pages.

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.


The railways of Bolivia
The Bolivia Railway
FC Antofagasta Bolivia
FC Arica La Paz
FC Cochabamba Santa Cruz
FC Guaqui La Paz
FC La Paz Beni
FC Machacamarca Uncia
FC Potosí Sucre Tarabuco
FC Villazón Atocha
FC Yacuiba a Santa Cruz
EF Brasil Bolivia
Brazil
Peru
Chile
Paraguay
Argentina
Porto Velho
EF Madera Mamore
La Cachuela Esperanza
Pando
Beni
Trinidad
La Paz
Puno
Lago Titicaca
FCLPB
La Paz
Guaqui
FCALP
Cochabamba
Cochabamba
Oruro
FCMU
Colquechaca - Aullágas
Bolivia Railway
Oruro
Sucre
FCPST
Potosi
FCAB built to 2' 6" gauge originally
Huanchaca - Pulacayo
Uyuni
Atocha
Potosí
FCVA
Tarija
Yacuiba
Villazon
Yapacani
Santa Cruz
Santa Cruz
EF Brasil Bolivia
Robore
FCYSC
Corumbá
Chuquisaca
Embarcación

Notes and sources

The structure of this document is based upon the earlier ones for Chilean locos. The starting point was the lists in *Railways of Bolivia* by the late Christopher Walker and Donald Binns. Further sources are as listed. In general the locos ordered for the metre gauge have been covered first, then 75cm and 2' 6" gauge lines, and finally the 60cm and 2' 0" gauge railways.

Sources

[1] Lists in SLS library file L8434.
[2] Allen Copeland's Bolivia list in SLS library file L8841.
[3] US Dept. of Commerce report 1926?.
[4] *Railways of Bolivia*, undated but actually 20??, Christopher Walker and Donald Binns, Trackside Publications.
[5] Unidentified article by Charles Plank referred to in [4].
[6] *Bolivian steam locomotives and cranes 2005* – an unattributed list of surviving equipment though one which acknowledges help from R. G. Farr and Dave Rollins.
[7] Rob Dickinson's *International Steam* website at http://internationalsteam.co.uk
[8] *El 'trencito frustrado' del Beni*, Hugo Padilla, in *Trinidad*, 11 December 2017. Possibly also published in *La Palabra del Beni* in December 2017.
[9] *Ferrocarril central boliviano : de Oruro, Corocoro, La Paz, Huarina, Achacachi, Sotlaya, Ancoraimes, Carabuco, Escoma, Huaicho : ferri-boat a Puno, vía ancha de W.H. Christy, motivos que justifican su plantificación, desarrollo de las provincias del norte de Bolivia*. Christy, W. H. , Stumpf, Augusto. La Paz : Imp. y Lit. de El Nacional, [1890?] https://babel.hathitrust.org/cgi/pt?id=txu.059173027778537&view=1up&seq=36
[10] *Informe del Inspector Fiscal de Contabilidad, Sr. Enrique Gutiérrez, Relativo a los gastos de construcción de ferrocarriles de The Bolivia Railway Co. por el año 1911*. La Paz Bolivia Imp. Artística. 1912.
[11] *Informe y presupuesto del ferrocarril del lago Titicaca á la ciudad de La Paz*. Bustamante y Barrera, Mariano. La Paz, Imprenta del Estado, 1900. https://babel.hathitrust.org/cgi/pt?id=txu.059173027778129&view=1up&seq=15
[12] *Ferrocarril de Cochabamba al Chimoré; propuesta presentada al Suprema Govierno por Simón I. Patiño; artículos de comentario y propaganda del diario "El Ferrocarril". Juicios sobre la conveniencia de comunicar Bolivia con el Atlántico*. Patiño, Simón Iturri. Cochabamba, El Ferrocarril, 1911.
[13] *'Kilometre Zero', some notes on the Railways of Bolivia*, David Ibbotson and Ian Duncan, 2001, In *Locomotives International* issue no. 57.
[14] *South American Railways in the 1960s*, Henry Finch, Turntable Publishing, 2021.
[15] Brief notes by Günter Koch in *Locomotives International* issue no. 60, p30.

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 appro-

priate 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

Railway names and abbreviations

Railways in Bolivia

FCAB	*Ferrocarril Antofagasta y Bolivia*	Antofagasta (Chili) & Bolivia Railway
FCALP	*Ferrocarril Arica La Paz*	Arica La Paz Railway
FCB	*Ferrocarril de Bolivia*	The Bolivia Railway
FCCSC	*Ferrocarril Cochabamba Santa Cruz*	
FCGLP	*Ferrocarril Guaqui La Paz*	Owned by the Peruvian Corporation
FCLPA	*Ferrocarril La Paz a Antofagasta*	The nationalised Bolivian part of the *FCAB* post 1964
FCLPB	*Ferrocarril La Paz Beni*	
FCMU	*Ferrocarril Machacamarca Uncia*	
FCPST	*Ferrocarril Potosí Sucre Tarabuco*	The Potosi Sucre railway, which never reached Tarabuco
FCVA	*Ferrocarril Villazon Atocha*	Villazon Atocha railway
FCYSC	*Ferrocarril Yacuiba a Santa Cruz*	Yacuiba (Argentina) to Santa Cruz railway
EFBB	*Estrado do Ferro Brasil a Bolivia*	Corumba (Brazil) to Santa Cruz railway aka *FC Santa Cruz a Corumbá* but the Brazilian name is used here to avoid confusion with the *FCCSC*.
ENFFCC	*Empresa Nacional de los Ferrocarriles*	The original holding company for the nationally owned railways, before the reorganisation into *ENFE*.
ENFE	*Empresa Nacional de los FFCC del Estado*	

Railways in adjacent countries

EFCdB	*Estrada do Ferro Central do Brasil*	
EFM	*Estrada do Ferro Mogyana*	
EFMM	*Estrada do Ferro Madeira-Mamore*	The famous/infamous Madeira-Mamore railway in the Amazon basin
EFNdB	*Estrada do Ferro Noroeste do Brasil*	
EFS	*Estrada do Ferro Sorocabana*	
FCAN	*Ferrocarril Argentino del Norte*	State-owned railway in Catamarca and Córdoba which later merged with the *FCCN*, see below.
FCCN	*Ferrocarril Central Norte*	Argentine government-owned metre gauge system
FCNGB	*Ferrocarril Nacional Gral. Belgrano*	The metre gauge part of Argentina's post 1948 fully-nationalised rail system
FCS	*Ferrocarril del Sur del Purú*	Southern Rly. of Peru (Peruvian Corporation)

Other abbreviations

d/w	driving wheels
cyls.	cylinder bore and stroke
w/n	works or builders' numbers

7.0 3' 6" gauge railways in Bolivia

7.0.1 *El FC Mejillones á Caracoles*

1873-1877

Background

This never-completed, and indeed very short-lived, railway was down on the Pacific coast in Bolivia's *departamento de Litoral*. It was promoted by the government to link the rich silver mining area of Caracoles with the coast at Mejillones. However, everything was against the project: the Bolivian government was short of money and had a poor credit rating making fund-raising in London difficult; the mostly Chilean trading houses a few miles south in what became Antofagasta were strongly opposed to the scheme; and after the project failed the facilities and equipment on the coast at Mejillones were wiped out by the same 1877 tsunami that destroyed the Patillos railway further north.
Then, only a couple of years later, the War of the Pacific saw the area change hands and become Chilean. Thus the main section on this railway is in section 2.4.3 of file 2 in this series on Chilean Intermediate Gauge Railways. This is worth a read, not least for the two double Fairlie locomotives which the line utilised.

7.1 Metre gauge railway systems in Bolivia

7.1.0 The proposed *FC Central Boliviano*

1890

Background

This would have been metre gauge had it been built, around 1890. The proposed route was from Oruro, via Corocoro, La Paz, and along the north side of Lake Titicaca to Sotolaya, from where a ferry service would run to Puno, or possibly across the border to Huaicho which would have facilitated an even shorter ferry route. The ferry distance from Sotolaya would have been roughly half that of the route eventually developed via Guaqui. Although the gauge was originally specified as one metre, later comments recommended that this be modified to standard gauge.

Locomotives

"*La vía será de trocha angosta de un metro, con rieles y durmientes de acero; los primeros pesarán 30 libras por metro, y las durmientesse colocarán á distancia de 800 milimetros una de otra. Las locomotoras pesarán 15 toneladas, capaces de una tracción de 400 toneladas, pudiendo correr máxima 30 millas por hora. El material será de 150 carros y cuatro locomotoras,*" [9] The same source also makes an assumption that the locomotives would have been American-built, by either Baldwin or Rogers.

The thought of a fifteen ton loco being able to haul four hundred tons reliably, even on absolutely flat track, stretches the credulity just a little. Perhaps it was just as well that this scheme made no progress.

7.1.1 *El FC Guaqui a La Paz*

Background

1 metre gauge. The *FCGLP* links La Paz with Lake Titicaca where a 120 mile steamer journey gives access to Puno and the *FC del Sur* route to the sea at Mollendo. Constructed by the Bolivian government in 1903-1906, it was then sold to the Peruvian Corporation, the owners of the *FC del Sur*.

"*Eleccion de trocha. Si sólo se tratase del feerrocarril de Guaqui á La Paz la trocha normal de 1.43m. sería la naturalmente indicada, pero tratándose de una red quepuede tener que extendersehacia la parte montañosa deloriente, conviene una vía más angosta. La de 1 m. ha dado excelented resultados, cuesta lo mismo que la de 0.76 metros, y es la que se debe elegir en vistadel empalme posible con los ferroccarriles argentinos del norte.*" [11]

2-6-0 d/w 38", cyls. 13x18", built by Baldwin in 1901

No. 1 was BLW class 08-20D no. 103, the spec. is in vol. 23 p 246. To burn Australian or similar coal. Mark on tank to be 'F. C. DE GUAQUI Á LA PAZ'. Name originally was to be **'La PAZ'** but was changed by the railroad on arrival.

1 'GENERAL PANDO' w/n 18727 Fate unknown.

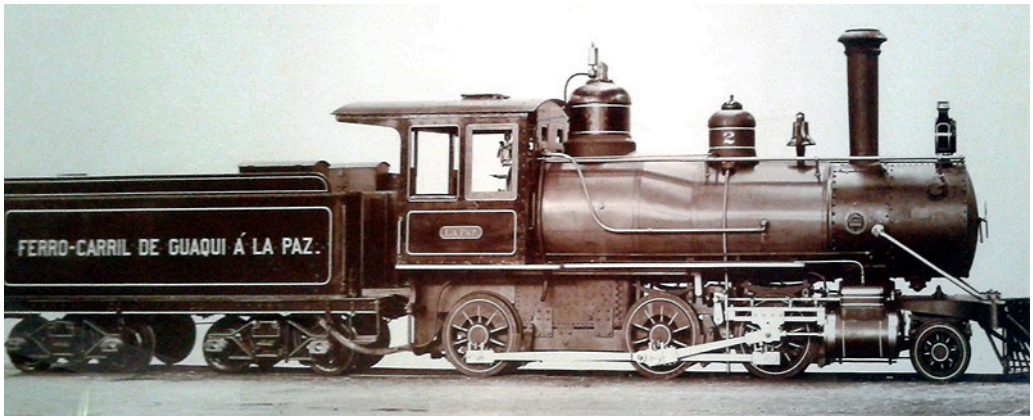
Although this loco bearing the number **1** on its smokebox door plate was captioned as being on the Machacamarca to Oruro line when first seen, it is almost certainly the *FCGLP*'s loco with this number, for no other Bolivian line began with such a small Baldwin.

2-6-0 d/w 38", cyls. 14x18", built by Baldwin in 1902

BLW class 08-22D no. 269-270, spec. is in vol. 25 p 8. To burn Australian or similar coal. Mark on tank to be 'FERRO-CARRIL DE GUAQUI Á LA PAZ'. Names to be on copper plates. Erecting card drawing numbered 466A-77 4231 is in the DeGolyer Library collection. From the comprehensive list of dimensions given in the railway's inventory for 1904 (Preserved in the Peruvian Corporation archive at Britain's National Archives in Kew) it is clear that locos **1, 2** and **3** were practically identical apart from the slightly larger cylinder diameter of the later pair.

2 'La PAZ' w/n 20642) Perhaps both sold later to the *FCVA*, see

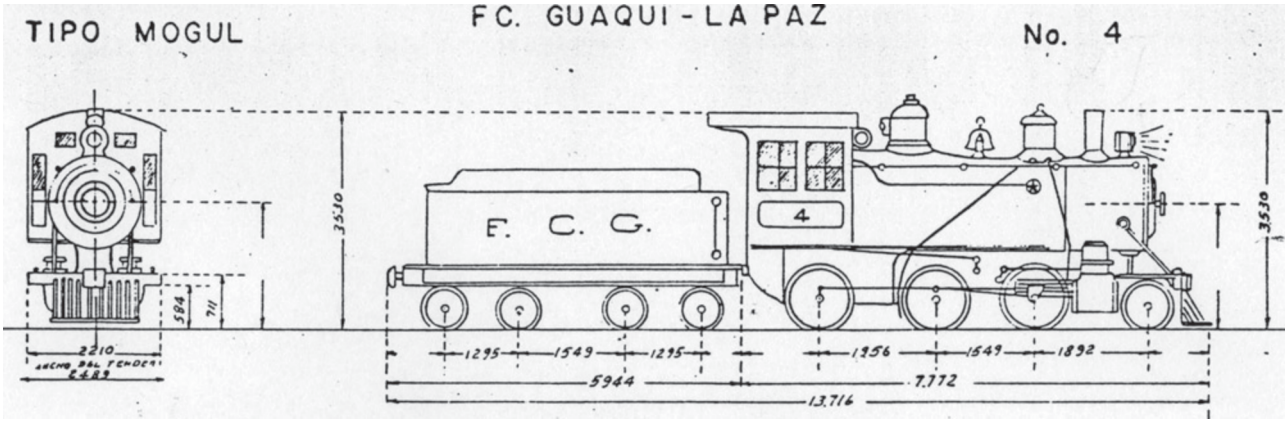
3 'COCHABAMBA' w/n 20643) section 7.1.7 for discussion of this possibility.



Baldwin builders' photo. Found on one of the two Fotos Antiguas La Paz Facebook pages.

2-6-0 d/w 38", cyls. 14x18", built by ALCo Rogers in 1906

4 'HUAYNA POTOSI' w/n 41215 Was shunting in April 1975 [MC]. In store at Guaqui 2008 [JM].

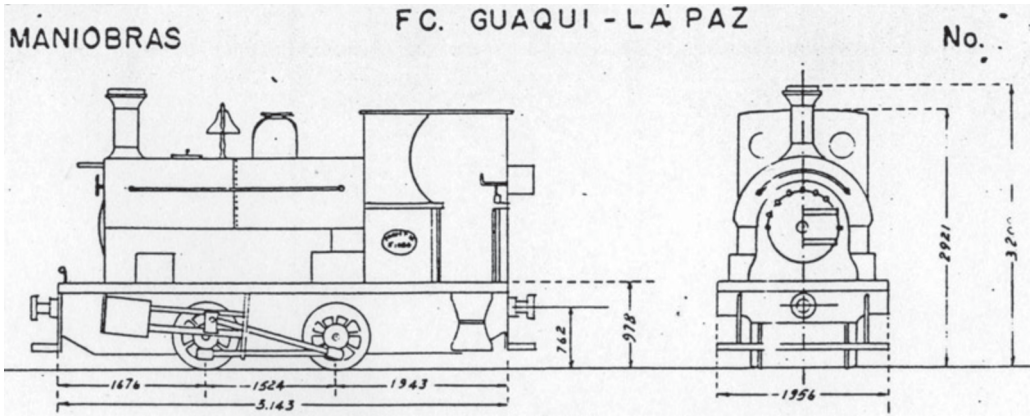


No. 4 in steam at Guaqui in April 1975.

0-4-0ST d/w 30", cyls. 10x15", built by Peckett in 1906

Acquired via E. C. Abranson of London. Oil-fired from new. Type M4 (ie design M revision 4).

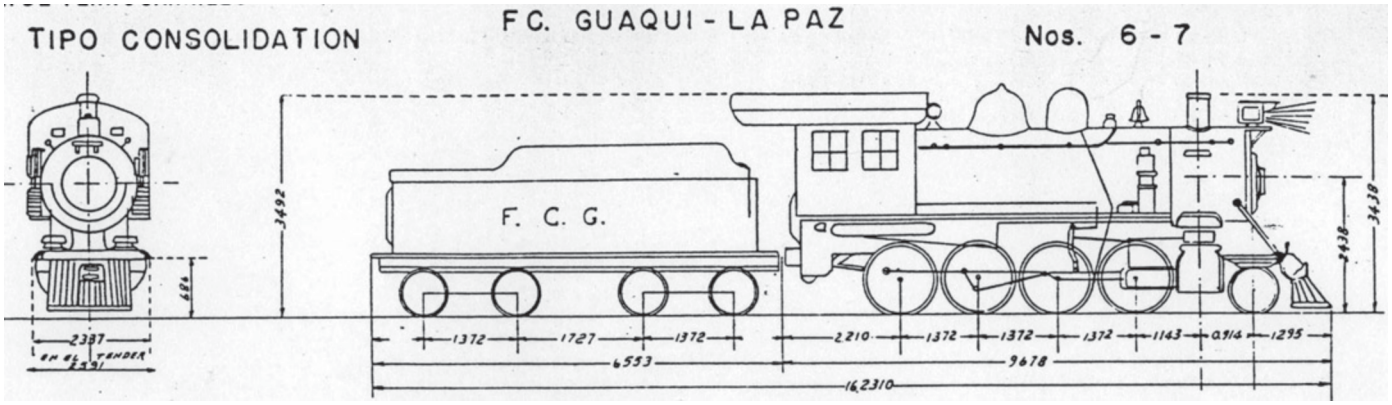
5 'TUNARI', later **'HUALAYCHA'**? w/n 1086 Operable at Guaqui works 2008 [JM].



Loco as currently preserved in the museum based in the old loco shed at Guaqui. Note that much of the motion is missing.

2-8-0 d/w 46", cyls. 16x24", built by ALCo Schenectady in 1911 and 1912

6 'ILLIMANI'	w/n 49685	Operable at Guaqui works 2008 [JM].
7 'ILLAMPU'	w/n 51181	Ordered via W. R. Grace.

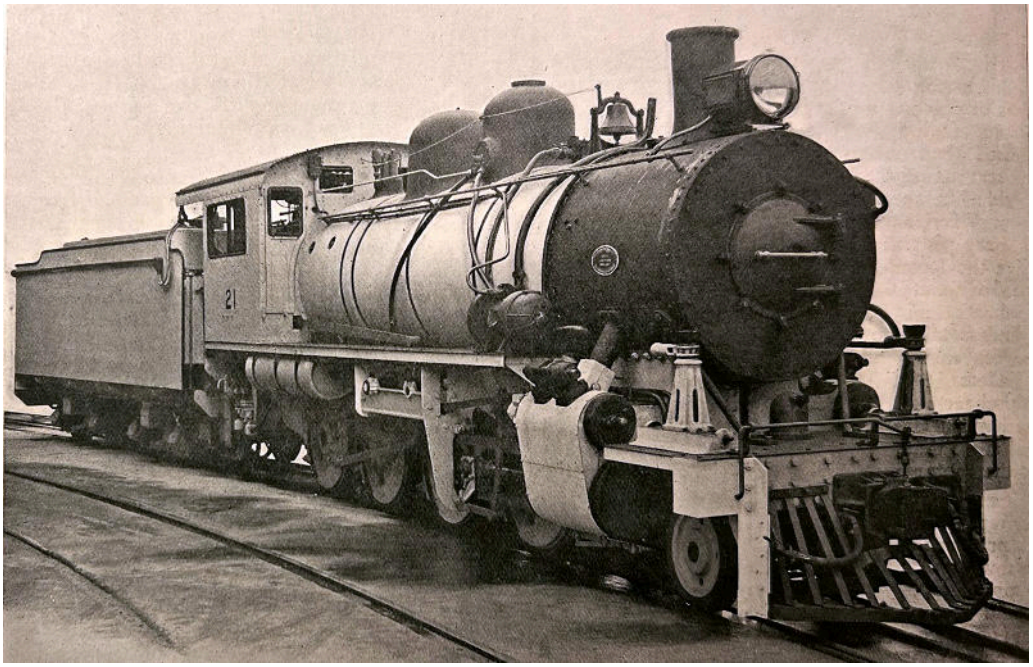


Note the distinctive ALCo outline to the tender. The tall rectangular valve chests with circular covers on the front are also worth attending to. These are a sign that this pair of engines, built with slide valves, had been later re-equipped with 'bolt-on' piston valves.

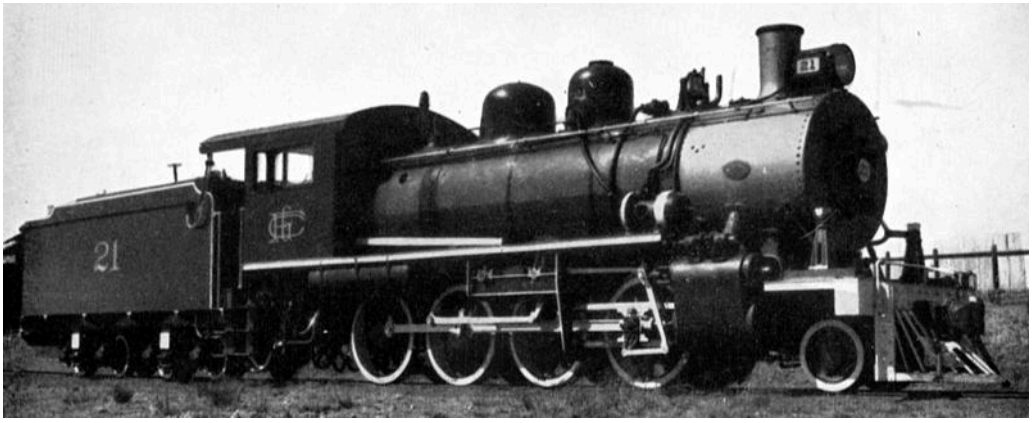
2-8-0 d/w 46", cyls. 16x24", built by Avonside in 1930

Avonside lists have the number **21** cryptically added after the purchaser, which was the Peruvian Corporation.

8 'SAJAMA' w/n 2049 Guaqui – partly scrapped 2008 [JM].

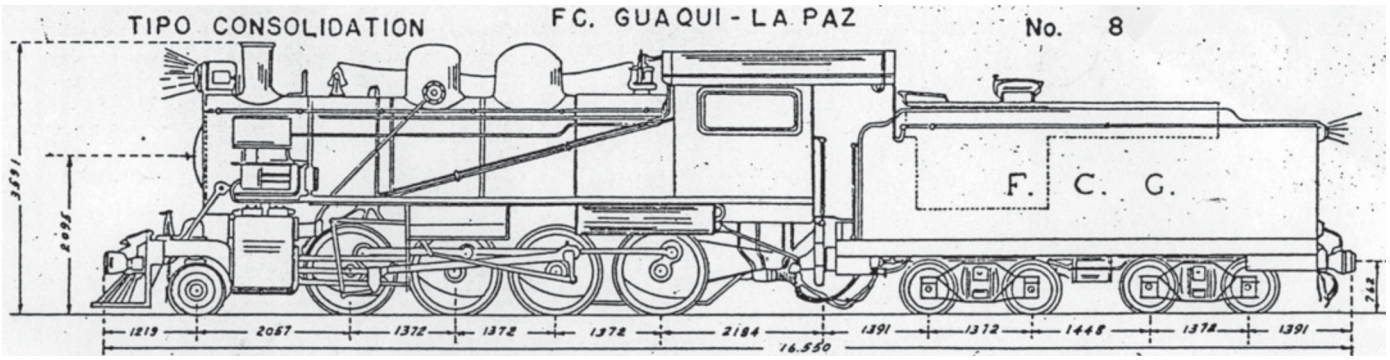


No. **8** seen labelled as no. **21**, in what was presumably an official Avonside photo. This remains a mystery.



Another view of no. **8** displaying the no. **21**, possibly at Avonside's works before dispatch.

No. **8** in steam at Guaqui in April 1975. Photo by MCC.



A worksplate from no. **8**, previously in Christopher Walker's collection.
Image posted on Facebook by Martin Murray.

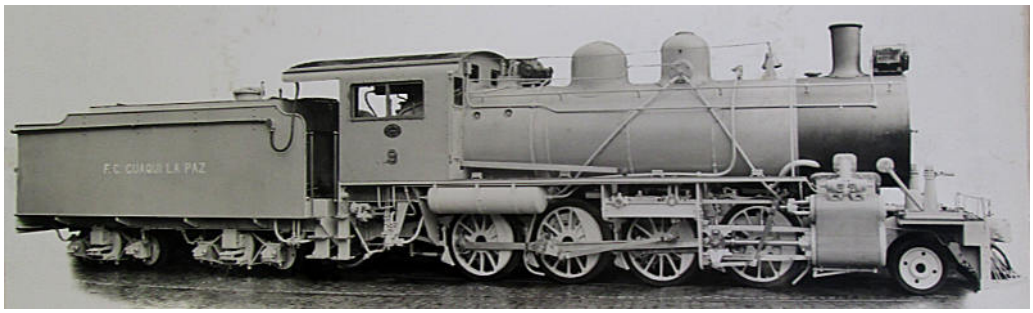
2-8-0 d/w 46"?, cyls. 16x24"?, built by Hunslet in 1948 and 1955

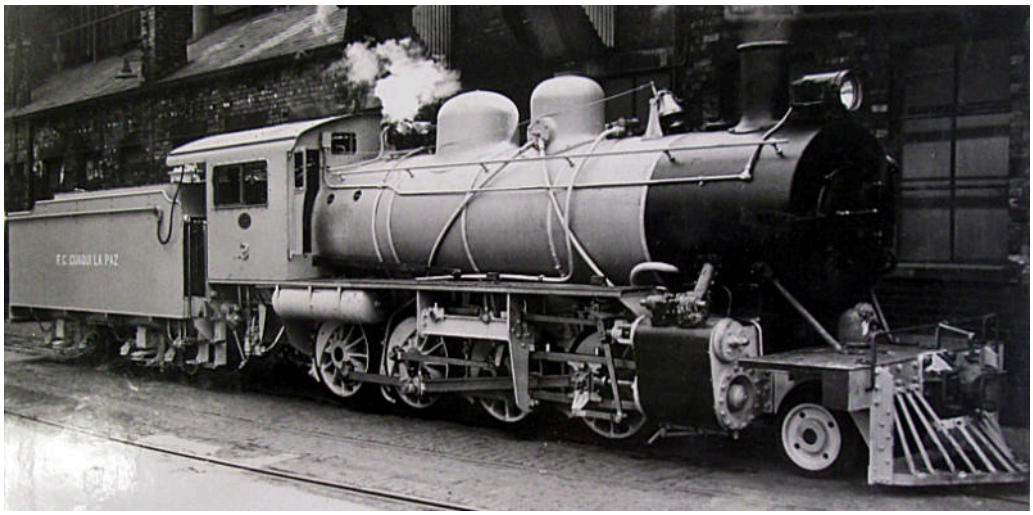
9 'MURURATA' w/n 3384 Not 3348 as [4] says. [13] suggests that early in its career it was one morning driven off the jetty at Guaqui onto the deck

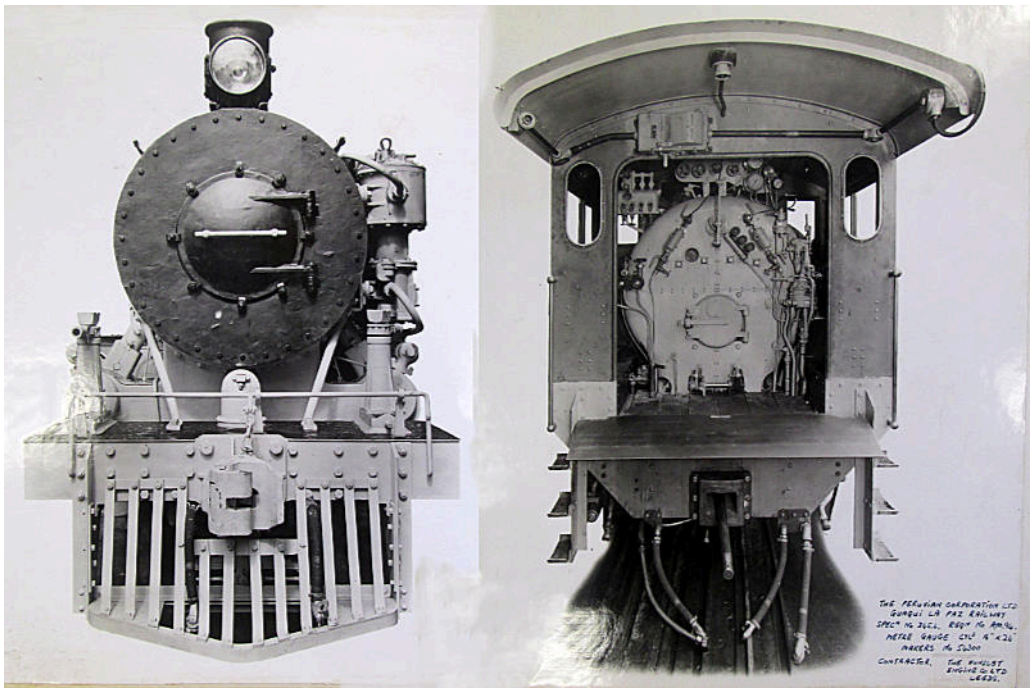
of a steamer. Survived at Sucre in 2008 under the guise of no. **10** [JM].

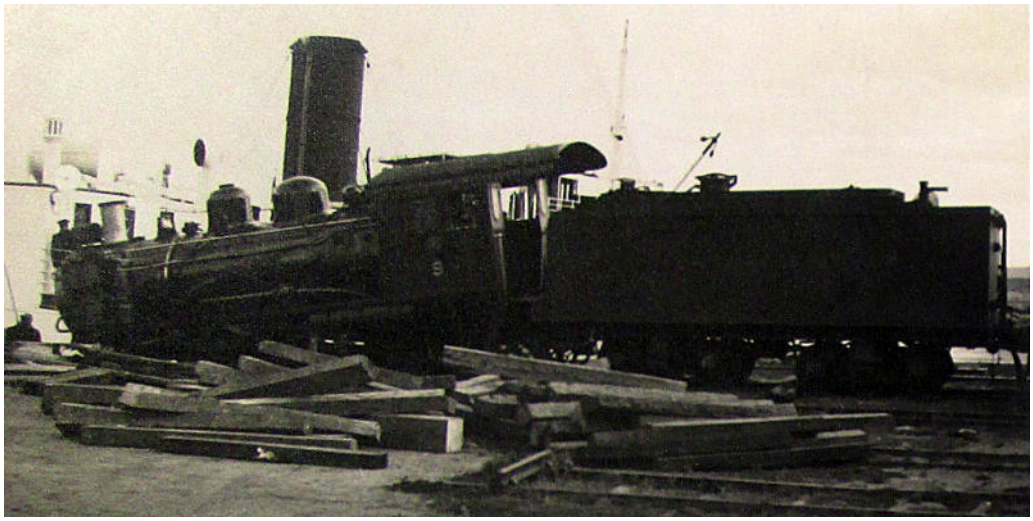
10 'SCORATA' later **'ANCOHUMA'** w/n 3869 Guaqui – stored in shed under guise of no. **9** in 2008 [JM].

These two are supposed to have swopped identities at some stage [6].

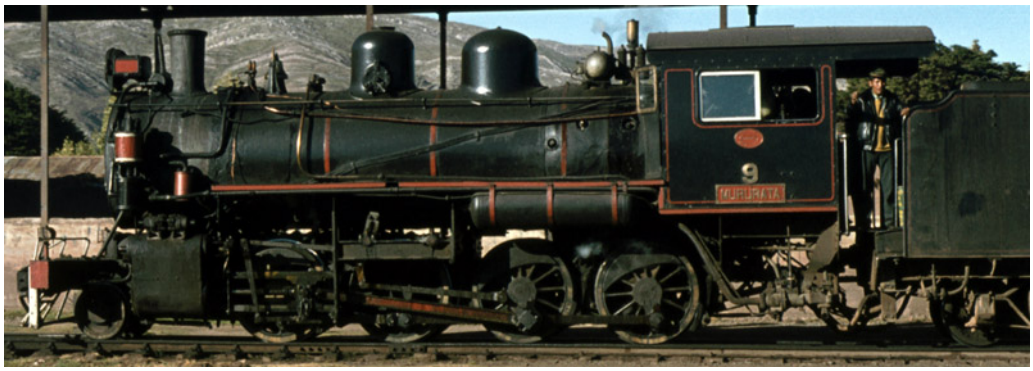




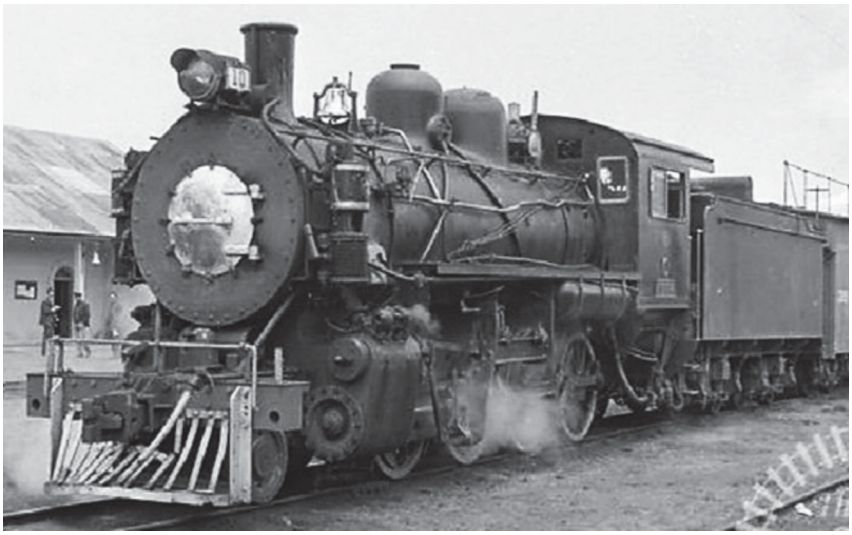




11th March 1953, no. **9** ran away at speed in Guaqui yard and landed on the deck of SS *Ollanta*.



No. **9** in steam at Guaqui in April 1975.



No. **10** seen in a Transport Library image.

A 1950s Peruvian Corporation report

3. Locomotives. The steam Locomotives consist of:

2 Hunslet 2-8-0 (one built by Avonside)

2 American Locomotive Co. 2-8-0

1 American Rogers 2-6-0 (old and used for switching)

1 0-4-0 switching tank engine for mole built by Peckett.

These engines are based on Guaqui and are well maintained.

The electric stock consists of:

1 500 H.P. English Electric which is in good order and is an excellent machine.

1 500 H.P. twin American G.E.C.

3 200 H.P. double bogie tractors (Brill U.S.A.)

(In addition there are 3 small tramcars used for service trips, line inspection, etc.)

The electric stock is based on La Paz (Pura-Pura) and is well maintained - also at La Paz is the 250 H.P. Hunslet Diesel shunting locomotive which has given yeoman service since its initial troubles. It was due for overhaul and was having trouble getting into second gear.

7.1.2 The Bolivia Railway
El FC de Bolivia

1908-

Background

Whilst the *FCAB* mainline up from the coast to the border at Ollague was obviously built to a gauge of 2' 6" and was only widened to 1 metre in 1928, the situation in Bolivia was different. On the one hand extensions of that *FCAB* route to Uyuni and then to Oruro were 2' 6" gauge, but conversely by 1903 the *FCGLP* was in operation further north on a gauge of 1 metre and the Bolivian government's contract with Speyer & Co. of New York to build a network of lines under the title of the *FC de Bolivia* / Bolivia Railway would also be to that gauge.

"*La empresa del ferrocarril (The Bolivia Railway Co.) está autorizada a construir o hacer construir en la República de Bolivia, las siguientes líneas ferrocarrileras:*

"la—Una línea que se extienda de Oruro á Viacha, con ramal al río Desaguadero, para empalmar con el ferrocarril de Arica a La Paz.

"2o.—Una línea de Oruro a Cochabamba.

"3o.—Una linea desde un punto de la línea Antofagasta-Oruro á Potosí.

"4o.—Una línea de Uyuni a Tupiza, y

"5o.—Una línea desde La Paz á Puerto Pando.

"Estudios preliminares han sido hechos por dichas líneas, y la línea de Oruro a Viacha está casi concluida.

"The Bolivia Railway Co., deseosa de celebrar un contrato para la terminación de esa línea (Viacha-Oruro) y la construcción de las otras líneas, ha celebrado el convenio que aquí se detalla". [10]

From the *FCAB* terminus at Oruro construction northward to meet the *FCGLP* at Viacha was complete by 1908, at which point Speyer negotiated with the *FCAB* for the latter to build the remaining lines and to operate the whole of the *FC de Bolivia* under contract. Whilst much of that was delayed, the operation of the Oruro to Viacha line became the *FCAB*'s responsibility as planned from the beginning of 1909. The gauge of the latter's line north from Uyuni to Oruro was then altered from 2' 6" to 1 metre by 1913 so that all of the Bolivian Railway routes would be joined on a common gauge.

For the *FCAB*'s 2' 6" gauge locomotives please see file 4 Chilean sub-metric gauge steam locomotives, section 4.2.2.

Original nos.	Later nos.		

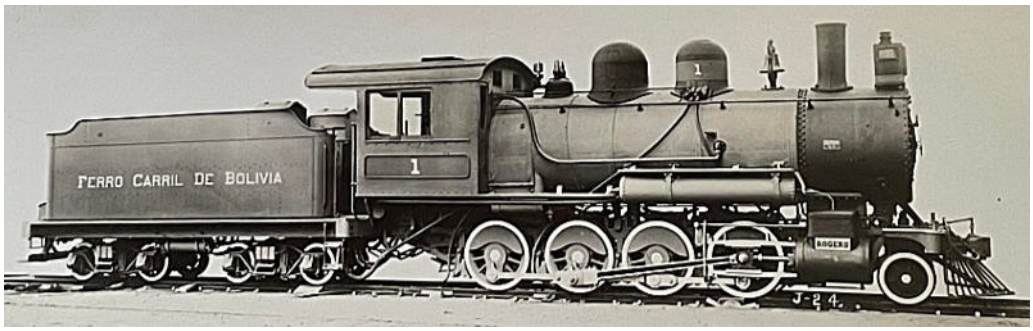
Locomotives ordered by Speyer & Co. for the Bolivia Railway Co.

2-8-0 d/w 48", cyls. 18x24", built by ALCo Rogers in 1906

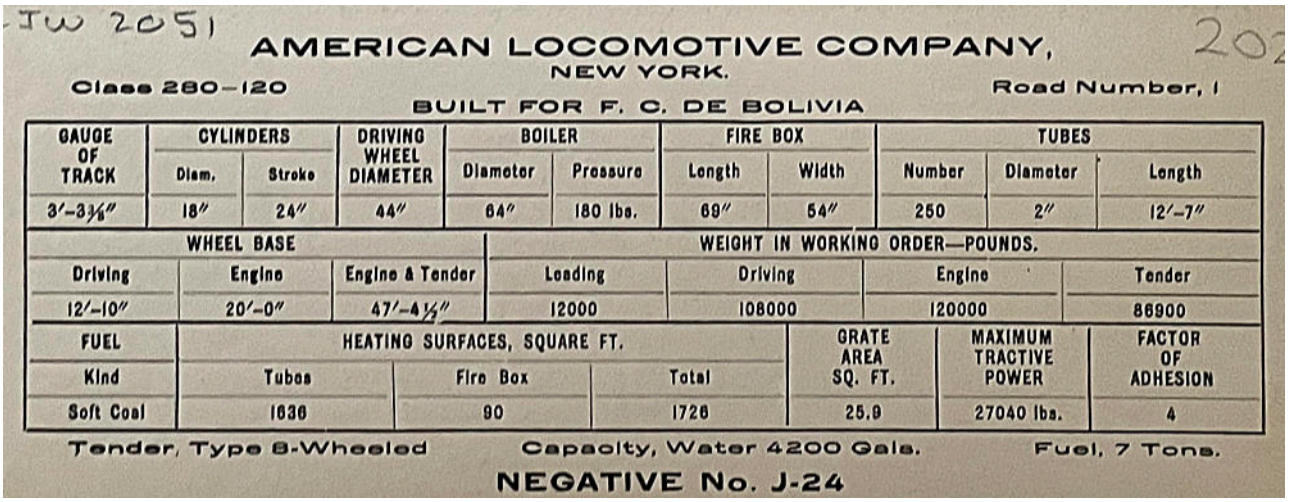
The original numbers had 400 added in 1928. This batch had inside valve gear.

1	**401**	w/n 41130	Later given the number **606** by the *ENFE* in 1965.

2	**402**	w/n 41131	Later given the number **607** by the *ENFE* in 1965.
3	**403**	w/n 41132	Later given the number **608** by the *ENFE* in 1965.
4	**404**	w/n 41133	Later given the number **609** by the *ENFE* in 1965.



FC de Bolivia no. **1** ALCo publicity card photo.


JW 2051

AMERICAN LOCOMOTIVE COMPANY,
NEW YORK.

Class 280—120 — Road Number, 1

BUILT FOR F. C. DE BOLIVIA

GAUGE OF TRACK	CYLINDERS		DRIVING WHEEL DIAMETER	BOILER		FIRE BOX		TUBES		
	Diam.	Stroke		Diameter	Pressure	Length	Width	Number	Diameter	Length
3′–3⅛″	18″	24″	44″	64″	180 lbs.	69″	54″	250	2″	12′–7″

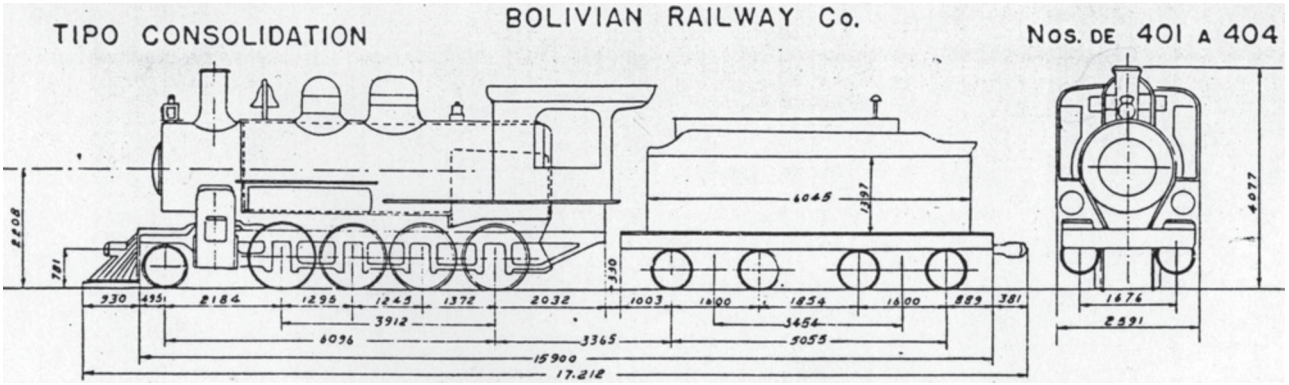
WHEEL BASE			WEIGHT IN WORKING ORDER—POUNDS.			
Driving	Engine	Engine & Tender	Loading	Driving	Engine	Tender
12′–10″	20′–0″	47′–4½″	12000	108000	120000	86900

FUEL	HEATING SURFACES, SQUARE FT.			GRATE AREA SQ. FT.	MAXIMUM TRACTIVE POWER	FACTOR OF ADHESION
Kind	Tubes	Fire Box	Total			
Soft Coal	1636	90	1726	25.9	27040 lbs.	4

Tender, Type 8-Wheeled — Capacity, Water 4200 Gals. — Fuel, 7 Tons.

NEGATIVE No. J-24

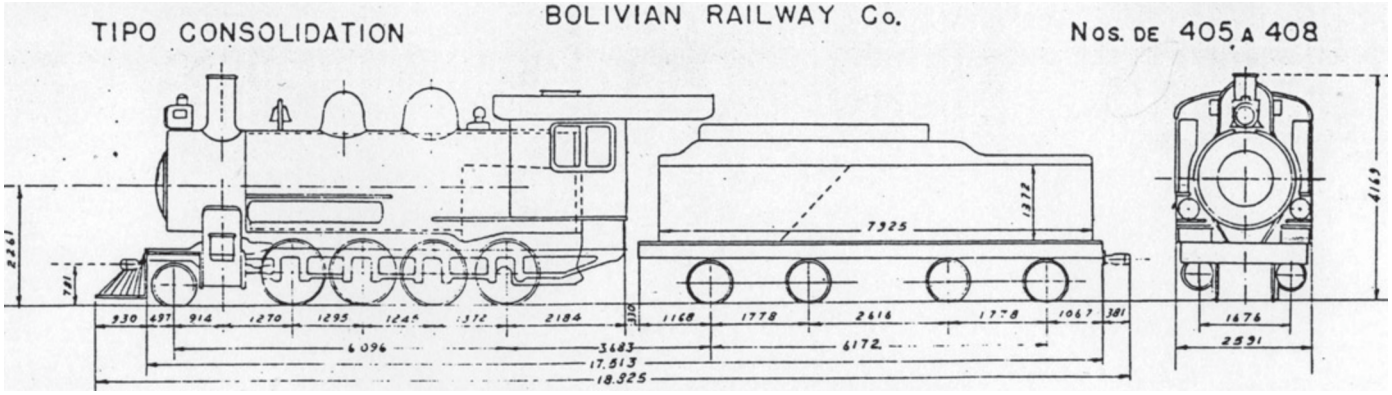
FC de Bolivia no. **1** ALCo publicity card details.

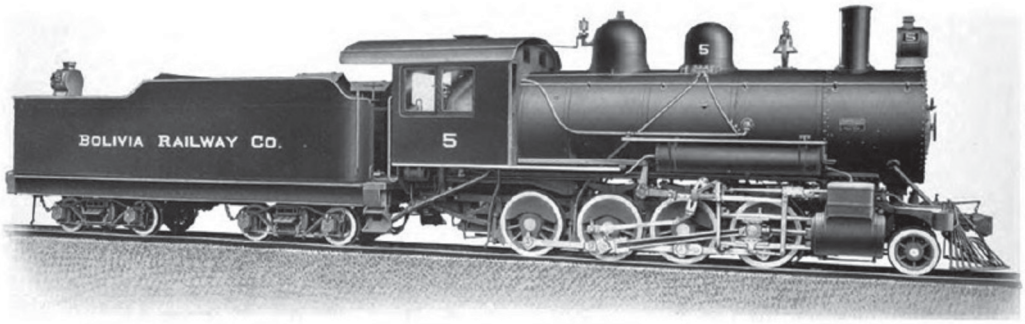


2-8-0 d/w 48", cyls. 19x24", built by ALCo Rogers in 1909

The original numbers had 400 added on the takeover of operations by the *FCAB*. This second batch had outside Walschaerts valve motion, other detail differences and larger tenders.

5	**405**	w/n 44424	Later given the number **610** by the *ENFE* in 1965.
6	**406**	w/n 44425	Later given the number **611** by the *ENFE* in 1965.
7	**407**	w/n 44426	Later given the number **612** by the *ENFE* in 1965.
8	**408**	w/n 44427	Later given the number **613** by the *ENFE* in 1965.





An ALCo catalogue image, almost certainly created from the previous photo.

JW 2052 203

AMERICAN LOCOMOTIVE COMPANY,
NEW YORK.

Class 280–135 Road Number, 5

BUILT FOR THE BOLIVIAN R'Y CO.

GAUGE OF TRACK	CYLINDERS		DRIVING WHEEL DIAMETER	BOILER		FIRE BOX		TUBES		
	Diam.	Stroke		Diameter	Pressure	Length	Width	Number	Diameter	Length
1 Metre	19″	24″	44″	68″	180 lbs.	84″	54″	268″	2″	12′–10″

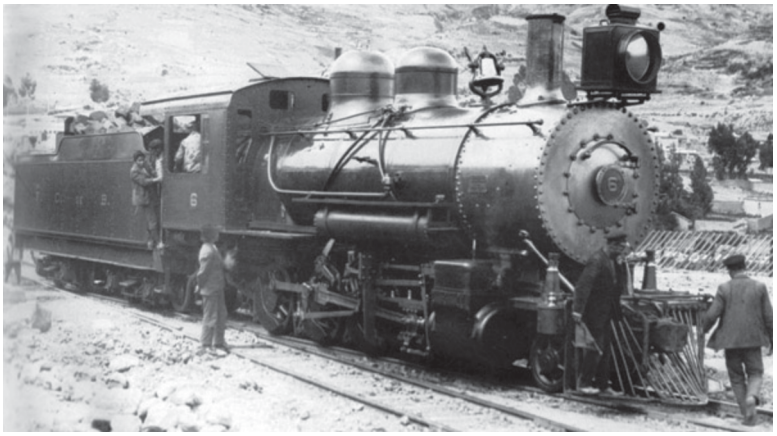
WHEEL BASE			WEIGHT IN WORKING ORDER—POUNDS.			
Driving	Engine	Engine & Tender	Leading	Driving	Engine	Tender
12′–10″	20′–0″	52′–4″	14000	121000	135000	113400

FUEL	HEATING SURFACES, SQ. FT.			GRATE AREA SQ. FT.	MAXIMUM TRACTIVE POWER	FACTOR OF ADHESION
Kind	Tubes	Fire Box	Total			
Soft Coal	1789	117	1906	31.5	30127	4.02

Tender, Type 8-Wheeled Capacity, Water 6000 Gals Fuel, 8 Tons.

NEGATIVE No. J-42

FC de Bolivia no. **5** ALCo publicity card details.



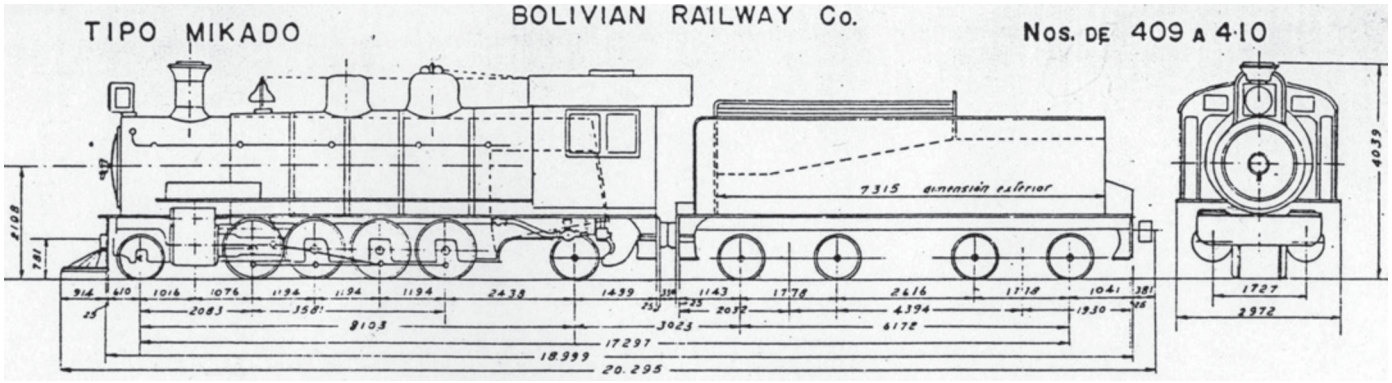
This tinted image cropped from a much larger photo supposedly shows a train at El Alto in the 1930s. Whilst I am keeping an open mind about the date, the loco certainly appears to be number **6** of the second batch of ALCo 2-8-0s and shows that they bore large tender numerals at one stage.

Locomotives ordered by the FCAB for the FC de Bolivia

2-8-2 d/w 48", cyls. 21x24", built by Kitson in 1912

601	**409**	w/n 4860	Noted in Uyuni scrapyard 2008 [JM], no tender.
602	**410**	w/n 4861	Noted in Uyuni scrapyard 2008 [JM], no tender.

These locos were rebuilt in 1939 with cylinders 21x24".

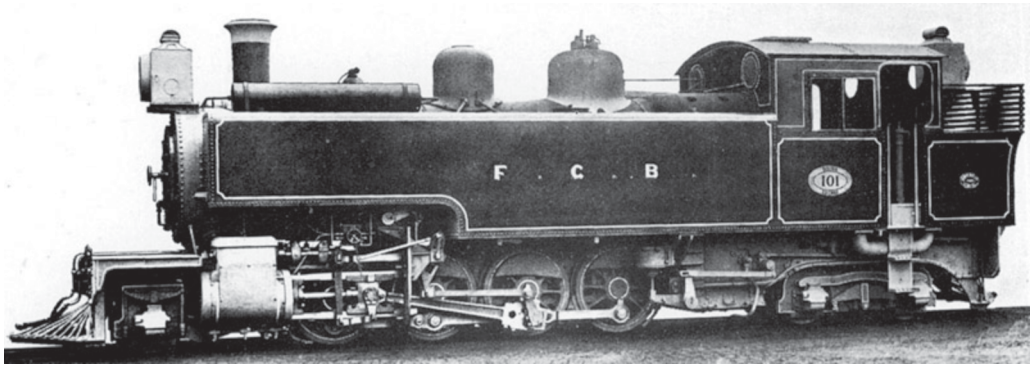


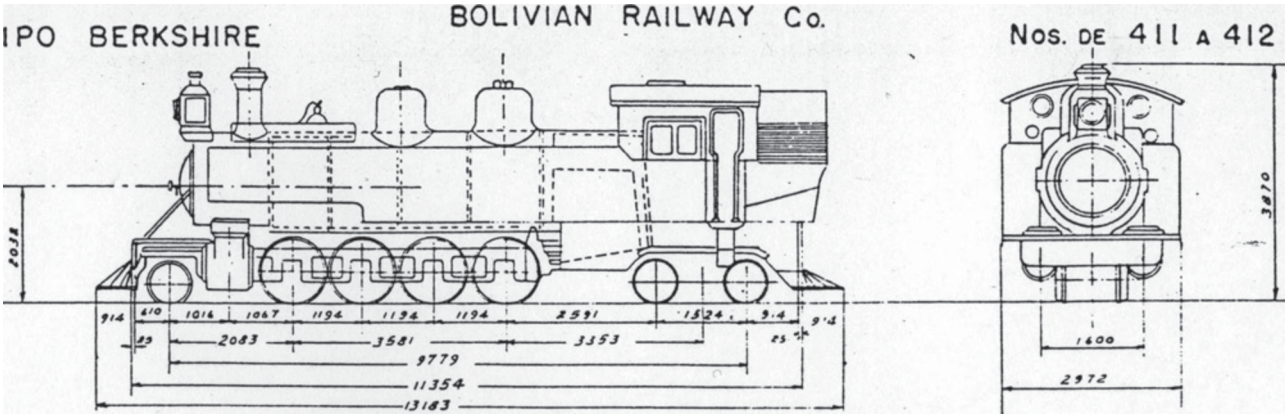
The two Kitson 2-8-2s, 409 and 410, as seen in the Uyuni scrapyard in 1974 by Tommy Farr. High-res versions of this image are available from The Transport Library, their ref: TF000402.

2-8-4T d/w 48", cyls. 18x24", built by Hunslet in 1912

Delivered lettered *FCB*.

101	**411**	w/n 1102	Later given the number **551** by the *ENFE* in 1965.
102	**412**	w/n 1103	Later given the number **552** by the *ENFE* in 1965.



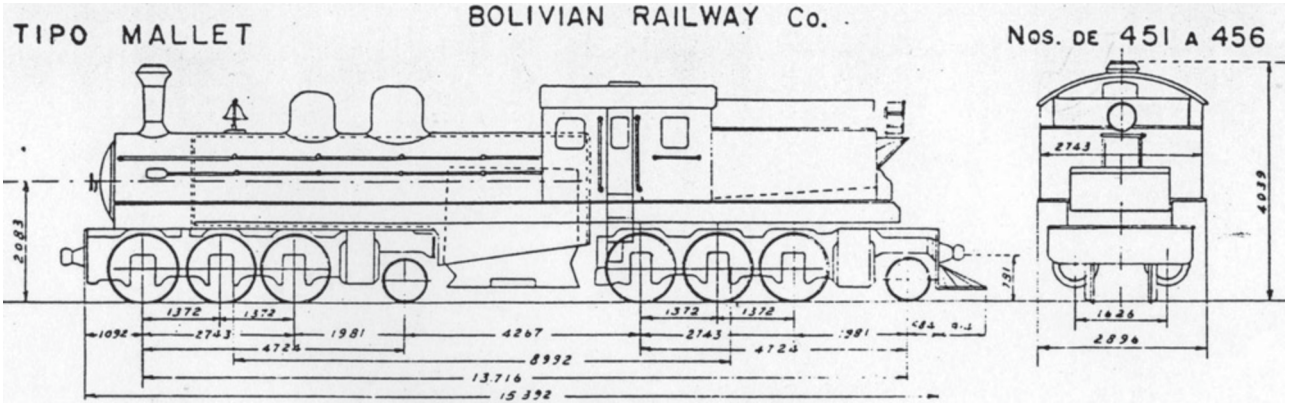


0-6-2+0-6-2 d/w 48", cyls. 18x20", built by Beyer Peacock in 1913

Kitson-Meyer type locos, though usually termed merely Meyers as they had not been built by Kitson. Cab forward design, with tenders normally coupled at the smokebox end. Originally set up for coal firing with bagged coal brought forward by two coal handlers, but soon converted to oil-firing which had probably been the intention from the start. Lettered *FCB* from new.

51	**451**	w/n 5617	Noted in Uyuni scrapyard 2008 [JM].
52	**452**	w/n 5618	Noted in Uyuni scrapyard 2008 [JM].
53	**453**	w/n 5619	Noted in Uyuni scrapyard 2008 [JM] part of frame only. Tender also there.
54	**454**	w/n 5620	Noted in Uyuni scrapyard 2008 [JM]. Tender still in works yard.
55	**455**	w/n 5621	Noted in Uyuni scrapyard 2008 [JM].
56	**456**	w/n 5622	Noted in Uyuni scrapyard 2008 [JM].

Presumably all had been withdrawn by 1965 since they did not receive new *ENFE* numbers that year. The battered hulks of all six survive at the Uyuni dump, though with cylinders blown off with mining explosives. Two complete tenders survived in the Uyuni works yard when seen in 2000.



Three of the Beyer Peacock Meyers as seen in the Uyuni scrapyard in 1974 by Tommy Farr. High-res versions of this image are available from The Transport Library, their ref: TF000407.

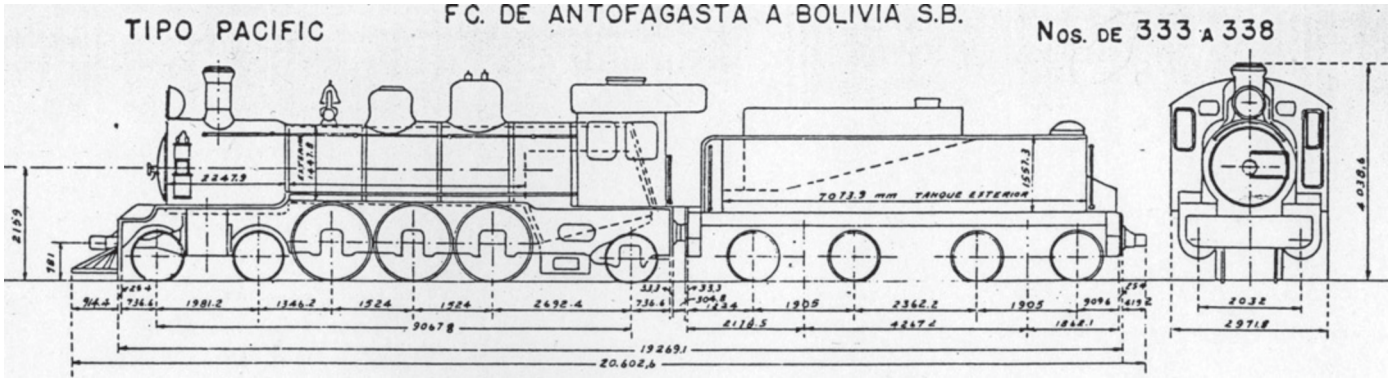
Tenders from the BP Meyers in the works yard at Uyuni in 2000. It will be noted that these were purely water carriers with no built in bunkers, and therefore when these locos were first introduced the extra coal had to be carried in bags on the top – up to four tons of it according to the diagram sheet.

One of the Meyers running with an improvised tender made up of a cylindrical tank mounted on a bogie flat.

4-6-2 d/w 1486mm, cyls. 482x610mm, built by Henschel in 1914 and 1928

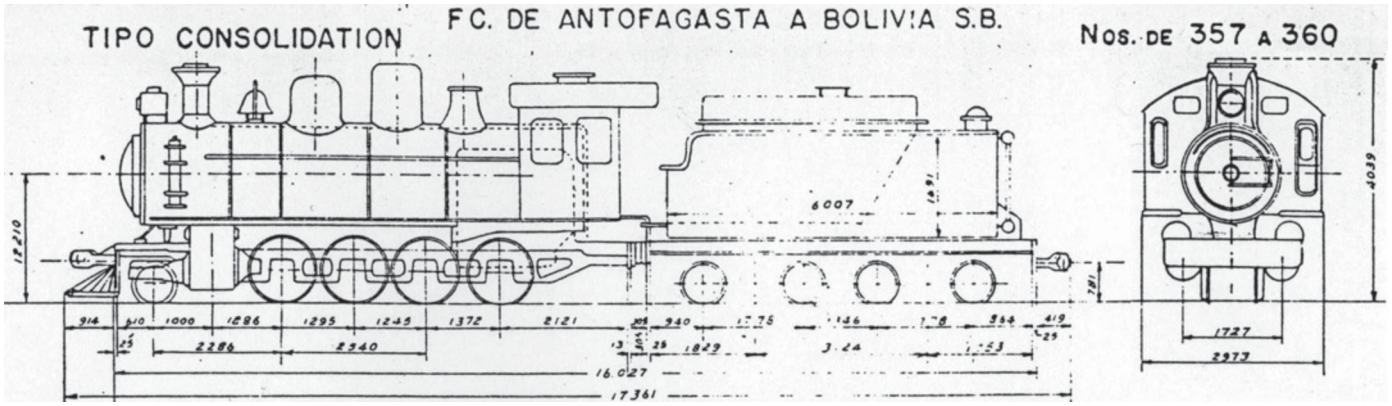
The final two had higher boiler pressure.

33	**333**	w/n 12748	Later given the number **756** by the *ENFE* in 1965.
34	**334**	w/n 12749	Later given the number **751** by the *ENFE* in 1965.
35	**335**	w/n 12750	Later given the number **752** by the *ENFE* in 1965.
36	**336**	w/n 12751	Later given the number **753** by the *ENFE* in 1965.
37	**337**	w/n 21213	Later given the number **754** by the *ENFE* in 1965.
38	**338**	w/n 21214	Later given the number **755** by the *ENFE* in 1965.



2-8-0 d/w 1118mm, cyls. 508x610mm, built by Henschel in 1914

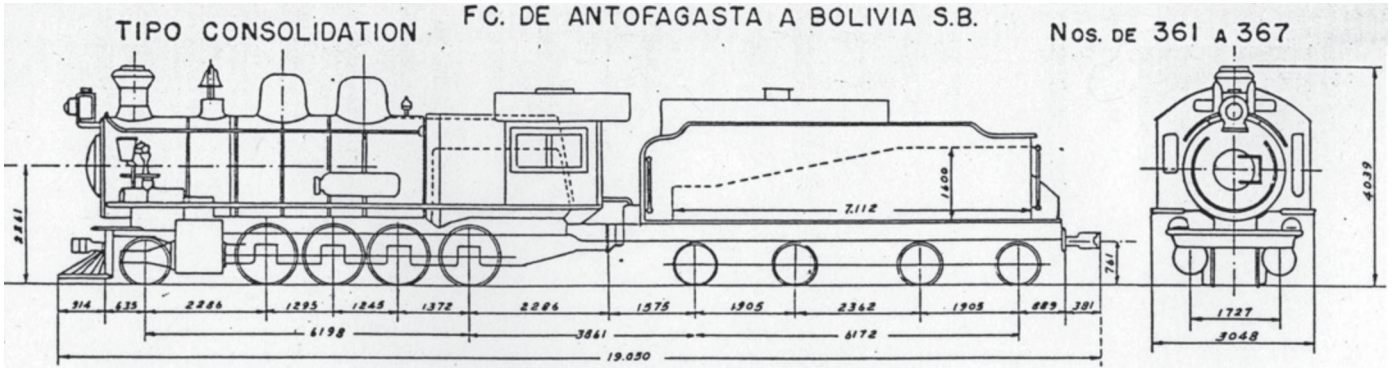
57	**357**	w/n 12544	Later given the number **614** by the *ENFE* in 1965.
58	**358**	w/n 12545	Later given the number **615** by the *ENFE* in 1965.
59	**359**	w/n 12546	Later given the number **616** by the *ENFE* in 1965.
60	**360**	w/n 12547	Later given the number **617** by the *ENFE* in 1965.



2-8-0 d/w 1118mm, cyls. 521x610mm, built by Henschel in 1921

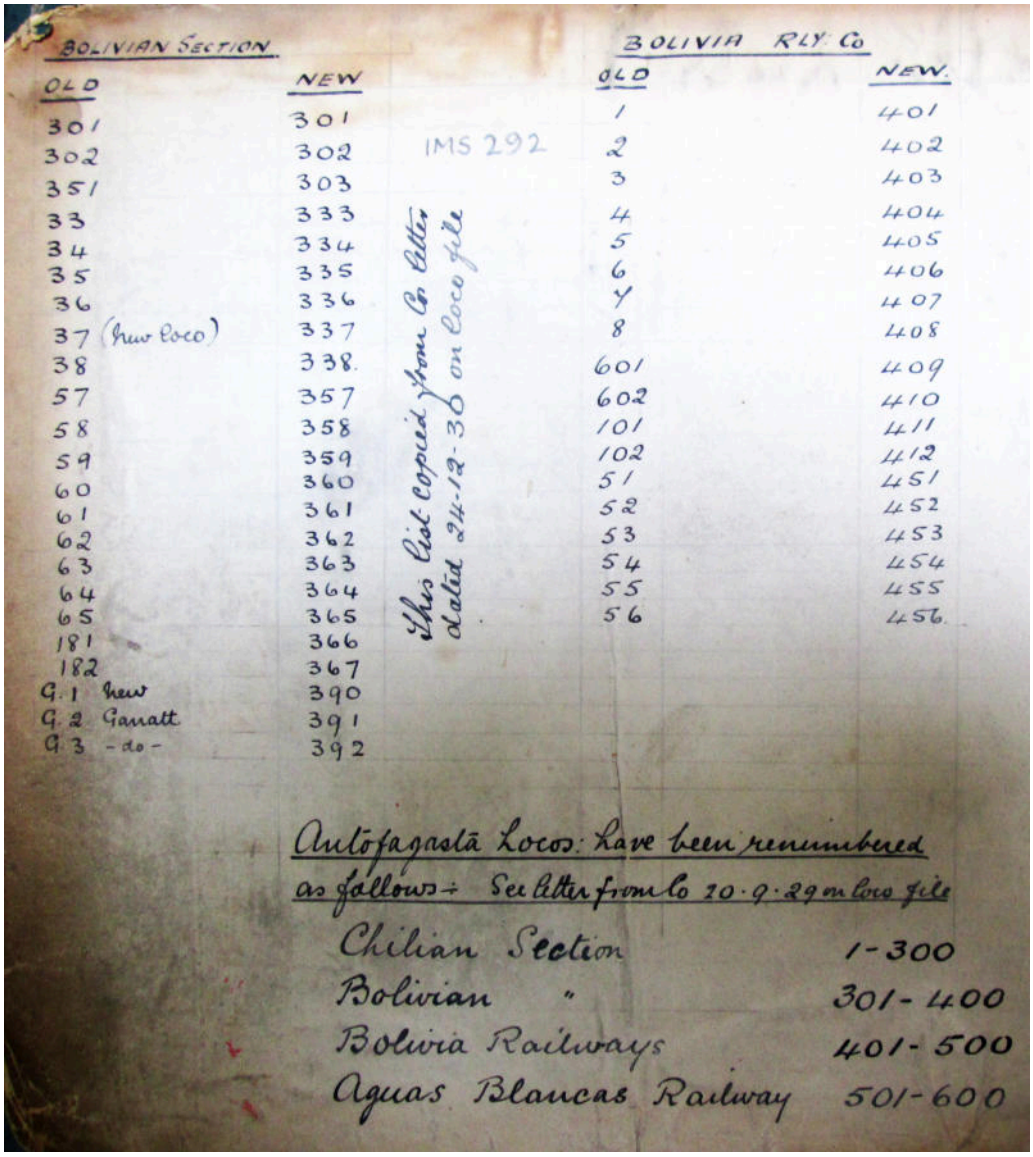
61	**361**	w/n 18305
62	**362**	w/n 18306
63	**363**	w/n 18307
64	**364**	w/n 18308
65	**365**	w/n 18309
66	**366**	w/n 18310
67	**367**	w/n 18311

Why did none of this batch survive long enough to be renumbered by the *ENFE* in 1965?



The 1929 renumbering

The list below was found in Livesey & Sons Ltd.'s commissioning register now in the archives of the IMechE in London, their file LIV/2/2/2.



BOLIVIAN SECTION

OLD	NEW
301	301
302	302
351	303
33	333
34	334
35	335
36	336
37 (new Loco)	337
38	338
57	357
58	358
59	359
60	360
61	361
62	362
63	363
64	364
65	365
181	366
182	367
G.1 new	390
G.2 Garratt	391
G.3 -do-	392

IMS 292

This list copied from Co letter dated 24-12-30 on Loco file

BOLIVIA RLY Co

OLD	NEW.
1	401
2	402
3	403
4	404
5	405
6	406
7	407
8	408
601	409
602	410
101	411
102	412
51	451
52	452
53	453
54	454
55	455
56	456

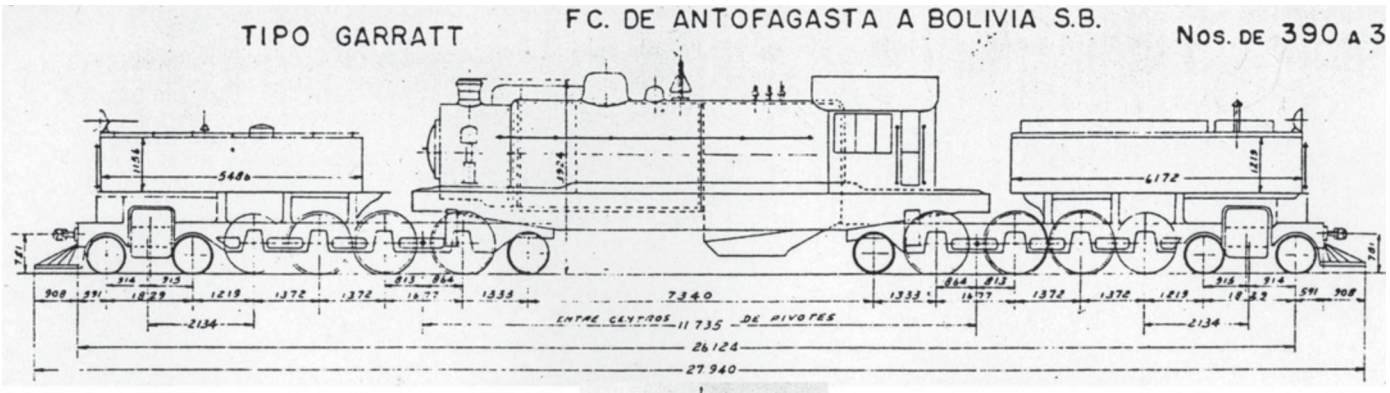
Antofagasta Locos: have been renumbered as follows ÷ See letter from Co 10-9-29 on Loco file

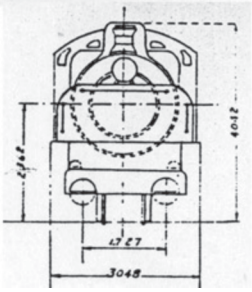
Chilian Section	1-300
Bolivian "	301-400
Bolivia Railways	401-500
Aguas Blancas Railway	501-600

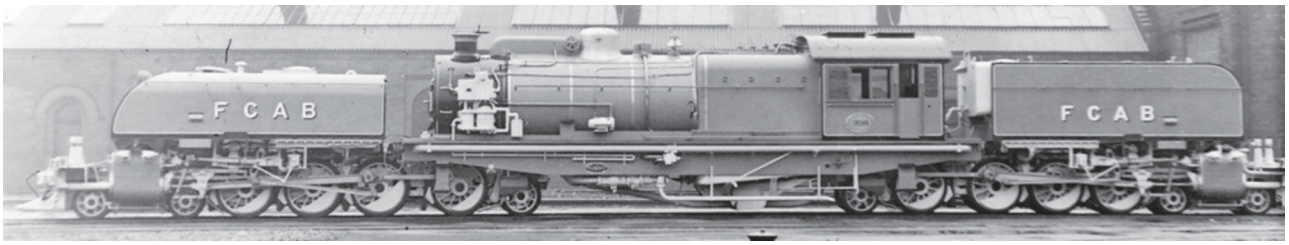
4-8-2+2-8-4 Garratts d/w 48", cyls. 18x26", built by Beyer Peacock in 1928 and 1950

The first batch had tanks and bunkers with vertical ends though the sides rolled into the tops. The second batch had streamlined tanks.

41 'CHOCOLOQUE' 390 'CHOCOLOQUE'	w/n 6524	Later given the number **909** by the *ENFE* in 1965.
42 'ILLAMPO' 391 'ILLAMPO'	w/n 6525	Later given the number **901** by the *ENFE* in 1965.
43 'KOSUNA' 392 'KOSUNA'	w/n 6526	Later given the number **902** by the *ENFE* in 1965. Seen bearing **'CHOROLQUE'** name late in its life.
393 'HUAYNA POTOSI'	w/n 7420	Later given the number **903** by the *ENFE* in 1965.
394 'SAN VICENTE'	w/n 7421	Later given the number **904** by the *ENFE* in 1965.
395 'ILLIMANI'	w/n 7422	Later given the number **905** by the *ENFE* in 1965.
396 'TUNARI'	w/n 7423	Later given the number **906** by the *ENFE* in 1965.
397 'SAJAMA'	w/n 7424	Later given the number **907** by the *ENFE* in 1965.
398 'TRES CRUCES'	w/n 7425	Later given the number **908** by the *ENFE* in 1965.







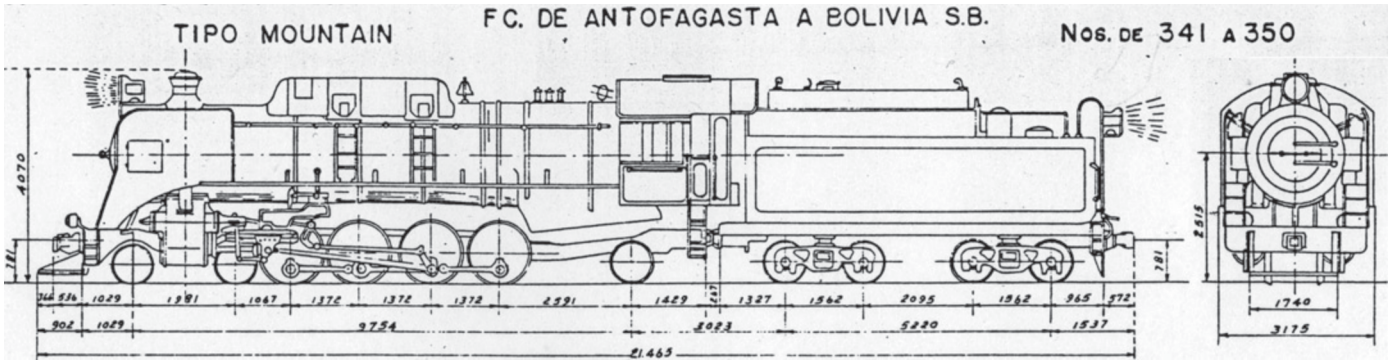
The cabsite plates of Garratt no. **392**, as seen during the late 1960s or early 1970s. Comparison with the list on the previous page reveals that the loco must have been renamed sometime during its life.

4-8-2 d/w 48", cyls. 19x26", built by Vulcan Foundry in 1954

There were originally intended to be six for Chile and ten for Bolivia. Those for Chile were numbered in the series **201** to **206**.

341	w/n 6176	Later given the number **811** by the *ENFE* in 1965.
342	w/n 6177	Later given the number **812** by the *ENFE* in 1965.
343	w/n 6178	Later given the number **813** by the *ENFE* in 1965.
344	w/n 6179	Later given the number **814** by the *ENFE* in 1965.
345	w/n 6180	Later given the number **815** by the *ENFE* in 1965.

346	w/n 6181	Later given the number **816** by the *ENFE* in 1965.
347	w/n 6182	Later given the number **817** by the *ENFE* in 1965.
348	w/n 6183	Later given the number **818** by the *ENFE* in 1965.
349	w/n 6169	Later given the number **820** by the *ENFE* in 1965.
350	w/n 6168	Later given the number **819** by the *ENFE* in 1965.



Locomotives transferred from the Chilean part of the FCAB at various times

2-8-4T d/w 37½", cyls. 17x22", built by Kitson in 1911

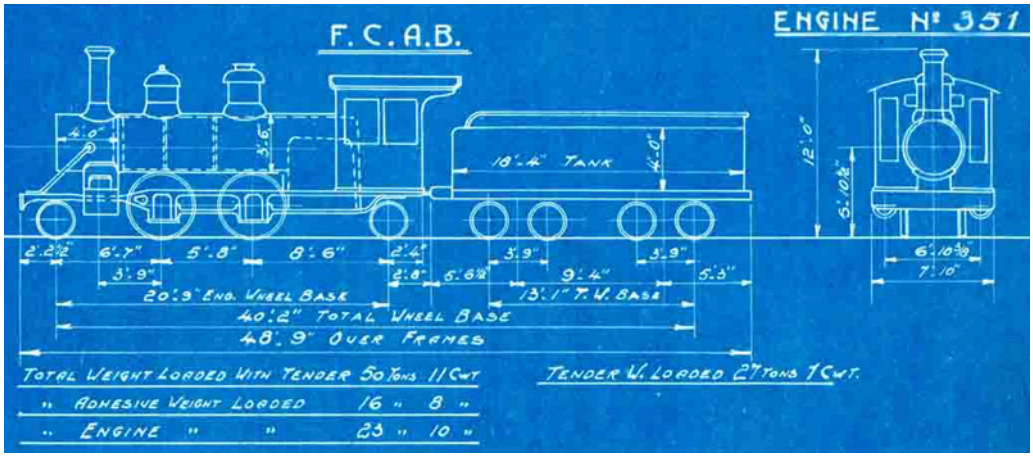
These engines arrived later from the Chilean section. They had originally been built to 2' 6" gauge.

27	w/n 4843	Later given the number **553** by the *ENFE* in 1965.
28	w/n 4844	Later given the number **554** by the *ENFE* in 1965.

2-4-2 d/w 43", cyls. 13x20", built by Baldwin in 1886

This engine arrived from the Chilean section. It had originally been built to 2' 6" gauge, as no. **20**, later **32**, later **33**.

33	**351**	w/n 8215	Still working in 1939.



4-8-2 d/w 48", cyls. 19x26", built by Vulcan Foundry in 1954

202	w/n 6170	Arrived from the Chilean section. Later given the number **821** by the *ENFE* in 1965.
206	w/n 6175	Arrived from the Chilean section. Later given the number **822** by the *ENFE* in 1965.

Orders placed for new locos but then cancelled

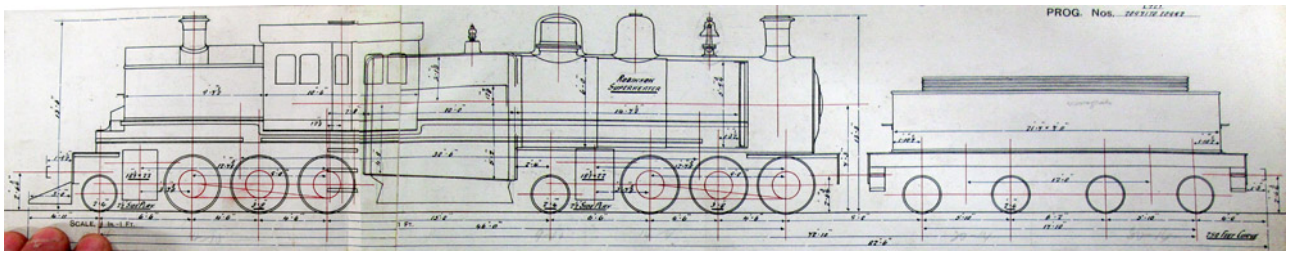
These orders were cancelled owing to the difficulty of obtaining delivery during the First World War.

Cancelled 200/221 class

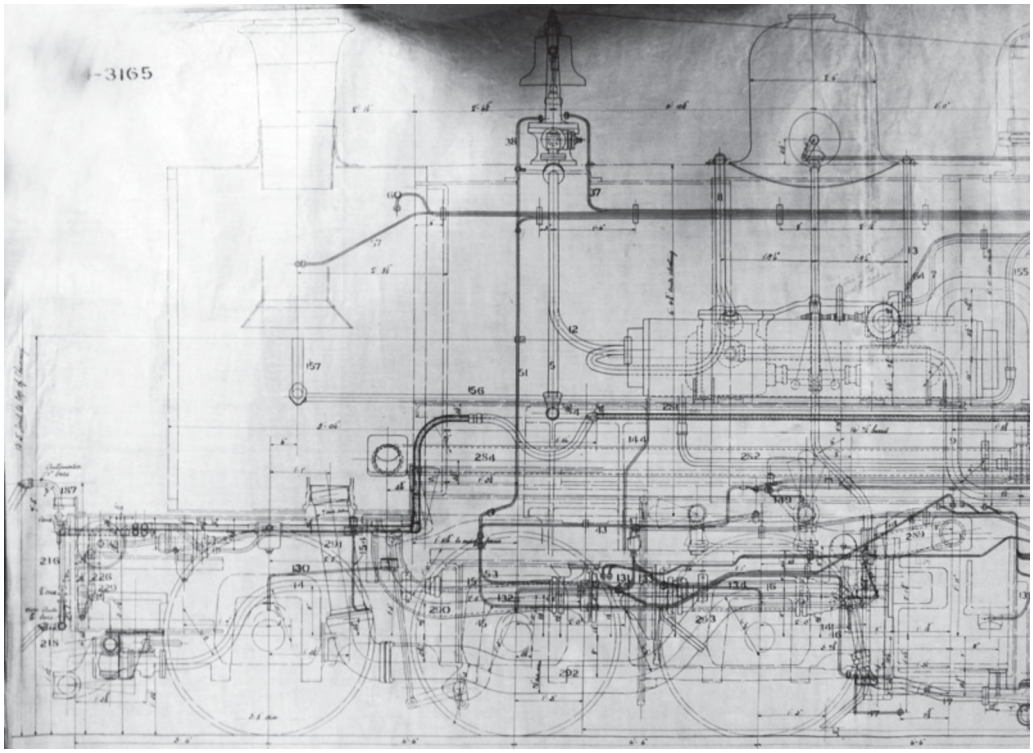
0-6-2+0-6-2 d/w 44", cyls. 19x22", were to have been built by NBL in 1915, but were cancelled

Twenty-two more of the Meyers with some improvements were to have been built, but the order was cancelled owing to the war. The drawings had been completed. NBL order L622 of 9th April 1914. These would have been 12" longer between the bogies than the earlier locos, and with a wider taper boiler and larger cylinders. Fitted with Robinson superheater. Strangely, the tender would have been slightly shorter, possibly because engines would have been oil-fired from new (with oil in the 'bunker') rather than having bagged coal on the tender. Shown in order book as 2-6-2-6+8 type. Delivery in 10/12 months under penalty. This last sentence crossed out and replaced first by 'Deliveries postponed 6 months, 5 February, 5 March, 6 April, 6 May.' and then overwritten 'Cancelled 13/8/15'. A set of eighteen drawings, though not including a GA, survive in the University of Glasgow Business Studies archives.

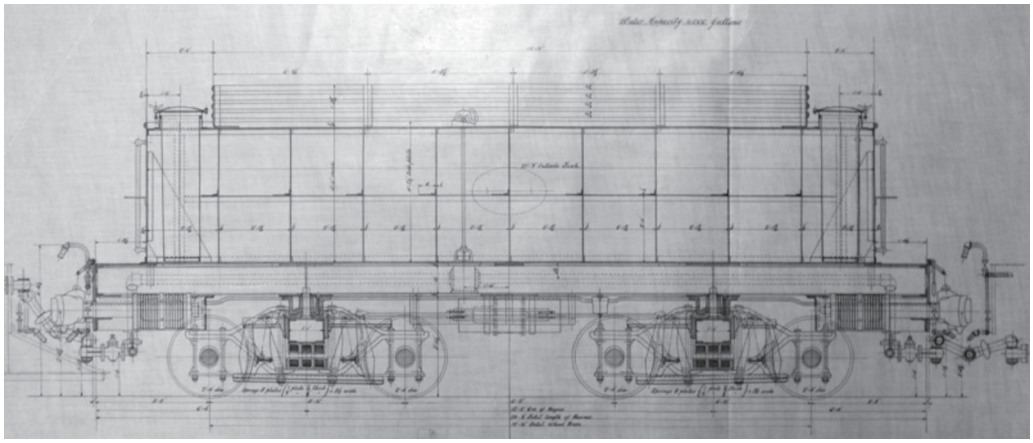
200-221 w/n 20971-20992



NBL weights diagram sketch, in Mitchell Library NBL archive.



These two extracts illustrate that whilst there may not be a proper GA in the surviving drawings in Glasgow, there is certainly sufficient detail to enable the design to be studied or models to be created.



Cancelled order for more pacifics

4-6-2 d/w 58.5" cyls. 20x24", NBL order L627 of 12th May 1914

Shown in order book as Eight (8) Passenger Engines & Tenders fitted with Robinson superheaters. 4-6-2+8 type cyls. 20"x24", metre gauge. Delivery End of May 1915. This last sentence crossed out and replaced first by 'Deliveries postponed 6 months, 19/8/14' and then overwritten 'Cancelled 13/8/15' "No drawings done". Prior to the placing of the order preparatory drawings had included at least one (S950) for a 4-cylinder compound version of this design.

? w/n 21064-21071

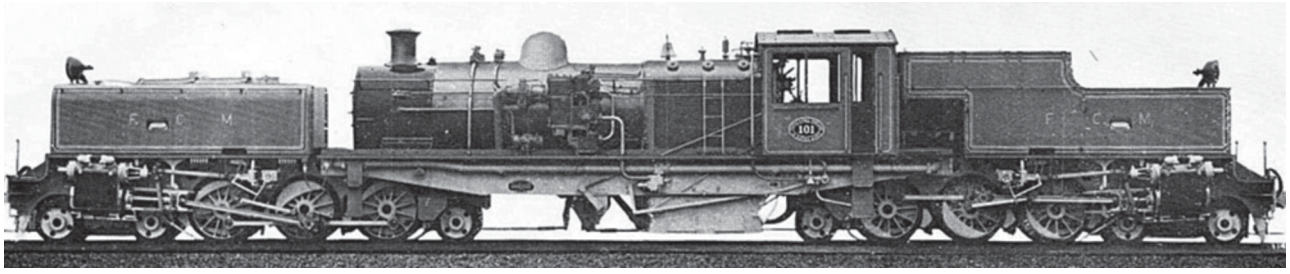
Locomotives brought in temporarily during the Second World War

4-6-2+2-6-4T Garratts d/w 48", cyls. 15½x22", built by Beyer, Peacock in 1929

Owned by Buenos Aires Midland Railway.

101 w/n 6570 Used on Uyuni to Oruro section.

102 w/n 6571 Used on Uyuni to Oruro section.

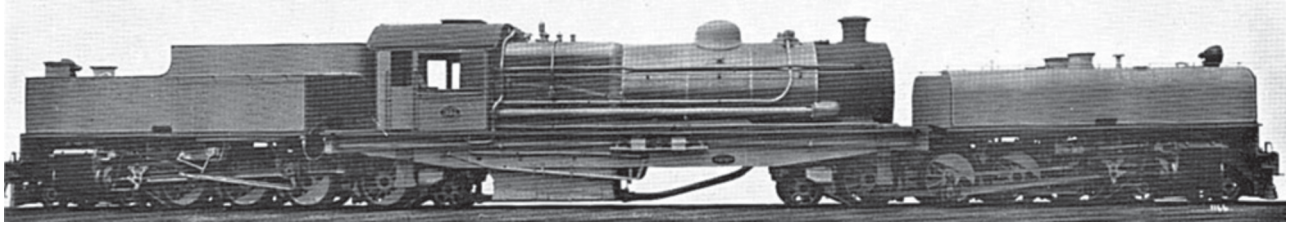


4-8-2+2-8-4T Garratts d/w 48", cyls. 18x26", built by Beyer, Peacock in 1929

Owned by Cordoba Central Railway. Three locos from the batch:

1511-20 w/n 6550-9

These were coal-fired, in contrast to the *FCAB*'s own Garratts which were otherwise almost identical.



Locomotives purchased second-hand from Brazil during the 1960s

NB It is not clear whether these arrived late during the *FCAB* era or very early during the reign of the *ENFFCC* and

before the formal reorganisation into the *ENFE* in 1964. It might be that their transfer from Brazil was partly a diplomatic gesture between the respective governments.

4-8-2 d/w ?, cyls. ?, built by Borsig in 1935

Originally built for the *EF Noroeste do Brasil* as part of a batch of eight numbered **705-716**.

710	w/n 14591	Later given the number **805** by the *ENFE* in 1965.
712	w/n 14593	Later given the number **806** by the *ENFE* in 1965.
714	w/n 14595	Later given the number **807** by the *ENFE* in 1965.
716	w/n 14596	Later given the number **808** by the *ENFE* in 1965.

Others say these were *FCALP* **370-3** then *ENFE* **801-4**.

4-8-4? d/w 59", cyls. 18x28", built by ALCo Schenectady in 1945-6

Originally built for the *EF Noroeste do Brasil*. Known as *las bicicletas* by the *ENFE* staff because of their large driving wheels.

621	w/n 73776	Later given the number **851** by the *ENFE* in 1965.
622	w/n 73777	Later given the number **852** by the *ENFE* in 1965.
623	w/n 73778	Later given the number **853** by the *ENFE* in 1965.

2-10-2 d/w 1156mm, cyls. 515x560mm, built by Henschel in 1938

Originally built for the *EF Central do Brasil* as part of a batch of five numbered **1601-5**. Weight in service 81.7T.

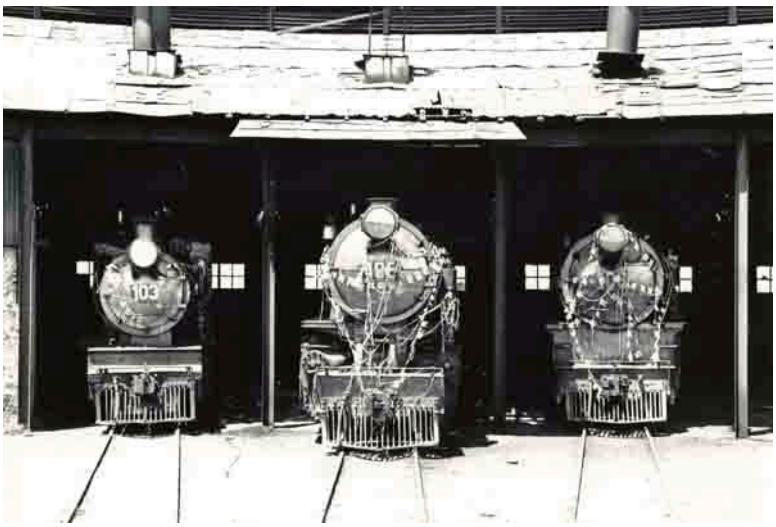
842	w/n 23829	Later given the number **701** by the *ENFE* in 1965.
843	w/n 23827	Ex **1603**. Later given the number **702** by the *ENFE* in 1965.

7.1.3 *El FC Arica La Paz*

1913 to date

Background

A full list of locos for the *FCALP* as originally constituted is contained in the Chilean metre gauge file. This section does not pretend to duplicate that, instead merely concentrating on the locos that worked on the Bolivian part of the railway after the separation. That initially occurred in 1928, fifteen years after the opening, as agreed in the original 1904 treaty between Chile and Bolivia which had provided for the construction of the line. A more thorough separation occurred in 1955.



FC Arica La Paz 2-6-0 number **103** (left, built by Henschel (11718/1913), 2-10-2 no. **105** built by Borsig (11956/1927), and 2-8-0 no. **108** also built by Borsig (12149/1929) stand in the roundhouse at Viacha; all decorated for the Shrove Tuesday - Ash Wednesday carnival on 24/2/1955. Photo David Ibbotson - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam299

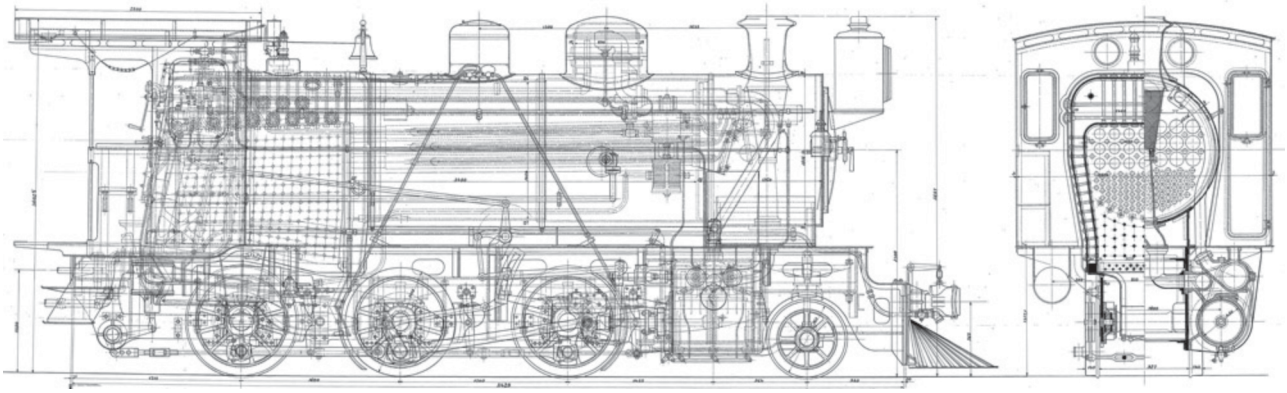
Original *FCALP* numbers	*FCALP* Bolivian section nos.		

2-6-0 d/w 1105mm, cyls. 450x600mm, built by Henschel in 1913

NB There is still some uncertainty about which three of this batch of six locos actually came to Bolivia. [4] suggests it was it was locos **33-35**, ie. Henschel nos. 11716-11718, and the 1957 *ENFFCC* diagram book says the same. However, an *FCALP* official list confirms the division as listed below though it is just possible that it was the other three out of the batch that came to Bolivia.

30	**101**	w/n 11713	Supposedly ran as 0-6-0 for a while, though that seems unlikely. Later became *ENFE* no. **503**.
33	**102**	w/n 11716	Later became *ENFE* no. **504**.
35	**103**	w/n 11718	Later became *ENFE* no. **505**.

Ex-FCALP Henschel 2-6-0 no. **35**, later no. **103**, running as ENFE no. **505**. Note the slightly raised running plate, and the steam/air-operated bell on the smokebox. The bogie tender is a puzzle, as it is very different from the 6-wheeled variety originally supplied by Henschel, and does not look like any tender used by the FCALP or any part of the ENFFCC/ENFE in Bolivia.



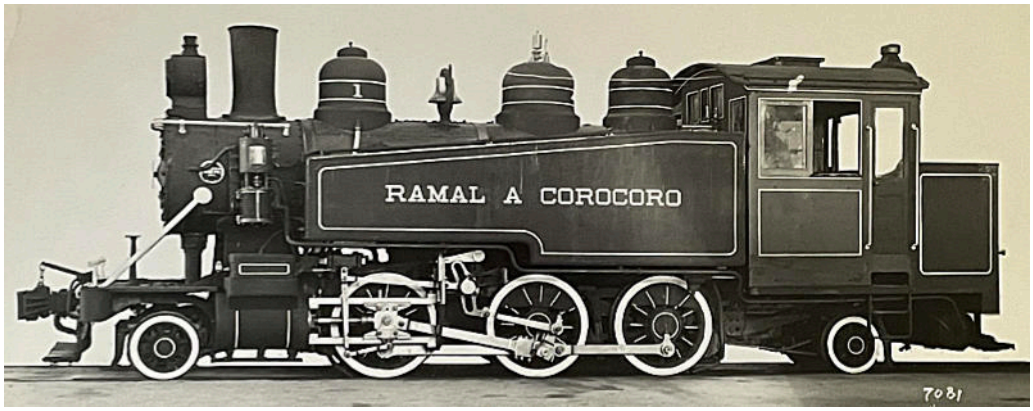
High resolution drawing files are available from the Henschel museum in Kassel. This one came by courtesy of Jens Schindler.

ENFE no. **505** stands at Guaqui in 1985. This photo was posted by Juan Iñiguez Sepúlveda on Facebook.

2-6-2T d/w 44" cyls 16x20" built by Baldwin in 1919

Ordered for the Bolivian Government via Chandler & Co. The BLW spec sheet for loco 10 26¼D no. 148 (vol. 66 pp376-7) confirms that this loco was ordered by the Bolivian Government, and was to be lettered 'RAMAL A CORO-CORO' on the tank sides with front number-plate, sand-dome and rear of bunker showing the number '**1**'. The tanks were to "taper to front end to allow engineer to see track ahead". Corocoro was a copper mining area south of La Paz accessed by a branch diverging from the *FCALP* at Tajeyra. However, it is probable that the engine was sold or transferred to the *FCALP* Bolivian section after the division in 1928, becoming **104** and eventually *ENFE* **506**.

1 **104** w/n 51870 Later became *ENFE* no. **506**.



Baldwin builder's photo, from a BLW publicity card.

2-8-0 d/w 1100mm, cyls. 500x550mm, built by Borsig in 1929

Purchased new for the *FCALP*. The Borsig list states for the "*Cia Boliviana del Ferrocarril de Arica - La Paz*".

105[1] w/n 12144 Moved to the *FCVA* as their no. **5**, on loan to the *FC Potosi Sucre* in 1955. Therefore 1957 diagram book does not show it on *FCALP*. This is confusing, as the original *FCVA* no. **5** seems to have been loaned to the *FCALP* in exchange, see below.

106 w/n 12147 Later became *ENFE* no. **603**.

107 w/n 12148 Later became *ENFE* no. **604**.

108 w/n 12149 Later became *ENFE* no. **605**.

One of the FCALP Borsig 2-8-0s but without the original conical smokebox door with which they seem to have been supplied.

No. **108** as seen by David Ibbotson in April 1954. The usual FCALP plate on the cabside has been joined by a longer and thinner 'SECCIÓN BOLIVIANO' plate beneath.

Around 1935 there seems to have been a spectacular accident involving Borsigs **106** and **108**. These three photographs illustrate the aftermath, but what is not yet clear is whether this was a collision between two trains or the derailment of a double header. The photos were found on one of the two *Fotos Antiguas La Paz* Facebook pages.

2-10-2 d/w 1100mm, cyls. 560x550mm, built by Borsig in 1927

Built for the *FC Villazon Atocha* as their no. **6 'SUIPACHA'**.

105[2]	w/n 11956	Later became *ENFE* no. **703**.

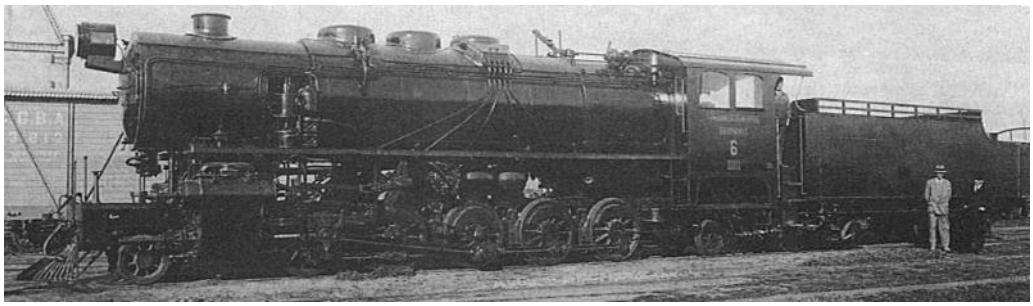


Photo provided by the kindness of Jens Schindler.

2-8-2 d/w ?, cyls. ?, built by ? in ?

Reimar Holzinger had **109** down as a Hitachi engine.

109	w/n ?	Later became *ENFE* no. **660**.
110	w/n ?	Later became *ENFE* no. **?**.

2-10-2 d/w 48"?, cyls. 22x24"?, built by Baldwin in 1946

Built for the *FC Villazon Atocha* as their no. **14** and **15**.

111	w/n 73068	May also have returned to *FCVA* and regained original number.
112	w/n 73069	Later returned to the *FCVA* and regained the number **15**.

Other photos of this engine are in section 6.1.7 on the *FCVA*. Hi-res versions of this image are available from the Railroad Museum of Pennsylvania. Baldwin negative number 13238-1.

No. **111** upside-down after a derailment. Date and location unknown.

2-8-2 d/w ?, cyls. ?, built by Hitachi in 1957-8

Nos. **205-212** were also purchased but began their lives on the *FCVA*. SLS library files WL7726 and WL8754 contain Hitachi lists which give works numbers for these twelve engines as 12442-12453.

201	w/n 2442	Later became *ENFE* **661**.
202	w/n 2443	Later became *ENFE* **662**.
203	w/n 2444	Later became *ENFE* **663**. Survived at Potosi in 2005 [6].
204	w/n 2451	Later became *ENFE* **664**. Survived at Potosi shed in 2005 [6] though also suposed to be in Tupiza so maybe one of them is actually another of the class.

There is an inconsistency here. Which loco was no. **210** and why is **204** shown twice, both here and on the *FCVA*?

7.1.4 *El FC La Paz Beni,* which became the *FC La Paz Yungas*

Background

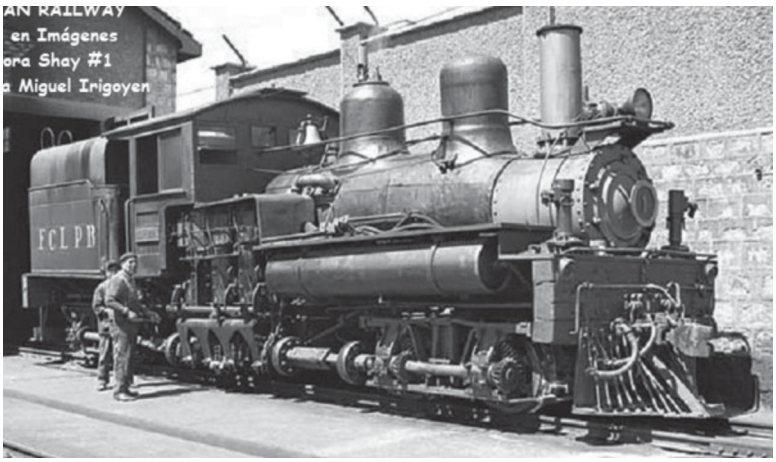
Construction started 1915 to link La Paz with the Yungas province, a total proposed length of around 350 km. It opened to Cumbre (26 km) in 1919, and to Unduavi (54.5 km) in 1926. No further progress was made. Closure was probably in the late 1960s. The maximum grades were 6-7% or around 1 in 15 so only geared locos were practicable.

0-4+4-0T two truck Shays d/w 29.5", cyls. 10x12", built by Lima in 1917

Ordered via G. Amsinck & Co. for Ing. Carlos Tejada Lozano who was presumably the engineer ic the construction work. Lima Shay class B 42-2. These originally carried big diamond stacks, presumably as wood burners, but latterly only bore straight chimneys with diamond caps because running on oil.

1 'ING.-TEJADA S.'	w/n 2932	Became *ENFE* no. **507** in 1965. In 1975 it was lying in a shed near La Paz station, with its bogies missing, and is believed to have stayed there at least until 2018. It seems likely that it was rescued from that location. However, no more definite recent news has been heard.
2 'CARLO PRADO'	w/n 2933	Became *ENFE* no. **508** in 1965. Latterly used as station shunter at La Paz. It was later disused at Viacha, eg 1975, and was to be moved to Sucre for the proposed railway museum but seems to have got no further than Oruro.

No. **1** is seen here in 1920 near the summit of the line. The tank bears the lettering 'FERROCARRIL LA PAZ-YUNGAS. Note the Radley & Hunter style stack originally fitted when the locos were wood-burners.



Shay no. **1** on shed at La Paz in the 1960s.

The black & white photos are from the collection of Sr. Miguel Irigoyen and were found on the Fotos Antiguas La Paz Facebook page.

No. **508** lies dead at Oruro in 2008.

The original 'FERROCARRIL LA PAZ YUNGAS' lettering still visible on the tankside after all later paint had peeled off.

The three cylinder engine of Shay no. **1**. Photo by Robert Morris found on the web.

Another Robert Morris photo, this time of the front end of no. **1**.

0-4+4-0T two truck Shays d/w 29.5", cyls. 10x12"(3), built by Lima in 1919

Ordered for *FC La Paz-Yungas*, but order cancelled, not built. Lima class 50-B.

3? w/n 3140

7.1.5 *El FC Potosí Sucre Tarabuco*

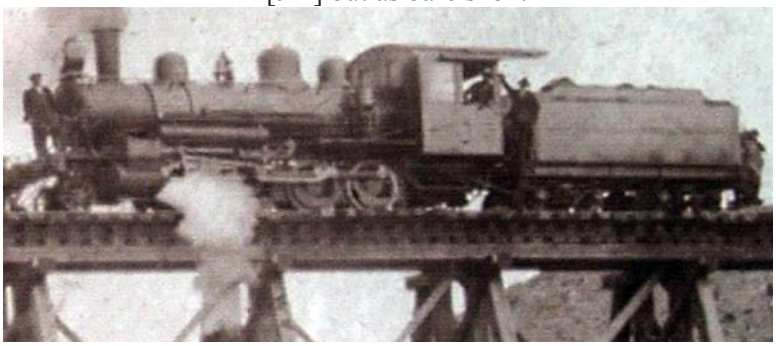
1916-

Background

This was an extension of the earlier *FCB* branch from Rio Mulatos to Potosí. Construction began in 1916 and reached Sucre in 1935. It has been written that track was laid all the way to Tarabuco but that this final stretch was never formally opened.

2-8-0 d/w 42", cyls. 16x22", built by Vulcan Iron Works in 1918 and 1919

1[1]	w/n 2806	Later no. **5**. Surviving 2008 at Sucre works [JM] but as just parts.
2[1]	w/n 2993	Later no. **6**. Became *ENFE* **601**. Surviving 2008 at Sucre works [JM] but as bare shell.



One of the VIW pair crosses the original wooden trestle over the Rio Muyutambo.

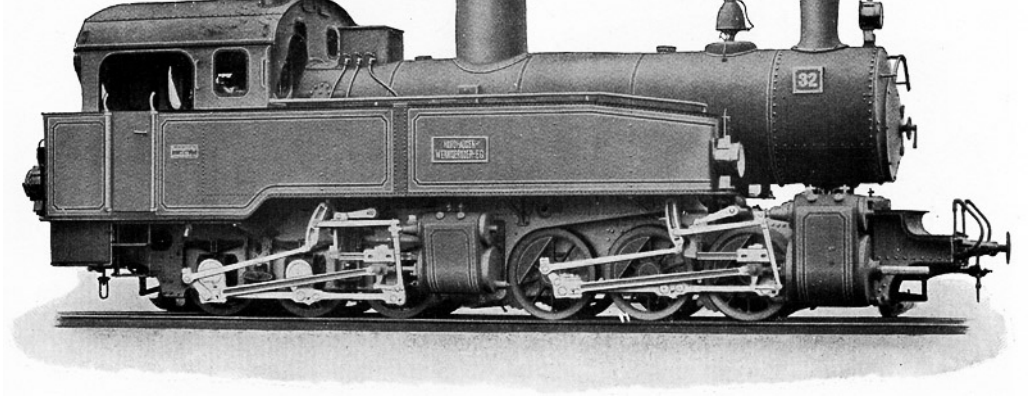
A tinted photo taken in Sucre around 1930. The tender side bears the legend 'FERROCARRIL POTOSI - SUCRE'.

0-6-6-0T Mallets d/w 1000mm, cyls. 500x500mm, built by O&K in 1910

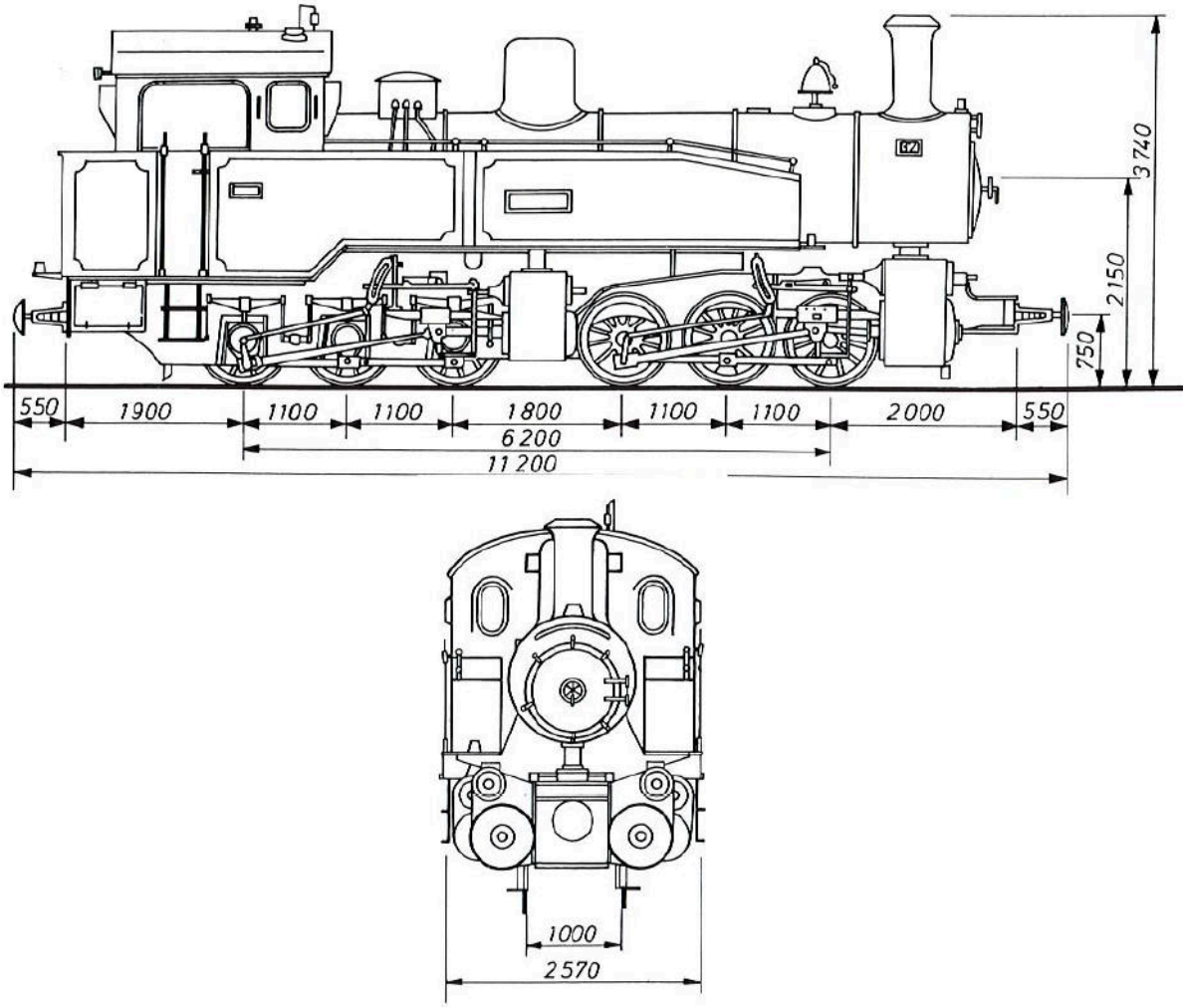
These were acquired second-hand from the *Nordhausen - Wernigerode Eisenbahn* in the Harz region of Germany, ex *NWE* nos. **31** and **32**. Weight in service 48T. Apparently not flexible enough for the *NWE*, and after no. **32** had seriously derailed in December 1920 both were withdrawn and then sold [*75 Jahre Herzquerbahn und Brockebahn*, Verlag Greinert 1975, quoted in letter in *LI* no.58, 2001].

3[1]	w/n 3939	Surviving 2008 at Sucre works [JM] but only as parts.
4	w/n 3940	Surviving 2008 at Sucre works [JM] but only parts.


MAPA
DE
RECONOCIMIENTO
PARA
EL FERROCARRIL
POTOSI-SUCRE
La Paz, Agosto de 1914.
ESCALA=1:200.000
PERFIL
POTOSI
Mayo Tambo
Bartolo
Pampa Tambo
Rio Pilcomayo
Cuesta de Calera
Rio Cachimayo
Cuesta de Cachimayo
Cabezas
SUCRE
REFERENCIAS
Línea recomendada
Id. por el Bolivia Ry.
Variación recomendada por el suscrito
Línea vía Oroyo
Camino Carretero
Id. de Herradura
(1) Variación sobre el anterior.
Ing. Jefe de los Estudios
PAMPAS DE CAPARAYA
PAMPAS DE CHACABUCO
PAMPA DE QUIVINCHA
CHAMIRA PAMPA
MUY ALTO
Samasa
Don Diego
Negro-Tambo
Trapiche
Mamahota
Susques
Mayo Tambo
Bartolo
Mojotorillo
Conapaya
Quevincha
Pomahuico
Retiro
Cancha
San Pedro
San Jacinto
Mataca
San Sebastián
Tambillo
Pampa Soico
Millares ó Llanta Apucheta
Mocca
Mojopoco
Hueco
Qb. Honda
Frutillar
Cuchihuasi
Pujiyuni
Tusa Pampa
Puente Sucre
Vila Vila
Pampa Tambo
Potobamba
Siporo
Huantapita
Colavi
Cuipampa
Misque
Calera
Nuccho
Yotala
Cachimayo
Pitontorilla
Cabezas
La Glorieta
SUCRE
Oroyo
Tacobamba
Potolo
Chahuamaca
LIT. E IMP. BOLIVIANA - H. HEITMANN & Cº. LA PAZ.



O&K no. 3940 as first built for the Nordhausen Wernigerode Eisenbahn in Germany.
This was *NWE* no. **32**, later to become *FCPST* no. **4**.

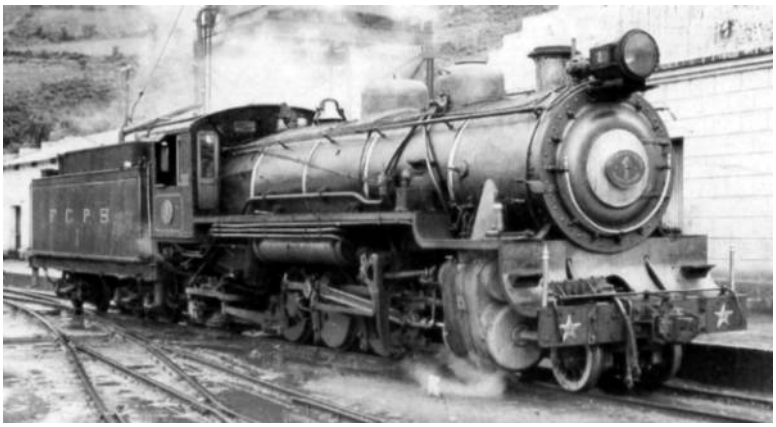


Side and end elevations from *Die Harzer Schmalspurbahnen*, ISBN 3-613-71103-6.

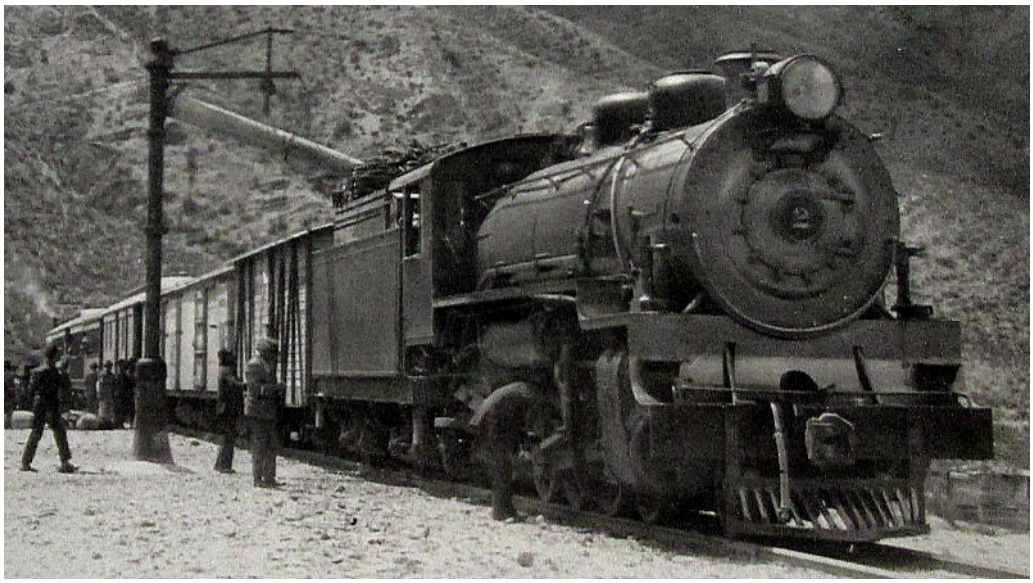
2-8-2 d/w 48", cyls. 21x24", built by ALCo Cooke in 1923 and 1924

Built for the *FC Atocha Villazon*.

1[2]	w/n 64214	Later became *ENFE* **655**. Survived at Potosi shed in 2005 [6].
2[2]	w/n 64215	Later became *ENFE* **656**. Surviving 2008 at Sucre works [JM].
3[2]	w/n 65937	Later became *ENFE* **657**. Surviving 2008 at Sucre works [JM].



A David Ibbotson photo from the 1950s.



FC Atocha Villazon no. **2** takes water.

2-8-0 d/w ?, cyls. ?, built by Borsig in 1929

Supposedly on loan from *FCVA* in 1955, but Jens Schindler says this was an *FCALP* loco.

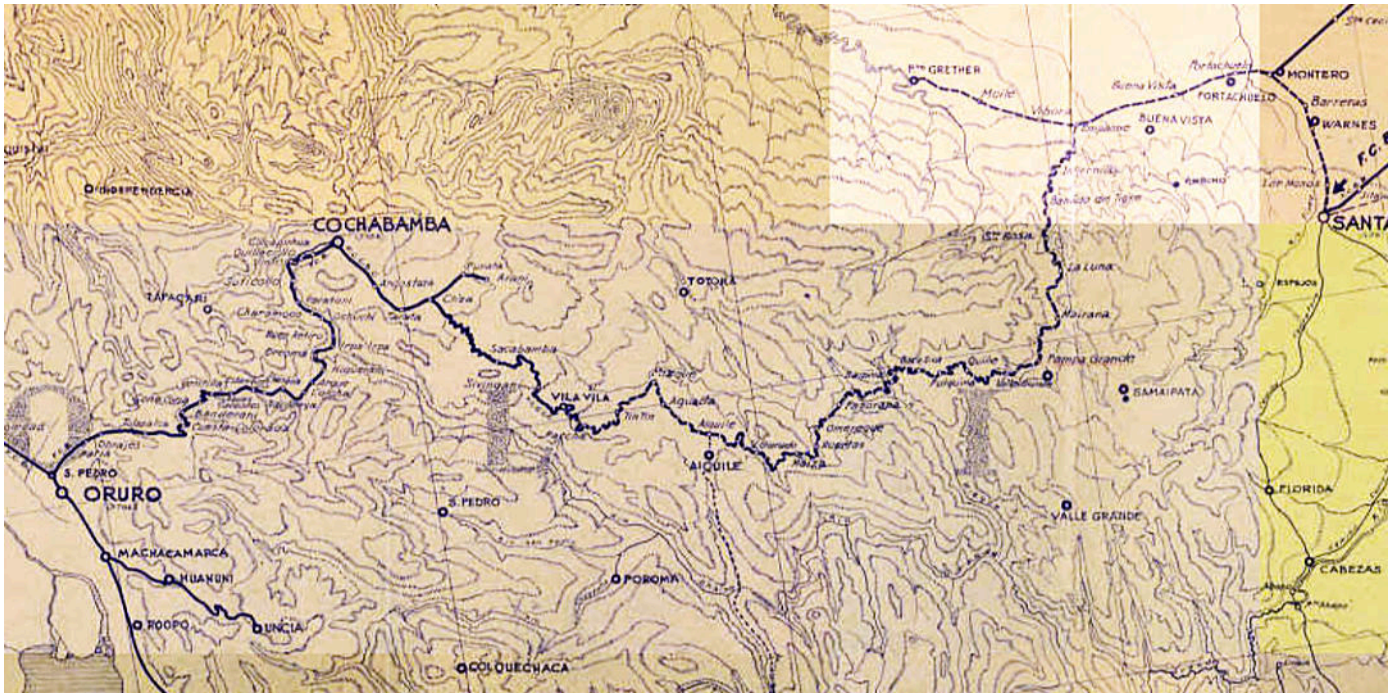
5	w/n 12144	

2-8-2 d/w ?, cyls. ?, built by Hitachi in 1957-8

Two of these were first allocated to this line

211	w/n 12952	Later became *ENFE* no. **669**.
212	w/n 12953	Later became *ENFE* no. **670**.

7.1.6 *El FC Cochabamba a Santa Cruz*



One of the routes proposed for the never-completed through route from Oruro via Cochabamba to Santa Cruz.

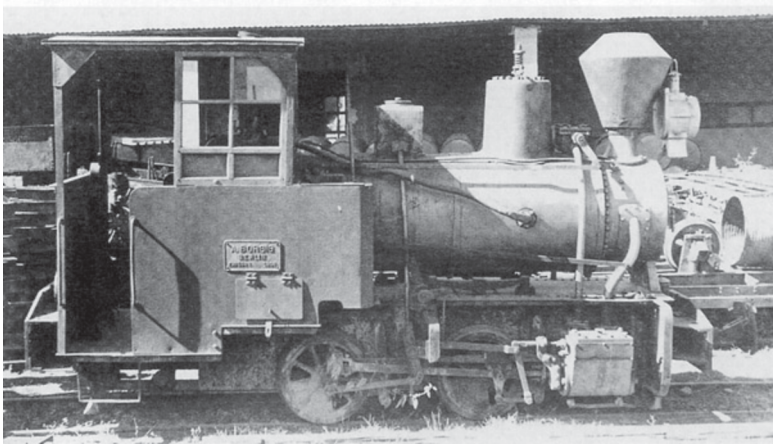
Background

The running numbers of these ex *Luz y Fuerza* engines when on the *FCCSC* are very uncertain except where explicitly confirmed below.

0-4-0T d/w ?, cyls. ?, built by Borsig in 1905 and 1911

Originally built to 750mm gauge for the *Empresa Luz y Fuerza de Cochabamba*.

1[1] **'CHORILLOS'**	w/n 5686	Withdrawn 1953.
2[1] **'?'**	w/n 7739	Scrapped around 1931.



A former *FC Luz y Fuerza de Cochabamba* 0-4-0WT built by Borsig (5686/1905), converted from 75cm gauge when taken over by the *FC Cochabamba - Santa Cruz* and presumably used for yard shunting - April 1956. Photo David Ibbotson - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam360

Former *FC Luz y Fuerza* regauged 0-4-0T, built by Borsig (5686/1905), is plinthed at Cochabamba which was the starting point for what was initially a 75cm gauge line to Arani although this was later converted to metre gauge following the arrival of the line from Oruro. Photo taken 28/1/1970. Photo Trevor Rowe. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: trbo70043

2-6-0 d/w ?, cyls. ?, built by Borsig in 1911 and 1913

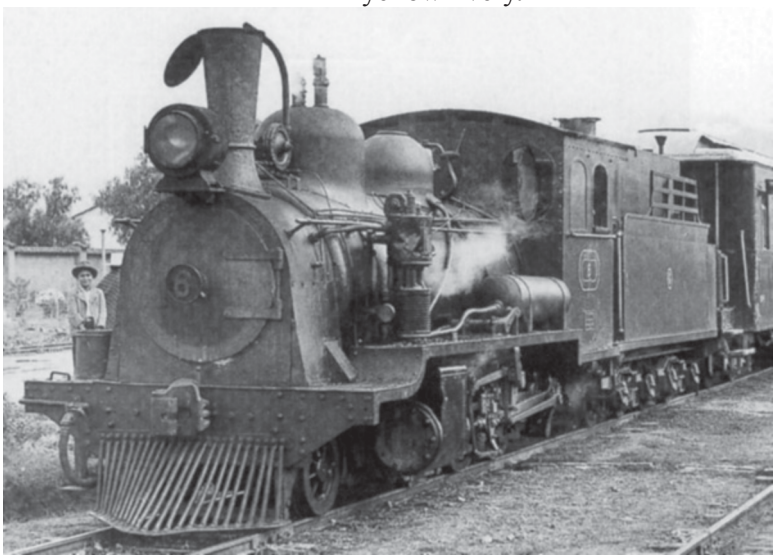
Originally built to 750mm gauge for the *Empresa Luz y Fuerza de Cochabamba*.

3[1] '?' w/n 8113

6 'ANIBAL CAPRILES' w/n 8743 At Cochabamba May 1969 but not in service [14], in a green livery.

It has been suggested that Borsig 8742 was the third of these 2-6-0s, but Jens Schindler points out that this was a standard gauge 0-6-0T built for a railway near Berlin.

7 '?' w/n 8742 At Cochabamba May 1969 but not in service [14], in a yellow livery.



Former *FC Luz y Fuerza de Cochabamba* 2-6-0 number **6 'ANIBAL CAPRILES'**, built by Borsig (8743/1913), stands in Cochabamba station with a mixed train in March 1955. Photo David Ibbotson - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam358

0-6-0T d/w ?, cyls. ?, built by Borsig in 1912

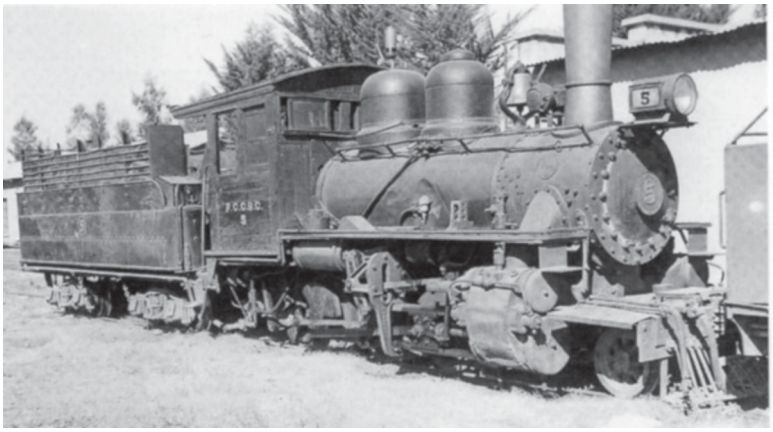
Originally built to 750mm gauge for the *Empresa Luz y Fuerza de Cochabamba*.

4? **'?'**	w/n 8465	Withdrawn 1953.
5? **'CLIZA'**	w/n 8466	Withdrawn 1953.

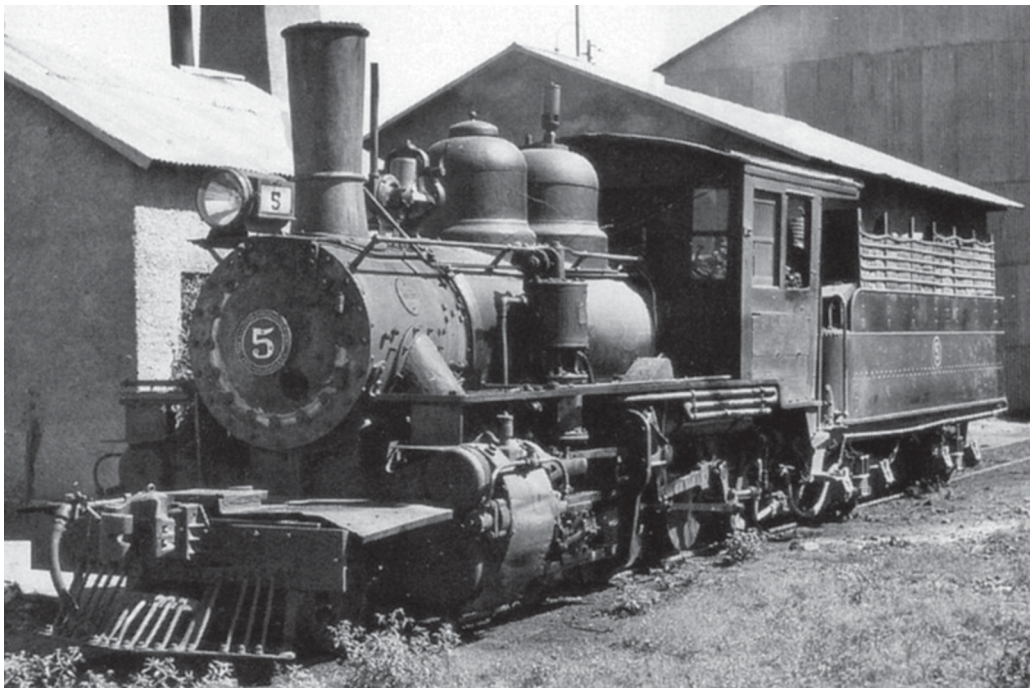
2-6-0 d/w 37", cyls. 14x18", built by Baldwin in 1922

Originally built to 750mm gauge for the *Empresa Luz y Fuerza de Cochabamba*. Originally fitted with a Rushton stack. Class 08-22D no. 371. Spec. page is vol. 66 p372. To *FC Cochabamba a Santa Cruz*, regauged to metre gauge as their no. **5**.

5	w/n 55294	.



Former *FC Luz y Fuerza* 75cm gauge 2-6-0 no. **8**, built by Baldwin (55294/1922), later regauged as *FC Cochabamba-Santa Cruz* number **5**, stands in the yard at Cochabamba in August 1955. Photo David Ibbotson - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam361



2-4-0 d/w ?, cyls. 10x16", built by Porter in 1911

Originally built to 750mm gauge for the *Empresa Luz y Fuerza de Cochabamba*, not regauged.

3[2]	w/n 4908	Withdrawn around 1931.

2-6-0 d/w 1105mm, cyls. 450x600mm, built by Henschel in 1911

Built for *FCALP* as their no. **34**. Became part of *FCALP* Bolivian section fleet as no. **102**. Used by Central Army Technical School at Viacha, and loaned(?) to *FCCSC*. Returned to *FCALP* Bolivian section in 1938. True identity still uncertain, see paragraph adjacent to these engines in *FCALP* section.

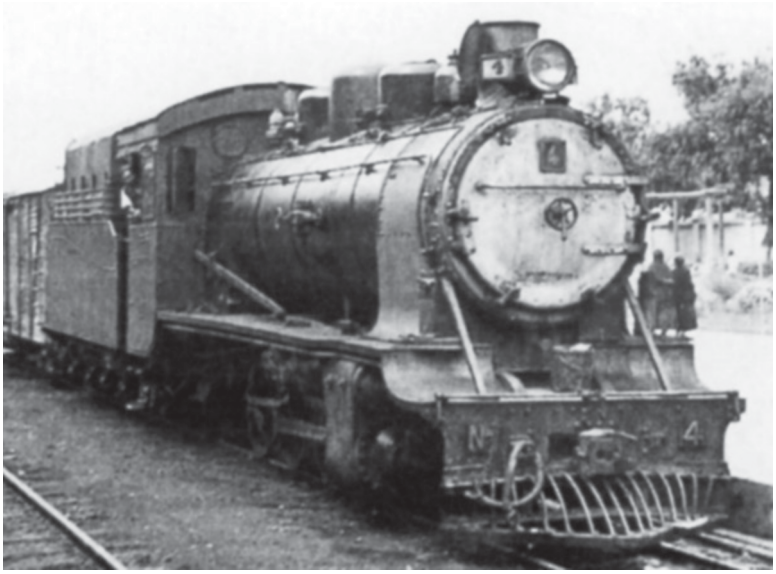
102	w/n 11717	

2-8-2 d/w 1050mm, cyls. 500x550mm, built by O&K in 1929

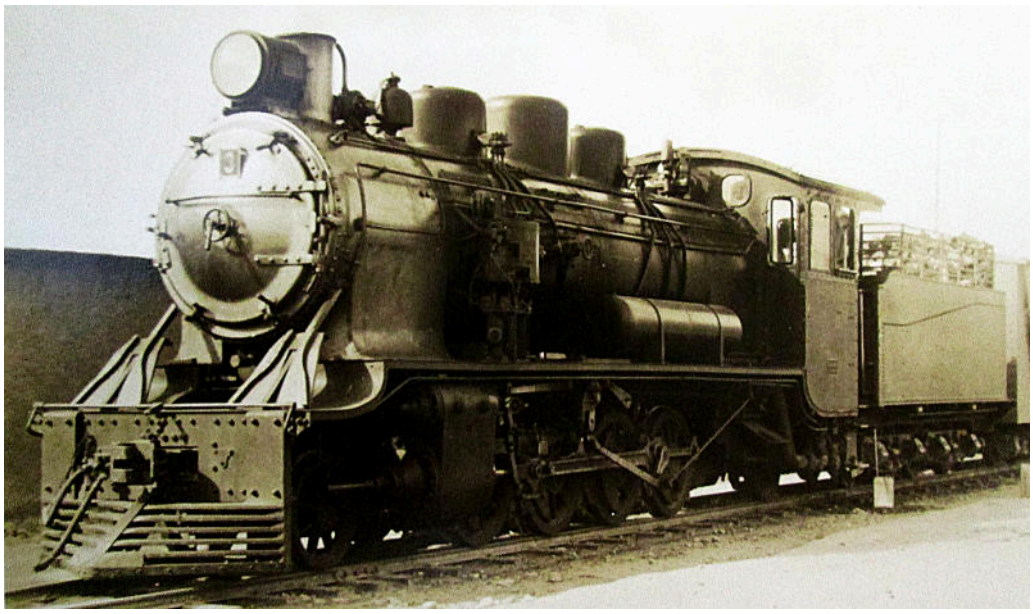
Ordered via Kennedy & Carey Corporation.

1[2]	w/n 11771	Became *ENFE* no. **651**. Survived at Oruro in 2005 [6].
2[2]	w/n 11772	Became *ENFE* no. **652**.
3[2]	w/n 11773	Became *ENFE* no. **653**.
4[2]	w/n 11774	Became *ENFE* no. **654**.

One of these survived at Potosi in 2005 [6].



2-8-2 number 4, built by Orenstein & Koppel (11774/1929), stands in Cochabamba station with a mixed train in August 1954. Photo David Ibbotson - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam357



FCCSC no. **3**. Photo by courtesy of the Restoration & Archiving Trust.

2-6-0 d/w 42", cyls. 15x22", built by Vulcan Iron Works in 1941

These were built as nos. **1-4**, but probably renumbered on arrival in Bolivia. Not VIW 4294-7 as RH suggested.

101	w/n 4296	Became *ENFE* no. **511**.
102	w/n 4297	Became *ENFE* no. **512**.
103	w/n 4298	Became *ENFE* no. **513**.
104	w/n 4299	Became *ENFE* no. **514**.

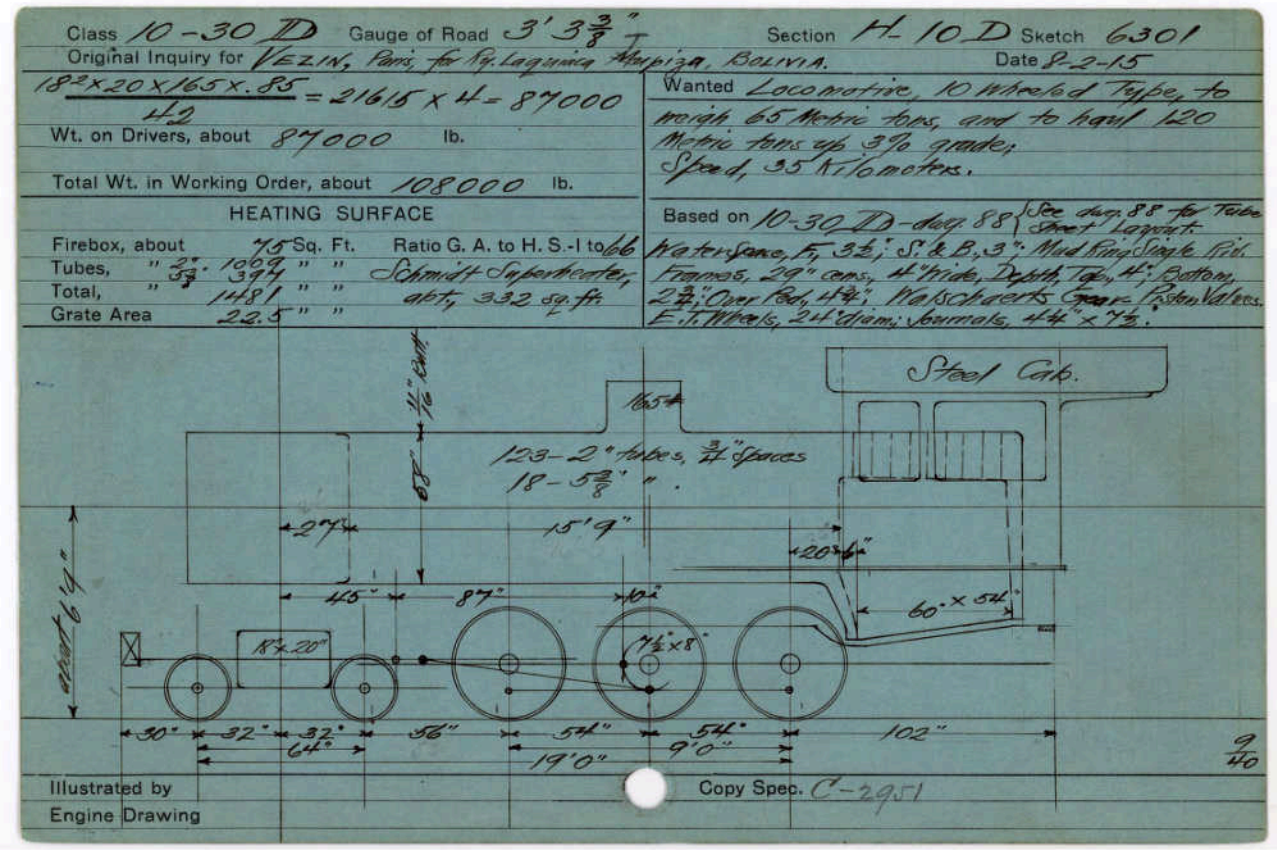
7.1.7 *El FC Estado Villazón a Atocha*

Background

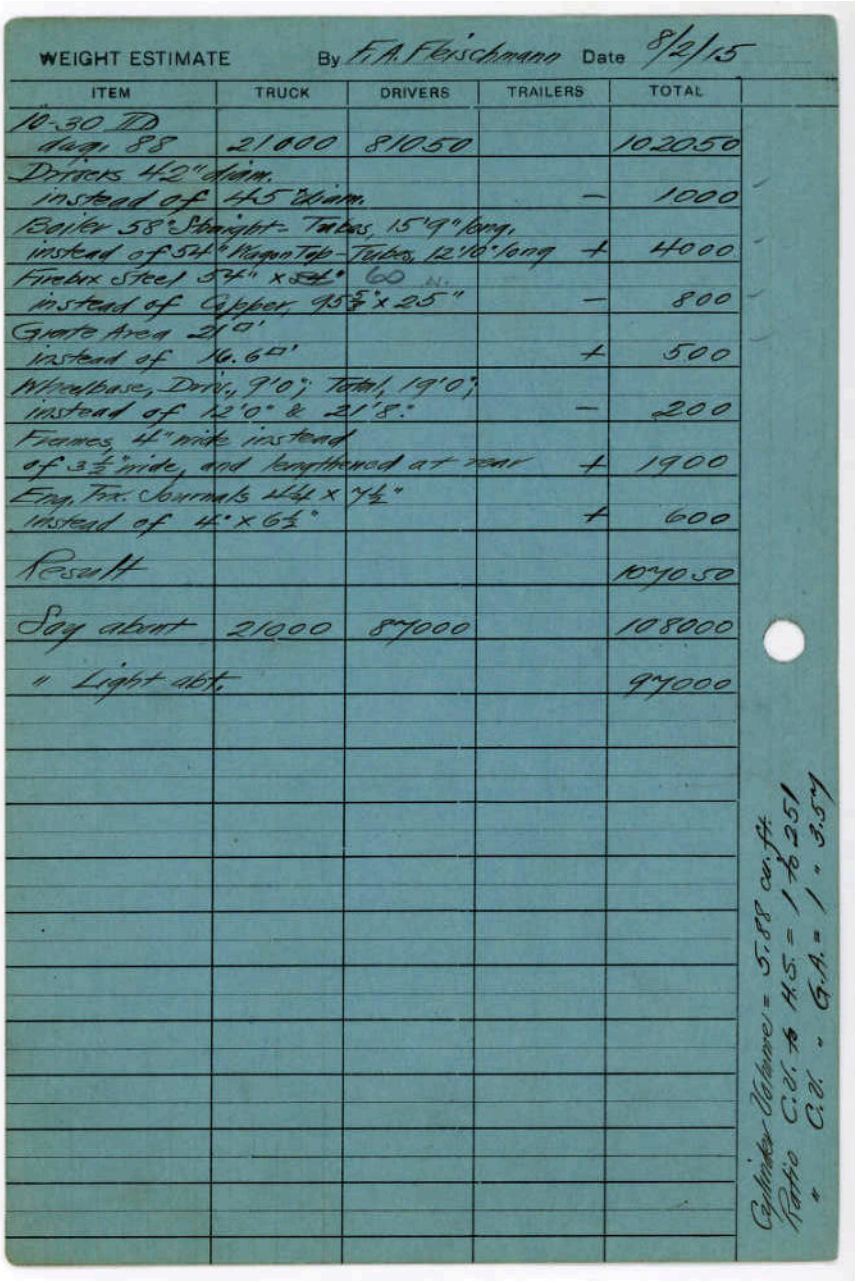
Became part of *ENFFCC* in 1958. The early history of this railway needs investigating, not least because the first two locomotive proposals illustrated below were for a putative La Quiaca to Tupiza railway in 1915-16. La Quiaca is the Argentine border town adjacent to the Bolivian settlement of Villazón, and Tupiza is around 110 km. further north, on the way to Atocha. Thus this proposal was effectively a direct predecessor of the *FC Villazón Atocha*.

4-6-0 d/w 45" revised to 42", cyls. 18x20", proposal by Baldwin in 1915

Enquiry by Vezin of Paris for a La Quiaca Tupiza railway.



The images above and below show a Baldwin enquiry card, as used when an enquiry was received from a prospective customer or their agent. The front side served to show the dimensions being discussed, whilst the reverse helped to assess the likely weight of the new loco by starting with a similar machine previously constructed and adding or subtracting any probable differences.



WEIGHT ESTIMATE By F.H. Fleischmann Date 8/2/15

ITEM	TRUCK	DRIVERS	TRAILERS	TOTAL
10-30 D dwg. 88	21000	81050		102050
Drivers 42" diam. instead of 45" diam.			−	1000
Boiler 58" Straight-Tubes, 15'9" long, instead of 54" Wagon Top-Tubes, 12'10" long			+	4000
Firebox Steel 54" x 60" N. instead of Copper 95⅞" x 25"			−	800
Grate Area 21 □' instead of 16.6 □'			+	500
Wheelbase, Driv., 9'0"; Total, 19'0"; instead of 12'0" & 21'8".			−	200
Frames 4" wide instead of 3½" wide, and lengthened at rear			+	1900
Eng. Tr. Journals 4¼ x 7½" instead of 4" x 6½"			+	600
Result				107050
Say about	21000	87000		108000
" Light abt.				97000

Cylinder Volume = 5.88 cu. ft.
Ratio C.V. ÷ H.S. = 1 to 251
" C.V. ÷ G.A. = 1 : 3.57

4-6-2 d/w 52" but 49" variant mentioned, cyls. 18x24", proposal by Baldwin in 1916

Enquiry for a La Quiaca Tupiza railway. Note that the card mentions the enquiry as being for a mikado locomotive rather than a pacific as shown. It would be interesting in due course to compare the dimensions shown here with the similar-looking Pacifics later built for the north Argentine metre gauge.

Class 12-30¼ D	Gauge of Road 3-3⅜"	Section H-12¼ D	Copy Sketch 6556
Original Inquiry for La Quiaco - Tupiza R.R. (Bolivia).			Date Nov 16-1916.

$\frac{18\frac{3}{4} \times 24 \times 180 \times .85}{52}$ = 22900 × 4.02 = 92000

Wt. on Drivers, about 92000 lb.

Total Wt. in Working Order, about 129000 lb.

Wanted A Mikado Type Locomotive to haul 168 Short Tons at 15 M.P.H.
Gauge 3'-3⅜" - Grades 3% - Curves 100 Meters - (15°) Weight 134000# & a Pacific Type to haul 140 Short Tons at 21 M.P.H. Weight 118000# - Rails 60# - T.P. Mikado 22400# Pacific 19700# H.S. Mikado 1870□' H.S. Pacific 1970□'

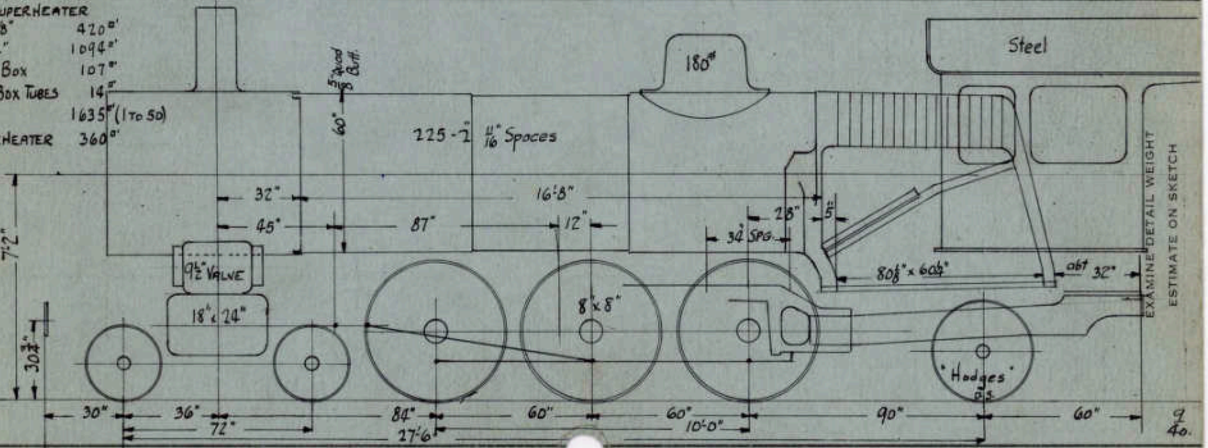
Based on 12-30¼ D-d3.

HEATING SURFACE

F. Brick Tubes obt	14		
Firebox, about	107	Sq. Ft	Ratio G. A. to H. S. - 1 to 62
Tubes, "	1954	" "	Superheater —— Sq. Ft.
Total, "	2075	" "	
Grate Area	33.5	" "	

Frames 29" Cens. 4" Wide. Depths Top 4" Bot 3" Over Ped 5" Water Space F4" S & B 3½". Mud Ring Double Riveted - Walschaert Valve Motion - Eng. Truck Wheels F 28" B 33" Dia. Journals F 4½" × 8" B 5" × 9".

With Superheater
18-5⅜" 420□'
126-2" 1094□'
Fire Box 107□'
Fire Box Tubes 14□'
Total 1635□' (1 to 50)
Superheater 360□'



Illustrated by Photo 5268

Engine Drawing

Copy Spec. C4449. - F-2045 (56" Driv.).

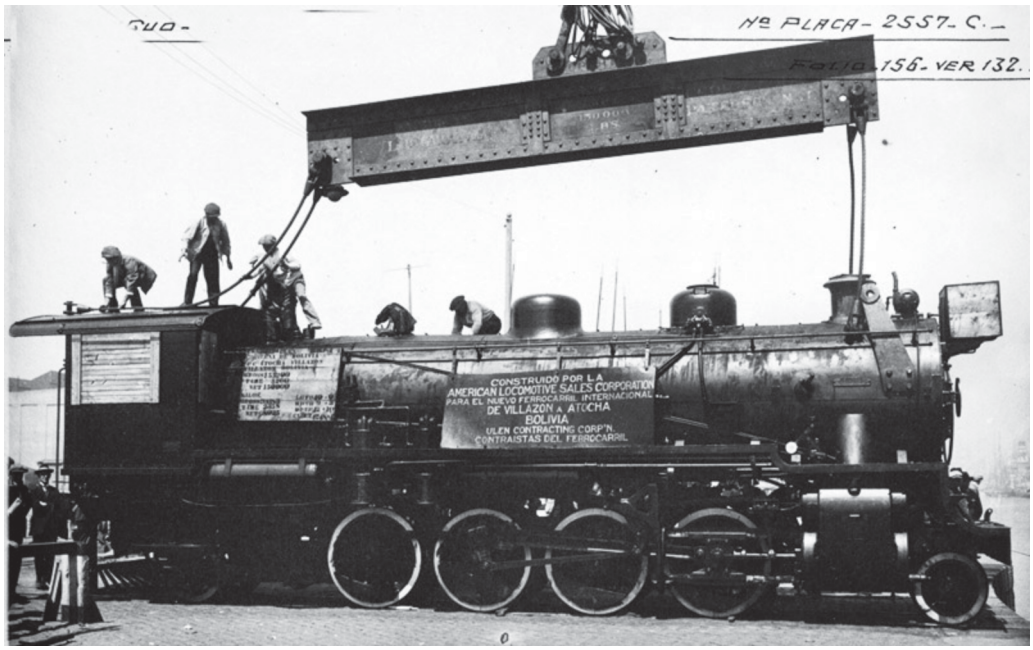
ITEM	TRUCK	DRIVERS	TRAILERS	TOTAL
12-30¼ D d3	20450	76000	14000	110450
Empty	18.6%	68.8%	12.6%	99800
Waist 60" × ⅝" Quad 225-2"	12 W.G. × 16'-8" - Lowest Cock 4"			
Instead 56" × ⅜" " 16-5⅜ / 120-2" - 12	9 W.G. × 16'-0"			+ 4800
F. Box 80⅛" × 60¼" × 56" & 56" Steel - For 60"	Waist - W.S. F 4"	3½" & 3½" Double		
Ins. 66 3/16" × 60⅛" × 54" & 52½" Cop. Tube Sheet	W.S.F 3½" - 3" &	3" Double		+ 2300
Grate Area 33.5□'				
Instead 28.3□'				+ 600
Smoke Box 60" - 74"				
Instead 56" - 69"				+ 400
Drivers 52" Tires 3 × 5½" Journ. 8" × 8"				
Instead 49" " 3 × 5½" & 6" Jour.	7" & 7½" × 8"			+ 1500
Omit Superheater, Header				
& Tubes.				- 3500
Working Pressure 180# Ins. 170#				+ 200
9½" W.A.B. Pump & Br. Work instead 8" × 8½" Eng W.A.B.				+ 1200
Gauge 3'-3⅜" instead 3'-6"				- 200
B. Eng. Trk. Wheels 33" Dia - Ins 30"				+ 400
F. Engine Trk Wheels 28" Dia. Jour 4½" × 8"				
Instead 30" Wheels 4¼" × 6" Jour.				+ 200
Make all Details Regular B.L.W. Practice, as 12-30¼ D d3				
Was built unusually light				+ 3000
Lagging for Larger Boiler				+ 400
Heavier Details (Brake Work, Wedges & Gib - Air Drum Support etc)				+ 3500
Heavier Springs & Eq. Work				+ 1600
Frame Sections 5" × 4" & 3" × 4" ins. 4½ - 3½" + 2½" × 4"				+ 1400
Result				128250
Say About	21000	92000	16000	129000
Empty				114000
With Copper Fire Box			Empty	116000
Say About	21000	92000	18000	131000
With Superheater,				
Super Header & Tubes				+ 4100
Waist 60" × ⅝" Quad 18-5⅜ / 126-2" × 16'-8" Ins. 225-2"				- 2000
				128250
Result				130250
Say About	23000	92000	16000	131000
			Empty	117000
With Superheater, & Copper Fire Box			Empty	119000
Say About	23000	92000	18000	133000

2G.W.

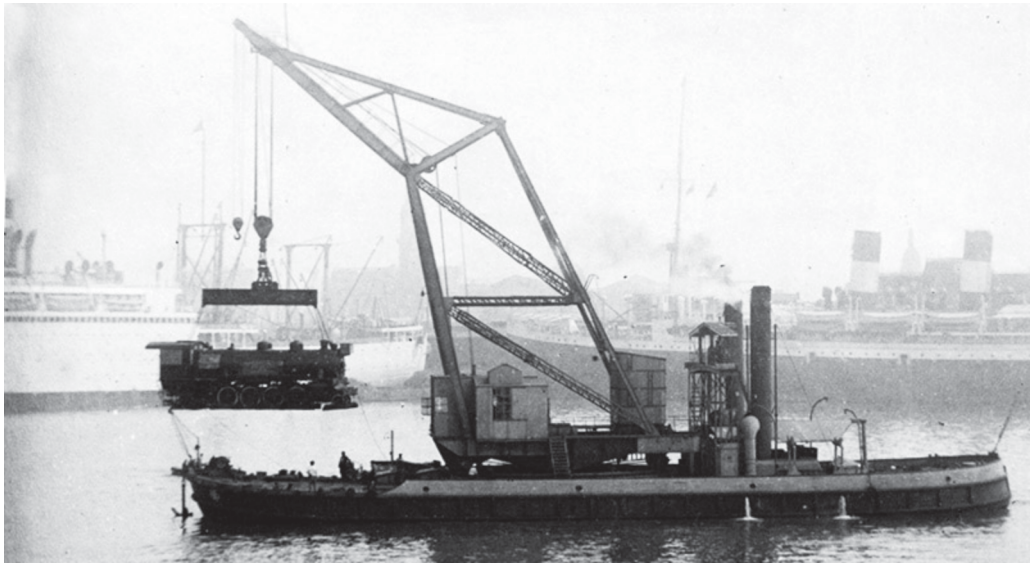
Cylinder Volume = 7.06 Cu. Ft. With Superheater
Ratio C. V. to H. S. = 1 to 294 232
" " " Eq. H. S. = 1 to — 308
" " " G. A. = 1 to 4.7 4.7

2-8-2 d/w 48", cyls. 21x24", built by ALCo Cooke in 1923 and 1924

1	w/n 64214	Later to *FC Potosi - Sucre -Tarabuco* no. **1**[2].
2	w/n 64215	Later to *FC Potosi - Sucre -Tarabuco* no. **2**[2].
3	w/n 65937	Acquired via Ulen & Co. Later to *FC Potosi - Sucre -Tarabuco* no. **3**[2]. This one had a higher running plate, at least on the left hand side, no doubt because it was also equipped with a Worthington feed-water heater.



One of the first three locos, possibly no. **3**, during its journey from the USA via Buenos Aires. Note the temporary lifting brackets bolted to the smokebox.



The same loco is moved across the harbour prior to being lowered to the ground.

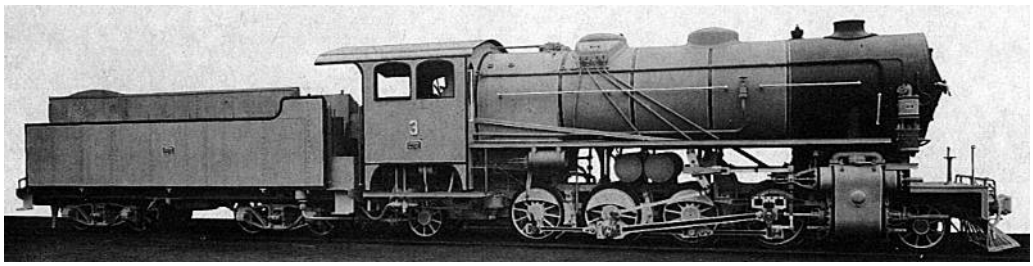
2-8-2 number **3**, built by Alco (65937/1924), heads a mixed train standing at Tupiza?, circa 1928. Photo I A Barrett - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam339

2-8-2 d/w 1148mm, cyls. 560x550mm, built by Borsig in 1925

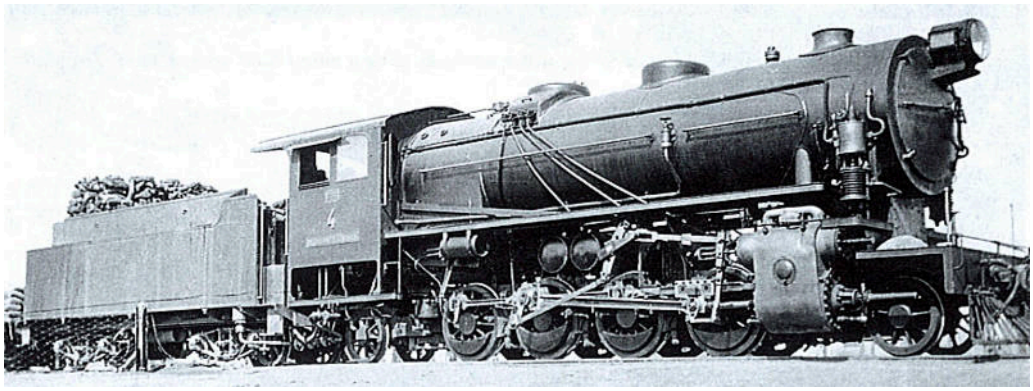
3 '?' w/n 11846 Later became *ENFE* **658** or possibly **660**.

4 'MARISCAL SUCRE' w/n 11847 Later became *ENFE* **659**.

NB the *ENFFCC* diagram book from 1957 shows these locos as number **4** and **5**.



FCVA no. **3** as built, seen in a Borsig works photo.



FCVA no. **4 'MARISCAL SUCRE'** in 1931.

Photo from Beyer Peacock in Christopher Walker's collection. The loco is shunting, probably at Villazon, around 1930. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam021

Judging by the long name-plate on the lower cabside, this must have been no. **4 'MARISCAL SUCRE'** rather than no. **3**.

The 1926 fleet

The US Dept. of Commerce report [] states that on May 1st 1926 the railway had five locos in operation, which three were US-built mikados and two were German. That corresponds to the engines listed above, though we still have a puzzle in the running numbers, with two locos both bearing the number 3.

2-8-2? d/w 1148mm, cyls. 560x550mm, built by Borsig in 1929

5 w/n 12144 On loan to *FC Potosi - Sucre - Tarabuco* in 1955. Later became *ENFE* **???**. Surviving 2008 at Sucre works [JM].

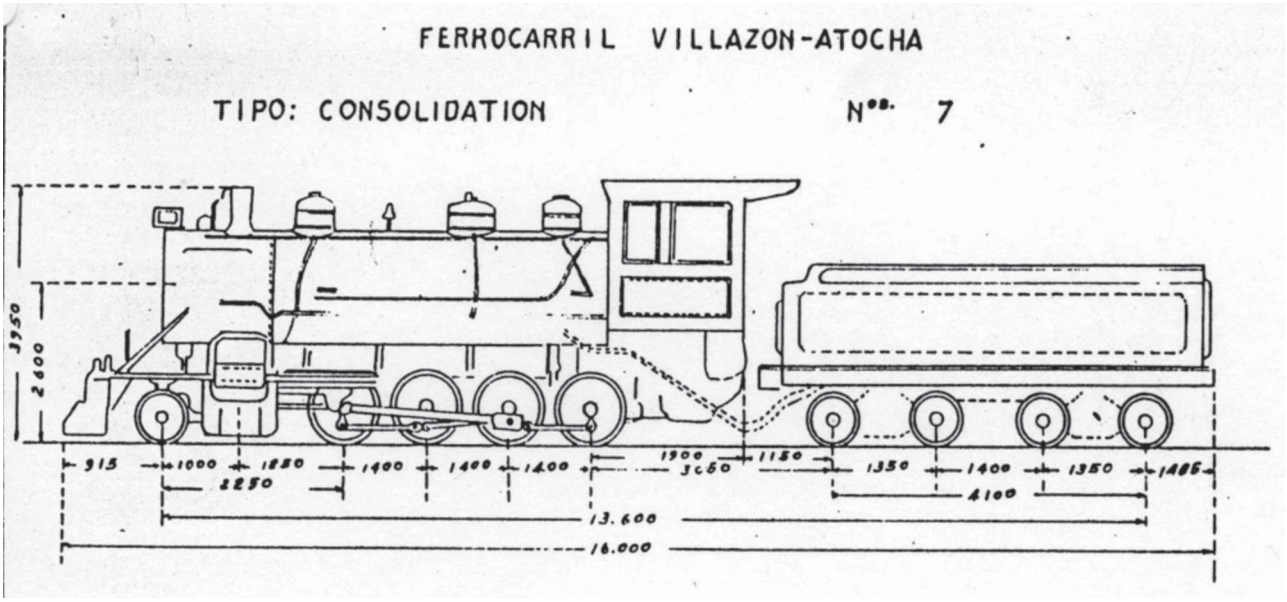
NB the *ENFFCC* diagram book from 1957 shows this loco as number **6**.

2-10-2 d/w 1100mm, cyls. 560x550mm, built by Borsig in 1927

6 'SUIPACA or **SUIPACHA'** w/n 11956 Later to *FCALP* as no. **105**. Later became *ENFE* **703**.

2-8-0 d/w 1100mm, cyls. 450x540mm, built by Borsig in 1927

7 'MANONA SUZA or **SOZA** or **SOZO'** w/n 11955 Later became *ENFE* **602**.



Some of these *ENFFCC* diagrams were economically produced by taking sketches of other classes and merely altering the dimensions. The picture may therefore not accurately represent the look of the loco it now represents.

2-6-0 d/w 38", cyls. 14x18", built by Baldwin in 1902

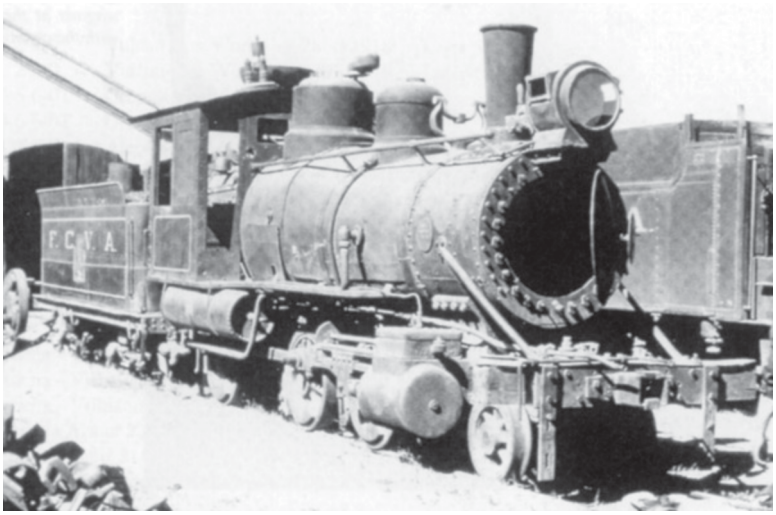
These two locos have mystified most investigators. However, an answer was hiding in plain sight in the *ENFFCC* diagram book in file LD14003 in the SLS library. The appropriate page gives the identities of these engines as Baldwin 20642-3. These were originally nos. **2** and **3** of the *FC Guaqui La Paz*! A comparison of the principal dimensions reveals a general correspondence though with minor differences which could have developed over time and after boiler replacement.

	Dimensions of *FCGLP* nos. **2** and **3** from Baldwin spec. book vol 25 p 8.		Dimensions of *FCVA* nos **8** and **9** from *ENFFCC* diagram book.
Driving wheels	38"	(965mm)	965mm
Pony truck wheels	26"	(660mm)	610mm
Cylinder bore &stroke	14x18"	(356x457mm)	356x457mm
Boiler diameter	50"	(1270mm)	1290mm
Tube length	8' 3"	(2514mm)	2520mm
No. of tubes	180		181
Boiler pressure	160psi	(11 bar)	10.5 bar
Total loco wheelbase	18' 4"	(5588mm)	5650mm
Tank capacity	1789 gals US.	(6772 litres)	9000 litres
Weight of tender in service	53,000 lbs.	(24040 kg.)	21,000 kg.
Year of building	1902		1902

My conclusion is that it is highly probable that these are the same locos. No doubt replacement boilers had been fitted, and possibly a new tender tank taking account of oil firing rather than coal. The pony truck might also have been modified or replaced.

8 w/n 20642 Had been *FCGLP* no. **2**. Later became *ENFE* **501**.

9 w/n 20643 Had been *FCGLP* no. **3**. Later became *ENFE* **502**.



A Baldwin built 2-6-0, probably ex the *FCGLP*, stands in the shed yard at Villazon, it was either *FCVA* number **8** or **9** - circa 1960. Photo B Thomas Walsh - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam342

One of this pair lying derelict amidst the long grass. Date unknown.

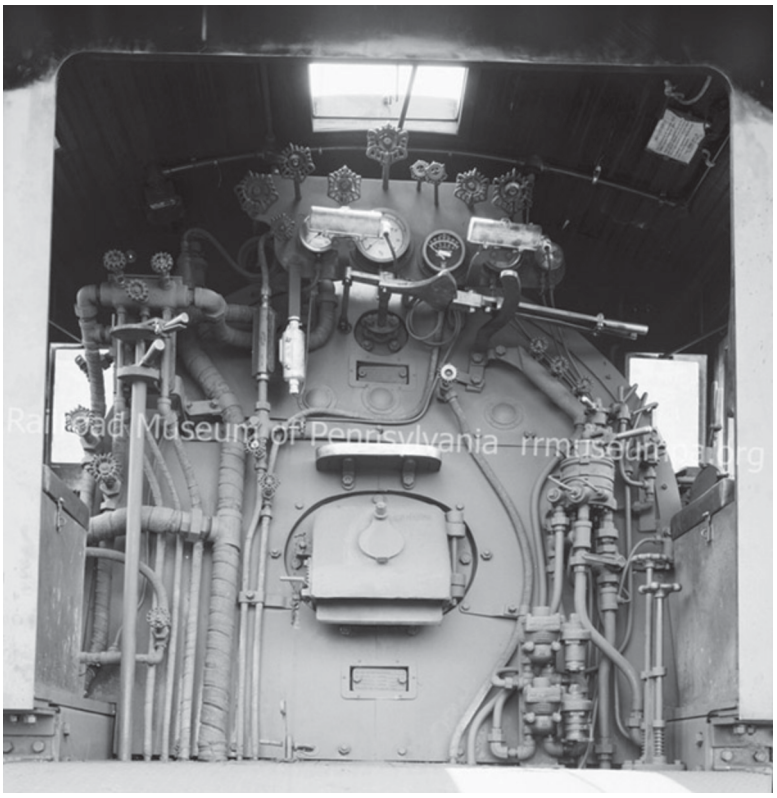
2-10-2 d/w 51"?, cyls. 22x26"?, built by Baldwin in 1942 (10-11), 1943 (12-13) and 1946 (14-15)

The final pair supposedly had different and smaller d/w ? and cyls. ?. but the *ENFFCC* diagram book from 1957 does not show this, instead giving all as having d/w 1220mm (48") and cyls. 560x610mm (22x24").

10	w/n 64619	Ordered as *Servicio Ferroviario de Yacimientos* no. **1**. Later became *ENFE* **704**.
11	w/n 64620	Ordered as *Servicio Ferroviario de Yacimientos* no. **2**. Later became *ENFE* **705**.
12	w/n 64621	Ordered as *Servicio Ferroviario de Yacimientos* no. **3**. Later became *ENFE* **706**. Survived at Potosi in2005 [6].
13	w/n 64622	Ordered as *Servicio Ferroviario de Yacimientos* no. **4**. Later became *ENFE* **707**.
14	w/n 73068	According to 1957 *ENFFCC* diagram book this loco also went to the *FCALP* as no. **111**. Later became *ENFE* **708**.
15	w/n 73069	Later to *FCALP* as no. **112**, but then returned to *FCAV* as no. **15** again. Later became *ENFE* **709**.

Hi-res versions of this image are available from the Railroad Museum of Pennsylvania. Baldwin negative number 12535-1.

Hi-res versions of this image are available from the Railroad Museum of Pennsylvania. Baldwin negative number 12536.

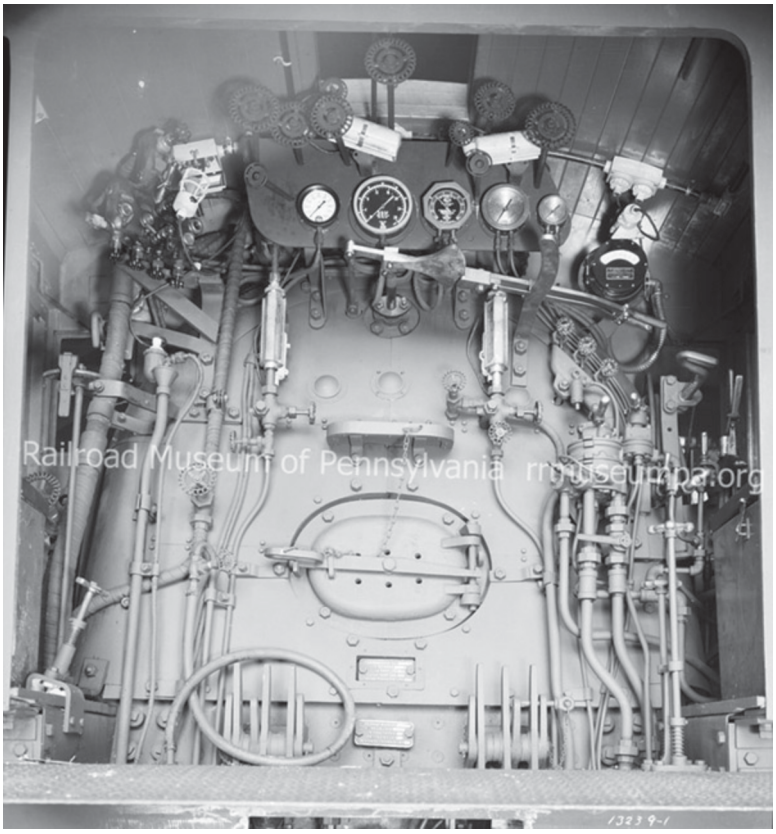


Hi-res versions of this image are available from the Railroad Museum of Pennsylvania. Baldwin negative number 12536-1.

Hi-res versions of this image are available from the Railroad

Museum of Pennsylvania. Baldwin negative number 13238-1.

Hi-res versions of this image are available from the Railroad
Museum of Pennsylvania. Baldwin negative number 13239.



Hi-res versions of this image are available from the Railroad
Museum of Pennsylvania. Baldwin negative number 13239-1.

No. **708**, ex no. **14**, at Villazon in 1975.

2-8-2 d/w ?, cyls. ?, built by Hitachi in 1958

Nos. **201-204** were also purchased but began their lives on the *FCALP*. SLS library files WL7726 and WL8754 contain Hitachi lists which give works numbers for these twelve engines as 12442-12453.

204 (?)	w/n 2445	Later became *ENFE* **672**.
205	w/n 2446	Later became *ENFE* **665**.
206	w/n 2447	Later became *ENFE* **666**.
207	w/n 2448	Later became *ENFE* **667**. Survived at Oruro in 2005 [6].
208	w/n 2449	Later became *ENFE* **668**.
209	w/n 2450	Later became *ENFE* **671**.
211	w/n 2452	Later became *ENFE* **669**. Survived at Potosi in 2005 [6].
212	w/n 2453	Later became *ENFE* **670**.

There is an inconsistency here. Which loco was no. **210** and why is **204** shown twice, both here and on the *FCALP*?

ENFE **666**, ex *FCVA* no. **206**, on shed at Oruro in April 1975 after having worked a train from Uyuni.

Visitors from south of the border?

The photo below, supposedly taken at Tupiza in 1924, seems to show an Argentine *FCCN* Baldwin pacific, or at least that is what the boiler mountings and cab profile suggests. The exceedingly long train carries flags and has been met by the local militia out in force, so perhaps it had worked through with VIPs on board.

An Argentine 2-10-2 in Villazón, having worked across the border.

7.1.8 *El FC Machacamarca Uncia*

1920-1987

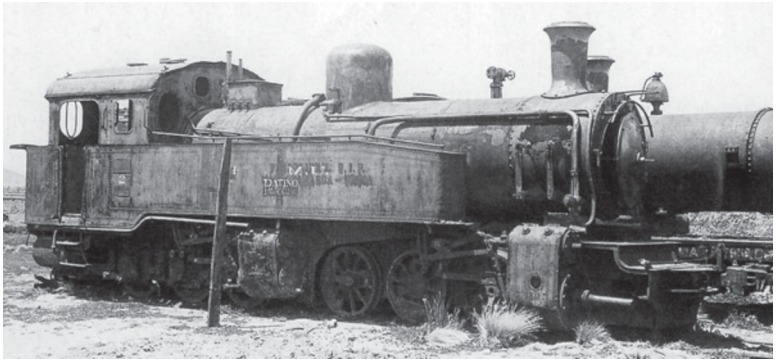
Background

Built by Simon Patiño to access mines at Uncia, Catavi and Huanani. 60 miles from Machacamarca on FCAB south of Oruro. 37 miles opened 1920 and remainder a year or two later. Branch to Catavi 3 miles. Ownership was transferred to *CoMiBol* (*La Comision Minera de Bolivia*) and the railway to *ENFE* in 1987.

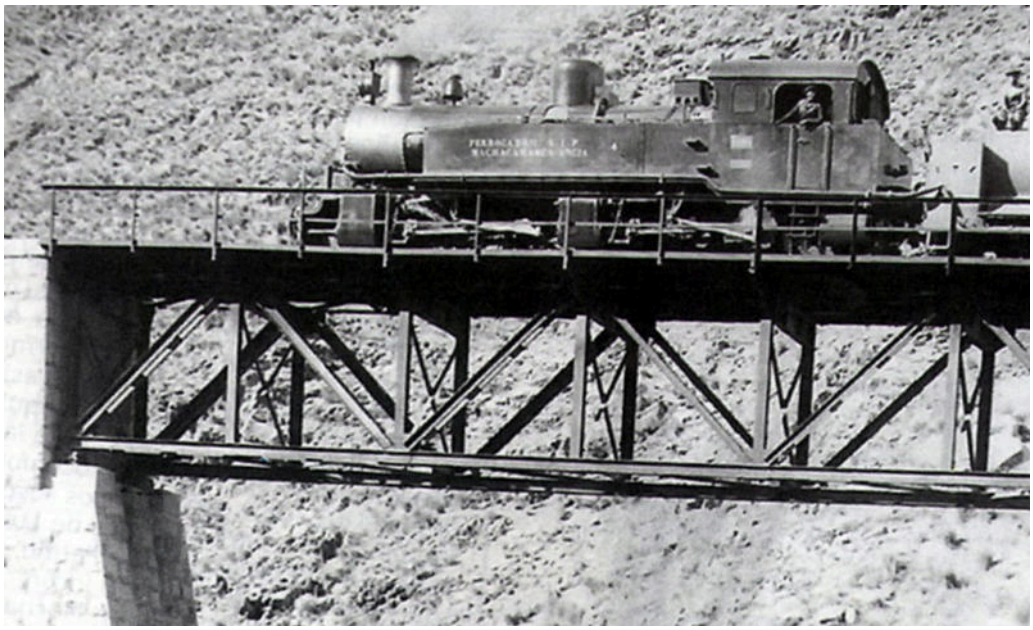
0-6-6-0T Mallets d/w ?, cyls. ?, built by O&K in 1914

Similar to Mallets built for *FC Potosi - Sucre - Tarabuco*. Ordered for Patiño Mines & Enterprises Consolidated.

1 'La SALVADORA'	w/n 6521	
2 'UNCIA'	w/n 6522	Reported scrapped by [JM] in 2008, a few parts remaining.
3 '?'	w/n 6523	Present in 2008 [JM] in roundhouse.
4 '?'	w/n 6524	

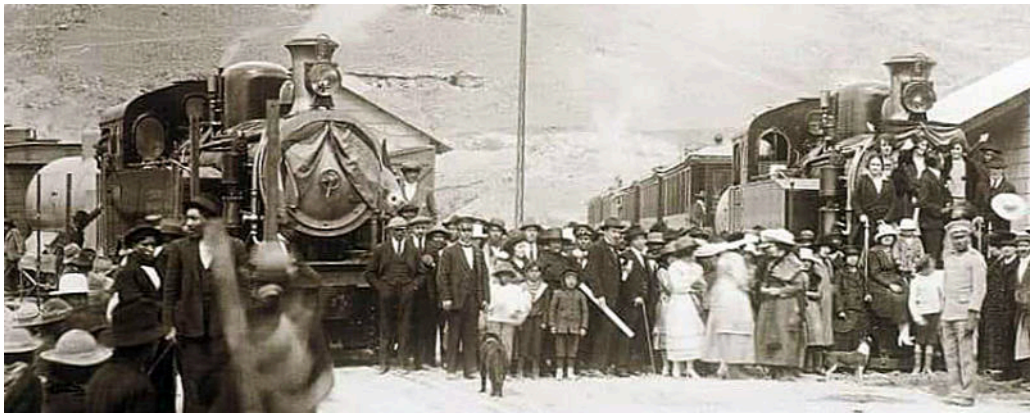


FC Machacamarca-Uncia 0-6-6-0T mallet number **2**, built by Orenstein & Koppel (6522/1914), stands out of use in the 1950s. Photo David Ibbotson – Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam380



Mallet no. **4** hauls a freight over a steel girder bridge.

A rear three-quarter view of an *FCMU* mallet.

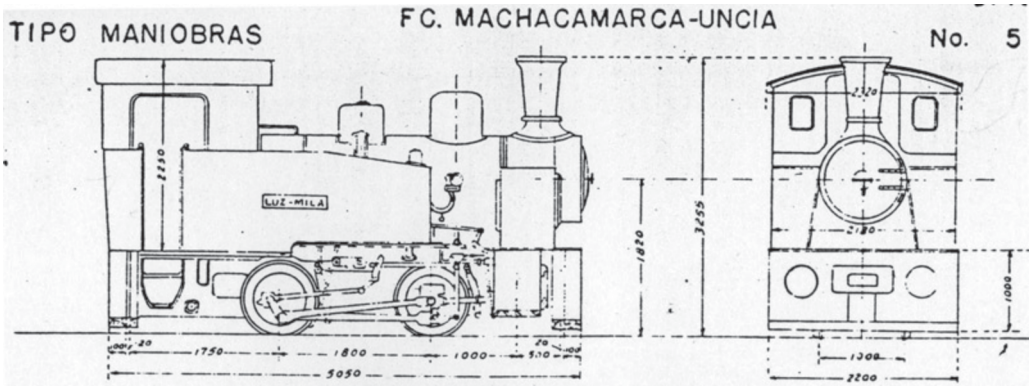


Two Mallets at the head of trains, and seemingly some kind of celebration. Note also the water cart tenders behind each engine. NB It is possible that these were the similar *FC Potosi - Sucre - Tarabuco* locos, though the double line of writing on the tank-side of the left-hand engine looks very like that shown in the previous photos above.

0-4-0T d/w 800mm, cyls. 350x380mm, built by O&K in 1912-1913

Although most have reported two of these locos here, the O&K list gives three numbers of 0-4-0T locos delivered to Simon J. Patino. Strangely the first two are noted as 30PS(ie HP) whilst the last is stated to have been 180PS. Only one, no. **5**, is listed in 1957 diagram book.

5 'LUZ-MILA'	w/n 5312	Named after Patiño's youngest daughter. Spelling given here is as in 1957 diagram book. Survived at Machacamarca in 2005 [6], and in museum 2008 [JM].
6 '?'	w/n 5311 or 5313	
?	w/n 5392	Still present in 2008 [JM] in workshop.



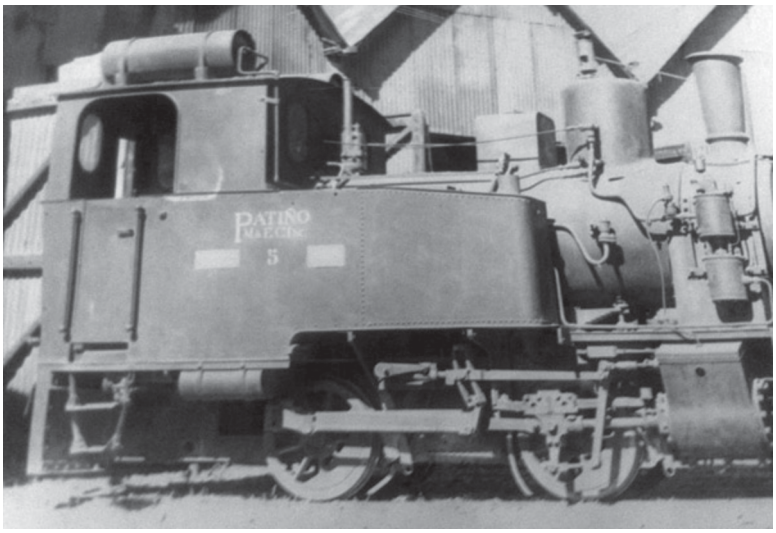
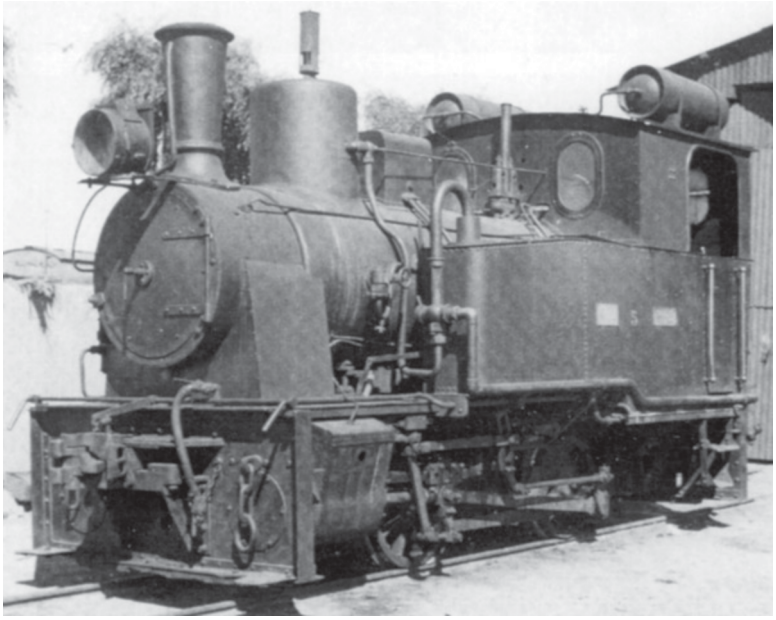


Image found on *Fotos Antiguas La Paz* Facebook page.



0-4-0T number **5 'LUZ-MILA'**, built by Orenstein & Koppel (5312/1912), stands outside a shed, probably at one of the mines on 29/3/1956. Photo David Ibbotson - Chris Walker Collection. High-res versions of this image

0-6-6-0T Mallets d/w ?, cyls. ?, built by O&K in 1910

built for the *Nordhausen Wernigerude E. B.* in Germany. Info from [1]. Purchased in 1921 [2].

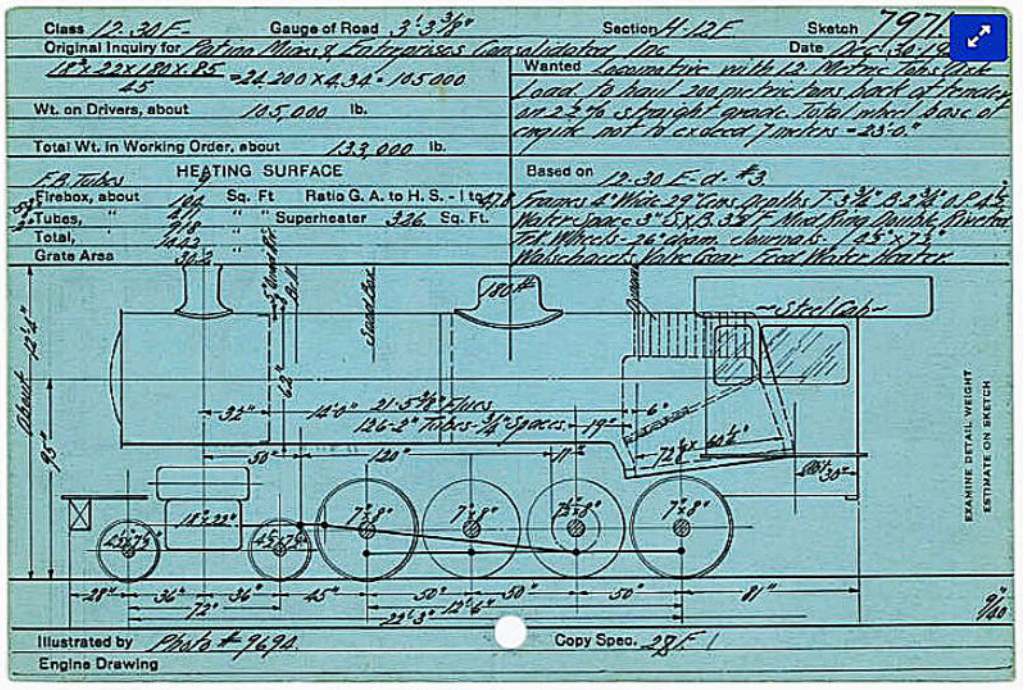
7	w/n 3939	Ex *NWEB* no. **31**?
8	w/n 3940	Ex *NWEB* no. **32**?

Unknown loco

Whilst this railway did also have diesel locos, they were numbered from **20** upward. It therefore seems likely that the missing number **9** would have been a steam engine. However, no details are known.

A Baldwin proposal

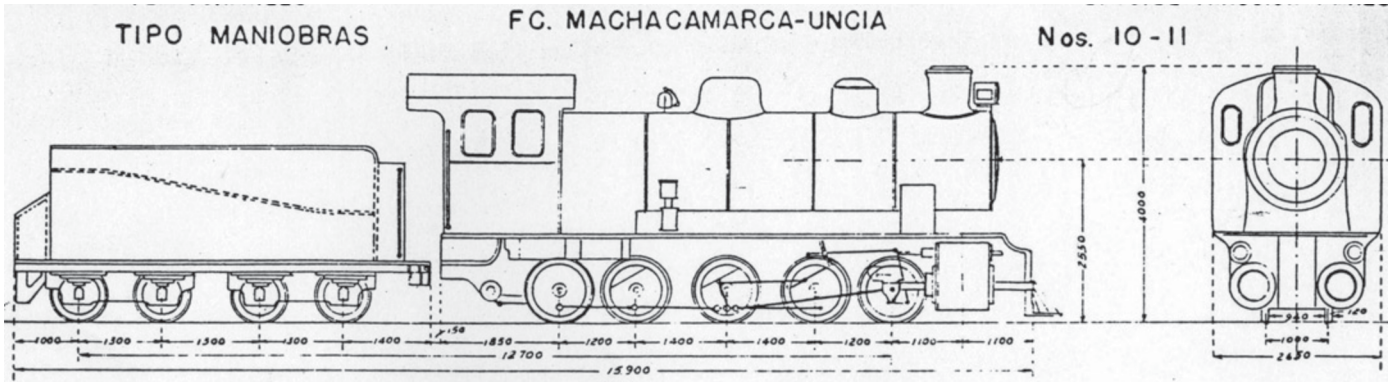
In the lead up to the delivery of the next two locos – the O&K Lüttermoller 0-10-0s listed below – it is unsurprising that the Patino company was talking to other builders too. The only evidence is a Baldwin enquiry card on which a 4-8-0 design was being worked up. This is now available online in the DeGolyer Library archives.



0-10-0T d/w 1000mm, cyls. 550x600mm, built by O&K in 1928 and 1929

Lüttermoller layout with geared outer axles.

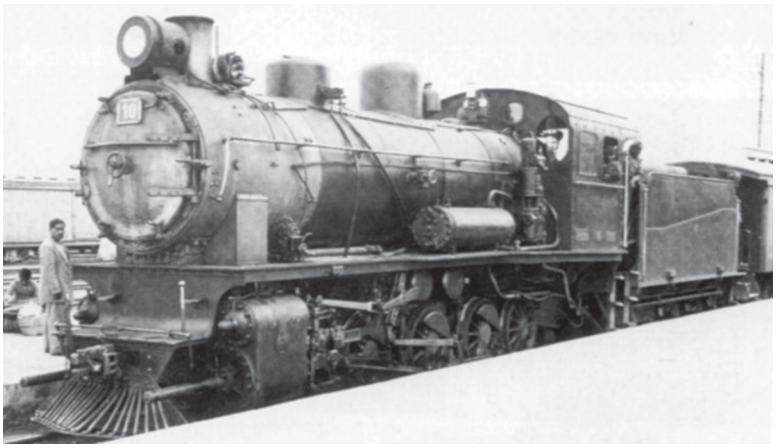
10 'LLALLAGUA'	w/n 11699	Survived at Machacamarca in 2005 [6], and in museum 2008 [JM].
11 'CATAVI'	w/n 12064	Reported scrapped by [JM] in 2008, a few parts remaining.



A sketch from a weights diagram book, incorrectly showing coupling rods

to the rearmost driving wheels, though not to the foremost pair.

A builders' broadside view of no. **10**, showing the characteristic lack of rods to the internally-geared front and rear driving axles of a Lüttermöller.



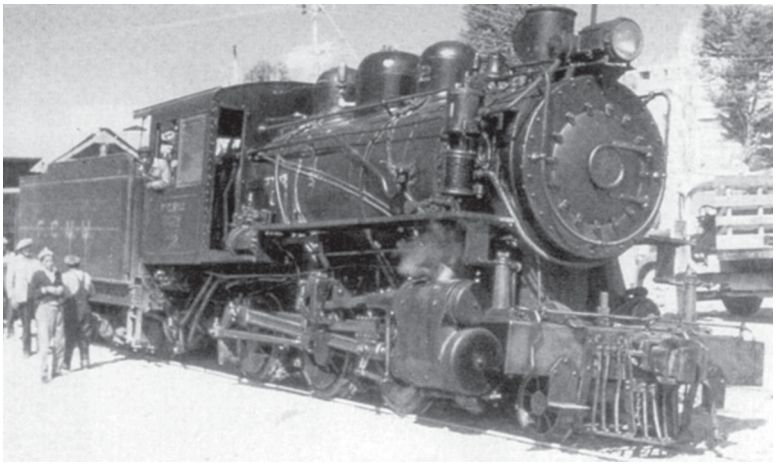
0-10-0 number **10**, built by Orenstein & Koppel (11699/1928), stands in the station at Machacamarca on 29/3/1956. Photo David Ibbotson - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam381

2-6-0 d/w 42", cyls. 15x22", built by Vulcan Iron Works in 1944

Ordered for Patino Mines & Enterprises Co. Similar to those on Corumba - Santa Cruz line.

12 w/n 4528 Survived at Machacamarca in 2005 [6], and in museum 2008 [JM].

This loco as seen in a VIW photo published in the *Locomotive Cyclopedia* 1947.



2-6-0 number **12**, built by Vulcan Iron Works (4528/1944), shunts at Machacamarca? in 1961. Photo B Thomas Walsh - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam383

7.1.9 *El FC Santa Cruz – Corumbá*
EF Brasil a Bolivia

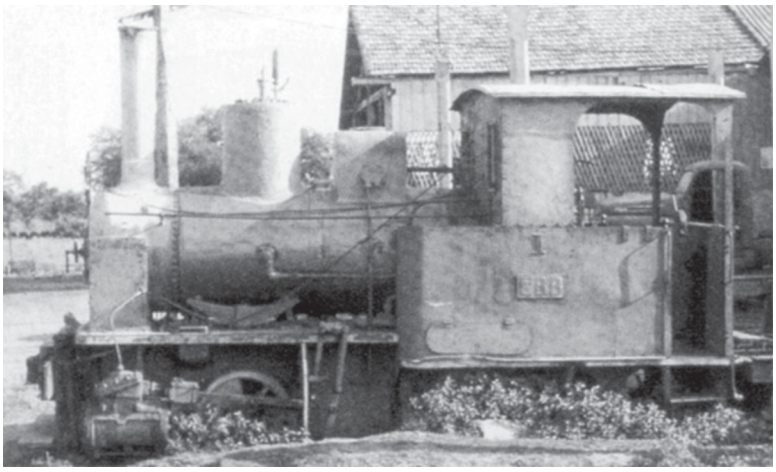
Background

Metre gauge. The *Red Oriental* or eastern network was constructed between the 1940s and 1960s, and was financed and constructed by the Brazilian and Argentine governments in exchange for Bolivian oil. The two principal lines were built from the border crossings into Bolivia, meeting at the city of Santa Cruz de la Sierra, rather than from that point out to the borders, and each was largely equipped with locomotives from the relevant adjacent country.

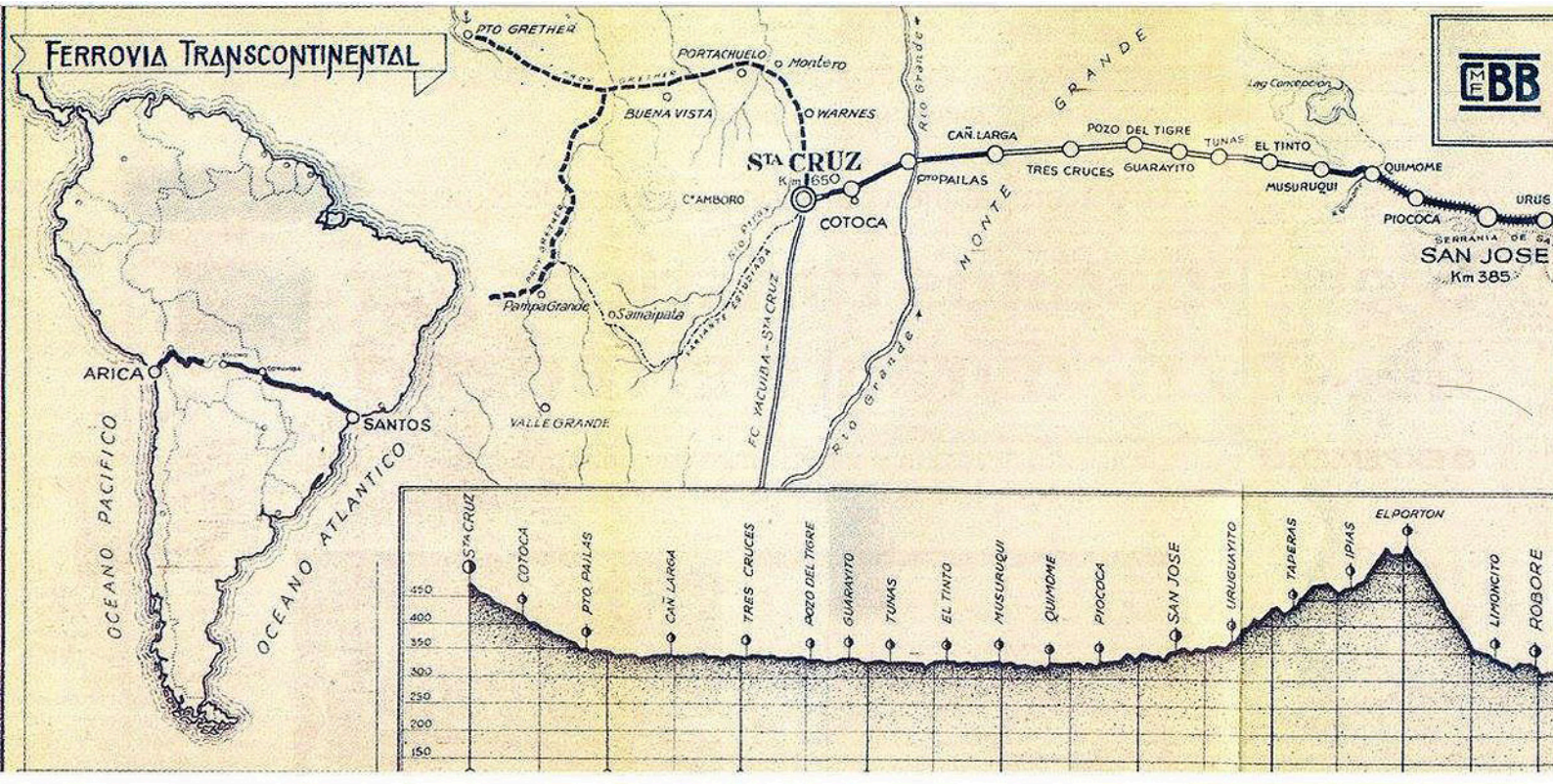
0-4-0 d/w?, cyls. ?, built by Hohenzollern in ?

Ex Ladario Naval base? The Hohenzollern list contains solely the following metre gauge 0-4-0 for Brazil: 371 of 1887 for *Cha. Ramal, Ferrio de Rio Pardo*, Santos/Brasilien **'CAP VINCENSE DIAS'**.

1 w/n 371?



0-4-0T number **1**, acquired from the Ladario naval base in Brazil and probably used on the construction work for the line, stands out of use at Santa Cruz? circa 1960. Photo B Thomas Walsh - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam370

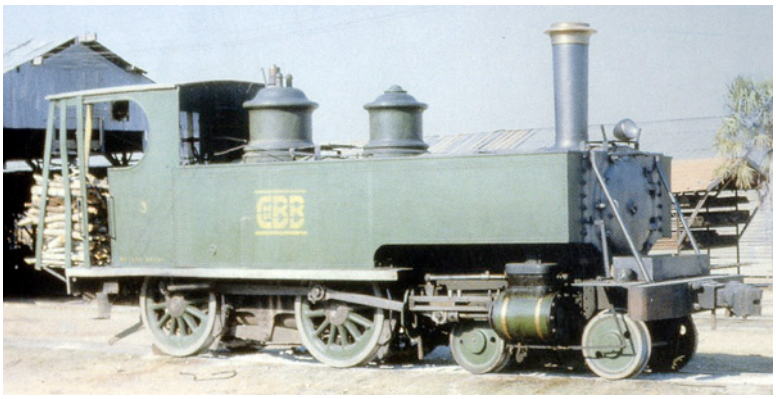


4-4-0T d/w?, cyls. ?, built by Sharp Stewart in 1885

Originally ordered and used by the *EF Urucum Antigua*. From contracts E872, E873 or E878 which included several metre gauge 4-4-0s for Brazilian Govt. Railways (*EF Mogyana*). These were SS nos. 3291-3298 and 3349.

2 w/n ?

3 w/n ?



EF Brazil - Bolivia 4-4-0T number **3**, believed to have been built by Sharp Stewart in 1885/6 as a 4-4-0 tender engine supplied to the *EF Mogyana* in Brazil, stands in the yard at Santa Cruz?. There was a second such locomotive here, no. **2**; and the Mogyana are believed to have converted at least three of the eight 4-4-0s received (works nos. 3291-8) into tank engines. Circa 1960 : Photo B Thomas Walsh - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam229

4-6-0 d/w?, cyls. ?, built by ALCo Cooke in 1921

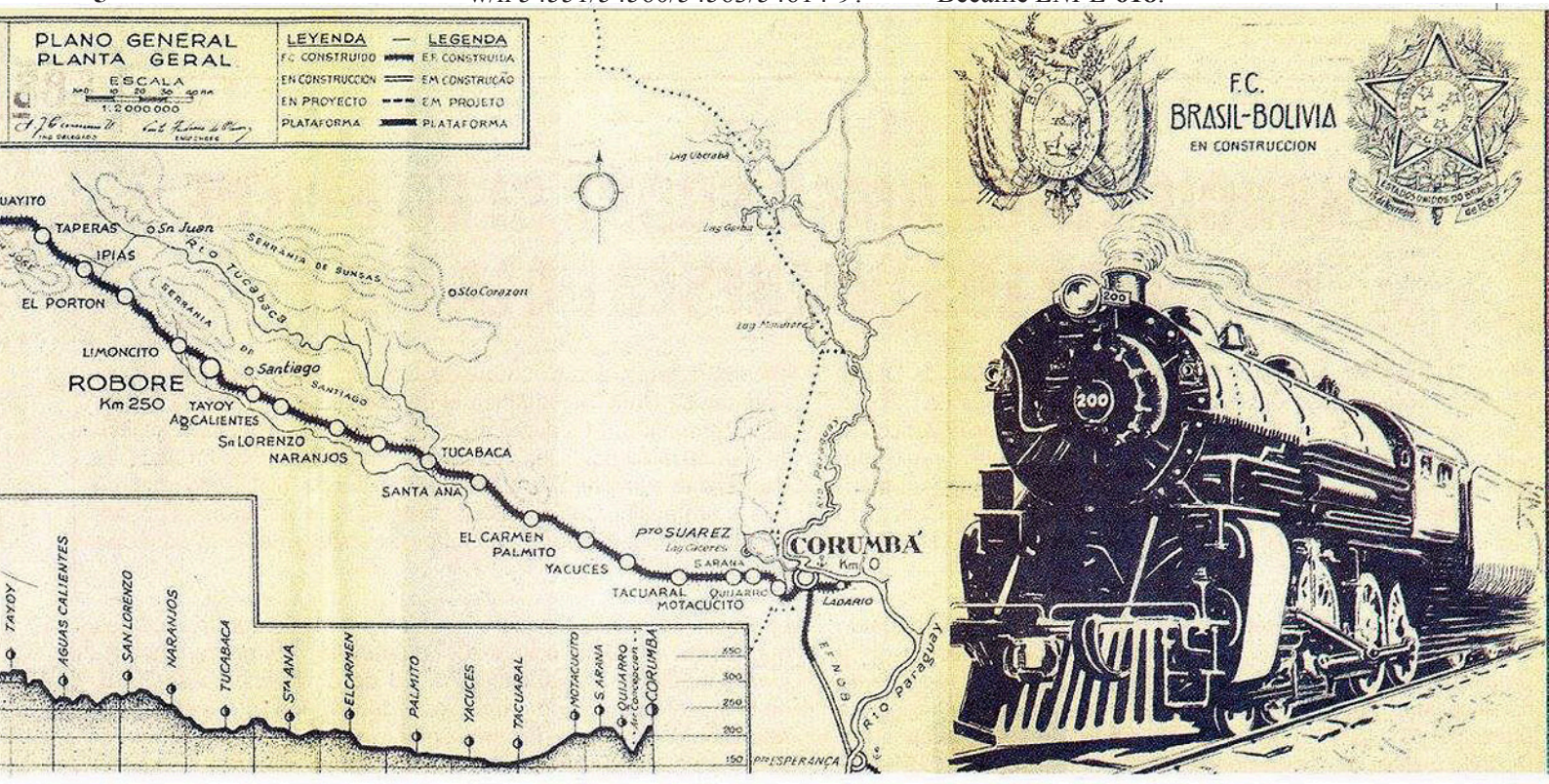
Originally ordered and used by the *RV Cearense*. This might have been ALCo 62608, for *EF Paracuta* no. **2**, d/w 38" and cyls. 13x18". This seems to be the only ALCo 4-6-0 built for the metre gauge in Brazil that year.

4 w/n ?

2-8-0 d/w 38", cyls. 16x20", built by Baldwin in 1921

Originally ordered and used by the *RV Cearense* as one of their nos. **41, 42, 43, 201-9**? Class 10-26E nos. 210-209 for final batch. Spec. is in vol. 66 p 270

5 w/n 54551/54560/54563/54614-9? Became *ENFE* **618**.



2-6-0 d/w?, cyls. ?, built by R. & W. Hawthorn in 1883

Ex *RMV*? Possibly one of RWH 1920-25 for *EF Minas & Rio* 9-14, cyls. 12.5x18".

6	w/n ?	Became *ENFE* **509**.

2-6-0 d/w?, cyls. ?, built by Baldwin in 1883

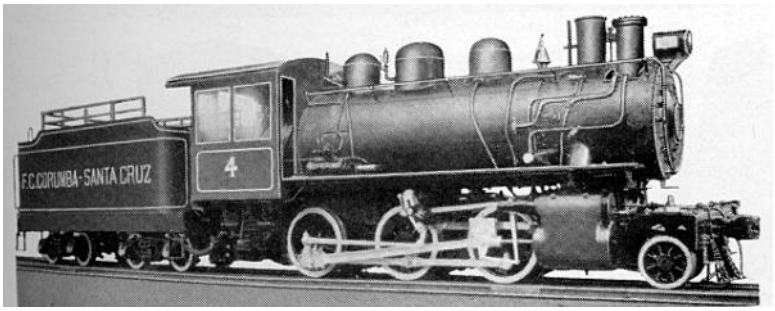
Ex *RMV*? Ex *Rede Sul Mineira*?

7	w/n ?	Became *ENFE* **510**.

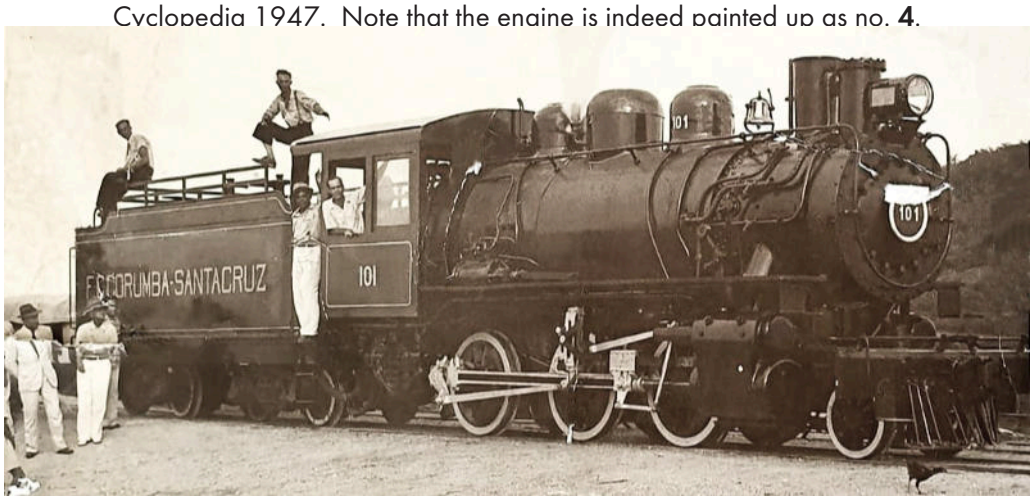
2-6-0 d/w 42", cyls. 15x22", built by Vulcan Iron Works in 1941

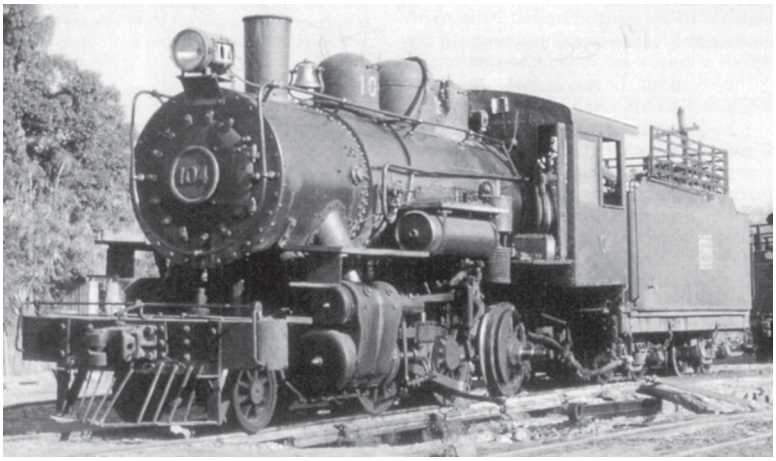
VIW list says numbers were to be **1-4**.

101	w/n 4296	Later became *ENFE* **511**.
102	w/n 4297	Later became *ENFE* **512**.
103	w/n 4298	Later became *ENFE* **513**.
104	w/n 4299	Later became *ENFE* **514**.



This loco as seen in a VIW publicity image published in the Locomotive Cyclopedia 1947. Note that the engine is indeed painted up as no. **4**.





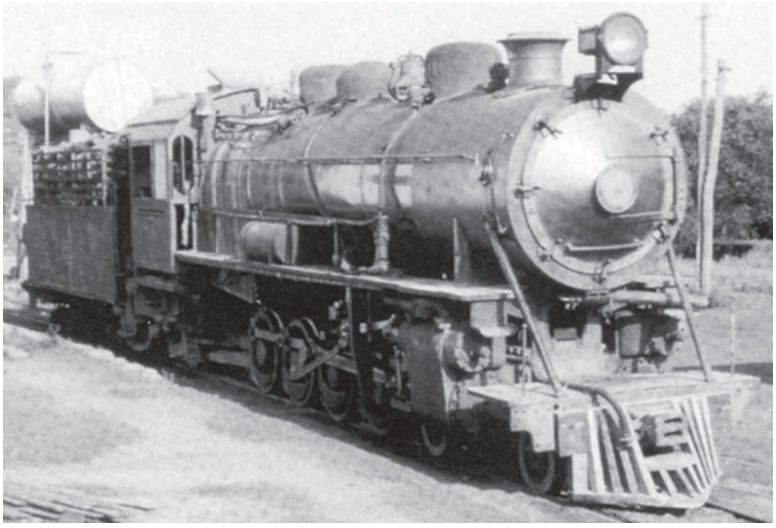
2-6-0 number 104, built by Vulcan Iron Works (4299/1941), stands with dismantled

motion in the yard at Santa Cruz? circa 1960. Photo B Thomas Walsh - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam368 The drum in front of the chimney has by now disappeared, probably indicating that the engine no longer possesses a feed-water heater.

2-8-2 d/w 47", cyls. 16x20", built by AEG in 1927 and ?

Possibly AEG 2919 for *EF Central do Brazil* **402**, 3247-50 for *EF Sao Paulo Rio Grande* **401-404**, 3508-3511 for *EF Itararé Fartura* later *EF Sorocabana*.

200	w/n 3508	Ex *EF Sorocabana* **200**
201	w/n ?	Built 1924 or 1927-8, ex unknown Brazilian railway.



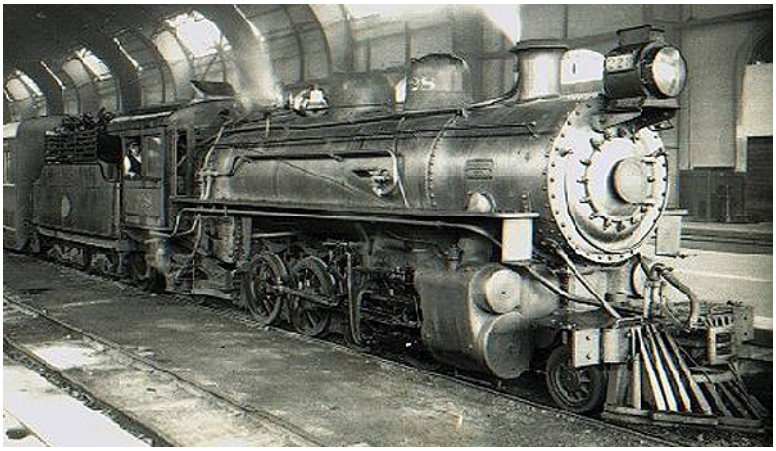
Ex *EF Sorocabana* 2-8-2 number **201**, built by AEG (3508/1928), stands in the yard at Santa Cruz? circa 1960. Photo B Thomas Walsh - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam372

2-8-2 d/w 42", cyls. 19x20", built by ALCo Schenectady in 1922

From batch of ten, *EF Sorocabana* nos. **222-231**.

226	w/n 63471	Ex Sorocabana **226**.
227	w/n 63472	Ex Sorocabana **227**.
231	w/n 63477	Ex Sorocabana **231**.

NB Builders' numbers start with 6 not 5 as others have written.



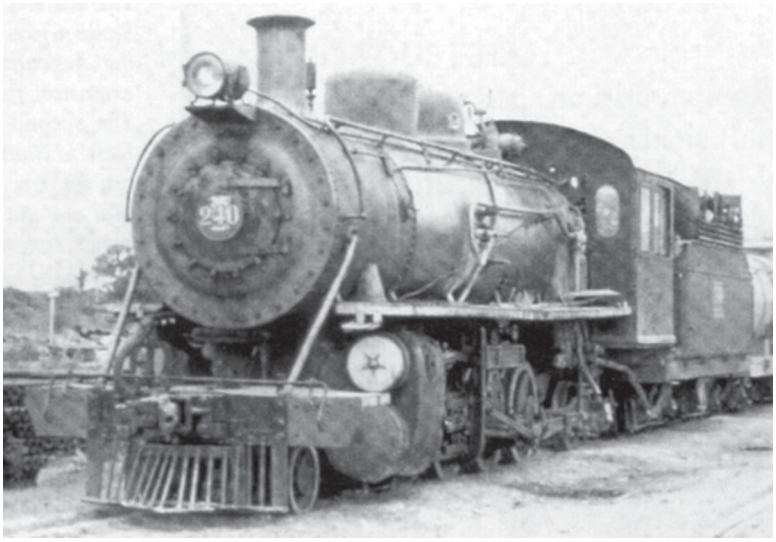
EF Sorocabana no. **228** from the same batch as those which came to the *EFBB*. The photo is from the *Museo Historico Sorocabano*.

2-8-2 d/w 42", cyls. 19x20", built by Haine St. Pierre in 1923

232 w/n 1420 Ex *Sorocabana* **232**.
233 w/n 1421 Ex *Sorocabana* **233**.
234 w/n 1422 Ex *Sorocabana* **234**.

2-8-2 d/w 42", cyls. 19x20", built by Tubize in 1923

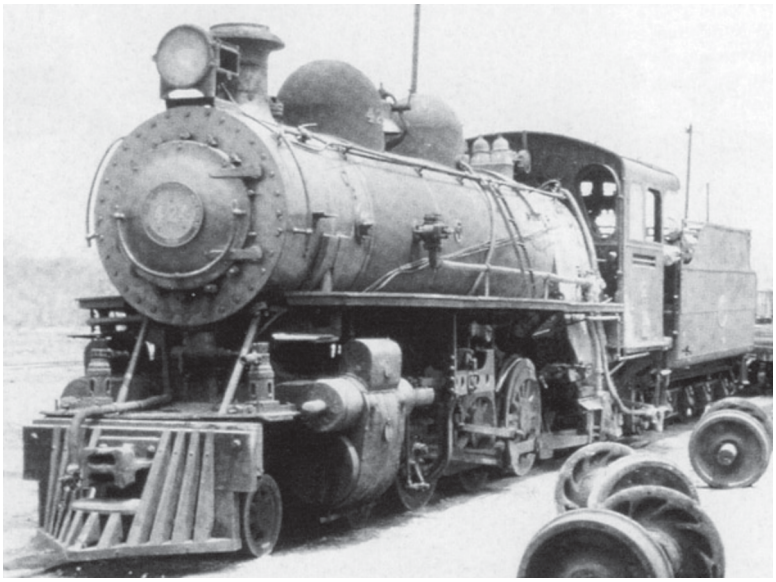
240 w/n 1963 Ex *Sorocabana* **240**.
241 w/n 1964 Ex *Sorocabana* **241**.



Ex *EF Sorocabana* 2-8-2 number **240**, built by Tubize (1963/1923), heads a mixed train at Santa Cruz? circa 1960. Photo B Thomas Walsh - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam374

4-6-2 d/w?, cyls. ?, built by Linke Hofmann in 1923

424 w/n 3013 Ex *Noroeste* **424**. Seen by ?. Walsh here in 1962.



Ex *EF Noreste do Brasil* 4-6-2 number **424**, built by Linke Hoffmann (3013/1925), stands in the yard at Santa Cruz? circa 1960. Photo B Thomas Walsh - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam373

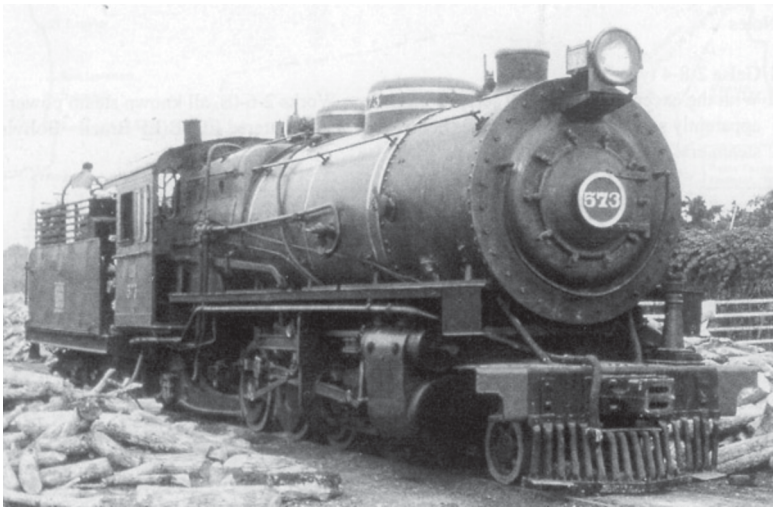
2-8-2 d/w?, cyls. ?, built by Krupp in 1924

Krupp built many 2-8-2s for the *EF Sorocabana* in 1925, nos. 850-889, and for the *EF Central do Brasil* nos. 890-897.

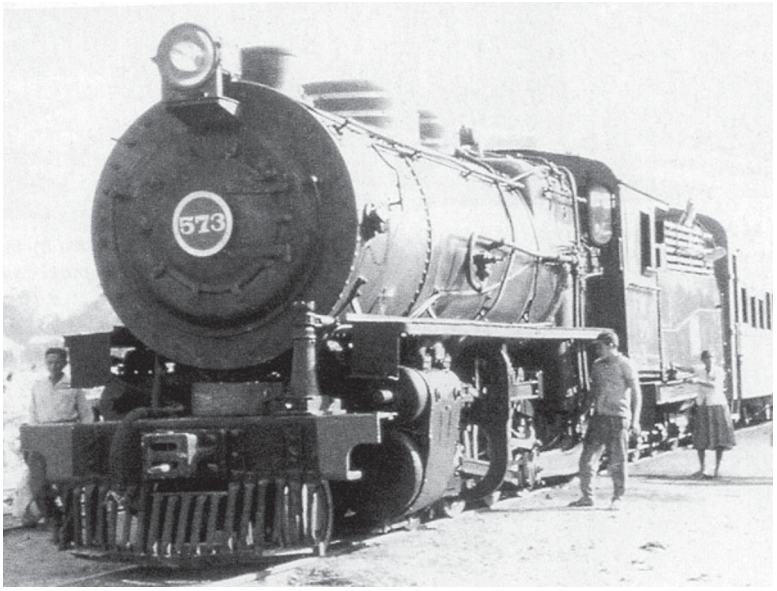
573 w/n ? Ex *Noroeste* **573**. Seen by ?. Walsh here in 1962.

577 w/n ? Ex *Noroeste* **577**. Seen by ?. Walsh here in 1962.

Reimar Holtzinger's lists suggests that the second of these was *EFS* no. **295**, later **574** rather than **577**, and that it had been built as Krupp no. 873.



2-8-2 number **573**, one of a batch of 28 built for *EF Sorocabana* in Brazil by Krupp in 1925, is being refuelled with logs at Santa Cruz?. This locomotive was transferred from the *Noroeste do Brazil* in 1962, who in turn had earlier acquired this from the Sorocabana, but it was one of a small number where the identities had not been recorded on transfer. Circa 1960 : Photo B Thomas Walsh - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam369



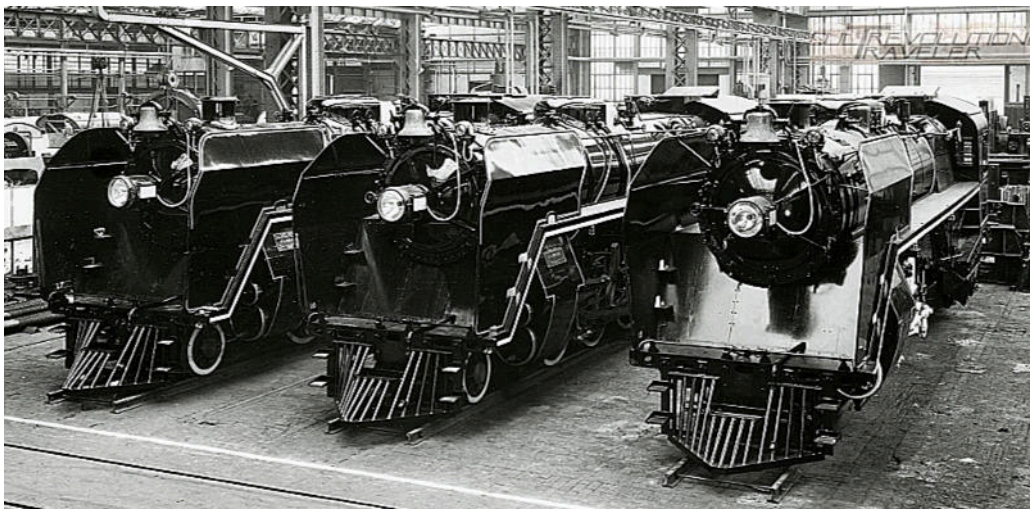
2-8-2 number **573**, one of a batch of 28 built for *EF Sorocabana* in Brazil by Krupp in 1925, heads a passenger train standing in the station at Santa Cruz? circa 1960. Photo B Thomas Walsh - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam371

2-8-4 d/w?, cyls. ?, built by GELSA partners in 1952

A number of 4-8-4s and 2-8-4s were built for Brazil by a consortium of French builders in the early 1950s. However, they proved to be too complicated and sophisticated for Brazilian conditions, and thus have been regarded as a failure by most commentators.

1453 w/n Schneider 4943 *EF C do B* **1453**. Became *ENFE* **555**.

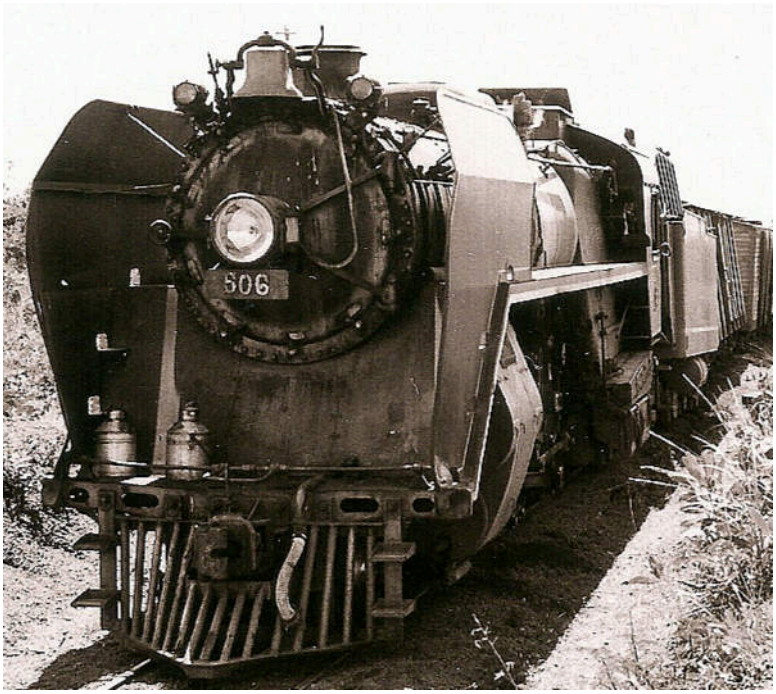
1455	w/n Fives Lille 5246	*EF C do B* **1455**. Became *ENFE* **556**.
1456	w/n Cail 4481	*EF C do B* **1456**. Became *ENFE* **557**.



Three of the GELSA locos await departure from an erecting shop after completion.

Ex *EF Centro do Brasil* 2-8-4 number **1456**, built by Cail (4481/1952) and not renumbered by the *EFBB*, stands in a yard at Santa Cruz? circa 1960. Photo B Thomas Walsh - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam236 Note that the smoke deflectors have been dispensed with, much as the FCAB did with the VF 4-8-2s, they being un-necessary at the low speeds encountered in Bolivia.

A GELSA 2-8-4 lies abandoned at Robore in 1994. Photo by John Agnew.



A GELSA loco pictured after a derailment during its Brazilian career.

7.1.10 *El FC Yacuiba a Santa Cruz*

1944-

Background

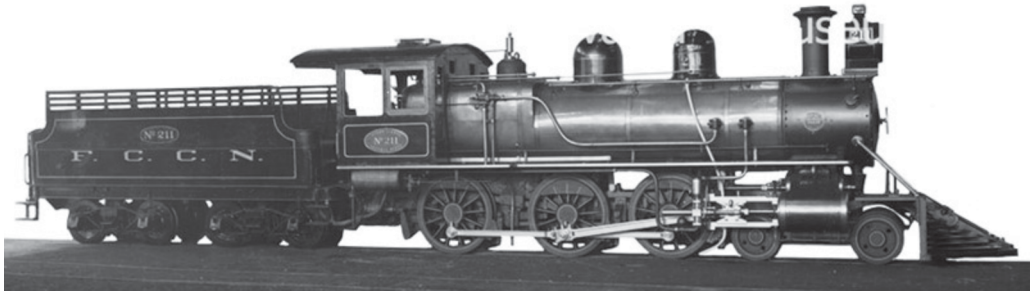
Concessions for a line northward from the Argentine border had been granted to the 'Eastern Railway of Bolivia', and then to the Farquhar Syndicate, but no work was ever done on the ground, not least because the bringing in of materials depended on the prior completion of the railway up from Salta to Embarcación. This eventually occurred in 1912. In 1922 the Argentine government agreed to take on the task of extending the railway, first to Yacuiba on the border, then into Bolivia and up to Santa Cruz, and eventually it was hoped up to Pto. Velarde on the Río Mamore. In the event work only began in 1944, it took until 1957 to reach Santa Cruz, and the permanent bridges were not completed until 1965 [4].

The motive power was almost entirely leased from Argentina, though as has been mentioned elsewhere, in 1975 two locos, VF 4-8-2 no. **813** and Henschel ex-*FCALP* 2-6-0 no. **101** (*ENFE* **503**) were sent round from Uyuni through Argentina to provide extra motive power for either this route or the *EFBB*.

FC Nacional Gral. Belgrano clase B4
4-6-0 d/w 54", cyls. 17x24", built by Baldwin in 1905

Ordered for Argentine Government Railways, *FC Central Norte*. BLW class 10-28D nos. 68-79. Spec. is in vol. 28 page 2. *FCCN* nos. **211** to **222**.

211	w/n 25029
212	w/n 25030
213	w/n 25045
214	w/n 25046
215	w/n 25070
216	w/n 25076
218	w/n 25078
219	w/n 25079
222	w/n 25095



Hi-res versions of this image are available from the Railroad Museum of Pennsylvania. Baldwin negative number 01962.

Ex *FCNGB* class B4 4-6-0 number **215**, built by Baldwin (25070/1905), arrives at Santa Cruz? with a *FC Yacuiba - Santa Cruz* train circa 1960. Photo B Thomas Walsh - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam376

FC Nacional Gral. Belgrano clase B4A
4-6-0 d/w 50", cyls. 17x24", built by Baldwin in 1904-5

Ordered for Argentine Government Railways, *FC Argentino del Norte*. Class 10-28D nos. 63-66? Batch of four, **11-14**. Spec. is in vol. 26 p293.

223	w/n 24034	Built as *FCNA* no. **11**.
224	w/n 24048	Built as *FCNA* no. **12**.
225	w/n 24049	Built as *FCNA* no. **13**.

FC Nacional Gral. Belgrano clase C10
2-8-2 d/w 42", cyls. 17x22", built by NBL in 1911

Ordered for Argentine Government Railways, *FC Central Norte*. NBL order L432?, for a total of fifty engines, NBL nos. 19378-19427, *FCCN* nos. **750-799**.

791	w/n 19419	
796	w/n ?????	This loco seems to have visited Sant Cruz in 1997 for an enthusiasts' charter, but whether it had worked the line in earlier times is not known.

Photo posted by Miguel Irigoyen Castro on the Facebook page of Bolivian Railway - Historia en Imagenes.

FC Nacional Gral. Belgrano clase C27
4-8-0 d/w 42", cyls. 18x22", built by NBL in 1907

Ordered for *FC Central Cordoba BsAs extension* as *clase C7*, NBL 17669-17701 and 18332-18337 which were *FCCC*. **1401-33**. *FCCC* absorbed into *FCCN* in 1939, and then all into *FCNGB* in 1948. This loco was rebuilt with new bar frames, boilers and cylinders as *clase C6* 2-8-2 no. **7169** in 1941. Presumably this was after its period in Bolivia, or possibly it came as a 2-8-2 rather than a 4-8-0? This needs clarifying. Why would source [4] list its original number **1408** rather than its later identity as **7169**?

1408 w/n 17676

The late Reimar Holtzinger's list showed this as **1409**, built as NBL no. 17683 of 1907.

7.1.11 *El FC Santa Cruz a Yapacani*

Background

This was the never completed extension northward of the previous scheme, the *FC Yacuiba a Santa Cruz*. In 1965 an agreement between Argentina and Bolivia was signed in Warnes, for the extension of the railway northward. The intention was to reach a new Puerto Mamorecillo which would integrate rail transport with that on the River Mamore. Four rail route sections were contemplated: to Santa Rosa (106 km. completed); to Rio Yapacani (98 km under construction when abandoned); to Rio Grande 88 km (not begun); and to Trinidad 149 km (not begun). Work was continuing north of Santa Rosa when a season of flooding washed out several bridges, isolating locos, stock, and rail stockpiles. The project was then abandoned, and much of that material was never recovered.

It seems likely that most, except **791,** were returned to the *FC Nacional Gral. Belgrano* from which they had been leased, though one other unidentified loco was supposed to be lying derelict along with **791** near Yapacani [5]. It may well be that they had been trapped by track washouts shortly before the scheme was abandoned.

7.1.12 The full *ENFE* list

1964-

Background

The formal nationalisation of all the railways under the *ENFE* title (*Empresa Nacional de los Ferrocarriles del Estado*) in 1964 brought a new national numbering system. These numbers are set out below, based on the list in [4]. It is not known whether that list was compiled from any official sources or merely from observation.

In general each group starts from a logical point: **501, 551, 601, 651, 701, 751, 801, 851** and **901**, and then runs contiguously until there are no more engines in that group. However, there are some illogical and unexplained gaps, eg. in the **670**s and **680**s, and from **757-760**, which might have represented other locos now unknown.

Summary list, showing the logic behind the numbering system

New numbers	Old numbers	Previous owners	Wheels	Builders & nos.	Section of this file
501-2	**8-9**	*FCGLP/FCVA*	2-6-0	Baldwin 20642-3	6.1.7
503-5	**101-3**	*FCALP*	2-6-0	Henschel 11713, 11716, 11718	6.1.3
506	**104**	*FCALP* Corocoro	2-6-2T	Baldwin 51870	6.1.3
507-8	**1-2**	*FCLPB* Shays	0-4+4-0T	Lima 2932-3	6.1.4
509	**6**	*EFBB*	2-6-0	Hawthorn ?	6.1.9
510	**7**	*EFBB*	2-6-0	Baldwin?	6.1.9
511-4	**1-4** later **101-4**	*EFBB*	2-6-0	VIW 4296-9	6.1.9
551-2	**101-2** later **411-2**	*FCAB*	2-8-4T	Hunslet 1102-3	6.1.2
553-4	**27-8**	*FCAB*	2-8-4T	Kitson 4843-4	6.1.2
555-7	**1453,-5-6**	*EFBB*	2-8-4	GELSA, Schn 4943, F-L 5246, Cail 4481	6.1.9
601	**2** later **6**	*FCPST*	2-8-0	VIW 2993	6.1.5
602	**7**	*FCVA*	2-8-0	Borsig 11955	6.1.
603-5	**106-8**	*FCALP*	2-8-0	Borsig 12147-9	6.1.3
606-9	**1-4** later **401-4**	*FCB* later *FCAB*	2-8-0	ALCo Rogers 41130-3	6.1.2
610-13	**5-8** later **405-8**	*FCB* later *FCAB*	2-8-0	ALCo Rogers 44424-7	6.1.2
614-17	**57-60** later **357-60**	*FCAB*	2-8-0	Henschel 12544-7	6.1.2
618	**5**	*EFBB*	2-8-0	Baldwin ?	6.1.
651-4	**1-4**	*FCCSC*	2-8-2	O&K 11771-4	6.1.
655-7	**1-3** later **1-3**	*FCVA* later *FCPST*	2-8-2	ALCo Cooke 64214-5, 65937	6.1.
658-9	**3-4**	*FCVA*	2-8-2	Borsig 11846, 11847 or 12144	6.1.
660	**109**	*FCALP*	2-8-2	?	6.1.3
661-4	**201-3, 210**	*FCALP*	2-8-2	Hitachi 12442-4 and 12451	6.1.3
665-672 ?	**205-8, 211-2, 209, 204**	*FCVA*	2-8-2	Hitachi 12446-9, 12452-3, 12450, 12445	6.1.
681-5		*FCNGB?*	2-8-2	?	
686, 688-9	**712, 795-6**	*FCNGB*	2-8-2	Borsig 7811, NBL 19423-4	6.1.
701-2	**842-3**	*EF Central do Brasil*	2-10-2	Henschel 23827, 23829	6.1.2
703	**6** later **105**	*FCVA* later *FCALP*	2-10-2	Borsig 11956	6.1.

704-7	**10-13**	*FCVA*	2-10-2	Baldwin 64619-22	6.1.
708-9	**14-15**	*FCVA*	2-10-2	Baldwin 73068-9	6.1.
751-6	**34-8, 33 later 334-8, 333**	*FCAB*	4-6-2	Henschel 12749-51, 21213-4, 12748	6.1.2
?					
761-3	**548, 506, 54**?	*FCNGB*	4-6-0	Borsig 7277, 5384, ?	6.1.
801-4	**370-3, or 713**?	*EF Noroeste do Brasil*	4-8-2	Borsig 14594 + three others	6.1.2
805-8	**710, 712, 714, 716**	*EF Noroeste do Brasil*	4-8-2	Borsig 14591, 14593, 14595-6	6.1.2
809-10	**380-1**	*FCLPA*	*4-8-2*		
811-22	**341-50, 202, 206**	*FCAB*	4-8-2	Vulcan Foundry 6176-81, 6166-7, 6169, 6168, 6170, 6175	6.1.2
851-3	**621-3**	*EF Noroeste do Brasil*	4-8-4	ALCo Schenectady 73776-8	6.1.2
901-9	**391-8, 390**	*FCAB*	4-8-2+2-8-4	Beyer Peacock 6525-6, 7420-5, 6524	6.1.2

Full details, with loco fate when known

2-6-0 d/w 38", cyls. 14x18", built by Baldwin in 1902

501 w/n 20642 Had been *FCGLP* no. **2**. Later *FCVA* no. **8**.

502 w/n 20643 Had been *FCGLP* no. **3**. Later *FCVA* no. **9**.

2-6-0 d/w 1105mm, cyls. 450x600mm, built by Henschel in 1913

NB There is still some uncertainty about which three of this batch of six locos actually came to Bolivia. [4] suggests it was it was locos **33-35**, ie. Henschel nos. 11716-11718, and the *ENFFCC* diagram book says the same. However, an *FCALP* official list confirms the division as listed below though it is just possible that it was the other three out of the batch that came to Bolivia.

503 w/n 11713 Had been *FCALP* **30**, later *FCALP* Bolivia **101**. Seen departing from Uyuni in April 1975 together with **813** en route to Santa Cruz via Argentina [MC], probably remained there until end of active life.

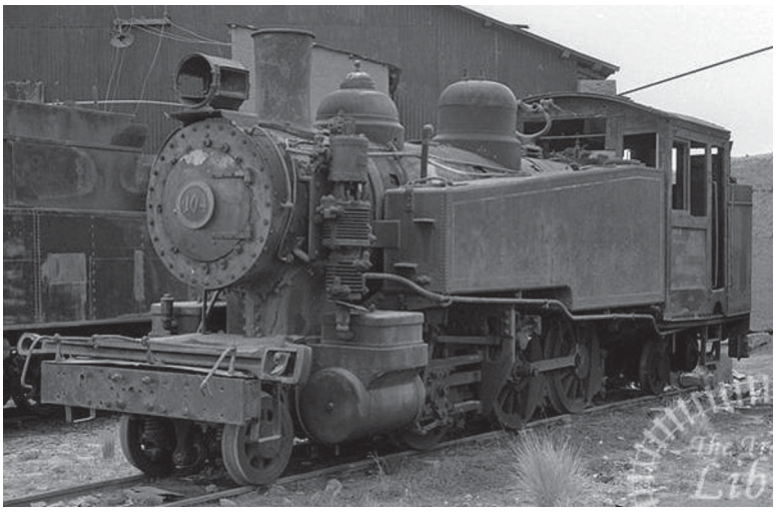
504 w/n 11716 Had been *FCALP* **33**, later *FCALP* Bolivia **102**.

505 w/n 11718 Had been *FCALP* **35**, later *FCALP* Bolivia **103**. Source [14] says this loco had a different pattern of domes and steam-pipes from the other two.

505 shunting at La Paz station in April 1975.

2-6-2T d/w 44" cyls 16x20" built by Baldwin in 1919

506 w/n 51870 Had been *FC Ramal a Corocoro* no. **1**, and then *FCALP* **104**.



The *Ramal a* Corocoro 2-6-2T as seen at Viacha in 1974 by Tommy Farr. High-res versions of this image are available from The Transport Library, their ref: TF000419.

0-4+4-0T two truck Shays d/w 29.5", cyls. 10x12", built by Lima in 1917

507 w/n 2932 Had been *FCLPB* no. **1**, later shunting at La Paz with same number.

508 w/n 2933 Had been *FCLPB* no. **2**, later shunting at La Paz with same number. At Oruro shed for past two-three decades. Seen there 2008 [JM].

2-6-0 d/w?, cyls. ?, built by R. & W. Hawthorn in 1883

Ex *RMV*? Possibly one of R & W Hawthorn 1920-25 for *EF Minas & Rio* **9-14**, cyls. 12.5x18".

509 w/n ? Had been ???, and later *EFBB* no. **6**.

2-6-0 d/w?, cyls. ?, built by Baldwin in 1883

Ex *RMV*? Ex *Rede Sul Mineira*?

510 w/n ? Had been ???, and later *EFBB* no. **7**.

2-6-0 d/w 42", cyls. 15x22", built by Vulcan Iron Works in 1941

511 w/n 4296 Had been ordered as *EFBB* **1**, but quickly renumbered to **101**.

512 w/n 4297 Had been ordered as *EFBB* **2**, but quickly renumbered to **102**.

513 w/n 4298 Had been ordered as *EFBB* **3**, but quickly renumbered to **103**.

514 w/n 4299 Had been ordered as *EFBB* **4**, but quickly renumbered to **104**.

2-8-4T d/w 48", cyls. 18x24", built by Hunslet in 1912

551 w/n 1102 Had been *FCB* **101**, later *FCAB* **411**. Survived 2008 in works yard at Uyuni [JM].

552 w/n 1102 Had been *FCB* **102**, later *FCAB* **412**. Survives plinthed in street in Uyuni but carrying plates of **551** [JM].

Hunslet 2-8-4T no. **552** crosses a street in Uyuni whilst on shunting duries in April 1975.

2-8-4T d/w 37½", cyls. 17x22", built by Kitson in 1911

553	w/n 4843	Had been *FCAB* **27** of 2' 6" gauge, later regauged and transferred to Bolivian section. Under repair at Oruro 1969 [14].
554	w/n 4844	Had been *FCAB* **28** of 2' 6" gauge, later regauged and transferred to Bolivian section. Under repair at Oruro 1969 [14].

2-8-4 d/w?, cyls. ?, built by GELSA partners in 1952

555	w/n Schneider 4943	Originally *EFCdB* **1453**, later on *EFBB*.
556	w/n Fives Lille 5246	Originally *EFCdB* **1455**, later on *EFBB*.
557	w/n Cail 4481	Originally *EFCdB* **1456**, later on *EFBB*. In service at Robore in Feb 1972 [Jeremy Wiseman LI 121].

One of the GELSA 2-8-4s in service in Brazil.

2-8-0 d/w 42", cyls. 16x22", built by Vulcan Iron Works in 1918 and 1919

601	w/n 2993	Originally *FCPST* no. **2**, later renumbered to **6**. Surviving 2008 at Sucre works [JM].

2-8-0 d/w 1100mm, cyls. 450x540mm, built by Borsig in 1927

602	w/n 11955	Had been *FCVA* no. **7 'MANONA SUZA** or **SOZA** or **SOZO'** At Cochabamba May 196 but not in service [14].

2-8-0 d/w 1100mm, cyls. 500x550mm, built by Borsig in 1929

603	w/n 12147	Purchased new for *FCALP* Bolivian section as no. **106**.
604	w/n 12148	Purchased new for *FCALP* Bolivian section as no. **107**.
605	w/n 12149	Purchased new for *FCALP* Bolivian section as no. **108**. Survived 2008 in works yard at Uyuni [JM].

2-8-0 d/w 48", cyls. 18x24", built by ALCo Rogers in 1906

The original numbers had 400 added in 1928. This batch had inside valve gear.

606 w/n 41130 Had been *FCB* **1**, later *FCAB* **401**.
607 w/n 41130 Had been *FCB* **2**, later *FCAB* **402**.
608 w/n 41130 Had been *FCB* **3**, later *FCAB* **403**. Noted in Uyuni scrapyard 2008 [JM], no tender.
609 w/n 41130 Had been *FCB* **4**, later *FCAB* **404**. Noted in Uyuni scrapyard 2008 [JM], no tender.

After the national re-organisation of 1964, the Bolivian section of the *FCAB* was re-designated the *FCLPA* or *Ferrocarril La Paz Antofagasta*. Three images shown here were found on Bolivian Facebook group pages showing locos with the new letters on their tenders, though not yet having received their new numbers.
First, ex *FCB* ALCo 2-8-0 no. **401** from the first batch, which eventually became no. **606**.

Two of the FCB first series ALCo 2-8-0s, including no. **606**, as seen in the Uyuni scrapyard in 1974 by Tommy Farr. High-res versions of this image are available from The Transport Library, their ref: TF000401.

2-8-0 d/w 48", cyls. 19x24", built by ALCo Rogers in 1909

The original numbers had 400 added on the takeover of operations by the *FCAB*. This second batch had outside Walschaerts valve motion and other detail differences.

610 w/n 44424 Had been *FCB* **5**, later *FCAB* **405**.
611 w/n 44425 Had been *FCB* **6**, later *FCAB* **406**.
612 w/n 44426 Had been *FCB* **7**, later *FCAB* **407**.
613 w/n 44427 Had been *FCB* **8**, later *FCAB* **408**.

Second, second batch ALCo no. **407**, shortly to be renumbered **612**.

2-8-0 d/w 1118mm 44", cyls. 508x610mm 20x24", built by Henschel in 1914 and 1921

614 w/n 12544 Had been *FCAB* **57**, later **357**. At Cochabamba May 196 but not in service [14].

615 w/n 12545 Had been *FCAB* **58**, later **358**.

616 w/n 12546 Had been *FCAB* **59**, later **359**.

617 w/n 12547 Had been *FCAB* **60**, later **360**. At Cochabamba May 196 but not in service [14] still carrying no. **360**.

2-8-0 d/w 36", cyls. 16x20", built by Baldwin in 1921

618 w/n 54551/54560/54563/54614-9? Originally ordered and used by the *RV Cearense* as one of their nos. **41, 42, 43, 204-9**?,later became *EFBB* no. **5**.

2-8-2 d/w 1050mm, cyls. 500x550mm, built by O&K in 1929

651 w/n 11771 Originally *FCCSC* no. **1²**. At Cochabamba May 196 but not in service [14]. Survived at Oruro in 2005 [6]. Also there in shed 2008 [JM], though possibly having swopped boilers with **652**.

652 w/n 11772 Originally *FCCSC* no. **2²**. In steam at Cochabamba May 1969 [14]. Surviving 2008 at Sucre works [JM], inside but looking different after rebuild with raised running plate.

653 w/n 11773 Originally *FCCSC* no. **3²**. At Cochabamba May 196 but not in service [14].

654 w/n 11774 Originally *FCCSC* no. **4²**. At Cochabamba May 196 but not in service [14].

One of these survived at Potosi in 2005 [6].

2-8-2 d/w 48", cyls. 21x24", built by ALCo Cooke in 1923 and 1924

655 w/n 64214 Originally *FCVA* no. **1²**, but later on *FCPST*. Survived at Potosi shed in 2008 [JM].

656 w/n 64215 Originally *FCVA* no. **2²**, but later on *FCPST*. Surviving 2008 at Sucre works [JM].

657 w/n 65937 Originally *FCVA* no. **3²**, but later on *FCPST*. Surviving 2008 at Sucre works [JM].

The remains of two other 65x series locos were at Potosi in 2005 [6].

2-8-2 d/w 1148mm, cyls. 560x550mm, built by Borsig in 1925

658 w/n 11846 Had been *FCVA* no. **3**.

659 w/n 11847 Had been *FCVA* no. **4 'MARISCAL SUCRE'.**

2-8-2 d/w ?, cyls. ?, built by ? in ?

660 w/n 12149? Had been *FCALP* no. **109**. [JM] suggests **660** was Borsig 11846, see above. OoS at Oruro 1969 [14]. Noted in Uyuni scrapyard 2008 [JM].

2-8-2 d/w ?, cyls. ?, built by Hitachi in 1957-8

SLS library files WL7726 and WL8754 contain Hitachi lists which give works numbers for these twelve engines as 12442-12453, not 2442-2453 as sometimes quoted.

661 w/n 12442 Originally **201**, and allocated to *FCALP*. Survived 2008 in works yard at Uyuni [JM].

662 w/n 12443 Originally **202**, and allocated to *FCALP*. Surviving 2008 at Sucre works [JM].

663 w/n 12444 Originally **203**, and allocated to *FCALP*. Survived at Potosi in 2005 [6], and at Sucre in 2008 [JM].

664 w/n 12451 Originally **210**, and allocated to *FCALP*. Survived at Potosi shed in 2005 [6] though also suposed to be in Tupiza so maybe one of them is actually another of the class.

665 w/n 12446 Originally **205**, and allocated to *FCVA*.

666 w/n 12447 Originally **206**, and allocated to *FCVA*. Survived at Potosi shed 2008 [JM].

667 w/n 12448 Originally **207**, and allocated to *FCVA*. Survived at Oruro in 2005 [6].

668 w/n 12449 Originally **208**, and allocated to *FCVA*, also there in 2008 [JM]. Survived 2008 in works yard at Uyuni [JM]. ***??

669 w/n 12452 Originally **211**, and allocated to *FCPST*. Survived at Potosi in 2005 [6], and at Sucre works in 2008 [JM] but only parts.

670 w/n 12453 Originally **212**, and allocated to *FCPST*. Survived 2008 in works yard at Uyuni [JM].

671 w/n 12450 Originally **209**, and allocated to *EFBB*.

672 w/n 12445 Originally **204**, and allocated to *EFBB*. Survived 2008 in works yard at Uyuni [JM].

2-8-2 d/w ?, cyls. ?, built by ? in ?

681 w/n ?

682 w/n ?

683 w/n ?

684 w/n ?

685 w/n ?

2-8-2 d/w ?, cyls. ?, built by Borsig and NBL in

686 w/n 7811 Originally *FCCN* no. **712**, later owned by *FCNGB*.

687 w/n ? Originally *FCCN* no. **???**, later owned by *FCNGB*.

688 w/n 19423 Originally *FCCN* no. **795**, later owned by *FCNGB*. Derelict at Santa Cruz in 1978, [15].

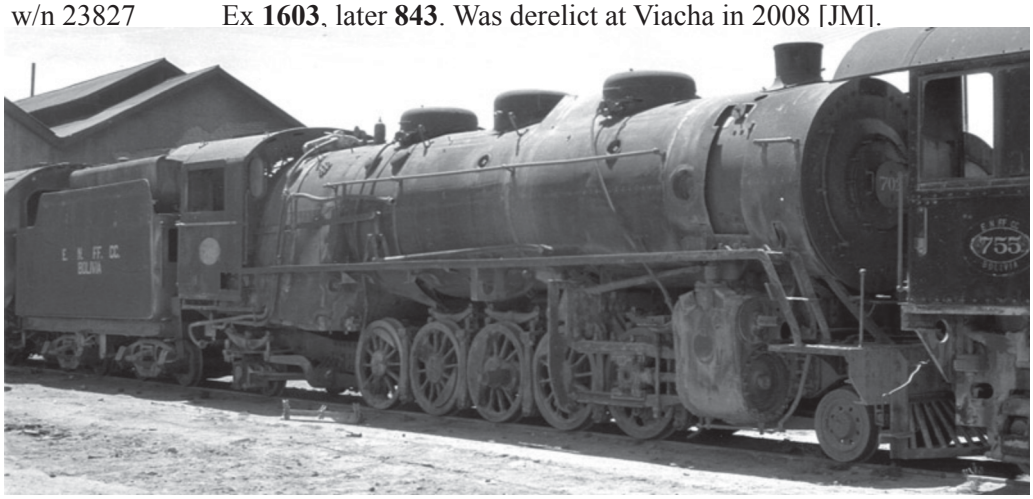
689 w/n 19424 Originally *FCCN* no. **796**, later owned by *FCNGB*.

2-10-2 d/w ?, cyls. ?, built by Henschel in 1938

Originally built for the *EF Central do Brasil* as part of a batch of five numbered **1601-5**.

701 w/n 23829 Had been **842**.

702 w/n 23827 Ex **1603**, later **843**. Was derelict at Viacha in 2008 [JM].



Henschel 2-10-2 no. **701** as seen in the Uyuni works yard in 1974 by Tommy Farr. High-res versions of this image are available from The Transport Library, their ref: TF000428. It must be doubted whether this was actually 702 if that loco was at Viacha in 2008. It is unlikely to have moved far in that condition!

2-10-2 d/w 1100mm, cyls. 560x550mm, built by Borsig in 1927

703 w/n 11956 Originally *FCVA* no. **6 'SUIPACA** or **SUIPACHA'.** Later to *FCALP* as no. **105**. Noted in Uyuni scrapyard 2008 [JM].

2-10-2 d/w 51"?, cyls. 22x26"?, built by Baldwin in 1942 (10-11), 1943 (12-13) and 1946 (14-15)

The final pair supposedly had different and smaller d/w ? and cyls. ?. but the *ENFFCC* diagram book from 1957 does not show this, instead giving all as having d/w 1220mm (48") and cyls. 560x610mm (22x24").

704 w/n 64619 Ordered as *Servicio Ferroviario de Yacimientos* no. **1**. Later became *FCVA* no. **10**. Preserved at Guaqui works – under repair 2008 [JM].

705 w/n 64620 Ordered as *Servicio Ferroviario de Yacimientos* no. **2**. Later became *FCVA* no. **11**.

706 w/n 64621 Ordered as *Servicio Ferroviario de Yacimientos* no. **3**. Later became *FCVA* no. **12**. Survived at Potosi in 2005 [6] and at Sucre in 2008 [JM].

707 w/n 64622 Ordered as *Servicio Ferroviario de Yacimientos* no. **4**. Later became *FCVA* no. **13**.

708 w/n 73068 Had been *FCVA* no. **14**. Possibly later to *FCALP* as **111**, but returned to *FCVA*?

709 w/n 73069 Had been *FCVA* no. **15**. Later to *FCALP* as no. **112**, but then returned to *FCVA* as no. **15** again.

No. **704** as preserved. Photo posted by Pablo Gustavo Gonzales Murillo on the Facebook page of Bolivian Railway - Historia en Imagenes.

4-6-2 d/w 1486mm, cyls. 482x610mm, built by Henschel in 1914 and 1928

756 w/n 12748 Had been *FCAB* **33**, later **333**. Noted in Uyuni scrapyard 2008 [JM], no tender.

751	w/n 12749	Had been *FCAB* **34**, later **334**. OoS at Oruro 1969 [14]. Noted in Uyuni scrapyard 2008 [JM], no tender.
752	w/n 12750	Had been *FCAB* **35**, later **335**.
753	w/n 12751	Had been *FCAB* **36**, later **336**. OoS at Oruro 1969 [14].
754	w/n 21213	Had been *FCAB* **37**, later **337**.
755	w/n 21214	Had been *FCAB* **38**, later **338**. Survived 2008 in works yard at Uyuni [JM].

Finally, Henschel pacific no. **338**, soon to become no. **755**.

?
757
758
759
760

4-6-0 d/w ?, cyls. ?, built by Borsig in 1909, 1904 and 1910

Ex *FCCN,* class? Rebuilt at Tafi Viejo.

761	w/n 7277	Had been *FCCN* no. **548**. Derelict at Santa Cruz in 1978, [15].
762	w/n 5384	Had been *FCCN* no. **506**. Derelict at Santa Cruz in 1978, [15].
763	w/n ?	Had been *FCCN* no. **54?**.

4-8-2 d/w ?, cyls. ?, built by Borsig in 1935

Originally built for the *EF Noroeste do Brasil* as part of a batch of eight numbered **705-716**.

801	w/n 14594	Had been *EFNdB* **713**. Later may have been *FCALP* **370**.
802	w/n ?	Later may have been *FCALP* **371**.
803	w/n ?	Later may have been *FCALP* **372**.
804	w/n ?	Later may have been *FCALP* **373**.
805	w/n 14591	Had been *EFNdB* **710**.
806	w/n 14593	Had been *EFNdB* **712**.
807	w/n 14595	Had been *EFNdB* **714**.
808	w/n 14596	Had been *EFNdB* **716**. Borsig 14596 noted in Uyuni scrapyard 2008 [JM] but identified as *EFNdB* **715**.

Borsig 4-8-2 no. **802** or **803** as seen in the Uyuni scrapyard in 1974 by Tommy Farr. High-res versions of this image are available from The Transport Library, their ref: TF000426.

4-8-2 d/w 48", cyls. 19x26", built by Vulcan Foundry in 1954

There were originally intended to be six for Chile and ten for Bolivia. Those for Chile were numbered in the series **201** to **206**.

811	w/n 6176	Had been *FCAB* **341** from Bolivian batch.
812	w/n 6177	Had been *FCAB* **342** from Bolivian batch.
813	w/n 6178	Had been *FCAB* **343** from Bolivian batch. Seen departing from Uyuni in April 1975 together with **813** en route to Santa Cruz via Argentina [MC], probably remained there until end of active life.
814	w/n 6179	Had been *FCAB* **344** from Bolivian batch. At Cochabamba May 196 but not in service [14]. Survived at Oruro in 2008 [JM].
815	w/n 6180	Had been *FCAB* **345** from Bolivian batch. In steam at Oruro May 1969 [14].
816	w/n 6181	Had been *FCAB* **346** from Bolivian batch.
817	w/n 6182	Had been *FCAB* **347** from Bolivian batch. Survived 2008 in works yard at Uyuni [JM].
818	w/n 6183	Had been *FCAB* **348** from Bolivian batch. In steam at Oruro May 1969 [14].
820	w/n 6169	Had been *FCAB* **349** from Bolivian batch. Survived 2008 in works yard at Uyuni [JM].
819	w/n 6168	Had been *FCAB* **350** from Bolivian batch.
821	w/n 6170	Had been *FCAB* **202** from Chilean batch. Survived at Oruro in 2008 [JM].
822	w/n 6175	Had been *FCAB* **206** from Chilean batch.

813 and **101** (theoretically **503**) prepare to set off from Uyuni to Santa Cruz in April 1975.

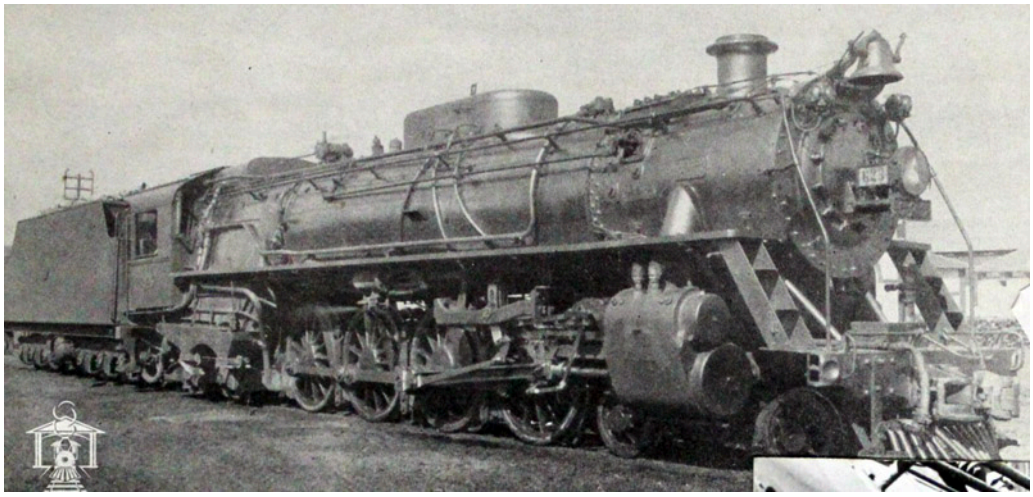
4-8-4 d/w 59", cyls. 18x28", built by ALCo Schenectady in 1945-6

Originally built for the *EF Noroeste do Brasil*

851 w/n 73776 Had been *EFNdB* **621**. Survived 2008 in works yard at Uyuni [JM].

852 w/n 73777 Had been *EFNdB* **622**. Survived 2008 in works yard at Uyuni [JM], with tender separate.

853 w/n 73778 Had been *EFNdB* **623**. Survived 2008 in works yard at Uyuni [JM].



EFNdB no. **623** in service before it came to Bolivia.

And no. **851** after its withdrawal from service in Bolivia. High resolution versions of this image are available from The Transport Library, their ref. TF000421.

4-8-2+2-8-4 Garratts d/w 48", cyls. 18x26", built by Beyer Peacock in 1928 and 1950

The first batch had tanks and bunkers with vertical ends though the sides rolled into the tops. The second batch had streamlined tanks.

909 w/n 6524 Had been *FCAB* **41 'CHOCOLOQUE'** later **390 'CHOCOLOQUE'.** Noted in Uyuni scrapyard 2008 [JM].

901 w/n 6525 Had been *FCAB* **42 'ILLAMPO'** later **391 'ILLAMPO'.** Survived 2008 in works yard at Uyuni [JM].

902 w/n 6526 Had been *FCAB* **43 'KOSUNA'** later **392 'KOSUNA'.**

903 w/n 7420 Had been *FCAB* **393 'HUAYNA POTOSI'**. Survived 2008 in works yard at Uyuni [JM].

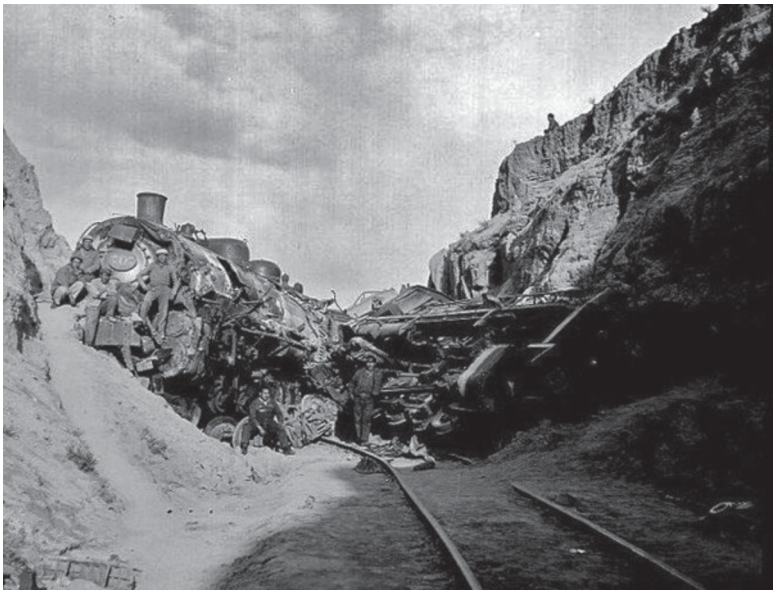
904 w/n 7421 Had been *FCAB* **394 'SAN VICENTE'.** Noted in Uyuni scrapyard 2008 [JM].

905	w/n 7422	Had been *FCAB* **395 'ILLIMANI'.** OoS at Cochabamba 1969 [14]. Survived 2008 in works yard at Uyuni [JM].
906	w/n 7423	Had been *FCAB* **396 'TUNARI'.** Survived 2008 in works yard at Uyuni [JM].
907	w/n 7424	Had been *FCAB* **397 'SAJAMA'** Survived 2008 at Potosi shed [JM].
908	w/n 7425	Had been *FCAB* **398 'TRES CRUCES'.** Noted in Uyuni scrapyard 2008 [JM].

Early type Garratt no. **901** as seen in the Uyuni works yard in 1974 by Tommy Farr. High-res versions of this image are available from The Transport Library, their ref: TF000410.

Late type Garratt no. **904** as seen in the Uyuni works yard in 1974 by Tommy Farr. High-res versions of this image are available from The Transport Library, their ref: TF000411.

Accidents



Bolivia has had a more than adequate share of serious rail accidents. This one was near Escoriani in 1968 and seems to have involved a double-headed

northbound freight carrying amongst other things Argentine apples. The left hand engine appears to have been one of the 2-10-2s, whilst that to the right was clearly a Vulcan Foundry 4-8-2. Sadly there were a number of fatalities amongst the train crew. At that late date it is very likely that the locos would have been withdrawn or even cut up on the spot.

7.1.13 *La Cachuela Esperanza*

Background

1 metre gauge operation by Nicolás Suarez Callaú who owned rubber plantations and was something of a local empire-builder and warlord. The railway served the rubber plantations but also bypassed rapids on the río Beni at La Cachuela Esperanza (Hope Rapids). This is right at the northernmost corner of Bolivia, and only 20 miles or so from Nova Mamoré in Brazil which was close to the western end of the 'Mad Mary' or *EF Madeira Mamore*. About 5 km long.

0-4-0WTT d/w 450mm, cyls. 160x200mm, built by Henschel in 1926

Ordered via A. Winkelmann of Hamburg. Weight in service 7.3T.

? w/n 20760

Image found on *Fotos Antiguas La Paz* Facebook page.

The locomotive seems to have survived, and after some years of dereliction has now been painted up and put on display, as seen in this 1995 photo by don Feliciano Espada.

The loco as seen more recently.

7.2 2' 6" or 75 cm gauge railway systems in Bolivia

7.2.1 *El FC Antofagasta a Bolivia*

Background

As the *FCAB* stretched further and further north-east from Antofagasta – through Calama, to the border at Ollague, and on to Uyuni and even Oruro – it was obviously of 2' 6" gauge. There was no real division at the border; it was all one railway, first initiated by *la Cía. de Salitres y Ferrocarriles de Antofagsta*, then managed for sixteen years by the Huanchaca company, before being taken 'in house' by the Antofagasta (Chili) & Bolivia Railway Co.

The locomotives of the that international railway have been covered in File 4 on the Sub-metric Gauge Steam Locomotives of Chile, and there is no point in duplicating that work here. However, it rapidly became clear that railways within Bolivia would largely be of metre gauge, and thus the Uyuni to Oruro route was regauged by 1913 and from then on the *FCAB* was run in two divisions, a Chilean 2' 6" gauge one and a Bolivian metre gauge section. The engines used on the latter are covered in section 7.1.2. In 1928 the Chilean section was also regauged to 1 metre, and from then on there could again be a certain amount of interchange of locos.

7.2.2 *La Empresa Luz y Fuerza de Cochabamba*

Background

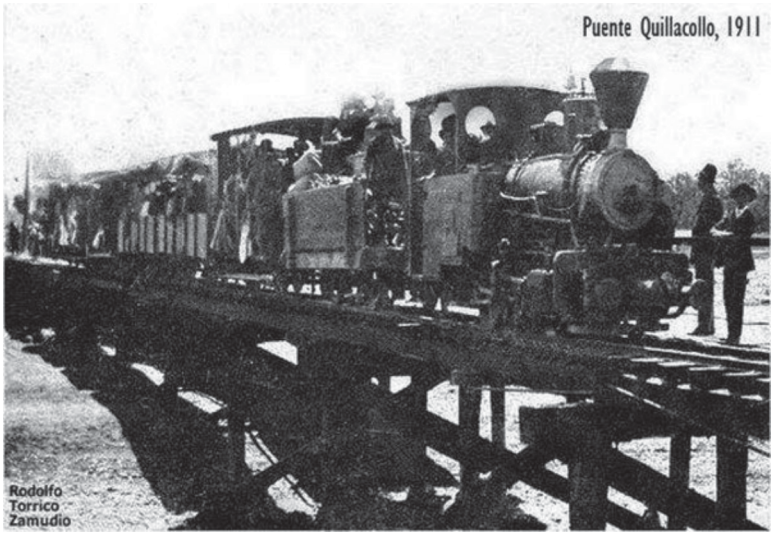
Gauge 750mm. Construction began in 1912, from Cochabamba east toward Arani, totalling 38 miles. There were other lines, such as that to Vinto, run as electric tramways and these locos may have seen occasional use on those routes for maintenance purposes.

US Report [3] says owns five locomotives.

From 1917 onward this route and the locos were absorbed into the *FC Cochabamba a Santa Cruz*, with some locos being regauged to 1 metre. Some survived in service until the 1950s but did not feature in the 1965 *ENFE* renumbering.

0-4-0T d/w ?, cyls. ?, built by Borsig in 1905 and 1911

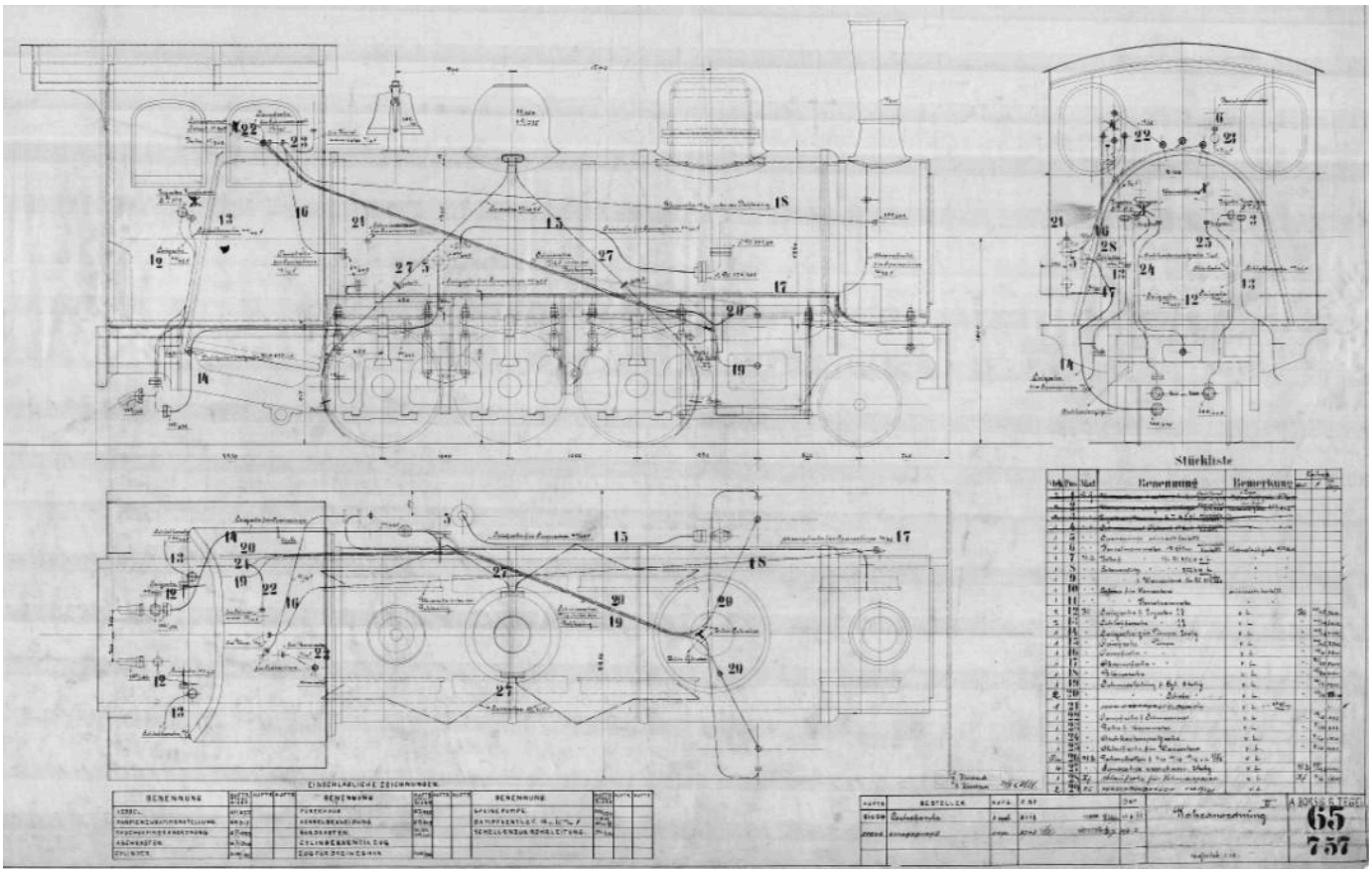
1 'CHORILLOS'	w/n 5686	Purchased via Schluback & Co. possibly ex *FC de Chorillos* in Peru. Withdrawn 1953.
2 '?'	w/n 7739	Purchased via Gustav Hinke & Co. To *FC Cochabamba a Santa Cruz*, regauged to metre gauge. Scrapped around 1931.



These two images supposedly show early trains on the Vinto line before its electrification. The first one was captioned as being at Puente Quillacollo.

2-6-0 d/w ?, cyls. ?, built by Borsig in 1911 and 1913

3 '?'	w/n 8113	Purchased via Gustav Hinke & Co.
6 'ANIBAL CAPRILES'	w/n 8743	Purchased via Gustav Hinke & Co. To *FC Cochabamba a Santa Cruz*, regauged to metre gauge as their no. **6**.
7 '?'	w/n 8742	Ditto, became *FCCSC* no. **7**.



Elevations and plan shown on a Borsig lubrication and sanding drawing kindly provided by Jens Schindler.

Photo found amongst the archive collections of the United Methodist Church at http://catalog.gcah.org/

0-6-0T d/w ?, cyls. ?, built by Borsig in 1912

4 '?'	w/n 8465	Withdrawn 1953.
5 'CLIZA'	w/n 8466	Withdrawn 1953.

2-6-0 d/w 37", cyls. 14x18", built by Baldwin in 1922

Fitted with a Rushton stack. Class 08-22D no. 371. Spec. page is vol. 66 p372.

8 'SIMON I. PATIÑO'	w/n 55294	To *FC Cochabamba a Santa Cruz*, regauged to metre gauge

as their no. **5**.

Hi-res versions of this image are available from the Railroad Museum of Pennsylvania. Baldwin negative number 08313-1.

Negative No. 8313

THE BALDWIN LOCOMOTIVE WORKS

MOGUL TYPE LOCOMOTIVE

Class 8-22-D, 371 Road No. 8

Name Simon I. Patiño

Built for Luz y Fuerza Electrica Cochabamba Cia. (Bolivia)

Gauge	2′ 5½″
Cylinders	14″ x 18″
Valves	Piston 8″ diam.

BOILER

Type	Straight top
Diameter	46″
Thickness of barrel sheets	½″
Working pressure	170 lbs.
Fuel	Wood and coal

Firebox

Material	Steel
Staying	Radial
Length	40 3/16″
Width	42¼″
Depth, front	50½″
" back	44¼″
Thickness of sheets, sides	⅜″
" " " back	5/16″
" " " crown	⅜″
" " " tube	½″

Water Space

Front	3½″
Sides	2½″
Back	2½″

Tubes

Diameter	1¾″		5″
Material	Steel		Steel
Thickness			
	No. 12 B.W.G.		No. 9 B.W.G.
Number	78		12
Length	11′ 3″		11′ 3″

Heating Surface

Firebox		63 sq. ft.
Tubes	1¾″	399 sq. ft.
Firebrick tubes	5″	175 sq. ft.
Total		637 sq. ft.
Superheater		158 sq. ft.
Grate area		11.8 sq. ft.

Construction No. 55294

DRIVING WHEELS

Diameter, outside	37″
" center	32″
Journals, main	5½″ x 7″
" others	5½″ x 7″

ENGINE TRUCK WHEELS

Diameter, front	24″
Journals	4″ x 6″

WHEEL BASE

Driving	7′ 0″
Rigid	7′ 0″
Total engine	14′ 1″
Total engine & tender	41′ 1¼″

WEIGHT

On driving wheels	56,700 lbs.
On truck, front	8,200 lbs.
Total engine	64,900 lbs.
Total engine & tender	114,400 lbs.

TENDER

Wheels, number	8
" diameter	26″
Journals	3¾″ x 7″
Tank capacity	2200 U. S. gals.
Fuel	" 3½ tons or 5 cords
Service	Freight and switching

Drawing No. 61

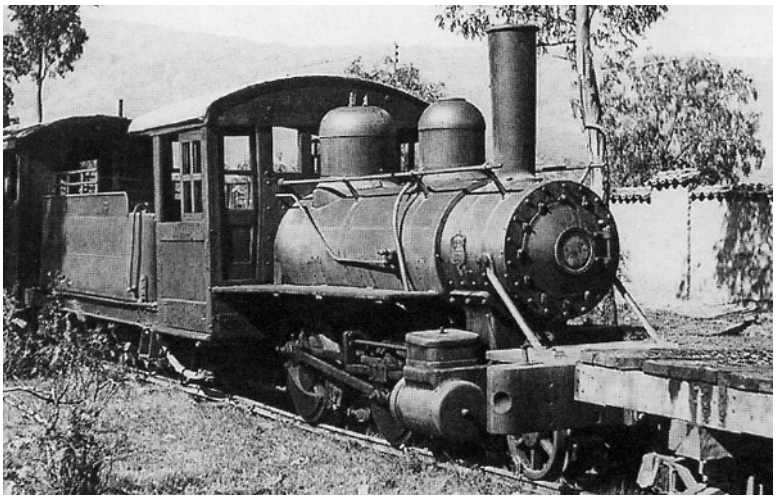
Westinghouse-American straight air brake on drivers only, Schedule WM-1-BC. One 9½″ air pump. Hand brake on all drivers and tender wheels.

The details shown on the reverse of the Baldwin card which displayed the preceding photograph.

2-4-0 d/w ?, cyls. 10x16", built by Porter in 1911

Porter list says ordered via W. R. Grace & Co. for *FC Cocha(ba)mba and Santa Cruz*.

3? w/n 4908 Withdrawn around 1931.



Former *FC Luz y Fuerza de Cochabamba* 2-4-0 number **3**, built by Porter (4908/1911), was not converted to metre gauge when taken over by the *FC Cochabamba - Santa Cruz* and had been withdrawn in 1931. She stands in the yard at Cochabamba in December 1953. Photo David Ibbotson - Chris Walker Collection. High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam356

7.2.3 *Transport des Bois de Teinture en Bolivia*

Background

75 cm gauge, 1.5 km long. Built 1887 for bark tanning purposes. Everything supplied by Decauville Aine. Location unknown.

0-4-0TT d/w 490mm, cyls. 190x265mm[7], built by Couillet for SA Decauville in 1887

Ordered through *Desprez et Huchet* for *Transport des Bois de Teinture*, Bolivien.

'El PORVENIR' w/n Couillet 871, Decauville 46 This locomotive is almost certainly the Couillet that survives at Pulacayo, see section 7.2.4 following this one. That is reinforced by this engine having been supplied carrying the name **'El PORVENIR'** (Hope) and the Pulacayo loco also bearing the name **'PORVENIR'** when I saw it in 1975.

7.2.4 *La Cía. Huanchaca de Bolivia*

Background

The *Cía. Minera Huanchaca de Bolivia* was formed in 1876 to exploit the silver mine of Huanchaca/Pulacayo north-east of Uyuni. From 1886 to 1903 it leased the 2' 6" gauge railway from Antofagasta and extended it up to Ollague and into Bolivia as far as Uyuni. It then built a branch up to Pulacayo.

In 1903 the company relinquished the lease of what had become the Antofagasta (Chili) and Bolivia Railway, but continued to own and operate the Pulacayo extension. This remained a 2' 6" gauge line even after the mainline down to the coast had been regauged in 1928.

The company also built a big silver smelter at Playa Blanca down in Antofagasta. This had a relatively short life but locos purchased specifically for operations there and consequently labelled 'PLAYA BLANCA 1', 'PLAYA BLANCA 2' etc. could be found scattered across the system until the end of steam operations.

In 1952 the company was nationalised into *CoMiBol* and in 1959 the mine closed. The railway ceased regular services at that time but seems not to have closed formally until 1965. Certainly when I visited Pulacayo in 1975 the loco shed yard was piled head high in wooden sleepers, beneath which were the surviving locos and stock.

Since then the yard has become something of a railway museum.

Photo found at https://giorgetta.ch/pulacayo_1.htm

<u>Locos retained by the Huanchaca company after relinquishing the lease of the FCAB in 1903.</u>

0-6-2ST d/w ?, cyls. ?, built by Baldwin in 1890

BLW class 8-22⅓D, batch originally included *FCAB* nos. **36, 46-7, 51-3** and **56-7**. Possibly working on Pulacayo line from around 1892.

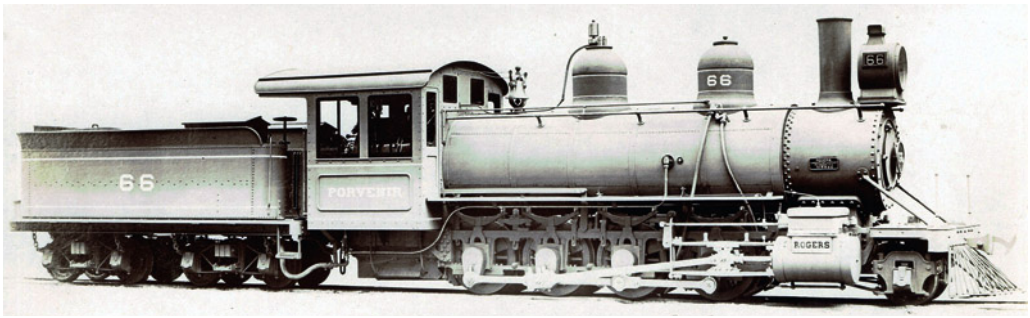
1	w/n 10998	Ex *FCAB* **46 'HORMIGA'**. In service 1955. Reported present in 2008 [7].

The Baldwin 0-6-2T as it was in 1975, surrounded by piles of sleepers and redundant mine tubs, and bearing the smokebox number-plate **1**.

Photo found at https://giorgetta.ch/pulacayo_1.htm

2-8-0 d/w 37½", cyls.15x20", built by Rogers in 1900

66 'PORVENIR' w/n 5544 Retained by Huanchaca Co. in 1903. Reported present in 2008 [7].



From the ALCo historic photos collection.

Photo found at https://giorgetta.ch/pulacayo_1.htm

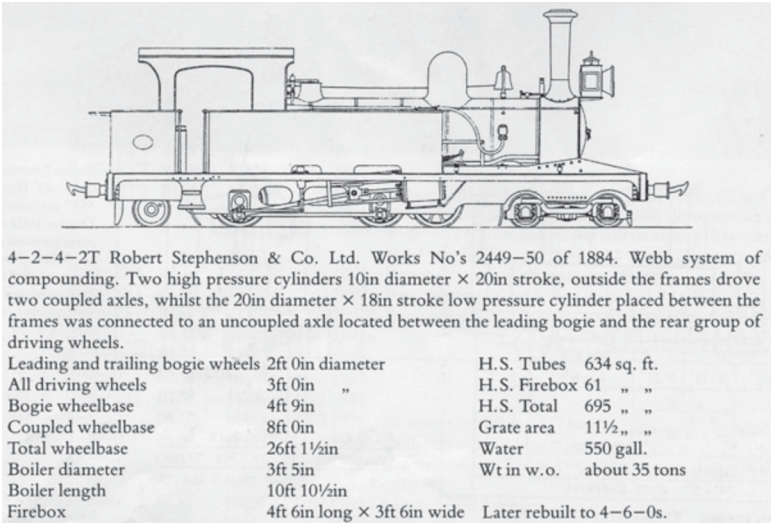
4-2-4-2T Webb Compound d/w 36", cyls. outside 10"x20" inside 20"x18", built by R. Stephenson in 1887 and 1888

A sketch diagram in the P. C. Dewhurst archive at the NRM labels these engines as "E. Woods compound", and gives the date of 1884. Both were rebuilt to 4-6-0s as some point.

18 '?' or **19 '?'** w/n 2449 or 2450 Reported present in 2008 [7].

Isaac Arce's text quoted in the Chilean sub-metric gauge file, section 4.1.?, suggests that the names **'CHILE'** and **'BOLIVIA'** were applied to a pair of later locos of greater power and a new type. They may therefore have belonged to these engines.

Supposedly one survives at Pulacayo, and carried the no. **12** and name **'POTOSÍ'** in 1955. There must be a suspicion that it therefore is 4-6-0 no. **12** rather than a rebuilt 4-2-4-2T, though apparently the frame has been "subjected to major surgery" at some point [19]. It carries a replacement boiler, possibly off a Baldwin. Numbers found (by others) on the motion include 2633 (many parts), 2292 and 2293, with the boiler backhead numbered A1891 [19].



4–2–4–2T Robert Stephenson & Co. Ltd. Works No's 2449–50 of 1884. Webb system of compounding. Two high pressure cylinders 10in diameter × 20in stroke, outside the frames drove two coupled axles, whilst the 20in diameter × 18in stroke low pressure cylinder placed between the frames was connected to an uncoupled axle located between the leading bogie and the rear group of driving wheels.

Leading and trailing bogie wheels	2ft 0in diameter	H.S. Tubes	634 sq. ft.
All driving wheels	3ft 0in „	H.S. Firebox	61 „ „
Bogie wheelbase	4ft 9in	H.S. Total	695 „ „
Coupled wheelbase	8ft 0in	Grate area	11½ „ „
Total wheelbase	26ft 1½in	Water	550 gall.
Boiler diameter	3ft 5in	Wt in w.o.	about 35 tons
Boiler length	10ft 10½in		
Firebox	4ft 6in long × 3ft 6in wide	Later rebuilt to 4–6–0s.	

Diagram from Turner & Ellis FCAB book.

2-6-0 d/w 30", cyls. 13x18", built by Baldwin in 1891

Supposedly ordered for "Pacamayo & Huanchaca Ry. of Bolivia". Spec. is in vol. 17 p 159. Class 08-20D 84.

1 w/n 12363 Apparently seen in 1955, presumably by David Ibbotson.

0-4-0T d/w 33", cyls. 10x14", built by Baldwin in 1892 and 1895

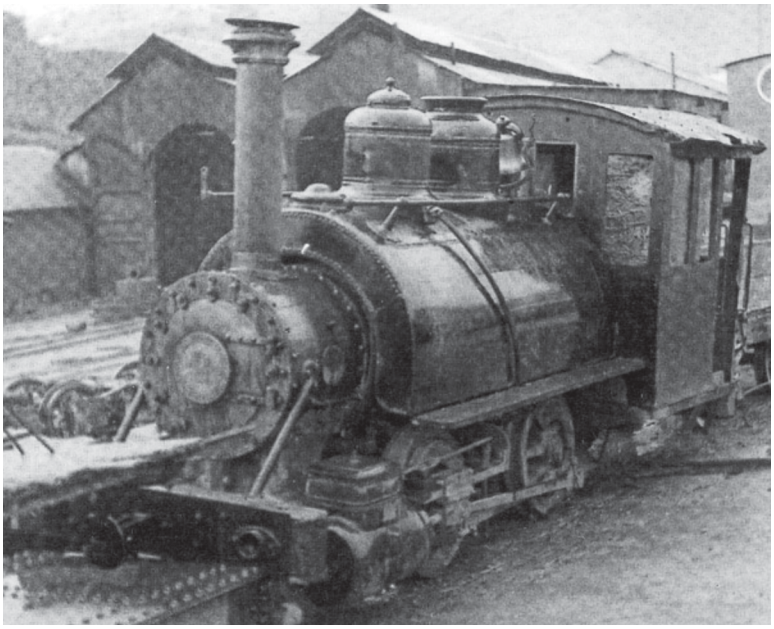
Ordered for Huanchaca Co. BLW class 04-14C nos. 101, 102, and 108. Spec. for first two is in vol. 17 p182.

The last was ordered specifically for "Huanchaca Co. of Bolivia (Playa Blanca Establishment)".

'PLAYA BLANCA 2' w/n 12404 Reimar Holzinger's list gives this the identity **2 'VICUÑA'**.

'PLAYA BLANCA 3' w/n 12405 Reimar Holzinger's list gives this the identity **3 'HUANCHACA'**.

'PLAYA BLANCA 4' w/n 14301 Reported present in 2008 [7]. Note the identification of this as named 'BAHÍA BLANCA' in several lists is incorrect. They were ordered for use at 'Playa Blanca'.



Cia. Huanchaca de Bolivia 0-4-0ST **'Playa Blanca no. 4'**, built by Baldwin (14301/1895), stands in the yard at Pulacayo on 8/3/1955. Photo David Ibbotson - Chris Walker Collection . High-res versions of this image are available from the Restoration & Archiving Trust, their ref: cjwsam378

0-6-0ST d/w 32", cyls. 10.5x18", built by Baldwin in 1894

Ordered for Huanchaca railroad. Class should be 06-15D but can't be found in specn. indexes.

5? w/n 13997

2-8-2 d/w 37½", cyls. 17"x22", built by Hawthorn Leslie in 1912

5 w/n 2947 Ex *FCAB* **165.** Converted to metre gauge 1926-1928 and later re-converted, or possibly was never converted in the first place. Reported present in 2008 [7].

[7] states: motion and frame stamped with at least 6 locomotive numbers – HL 2944, 2945 and 2947, FCAB **177, 178** and **180** (also 11800). Although this locomotive is generally referred to as *FCAB* **165** (HL 2947), the number that appears the most (including on part of the frame) is **180**.

Photo found at https://giorgetta.ch/pulacayo_1.htm

0-4-0T d/w 490mm, cyls. approx. 190x265mm [7], built by Couillet in 1887

'PORVENIR' w/n Couillet 871, Decauville 46

This locomotive is almost certainly the Couillet that was ordered for the *Bois des Teinture de Bolivia*, see section 6.2.3 preceding this one. That is reinforced by that engine having been supplied carrying the name **'El PORVENIR'**

(Hope) and this loco also bearing the name **'PORVENIR'** when I saw it in 1975. Coincidentally the Rogers 2-8-0 no. **66** also bore that name in *FCAB* service.

The Couillet as it was in 1975. Note the **'PORVENIR'** nameplate on the side of the child-sized false cab.

Caution

Although Walker and Binns' book *Railways of Bolivia*, has been extremely useful, its list for the Huanchaca Company is particularly unreliable. The authors seem not to have realised that all of the *FCAB*'s locos in the period 1887 to 1903 were ordered by the Huanchaca company, nor that any loco supposedly **named** 'PLAYA BLANCA' was merely one of several allocated to the company's Playa Blanca smelter in Antofagasta.
They also give no reasons or sources for some of their surmises about locos that they suggest worked at this location, so none of the facts can be checked.

A locomotive enquiry from Watson Geach & Co. for Bolivia in 1939

This enquiry for a 2' 6" gauge loco was made to the Baldwin Locomotive Works, whose speculative development card (for want of a better term) is illustrated below. The machine was apparently required to operate at a height of 4200m, which is almost exactly the altitude of Pulacayo. Given that by then there were no other 2' 6" gauge railways in Bolivia, the suspicion must be that the loco was for the Cía. Huanchaca de Bolivia for the Pulacayo to Uyuni line.

2-8-2 d/w 36", cyls. 14x20", proposed by Baldwin in 1939

Enquiry from Watson, Geach & Co. for Bolivia. The engine does not appear to have been ordered.

CLASS 2-8-2-14"S (12-22¼E). GAUGE OF ROAD 2'-6" SECTION H 12¼E SKETCH 8380

ORIGINAL INQUIRY FOR Watson, Geach & Co. Ltd. for Bolivia. DATE Aug. 30th 1939.

$\frac{14^2 \times 20'' \times .85 \times 190}{36}$ = 17600 (TRACTIVE POWER) × 3.97 = 70000# (WT. ON DRIVERS)

TOTAL WT. IN WORKING ORDER ABOUT 95000 LBS.

WANTED a steam loco. to operate at 4200 M. (13780 ft.) above sea level. Gauge 2'-6", rails 35# max grade 3.3%, smallest curve 101.15 M (331.87 ft or 17.3°). Oil or coal for max. trip 75 Km (46.6 miles) highest speed on level 40 to 50 Km (25 to 31 miles) per hr. To haul 150 M. tons (165 T.) on 2.8% grade & 101.15 M curve.

HEATING SURFACE

FIRE BRK. TUBES	12 SQ. FT.	GRATE AREA	29.4 SQ. FT.
" BOX	89 " "	RATIO G. A. TO H. S.	1 TO 29.7
COMB. CHAMBER	— " "	SUPERHEATER	204 SQ. FT.
TUBES	522 " "		
FLUES	250 " "		
TOTAL	873 " "	PISTON LOAD	29248 LBS.

FUEL Soft coal.

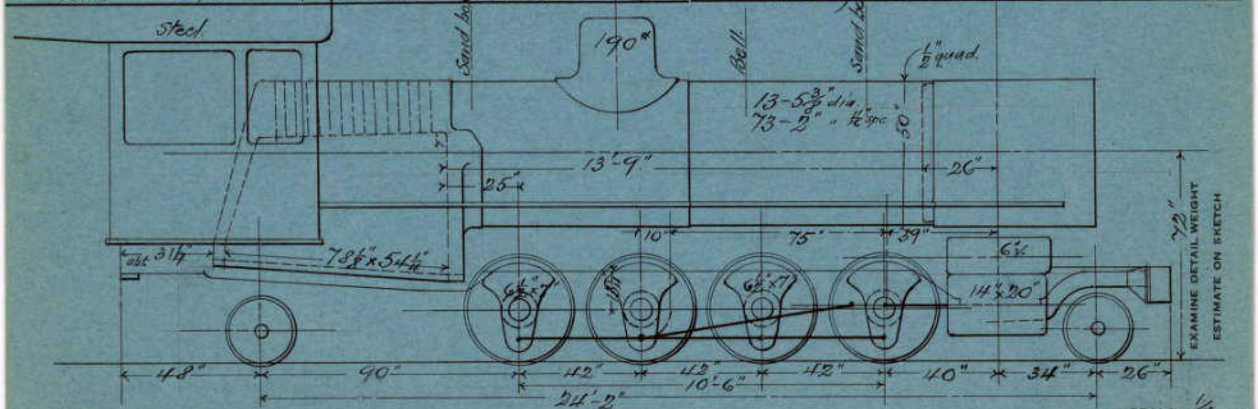
FRAMES 3" WIDE 43" C TO C 4" OVER PED 3¼" TOP 2½" BOT 6" AT CYL.

MUD RING 3½" FRONT 2¾" SIDES 2¾" BACK Single RIVETED

CYLINDER CENTERS 73½" Eng. trk. wheels 22" dia. F & B.

SPECIALTIES Walschaert gear. " journals F. 4"×6" B. 4½"×8"

Frames outside of wheels.



SCALE ¼

ILLUSTRATED BY Tracing #83698. COPY SPEC 39F43.

ENGINE DRAWING

ITEM	TRUCK	DRIVERS	TRAILERS	TOTAL	
12-24¼ E1	9100	72000	15200	96300	2 GW under steam.
d.1. Eng. 4 not weighed.			empty	90200	
Boiler waist 50" × ½" quad. × 13'-9" ins.			plt.	+ 60	
52" × ½" quad. × 13'-0"			water	− 50	
Fire box 78⅝" × 54¼" × 51" & 43½" W.S.F. 3½"-2¾" & 2¾" single				plt. + 250 water − 200	
ins. 76" × 54" × 51½" & 41¾" W.S.F. 3½", 3" & 3" single				stays + 100 W.S.F. + 100	
Grate area 29.4 □' ins. 28.5 □' both coal				+ 100	
Boiler tubes 13-5⅜" & 73-2" × 13'-9" ins. 12-5⅜ & 85-2" × 13'				+ 50	
Dome 25" dia. ins. 29"				− 300	
Smoke box 50" dia. × 66" ins. 54" dia. × 66½" long.				− 300	
Omit piston & valve rod extentions				− 300	
Gauge 2'-6" ins. 3'-0" except cyls.				− 700	
Cylinders 14" × 20" × 27½" high ins. 15" × 18" × 29½" high				− 1100	
Engine frames longer				+ 300	
Driving springs 28" long ins. 26"				+ 100	
"Laird" ins. "Alligator" crossheads & guides				− 700	
Driving wheels 36" diam., tires 2½" × 4" ins.			tires	− 1100	
34" dia. tires 6" & 6½" wide			cens.	+ 1000	
"Hodges" ins. "Rushton", outside trailer trk.				− 300	
Front bumper 12" deep ins. 16"				− 150	
Eng. truck wheels 22" ins. 24½" F. & B.				− 300	
Air brake ins. steam. One 9½" pump				+ 900	
Two air drums 14" × 72"				+ 600	
			Result	94360	
			" empty	88510	
specify	9000	70000	16000	95000	
" empty				89000	
Back truck see 12-20½ D10					
B. Rail of frame " 12-26¼ E98.					

Cylinder Volume = Cu. Ft.
Ratio C. V. to H. S. = 1 to
" " " Eq. H. S. = 1 to
" " " G. A. = 1 to

7.3 2' 0" or 60 cm gauge railway systems in Bolivia

7.3.1 The silver mines of Colquechaca and Aullágas

Background

60 cm. gauge. don Jacobo Aillón "was the majority owner of the Colquechaca Company in Aullágas, one of the largest mining companies in Potosí, founded in 1878 from the merger of Casa Arteche and Señores Solá, Cornejo, Viaña, Uriooste y Vidal, old mining companies that had been in operation since the 18th century. The discovery of an enormous silver vein in Aullágas initiated an economic boom in Bolivia, which saw the light of a multitude of mining ventures and financial speculations within the financial and political elite. Aillón became one of the leading mining industrialists of the time."

"Jacobo Aillón founded and was majority shareholder of the following companies: *Cía. Colquechaca del Perú*, Cotagaita; *Compañía Minera Aullágas*, Aullágas; *Aillón Aramayo y Cia*, London; *Banco de Cotagaita*, Potosí; *Banco Sucursal de Chichas*, Tupiza; *Banco Potosí*, Sucre." [Paragraphs quoted from the Wikipedia page on Sr. Aillón]. His wife was Juana Aramayo of the Aramayo tin dynasty.

Colquechaca and Aullágas are 100 km north of Potosí and 85 km north-west of Sucre, at a height of 4167m, 13,671'.

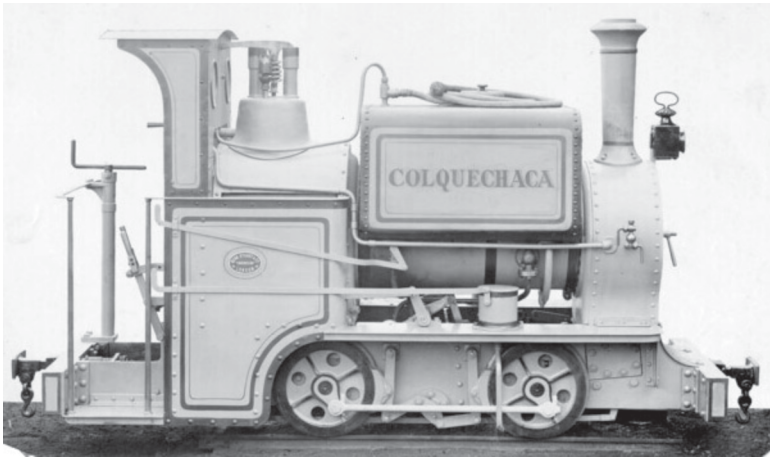
"Colquechaca and Aullagas are not really separate mineral localities. The name Aullagas appears on very old labels, but is in reality the now uninhabited 'ghost' town a bit over 1km from the current town of Colquechaca. Aullagas was an important town during the colonial era, and many roofless building shells remain, but the miners now live in the neighboring town of Colquechaca, at a bit lower elevation. Both towns worked the same ore veins, so the two names really denote a difference in residential district at different periods of history, not different ore deposits. For example, the Gallofa-Embudo vein passes by the now uninhabited town of Aullagas, and used to be worked from there, but that vein is now worked by means of the long Progreso and San Bartolome adits from the town of Colquechaca: different towns, different town names on labels, but same ore veins, same minerals." [https://www.mindat.org/loc-324.html]

It seems likely that the choice of perhaps the very smallest practicable industrial steam locos was influenced by the difficult of getting them up to Colquechaca along mountain mule tracks.

0-4-0ST d/w 18", cyls. 4¾x8", built by Hartley, Arnoux & Fanning for Kerr Stuart in 1893

Ordered by Aillon Aramayo & Co. for delivery via Antofagasta.

'AULLAGAS'	w/n 73	As mentioned above, Aullágas was one of the main mining settlements in the area. Delivered painted green.
'COLQUECHACA'	w/n 74	As mentioned above, Colquechaca was the other main mining settlement in the area. Delivered painted blue.
'CONSUELO'	w/n 75	The *Cía. Consuelo* seems to have been an associated or subsidiary mining company. Delivered painted red.



A KS builder's photo very kindly supplied by Henry Noon of Statfold

Barn Farm. Whilst the inside cylinders are unusual on a loco of such narrow gauge, they make good sense on a mine loco where loose rock might well damage outside motion. The loco is also clearly designed to work in confined spaces and possibly even into a mine.

0-4-0T d/w ? cyls. 4½x8", built by Kerr Stuart in late 1894 and probably early 1895

it is not clear whether these were of the same design as the earlier engines or not.

'?' w/n 86

'La UNIFICADE' w/n 87

These were amongst the very smallest locos built for or by Kerr Stuart, smaller even than their well-known 'Wren' class. The final one would also have been amongst the first couple of dozen locos built by Kerr Stuart, at their California Works in Stoke on Trent, engines built prior to that under the KS name having actually been constructed elsewhere under sub-contract.

Whether there are any surviving artefacts from the railway system is not known, though the removal of scrap from such a location would not be easy and in any case Bolivia has relatively little market for such materials.

7.4 Unidentified customers

0-6-0T d/w ?, cyls. 9x14", built by Porter in 1892

Delivered via S. H. Payne & Son of NY NY. Pacamayo seems to be a location in the Huanchaca - Pulacayo mining complex.

1 'PACAMAYO' w/n 1398 Now preserved at the museum in the old *Casa Real de la Moneda* in Potosí.

Photo from the collection of Miguel Irrigoyen found on the *Bolivia Railway - Historia en imagenes* Facebook page.

Another photo of the Porter in Potosí, as posted by Milton Goyonaga on the *Bolivia Railway - Historia en Imágenes* page on Facebook.

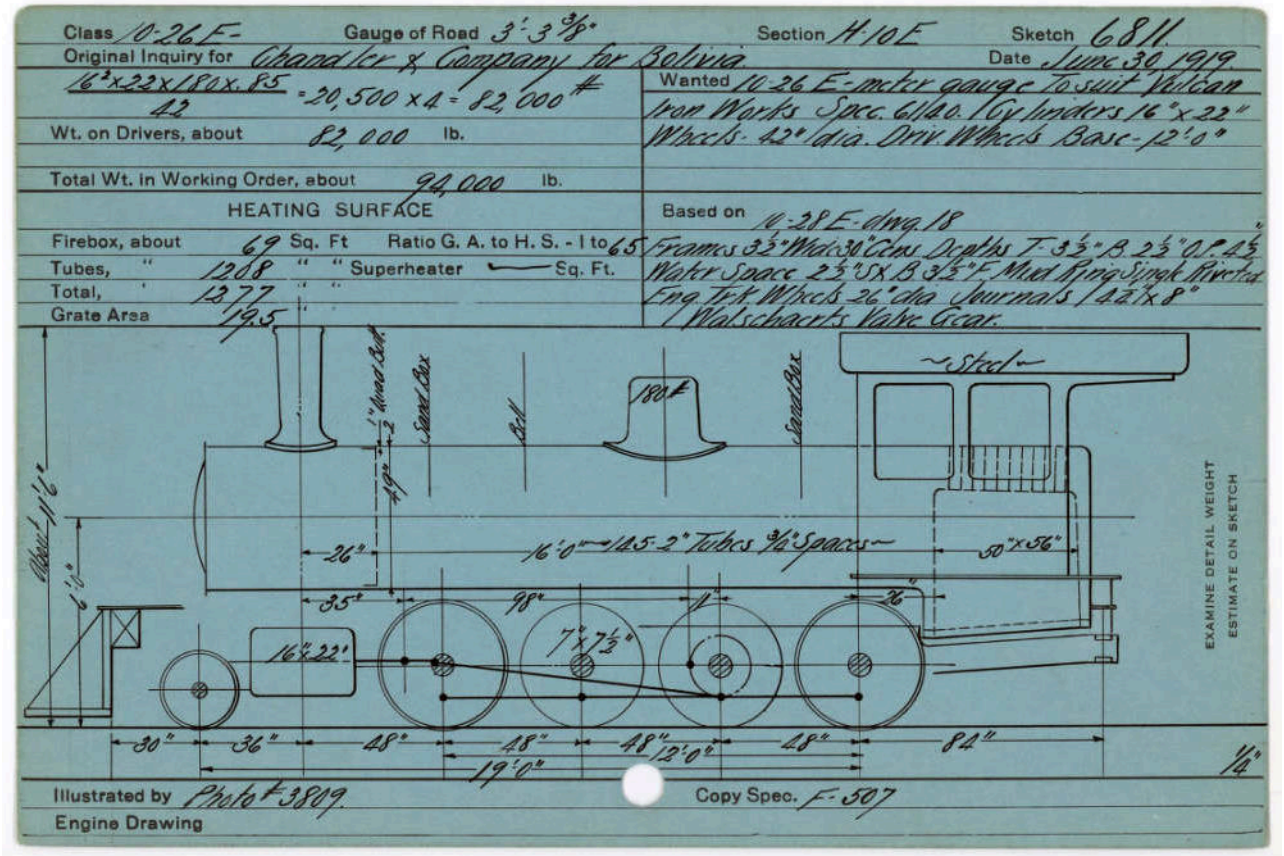
Locomotive enquiry from Chandler & Co. for Bolivia in 1919

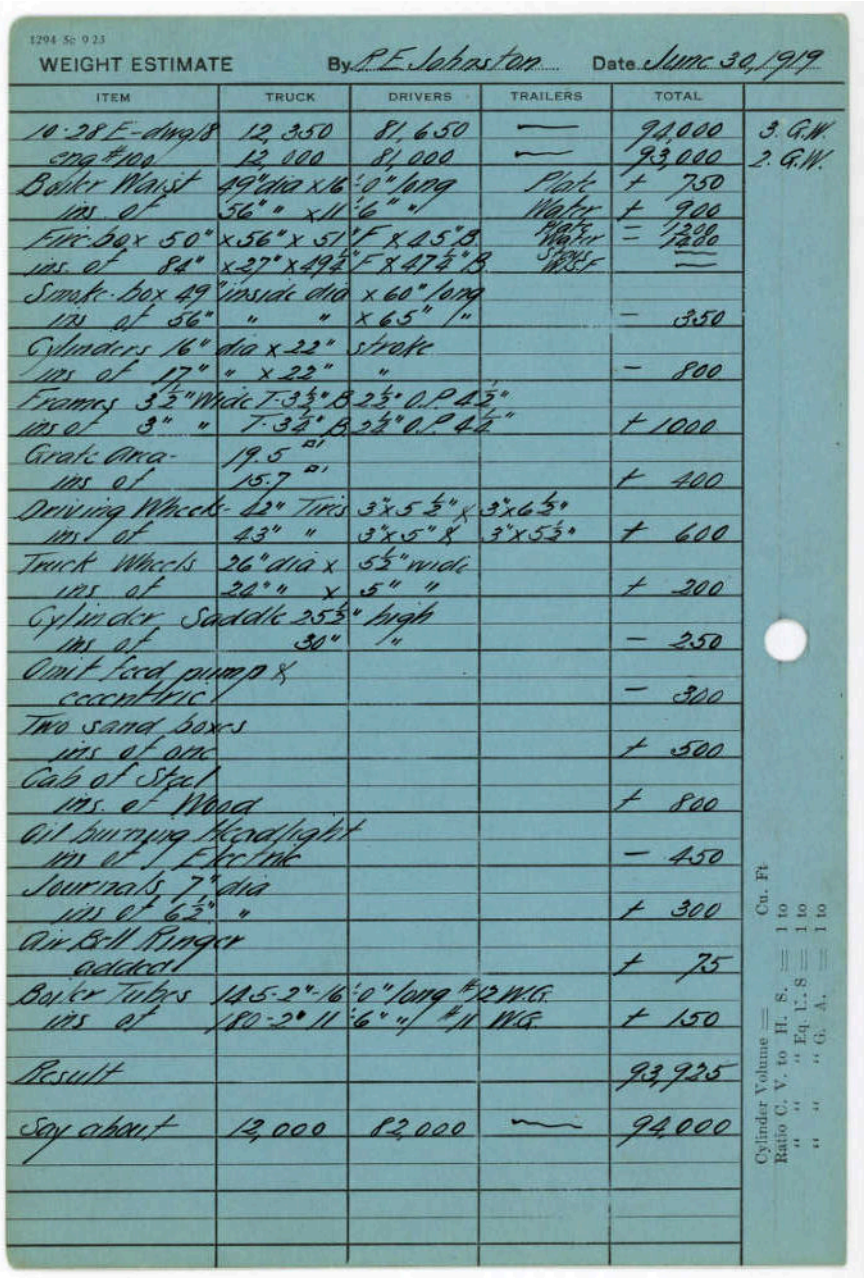
Background

Metre gauge. Destination railway unknown. This enquiry was made to the Baldwin Locomotive Works, whose speculative development card (for want of a better term) is illustrated below.

2-8-0 d/w 42", cyls. 16x22", proposed by Baldwin in 1919

Enquiry from Chandler & Co. for Bolivia. Intended customer not known.





1294 Sc 923

WEIGHT ESTIMATE By R E Johnston Date June 30, 1919

ITEM	TRUCK	DRIVERS	TRAILERS	TOTAL	
10-28 E-dwg 8	12,350	81,650	—	94,000	3. G.W.
eng #100	12,000	81,000	—	93,000	2. G.W.
Boiler Waist	49" dia x 16'-0" long		Plate	+ 750	
ins of	56" " x 11'-6" "		Water	+ 900	
Fire box 50"	x 56" x 51" F x 45" B		Water	= 1200	
ins of 84"	x 27" x 49½" F x 47½" B		Space	—	
Smoke box 49"	inside dia x 60" long				
ins of 56"	" " x 65" "			− 350	
Cylinders 16"	dia x 22"	stroke			
ins of 17"	" x 22"	"		− 800	
Frames 3½" Wide	T-3½" B 2½" O.P 4½"				
ins of 3" "	T-3½" B 2½" O.P 4½"			+ 1000	
Grate area	19.5 □'				
ins of	15.7 □'			+ 400	
Driving Wheels	63" Tires	3" x 5½" x	3" x 6½"		
ins of	43" "	3" x 5" x	3" x 5½"	+ 600	
Truck Wheels	26" dia x	5½" wide			
ins of	20" " x	5" "		+ 200	
Cylinder	Saddle 25½"	high			
ins of	30"	"		− 250	
Omit feed pump &					
eccentric				− 300	
Two sand boxes					
ins of one				+ 500	
Cab of Steel					
ins of Wood				+ 800	
Oil burning Headlight					
ins of Electric				− 450	
Journals 7" dia					
ins of 6½" "				+ 300	
Air Bell Ringer					
added				+ 75	
Boiler Tubes	125-2"-16'-0" long # 12 W.G.				
ins of	180-2" 11'-6" " # 11 W.G.			+ 150	
Result				93,925	
Say about	12,000	82,000	—	94,000	

Cylinder Volume = Cu. Ft.
Ratio C. V. to H. S. = 1 to
" " " Eq. L. S. = 1 to
" " " G. A. = 1 to

7.5 Appendices

7.5.1 Baldwin erecting drawings of Bolivian 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	
170-21X		Bolivian Government	1262	1919	10-26¼D	148	2-6-2	CS	32x70
170-21X		Bolivian Government	1262	1919	10-26¼D	148	2-6-4	SE	32x69
362-12BX	12542	Huancayo a Ayacucho	**5-6**	1927	12-28¼E	39-40	2-8-2	CS	26x66
671-14	2154	Huanchaca	**2-3**	1891	04-14C	101-102	0-4-0	SE/CS	3
675-14	3586	Huanchaca de Bolivia	**64-65**	1900	10-24½E	96-97	2-8-0	SE/CS	3
466A-77	4231	Guaqui a Paz	**2-3**	1902	08-22D	269-270	2-6-0	SE/CS	3

7.6 Index of locos by builders

Works no.	Year	Wheels	Gauge	Owner and number and name	Section
				AEG	
3508	1927	2-8-2	Metre	Ex *EFS* **200**, later to *EFBB* **200**	7.1.9
3508	1924/7	2-8-2	Metre	Ex *EFCdB / EFSPRG / EFS*?, later to *EFBB* **201**	7.1.9
				ALCo	
41130	1906	2-8-0	Metre	Bolivia Railway Co. **1** later **401**, later to *ENFE* **606**	7.1.2
41131	1906	2-8-0	Metre	Bolivia Railway Co. **2** later **402**, later to *ENFE* **607**	7.1.2
41132	1906	2-8-0	Metre	Bolivia Railway Co. **3** later **403**, later to *ENFE* **608**	7.1.2
41133	1906	2-8-0	Metre	Bolivia Railway Co. **4** later **404**, later to *ENFE* **609**	7.1.2
41215	1906	2-6-0	Metre	*FC Guaqui La Paz* **4 'HUAYNA POTOSÍ'**	7.1.1
44424	1909	2-8-0	Metre	Bolivia Railway Co. **5** later **405**, later to *ENFE* **610**	7.1.2
44425	1909	2-8-0	Metre	Bolivia Railway Co. **6** later **406**, later to *ENFE* **611**	7.1.2
44426	1909	2-8-0	Metre	Bolivia Railway Co. **7** later **407**, later to *ENFE* **612**	7.1.2
44427	1909	2-8-0	Metre	Bolivia Railway Co. **8** later **408**, later to *ENFE* **613**	7.1.2
49685	1911	2-8-0	Metre	*FC Guaqui La Paz* **6 'ILLIMANI'**	7.1.1
51181	1912	2-8-0	Metre	*FC Guaqui La Paz* **7 'ILLAMPU'**	7.1.1
62608?	1921	4-6-0	Metre	Ex *EFP / RVC*, later to *EFBB* **4**	7.1.9
63471	1922	2-8-2	Metre	Ex *EFS* **226**, later to *EFBB* **226**	7.1.9
63472	1922	2-8-2	Metre	Ex *EFS* **227**, later to *EFBB* **227**	7.1.9
63477	1922	2-8-2	Metre	Ex *EFS* **231**, later to *EFBB* **231**	7.1.9
64214	1923	2-8-2	Metre	*FCVA* **1**, later *FCPST* **1**, later *ENFE* **655**	7.1.7
64215	1923	2-8-2	Metre	*FCVA* **2**, later *FCPST* **2**, later *ENFE* **656**	7.1.7
65937	1924	2-8-2	Metre	*FCVA* **3**, later *FCPST* **3**, later *ENFE* **657**	7.1.7
73776	1945	4-8-4	Metre	Ex *EFNdB* **621**, later to *ENFE* **851**	7.1.2
73777	1945	4-8-4	Metre	Ex *EFNdB* **622**, later to *ENFE* **852**	7.1.2
73778	1945	4-8-4	Metre	Ex *EFNdB* **623**, later to *ENFE* **853**	7.1.2
				Avonside	
2049	1930	2-8-0	Metre	*FC Guaqui La Paz* **8 'SAJAMA'**	7.1.1
				Baldwin	
?	1883	2-6-0	Metre	Ex *RSM*?, later to *EFBB* **7**, later to *ENFE* **510**	7.1.9
8215	1886	2-4-2	Metre	Ex *FCAB/SC* **33** later **351**	7.1.2
10998	1890	0-6-2ST	2' 6"	Ex *FCAB* **46**, later to Huanchaca Co. **1**	7.2.4
12404	1892	0-4-0ST	2' 6"	Huanchaca Co. for Playa Blanca works 2, then at Pulacayo **2 'VICUÑA'**	7.2.4
12405	1892	0-4-0ST	2' 6"	Huanchaca Co. for Playa Blanca works 3, then at Pulacayo **3 'HUANCHACA'**	7.2.4
13997	1894	0-6-0ST	2' 6"	Huanchaca Co. **5**?	7.2.4
14301	1895	0-4-0ST	2' 6"	Huanchaca Co. for Playa Blanca works **4**, then at Pulacayo **4 '?'**	7.2.4
18727	1901	2-6-0	Metre	*FC Guaqui La Paz* **1 'GENERAL PANDO'**	7.1.1
20642	1902	2-6-0	Metre	*FC Guaqui La Paz* **2 'La PAZ'**, later *FCVA* **8**, later to *ENFE* **501**	7.1.1
20643	1902	2-6-0	Metre	*FC Guaqui La Paz* **3 'COCHABAMBA'**, later *FCVA* **9**,	

				later to *ENFE* **502**	7.1.1
24034	1904	4-6-0	Metre	Ex *FCNA* **11**, later *FCNGU* **223**, later to *FCYSC* **223**	7.1.10
24034	1904	4-6-0	Metre	Ex *FCNA* **12**, later *FCNGU* **224**, later to *FCYSC* **224**	7.1.10
24034	1904	4-6-0	Metre	Ex *FCNA* **13**, later *FCNGU* **225**, later to *FCYSC* **225**	7.1.10
25029	1905	4-6-0	Metre	Ex *FCCN* **211**, later to *FCYSC* **211**	7.1.10
25030	1905	4-6-0	Metre	Ex *FCCN* **212**, later to *FCYSC* **212**	7.1.10
25045	1905	4-6-0	Metre	Ex *FCCN* **213**, later to *FCYSC* **213**	7.1.10
25046	1905	4-6-0	Metre	Ex *FCCN* **214**, later to *FCYSC* **214**	7.1.10
25070	1905	4-6-0	Metre	Ex *FCCN* **215**, later to *FCYSC* **215**	7.1.10
25076	1905	4-6-0	Metre	Ex *FCCN* **216**, later to *FCYSC* **216**	7.1.10
25078	1905	4-6-0	Metre	Ex *FCCN* **218**, later to *FCYSC* **218**	7.1.10
25079	1905	4-6-0	Metre	Ex *FCCN* **219**, later to *FCYSC* **219**	7.1.10
25095	1905	4-6-0	Metre	Ex *FCCN* **222**, later to *FCYSC* **222**	7.1.10
51870	1919	2-6-2T	Metre	*Ramal a Corocoro* **1**, later *FCALP/SB* **104**, later to *ENFE* **506**	7.1.3
?	1921	2-8-0	Metre	Ex *RVC*, later to *EFBB* **5**,later to *ENFE* **618**	7.1.9
55294	1922	2-6-0	75cm	*Luz y Fuerza* **8 'SIMON I. PATIÑO'**, later to *FCCSC* **5**	7.2.2
64619	1942	2-10-2	Metre	*SFY* **1**, then *FCVA* **10**, later to *ENFE* **704**	7.1.7
64620	1942	2-10-2	Metre	*SFY* **2**, then *FCVA* **11**, later to *ENFE* **705**	7.1.7
64621	1943	2-10-2	Metre	*SFY* **3**, then *FCVA* **12**, later to *ENFE* **706**	7.1.7
64622	1943	2-10-2	Metre	*SFY* **4**, then *FCVA* **13**, later to *ENFE* **707**	7.1.7
73068	1946	2-10-2	Metre	*FCVA* **14**, later *FCALP/SB* **111**, later to *ENFE* **708**	7.1.7
73069	1946	2-10-2	Metre	*FCVA* **15**, later *FCALP/SB* **112**, later to *ENFE* **709**	7.1.7

Beyer Peacock

5617	1913	0-6-2+0-6-2	Metre	Bolivia Railway Co. **51** later **451**	7.1.2
5618	1913	0-6-2+0-6-2	Metre	Bolivia Railway Co. **52** later **452**	7.1.2
5619	1913	0-6-2+0-6-2	Metre	Bolivia Railway Co. **53** later **453**	7.1.2
5620	1913	0-6-2+0-6-2	Metre	Bolivia Railway Co. **54** later **454**	7.1.2
5621	1913	0-6-2+0-6-2	Metre	Bolivia Railway Co. **55** later **455**	7.1.2
5622	1913	0-6-2+0-6-2	Metre	Bolivia Railway Co. **56** later **456**	7.1.2
6524	1928	4-8-2+2-8-4	Metre	*FCAB/SB* 41 **'CHOCOLOQUE'** later **390**, later to *ENFE* **909**	7.1.2
6525	1928	4-8-2+2-8-4	Metre	*FCAB/SB* **42 'ILLAMPO'** later **391**, later to *ENFE* **901**	7.1.2
6526	1928	4-8-2+2-8-4	Metre	*FCAB/SB* **43 'KOSUNA'** later **392**, later to *ENFE* **902**	7.1.2
6550-9	1929	4-8-2+2-8-4	Metre	*FCCC* **1511-20** (3 on loan to *FCAB/SB* during WW2)	7.1.2
6570	1929	4-6-2+2-6-4	Metre	*FCMBA* **101** (On loan to *FCAB/SB* during WW2)	7.1.2
6571	1929	4-6-2+2-6-4	Metre	*FCMBA* **102** (On loan to *FCAB/SB* during WW2)	7.1.2
7420	1950	4-8-2+2-8-4	Metre	*FCAB/SB* **393 'HUAYNA POTOSÍ'**, later to *ENFE* **903**	7.1.2
7421	1950	4-8-2+2-8-4	Metre	*FCAB/SB* **394 'SAN VICENTE'**, later to *ENFE* **904**	7.1.2
7422	1950	4-8-2+2-8-4	Metre	*FCAB/SB* **395 'ILLIMANI'**, later to *ENFE* **905**	7.1.2
7423	1950	4-8-2+2-8-4	Metre	*FCAB/SB* **396 'TUNARI'**, later to *ENFE* **906**	7.1.2
7424	1950	4-8-2+2-8-4	Metre	*FCAB/SB* **397 'SAJAMA'**, later to *ENFE* **907**	7.1.2
7425	1950	4-8-2+2-8-4	Metre	*FCAB/SB* **398 'TRES CRUCES'**, later to *ENFE* **908**	7.1.2

Borsig

5686	1905	0-4-0T	75cm	*Luz y Fuerza* **1 'CHORILLOS'**, later to *FCCSC* **1**	7.2.2
7739	1911	0-4-0T	75cm	*Luz y Fuerza* **2 '?'**, later to *FCCSC* **2**	7.2.2
8113	1911	2-6-0	75cm	*Luz y Fuerza* **3 '?'**, later to *FCCSC* **?**	7.2.2
8465	1912	0-6-0T	75cm	*Luz y Fuerza* **4 '?'**, later to *FCCSC* **?**	7.2.2
8466	1912	0-6-0T	75cm	*Luz y Fuerza* **5 'CLIZA',** later to *FCCSC* **?**	7.2.2
8743	1913	2-6-0	75cm	*Luz y Fuerza* **6 'ANIBAL CAPRILES'**, later to *FCCSC* **6**	7.2.2
8742	1913	2-6-0	75cm	*Luz y Fuerza* **7 '?'**, later to *FCCSC* **7**	7.2.2
11846	1925	2-8-2	Metre	*FCVA* **3**, later to *ENFE* **658** or **660**?	7.1.7
11847	1925	2-8-2	Metre	*FCVA* **4 'MARISCAL SUCRE'**, later to *ENFE* **659**	7.1.7
11955	1927	2-8-0	Metre	*FCVA* **7 'MANONA SUZA'**, later to *ENFE* **602**	7.1.7
11956	1927	2-10-2	Metre	*FCVA* **6 'SUIPACHA'**, later to *FCALP/SB* **105**, later *ENFE* **703**	7.1.7
12144	1929	2-8-0	Metre	*FCVA* **5**, loaned to *FCALP/SB* **105**, later to *ENFE* **?**	7.1.3
12147	1929	2-8-0	Metre	*FCALP/SB* **106**, later to *ENFE* **603**	7.1.3
12148	1929	2-8-0	Metre	*FCALP/SB* **107**, later to *ENFE* **604**	7.1.3
12149	1929	2-8-0	Metre	*FCALP/SB* **108**, later to *ENFE* **605**	7.1.3
14591	1935	4-8-2	Metre	Ex *EFNdB* **710**, later to *ENFE* **805**?	7.1.2
14593	1935	4-8-2	Metre	Ex *EFNdB* **712**, later to *ENFE* **806**?	7.1.2
14595	1935	4-8-2	Metre	Ex *EFNdB* **714**, later to *ENFE* **807**?	7.1.2
14596	1935	4-8-2	Metre	Ex *EFNdB* **716**, later to *ENFE* **808**?	7.1.2

Couillet

871	1887	0-4-0TT	75cm	*Transports des Bois de Teinture* **'El PORVENIR'**, later to Pulacayo for Huanchaca Co.?	7.2.3

Groupment d'Exportation des Locomotives en Sud-Amerique (*GELSA*)

Schneider

4943	1952	2-8-4	Metre	Ex *EFCdB* **1453**, later to *EFBB* **1453**, later to *ENFE* **555**	7.1.9

Fives Lille

5246	1952	2-8-4	Metre	Ex *EFCdB* **1455**, later to *EFBB* **1455**, later to *ENFE* **556**	7.1.9

Cail

4481	1952	2-8-4	Metre	Ex *EFCdB* **1456**, later to *EFBB* **1456**, later to *ENFE* **557**	7.1.9

Haine St. Pierre

1420	1923	2-8-2	Metre	Ex *EFS* **232**, later to *EFBB* **232**	7.1.9
1421	1923	2-8-2	Metre	Ex *EFS* **233**, later to *EFBB* **233**	7.1.9
1422	1923	2-8-2	Metre	Ex *EFS* **234**, later to *EFBB* **234**	7.1.9

R. & W. Hawthorn / Leslie

?	1883	2-6-0	Metre	Ex *EFMeR*, later to *EFBB* **6**, later to *ENFE* **509**	7.1.9
2947	1912	2-8-2	2' 6"	Ex *FCAB* **165**?, then to Huanchaca Co. **5**	7.2.4

Henschel

11713?	1913	2-6-0	Metre	*FCALP* **30** later *FCALP/SB* **101**, later to *ENFE* **503**	7.1.3
11716?	1913	2-6-0	Metre	*FCALP* **33** later *FCALP/SB* **102**, loaned to *FCCSC*, later to *ENFE* **504**	7.1.3
11718	1913	2-6-0	Metre	*FCALP* **35** later *FCALP/SB* **103**, later to *ENFE* **505**	7.1.3
12544	1914	2-8-0	Metre	Bolivia Railway Co. **57** later **357**, later to *ENFE* **614**	7.1.2

12545	1914	2-8-0	Metre	Bolivia Railway Co. **58** later **358**, later to *ENFE* **615**	7.1.2
12546	1914	2-8-0	Metre	Bolivia Railway Co. **59** later **359**, later to *ENFE* **616**	7.1.2
12547	1914	2-8-0	Metre	Bolivia Railway Co. **60** later **360**, later to *ENFE* **617**	7.1.2
12748	1914	4-6-2	Metre	Bolivia Railway Co. **33** later **333**, later to *ENFE* **756**	7.1.2
12749	1914	4-6-2	Metre	Bolivia Railway Co. **34** later **334**, later to *ENFE* **751**	7.1.2
12750	1914	4-6-2	Metre	Bolivia Railway Co. **35** later **335**, later to *ENFE* **752**	7.1.2
12751	1914	4-6-2	Metre	Bolivia Railway Co. **36** later **336**, later to *ENFE* **753**	7.1.2
18305	1921	2-8-0	Metre	Bolivia Railway Co. **61** later **361**	7.1.2
18306	1921	2-8-0	Metre	Bolivia Railway Co. **62** later **362**	7.1.2
18307	1921	2-8-0	Metre	Bolivia Railway Co. **63** later **363**	7.1.2
18308	1921	2-8-0	Metre	Bolivia Railway Co. **64** later **364**	7.1.2
18309	1921	2-8-0	Metre	Bolivia Railway Co. **65** later **365**	7.1.2
18310	1921	2-8-0	Metre	Bolivia Railway Co. **66** later **366**	7.1.2
18311	1921	2-8-0	Metre	Bolivia Railway Co. **67** later **367**	7.1.2
20760	1926	0-4-0WTT	Metre	*La Cachuela Esperanza*	7.1.13
21213	1928	4-6-2	Metre	Bolivia Railway Co. **37** later **337**, later to *ENFE* **754**	7.1.2
21214	1928	4-6-2	Metre	Bolivia Railway Co. **38** later **338**, later to *ENFE* **755**	7.1.2
23829	1938	2-10-2	Metre	Ex *EFCdB* **1601-5**, to Bolivia as **842**, later to *ENFE* **701**	7.1.2
23827	1938	2-10-2	Metre	Ex *EFCdB* **1603**, to Bolivia as **843**, later to *ENFE* **702**	7.1.2

Hitachi

12442	1957	2-8-2	Metre	*FCALP* **201**, later *ENFE* **661**	7.1.3
12443	1957	2-8-2	Metre	*FCALP* **202**, later *ENFE* **662**	7.1.3
12444	1957	2-8-2	Metre	*FCALP* **203**, later *ENFE* **663**	7.1.3
12445	1957	2-8-2	Metre	*EFBB* **204**, later *ENFE* **672**	7.1.10
12446	1957	2-8-2	Metre	*FCVA* **205**, later *ENFE* **665**	7.1.7
12447	1957	2-8-2	Metre	*FCVA* **206**, later *ENFE* **666**	7.1.7
12448	1957	2-8-2	Metre	*FCVA* **207**, later *ENFE* **667**	7.1.7
12449	1957	2-8-2	Metre	*FCVA* **208**, later *ENFE* **668**	7.1.7
12450	1957	2-8-2	Metre	*EFBB* **209**, later *ENFE* **671**	7.1.10
12451	1957	2-8-2	Metre	*FCVA* **210**, later *ENFE* **664**	7.1.7
12452	1957	2-8-2	Metre	*FCVA* **211**, later *ENFE* **669**	7.1.7
12453	1957	2-8-2	Metre	*FCVA* **212**, later *ENFE* **670**	7.1.7

Hohenzollern

371?	1887?	0-4-0	Metre	Ex Ladario Naval Base, then to *EFBB* **1**	7.1.9

Hunslet

1102	1912	2-8-4T	Metre	Bolivia Railway Co. **101** later **411**, later to *ENFE* **551**	7.1.2
1103	1912	2-8-4T	Metre	Bolivia Railway Co. **102** later **412**, later to *ENFE* **552**	7.1.2
3384	1948	2-8-0	Metre	*FC Guaqui La Paz* **9 'MURURATA'**	7.1.1
3869	1955	2-8-0	Metre	*FC Guaqui La Paz* **10 'SCORATA'** later **'ANCOHUMA'**	7.1.1

Kerr Stuart

73	1893	0-4-0ST	60cm	Colquechaca and Aullágas mines **'AULLÁGAS'**	7.3.1
74	1893	0-4-0ST	60cm	Colquechaca and Aullágas mines **'COLQUECHACA'**	7.3.1
75	1893	0-4-0ST	60cm	Colquechaca and Aullágas mines **'CONSUELO'**	7.3.1
86	1895	0-4-0ST	60cm	Colquechaca and Aullágas mines **'?'**	7.3.1

87	1895	0-4-0ST	60cm	Colquechaca and Aullágas mines **'La UNIFICADE'**	7.3.1

Kitson

4843	1911	2-8-4T	Metre	Ex *FCAB/SC* **27**, later to *ENFE* **553**	7.1.2
4844	1911	2-8-4T	Metre	Ex *FCAB/SC* **28**, later to *ENFE* **554**	7.1.2
4860	1912	2-8-2	Metre	Bolivia Railway Co. **601** later **409**	7.1.2
4861	1912	2-8-2	Metre	Bolivia Railway Co. **602** later **410**	7.1.2

Krupp

?	1924?	2-8-2	Metre	Ex *EFS*, later *EFNdB* **573**, later to *EFBB* **573**	7.1.9
873?	1924?	2-8-2	Metre	Ex *EFS*, later *EFNdB* **574** or **577**, later to *EFBB* **577**	7.1.9

Lima

2932	1917	2 truck Shay	Metre	*FCLPB* **1 'ING.-TEJADA S.'**, later *ENFE* **507**	7.1.4
2933	1917	2 truck Shay	Metre	*FCLPB* **2 'CARLO PRADO'**, later *ENFE* **508**	7.1.4

Linke Hofmann

3013	1923	4-6-2	Metre	Ex *EFNdB* **424**, later to *EFBB* **424**	7.1.9

North British

17676 or 17683	1907	2-8-2	Metre	Ex *FCCC* 4-8-0, rebuilt to become *FCNGB* **7169**?, later to *FCYSC* **?**	7.1.10
19419	1911	2-8-2	Metre	Ex *FCCN* **791**, later *FCNGB* **791**, later *FCYSC* **791**	7.1.10
?	1911	2-8-2	Metre	Ex *FCCN* **796**, later *FCNGB* **796**, later *FCYSC* **796**	7.1.10
20971-92	1915	0-6-2+0-6-2	Metre	*FCAB/SB* **200-21** (Cancelled order)	7.1.2
21064-71	1914-5	4-6-2	Metre	*FCAB/SB* **?** (Cancelled order)	7.1.2

O&K

3939	1910	0-6-6-0T	Metre	Ex *NWEB* in Germany, *FCPST* **3** or *FCMU* **3**?	7.1.5
3940	1910	0-6-6-0T	Metre	Ex *NWEB* in Germany, *FCPST* **4** or *FCMU* **4**?	7.1.5
5312	1912	0-4-0T	Metre	*FCMU* **5 'LUZ-MILA'**	7.1.8
5311/3	1912	0-4-0T	Metre	*FCMU* **6 '?'**	7.1.8
5392	1913	0-4-0T	Metre	*FCMU* **?**	7.1.8
6521	1914	0-6-6-0T	Metre	*FCMU* **1**	7.1.8
6522	1914	0-6-6-0T	Metre	*FCMU* **2**	7.1.8
6523	1914	0-6-6-0T	Metre	*FCMU* **3**	7.1.8
6524	1914	0-6-6-0T	Metre	*FCMU* **4**	7.1.8
11699	1928	0-10-0	Metre	*FCMU* **10 'LLALLAGUA'**	7.1.8
11771	1929	2-8-2	Metre	*FCCSC* **1**, later to *ENFE* **651**	7.1.6
11772	1929	2-8-2	Metre	*FCCSC* **2**, later to *ENFE* **652**	7.1.6
11773	1929	2-8-2	Metre	*FCCSC* **3**, later to *ENFE* **653**	7.1.6
11774	1929	2-8-2	Metre	*FCCSC* **4**, later to *ENFE* **654**	7.1.6
12064	1929	0-10-0	Metre	*FCMU* **11 'CATAVI'**	7.1.8

Peckett

1086	1906	0-4-0ST	Metre	*FC Guaqui La Paz* **5 'TUNARI'** later **'HUALAYCHA'**	7.1.1

Porter

1398	1892	0-4-0T	2' 6"	Unknown customer in Pulacayo area **1 'PACAMAYO'**	7.4
4908	1911	2-4-0	75cm	*Luz y Fuerza* **3 '?'**, later to *FCCSC* **?**	7.2.2

Rogers

5544	1900	2-8-0	2' 6"	Ex *FCAB* **66 'PORVENIR'**, later to Huanchaca Co. **66**	7.2.4

Sharp Stewart

?	1885	4-4-0T	Metre	Ex *EFUA / EFM*, later to *EFBB* **2**	7.1.9
?	1885	4-4-0T	Metre	Ex *EFUA / EFM*, later to *EFBB* **3**	7.1.9

Robert Stephenson

2449 or 2450	1887	2-4-2-4T	2' 6"	Ex *FCAB* **18** or **19**, later rebuilt 4-6-0, later to Huanchaca Co. **12 'POTOSÍ'**?	7.2.4

Tubize

1963	1923	2-8-2	Metre	Ex *EFS* **240**, later to *EFBB* **240**	7.1.9
1964	1923	2-8-2	Metre	Ex *EFS* **241**, later to *EFBB* **241**	7.1.9

Vulcan Foundry

6170	1954	4-8-2	Metre	*FCAB/SC* **202**, later to *ENFE* **821**	7.1.2
6175	1954	4-8-2	Metre	*FCAB/SC* **206**, later to *ENFE* **822**	7.1.2
6176	1954	4-8-2	Metre	*FCAB/SB* **341**, later to *ENFE* **811**	7.1.2
6177	1954	4-8-2	Metre	*FCAB/SB* **342**, later to *ENFE* **812**	7.1.2
6178	1954	4-8-2	Metre	*FCAB/SB* **343**, later to *ENFE* **813**	7.1.2
6179	1954	4-8-2	Metre	*FCAB/SB* **344**, later to *ENFE* **814**	7.1.2
6180	1954	4-8-2	Metre	*FCAB/SB* **345**, later to *ENFE* **815**	7.1.2
6181	1954	4-8-2	Metre	*FCAB/SB* **346**, later to *ENFE* **816**	7.1.2
6182	1954	4-8-2	Metre	*FCAB/SB* **347**, later to *ENFE* **817**	7.1.2
6183	1954	4-8-2	Metre	*FCAB/SB* **348**, later to *ENFE* **818**	7.1.2
6169	1954	4-8-2	Metre	*FCAB/SB* **349**, later to *ENFE* **820**	7.1.2
6168	1954	4-8-2	Metre	*FCAB/SB* **350**, later to *ENFE* **819**	7.1.2

Vulcan Iron Works

2806	1918	2-8-0	Metre	*FCPST* **1** later **5**	7.1.5
2993	1919	2-8-0	Metre	*FCPST* **2** later **6**, later *ENFE* **601**	7.1.5
4296	1941	2-6-0	Metre	*FCCSC* **101**, then *EFBB*, later to *ENFE* **511**	7.1.6
4297	1941	2-6-0	Metre	*FCCSC* **102**, then *EFBB*, later to *ENFE* **512**	7.1.6
4298	1941	2-6-0	Metre	*FCCSC* **103**, then *EFBB*, later to *ENFE* **513**	7.1.6
4299	1941	2-6-0	Metre	*FCCSC* **104**, then *EFBB*, later to *ENFE* **514**	7.1.6
4528	1944	2-6-0	Metre	*FCMU* **12**	7.1.8
