

RUNNING OUT OF STEAM

WESTERN CHINA'S INDUSTRIAL
RAILWAYS IN TRANSITION

3 - 17 MARCH 2014

REPORT BY DUNCAN COTTERILL



A
RAIOGRAPHY
PRODUCTION

RUNNING OUT OF STEAM

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cover photo :

SY1581 climbed away from Baiyin with the 18:15 passenger to Shenbutong on 5 March 2014.

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INTRODUCTION

This was another trip conceived around a visit to the narrow gauge railway at Rongshan in northern Sichuan. When it became clear that Rongshan wouldn't be running we thought about calling the whole trip off but decided to go anyway, extending our planned visit to Baiyin and adding a few days at the Xibei Tiehejinchang line north of Yaojie as well. As usual, I was joined by Sun Xiaolan and Peter Breeze.

HOME TO BAIYIN

Mon 3 to Tue 4 March 2014

Flights from the UK to China were with Finnair via Helsinki and were uneventful. We met up with Xiaolan at Beijing Airport and took a lunchtime flight to Lanzhou, meeting our driver there. After checking into the Wansheng Hotel in the west of Baiyin, there was plenty of time to get to the lineside to see the 18:15 Baiyin Xinzhan to Shenbutong train leave town behind SY1581. So far so good.

SY1581 approached Dongchanggou with the 15:15 Baiyin - Shenbutong passenger on 5 March 2014.



BAIYIN MINERAL RAILWAY

Tue 4 to Sun 9 March 2014 and
Fri 14 to Sat 15 March 2014



The main attraction at Baiyin is the railway operation of the Baiyin Non-ferrous Metals Company. As well as shunting operations at the many factories in the east of the city, the system includes a steeply graded 19km branch that runs north into the hills, serving a lead/zinc smelter at Sanyelian and a copper mine at Shenbutong.

There's a workers-only passenger service from Baiyin Xinzhan, in the city centre, to the mine at Shenbutong. Unusually the coaches at Baiyin are steam heated and trains must be steam hauled when heating is required. A diesel is used at other times.

A permit is required by foreign visitors. This allows access to the yard and locomotive depot at Gongsi, on the north-eastern edge of the city, and the branch to Sanyelian and Shenbutong but not Shenbutong station or any of the mines or factories themselves. Foreigners are not permitted to ride the passenger trains. Security is tight and we were regularly checked up on during our visit. Our permit cost RMB200 per person per day from the Transportation Division Security Office of the BNMC, located on the south side of Silong road on the 5th floor of the first block east of the junction with Gongyuan Road in the city centre.



After seeing the 18:15 train go out behind steam on the 4th, it was a surprise to find the DF7G diesel on the front of the 07:50 train the following morning. There was an SY on the back but it was only providing steam heating and not working itself. Enquiries at the control office at Baiyin Gongsi revealed that there had been a last minute failure of one of the two SYs booked to work the train and the diesel had substituted. SY1470 was later seen at the depot under repair. We were assured that this was a one off and subsequent trains would be steam hauled. We were also told that the morning train was

above : DF7G5183 worked the daily copper ore empties north towards Shenbutong on 8 March 2014 and was photographed south of Liugongli. In steam days this train was usually 13 wagons long but the DF7G regularly handled 20 wagons.

previous page : SY1581 left Liugongli with empties from Sanyelian on 9 March 2013.

normally worked by two SYs because it's more heavily loaded than the other trains, it was critical that it arrived on time as it carried office workers in addition to mine workers and the rails were more likely to be slippery in the morning. The Shenbutong trains have been strengthened from six to

seven coaches following the cancellation of the Sanyelian passengers last year. Reading between the lines it appears that the morning train had struggled during a heavy snowfall a few weeks earlier and a second loco had been added to prevent a recurrence. Sure enough, the 15:15 and 18:15 trains to Shenbutong were worked by SY1581 on the 5th and the same loco worked all three trains on the 6th, with SY1047 assisting at the rear of the 07:50 train. We met a Chinese photographer on the afternoon of the 5th who told us that

steam was scheduled to finish on the passengers on 15 March.

So it was a great disappointment to find the GKD1A diesel on the 07:50 passenger on the morning of the 7th, this time with no SY on the back to heat the stock. Back at the control office at Gongsi, we were informed that it had been decided to switch to diesel working earlier than planned as the weather was milder than normal for the time of year and coal costs were a concern. For the remainder of our time at Baiyin, every

passenger train was worked by the GKD1A diesel. We later learned that the usual plan is to use steam on the passengers from 15 November to 15 March every year and the staff we spoke to expected that steam would be used again next winter.

Fortunately the end of steam on the passengers didn't mean the end of steam working altogether. The line only has two operational diesels, GKD1A0206 and DF7G5183. The GKD1A was only used on the passengers, despite having plenty of time between the morning and afternoon trains to do other things. The DF7G worked a train of 20 side tippers up to the mine at Shenbutong on most mornings, returning around lunchtime, but didn't seem to do much else unless there was a very heavy train to be moved. That left the steam locos to handle most of the shunts around Gongsi and trips to Liugongli and Sanyelian. After disgracing itself on the 5th, SY1470 was seen shunting on the 6th but by the 8th it was cold on shed and wasn't used again before we finally left on the 15th. The other two serviceable steam locos, SY1047 and SY1581, were kept quite busy. The aerial ropeway that normally brings ore to

SY1047 shunted ore wagons at the north end of the Sanyelian smelter on 7 March 2014.



Sanyelian seemed to be out of action and ore was being delivered by rail, which could mean up to three trips a day to the upper part of the Sanyelian site, all steam hauled. A single SY had to work much harder dragging four loaded ore wagons up the hill than working a seven coach passenger and one ten wagon train brought both locos, one at each end, down to walking pace. There were no trains to the lower part of the Sanyelian site during our visit but the siding at Liugongli received a few wagons on Friday 7th and a lot more on Friday 14th and Saturday 15th.

Both active SYs were facing chimney-first uphill when they worked the morning passenger on the 6th but SY1047 was turned soon afterwards and SY1581 followed within a couple of days of the passenger going diesel. With both locos being tender first uphill, the Liugongli workings were useful in providing the opportunity to get a chimney first loco working, rather than just drifting downhill. We were also lucky in that a couple of trains returning from Sanyelian were held at Liugongli and had to restart from there.

In addition to the locos mentioned above, SY0965 was being overhauled in the

workshop at the depot, SY1583 was parked in the compound at the back of the shed when we arrived but was back in the shed by the time we left. The compound is usually used to store locos awaiting overhaul and it may be that the problems with SY1470 required SY1583 to be made available again in its place. Also at the depot, accident damaged SY0612 is still in the compound behind the shed, SY0819 has joined the long dumped JS8021, SY0135 and SY0139

in the compound adjacent to the depot and SY1067, previously at the North West Copper plant, is dumped near the entrance gate and appeared to be being used as a source of parts. SY1013 and SY2008 (really SY0701) are now dumped in the compound 500m south east of the depot along with long dumped JS8082, JS8224 and JS8350.

GKD1A0206 worked the 15:15 Baiyin Xinzhan - Shenbutong passenger north from Baiyin Gongsu on 8 March 2014.



HONGLU ALUMINIUM WORKS

Orange GK1C424 was seen propelling wagons into the Honglu Aluminium plant in the north west of Baiyin on the 15th. The sign outside actually reads Hanlu but all references on the web, including links to industry websites, are to Honglu Aluminium.

BAIYIN MAIN LINE

On three days we visited the Baiyin Xi - Changzheng/Honghui branch in the middle of the day, when the light on the mineral railway was difficult and the train crews were usually having lunch. Every train seen was hauled by a DF8B diesel, including the daily 5-coach passenger from Lanzhou, the first time I can recall seeing one of these big freight diesels on a passenger train. Freight traffic was a mixture of coal trains and general freights with a train every one to two hours in each direction. The coal trains were notable for consisting of a random mixture of normal coal wagons (C64, C70 etc) and C63 rotary tippers, instantly recognisable by the yellow panels at the end with the rotating coupler.

At 07:25 on the morning of the 14th, a 3-coach train, hauled by a DF5, was seen leaving Baiyin Shi in the direction of Baiyin Xi. It isn't known if this is a regular working but it doesn't appear in the timetable.

DF8B5016 worked away from Baiyin with train 7516/7517, the 08:55 from Lanzhou to Changzheng on 6 March 2014. Freight traffic on the Baiyin Xi to Honghui line is also DF8B hauled.

BAIYIN TO HAISHIWAN

We travelled by road from Baiyin to Haishiwan, west of Lanzhou, by road on the 10th. Our driver took a strange route that involved going cross country from Gaolan, south of Baiyin to Lanzhou Airport and then heading south to the outskirts of Lanzhou and west to Haishiwan. Near the airport we saw construction works for a new high speed line linking the airport to central Lanzhou.

Further west we paralleled the main line from Lanzhou to Xining and saw two passenger trains, one hauled by an HXD3C and the other by an SS7E.



XIBEI TIEHEJINCHANG RAILWAY

Mon 10 to Thu 13 March 2014



This 14km line runs north from a connection with the Yaojie Coal Railway at Yaojie, itself 12km north of Haishiwan on the Lanzhou - Xining main line. The line is owned by, and named after, the Northwest Ferro-Alloy plant (Xibei Tiehejinchang), located at the far northern end of the line, near the town of Liancheng. The line's main customer is the Aluminium Corporation of China (CHALCO), operators of the huge Liancheng Aluminium Smelter and associated power station at Jiangjiaping, around 4km north of Yaojie. The depot is at Hantai, around 3km south of the terminus at Tiehejinchang.

The railway was thought to have dieselised several years ago but pictures of SYs working in December 2013 appeared on the web, prompting us to pay a visit. We had been here before, in 2005, but that was before the diesels arrived, before the recent expansion of the Liancheng Aluminium plant, and while the Ferro-Alloy plant was out of action. We expected it would be busier this time.

Any hopes we had of getting pictures of steam on line work were soon dashed. Trains between Yaojie and Jiangjiaping, the station adjacent to Liancheng Aluminium, were diesel worked using one of the line's



two diesels, DF7G5195 and DF7G5196. Trains north of Jiangjiaping to Hantai and on to Tiehejinchang were steam worked but usually only consisted of a couple of wagons and rarely ran in daylight.

We visited the shed at Hantai on the 10th. SY1321 was in steam, SY0150, SY1402 and

above : DF7G5195 worked a string of empties up the steep grade from Liancheng Power Station to Jiangjiaping on 13 March 2014.

previous page : SY1097 shunted tank wagons at Jiangjiaping on 10 March 2014.

SY3020 were in store in a new building at the depot, which also contained one of the

diesels. The stored SYs were said to be in need of overhaul before they could be used again. SY0633 and SY0737 were dumped outside.

At Jiangjiaping we found SY1097 and DF7G5196, with the SY shunting the yard and working trips to various parts of the aluminium plant. The diesel worked all trains

to and from Yaojie and the diesel and the SY each worked around half the trips to the Liancheng Power Station, just north of Jiangjiaping. The SY would come down from Hantai light engine every morning around 09:30 and return every evening at around 18:30, usually with a couple of wagons in tow, although we were told that it was

sometimes light engine. It is assumed that one of the SYs ran from Hantai to Jiangjiaping later in the evening, shunted overnight and then returned north in the early morning.

The evening working to Hantai was due to leave just after the sun had dropped below the hills but departed an hour early one day when there was no more shunting required. Unfortunately we only had a couple of minutes notice of this and barely had time to position ourselves for a departure shot, let alone get a few km up the line into the good scenery.

There was a glimmer of hope that we might get a train on the 13th and we decided to stay until then in case it materialised. The operator at Hantai seemed fairly certain it would run and, although nobody else seemed to know about it, nobody said it wouldn't run.

In the meantime all we had to occupy ourselves was the shunting at Jiangjiaping. Fortunately the loco faced north and all the shunting was done at the north end of the yard so there were some reasonable shots

SY1097 shunted the yard at Jiangjiaping on 13 March 2014 with the Liancheng Aluminium Smelter in the background.



to get until late morning and again from mid afternoon. All the loco crews, shunters, track workers and operators we met were exceedingly friendly and helpful but our presence seemed to be a concern to the aluminium works management despite the fact we never attempted to enter the premises and were quite open about what we were doing.

On the afternoon of the 12th a couple of managers came from the plant to check us out. Although they weren't unfriendly and seemed satisfied that we were only interested in the SY, it seemed a good idea not to hang around too much longer. We returned to Jiangjiaping on the morning of the 13th, hoping to find the anticipated

freight was running but nobody knew anything about a train. After getting a few more shots of the SY shunting during the morning it was time to return to Baiyin.

YAOJIE COAL RAILWAY

Our 2005 visit had concentrated on this 12km line from Yaojie to a connection with the CR Lanzhou to Xining line at Haishiwan. The line was 100% steam worked at the time but it dieselised a short time later. A long southbound coal train was seen leaving Yaojie for Haishiwan behind one of the line's DF7G diesels on the 10th. Google Earth shows what appears to be an SY dumped at

the south end of the shed but we didn't manage to check it out.

YAOJIE TO BAIYIN

On the 13th our driver didn't take the obvious route back to Baiyin either, heading north east through pleasant hilly country to Yongdeng, on the Lanzhou - Wuwei line. This was a good move as it avoided using the congested Yaojie - Haishiwan road with its appalling broken surface. We then went well out of our way via Lanzhou Airport and cross country to Gaolan. A passenger train hauled by an HXD3C was seen south of Yongdeng.

BAIYIN TO BEIJING

On the 15th, we returned to Lanzhou Airport by road and took an evening flight back to Beijing with Air China.

SY1097 returned to Jiangjiaping light engine after shunting the power station on the morning of 13 March 2014.



BEIJING RAILWAY MUSEUM

Sun 16 March 2014



A



left : DF8 0001 is one of the latest prototypes to arrive at the museum.

previous page : ND5 0049 and DF4 4040, a DF4C, attracted plenty of visitors.

arguably one of the three most significant locomotives in Chinese railway history, alongside the JF and the QJ.

It's a few years since we last visited the museum and it's clearly now extremely popular with the locals. The museum was busier than it used to be a few years ago and most visitors seemed to be families with their little horrors running up and down between the locos, screaming, tugging at any levers they could get hold of and even throwing lumps of ballast at the exhibits. While it's good to see people interested in railways, it's a pity that they don't treat historical artefacts with a bit more respect.

We took a taxi to the museum as it wasn't straightforward to get there by public transport and wondered how easy it would be to find another taxi to take us on to the centre from such an out of the way location. In the event it was very easy as the road junction outside the main gate seems to be a popular spot for taxi drivers to take a break and there were dozens to choose from.

On the 16th we visited the Beijing Railway Museum in the north-eastern suburbs of the city. The collection of locomotives has expanded greatly over the last few years although there are no new steam locos present. Some significant gaps remain in the steam collection, such as the absence of a JS(B), notable for being the last practical development of steam in the country. The lack of an SY, for decades the principal power on industrial lines across the country,

is also regrettable. On the modern traction side a few major gaps have been filled with the arrival of class 8K and 8G electrics, DF, DF4C and ND4 diesels as well as both variants of classes ND5 and DF7D. There are also two NY6 hydraulics and a similar NY5 but no NY7. Prototypes and one-offs feature heavily among the new arrivals with DF8 0001, DF4C 4001, DF4DJ 0001 and part of the DJJ2 unit now on site. Perhaps the most glaring omission is of a DF4B,

BEIJING MAIN STATION

16 March 2014

After our visit to the museum we spent just over an hour at the Dongnan Jialou, the old watchtower overlooking the approaches to Beijing station. HXD3C electrics were very much in evidence along with their older SS9G and SS8 sisters and a solitary HXD3. A DF4B was seen on empty stock workings, the only one seen on the entire trip. Other empty stock workings were handled by DF4C and DF7B diesels. A DF11 departed on K215 to Tumen, the only revenue service that was diesel hauled. Several CRH5 high speed EMUs were seen on services to or from the Shenyang direction.



BACK HOME

17 March 2014

We travelled home on Finnair from Beijing to Helsinki and then back to the UK, an uneventful journey except for an hour's delay leaving Helsinki for London.

above : the old order : DF4 6382 worked empty stock away from Beijing on 16 March 2014.

right : the new order : HXD3 0672 (Toshiba/Dalian) and HXD3C 0116 (Bombardier/Dalian) passed outside Beijing station on 16 March 2014.



COMMENTS & CONCLUSIONS

At first sight this trip might appear to have been a disaster: only three different steam locos were photographed working in two weeks, the Baiyin passengers went diesel early on and there was no steam line work on the Tiehejinchang line. The weather was too warm for exhausts on several afternoons and, while it wasn't cloudy very often, it was

never really clear either. However, I'm actually quite pleased with what I got. There weren't many photos, let alone many good photos, but enough shots were sufficiently different to those I've done before to make the trip worthwhile. It was certainly hard work for meagre rewards but that's the way it is in most of China these days.

Reality is that there's not much steam left and the number of lines that would provide more photo opportunities than Baiyin and Tiehejinchang can be counted on the fingers of one hand, with a couple of fingers to spare. Going to Sandaoling, Pingzhuang or Fuxin would have been options but were unlikely to produce anything better than we got in November. It seemed better to stick with what we'd got and make the most of it.

Four days felt like too long for what was on offer at Tiehejinchang but several of the best shots were taken on the last morning so maybe it was just long enough. I doubt I'll be going back unless there's some certainty of steam on line work. There are some really nice locations north of Jiangjiaping but they need fairly long trains to do them justice.

Baiyin was surprisingly good after the passengers had gone diesel with almost as many steam workings on offer, albeit only going as far as Liugongli or Sanyelian and usually tender first uphill. Not ideal by any means but a lot better than nothing. I'd like to go back to Baiyin but would need to be reasonably sure that the passengers would be steam before committing to a trip.

SY1581 restarted a train of empties from Liugongli on 14 March 2014.



It was difficult to understand why Baiyin operated the way it did. There were times when the diesels sat idle for hours while the steam did all the work and periods when the SYs sat idle for hours while the diesels did all the work. Nothing really changed when the passengers went diesel, the GKD1A just swapped duties with SY1581. I would have expected there to be some sort of preference for one form of traction or the other based on suitability for the task to be performed, fuel or operating cost, public image etc but there didn't seem to be.

With steam in short supply, the diesels and electrics added interest for me, if not for my colleagues. Baiyin and Tiehejinchang both use DF7Gs built by Feb 7th Works but 5195 and 5196 at Tiehejinchang have 2008 plates while lower numbered 5183 at Baiyin carries 2009 plates. I had also got the impression that there were more diesels at Baiyin but we only saw two and the supervisor at the depot confirmed that there only were two.

On the main line the inexorable rise of the HXD3C continues with examples seen everywhere we encountered an electrified main line. It's difficult to understand why China has opted for a 10000HP freight machine as it's principal main line passenger locomotive, with the result that diesels have to be used for hundreds of km under the wires as the 120km/h limited HXD3Cs can't keep time on many expresses.

On the other hand, the decline in DF4B numbers continues. The branch from Baiyin Xi to Chengzheng used to be solid DF4B but every train we saw was DF8B worked this time, including the daily passenger. The only DF4B seen in use was working empty stock at Beijing and, to my surprise, was a Datong built machine, not thought to be the most dependable of the class.



Feeling peckish in Baiyin? - try Baijia Beef Noodle on Yejin road or the restaurant next door on the left.

As usual, when it get difficult on the lineside, a good meal helps put things right. On previous trips to Baiyin we'd struggled with the food but this time our local driver found us a good noodle place for breakfast, with an excellent restaurant next door for evening meals. They're both on Yejin Road on the east side of Baiyin, about 2km from Gongsi.

After two weeks of insipid local beer (the more it costs, the less taste it has) a visit to the Paulaner Bräuhaus, adjacent to Langmaqiao metro station in Beijing, was a must. At RMB66 for a half litre the beer's not cheap but it's proper German beer and worth every fen after two weeks drinking fizzy water masquerading as beer.