# Modern Traction in China

Feb-Mar 2007

by
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## 1) Yunnan Tielu (Feb 9th to Feb 13th 2007)

(TB)

Railway operation around Kaiyuan

- $DF_{21}$ and $DFH_{21}$ share freight duties between Kunming and Kaiyuan. Coming from Kunming, three short trains are combined at Yiliang to one long train.
- At Xiaolongtan, an open cast coal mine is situated. There is a very frequent single headed rail coal shuttle between here and the power plant in Kaiyuan. The $DFH_{21}$ used run in both cab first and hood first (on other sections they are always used cab first and turned at the terminal stations.).
- Kaiyuan is terminal destination for numerous freight trains as it is a big industrial city with chemical plants, a refinery and several big factories. A large freight yard is situated north of Kaiyuan, most freights terminate here.
- South of Kaiyuan, only $DFH_{21}$ can be seen. Freight trains work hourly or so. Almost all trains branch off at Caoba and continue to Yugoupu. On the Hekou line, a handful of trains goes to Bisezhai (maybe as few as one or two per day...) but it is unclear whether there is any traffic south of Bisezhai. Trains coming from Yiliang are split at Kaiyuan again and continue southwards in two parts. Due to a pass just south of Kaiyuan with heavy grades, even the splitted trains have to be double headed. It may also happen, that trains are banked as far as Data.
- At Yuguopu, a large yard is reached. The branch lines to Mengzi and Guanjiashan are served by several trains a days. Trains to Guanjiashan are usually very short.
- Trains to Jijie usually are double headed due to 25‰ grades just west of Yugoupu. West of Jijie, the traffic is also spare with only very few trains.
- The former 600mm line from Jijie to Gejiu no longer operates, tracks have been dismantled, but some 600mm tracks, the depot, shed, and water columns still exist at Jijie station. The line never had been regauged to 1000mm!
- Passenger trains no longer operate. In the timings printed in the timetable (one turn only Kaiyuan-Xiaolongtang-Baoxiu-Xiaolongtan-Kaiyuan) now a “1-wagon-freight train” (one box car) operates as a pax substitute (all passenger coaches had been sold to Burma in summer 2006...). Between Yiliang and Kaiyuan, there seems to have been timetable alterations. The mixed train to Panxi/Yiliang leaves Kaiyuan around 17:00 (probably arrives Yiliang in the next morning). Around Kaiyuan, only some railway workers use these trains. It may happen that police may try to not let foreigners board these trains ... (due to so called “security reasons”, ... as usual...)
- Builder dates of the $DFH_{21}$ show no clear builder sequence. It also remains unclear how many $DFH_{21}$ have been built. Highest number reported on the Yunnan Tielu is $DFH_{21}$ 104.

| | | |
|---|---|---|
| $DF_{21}$ | 0003, 0007, 0008, 0009, 0010 | 5 |
| $DFH_{21}$ | 003, 015(1983), 018, 021, 022(1983), 023, 027(1984), 029, 032, 033(1979), 035, 036(1978), 041, 043(1984), 045, 046(1978), 049, 050(1984), 052, 057(1979), 063, 066, 067, 068, 069, 071(1983), 072, 073, 077(1984), 079, 080, 081, 082, 083(1984), 084, 085(1984), 087, 088, 089, 090(1983), 092, 093(1984), 095, 098(1979), 101, 102 | 46 |

**2) Kunming-Nanning (Feb 14 th 2007)**
(TB)

The morning was spent around Yiliang Bei station. Nothing new to report.

| | | |
|---|---|---|
| $SS_{7C}$ | 0122 | 1 |

**3) Beijing (Feb 15 th, 17 th, 20th, Feb 23rd , Feb 25th , Mar 7th)**
(TB,FM)

Most observations were made from Beijing ancient City Wall Monument which allows a great view into Beijing main station. Entrance fee is 10Y, opening hours daily from 08:00 to 17:30. Light is best before 10:30 for departing trains.
The "small" BJ (3xxx series) as well as the $NY_7$ are in use for empty stock movements as for a fair number of overnights trainsets, there seems to be no stabling space in Beijing. These trains are hauled by the BJ and $NY_7$ to several stations in the outskirts of Beijing, e.g. the Beijing-Hefei to Shahe, Beijing-NanjingXi to Huangtudian on the northern ring line. Others stock, e.g. Beijing-Fushun K95/K96 become the daily train from Beijing to Huairou L821/L822 ($DF_4$ hauled). The DF11Z hauled the Beijing-Rizhao train.
Shunting is performed by two $DF_{7C}$ and $DFH_5$ 0368. Also of interest is that a number of additional "Spring Festival trains" from the east was hauled by Tangshan based $SS_1$ – a rare sight in Beijing main station now with almost exclusively $SS_{9G}$s in charge when speaking about electrics…

| | | |
|---|---|---|
| BJ | 2003, 3117(BJ), 3149, 3224(BJ), 3287(BJ) | 5 |
| $DF_4$ | 0540, 0693(HRB,DI/84), 2212(TS), 2250(TS,DI/90), 2255(TS,DI/90), 2406(TS,DI/93), 2531(TS,DI/95), 2595, 9321(HRB) | 9 |
| $DF_{4C}$ | 0003, 4259(FT), 4260 | 3 |
| $DF_{4D}$ | 0030, 0038(BJ,DI/97), 0041(BJ), 0053, 0054(BJ), 0065, 0109(BJ,DI/97), 0112, 0114, 0116(BJ,DI/97), 0118(BJ,DI/97), 0131(BJ), 0137(BJ,DI/97), 0138, 0155(BJ,DI/98), 0156(BJ,DI/98), 0355 | 17 |
| $DF_{4DK}$ | 3026, 3112(BJ), 3148, 3150 | 2 |
| $DF_{4DH}$ | 4157, 4159 | 2 |
| $DF_7$ | 0162, 0242, 3020, 3068 | 4 |
| $DF_{7C}$ | 5525(BJ,blue), 5526(BJ,blue), 5612 | 3 |
| $DF_{7G}$ | 5013 | 1 |
| $DF_{11}$ | 0022, 0034, 0072, 0141, 0317(BJ) | 5 |
| $DF_{11G}$ | 0001(SH), 0002(SH), 0003(SH), 0004(SH), 0009(BJ), 0010(BJ), 0023(SH), 0024(SH), 0031, 0032(BJ), 0063(SH), 0064(SH) | 12 |
| $DF_{11Z}$ | 0003 | 1 |
| $DFH_5$ | 0368(BJ) | 1 |
| $NY_7$ | 0012(oou), 0029(BJ) | 2 |
| $NZJ_2$ | 0001(BJ), 0002(BJ), 0003(BJ), 0004(BJ) | 4 |
| $SS_1$ | 448(TS), 552(TS), 585, 0717 | 4 |
| $SS_3$ | 0652, 0655, 6050(FT), 6094(FT) | 4 |
| $SS_8$ | 0004, 0112, 0118, 0121(TS), 0122 | 5 |
| $SS_{9G}$ | 0052(SY,Zz/02), 0059, 0074(BJ), 0083, 0103, 0109, 0111, 0119(SY), 0124, 0161, 0162, 0175, 0178, 0180(BJ), 0185(BJ), 0187(Jinan), 0189 | 17 |

BJ=Beijing , HRB=HuairouBei , TS=Tangshan, FT=Fengtai , SH=Shanghai, SY = Shenyang

Feb 20th : 4449 Beijing Bei 16:37 – Huairou Bei 19:02 ($DF_4$ 0451)

**4) Beijing-Chengde, Xinglongzhen Area (Feb 16th 2007)**
**Beijing Bei – Huairou – Gubeikou (Feb 17 th, 18 th, 20 th , 21st)**
**Beijing – Kangzhuang (Feb 23rd)**
(FM,TB)

Using a rented, private car, Thorge Bockholt, Julien Blanc and I did some linesiding around Beijing. On the Gubeikou/Longhua line, green $DF_4$ hauled all passenger trains, freight trains mostly had $DF_{8B}$s. Nice sections can be found near Shitanglu (close to a drinking water reservoir), around Gubeikou (with the Great Wall as backdrop at several locations) and again in gorge north of Gubeikou with three very large viaducts close to Nandamiao.
The Nankou Pass line has got only very limited traffic today. Operation continues as previously with through trains having a loco at both the front and the end between Nankou and Kangzhuang and reversing at Qinglongqiao. Beijing-bound trains use the eastern, "old" reversing station just beneath the Great Wall, Kangzhuang-bound trains the somewhat newer "western reversing station". The BeijingBei-Shacheng passenger is a sorry sight nowadays: only 4 wagons! One $DF_{4B}$ is more than enough for it. The loco consequently has to run around the train at Qinglongqiao. The Beijing-Moskwa and Beijing-UlanBataar international trains continue to use this line, too. Motive power for the express trains no longer are $NY_7$, but usually $DF_{4C}$ / $DF_{4BD}$ (locos going through to Datong) or $DF_{4B}$ (usually only Beijing-Kangzhuang section).
Beijing Bei station is currently being extended to a 11 (!!).platform station, but the old style station building are supposed to survive the modernization. Qinhuayuan und Qinghe stations still are nice, old style stations offering much flair of past days. Access is easy using the parallel metro line 13. A $DFH_5$ shunts at Qinghuayuan, another one at Nankou.

| | | |
|---|---|---|
| $DF_{4A/B}$ | 0211(1978), 0447(1982), 0451(HRB,Dl/82), 0454, 0483, 0577(HRB,1983), 0606, 0638(HRB), 0651, 0708(HRB), 1283(1986), 1589, 1659, 1660(1989), 1678(HRB,Dl/89), 1861(HRB,Dl/90), 1958(HRB,Dl/91), 2190, 3808, 6097(HRB, Dt/90), 6283, 6284(HRB,Dt/94) | 22 |
| $DF_{4BD}$ | 3649(HRB,Zy/92) | 1 |
| $DF_{4C}$ | 4257(HRB,Dl/96), 4406(HRB, Dl/97), 5012(HRB,Zy/97) | 3 |
| $DF_{8B}$ | 5104, 5105, 5291(HRB,Zy/02), 5293(HRB), 5294, 5302(HRB) | 6 |
| $DFH_5$ | 0051(1978), 0061(HRB,Sf/78), 0157 | 3 |

HRB=HuairouBei

**5) Beijing – Lingqiu (Feb 22nd)**
(FM,TB)

A sunny day was spent around Shidu. A big viaduct can be found just west of Yunjusi. Between Shidu and Yesanpo, the line follows a river valley and crosses it on viaducts (not overly high) twice close to Yesanpo. A big disappointment was that the "big" BJ no longer are used on passenger trains! They seem to have been replaced by $DF_{10F}$ double units. However, these locos are almost as unique as the BJs used to be… Freight traffic was handled by $DF_{4C}$ and $DF_{4DH}$ of Fengtai depot, just as expected.

| | | |
|---|---|---|
| $DF_{4C}$ | 4258(FT,Dl/96), 4402, 4403(FT,Dl/97), 5009 | 4 |
| $DF_{4DH}$ | 0242(FT,Dl/98), 4012, 4013, 4019, 4023, 4024(FT,Dl/99), 4027(FT,Dl/99), 4030(FT,Dl/99) | 8 |
| $DF_{10F}$ | 0002A+B(BJ,Dl/96), 2002A+B(BJ) | 2 |

BJ = Beijing , FT=Fengtai

**6) DaQin Tielu (Feb 23rd)**
(FM,TB)

The DaQin Coal Trunk Line was visited close to the village Haishancai, situated on the Changping-Huairou main road. In this area, the DaQin line has got several medium to big size viaducts and many tunnels, too.
For this line, one word is enough: impressive! 5000-7000t coal trains every 5 minutes! About 50% of trains consist of the special grey-and-yellow DaQin-HighVolume coal gondolas with strengthened couplings. These trains were usually $SS_4$ double-headed. Coal trains with "ordinary" C64 wagons were both single and double headed. They very often have got another $SS_4$ in the middle of the trains at about two thirds of the train length. All trains, both standard and DaQin dedicated wagon consists, can have got a banking $SS_4$, too. So, up to four $SS_4$ can be seen at one single train…
We saw only $SS_4$ in use, but it is expected that the Siemens/Zhuzhou built $DJ_1$ are used here as well.

| | | |
|---|---|---|
| $SS_{4G}$ | 0395(HD), 1018(HD), 6004(HD), 6015(HD), 6016(HD), 6121(HD), 6128(HD), 6154(HD), 7033(HoumaBei), 7075, 7081, 7121(HD), 7150(HD), 7177 | 14 |

HD=Hudong

N701: Beijing 21:13 – Yuanping 05:16 ($DF_{10F}$ 0002 ex Beijing)

**7) Yuanping-Xuanguang CNR & Shenhua Coal Line (Feb 24th 2007)**
(FM,TB)

The electrified CNR single track line Yuanping-Ningwu (Quails Map is incorrect!), part of the BeiTongPu line from Taiyuan to Datong offers a very spectacular section between Shangyangwu 上阳武 and Ningwu 宁武. East of Xuanguang 轩岗, a run-down industrial and mining city with plenty of low-quality lüdians, the line follows a river at the bottom of a very deep gorge. The Xuanguang-Yuanping road is also in the valley providing good access to the railway line.
West of Xuanguang, the line crosses over a range of mountains using numerous dams, tunnels and serpentines and heavy grades. The final kilometres to Ningwu are downhill.
For the whole length of the Yuanping-Ningwu section, the CNR line is paralleled by the double track electrified Shenhua Coal Trunk Line from Shenchi Nan to the harbour at Huanghua. This line, being much newer and designed for heavier trains has a considerably smaller ruling gradient. This means, that numerous long tunnels and large viaducts had to be built. Coming from Huanghua, the Shenhua line crosses the Yuanping-Taiyuan CNR line about 10 km south of Yuanping by means of a long, but not overly high viaduct as the landscpace is flat here. The line passes by Yuanping to the south-west. Some 15 kilometres east of Yuanping, the coal lines crosses over the CNR line again (without rail connection) using a long S-bend-viaduct and begins to climb on the flanges of the slight hills north side of the "valley" whereas the CNR line and the road remain at the bottom of the valley with almost no grade. So, the difference of track levels starts to rise slowly... East of Shangyangwu, the hills turn to mountains, the valley to a gorge. The Shenhua line is situated some 50 m to 60 m above the CNR line here and spans over several side valleys by numerous large viaducts. At manyl locations, both lines can be spotted together. The deepest section of the gorge is reached just around the CNR station Luzhuang 芦庄. The CNR is situated next to river just beneath breathtaking cliff and rock formations, probably around 100 metres high, maybe even higher... Several galleries and tunnels exist, too, also a river bridge where the railway changes from the northern side (Yuanping direction) to the southern side of the river (Xuangang direction). Some 2 km east of Luzhuang, the gorge suddenly ends and gives way to the plains around Xuangang. At the "gorge exit", the Shenhua line has got a very large, curved viaduct coming out of a tunnel. The Shenhua line swings northwards here and

describes a some 10 to 15 km long horseshoe, still gaining height. The CNR line heads westwards towards Xuangang city before also using a horseshoe in westward direction and passing by north of Xuangang city, this time “up on the hill flanges”. There is a coal mine some 2 km east of the city and a large industrial complex west of Xuangang yard. At least one $DF_4$ and one $DF_5$ are based at Xuangang serving the local industries.
Describing the traffic on the Shenhua is quite easy: $SS_4$ hauled loaded or empty coal trains roughly every 10 minutes. Trains are normally single headed, but double heading appears, too. About 80 to 90 % of the locos are Shenhua`s dedicated $SS_{4B}$ locos in blue-and-grey-and-orange livery with their typical, large golden Tielu Sign at the front ends. The remainder of locos are “standard” $SS_{4G}$ in the usual light blue and creme livery. About two thirds of the trains consist of dedicated coal wagons similar to those used on the DaQin Railway, but in grey-and-blue livery.
On the CNR line, number of trains is much lower, but motive power much more exciting: all freight trains are hauled by TaiyuanBei based 8G electrics from Nowotscherkassk. 8Gs are also the major freight power south of Yuanping but seem not to operate north of Ningwu and Shuozhou. Probably between 3 and 5 freight trains per direction can be expected during daylight. Passenger trains are all hauled by Taiyuan based orange $DF_4$ ($DF_{4BK}$). Trains exceeding 7 or 8 coaches (=all trains except for the Taiyuan to Kelan local train) have to be double headed due to the heavy grades between Xuangang and Ningwu...

| | | |
|---|---|---|
| $DF_4$ | 0602, 2295(TY,DI/91), 2532(TY), 2581(TY), 2583(TY), 6353, 6354 | 7 |
| $DF_{8B}$ | 0185 | 1 |
| 8G | 003, 005, 013, 025, 027(TYB), 029, 032(TYB), 033, 034(TYB), 035, 039, 051, 069, 071(TYB), 076(TYB), 077(TYB), 078(TYB), 079(TYB), 083(TYB), 086, 087(TYB), 088(TYB), 093(TYB) | 23 |

TY=Taiyuan , TYB=TaiyuanBei

**8) Taiyuan Area (Feb 25th)**
(TB)

The morning was spent at the river bridges of the three branch lines towards the western suburbs of Taiyuan. All three lines are quite busy and offer $SS_1$ and $DF_4$ both in orange (“juzi”) and green (“xigua”) livery. They also have got passenger trains.
Also of interest is the 4-km-long city passage in Taiyuan. A green fence exists however and “only” 40% of freight trains are $SS_1$ hauled here, some 10% $SS_4$ and $DF_{8B}$, the remainder 8G or $SS_1$-8G combinations.
Just south of Taiyuan main station is the lonely street bridge over the railway which also offers some nice views. Houses are close-by however, so shadows may become a problem.

| | | |
|---|---|---|
| $DF_4$ | 0598, 0647, 2319, 2416, 2532, 2583 | 6 |
| $DF_{8B}$ | 0146 | 1 |
| $SS_1$ | 306, 438, 456, 460, 491, 562, 587, 588, 0677, 0682, 0690, 0721, 0722, 0756 | 14 |
| $SS_{4G}$ | 0405, 0488, 6037, 6041, 7094, 7098 | 6 |
| 8G | 014, 016, 043, 048, 049, 050, 051, 052, 059, 062, 096 | 11 |
| $NYJ_1$ | 4008(TY) | 1 |

**9) Datong (Feb 25th)**
(FM)
As there were no tickets available for the direct train back to Beijing, I returned to Beijing via Datong using an additional night train from Taiyuan to Datong and further on to BJ by bus via expressway as train tickets Datong-Beijing were also not available...

| | | |
|---|---|---|
| 8K | 131(Hudong) | 1 |
| $DF_{4D}$ | 0523(JiningNan) | 1 |

At Beijing, I met up with Jan Schirling and Holger Neumann. Main target for the rest of the trip were systems with industrial electric locomotives in north-eastern China.

Train 2559: BeijingBei 21:13 - Chifeng 07:15

**10) Pingzhuang Open Cast Mine (Feb 26th – Feb 27th)**
(FM,JS,HN)

The Open Cast Mine was busily working during our visit. A loaded coal train, hauled by one the LEW Hennigsdorf built EL2 Bo`Bo` electrics came out of the pit roughly every hour. Shift changes occur at 08:00 and 20:00, but they seem not to affect rail operation. Number of spoil trains is about as high as the number of coal trains. The trains into the hole (which is some 130 m deep by the way) have to pass four reversing stations until reaching the first coal loadings points. For the very bottom of the hole, even a fifth reversing station has to be passed. Some 20 EL2 were seen in use, altogether 34 of them exist according to railway staff. All EL2 builder plates checked and readable proofed, that builder number and loco number are almost identical. EL2 7324 for example has builder No. 17324...
Spoil was tipped only at the spoil tips at the southern and south-western edge of the pit. To get there, trains have two “choices”: either they reverse at station “530” (this is the station at the north-eastern end of the pit only some 5m down in the pit and easily accessible and viewable from the central area. Option two is, that they run through the 180° turn north of “530”, pass the washery and coal unloading station and join the “direct” track from “530” again at a station at the south-eastern end of the hole where the tracks to the tips start. The large “northern tips” north-west of the pit were not used during our visit. Steam is also still alive at Pingzhuang with 15 steam locos still on the roster. Some 5 to 6 SYs do duties inside the open cast mine, e.g. pw trains. Another 3 to 4 locos cover the deep mine duties, which are well described in previous reports. A guide is 100% surplus at Pingzhuang as the most interesting parts of the system are freely accessible. From Pingzhuang city, urban no.1 takes you almost to the brewery (Yanjing Pijiu today, by the way). Bus No.1 also passes Pingzhuang Binguan (128Y/double), the railway station and the bus terminal. Flat fare is 1Y - as usual. Note that bus no1 is a kind of loop line and uses different roads. Just get on the bus and remain seated until you have reached your destination...

| | | |
|---|---|---|
| JS | 1001(oou) | 1 |
| SY | 0210, 0463(oou), 0766, 0798, 0943(ex overhaul), 1025, 1052, 1079, 1085, 1425, 1441, 1487, 1764 | 13 |
| EL2 | 6781(oou), 6785, 6786, 6787, 6788, 7324, 7326, 7327, 7328, 7329(oou), 7331, 7335(oou), 7340(oou), 7341, 7342, 7344, 7346, 7348, 7359, 7360, 7362, 7364, 7366, 7369(oou), 7370 | 25 |

With neither bus nor train tickets available, we had to take taxis from Pingzhuang to Fuxin with taxi change and overnight stop at Chaoyang.

**11) Fuxin Coal Mine (Feb 28th)**
(FM,JS,HN)

The open cast mine closed in 2006. As a result, the complete electric operation was abandoned. Some 30+ electrics are stored in the former electric loco workshop gradually being scrapped. So, Fuxin is 100% steam now, but traffic levels also considerably lower... Some deep mines, however, are still working, e.g. 2 km south-east of Wulong (SY served every 2 hours or so) and the mine at the north-eastern rim of the big hole. Both mines have electric narrow gauge operations. At the latter mine, most of the “main line” has been

dismantled, the passenger service has been suspended. Action only happens inside the mine now, surrounded by a newly built wall. No access is granted by the security posts.

| | | |
|---|---|---|
| YJ | 0403(oou) | 1 |
| SY | 0126, 0540, 0541(oou), 0785, 0849, 0850, 0911, 0941, 0988, 1210, 1319, 1320, 1378, 1395, 1396, 1818 (=1414) | 16 |
| Skoda 21E (Bo+Bo+Bo) | 393(oou), 396(oou), 397(oou), 399(oou) | 2 |
| BoBo (LEW 1949/50) | 6583(oou), 6587(oou), 6624(oou) | 3 |

**12) Fuxin - Shenyang (Mar 1st)**
(FM)

Soft sleeper tickets at 82Y were the only tickets available for the K157 Fuxin 06:08-Shenyang 09:02 train (better than a taxi transfer or standing on the train anyway). All freight trains seen on the Fuxin line had $DF_{4C}$ of Jinzhou depot, passenger trains orange $DF_{4B}$. At a quite recently built coal storage compound south of Ajin, dumped $DFH_5$ 0210 and a working SYs (unidentified) could be observed.

| | | |
|---|---|---|
| $DF_4$ | 1097(JZ), 1701(TL,Dl/89), 2124(SY), 2443(SY,Dl/94), 6074(TL,Dt/90) | 5 |
| $DF_{4C}$ | 4229(JZ), 4365(JZ,Dl/96), 4425(JZ,Dl/97), 4427 | 4 |
| $DFH_5$ | 0210(oou, at Anjin coal storage area) | 1 |

JZ=Jinzhou , TL=Tongliao

**13) Shenyang (Mar 1st , Mar 6th)**
(FM)

Nothing unexpected on CNR tracks around Shenyang: $DF_{4B}$, $DF_{4C}$ and $SS_{4G}$ dominate freight traffic, $SS_9$ and $SS_{9G}$, including some very recent, 2006-built engines in the 020x series, cover many passenger trains.

| | | |
|---|---|---|
| $DF_4$ | 1430, 1508, 1530(Su), 1671(Su), 3292, 6199(Su) | 6 |
| $DF_{4C}$ | 4054, 4057(JL,Dl/92), 4209(JL,Dl/95), 4239 | 4 |
| $DF_5$ | 1168(Su), 1592(SY,Sf/97), 2045(SY,low-nose) | 3 |
| $DF_{7C}$ | 5149, 5152, 5158(Su), 5184, 5187 | 5 |
| $DF_{8B}$ | 5205, 5211(Jinzhou,Zy/01), 5215 | 3 |
| $DF_{11}$ | 0269 | 1 |
| $SS_{4G}$ | 0553, 0624, 7028(Su,Dl/01) | 3 |
| $SS_{9G}$ | 0203(SY), 0205(SY) | 2 |

SY=Shenyang , Su=Sujiatun , JL=Jilin

**14) Fushun Coal Mine & Electric Railway (Mar 1st – 2nd and 8th – 10th)**
(FM,JS,HN)

Five days were spent on the system. Due to bad weather, we covered the complete electric passenger train network during the first two days. Jan and Holger returned later for a second visit.
Of interest:

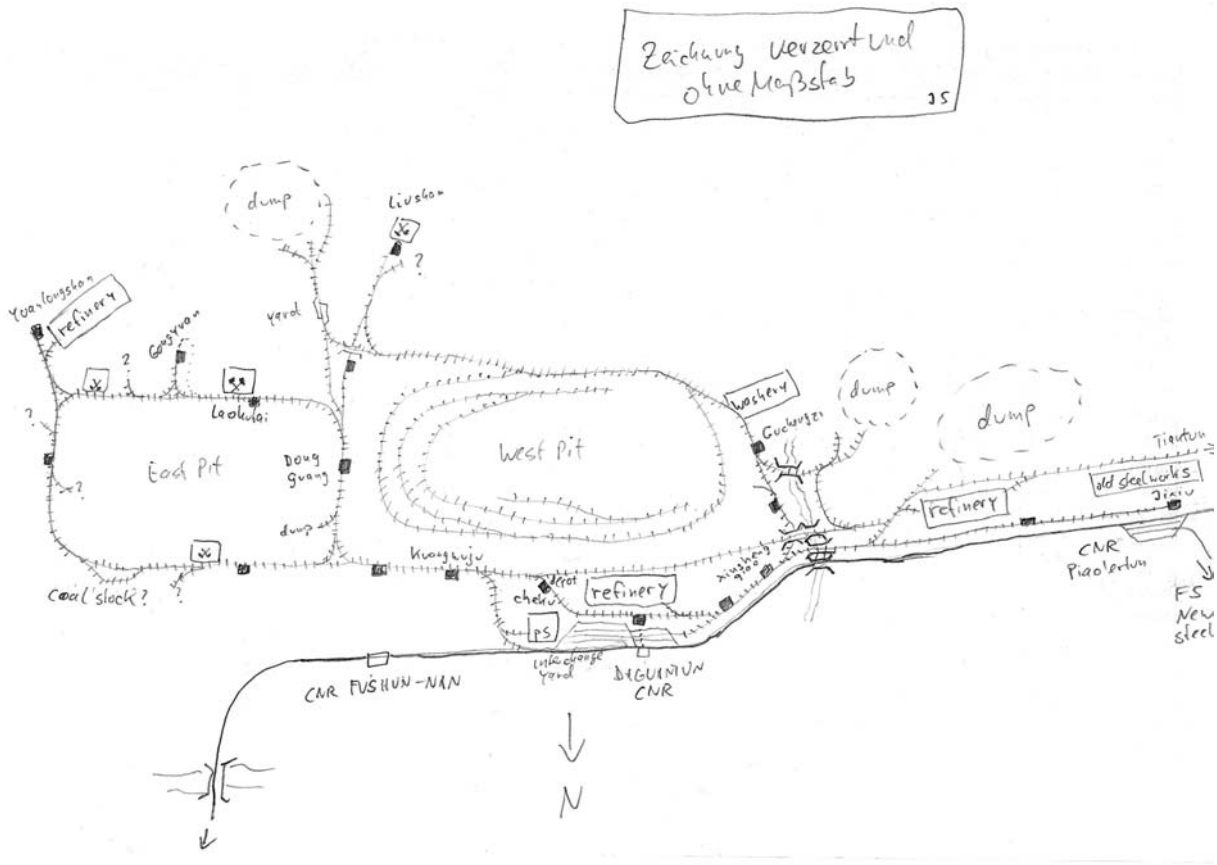
- The electric passenger trains are quite badly patronised, parallel buses overcrowded. Flat fare is 1Y no matter how long the journey.
- There are no longer any passenger services on the line to Tiantun (wrongly named Guchengjie on Quails map). Guchengzi, the terminus of the short branch line south-eastwards from Xinshengqiao is still served by electric trains.

- At Guchengzi, a panorama view platform of the pit for tourists, the coal washery and a large rail yard exist. The coal comes out of the pit via conveyor belt directly to the washery and is loaded into CNR wagons here. These trains are brought to Daguantun CNR yard by one of the electrics. However, spoil is brought out of the pit by the railway.
- At Guchengzi, the access line to the Western Open Cast Mine starts. This line descends into the pit at its southern flange. Fushun`s second open cast mine, the Eastern Open Cast Mine, is 100% lorry based however.
- At Guchengzi, also the tracks to the spoil tips start. According to the city map and GoogleEarth, there are two spoil tips south-west of Guchengzi, but it is not certain whether both are still in use (at least one of them is…). The current main spoil tip is south-east of the Western Pit. It is connected by a double track electric railway to both Guchengzi and Dongguang. The passenger line to Liushan has got no direct connection to the spoil tip lines however though being close-by.
- From Daguantun to Kuangwuju, the central passenger station, two alternate lines exist: the passenger line via the depot ("cheku") is single track with a siding in front of the depot whereas a double-track electrified lines lies more northerly and passes by north of the power plant. Freight trains to the west of the electric railway system use this line.
- Conclusion "Electric rail operation":

1. A big rail customer is the deep mine at Laohutai, the first station east of Donggang. Coal is sent either to CNR Daguantun or the Power Plant east of Daguantun via the electric railway.
2. The spoil of Laohutai deep mine is sent to the OpenCast`s Spoil Tip south-east of the Western Pit. These trains are operated by the OpenCast Railway Division.
3. (External) Coal from CNR Daguantun to the Power Station just east of Daguantun.
4. Coal from Guchengzi washery to Daguantun or the power plant.
5. Spoil from Guchengzi washery to the south-western spoil tip.
6. Biggest rail customer in the west of Fushun is the refinery at Yuanlongshan which receives numerous oil tanker trains a day. They are hauled by electrics to Daguantun CNR. The refinery itself uses GK-diesel for internal shunting. Between Talian and Nantai, these trains can use both alternative routes, so this operation is hard to predict…
7. Products from the refinery just south of Daguantun are shunted into Daguantun yard directly.
8. Products from the western refinerey, situated at the Tiantun line. Destination is Daguantun CNR, too.
9. Additionally, some ash and coal trains in open wagons were seen heading westwards to Tiantun. Their destination remains unclear (maybe the western spoil tip?)

- The rail operation of the Fushun Mining Company is spilt into a couple of divisions. The individual divisions can be separated by means of loco number. Japanese locos for example seem to belong to three different "divisions": 04 and 05 belong to the power station east of Daguantun/north-west of Kuangwuju, 6xx series locos to the "eastern division" (e.g. oil trains for the refinery, coal from Laohutai, but they reach Guchengzi, too) and the 11xx and 12xx to the "western division" (coal from Guchengzi, petrochemical industry west of Xinshengqiao). 15xx series locos (which include Skodas, EL1 and ZG-150) belong to Western Open Cast division. Where the ZG-150 in the 1xx belong to remains unclear however... ZG100/150 615-619 belong to the Eastern Divison and share duties with the 6xx Japanese locos. The names of the "divisons" are assumed only, but railway staff clearly indicated that for example the 6xx and 15xx locos have nothing in common regarding operation.
- Class SY steam locos are still in use hauling pw trains in the Open Cast Pit.

- According to railway staff, the OpenCast Division has got 85 locos: 50 BoBoBo-Skodas and 35 EL1/ZG150. The Skodas were bought second hand from somewhere in Russia. This was confirmed both by staff and the builder plate in kyrillic letters...
- Passenger railcars seen were all 3-coach ones, except for 2-coach-unit 121. All had Riga style exterior except for unit 802, which has got both new interior (plastic seats) and bullet train alike front ends.
- The 180° turn at Gongyuan (some 3 km east of Laohutai) no longer exists. Passenger trains reverse here, freight train use a bypass track along the Eastern Open Pit.
- Recommanded points for visitors are Laohutai, Guchengzi and the city passage between Nantai and Daguantun with numerous great photo spots.




Sketch map by Jan Schirling

**Passenger Timetable, valid as of Mar 5th 2007**
Timings are for Dongguang station.

| south- and eastwards | | | north- and westwards | |
|---|---|---|---|---|
| dep. | destination | | dep. | destination |
| | | | | |
| 06:07 | Talian | | 06:00 | Jixiu |
| 07:28 | Liushan | | 06:08 | Guchengzi |
| 08:38 | Liushan | | 06:42 | Jixiu |
| 08:44 | Yuanlongshan | | 06:47 | Guchengzi |
| 09:15 | Yuanlongshan | | 08:28 | Renku (depot) |
| 15:54 | Gongyuan | | 08:34 | Jixiu |
| 16:32 | Talian | | 14:56 | Jixiu |
| 16:47 | Liushan | | 15:06 | Guchengzi |
| 16:55 | Gongyuan | | 15:40 | Jixiu |

| | | | | |
|---|---|---|---|---|
| 17:54 | Liushan | | 15:51 | Guchengzi |
| 18:12 | Yuanlongshan | | 16:36 | Guchengzi |
| 19:03 | Yuanlongshan | | 17:27 | Jixiu |
| 19:07 | Liushan | | 17:37 | Renku (depot) |
| | | | 18:15 | Jixiu |

remarks regarding the timetable

- all trains shown above call at Kuangwuju some 9 minutes earlier (south- and eastwards) or later (north- and westwards) respectively.
- In addition to the trains shown above there are only 2 further pairs of trains which run to Talian along the northern line. They depart at Kuangwuju about 07:12 and 16:35. These trains continue from Talian back to Fushun along the southern line via Gongyuan and Laohutai. The same is valid for the return trains: the trains 06:07 and 16:32 at Dongguang continue from Talian towards Fushun along the northern line. Note, that the stopping time at Talian is only some 2 or 3 minutes.

| | | |
|---|---|---|
| Japanese | 04, 05, 601, 602, 605, 609, 611, 620, 621, 1134, 1145, 1150, 1154, 1205, 1211, 1213, 1216, 1218, 1220 | 19 |
| ZG100-1500 | 616, 617, 618, 619 | 5 |
| ZG150 | 125, 131, 333, 615, 1505 | 1 |
| Skoda 21E Bo+Bo+Bo | 1507, 1511(3911/59), 1518(3905/59), 1522(4114/60), 1523, 1537, 1540, 1542, 1545, 1546, 1551 | 9 |
| SY | 1327, another unidentified one | 2 |
| electric railcar | 108, 109, 121(2-wagon), 122(?), 801, 802("bullet train design"), 807, 810 | 6 |

**15) Fushun New Steel (Mar 2nd)**
(FM,JS,HN)

Fushun New Steel Steelworks connects to CNR Piao`ertun station. The works itself is some 1.5 kilometres north-west of the CNR station. The former "old" steelworks was just south-east of Piao`ertun, but the blast furnaces have already been dismantled and it is unclear whether the steelworks itself still remains in use. Probably, as a manufacturer of „special steel", they may have electric furnaces or are specialised on further processing, e.g. roling or confectioning of sheet metal.
Fushun New Steel has received 3 orange $GKD_1$ diesels from DLoco (Dalian) leaving 4 SYs and the diesels in service. The busiest point is the publically accessible road crossing south-east of the works. Urban buses 15, 803 and 807 terminate just 250m away.
Somewhere in the industrial complex south of the "old" steelworks, a SY could be heard working, but was not investigated.

| | | |
|---|---|---|
| SY | 0655, 0881, 1202, another one (unidentified) | 4 |
| $GKD_1$ | 0050(DI) | 1 |
| $GKD_{1A}$ | 0073, 0074(DI/06) | 2 |

**16) Benxi (Mar 3rd – Mar 6th)**
(FM)

Few changes here for the last 5 years. Orange $DF_4$ have taken over the former $DFH_3$ duties, and $DF_{4D}$ the former Juzi duties. A big surprise was to see, that the Liaoyang-Benxi secondary line is now partly served by Sujiatun based $ND_5$, but they often combine with $DF_{4B}$ or $DF_{4C}$ as most trains are double-headed. Freight traffic on the Shenyang-Dandong line remains $DF_{4B}$ with a couple of $DF_{4C}$ doing the share.

Note, that the Shenyang-Benxi line is fenced off by the usual green fences, but there are no fences along the branch lines to Liaoyang and Tianshifu as well as along the Benxi-Dandong mainline.

| | | |
|---|---|---|
| $DF_{4B}$ | 1037, 1038, 1044(Su,Dl/85), 1050, 1065(Su,Dl/85), 1068, 1431(Su,Dl/87), 1653(Su,Dl/89), 2184(Su,Dl/88), 2187(Su,Dl/88), 2303(Su), 2491(Su,Dl/94), 2493(Su), 2496(Su,Dl/94), 2497(Su,Dl/95), 6073, 7173(Su,Dl/93) | 17 |
| $DF_{4C}$ | 4306(Su), 5042(Su) | 2 |
| $DF_{4D}$ | 0213(SY,Dl/98), 0245(SY,Dl/98), 0301, 0304(SY), 0438 | 5 |
| $DF_5$ | 1423(Su,orange), 1425(Su), 1468, 1966(low-nose), 2038(low-nose), 2039(low-nose), 5006(Su,orange) | 7 |
| $ND_5$ | 0030, 0300(Su), 0422(Su) | 3 |

SY=Shenyang , Su=Sujiatun

**17) Nanfen Open Cast Ore Mine (Mar 3rd)**
(FM,JS,HN)

At Nanfen, some 25 kilometres south of Benxi, a electrified industrial line connects the CNR station (Benxi-Dandong) to the Iron Ore Open Cast Mine. This mine, also called "Tieshan" (=iron mountain) is situated some 5 kilometres east of Nanfen. The mine itself seems to be lorry-operated (judged by pictures, was not checked by ourselves), but the transport from the mine to the CNR is done by rail. For the first 2 kilometres or so, the double track line is parallel to the open cast access road, situated on its northern side. There is a quite steep grade against trains to the mine, perhaps some 25%o. After some 2.5 km, a 5- or 6-track-yard is reached. Here the depot can be found, too. Another 500m further west, the ore processing plant is entered. Between the open cast mine and the processing plant, there is quite intensive traffic: trains shuttle every 10 to 15 minutes and bring the raw iron ore to the plant. Both uphill and downhill trains have the loco at the front, no pushing happens.
At the western side of the plant, the ore is loaded into rail wagons again. The final 1.5 kilometres to the CNR station roughly follows a river next to the road to Nanfen CNR station. Just next to the CNR station, there is another ("western") ore processing plant which maybe is connected with the first one by means of a conveyor belt (not confirmed however!). There is a steeply graded bypass track around the "eastern" processing plant, too, but it is probably only used by light engine movements.
The ore mine belongs to BenGang (Benxi Steelworks), ore is most probably delivered to Benxi via CNR. Motive power of the system are at least three "standard" ZG100-1500 and a number of rather elderly, Chinese built ZG 80-Bo`Bo` electrics.
Nanfen is easily accessible from Benxi both by means of rail (at least 5 passenger trains a day) or by taxi via expressway in less than 20 minutes. From Nanfen CNR station, take local bus no.36 in order to get to the village next to the open cast mine. There are also direct buses from the OpenCastMine to Benxi. Destination is LuTianKuang 露天矿(= Open Cast Mine ).

| | | |
|---|---|---|
| ZG100-1500 | 1001, 1002, 1003 | 3 |
| ZG 80-1500 | 803, 806, 807, 808, 810, 822 + another unidentified one | 6 |

**18) Waitoushan Ore Mine (Mar 4th)**
(FM,JS,HN)

This electric ore railway is said to have got some 30 electric locomotives. 13 are of German origin: 3 Bo`Bo` of class EL2 (confirmed to be no. 11, 20 and 21) and ten EL1 Bo`(Bo)`Bo` (most probably no. 51 to 60). The remaining locos are Xiangfan built ZG150-1500, Chinese copies of the EL1. Due to heavy snowfalls during our visit, the operation was stopped during

our visit here. So, we cannot add much regarding operation. Just as Nanfen, Waitoushan ore mine also belongs to BenGang.
The passenger shuttle train to the CNR station is more or less in operation as reported previously (unchanged timetable, flat fare 0,5Y, well-cared, old-style coaches as before), but hauled by a EL2. Local staff told us, that the single SY (SY 1012) still exists and is used irregularly, too. It was not in use during our visit, however.

| | | |
|---|---|---|
| EL1 | 51, 54, 56, 57, 59 | 5 |
| EL2 | 11, 20, 21 | 3 |
| ZG150-1500 | 303, 314, 315, 318, 320, 322 | 6 |

**19) Benxi Iron & Steel (Mar 5th and 7th,)**
(FM only 5th, JS,HN)

After merging with Anshan Steelworks, Benxi Steelworks no longer allows visits to the works area, too. However, it is still possible to observe some action at "public places", as the old blast furnaces 1 and 2 are situated at the western side of the Taizihe river, the steelworks on the east side. So, there are molten iron trains roughly every 60 to 90 minutes between these two works, hauled by EL2 electrics and consisting of three or four molten iron wagons with flat cars as space holder in between in order to reduce weight per metre ration on the river bridge. Distance is some 4 to 5 kilometres, half of the line passes through public terrain or immediately next to public streets. Off this track a few branch lines lead to additional industrial sites, e.g. ore mines and ore processing units. One of them is uses an ore funicular, a very rare sight nowadays.
At the blast furnaces 1 and 2, most shunting duties are performed by standard gauge $DFH_{21}$ diesels. Some 1,5 km south of the furnaces, just next to the river, there is also the slag tipping point for furnaces 1 and 2, served by $DFH_{21}$ and situated just next to a public road.

| | | |
|---|---|---|
| EL2 | 1001, 1003, 1006, 1011, 1012, 1015, 1016, 1017 | 8 |
| EL1 | 1512, 1515 | 2 |
| ZG 80 | 8xx (seen at sintering plant of furnaces 1 and 2) | 1 |
| $DFH_{5B}$ | 503(orange), 505(orange,Zy/94) | 2 |
| $DFH_{21}$ | 2101, 2102(Sf/86,orange), 2106(orange), 2107(green), 2108(Sf/85,orange) | 5 |
| $GKD_2$ | 1202(orange) | 1 |
| $GK_{1C}$ | 0631(orange) | 1 |
| $TH_1$ | 507 | 1 |

**20) Beitai Iron & Steel (Mar 5th – 6th)**
(FM,JS,HN)

As in Benxi and Anshan, there is no longer any chance to get permission for the steelworks. All locos seen were inside the works or in the CNR station. At least two SYs were under steam for tipping slag.

| | | |
|---|---|---|
| SY | 0792, 1005(oou), another one (unidentified) | 2 |
| $DF_{10D}$ | 0109(orange), 0110(blue), 0111(blue), 0112(Dl/06,blue) | 4 |
| $GK_{1C}$ | 0204(orange), 0213(orange), 0276(orange), 0341(orange) | 4 |

**21) Gongchangling Iron Ore Mine (Mar 6th)**
(FM,JS,HN)

News:

- The Ore Mines belong to AnGang (Anshan Steelworks) Group, ore goes westwards on CNR track (most probably for Anshan Steelworks).

- Three green $GKD_2$ (=redesigned $DF_{5B}$) diesels have taken over former JS shunting duties at Anping yard leaving just two JS in service.
- In addition to John Agnew`s Map, there is not only a single track electrified line between Anping and Gongchangling parallel to the road, but also the double track line next to the northern side of the valley joins the single track "valley line" at the western entrance of Gongchangling yard.
- In the valley between Anping CNR, where the ore processing plants are situated, and Gongchangling mine station and maybe further on numerous ore mines with electric ng railways serve big loading bins. They dispose the raw ore into standard gauge cars.
- According to railway workers, the electrified double-track line delivers some 600 loaded wagons per day to Anping. With train lengths of typically 10 to 15 wagons, this means some 50 pairs of trains per day or a train roughly every 30-45 minutes. All trains are pulled in and out of Anping.
- Of special interest are the ZG200-1500 BoBo+BoBo electrics. Are there any locos of this type anywhere else in China?
- According to railway staff, most electrics are Chinese built ones. Just loco no. 40 is claimed to be a German one (probably an EL1).
- It may be that the ZG150-1500 in the low series are actually classified as class EG 150. Locos 8 and 45 had the lettered "EG" painted in front of their running numbers and on the builder plate of passing loco 12, there was also clearly lettered "EG 150" as classification.

| | | |
|---|---|---|
| JS | 8044, 8245 | 2 |
| $GKD_2$<br>$DF_{5B}$ | 0032, 0033, 0034 | 3 |
| EG150-1500<br>ZG150-1500 | 8(type EG), 12(type EG-150), 026, 38, 45(type EG), 168, 307, 310, 328, 373, 374 | 11 |
| ZG200-1500 | 001(? both type and number unclear as only seen from distance), 002 | 2 |

**22) Qinhuangdao-Fengrun-Beijing (Feb 18th, Feb 19th, Mar 7th)**
(TB,FM)

Unchanged operation here: $SS_1$ of Fengrun depot (now sub-depot of Tangshan) dominate freight traffic. The $SS_4$ seen probably haul coal trains coming off the DaQin Railway, the most probable explanation for seeing Hudong depot locos as far "east" as at Fengrun.

| | | |
|---|---|---|
| $SS_1$ | 252, 257, 264, 279(TS), 404, 413, 423, 425, 427(TS), 430, 433, 435, 439, 440(TS), 447, 465, 468, 495(TS), 499, 505, 509, 511(TS), 526, 527, 551, 561, 563, 565, 585, 592, 594, 0703, 0805 | 33 |
| $SS_3$ | 0618, 6002, 6036, 6039, 6076, 6082 | 6 |
| $SS_4$ | 0180(HD), 0496(HD), 0791 | 3 |
| $SS_{9G}$ | 0106, 0107, 0120 | 3 |
| $DF_{4B}$ | 1955(1991), 2256, 2314(TS,Dl/92), 2406, 2418, 2595, 3527, 7018 | 1 |
| $DF_{4D}$ | 0025 | 1 |
| $DF_{7B}$ | 6019(orange), 6020(TS,orange) | 2 |
| $DF_{8B}$ | 5144, 5537 | 2 |

TS=Tangshan , HD=Hudong

Dresden, Apr 4th 2007