

ORISSA

ANGUL DISTRICT

INDUSTRIAL SITES

National Aluminium Co, Angul Aluminium Smelter, Angul

ORII01

A **Government of India** undertaking, incorporated in January 1981. Mining commenced in 12/1985 in the Panchpatmali hills in the Koraput district of Orissa. A alumina refinery was commissioned in the Damanjodi valley in Koraput district in 9/1986. The smelter was commissioned in 3/1987. It has a capacity of 345000 tonnes pa.

Reference: www.nalcoindia.com

Gauge: BG

0-6-0DH DLW 1998-9 WDS 6

National Thermal Power Corporation, Talchar Thermal Power Station

ORII02

See entry under **Karimnagar district, Andhra Pradesh** for more details of **NTPC**.

3000MW power station, commissioned in two stages. Stage 1 consists of two 500MW generators commissioned between 2/1995 and 3/1996. Stage two consists of four 500MW generators commissioned between 1/2003 and 2/2005. The coal for the power station is supplied by Lingraj Block of the Talcher Coal Field.

Reference: www.ntpc.co.in

Gauge: BG

B-BDH DLW 1800 1990-91 WDM 2

BALESHWAR DISTRICT

INDUSTRIAL SITES

The Nilgiri Granite and Stone Co Ltd, Balasore-Nilgiri Light Railway

ORII03

The following is an extract taken from the book, Ways of Light Railways, published in Calcutta in 1911.

If it is permissible to make what almost be termed a political observation, it might be said that the Balasore-Nilgiri Light Railway is one of the best examples of efficient and well directed swadeshim that India can boast of. Mr K M Dey & Co, a wealthy Bengalee firm of Calcutta, being proprietors of extensive granite quarries at Nilgiri in Orissa, found that the great demand that had arisen for the stone necessitated a large increase in their staff of miners to enable them to meet it, but with the primitive means at their disposal it was impossible to transport this increased output to the nearest point of the railway sufficiently quickly. The firm therefore decided to construct a short 2'6" gauge railway from the mines to Balsore station on the BNR(East Coast section), a distance of some 13 miles through a country that is largely flat. Sanction having been obtained in due course, construction work was started in August 1908 and the line opened in January 1909. For the present the only commodity transported is granite, but it is probable that sanction will be sought in time to the carriage of passengers and general goods traffic, while the line itself may be extended over the hills, to which it now runs, into the heart of Orissa, a project involving this being under consideration. It is a concern with a future before it and an energetic management should make it a financial success it deserves to be. The two illustrations given depict the locomotive and rolling stock of the line, which have been supplied by OK. The line posses a saloon carriage built in the Howrah workshops of Messers Burn & Co, which is of interest as it shows what excellent workmanship in this line the firm refereed to are capable of turning out of their workshops. The salon has a length over headstocks of 15' 9", a width over solebars of 6'4" and a height of 6'0" from floor to cant rail. It is divided into two compartments, the salon proper and a servants room. The former is upholstered in dark green "pantasote", the floor being covered in green linoleum to match. In one corner a completely fitted lavatory with collapsible

fittings has been installed, while illumination is supplied by single and double candle lamps of EIR pattern. The body of the coach is of Burma teakwood, the inside and outside panels being of mild steel with teak moulding, stained and polished to resemble mahogany. The roof and upper outside panels are painted white with dark brown lining, while the waist panels are painted teak colour, grained and varnished, the whole forming a neat and effective finish. Glass window, louvers and gauze frames are provided. The body is carried on a channel steel underframe upon Messers Burn & Co.'s standard wheels, axles and axleboxes. Taken all round, the salon besides having smart appearance and being excellently constructed, provides for ease and comfort in travelling which it would be difficult to excel in a special gauge carriage.

Two 2'6" gauge OK were supplied to Khetter Mohan Dey. With the evidence of the photographs in the 'Ways of our light railways' article, it is assumed that they were used at Nilgiri Granite and Stone.

Reference: Ways of Our Light Railways

Gauge: 2'6"

| | | | | | |
|--------|-----|------|------|---|------|
| 0-6-0T | O&K | 2683 | 1908 | 1 | 30hp |
| 0-6-0T | O&K | 2684 | 1908 | 1 | 30hp |

- 1 Supplied via Khetter Mohun Dey & Co, Calcutta.

BARGARH DISTRICT

INDUSTRIAL SITES

Associated Cement Co, Bargarh Cement Works, Bardol

ORII04

Hira Cement Works was set up in 1968 by the **Industrial Development Corporation of Orissa Ltd (IDCOL)**. In 1993 it was taken over by **IDCOL Cement Ltd**, a subsidiary of IDCOL. On 22/12/2003, it was sold to **Associated Cement Company**. It has a capacity of 960000 tonnes pa.

Reference: www.orissa.gov.in, www.acclimited.com

Gauge: BG

| | | | | | |
|-------|-----|-----|------|---|--|
| 4wDH | SAN | 250 | 1982 | 1 | |
| 4wDH | SAN | 258 | 1982 | 1 | |
| B-BDH | SAN | 518 | 1997 | 2 | |

- 1 Supplied to Hira Cement Works
- 2 Supplied via IDCOL to Hira Cement Works

Industrial Development Corporation of Orissa Ltd

ORII05

Established on 29/3/1962 by the **Government of Orissa** to establish, promote and execute heavy and medium scale industries in Orissa. It established the following companies (with opening and closing dates in brackets) - **Kalinga Iron Works Ltd** (4/1963), **Ferro Chrome & Alloys Ltd** (11/1969), **Konarak Jute Ltd** (12/1979-2001), **Orichem Ltd** (5/1982-2002), **ABS Spinning Orissa Ltd** (4/1990-2002), **Baripada Spinning Mill** (3/1983), **Sonepur Spinning Mill** (3/1983-8/2001), **Aska Spinning Mill** (3/1983-3/2001), **IDCOL Piping & Engineering Works Ltd** (4/1983-10/1999), **S.N. Corporation Ltd** (1985-23/11/1998), **IDCOL Software Ltd** (11/1998). It also operates at Ferrochrome mines at Tailangi and iron ore mines at Roida C mines.

It also set up the following companies which have now been privatised - **IDCOL Cement Ltd**, **IDCOL Rolling Mills Ltd** and **Hirakud Industrial Works Ltd**. Kalinga Iron Works has now become a wholly owned subsidiary know as **IDCOL Kalinga Iron Works Ltd**.

Reference: IRS 110/4, www.idcorissa.com

Gauge: 2'0"

| | | | | | |
|---------|-----|-------|------|--|------|
| 0-4-0DH | Hit | 12854 | 1966 | | 54hp |
| 0-4-0DH | Hit | 12855 | 1966 | | 54hp |

Gauge: BG

| | | | | |
|---------|--------|-------|------|-------|
| 0-4-0DH | Hit | 12838 | 1965 | 195hp |
| 0-4-0DH | Hit | 12839 | 1965 | 195hp |
| 0-4-0DH | Hit | 12848 | 1966 | 195hp |
| 0-4-0DH | Hit | 12852 | 1966 | 307hp |
| 0-4-0DH | Hit | 12853 | 1966 | 307hp |
| 4wDH | Telco | 094 | | 150hp |
| Bo-BoDH | Ventra | | 2007 | 700hp |
| 4-8-0 | | | | 1 |
| 4-8-0 | | | | 1 |
| 4-8-0 | | | | 1 |
| 4-8-0 | | | | 1 |

1 ex IR, identities unknown

BOLANGIR DISTRICT

INDUSTRIAL SITES

Ordnance Factory Bolangir, Badmal

ORII06

Gauge: BG

| | | | | |
|---------|--------|-----|------|-------|
| Bo-BoDH | Ventra | | 1992 | 700hp |
| 4wDH | SAN | 467 | 1994 | |

CUTTACK DISTRICT

INDUSTRIAL SITES

Aarti Steel Ltd, Ghantikha

ORII07

Gauge: BG

| | | | | |
|------|------|--|--|-------|
| 4wDH | OEPL | | | 800hp |
| 4wDH | OEPL | | | 800hp |

Eastern Coalfields Ltd, Banki Colliery

ORII08

Gauge: 900mm

| | | | | |
|------|-----|----|------|--|
| 4wDM | SAN | 97 | 1977 | |
|------|-----|----|------|--|

Indian Charge Chrome Ltd, Choudwar

ORII09

Company established in 1983 on the site of **Kalinga Tubes Ltd** as **Indian Charge Chrome Ltd**. In 10/2006 it merged with **Indian Metals & Ferro Alloys Ltd** which created the **IMFA Group**. The site has a 108MW power plant.

Reference: www.steelworld.com/interview3.htm, www.imfa.in

Gauge: BG

| | | | | |
|---------|--------|--|------|-------|
| Bo-BoDH | Ventra | | 1993 | 800hp |
| Bo-BoDH | Ventra | | 1993 | 800hp |

Kalinga Tubes Ltd, Choudwar

ORII10

On 1/7/1978 it became a subsidiary of **Indian Metal & Ferro Alloys Ltd** and 1/1/1979 it became amalgamated into Indian Metal & Ferro Alloys Ltd. The site was closed down in the early 1980s. The site was used as the basis for **Indian Charge Chrome Ltd** from 1983. The trade name Kalinga Tubes is now used by **Bhushan Ltd (Steel & Pipe Division)**.

Reference: www.moneycontrol.com/stocks/company_info/company_history.php?sc_did=IMF01

Gauge: BG

4wDM RH 443646 1960 1 48DS

1 Supplied via Martin Burn

JAGATSINGHAPUR DISTRICT

INDUSTRIAL SITES

Paradip Port Trust

ORII11

Paradip Port Trust was created in 1961. It was taken over by the **Government of India** on 1/6/1965 and was opened on 12/3/1966. It has 6.8 kms of route mileage with 55kms of track. It has more than 20 sidings which are capable of holding 58 rakes of BOXN wagons.

Reference: www.paradipport.gov.in

Gauge: BG

| | | | |
|---------|------|--------|--------|
| | BHEL | | 1150hp |
| | BHEL | | 1350hp |
| | BHEL | | 1350hp |
| 0-6-0DH | DLW | | WDS 6 |
| 0-6-0DH | DLW | | WDS 6 |
| 0-6-0DH | DLW | 1996-7 | WDS 6 |
| 0-6-0DH | DLW | 1998-9 | WDS 6 |

JAJPUR DISTRICT

INDUSTRIAL SITES

Ferro Alloys Corporation Ltd, Jajpur Works

ORII12

Established by the **Industrial Development Corporation of Orissa Ltd** in 11/1969. It produces 12000 tonnes of High Carbon Ferro Chrome pa and 8000 tonnes of Low Carbon ferro Chrome pa. It obtains its chrome ore from the IDCOL mine at Tailangi.

Reference: www.idcorissa.com

Gauge: 2'0"

4wDH SAN 359 1986

JHARSUGUDA DISTRICT**INDUSTRIAL SITES****Ultratech Cement, Jharsuguda****ORII13**

A grinding unit set up by **Larsen & Toubro** in 1993. In 2004 Larsen & Toubro sold their cement business to **Grasim Industries**, who renamed the business as **Ultratech Cement**.

Reference: www.ultratechcement.com

Gauge: BG

| | | | | | |
|------|--------|-----|------|---|-------|
| 4wDH | SAN | 456 | 1993 | 1 | |
| 4wDH | SAN | 458 | 1993 | 1 | |
| 4wDH | Ventra | | 1994 | 1 | 335hp |

1 Supplied to Larsen & Toubro Cement.

Orient Paper Mills, Brajarajnagar**ORII14**

Gauge: BG

| | | | | | |
|------|--------|--|------|--|-------|
| 4wDH | Ventra | | 1986 | | 335hp |
|------|--------|--|------|--|-------|

Tata Refractories Ltd, Belpahar**ORII15**

Gauge: 2'0"

| | | | | | |
|---------|-----|------|------|--|----|
| 2w-2PMR | Wkm | 6730 | 1953 | | 8S |
|---------|-----|------|------|--|----|

Gauge: BG

| | | | | | |
|------|-------|-----|--|--|-------|
| 4wDH | Telco | 139 | | | 150hp |
|------|-------|-----|--|--|-------|

KENDUJHAR DISTRICT**INDUSTRIAL SITES****Tata Iron and Steel Co, Steel Division, Joda Iron Mines****ORII16**

Iron ore was discovered at Joda in 1909. Mechanised mining operations with bi-cable ropeway commenced in 1958. In 1965 secondary crushing & wagon loading facilities were commissioned. In 1994 a washing plant with dust suppression & dust extraction system and quick loading facilities were commissioned and a zero discharge slime pond was constructed. A second slime dam constructed with multi discharge point systems was constructed in 2001. A hydrocyclone was commissioned in 2005.

Reference: www.tatasteel.com

Gauge: BG

| | | | | | |
|------|-------|-----|--|--|-------|
| 4wDH | Telco | 118 | | | 150hp |
| 4wDH | Telco | 119 | | | 150hp |
| 4wDH | Telco | 121 | | | 150hp |

IDCOL Kalinga Iron Works Ltd, Barbil**ORII17**

Company established by the **Industrial Development Corporation Orissa Ltd** in 4/1963 as **Kalinga Iron Works** to produce pig iron. A cast iron pipe facility was added in 1983. It has a capacity of 140000 tonnes pa of pig iron and 31200

tonnes pa of cast pipes. It has four blast furnaces, supplied by **Krupp** of Germany. On 31/3/2002, it became a wholly owned subsidiary of IDCOL and was renamed **IDCOL Kalinga Iron Works Ltd.**

Reference: www.idcorissa.com

Gauge: BG

| | | | |
|------|-----|-----|------|
| 4wDH | SAN | 232 | 1981 |
|------|-----|-----|------|

Orissa Mining Corporation Ltd, Barbil Site

ORII18

An organisation set up in 1956 by the **Government of India** to exploit the mineral resources in the state of Orissa. In 1962 it became the responsibility of the **Government of Orissa**. The site at Barbil has iron ore and manganese mines, with a capacity of 750000 tonnes and 150000 tonnes pa respectively.

Reference: www.orissamining.com

Gauge: BG

| | | | |
|------|--------|------|-------|
| 4wDH | Ventra | 2003 | 335hp |
|------|--------|------|-------|

KHURDA DISTRICT

INDUSTRIAL SITES

National Aluminium Industrial Co, Bhubaneswar

ORII19

See entry under **Angul district** for full details. The company headquarters are at Bhubaneswar – it is assumed that the locos were delivered to one of the production sites.

Gauge: BG

| | | | |
|---------|-----|--------|-------|
| 0-6-0DH | DLW | 1998-9 | WDS 6 |
| 0-6-0DH | DLW | 1998-9 | WDS 6 |

Orissa Construction Corporation Ltd, Bhubaneswar

ORII20

A **Government of Orissa** undertaking, established in the 1960s, which carries out river valley projects, bridges, harbours, thermal power stations, industry and railway projects

Reference: www.orissaconstruction.com

Gauge: 2'0"

| | | | | |
|------|--------|-----|------|-------|
| 4wDH | SAN | 289 | 1983 | |
| 4wBE | Ventra | | 1983 | 12½hp |

PRESERVED SITES

East Coast Railway Headquarters, Bhubaneswar

ORIP01

Gauge: 2'6"

| | | | | | | |
|----|-------|----|------|------|---|----------|
| 60 | 2-6-2 | WB | 3227 | 1952 | 1 | ZB class |
|----|-------|----|------|------|---|----------|

1 Supplied to GBSR 60, IR 60.

KORAPUT DISTRICT**INDUSTRIAL SITES****Hindustan Aeronautics Ltd, Koraput****ORII21**

Hindustan Aeronautics Ltd came into existence on 1/10/1964 as a merger of Hindustan Aircraft Ltd, Aeronautics India Ltd and the Aircraft Manufacturing Depot, Kanpur. The unit at Korapat is responsible for building aeronautical engines. Initially it built turbo jet engines for MiG-21 aircraft under licence from the USSR. It later built upgraded MiG-21 and MiG-27 engines. It also overhauls the same engines and those for MiG-29s. It also exports aeronautical engines to various countries. In 2008, it manufactures over 1000 engines and overhauls 4500.

Reference: www.hal-india.com

Gauge: BG

4wDH Telco 098 150hp

PURI DISTRICT**PRESERVED SITES****BNR Hotel, Puri****ORIP02**

Gauge: 2'6"

692 0-6-4T KS 848 1904 1 PL class

1 Supplied to BNR(MSR) 2 BALALABURDA. IR 692.

RAYAGADA DISTRICT**INDUSTRIAL SITES****JK Paper Mills, A division of JK Paper Ltd, Jaykaypur****ORII22**

Established in 1962 by the **JK Organisation** as **Straw Products Ltd**. It is the manufacturing unit for **JK Paper Ltd**. It was remained **JK Paper Mills** after 1975. It has a capacity of 18000 tonnes pa and produces writing and printing paper and paper board.

Reference: www.jkorg.in, www.energymanagertraining.com

Gauge: BG

4wDH SAN 45 1975 1

1 Supplied to Straw Products Ltd.

SAMBALPUR DISTRICT**INDUSTRIAL SITES****Hirakud Dam Railway****ORII23**

A dam built across the Mahanadi river, 15kms upstream of Sambalpur. It was the first post independence river valley project in India. It provides irrigation to the areas around Sambalpur, Bargarh, Bolangir, and Subarnpur. It also has two hydro electric power stations which generate 307.5MW of electricity.

The scheme was first suggested in 1937 after serious flooding of the Mahanadi delta. In 1945 the Government of India gave permission for the scheme to go ahead. The foundation stone was laid 15/3/1946 by the Governor of Orissa. The first batch of concrete was poured by Jawaharlal Nehru on 12/4/1948. The first electricity was generated in 1956 and with full generation being achieved in 1966. The scheme was inaugurated by Nehru on 13/1/1957.

The dam is a earth, concrete and masonry structure. The main dam is 4.8kms long which is flanked by 21kms of earth dykes. At 25.8km long, it is the longest dam in the world. This forms the largest artificial lake in Asia which is 743km² at full level.

Reference: sambalpur.nic.in/hirakud%20dam.htm

Gauge: 600mm

| | | | | | | |
|------|----|------|------|---|---------|--------|
| 4wDM | MR | 8834 | 1943 | 1 | 20/28hp | UNKI21 |
| 4wDM | MR | 8846 | 1943 | 1 | 20/28hp | UNKI21 |
| 4wDM | MR | 8853 | 1943 | 1 | 20/28hp | UNKI21 |

- 1 Supplied via RMP, London via Parry to Dam Project, Hiralub, It is assumed that this is a mis-spelling and that they were actually supplied to Hirakud.

Gauge: BG

| | | | | | | |
|---|-------|----|------|------|---|---------|
| 1 | 2-8-0 | | | | 1 | |
| 2 | 2-8-0 | | | | 1 | |
| 4 | 2-8-0 | VF | 2977 | 1914 | 2 | G class |
| 3 | 2-8-0 | VF | 3696 | 1923 | 3 | G class |
| | 2-6-0 | | | | 1 | |
| | 2-6-0 | | | | 1 | |
| | 2-6-0 | | | | 1 | |
| | 0-6-0 | | | | 1 | |
| | 0-6-0 | | | | 1 | |
| | 0-6-0 | | | | 1 | |

- 1 ex IR, identity unknown.
 2 ex IR I26571. Delivered to BBCIR, 113.
 3 ex IR, 26574. Delivered to BBCIR, 166.

Hirakud Industrial Works Ltd, Hirakud

ORII24

In 11/1962, the **Industrial Development Corporation of Orissa Ltd** took over the Central Workshops of the **Hirakud Dam** project with a view to running it on commercial lines by expanding and modernising it to produce machinery components, structural and transmission line towers for use by Government departments. It was renamed as **Hirakud Industrial Works** on 1/4/1963. It became a subsidiary of IDCOL and renamed **Hirakud Industrial Works Ltd** on 18/1/1993. It took over the **Hira Cable Works**, another IDCOL undertaking, on 1/2/1997. This produces conductor cables for electricity conduction. It was offered for privatisation in 2003.

Reference: www.orissa.gov.in

Gauge: BG

| | | | |
|------|-------|-----|-------|
| 4wDH | Telco | 180 | 150hp |
|------|-------|-----|-------|

Mahanadi Coalfields Ltd, Sambalpur

ORII25

A subsidiary of Coal India Ltd, established on 3/4/1992.

Gauge: BG

| | | | |
|---------|-----|-----|------|
| 0-6-0DH | SAN | 469 | 1994 |
|---------|-----|-----|------|

PRESERVED SITES**DRM Office Sambalpur****ORIP03**

Gauge: 2'6"

679 4-6-2 NBA 18655 1908 1 CC class

1 Supplied to BNR (SL) 0040 , IR 679.

SONEPUR DISTRICT**PRESERVED SITES****DRM Office Sonapur****ORIP04**

Gauge: BG

7581 4-6-2 CLC 2794 1955 1 WP class

1 Supplied to IR, 7581.

SUNDARGARH DISTRICT**INDUSTRIAL SITES****Steel Authority of India Ltd, Rourkela Works****ORII26**

A **Government of India** company. Initially the plant at Rourkela was to be a joint venture between **Hindustan Steel Ltd** and **Krupp** and **Demag** of West Germany however the Indian Government withdrew from this agreement and built the plant themselves. The plant was commissioned in 1959. It became part of **Steel Authority of India Ltd** in 1978. It has one coke oven and four blast furnaces. It produces 1.67m tonnes of sheet, coil and pipe steel pa.

The plant has over 40 locos, 350 wagons and 240km of railway track.

Reference: www.sail.co.in

Gauge: BG

| | | | | | |
|---------|-----|-------|------|---|----------|
| | SSW | 5937 | 1957 | 1 | Coke car |
| | SSW | 5938 | 1957 | 1 | Coke car |
| | SSW | 5939 | 1957 | 1 | Coke car |
| | SSW | 5940 | 1957 | 1 | Coke car |
| 0-4-0DH | Hen | 29787 | 1960 | | DH 240 |
| 0-4-0DH | Hen | 29987 | 1963 | | DH 240 |
| 0-4-0DH | Hen | 29988 | 1963 | | DH 240 |
| 0-4-0DH | Hen | 30586 | 1963 | | DH 240 |
| 0-4-0DH | Hen | 30587 | 1963 | | DH 240 |
| 0-4-0DH | Hen | 30588 | 1963 | | DH 240 |
| | SSW | 6231 | 1964 | 1 | Coke car |
| | SSW | 6232 | 1964 | 1 | Coke car |

1 Supplied via Dr. C. Otto, Bochum [D].

Orissa Cement Ltd, Rajgangpur**ORII27**

A private company established in 1949. In 1954 the company diversified into refractory products. A firebrick plant was commissioned in 1956 and a silica plant was commissioned in 1958. In 1992, a concrete casting plant was added to the cement works.

Reference: www.ocl.in

Gauge: 2'0"

| | | | | |
|------|---------------|---------------|------|-------|
| 4wWE | (Jung (BBC | 12670 5694 | 1956 | 600V |
| 4wWE | (Jung (BBC | 12671 5695 | 1956 | 600V |
| 4wWE | (Jung (BBC | 12672 5696 | 1956 | 600V |
| 6wDM | LKM | 250416 | 1967 | V10C |
| 6wDM | LKM | 250417 | 1967 | V10C |
| 6wDM | LKM | 250418 | 1967 | V10C |
| 4wDH | SAN | 43 | 1975 | |
| 4wDH | Ventra | | 1978 | 125hp |
| 4wDH | Ventra | | 1982 | 125hp |
| 4wDH | Ventra | | 1984 | 125hp |
| 6wDH | Ventra | | 1988 | 335hp |
| 6wDH | Ventra | | 1988 | 335hp |

Gauge: BG

| | | | |
|---------|-----|-----|------|
| 0-4-0DH | SAN | 447 | 1992 |
| 0-4-0DH | SAN | 448 | 1992 |
| 0-4-0DH | SAN | 449 | 1992 |

Tata Iron and Steel Co, Steel Division, Hathibari Limestone Quarry

ORII28

Gauge: 2'0"

| | | | | | |
|---------|-----|------|------|---|--------------|
| 2w-2PMR | EEB | 1901 | 1952 | 1 | 4½hp 2 seats |
| 4wDH | SAN | 360 | 1986 | | |

- 1 Ordered by RMP. Displayed at British Industries Fairs, Castle Bromwich, Birmingham [UK] from 2/5/1952 prior to shipment. Supplied to Hathibari Limestone Quarry

UNKNOWN DISTRICT

INDUSTRIAL SITES

Orissa Mining Corporation Ltd

Thakupari Site

ORII29

Gauge: BG

| | | | |
|------|-------|-----|-------|
| 4wDH | Telco | 126 | 150hp |
| 4wDH | Telco | 131 | 150hp |

Unknown Site

ORII30

Gauge: 2'0"

| | | | |
|------|----|------|------|
| 4wDM | HE | 4190 | 1948 |
| 4wDM | HE | 4191 | 1948 |