

Feasibility Study of New Terminal
Facilities of the Georgian Ports Plan
Survey of the railway installations in the port of Batumi
Annex 10
30 October 1997

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Volume III - Annex 10

Review of Present Facilities under Railway Engineering Aspects

- Batumi -

1 Survey of the railway installations in the port of Batumi

1.1 Level Crossings

Area: Port Access

Level Crossing No. 01

Location: behind switch 64, crossing track 32/33 and 34

Width: 7 m

Sleepers / fastening / ballast

Not noticeable, presumably like tracks 32/33:

Sleepers: Wood and sleepers fastened with nails

Bedding: Mixed soil with pebbles 10/60 mm

Roadway between rails

General Condition

Filling: Between the rails of the tracks: asphalt

Access : From the road side: asphalt, very worn out

The location of track 34 is higher than the tracks 32/33. Whereas the level of the rails of track 32/33 is lower than the crossing roadway. Due to this the surface water of the road runs down into the track area. As a consequence, the track area is silted up in the area joining the level crossing.

General Condition: Poor

Area: Countryside

Level Crossing No. 02

Location: crossing track 34 beside the warehouse

Width: 9 m

Sleepers / fastening / ballast

Not noticeable, presumably like track 34:

Sleepers: Wooden sleepers fastened with nails

Bedding: Mixed soil with pebble

Roadway between rails

General condition

Filling: Between the rails of the tracks: asphalt

Access : From the road side: asphalt, very worn out

The location of track 34 is higher than the level of the crossing roadway. From the port-side the level crossing is equipped one-sided with the following signs: STOP! / Warning cross.

General Condition: Fair

1.2 Switches

Area: Port, Berth 9

Switch No. 60

Form of rail: R50
 Gradient: 1:9
 right / left left
 Switch blade Hinged blade heel

Gauge: Straight rails 1535 mm
 Branch rails 1535 mm

Sleepers / fastening / ballast

| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|----------------|
| Blade area | Wood | Nails | Not noticeable |
| Central part | Wood | Nails | Not noticeable |
| Frog part | Wood | Nails | Not noticeable |

General Condition

The switch is covered up to the top of the head of the rails with asphalt, the parallel area is covered with asphalt as well. The frog part area and the rail joints are moving up and down during a pass over. As a consequence the surface fastening is partly broken. Behind the frog part the switch is bogged down into the ground and there is stagnant water in this area.

General condition: Fair

Area: Port, Berth 9

Picture: Annex - page 01

Switch No. 60a

Form of rail: R50
 Gradient: 1:9
 right / left left
 Switch blade Hinged blade heel

Gauge: Straight rails 1535 mm
 Branch rails 1535 mm

Sleepers / fastening / ballast

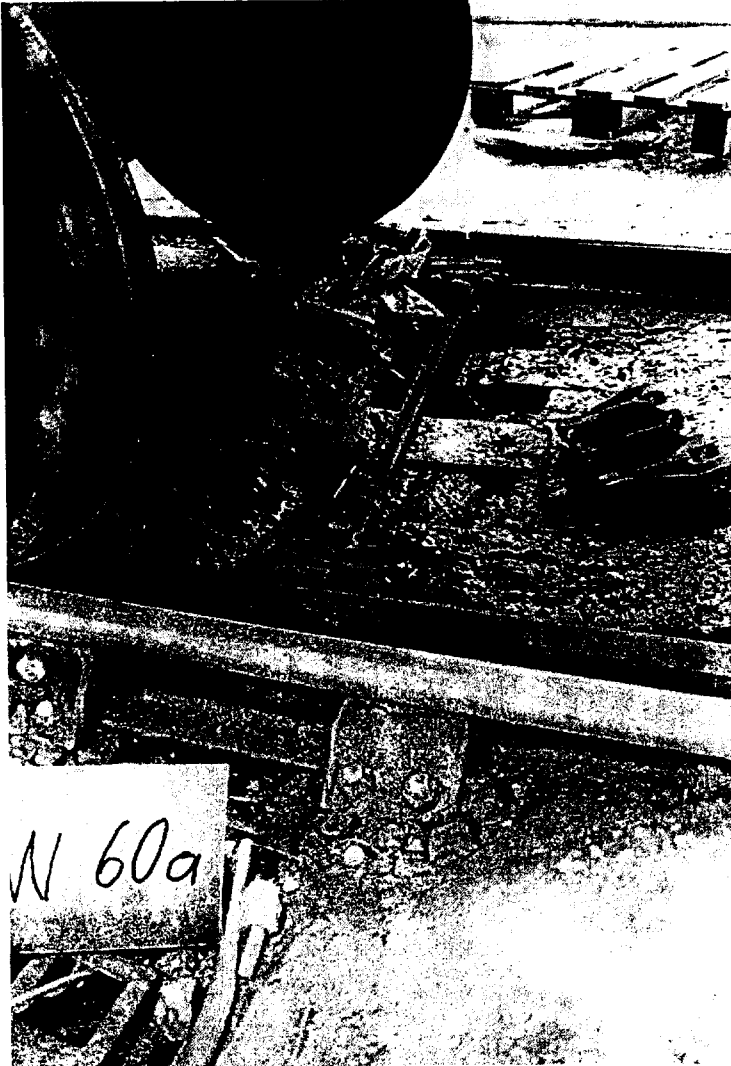
| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|----------------|
| Blade area | Wood | Nails | Not noticeable |
| Central part | Wood | Nails | Not noticeable |
| Frog part | Wood | Nails | Not noticeable |

General Condition

The switch is covered up to the top of the head of the rails with asphalt, the parallel area is covered with asphalt as well. The frog part area and the rail joints are moving up and down during a pass over. As a consequence the surface fastening is partly broken. There is stagnant water in this area. The channel of the switch is silted. Due to traffic the stretcher rod bends. To avoid further bending it was under laid by plates.

General condition: Fair

Switch / Стрелка N° 60a



Area: Port, Berth 6

Picture: Annex - page 02

Switch No. 62

Form of rail: R50
 Gradient: 1:9
 right / left left
 Switch blade Hinged blade heel

Gauge: Straight rails 1525 mm
 Branch rails 1535 mm

Sleepers / fastening / ballast

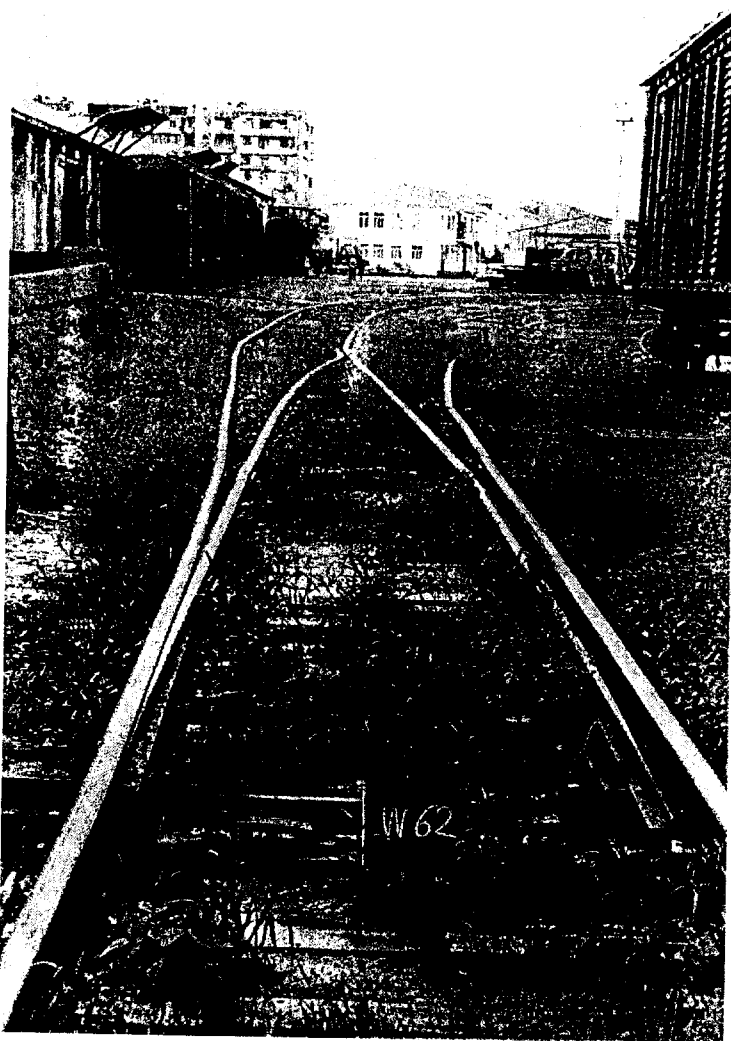
| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|-------------------------|
| Blade area | Wood | Nails | Mixed soil with pebbles |
| Central part | Wood | Nails | Mixed soil with pebbles |
| Frog part | Wood | Nails | Mixed soil with pebbles |

General Condition

The switch turned into a switch with an external arch. It is filled up to the top of the sleepers and overgrown with cabbage. The switch blade lies in the water and is silted. The support holders of the stock rails on the right side are missing. All fastenings are loose. The gauge is supported by holders of flat bar iron. The central sleepers are partly supported by plates. In the frog part area the guard rails are loose. The top of the frog part gets stroked. The switch blade as well as the frog part areas are heavily moving up and down during a pass over. The screwing of the lugs are loose. The joints are acute in the arch.

General condition: Poor.

Switch / Стрелка N° 62



Area: Port Access

Picture: Annex - page 03

Switch No. 64

Form of rail: R50
 Gradient: 1:9
 right / left left
 Switch blade Hinged blade heel

Gauge: Straight rails 1540 mm
 Branch rails 1535 mm

Sleepers / fastening / ballast

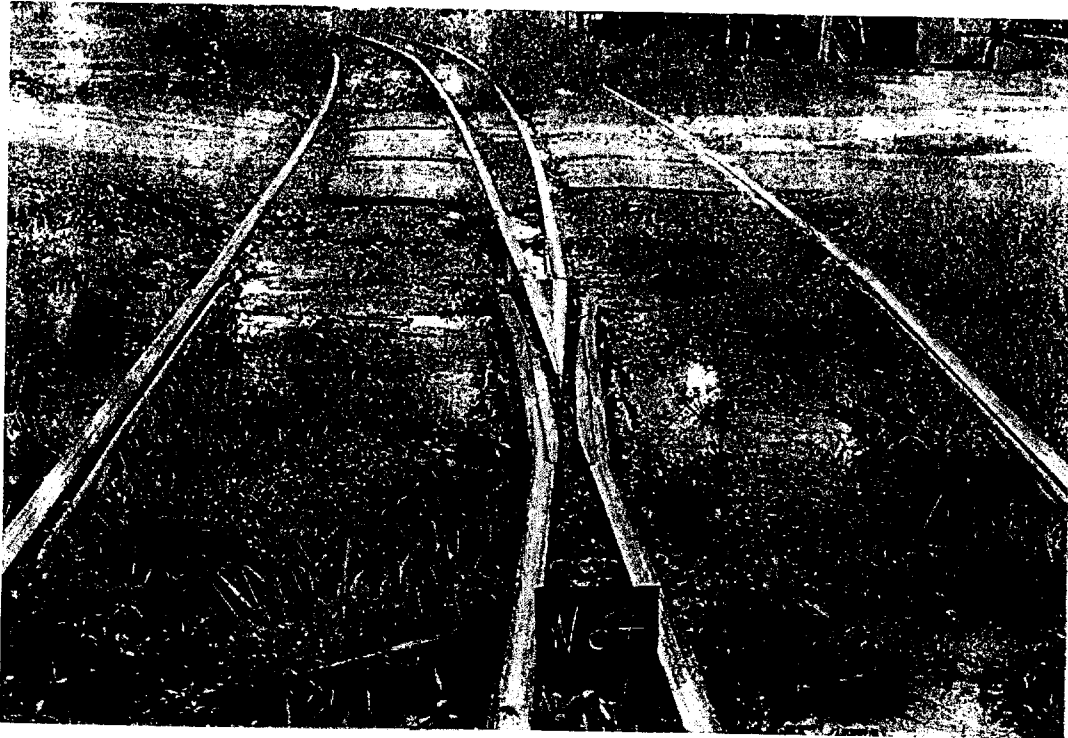
| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|------------------------|
| Blade area | Wood | Nails | Mixed soil with rubble |
| Central part | Wood | Nails | Mixed soil with rubble |
| Frog part | Wood | Nails | Mixed soil with rubble |

General Condition

The switch is filled up to the top of the sleepers, it is overgrown with grass. At the central and the frog part areas the rails of the switch lie on long through line sleepers. The slide chairs are nailed and the stock rails bolted. All fastenings are loose. At the branch rails the gauge is supported by holders of flat bar iron. There is water in the central and the frog part areas. These areas as well as the joints are moving up and down during a pass over. The bedding is silted. The screwing of the lugs are loose. The joints are acute in the arch. Behind the frog part the track on the right side bends very much to the left side.

General condition: Poor.

Switch / Стрелка N° 64



Area: Port, Berth 7

Picture: Annex - page 04

Switch No. 64a

Form of rail: R50
 Gradient: 1:9
 right / left: right
 Switch blade: Hinged blade heel

Gauge: Straight rails 1516 mm
 Branch rails 1540 mm

Sleepers / fastening / ballast

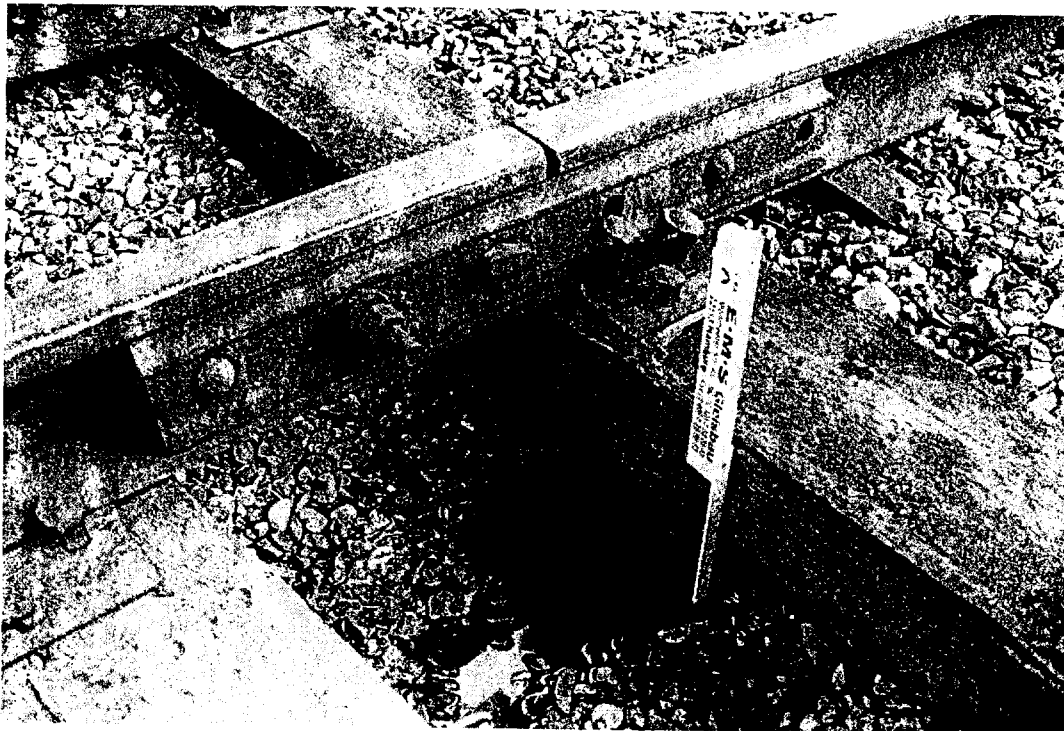
| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|-----------------------------------|
| Blade area | Wood | Nails | Little soil with pebbles 10/30 mm |
| Central part | Wood | Nails | Little soil with pebbles 10/30 mm |
| Frog part | Wood | Nails | Little soil with pebbles 10/30 mm |

General Condition

The switch was repaired short time ago. The bedding of the switch is uneven. At the internal rails of the central part the bedding is missing. Under the sleepers lies 10 cm bedding up to the concrete quay plate. The fastenings of the nails are partly loose, as well as the screwing of the lugs and the supporting brackets of the stock rails. To keep the gauge running straight holders are installed as support. The guard rails are loose therefore the top of the frog part gets stroked. There is water under the switch. At the blade area draining takes place through an outlet leading directly into the water of the port. The joints are considerable stable. In the central and the frog part areas there are long sleepers. The gradient of the switches 64a and 64b does not fit to the interval of the tracks and the switches. The switch connection lies steeper and therefore bends strongly behind the frog parts of the two switches.

General condition: Fair - Good

Switch / Стрелка N° 64a



Area: Port, Berth 7

Picture: Annex - page 05

Switch No. 64b

Form of rail: R50
 Gradient: 1:9
 right / left right
 Switch blade Hinged blade heel

Gauge: Straight rails 1535 mm
 Branch rails 1540 mm

Sleepers / fastening / ballast

| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|------------------------------------|
| Blade area | Wood | Nails | Mixed soil with pebbles 10/60mm |
| Central part | Wood | Nails | Mixed soil with pebbles 10/60mm |
| Frog part | Wood | Nails | Mixed soil with pebbles 10/60mm |

General Condition

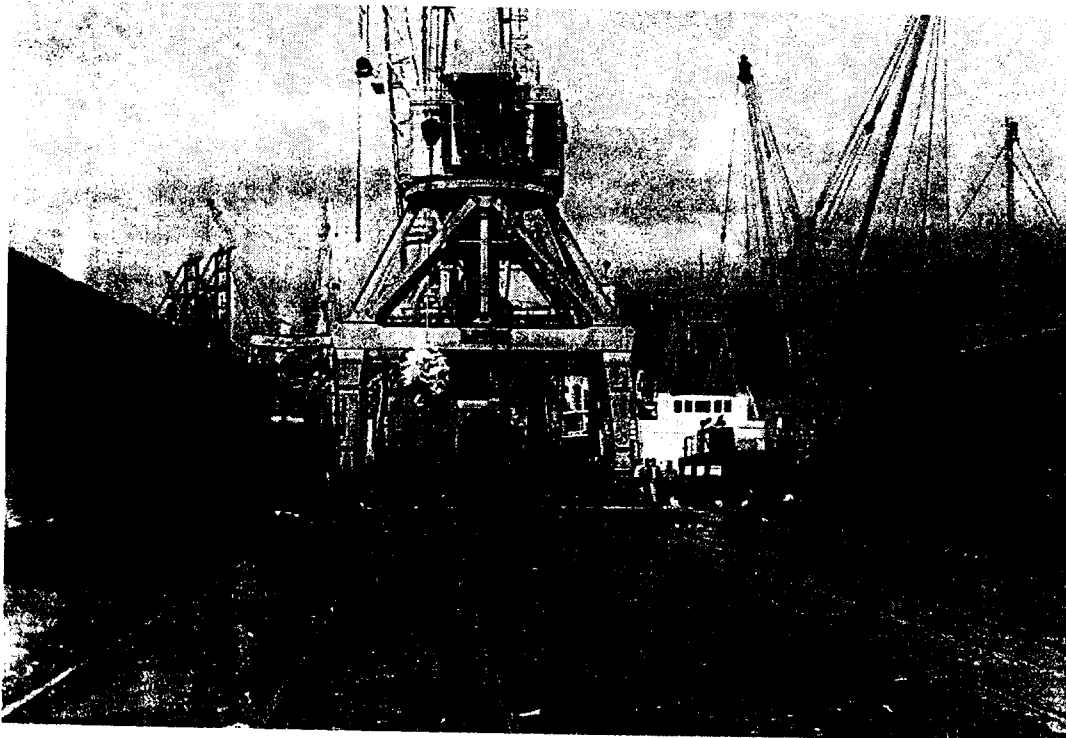
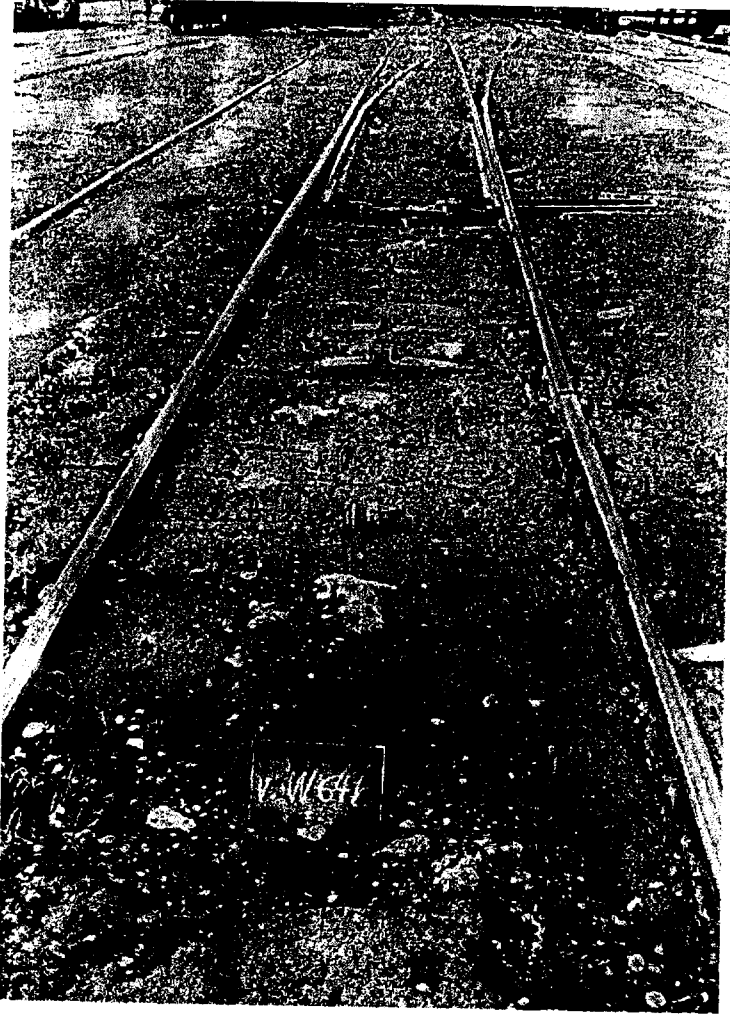
The switch is filled up to the top of the rails. All fastenings are loose. There is stagnant water in the central and the frog part areas. These areas as well as the joints are heavily moving up and down during a pass over. The bedding is silted. The sleepers are partly destroyed in the areas of the joints. The guard rails are loose.

Behind the frog part the screwing of the joints are loose they are moving heavily up and down during a pass over. The bedding is silted. In the joint area the sleepers are destroyed. The gradient of the switches 64a and 64b does not fit to the interval of the tracks and the switches. The switch connection lies steeper and therefore bends strongly behind the frog parts of the two switches.

General condition: Poor.

Switch / Стрелка

N° 64b



Area: Port Access

Switch No. 66

Form of rail: R50
 Gradient: 1:9
 right / left right
 Switch blade Hinged blade heel

Gauge: Straight rails 1530 mm
 Branch rails 1535 mm

Sleepers / fastening / ballast

| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|------------------------|
| Blade area | Wood | Nails | Mixed soil with rubble |
| Central part | Wood | Nails | Mixed soil with rubble |
| Frog part | Wood | Nails | Mixed soil with rubble |

General Condition

The switch is filled up to s of the height of the sleepers. The switch lies under water and is very overgrown with grass. It is put in a left position. The switching equipment is missing (the switch is locked on the right side in direction of track 30, Berth 4/5). At the central and the frog part areas the rails of the switch lie on long through line sleepers. The rails are partly missing at the central part of the right-sided branch. All fastenings are loose. The top of the frog part gets stroked. The switch is moving up and down during a pass over.

General condition: Poor.

Area: Port Access

Picture: Annex - page 06

Switch No. 66a

Form of rail: R50
 Gradient: 1:9
 right / left left
 Switch blade Hinged blade heel

Gauge: Straight rails 1530 mm
 Branch rails 1535 mm

Sleepers / fastening / ballast

| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|------------------------|
| Blade area | Wood | Nails | Mixed soil with rubble |
| Central part | Wood | Nails | Mixed soil with rubble |
| Frog part | Wood | Nails | Mixed soil with rubble |

General Condition

The switch turned into a switch with an internal arch. It is filled up to the top of the sleepers. The switch as well as the switching equipment and the rod channel lie under water and are very overgrown with cabbage. At the central and the frog part areas the rails of the switch lie on long through line sleepers. The slide chairs are nailed and the support holders of the stock rails are bolted. The top of the switch blade on the right side lies 15 cm behind the left one (standard: equal position, rectangular to the stock rails). All fastenings are loose. The gauge is supported by holders of flat bar iron. The blade and the frog part areas are moving up and down during a pass over. The screwing of the lugs are loose. The joints are acute in the arch

General condition: Poor.

Switch / Стрелка

N° 66a



Area: Countryside

Picture: Annex - pages - 07 + 08

Switch No. 73

Form of rail: R50
 Gradient: 1:9
 right / left left
 Switch blade Hinged blade heel

Gauge: Straight rails 1538 mm
 Branch rails 1540 mm

Sleepers / fastening / ballast

| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|----------------------------------|
| Blade area | Wood | Nails | Mixed soil with pebbles 10/60 mm |
| Central part | Wood | Nails | Mixed soil with pebbles 10/60 mm |
| Frog part | Wood | Nails | Mixed soil with pebbles 10/60 mm |

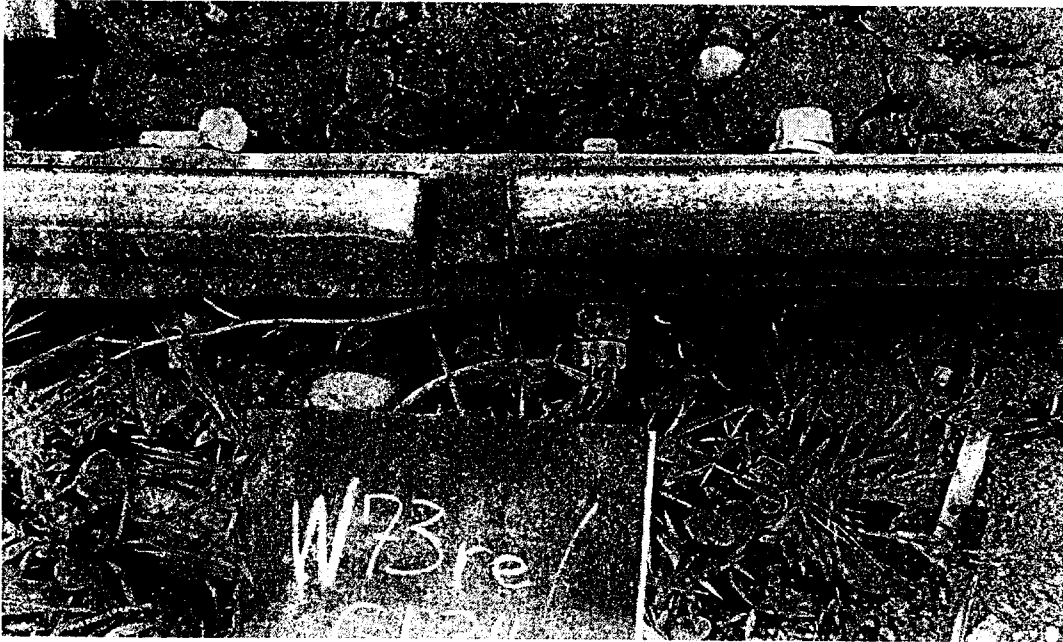
General Condition

The switch turned into a switch with an internal arch. It is filled up to the top of the sleepers. The switch as well as the switching equipment and the rod channel lie under water and are very overgrown with cabbage. The water can not run off because the location of the switch is lower than the level of the parallel area. The central part is silted. The fastenings and the screwing are loose. The rails are worn out and have a ridge. The guard rails are loose. The top of the frog part gets stroked on the left side. The gauge is supported by holders. The screwing of the gauge holders are partly loose. The switch is heavily moving up and down during a pass over. The screwing of the lugs are lose. The joints are acute in the arch. The joint gaps are partly filled in by adapters.

General condition: Poor.

Switch / Стрелка N° 73





Area: Countryside

Picture: Annex - page 09

Switch No. 75

Form of rail: R50
 Gradient: 1:9
 right / left right
 Switch blade Hinged blade heel

Gauge: Straight rails 1530 mm
 Branch rails 1535 mm

Sleepers / fastening / ballast

| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|------------|
| Blade area | Wood | Nails | Mixed soil |
| Central part | Wood | Nails | Mixed soil |
| Frog part | Wood | Nails | Mixed soil |

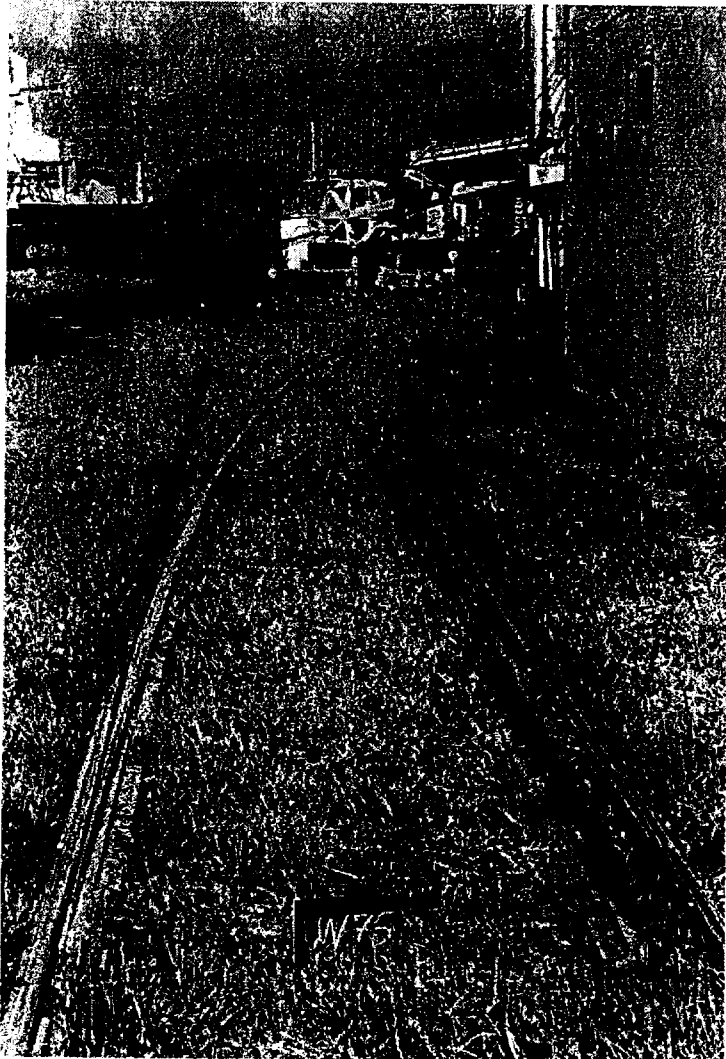
General Condition

The switch is filled up to the top of the sleepers. The switch as well as the switching equipment and the rod channel are overgrown with cabbage. All fastenings and the screwing are loose. In the central area there are through line sleepers. The contact areas of the rails are drawn-in. The gauge is supported by holders of flat bar iron. The rails and the frog part are worn out. The central and the frog part areas are heavily moving up and down during a pass over. There is stagnant water in the frog part area. The draining of the area runs open off through two sleepers. The guard rails are loose.

General condition: Poor.

Switch / Стрелка

N° 75



Area: Countryside

Switch No. 77

Form of rail: R50
 Gradient: 1:9
 right / left left
 Switch blade Hinged blade heel

Gauge: Straight rails 1535 mm
 Branch rails 1542 mm

Sleepers / fastening / ballast

| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|------------|
| Blade area | Wood | Nails | Mixed soil |
| Central part | Wood | Nails | Mixed soil |
| Frog part | Wood | Nails | Mixed soil |

General Condition

The switch is filled up to the top of the sleepers. The switch as well as the switching equipment and the rod channel are overgrown with cabbage. The fastenings and the screwing are loose. In the central area there are separate sleepers for the left and the right branch. The gauge is supported by holders of flat bar iron. The rails are worn out. The central and the frog part areas are heavily moving up and down during a pass over. There is stagnant water in the frog part area. The guard rails were repaired. The nuts of the screwing are installed without spring rings.

General condition: Poor.

Area: Countryside

Picture: Annex - pages 10 + 11

Switch No. 79

Form of rail: R50
 Gradient: 1:9
 right / left left
 Switch blade Hinged blade heel

Gauge: Straight rails 1530 mm
 Branch rails 1530 mm

Sleepers / fastening / ballast

| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|------------|
| Blade area | Wood | Nails | Mixed soil |
| Central part | Wood | Nails | Mixed soil |
| Frog part | Wood | Nails | Mixed soil |

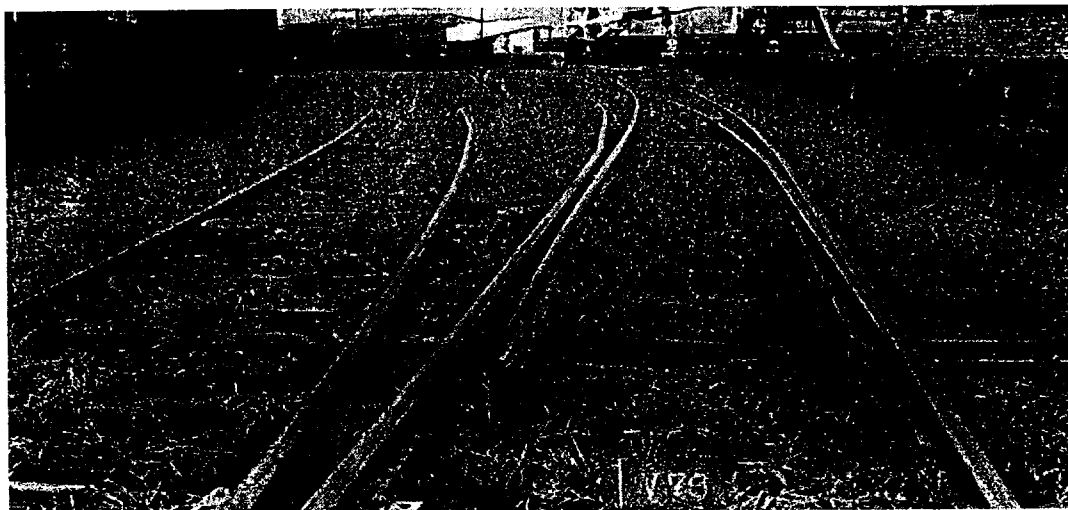
General Condition

The switch has turned into a switch with an internal arch. It is filled up to the top of the sleepers. The switch as well as the switching equipment and the rod channel lie in water and are very overgrown with cabbage. The water can not run off because the area is in-between a ramp and a wall. The slide chairs of the switch are nailed and the holders of the stock rails are attached by screws. The screws do not fit tight. The top of the switch blade at the right side is almost 25 cm in front of the left one (standard: equal position, rectangular to the stock rail). The right switch blade is broken away. The rails are worn apart and have a ridge. All fastenings are loose. In the frog part area the sleepers are partly rotten. The rails are supported by screwed-on sleepers. The top of the frog part gets stroked. The gauge is supported by holders of flat bar iron and additionally pulled-in sleepers. The screwing of the holders are partly loose. The switch is heavily moving up and down during a pass over. The screwing of the lugs are loose. The joints are acute in the arch.

General condition: Poor.

Switch / Стрелка

N° 79



Area: Countryside

Switch No. 81

Form of rail: R50
 Gradient: 1:9
 right / left left
 Switch blade Hinged blade heel

Gauge: Straight rails 1520 mm
 Branch rails 1550 mm

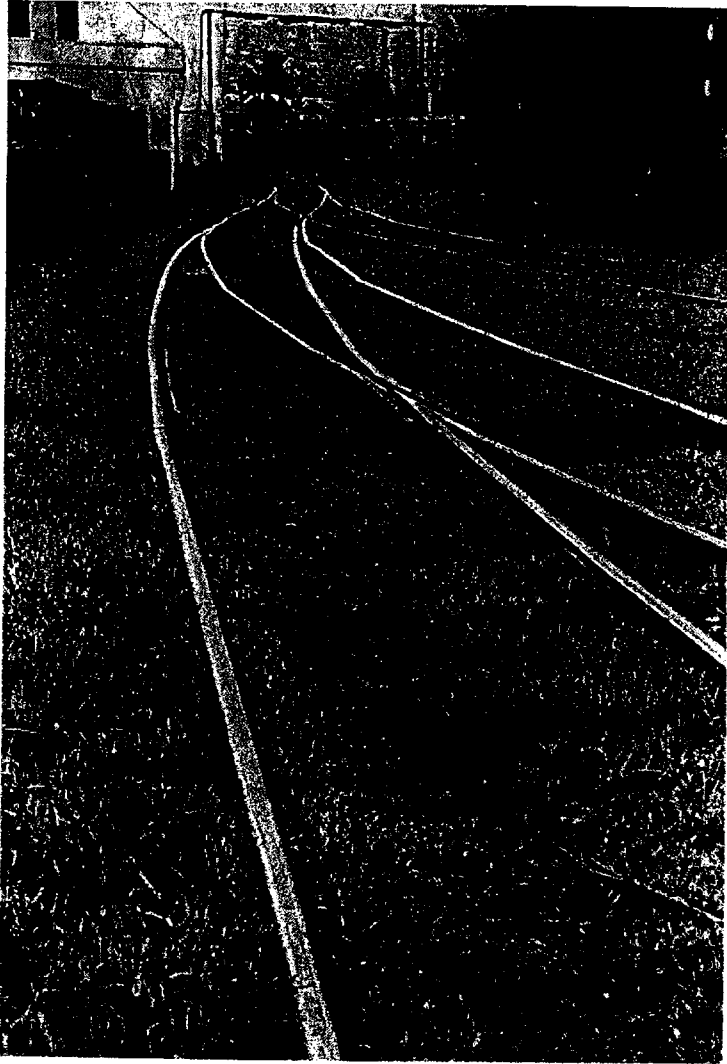
Sleepers / fastening / ballast

| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|------------|
| Blade area | Wood | Nails | Mixed soil |
| Central part | Wood | Nails | Mixed soil |
| Frog part | Wood | Nails | Mixed soil |

General Condition

The switch turned into a switch with an internal arch. It is filled up to the top of the sleepers. The switch as well as the switching equipment and the rod channel lie in water and are very overgrown with cabbage. The water can not run off because the area is in-between a ramp and a wall. The slide chairs of the switch are nailed and the holders of the stock rails are attached by screws. The screws do not fit tight. The switch blade is broken away. The rails are worn apart and have a ridge. All fastenings are loose. In the frog part area the sleepers are partly rotten. The rails are supported by screwed-on sleepers. The top of the frog part gets stroked. The gauge is supported by holders of flat bar iron and additionally pulled in sleepers. The screwing of the holders are partly loose. The switch is heavily moving up and down during a pass over. The screwing of the lugs is loose. The joints are acute in the arch. The joint gaps are partly filled in by adapters of 15 cm length.

General condition: Poor.



Area: Port, Berth 8

Picture: Annex - page 12

Switch No. 83

Form of rail: R50
 Gradient: 1:9
 right / left: right
 Switch blade: Hinged blade heel

Gauge: Straight rails 1530 mm
 Branch rails 1530 mm

Sleepers / fastening / ballast

| | Sleepers | Fastening | Filling |
|--------------|----------|-----------|----------------------------------|
| Blade area | Wood | Nails | Mixed soil with pebbles 10/80 mm |
| Central part | Wood | Nails | Mixed soil with pebbles 10/80 mm |
| Frog part | Wood | Nails | Mixed soil with pebbles 10/80 mm |

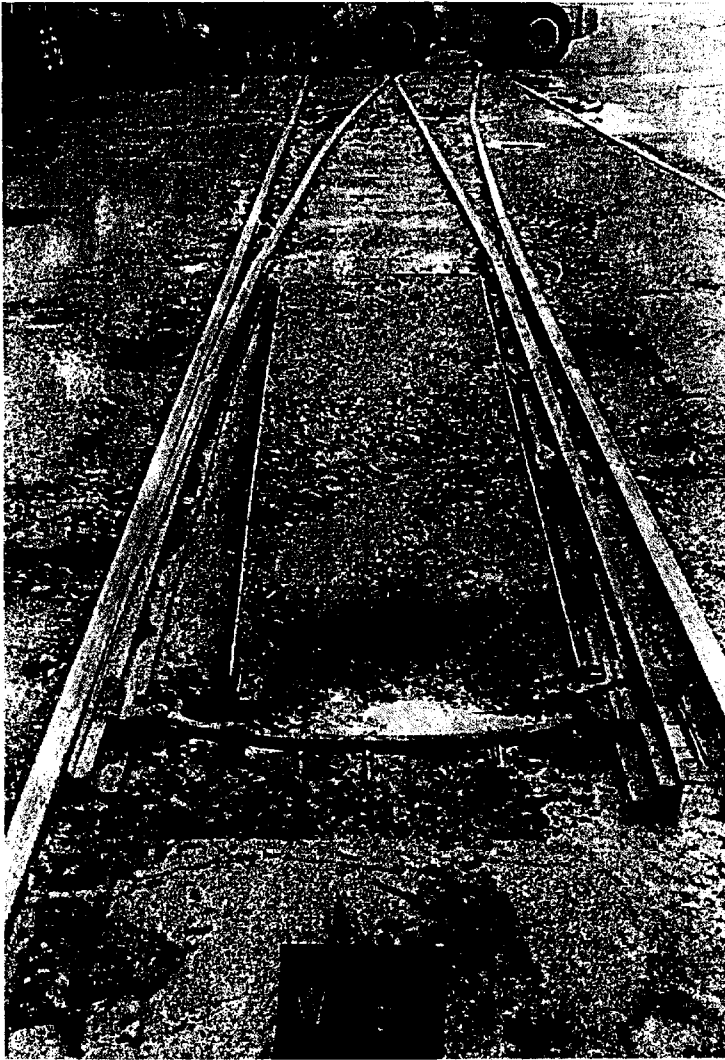
General Condition

The switch is filled up to the top of the sleepers. In the blade area and the end of the right switch ending it is covered up to the top of the head of the rails with asphalt. The joining area is also covered with asphalt. The asphalt cover left over is destroyed. In the central and the frog part areas the joints are heavily moving up and down during a pass over. As a consequence the fastening of the surface is mainly broken out. The screwing of the lugs are loose. The joints are acute in the arch. The water from the area on the right side of the track runs off into the switch. Due to this there is stagnant water in the switch and the areas are silted. The switch channel is also silted. The stretcher rod bends because of traffic. The right branch of the switch ascends behind the frog part.

General condition: Poor.

Switch / Стрелка

N° 83



1.3 Tracks

Area: Port Access

Picture: Annex - page 13

Track No. A (from switch W68 to switch W64)

| | | |
|---------------|---------------|---|
| Length | 210 m | from switch W68 crossing switch W66, 66a to switch W64 (measured from ground plan) |
| useful length | (110 m) | |
| Gauge: | appr. 1540 mm | |

Sleepers / fastening / ballast

| | |
|-----------|---|
| Sleepers: | Wooden sleepers fastened with nails, single concrete sleepers fastened with clamping plates |
| Bedding: | Mixed soil with little rubble. |

Buffer

Not applicable.

General Condition

The track is filled up to s of the height of the sleepers. Its position is parallel in-between a road and a wall. The water from the road runs off into the track area. The track lies in water and is very overgrown with cabbage. The draining takes place through an outlet by the wall. The gauge is supported by single concrete sleepers and holders of flat bar iron. The rails are worn off at their height. Adapters of a length of 15-20 cm have partly been inserted in the rail joints. The fastenings of the nails and the screwing of the lugs are loose. The joints are acute in the arch. The track is moving up and down during a pass over.

General condition: Poor.

Track / рельсовый путь № А (from switch 68 to 64 / от стрелки 68 до 64)



Area: Countryside

Track No. B (from switch W79 to switch W83)

Length 80 m (measured from ground plan)

useful length (80 m)

Gauge: appr. 1540 mm

Sleepers / fastening / ballast

Sleepers: Wooden sleepers fastened with nails
Bedding: Mixed soil, subsequently with pebbles

Buffer

Not applicable.

General Condition

The track behind switch 79 is on a length of 20 m filled up to the top of the sleepers. The track area lies in water and is very overgrown with cabbage. The water can not run off because the position of the area is in-between a ramp and a wall. The fastenings of the nails are loose. The track is moving up and down during a pass over.

Subsequently the track is filled higher then to above the top of the sleepers with soil and pebbles. Further on it is filled up to the head of the rails running parallel to the road and the area. The condition of the track is good and stable.

The following track area up to switch 83 is filled up with soil and pebbles and covered with asphalt up to the top of the head of the rails and the parallel area. The track and the joints are heavily moving up and down during a pass over. Due to this the surface fastening is broken up. The gauge is supported by holders of flat bar iron.

General condition: Poor

Area: Countryside

Track No. 24

| | | |
|---------------|---------------|--|
| Length | 338 m | from switch W75(measured from ground plan) |
| useful length | 292 m | (measured from ground plan) |
| Gauge: | appr. 1540 mm | |

Sleepers / fastening / ballast

| | |
|-----------|-------------------------------------|
| Sleepers: | Wooden sleepers fastened with nails |
| Bedding: | Mixed soil with little pebble |

Buffer

Block of concrete.

General Condition

The track is filled up to the top of the sleepers. The track area is very overgrown with cabbage. The sleepers are quite new. The fastenings of the nails are loose. The track is partly moving up and down during a pass over. The track is crossing a water-course on a bridge after half of the distance. The water-course seem to contribute to the quite well working draining of the track. The track is used as deposit place for carriages. A track ramp is placed on the left side up to the bridge.

General condition: Fair.

Area: Countryside

Track No. 25

Length 258 m from switch W81 (measure-table from ground plan)
useful length 207 m
Gauge: appr. 1540 mm

Sleepers / fastening / ballast

Sleepers: Wooden sleepers fastened with nails.
Bedding: Mixed soil with few pebbles.

Buffer

Block of concrete

General Condition

The track is filled up to the top of the sleepers. The track area is very overgrown with cabbage. The fastenings of the nails are loose. The track is partly moving up and down during a pass over. In the first third of the front area the track is crossing a water course which seems to contribute to the quite well working draining of the track. The track is used as deposit place for wagons. Behind the bridge is an old track-weigh. It is out of work.

General condition: Fair.

Area: Countryside

Track No. 26

| | | |
|---------------|-------|--|
| Length | 180 m | from switch W77(measured from ground plan) |
| useful length | 105 m | (measured from ground plan) |

Gauge: appr. 1540 mm

Sleepers / fastening / ballast

| | |
|-----------|--------------------------------------|
| Sleepers: | Wooden sleepers fastened with nails. |
| Bedding: | Mixed soil with little pebbles. |

Buffer

Heap of earth, followed by a block of concrete.

General Condition

In the front area the track is filled up to half of the height of the sleepers with soil. Further on at the last 30-40 m the bedding under the sleepers consists of pebbles 10/30 mm. The track lies entirely bare on the ground at this distance. The bays of the sleepers are without any filling (presumably the track ending of track 26 was put this way when the switch connection for track 24 was build). The track area is overgrown with cabbage. The sleepers are quite new. The rails are worn out. The fastenings of the nails are loose. The track is moving up and down during a pass over. The track ends at a water-course which seem to contribute to the well working draining of the track. The track is used as deposit place for wagons.

General condition: Fair.

Area: Countryside

Track No. 27

Length 258 m from switch W81 (measure-table from ground plan)
useful length 207 m (measure-table from ground plan)

Gauge: appr. 1540 mm

Sleepers / fastening / ballast

Sleepers: Wooden sleepers fastened with nails.
Bedding: Mixed soil with few pebbles.

Buffer

Block of concrete.

General Condition

The track is filled up to the top of the sleepers. The track area is very overgrown with cabbage. The fastenings of the nails are loose. The track is partly moving up and down during a pass over. In the first third of the front area the track is crossing a water course which seems to contribute to the well working draining of the track. The track is used as deposit place for wagons.

General condition: Fair.

Area: Port, Berth 9

Picture: Annex - page 14

Track No. 28

| | | |
|---------------|-------|---|
| Length | 100 m | from switch W60a (measure-table from ground plan) |
| useful length | 100 m | (measure-table from ground plan) |

Gauge: appr. 1520 mm

Sleepers / fastening / ballast

Not noticeable. The track is covered all over.

Buffer

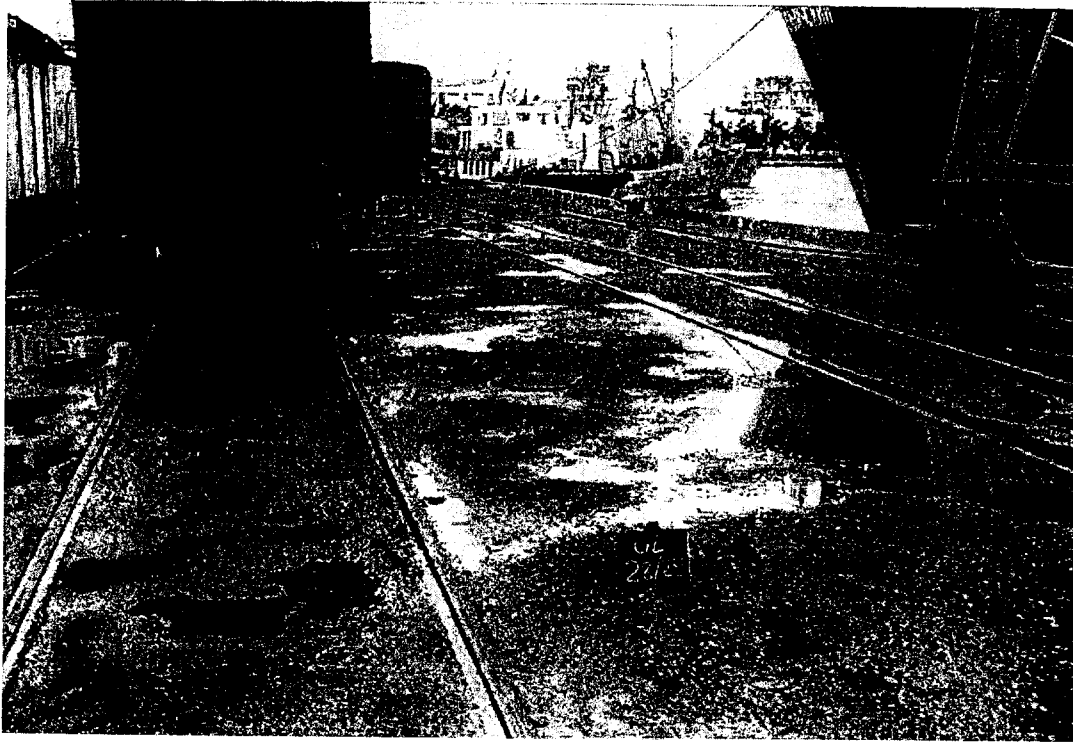
Concrete joist.

General Condition

The track is filled up to above the top of the sleepers and covered with asphalt up to the top of the head of the rails. The parallel area is covered with asphalt as well. The track is considerable stable. The screwing of the lugs for the rail joints are loose. The joints are moving up and down during a pass over. Due to this the surface fastening is partly broken up. In these areas there is stagnant water in the track.

General condition: Fair.

Track / рельсовый путь N° 28



Area: Port, Berth 9

Picture: Annex - page 15

Track No. 29

| | | |
|---------------|---------------|--|
| Length | 179 m | from switch W60 (measure-table from ground plan) |
| useful length | 127 m | (measure-table from ground plan) |
| Gauge: | appr. 1520 mm | |

Sleepers / fastening / ballast

Not noticeable, the track is covered all over.

Buffer

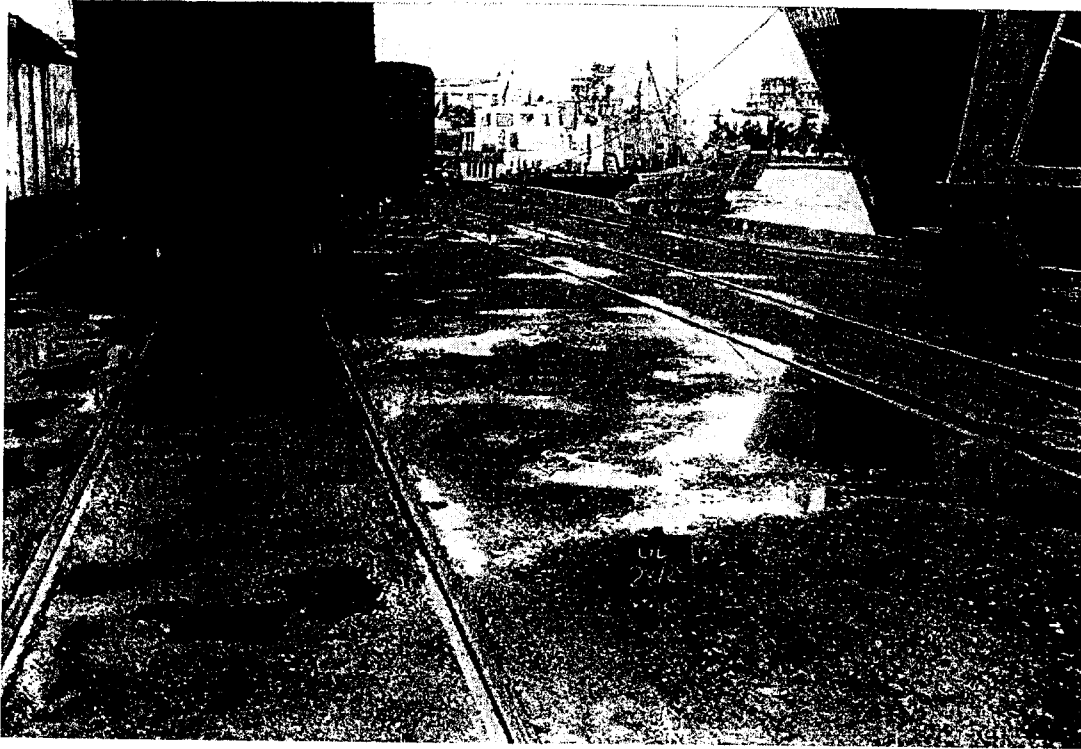
Concrete joist.

General Condition

The track is filled up to above the top of the sleepers and covered with asphalt up to the top of the head of the rails. The parallel area is covered with asphalt as well. The track is considerable stable. The screwing of the lugs for the rail joints are loose. The joints are moving up and down during a pass over. Due to this the surface fastening is partly broken up. In these areas there is stagnant water in the track.

General condition: Fair.

Track / рейсовый путь N° 29



Area: **Port, Berth 7**

Picture: **Annex - page 16**

Track No. 31

Length 334 m from switch W62 (measure-table from ground plan)
 useful length 282 m (measure-table from ground plan)
 Gauge: appr. 1530 mm

Sleepers / fastening / ballast

Area 3, from switch 62 to the beginning area of Berth 7:

Sleepers: Wooden sleepers fastened with nails.

Bedding: Mixed soil with pebbles 10/60 mm.

Area 4, Berth 7:

Sleepers: Wooden sleepers fastened with nails.

Bedding: Mixed soil with pebbles.

Buffer

Heap of earth enclosed with concrete, additionally a block of concrete.

General Condition

Area 3:

The track ascends up to the front area of Berth 7. The track is filled up to the top of the sleepers and covered almost up to top of the head of the rails with asphalt. It is partly worn out because the track is moving heavily up and down during a pass over. The level of the track is higher then the parallel area at the left side, which also is covered with asphalt. The lining of the asphalt is pulled up to the top of the head of the rails, ongoing from almost 2m in front of the external rail. The screwing of the lugs for the rail joints are loose. The joints are acute in the arch.

Area 4:

The level of the track is almost 30 cm higher then the area at the left side and the crane rails. The track is filled up to the top of the sleepers and covered up to the top of the head of the rails with asphalt. It is partly worn out. The track and especially the rail joints are heavily moving up and down during a pass over. The track ends at the ending of Berth 7.

General condition: Poor.



Track / рейсовый путь № 31



Area: **Port, Berth 6-8**

Picture: **Annex - pages 17 + 18**

Track No. 32

| | | |
|---------------|---------------|--|
| Length | 740 m | from switch W64 crossing switch W62, 64b to switch W83 (measure-table from ground plan) |
| useful length | 601 m | (measure-table from ground plan) |
| Gauge: | appr. 1525 mm | |

Sleepers / fastening / ballast

| | |
|---|--------------------------------------|
| Area 1, from switch 64 to the beginning of Berth 6: | |
| Sleepers: | Wooden sleepers fastened with nails. |
| Bedding: | Mixed soil with pebbles 10/60 mm |
| Area 2, from Berth 6 to switch 62: | |
| Sleepers: | Wooden sleepers fastened with nails. |
| Bedding: | Mixed soil with rubble |
| Area 3, from switch 62 crossing switch 64b to the beginning of Berth 7: | |
| Sleepers: | Wooden sleepers fastened with nails. |
| Bedding: | Mixed soil with pebbles 10/60 mm |
| Area 4, Berth 7: | |
| Sleepers: | None |
| Bedding: | Concrete with tie rods |
| Area 5, Berth 8: | |
| Sleepers: | Wooden sleepers fastened with nails. |
| Bedding: | Mixed soil with pebbles 10/60 mm |

Buffer

Not applicable.

General Condition

The length of the joints (length of the rails) are appr. 12 - 15 m In general the position of the joints is seldom rectangular opposite.

Area 1:

The track descends from the passage of the bridge/switch 64 to the port. The track is filled up to the top of the sleepers and overgrown with cabbage. Behind the level crossing 01 runs water from a higher lying area down into the track area. Due to this there is stagnant water and formation of silt. The gauge is supported by holders of flat bar iron. The fastenings of the nails and the screwing of the lugs are loose. The joints and the track are heavily moving up and down during a pass over.

Area 2:

The track is filled up to the top of the sleepers and overgrown with cabbage. Water runs from a higher lying area down into the track area. Due to this there is stagnant water and formation of silt.

The fastenings of the nails are loose. The joints and the track are heavily moving up and down during a pass over. At the area of switch 62 the level of the track is higher than track 33, the joint gaps are more narrow. The connections of the lugs are sometimes attached by 4 screws.

Area 3:

The track ascends up to the front area of Berth 7. The track is filled up to above the top of the sleepers and covered up to the top of the head of the rails with asphalt. It is partly worn out because the track is heavily moving up and down during a pass over. At switch 64b various holders support the gauge. The fastenings of the rails are partly missing. Same conditions behind switch 64b. The water from the parallel area on the left side runs off through the track area and then on to the central part of the quay plate. From there on the water runs through outlets directly into the water of the port.

Area 4:

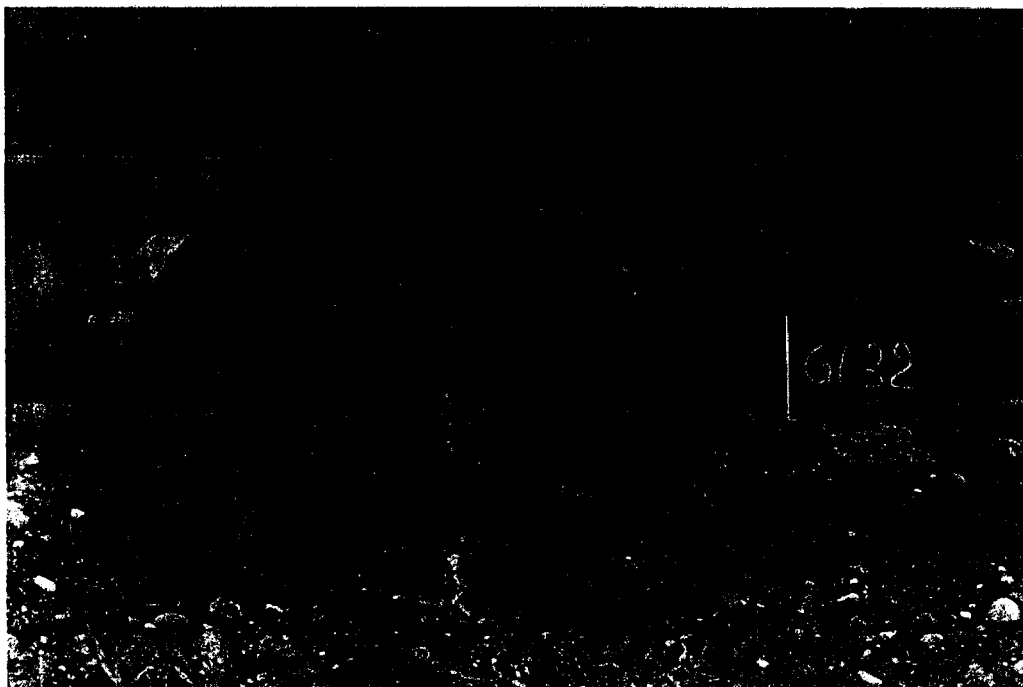
The level of the track is lower than track 33. It has almost the level of the quay area. The track is covered with asphalt or concrete. The fastening of the rails is not noticeable, presumably like track 33. At the whole distance tracks lie under water on the inner side and the outside. The water is mixed up with silt and remains of loading (earth, grain). In the rail area the concrete cover is broken up.

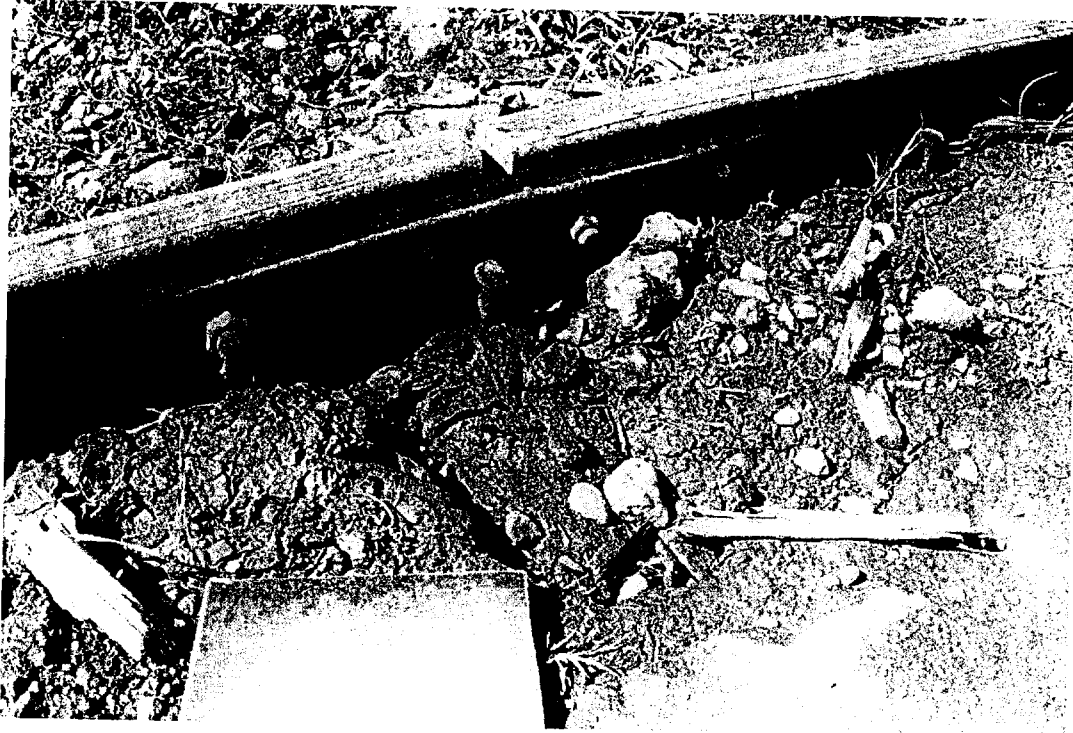
Area 5:

The level of the track is higher than track 33. The track is filled up to the top of the sleepers. It is overgrown with cabbage. At the head of the sleepers up to track 33 there is only little bedding. The gauge is 1516 mm. The track lies in an almost dry area. The joints lie very close up to the sleepers. Due to this the track and the joints do not move very much (repair works have taken place?).

General condition: Fair - Poor.

Track / рейльсовый путь № 32





Area: Port, Berth 6 - 8

Picture: Annex - page 19

Track No. 33

| | | |
|---------------|---------------|--|
| Length | 707 m | from switch W64 crossing switch W64a to switch W60 (measure-table from ground plan) |
| useful length | 624 m | (measure-table from ground plan) |
| Gauge: | appr. 1535 mm | |

Sleepers / fastening / ballast

| | | |
|---|--------------------------------------|--|
| Area 1, from switch 64 to the beginning of Berth 6: | | |
| Sleepers: | Wooden sleepers fastened with nails. | |
| Bedding: | Mixed soil with pebbles 10/60 mm | |
| Area 2, Berth 6 up to switch 62: | | |
| Sleepers: | Wooden sleepers fastened with nails. | |
| Bedding: | Mixed soil with rubble. | |
| Area 3, from switch 62 crossing switch 64a to the beginning of Berth 7: | | |
| Sleepers: | Wooden sleepers fastened with nails. | |
| Bedding: | Mixed soil with pebbles 10/60 mm | |
| Area 4, Berth 7: | | |
| Sleepers: | None | |
| Bedding: | Concrete with tie rods | |
| Area 5, Berth 8: | | |
| Sleepers: | Wooden sleepers fastened with nails. | |
| Bedding: | Mixed soil with pebbles 10/60 mm | |

Buffer

Not applicable.

General Condition

The length of the joints (length of the rails) is appr. 12 - 15 m In general the position of the joints is seldom rectangular opposite.

Area 1:

The track descends from the passage of the bridge/switch 64 to the port. The track is filled up to the top of the sleepers and overgrown with cabbage. There is stagnant water and formation of silt. The gauge is supported by holders of flat bar iron. The fastening of the nails and the screwing of the lugs are loose. The joints and the track are heavily moving up and down during a passage.

Area 2:

The track is filled up to the top of the sleepers and overgrown with cabbage. The fastenings of the nails are loose. The joints and the track are moving heavily up and down during a pass over. In the area at switch 62 the level of the track is lower than the crane rails. In this area the track is covered almost up to the top of the head of the rails.

Area 3:

The track ascends, up to the beginning of Berth 7. The track is filled up to the top of the sleepers and covered almost up to the top of the head of the rails with asphalt. The track is not moving much during a pass over. The level of the track is higher than the crane rails.

Area 4:

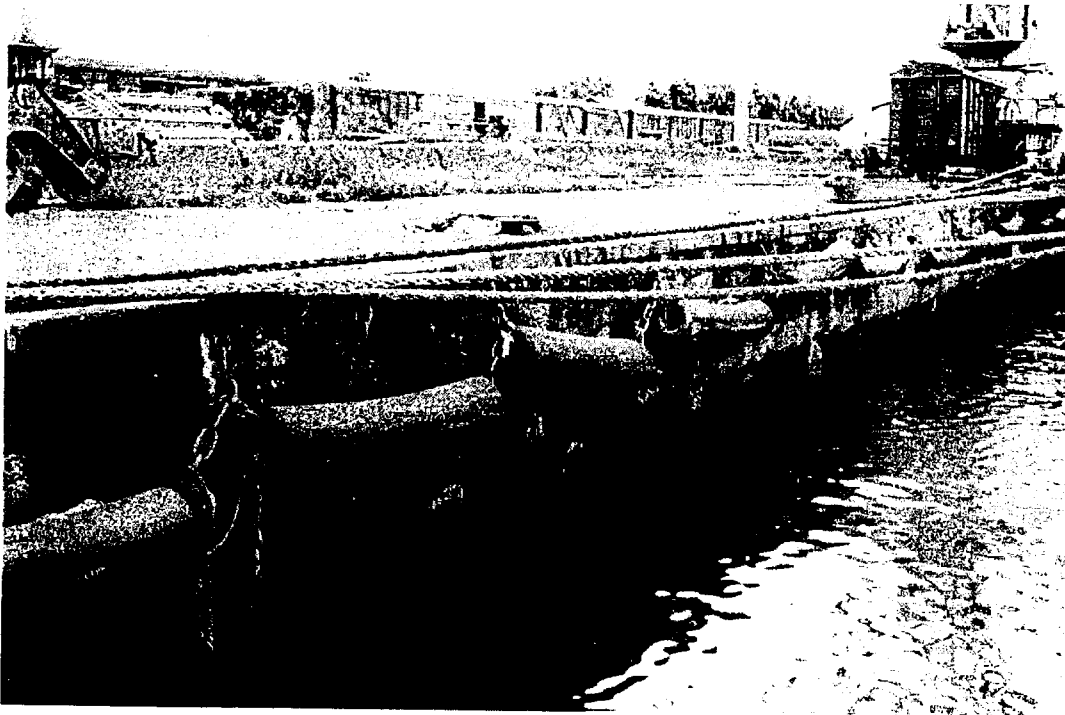
The track is almost at the same level as the quay area. It is enclosed by a lockout in the concrete quay plate. The fastenings of the foot of the rails are not noticeable. Possibly they are only bedded in concrete. The gauge is supported by holders which are bedded in concrete. This concrete cover is reaching up to almost the top of the head of the rails. The tie rods are screwed at the rail web on every second meter.

Area 5:

The track is filled up to the top of the sleepers. It is overgrown with cabbage. There is only little bedding at the head of the sleepers to track 32. The gauge is 1540 mm. The joints do not move much during a pass over.

General condition: Fair - Poor.

Track / рейльсовый путь № 33



Area: Countryside

Picture: Annex - page 20

Track No. 34

Length 575 m from switch W66a to switch W73 (measure-table from ground plan)
useful length 471 m
Gauge: appr. 1540 mm

Sleepers / fastening / ballast

Area 1, from switch 66a up to level crossing 02:

Sleepers: Wooden sleepers fastened with nails.

Bedding: Mixed soil with pebbles.

Area 2, from level crossing 02 up to end of warehouse:

Sleepers: Wooden sleepers fastened with nails.

Bedding: Mixed soil with pebbles.

Area 3, from the end of the warehouse up to the main gate of the port:

Sleepers: Wooden sleepers fastened with nails.

Bedding: Mixed soil with pebbles.

Area 4, from the main gate of the port to switch 73:

Sleepers: Wooden sleepers fastened with nails.

Bedding: Mixed soil with pebbles 10/80 mm

Buffer

Not applicable.

General Condition

The length of the joints (length of the rails) is appr. 12 - 15 m In general the position of the joints is seldom rectangular opposite.

Area 1: towards bridge-passage/ level crossing 01

The track ascends from the bridge-passage/switch 66a up to the port area. The track is partly filled up to the top of the sleepers and partly even higher. The track lies in water. The water can not run off because the area is in-between a road which is on the left side and a wall. Up to the road there is a small heap of earth at a longer distance as addition. The track is very overgrown with cabbage. The fastenings of the nails and the screwing of the lugs are loose. The track and the joints are heavily moving up and down during a pass over. Due to this there is formation of silt at the parts where they move. Between switch 66a and the level crossing 01 the external rail of the arch is supported by plates. They are bolted to the sleepers and back up against the rail web. Subsequently the gauge is supported by holders of flat bar iron. The level crossing 02 is before the beginning of the warehouses.

Area 2:

Behind level crossing 02 the track is in-between a road (border towards the track) and the warehouse. It is filled up to the top of the sleepers and overgrown with cabbage. The bedding is humid but there is no stagnant water. In the track there are small heaps of earth between the rails. The fastenings of the rails are loose. The joints and the track are partly moving up and down during a pass over. The rails are worn off in the height. In the track there are rail joint gaps and adapters with a length up to 20 cm.

Area 3:

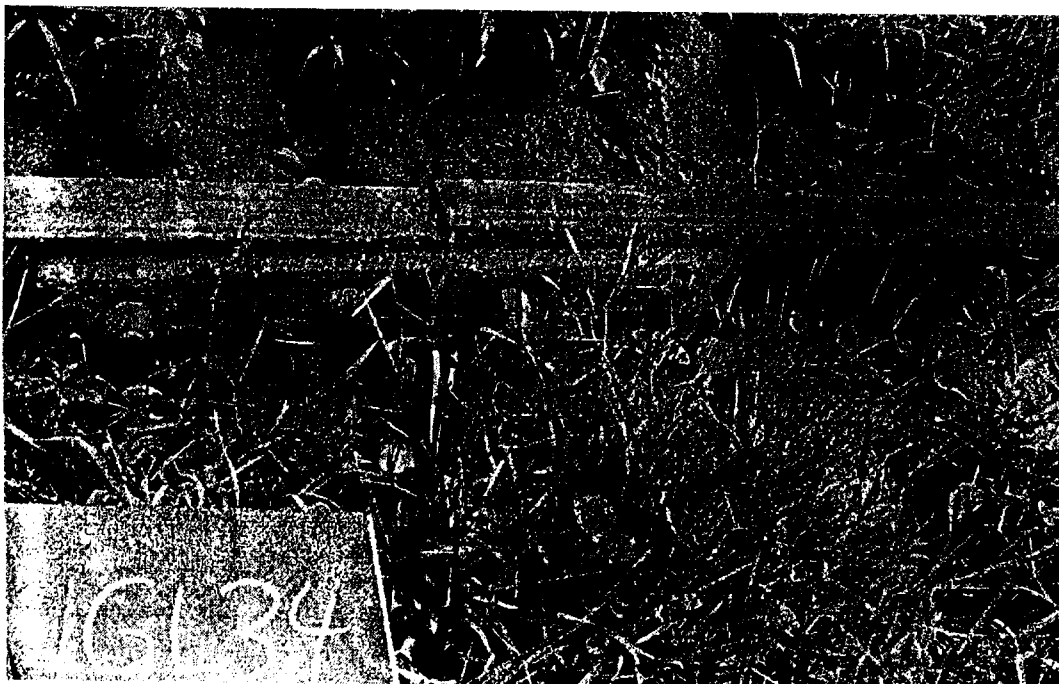
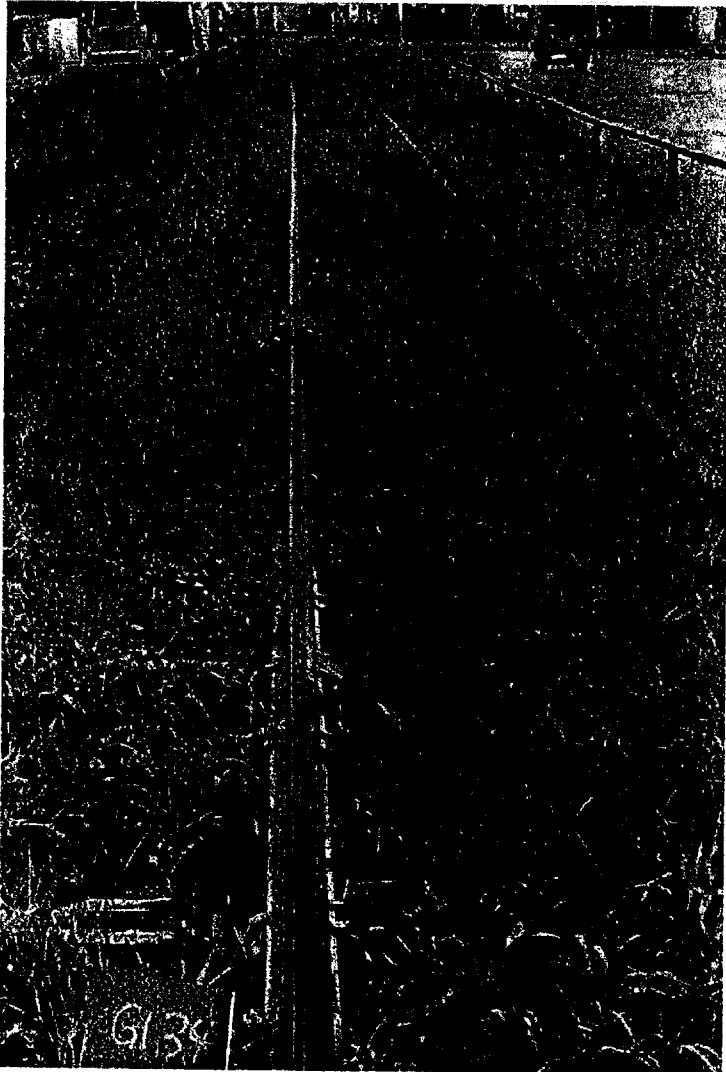
The track is filled up to the top of the sleepers and covered up to the top of the head of the rails with asphalt. Because of the main gate of the port there is much traffic in this area. At the area of the rails the asphalt cover is partly broken up because the track is heavily moving up and down during a pass over.

Area 4:

At the last part of the track, at a length of 65 m it is filled up to above the top of the sleepers and half of the height of the rails. The track lies in water. The parallel road to ramp 24 drains the track. The track is overgrown with cabbage. The fastenings of the nails and the screwing of the lugs are loose. The track and the joints are heavily moving up and down during a pass over. Due to this there is formation of silt at the moving parts. The rails are worn off in their high.

General condition: Fair - Poor.

Track / рейсовый путь № 34



Area: Countryside

Track No. 35

| | | |
|---------------|---------------|----------------------------------|
| Length | 267 m | (measure-table from ground plan) |
| useful length | 215 m | (measure-table from ground plan) |
| Gauge: | appr. 1535 mm | |

Sleepers / fastening / ballast

| | |
|-----------|--------------------------------------|
| Sleepers: | Wooden sleepers fastened with nails. |
| Bedding: | Mixed soil with pebbles. |

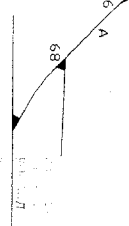
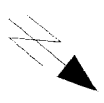
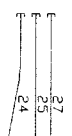
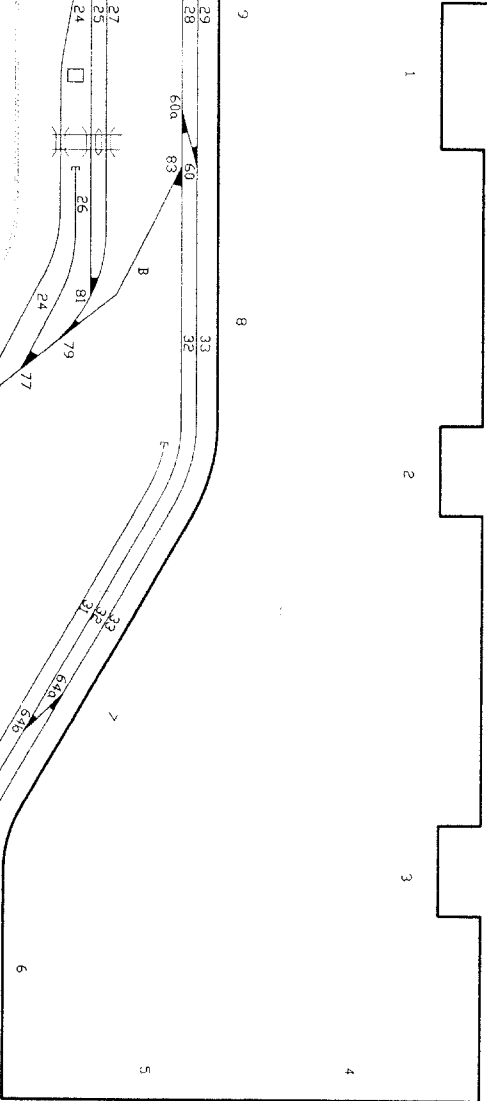
Buffer

Without ending.

General Condition

Behind switch 73 the track is on a length of almost 50 m filled up to above the top of the sleepers and between the rails partly covered up to the top of the head of the rail with asphalt. The track area is partly moving up and down during a pass over. Due to this the fastenings in between the rails are broken up. Further on the condition of the track is good and stable. The track is filled up to above the top of the sleepers with soil and pebbles and covered up to the top of the head of the rails with asphalt. The parallel areas are also covered with asphalt. At the main gate of the port the position of the track is higher then the level of the parallel areas. At the rails the asphalt is not broken up very much by traffic. In the area lying parallel to the warehouse the asphalt is broken up in front of the gates of the warehouses. The rail joints are bogged down. There is stagnant water in the track and formation of silt. The track ends at the ending of the warehouse and is there covered with asphalt. Due to this there is enough space for a passage between the warehouse and track 31.

General condition: Fair.



1:1
1:1
1:1
1:1

