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הרכבת

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103:01.

We make no apologies for showing again the same loco as on the cover of issue 100. The rusty heap of metal has now adopted its new identity and become a reincarnation of IR 70414 (the number reflecting the War Department Middle East Forces (WD-MEF) numbering scheme which IR took over unchanged in 1948. The transformation is (almost) complete. Adrian Gunzburg, points out that the cosmetic restoration has a few small flaws - one of which is the missing crosshead and other motion parts which were not on the engine when it arrived, in scrap condition, from Turkey via England. Chen Melling of the Railway Museum was aware of this and advised accordingly but such spare parts are not easily obtainable and, after all, the loco will not be going anywhere for a long time. As it is, we must be grateful that the project has got this far. (Photo: Helen Berman, courtesy of Adrian Gunzburg.)

EDITORIAL.

In terms of general Middle East politics, nothing much has alas changed since the last issue and this means that we have relatively little news from most other countries.* Within Israel work continues on planning for electrification and further line construction – it is truly amazing what has been done within the past twenty years. And not only fast passenger services and heavy freights - Ideas are also being floated for the introduction of a high-quality Tourist Train to provide transport for tourists who arrive on cruise ships at Haifa or Ashdod, up to Jerusalem – it is still early days but ideas are being evaluated and investors sought.

The press date for this issue is 20th. November as Steve will be away for a while in America.

Enjoy! The Editor.

* In Walter Zanger's 'From Jerusalem' newsletter appears this gem:-

A SHORT GUIDE TO THE MIDDLE EAST: by K. N. Al Sabah, London. (Published as a Reader's Letter in an unknown newspaper.)

"Sir:

Iran is backing Assad. Gulf states are against Assad! Assad is against Muslim Brotherhood. Muslim Brotherhood and Obama are against General Sisi. But Gulf states are pro-Sisi! Which means they are against Muslim Brotherhood! Iran is pro-Hamas, but Hamas is backing Moslem Brotherhood! Obama is backing Muslim Brotherhood, yet Hamas is against the US.

Gulf states are pro-US. But Turkey is with Gulf states against Assad; Yet Turkey is pro-Muslim Brotherhood against General Sisi. And General Sisi is being backed by the Gulf states.

Welcome to the Middle East and have a nice day."

NEWS FROM THE LINE

(a). BUS SHUTTLE AT BEER SHEVA.

A new bus shuttle services was introduced on 01.09.2013 between Beer-Sheba North/University and the city's High-Tech Park in both directions.

The service is free upon presenting a rail ticket on boarding the shuttle bus; it is operated between Sunday and Thursday, excluding holidays; travel time is between 5 to 10 minutes.

The timetables are as following:

Morning trains' arrivals from Tel-Aviv: 08:19; 08:36; 09:36; 10:19;

Shuttles' times: dep. 08:25; 08:40; 09:48; 10:25.

Afternoon shuttles' times from High-Tech Park: 15:45; 16:30; 16:50; 17:30.

Trains' departures to Tel-Aviv: 16:08; 16:48; 17:08; 17:48.

(b). SUKKOT IN MODI'IN.

During the Sukkot Holidays between 19.09.2013 and 24.09.2013, an International Circus Festival with several shows was held at the city of Modi'in. The events

took place at a site located a five minutes walk from Modi'in Central station. Rail passengers were able to buy combined tickets at \$12.50 instead of \$20.00.

(c). HASHALOM AUTOMATS.

Tel-Aviv Hashalom station, adjacent to the Azrieli Mall, is used daily by tens of thousands of soldiers serving at the nearby Army Headquarters. The soldiers' share of passenger traffic reached 55% in 2012 for this station. In order to improve service both for the soldiers and civilians, the railways have recently added two ticket vending machines - now there are nine - at the station, while an additional four such machines are being erected within the military area

(d). CARRIAGE REPAIRS IN GERMANY.

A press release (PresseBox) (Frankfurt (Main) / Berlin, 18.09.2013) announced that "DB Fahrzeuginstandhaltung GmbH" (DB Rolling Stock Maintenance Ltd.) of Witten-

103:05.



Works continue on the new Jerusalem line - here is a viaduct and tunnel near Mevasseret Zion.
(Photo: Sybil Ehrlich).

berge would assist in repairs to seventeen double-deck carriages which have been damaged in accidents. From September 2013 to Spring 2014 four carriages and driving trailers will be brought to Wittenberge (by sea to Hamburg) for extensive repairs; DB staff will travel to Israel to assist the local workshops in the repair of the other fourteen vehicles.”

(e). DERAILMENT AT KIRYAT GAT.

Following the derailment of a freight train south of Kiryat Gat on September 24, the line was closed for a while. By 22.45 that day the Israel Railways site showed one train an hour between Tel Aviv and Beersheva, but no fast trains. Although services on the line Beer-Sheva - Tel-Aviv resumed on 28.09.2013, the night trains did not return to the regular timetable until Saturday, 03.10.2013.

(f) INFRASTRUCTURE WORKS.

(i). Lod Ganei Aviv and Kfar Chabad station were closed from Thursday October 3 at 21:00 until Sunday October 6 at 05:00, and from Thursday October 24 at 21:00 until Sunday October 27 at 05:00, as well as that section of the line, for infrastructure work. Shuttle buses ran between those stations and Lod. Trains for Ashkelon etc. ran via the diversionary route via the airport, adding 7 minutes to journey times.

(ii). The line between Acre and Nahariya was to be closed for traffic between Sunday, 10.11.2013 and Sunday, 24.11.2013 due to development works on the double-tracking, following which the service will be improved with higher service frequencies. The railway authorities provided bus shuttle services between the two stations on both directions.

(iii). Between Thursday, 21.11.2013 at 23:00 and Friday, 22.11.2013 at 16:00 the Acre station will be closed due to infrastructure works; consequently, the last train to Acre departing Modi'in Central at 23:03 will terminate at Kiryat-Motzkin, as will all trains on Friday 22.11.2013 which will also start their services there towards Modi'in Central; the Acre - Kiryat-Motzkin section will be closed on the mentioned dates and alternative bus services between the two stations will be provided on 22.11.2013 every half an hour.

(g). MORE ON THE EILAT LINE PLANS.

From a press release of 06.10.2013 by the Transport, National Infrastructures & Roads' Safety Ministry: "The project of the railway line to Eilat moved a step forward today, after the Ministerial Committee for Internal Affairs and Services,

has today approved it. Special attention has been given to the Environment, and the various sub-committees who thoroughly checked the whole project's aspects, have also approved the electrification along the line's whole alignment.

The line, to be built both for passenger and freight services, will enable operation of passenger trains in some sections at a maximum speed of 250 km/h. The line will have twin-bored tunnels with an overall length of 9.2 km and 63 bridges with an overall length of 4.5 km; according to Minister Katz, it will be completed within five years.

Rumours about construction of the line by a Chinese company, due to a Letter of Understanding recently signed by Minister Katz and the Chinese, have already led to a warning by Mr. Ephraim Halevy, former head of the security institution (HaMossad), that such a deal will derail the strategic relations with the USA; this was soundly rejected by Minister Katz.

For the record, a report submitted by the S.P.N.I. and reported in Israeli newspapers claimed that the line would be a catastrophe, that it would be uneconomic as containers would take several days to travel from Eilat to Haifa, that no-one would need it but at the same time it would suffer from overcrowding and congestion, and so forth. Quite an amazing piece of sloppy work.

(h). NEW HEAD FOR INFRASTRUCTURE DEVELOPMENT.

From a press release of 07.10.2013 by Israel Railways Ltd.: "The Railways' Directorate yesterday approved the appointment of Mr. Reuben Kogan as Deputy General Manager for Infrastructure Development, succeeding Mr. Yaron Ravid, who recently finished his job and became CityPass General Manager.

Mr. Kogan, who has a B.A. in Economics and MA in Business Management. Is 37, married with two children. Prior to joining the railways he held a variety of posts in the Finance Ministry: as Deputy General Manager of Budgets for Local Authorities, Real Estates, Periphery Development, and Foreign Employees; before that he was a senior manager for building, science, culture, and sport, as well as for Health in the ministry's Budget Department.

In his new job he will be responsible for more than 20 projects of track infrastructure development, stations, computerization, and rolling stock procurement with a budget in excess of \$4.2 billion, implementation of the new development agreements; he will also be responsible for 130 directly-employed and additionally dozens of indi-

rectly-employed workers to be employed in projects' design, management and implementation.

The IR General Manager Mr. Boaz Zafrir said: "I congratulate Mr. Kogan on joining our company, which is undergoing a huge momentum of development; I'm sure that he will significantly contribute to the railways' development and turn it into a national hauler."

(i). RESERVED COACHES – SHHHHHH!!!!

On 01.09.2013 the railways resumed the provision of reserved seats in what is called a "silent coach". On these cars, passengers are being requested not to use cellular phones.

The cars are operated at a supplement of about \$1.42, on intercity trains only, in one direction only, and booked not earlier than 7 days prior to the planned journey date.

The service is offered between Sundays and Thursdays only, and thus neither on Fridays nor on Saturday Nights and the night trains.

The lines on which these cars are operating: Between Beer-Sheva and Tel-Aviv, Haifa, Acre, and Nahariya.

Between Modi'in, Haifa, Krayot, Acre, and Nahariya.

Between Tel-Aviv and Haifa, Krayot, Acre, and Nahariya.

Between Tel-Aviv and Beer-Sheva.

Between Nahariya, Acre, Haifa, and Beer-Sheva.

Tickets can be issued at manned points or automatic vending machines.

Stewardesses will be present at the entrances between 07:00 and 09:00 and 14:30 and 18:30.

(j). LATE-NIGHT FOOTEX.

On Sunday, 06.10.2013 there was a football match between the Maccabi Haifa and Hapoel Beer-Sheva at the Haifa stadium near Bat-Galim station.

A special train left Haifa at 23:30 to call at all main stations en route to Beer-Sheva.

(k). ROLLING STOCK MAINTENANCE.

On 10.10.2013 it was reported: "Alstom Transportation won today the huge \$422 Million international tender for maintaining the Bombardier-made IC3 Flexiliner dmu fleet for 15 years.

This is the first time ever in the history of Israeli Railways that Rolling Stock maintenance is outsourced and will be performed by an international rather than local factor.

Regarding the electrification to be

introduced in the near future, an additional outsourcing tender for maintenance of the electrical rolling stock and motive power, is to be published. (See below).

The tender is a result of Transport Minister Mr. Yisrael Katz's initiative in order to cope with the maintenance of the growing rolling stock and motive power fleet. This step, together with a structural change of the maintenance facilities - including a switch to 24 hours work with shifts in depots - will significantly improve the maintenance quality, save costs of spare parts, and will integrate international standards into the maintenance facilities.

According to the agreement signed today, there will be a three-months period to enable Alstom to prepare and build the maintenance hubs which, from January 2014, will provide the maintenance services at the depots of Haifa and Lod.

Alstom has been active in Israel for many years, and as far as rail issues are concerned, has supplied diesel-electric locomotives (before the Valencia plant was purchased by Vossloh), 37 push/pull passenger coaches, and the Jerusalem LRV trams which are also maintained by Alstom.

(l). WINTER TIME.

From an announcement of 22.10.2013 by Israel Railways Ltd.:

"Winter time will start on Saturday night 27.10.2013; it will affect services on Saturday nights and Fridays only."

(m). CONCERT SPECIALS.

On Tuesday, 22.10.2013, the railways operated special additional services from 23:30 and onward on the fill-up-and-go system for all the audience watching the show of the US singer Rihanna at Yehoshua Park near the Exhibition Centre and Tel-Aviv University station.

The train to Nahariya called at Hertzliya, Netanya, Hadera West, Binyamina, Haifa-Hof-Hacarmel, Haifa Bat-Galim, Haifa Central the 8, Kiryat-Motzkin, and Acre.

The train to Modi'in Central called at Tel-Aviv Central-Savidor, Tel-Aviv Hashalom, Tel-Aviv Hahagana, Ben-Gurion Airport, and Modi'in Outskirts.

The train to Ashkelon called at Tel-Aviv Central-Savidor, Tel-Aviv Hashalom, Tel-Aviv Hahagana, Lod, Rehovot, and Ashdod.

The train to Beer-Sheva Central called at Lod, Kiryat-Gat, Lehavim-Rahat, and Beer-Sheva North/University.

(n). MORE LABOUR DISPUTES.

In the 'Jerusalem Post' of Tues.

22.10.2013 p.17 is a report by Hillel Koren taken from 'Globes' - "Histadrut declares labour dispute at Israel Railways." "Despite promising four years of industrial quiet, the Histadrut labour federation on Monday declared a labour dispute at Israel Railways for all of its 2,300 employees, However, the Histadrut told 'Globes' it had no intention of calling a strike at this time. The Histadrut declared the labour dispute over 'continuing outsourcing by management and the refusal to hire fuelling staff, who are employed contract workers, under the collective agreement.' It said the fuelling staff were supposed to be hired in 2012 under the collective agreement, but management still employs them as contract workers. The Histadrut also declared the labour dispute over 'unilateral measures by management against the workers, which damage their privacy. Management wants to install cameras above ticket offices..... [These measures] harm their safety by unilaterally cancelling prevailing safety procedures and instructions'.."

(o). NEW FLEXIBLE TICKET SCHEMES.

From a press release of 03.11.2013 by the Transport, National Infrastructures and Roads' Safety Ministry:

"Good news for rail passengers: the Ministry will introduce on 01.12.2013 a new "Flexible-Monthly-Free" ticket which will enable unlimited travel over the whole rail network for 30 days, counting from the date on which it was purchased.

This is an initiative to provide passengers with a proper solution, particularly for those commuters who received free tickets as compensations for delays, unlike occasional passengers who could delay the latest validated date. The ticket will also be valid for cases of line closures due to infrastructure works.

Minister Katz also announced introduction of another flexible ticket, in this case a "Flexible-Monthly-Free-Combined Rail/Bus" ticket enabling unlimited travel all over the network plus all the feeder bus lines for 30 days from purchasing the ticket. Mr. Katz explained that these tickets are intended to encourage the public to prefer public transport services over the private car."

(p). CROWDED FILMING.

Railway management decisions may sometimes look very unreasonable; this happened on Thursday, 31.10.2013, when on the 10:45 train from Modi'in to Nahariya an entire coach with the highest number of seats and luggage area (a Siemens Viaggio push/pull type) had been exclusively rented

by a TV team producing an advertising film.

The passengers' anger at the film team (although it was not their fault) was huge, and when the train arrived at Haifa and the team left the train it was accompanied by curses and pushing. The main complaints of the public were against choosing the wrong weekday - Thursday is always overcrowded; the hour: Why midday? The line: Why one of the most heavily-used lines? and finally, Why a coach in the middle of the train and not the rear?

The railway management's response was that none of the complaints was true: the overcrowding was caused by passengers from other parts of the train who wanted to see the team at work, 10:45 is not a rush hour even on Thursdays; every step had been coordinated with the railway authorities, and the railways make such films from time to time with many bodies in order to promote rail travel.

(q). CARMIEL STATION PLANS.

From a press release of 10.11.2013 by the Transport, National Infrastructures, and Roads' Safety Ministry & Israel Roads (formerly National Roads Company and Public Works Department):

"Minister Yisrael Katz today announced publication of Tender No. 100/13 for building Carmiel railway station on the Acre - Carmiel line, currently under construction.

The project includes a modern twin-storey passenger terminal, platforms, and a parking area for more than 700 cars; adjacent to the station, a public transport hub is to be built for buses and other public transport.

Implementation time is 24 months, and latest date for submission of proposals is: 19.12.2013. Four months ago, the tender for building the other station on the line - Akhjud - was published and according to Israel Roads General Manager Eng. Shay Baras works of building the station are soon to start, after the traffic on road No. 85 (which runs adjacent to the railway line on parts of the alignment) has been diverted to a new alignment on the section between Yasif and Bar-Lev; according to both Mr. Katz and Mr. Baras, the whole line is in an advanced phase including the twin-bored tunnels with a total length of 5 km each on both sides of Gilon mountain.

The total cost of the line is estimated at \$780 Million, and when it is completed towards the end of 2016 the travel time between Tel-Aviv and Carmiel (about 136 km if measured from Tel-Aviv Savidor-Central sta-

tion) will be 110 minutes, giving an average speed of about 88 km/h."

(R) VALLEY LINE PROGRESS.

Additionally, on the same day as the above both the Ministry and Israel Roads announced publication of tenders for three new grade separations along road No. 71 which runs parallel to the Valley Railway (once the Hedjaz Railway and now being revived),

Minister Katz said: "The Valley Railway is highly important both for the link between Jordan and the Mediterranean Sea and for internal freight traffic to be diverted partially from trucks to rail; however, preventing road congestion is no less important".

Mr. Katz additionally told the press that his office continues to promote the plan of extending the line from Carmiel further to Kiryat-Shmona (in the Upper Galilee near the Lebanese border). He concluded: "When completed, the Galilee residents as well as the many visitors to the area will enjoy an advanced and fast transportation system."

(s). PASSENGER GROWTH STATISTICS:

From a press release of 06.11.2013 by Israel Railways Ltd.:

"The railways have reached new records in passenger traffic; between January and October 2013, the railways carried 36.98 Million compared with 33.02 Million during the same months of 2012; this is a rise of 12% !

During October 2013, 4.17 Million were carried compared with 3.53 Million during October 2012; a rise of 18% and a monthly traffic record in the history of IR. The October record continued the rise in rail use (despite closures of lines for infrastructure works) during which 3.3 Million were carried; 20% more than in September 2012.

The main rise was on the lines: Hod-Ha-Sharon - Tel-Aviv; Tel-Aviv - Beer-Sheva; and Tel-Aviv - Ashkelon.

General Manager Mr. Boaz Zafrir said: "The railways will continue to improve the service in order to increase further the number of passengers; cutting of journey times, increased frequencies, introduction of new rolling stock and motive power, and opening new lines and stations as well as upgrading the existing ones, all bring the experience of rail travel to high standards, thus convincing the public to prefer rail over their private cars".

(t). ELECTRIC MOTIVE POWER PLANS.

From 'RGI': IR has issued a request for information about the potential supply of electric locomotives and multiple-units for its elec-

trification programme. The first phase of the programme covers wiring around 420 km of existing and planned line at 25 kV 50 Hz. This includes the future 23 km 'Akko-Karmi'el line and the Tel Aviv - Jerusalem fast line which are both under construction.

As well as needing an estimated 80 electric locomotives for push-pull operation with its existing Siemens single-deck and Bombardier double-deck coaches, ISR is expecting to procure 60 double-deck electric multiple-units capable of working in three-car, six-car or longer formations. The locomotives would be required from the end of 2016, and the EMUs from early 2017.

IR said it intends to procure proven and 'off the shelf' stock meeting UIC and EN standards. The vehicles would need to be capable of 160 km/h operation and able to cope with gradients up to 3%, with a target journey time of 27 min from Tel Aviv to Jerusalem. They must also be suitable for use in long tunnels and in ambient temperatures of up to 47°C. IR would also be interested in the manufacturer undertaking maintenance as an option on the procurement contract."

(u). AGREEMENT WITH S.N.C.F.

From a press release of 18.11.2013 by Israel Railways Ltd.:

"On 17.11.2013, a strategic co-operation agreement was signed between SNCF and Israel Railways Ltd., as an integral part of France's President Mr. Francois Holland's visit. The agreement was signed at the official residence of Prime Minister Benjamin Netanyahu in Jerusalem, by SNCF Chairman Mr. Guillaume Peppy and Israel Railways Ltd. General Manager Mr. Boaz Zafrir.

The agreement is based on a fruitful cooperation which started on 2003, and will enable Israel Railways Ltd. to utilize the SNCF advantages as an international company with a rich experience and professional expertise in creating a modern national railways company with service awareness; thus the SNCF will assist Israel Railways Ltd. to achieve the strategic ambition of carrying 70 Million passengers in 2020.

The cooperation will be focused on:

- Upgrading railway passenger stations and building business centers within/adjacent the stations.
- Upgrading the cargo division.
- Drivers' training plans.
- Consultancy services for purchasing a simulator for the training centre.

Mr. Peppy said: "I'm very satisfied to extend our cooperation with your railways; the agreement is a milestone in our successful

cooperation, with the SNCF acting towards international expansion and innovation". Mr. Zafrir said: "This agreement strengthens our long co-operation; it is a significant stage in the process aiming to strengthen the knowledge and professionalism in railways, increasing the volume of both passenger and freight traffic, simultaneously with upgrading railway stations and the service provided to our customers."

(v). RECYCLING BONUS.

An initiative of the railways: on 28.11.2013 will be the Hanukkah (festival of lights); in return for three plastic bottles thrown into the recycling container, children aged between 5 and 17 will enjoy a free ticket to Jerusalem and benefits at the entertainment centres in the city.

(w). CHANUKAH SPECIALS.

The railways will operate additional trains Hanukkah (festival of lights), on 28.11.2013 and between Sunday 01.12.2013 and Thursday 05.12.2013, including: two additional trains between Binyamina and Rehovot in both directions; trains will depart from Binyamina at 11:58 and 13:58 respectively; trains on the opposite direction will depart from Rehovot at 10:55 and 12:55 respectively. There will be one additional train between Haifa Central-The 8 and Modi'in Central on both directions; the train from Haifa will depart at 10:18 and from Modi'in Central at 10:03. During the Hanukkah festival there are a lot of entertainment events for children like: Children's Festivals, Snow-White and the Hunter, Aladdin and Jasmine, The Three Musketeers, The King's New Clothes, and many others in various theatres or public halls at Beer-Sheva, Haifa, Tel-Aviv, Ashkelon, Holon, Nahariya, Netanya, Ashdod, Petakh-Tikva, Rehovot, Hertzliya, Yavne, and Modi'in. IR has published detailed information how to reach the mentioned places after arrival by train. [Ed. notes: It is not specified whether the trains will use only one-eighth of the normal energy requirement.]

103:05. TENDERS.

(i). Israel Railways Ltd. tender No. 11302: Carrying out Quantitative Surveys for the railways' Customers' Satisfaction: The contract is for 24 months with optional extensions of up to 24 additional months. Latest date for submission of proposals: 10.11.2013.

(ii). Tender No. MC/SR/08/13: Replacing Drivers' Cabs, electrical systems and command and control systems on freight EMD-GM locomotives. The bidder must be one who did such work during the last four years at least on

10 locomotives. The contract is for 24 months with optional extensions of up to additional 24 months; the initial 24 months include also a period of 6 months pilot. Latest date for submission of proposals: 18.11.2013.

(iii). Tender No. MN/KB/01/13: Systems for Jerusalem HaUma station:

28.10.2013 Latest date for submission of proposals postponed to: 31.10.2013. [Note: This seems to be the current new name for the terminus of the new fast line to Jerusalem which will be between the 'Tachanaha Merkazit' main Egged bus station, the tram stop outside it, and the 'Binyanei HaUma' ('Buildings of the People') complex.]

(iv). Tender No. HN/SR/02/12: Supply, Installation, Implementation, Integration and Maintenance of a Railway Infrastructure Engineering and Control System: Latest date for submission of proposals postponed to: 14.11.2013.

(v). Israel Railways Ltd. Tender No. BN/KB/05/13: Carrying out accessibility and upgrading works at Haifa Bat-Galim railway station: The tender is to be implemented in two stages. Implementation time: 65 weeks. Latest date for submission of proposals: 28.11.2013.

(vi). Local tender No. 11304: Providing Maintenance Services for fuel/oil/grease separators and removal of waste materials from depots; this needs disposal in an authorized site: The tender is for 12 months with optional extensions of up to additional 48 months. Latest date for submission of proposals: 21.11.2013. (Later extended: Latest date for submission of proposals postponed to 03.12.2013.)

(vii). Israel Railways Ltd. internal tender No. MS/R/2013/10: Allowance for renting an area of 1800 sq. m. at Haifa-Hof-Hacarmel railway station for the purpose of car parking. The tender is for 36 months. Latest date for submission of proposals: 25.11.2013.

(viii). Internal Tender No. 11301 for Manpower Placement and Employment:

The bidder must have three branches in order to provide the services in the northern area defined as from Hadera and northwards, the central area defined between Hadera and Ashdod - both cities not included, and the southern area defined from Ashdod and southwards. The contract is for 12 months with optional extensions of up to additional 48 months. Latest date for submission of proposals: 01.12.2013.

(ix). RFI for checking Installation of Safety Systems in Drivers' Cabs:

Although the following has been published in Hebrew on the railways' website, it is worth reading; here is Aharon Gazit's translation

– with IR permission:

There are currently three depots (with a fourth one due to be ready soon) for the maintenance and repair of rolling stock, after frontal and side collisions have happened during last years. The speed of most intercity trains is between 130 km/h and 150 km/h.

Requirements for the safety systems:

The additionally-needed safety systems has to identify all the railway depots and then to gradually reduce speed from 30 km/h to a maximum of 5 km/h within the depot; additionally, the system(s) have to identify rolling stock present on the same track, and in case there is a danger of collision, to apply service brakes and even emergency brakes if needed. The system(s) must apply the brakes once any problem has been identified, and apply the brakes at a distance of at least 30 metres from the expected collision.

The system has to conform with European railway standards.

According to Israel Railways Ltd. procedures, the driver has to slow down train speed at the rate suitable for the sort of train he is driving, as well as the line section and the destined depot.

The installation of the requested system(s) is not replacing the existing DEADMAN and INDUSI systems used to keep the driver watchful and are entirely separate.

The offered system(s) has to come from a well proven manufacturer and operated and experienced by railways. The information has to be sent not later than 05.11.2013 to Mrs. Hadas Peled at:

Fax 00-972-3-6937416/592 and E-mail: hadspd@rail.co.il

(x). Internal Tender No. MS/RC/2013/11: Permit to use a 3200 sq.m. area at Petakh-Tikva Kiryat-Arie and a 3300sq.m. area at Rosh-Ha-Ayin North stations for Night Parking only. The contract is for 36 months. Latest date for submission of proposals: 05.12.2013.

(xi). International Tender No. 41302: For the Manufacture and Supply of Ultrasonic Inspection Systems for Rolling Stock Hollow Axle, Solid Axle and Wheelsets. Bids by 14.11.2013.

(xii). International Tender No. MC/SR/08/13: Replacement of driving cabs, electrical system, and control system on GM freight locos; latest date for submission of proposals postponed to 02.12.2013.

(xiii). International Tender No. HN/RC/01/13. International Tender 41301: For the Manufacture and Supply of various types of Wooden Sleepers. The bidder has to have produced wood sleepers and crossing timbers every year since 2010 including cutting/impregnating/processing to UIC standard 863. Submissions by 19.12.2013.

(xiv). The last dates for submission of proposals of International Tender No. HN/SR/02/12 for Supply, Installation, Implementation, Integration, and Maintenance of a Railway Infrastructure Engineering and Control System, and of International Tender No. MC/RC/01/13 for Design, Manufacture and Supply of Road/Rail Shunting Vehicles for Israel Railways Ltd., were postponed to 31.10.2013.

TENDERS AWARDED.

It was announced on 08.10.2013:

The following Israeli firms won the following tenders:

The company Lead Control Ltd. won Tender No. TK/KB/01/13 for carrying out construction and maintenance of structure and operational control systems at the Beer-Sheva depot currently under construction; tender value: \$2.4 million.

The company Pitter Industrial Piping Ltd. won Tender No. MC/SR/20/12 for refueling and oiling facilities breakage maintenance.

The company Office Copies Groups Ltd. won Tender No. TC/SR/09/12 for providing blue-printing and copy services.

The company Morex 71 Ltd. won Tender No. TS/SR/04/13 for providing NDT services on welding, rails, and turnouts.

LIGHT RAIL.

A. JERUSALEM.

(i). From Walter Zanger's newsletter 'From Jerusalem' Vol. 15, No. 9, August 2913:

Two snippets:

p.5: "Glad to have some improvement in the Light Rail to report. I bought another RavKav, the rechargeable plastic card you use to pay your fare, This new one is anonymous, doesn't have my picture on it, and anyone can use it any time, on the train and all the buses. Good news. You don't have to mess around with the ticket machines at the stations. So I can get a few cards for tourists and visitors and save them the hassle.

Less good news is that, although anybody can use the card, you can't have two people using it for the same trip, one after the other. The computer won't allow that. So every passenger has to have his/her own card, which [one can buy] at 5 Shekels each, plus the amount of fare you load in. Other bad news – no discounts – seniors, children, soldiers, etc. - are possible using this card. Still, it's an improvement of service."

p.8. "We still may have a way to go vis-à-vis the Light Rail... The Ministry of Transport has just slapped a 1 Million Shekel Fine on the company that operates the system, because it is not keeping the terms of service agreed to in its contract. They're running too few trains. Too few trains means long delays between trains that result in overcrowding and real inconvenience,

salem Transportation Master Plan Team:

A survey recently completed, shows that pedestrians returned to the city centre; during August 2013 there was a record number of 430,000 visitors at the city centre spread over 18 different points; at the Makhane-Yehuda market it reached 65,000 daily, at a certain point of Jaffa Street it reached 50,000; at another point of the same street it reached 41,000 and at the nearby Ben-Yehuda pedestrian area it reached 37,000.

The survey also reveals that compared with 2011 – before the LRV started operating – pedestrian traffic had risen by 46%; no doubt this is thanks to the LRV and despite the criticism against it which still exists; all the factors indicate that the planned extensions of the Red Line will add even more visitors to the city centre, as well as huge opportunities for further developments of the city centre.

(iii). SUKKOT.

From a press release of 01.10.2013



Israel's first woman tram driver. (Photo: Ozel Vatik and CityPass, courtesy of Aharon Gazit.)

and they simply need to add more trains to the line. In addition, the complaint says that ticket machines are not adequate or user-friendly. That's for sure. The Light Rail is still great for us, but the complaints are right on all counts. The service needs to get better. Still, a million Shekels is a helluva lot of money. Wonder what will happen with this issue."

(ii). PEDESTRIAN TRAFFIC RETURNS TO THE STREETS.

From a press release of 16.09.2013 by the Transport Ministry, Jerusalem Municipality, and Jeru-

by the concessionaire CityPass: "During the Feast of Tabernacles between 20.09.2013 and 25.10.2013, the LRV carried more than 700,000 passengers; the record was on 22.09.2013 - 150,000 compared with the regular average of 130,000 - due to tens of thousands of cohanim (Jewish priests)

who came to the Western Wall for a special prayer.

CityPass increased frequencies, erected three manned points for selling tickets and also deployed many teams to assist. About 30,000 single tickets were sold at the manned points as well as hundreds of thousands of tickets sold at the vending machines.

At the three main LRV stations: Mount Herzl, Central Bus Station, and Ammunition Hill, CityPass erected spacious tabernacles (Sukkot), nicely decorated and used by many passengers.

CityPass General Manager Mr. Yaron Ravid said: "The fact that many visitors preferred the LRV proves its necessity to the city as well as our preparations which proved themselves".

(iv). WOMEN DRIVER.

The Jerusalem LRV can also be proud of the fact that the first LRV woman driver in Israel is on its Red Line. *(Photograph previous page)* Mrs. Sarit Hamburger, 42, formerly a kindergarten teacher in a Jerusalem satellite neighbourhood, recently received a bus driver's license and now also an LRV driver's license.

B. TEL AVIV.

(i). NEW MANAGER.

From a Press Release of 11.09.2013 by NTA (Tel Aviv LRV Project).

Mr. Anthony Burchel has been appointed as the Red Line Manager and will start working on 01.10.2013. Mr. Burchel, 63, gained the title of Civil Engineer from Leeds University, which he received in 1971. He is one of the world's senior managers for LRV and Mass Transit projects, currently working for Parsons Brinckerhoff.

During the over forty years of his career he has been Project Manager of the Qatar Strategic Rail Development, Dubai Metro lines Project Manager, New Delhi Metro Project Manager, Singapore North Eastern Metro line Senior Manager, and Engineering Manager of Cairo Metro Line No. 2.

Both the recently appointed NTA Chairman Mr. Alex Wishnitzer, and its General Manager Mr. Isaac Zuchman, gave their best wishes for the appointment, mentioning that "With Mr. Burchel's rich experience gained in the mega projects he has managed, there is no doubt that he is the right person in the right place, particularly regarding Israel's most complicated infrastructure project".

(ii). TUNNELLING TENDERS.

From a press release of 01.10.2013 by NTA:

NTA has completed the PQ (Pre-Qualification) stage for the tender of boring the Red Line tunnels in the NATM system, a conventional system for boring in soft ground, beneath deep water, as well as under streets and infrastructures. Four international leading companies in tunnelling - out of seven initial bidders - passed the PQ; the winner is to be decided at the end of 2014.

The PQ lasted about 15 months due to deep checks on the candidates. Tunnels of 3.5 km including halls and evacuation tunnels are to be bored; the works will take place at the eastern part of the Red Line, under Geha junction and road No. 4, as well as north of the Em-Hamoshavot planned station (Petakh-Tikva).

NTA General Manager Mr. Isaac Zuchman said that due to the tender's complexity, each step brings the project forward. Meanwhile, infrastructure works (laying a new sewage pipe line) continue along Jabotinsky street in Bnei-Brak, under which the Red Line will pass.

Senior consultant Mr. Anthony Burchell of PB has started working at NTA.

(iii). RESIGNATION OF GENERAL MANAGER.

From a press release of 08.10.2013 by NTA: NTA General Manager Mr. Isaac Zuchman has announced that he will leave his position due to personal reasons. Mr. Zuchman joined NTA in August 2011, after 13 years as Deputy General Manager for Infrastructures at the Transport Ministry; before that he served the army as a Colonel.

He mentioned that during his work at NTA, more has been done than at any time since the metro idea was first raised in the 1970's. He added that he is leaving a company with a huge momentum of implementation and wished the Chairman Mr. Wishnitzer all the best.

Mr. Wishnitzer thanked Mr. Zuchman for his huge contribution to the project, and promised to do everything to continue promoting the project.

(iv). CRITICISM AND RESPONSE.

From a press release of 15.10.2013 by NTA: NTA has responded to the annual report of the State Controller – retired judge Mr. Shapira – who criticized the way NTA was managed and the budget irregularity compared to the original plan.

The response is: "When the government decided on December 2010 that NTA would implement the project rather than the concessionaire (who had failed), the estimated cost of the project, based on the then concessionaire's estimation, was \$3.0 Billion, without any updated engineering data.

Only on April 2012, according to the planning progress and the project's implementation strategy, was a fundamental updated budget prepared, based on engineering plans.

Based on the updated budget and after discussions with the Finance Ministry and the controlling company, which included paragraphs covering new issues, such as pumping deep water, and treating contaminated water, and considering the rise in prices and higher VAT, the updated budget of \$4.0 Billion has been approved by all the involved parties and was not changed since.

Additionally, the schedule introduced to the government on December 2010 was based on that of the concessionaire, who had estimated five years. According to planning progress and comparing the schedule with similar projects abroad, an updated schedule has been prepared which speaks of completing the project (the Red Line) in 2021; this schedule has been prepared with the assistance of 2 PB consultants, additional international and Israeli consultants and in coordination with the controlling company.

At the time of the government decision in 2010, NTA consisted of a staff of 30 people; the company, which then turned to implementation, started to grow to a staff of 250 people, of which 150 are already working, and recruiting continues.

There was a need for new procedures, as well as a management for dealing with procedures; within 9 months, 49 new procedures have already been assimilated and soon the Procedures Code will be completed".

HaRakevet is prepared by the Editor Rabbi Dr. Walter Rothschild in Berlin and typeset and printed in England by CPS-Airedale / Thistle Print Ltd, Leeds.

OTHER MIDDLE EAST RAILWAYS.

A. TURKEY.

(i). THE MARMARAY OPENS – OR DOES IT?

This should be the announcement of the century – the opening of the railway tunnel which at last would link Europe and Asia by a through standard-gauge line of rails (or in fact two.) But although the Editor has followed a few news reports it seems that the matter has not been celebrated as it should be. The Transmaray opened on Thursday 29th. Oct. and the next day apparently a train failed in the tunnel and passengers had to be evacuated. Information is scarce and scattered but the following has appeared on the 'Turk-Rail' chatline.

"A recent report: <http://www.railjournal.com/index.php/commuter-rail/istanbuls-bosphorus-rail-link-finally-opens.html> reports an opening ceremony and seems to suggest that through suburban services have commenced. (Another news item reports an evacuation in the tunnel, which might be an exercise). I had thought that passenger services wouldn't be running through until next year."

From one contributor on 31.10: "There are services running from Ayrilik Cesmesi to Yenikapi via Marmaray at the moment. I heard the announcement on the metro this afternoon. I haven't yet actually used Marmaray, though. As far as I know, the evacuation was the result of a brief power outage at rush hour on the first day of service. It is difficult to get non-partisan information about Marmaray. One set of people call it "asrin projesi" (the project of the century), whilst others claim the tunnel is an accident waiting to happen. Technical reports might well be available, but I don't know where to look. Any ideas, anyone?"

Another: "There are serious safety concerns which are brought by the Turkish media, especially the ones against the government. However the weak and evasive answers which come from the ministry and prime minister increase the concern. We would normally expect the release of a third party or independent consultant's or at least contractor's test and commissioning reports and sign-offs, confirming the accomplishment of safety checks required for the start-up. But the technical parties are completely silent, as if showing the politicians to be the address to answer these concerns and critics - which are basically correct. It was the same case in Kadıköy-Kartal underground metro line. It was put into service before completion, just for the sake of starting during the religious holiday. So it has become a regular practice, to start before the actual completion of the projects. Which should not be the case for projects like Bosphorus Tunnel. Unfortunately, political decisions are overriding the technical rationality."

(ii). METRO TRAINS: FROM ROTTERDAM TO BURSA.

From NVBS 'Op de Rails' magazine Sept. 2013: p.442: In July, Rotterdam Electric Tram transport company (RET) sold some more type T metro trains to Bursa in Turkey, via Zeebrugge harbour: 5256, 5257, 5205, 5230 (all in running condition), and 5253 (o.o.u.).

In the October 2013 issue p.489: In August, Rotterdam Electric Tram transport company (RET) sold some more type T metro trains to Bursa in Turkey, presumably again via Zeebrugge harbour: 5248, 5254, 5208, 5240 (all in running condition), and 5226 (o.o.u.). (Note: from the same series 5251 was transported from Rotterdam to a scrap yard; also 5220, 5224, 5233, 5262, 5263 & 5267 will be scrapped.)

One more (5223) left for Bursa on September 10, 2013. Possibly the 5204 left for Bursa as well on September 25, but to be cannibalized. 5225, 5237, 5255 have been sold to an undisclosed trader, and 5353, 5350, 5362 will be overhauled.

(iii). GAZIANTEP TRAMS.

From NVBS Op de Rails Magazine 2013-11 (p.541):

"Gaziantep signed a contract for extension of its tramway network with a 6.5 km long line. The town has 1.3 million inhabitants and a single tramway line of 12 km since 2011. This line is operated with second hand rolling stock: 26 double articulated Ptb's from Frankfurt am Main (with 2 to be cannibalized). For the new line 28 second-hand low-floor type tram-cars have been bought in Rouen, France." (Thanks to Marc Stegeman for these notes).

(iv). NEW ELECTRIC LOCOS.

The new E68000 electric locos are now on test running and are painted a very different livery from anything that has gone before. There are two pictures on TCDD website: <http://kurumsal.tcdd.gov.tr/home/detail?id=2305>

(v). NEWS FROM CAMLIK MUSEUM.

In 'Black Eight' No. 132 (Autumn 2013) pp. 80f. is an account by Maurice Reed of a recent but undated visit he paid to this museum. In Summer 2011 "the talk the was that the future of the museum was in doubt but so far it is still in operation. On arrival the entry fee is five Turkish Lira (YTL), about one Pound 80 pence, but sadly no guide books, stock lists or any museum-related literature is available. This can be found at:

<http://www.trainsofturkey.com/w/pmwiki.php/RailwayMuseums/Camlık/Museum>

There is a shop, but it is basically a tourist-trap for the tour groups that stop off when visiting nearby Ephesus. The restaurant however is quite good. The three of us had a three-course lunch each plus a large bottle of mineral water for 65 YTL, about GBP 25.

The collection comprises some 33 steam locomotives, 32 standard gauge and one 600mm gauge. They originate from Germany, Sweden, France, USA and five from British builders. The main loco of interest is of course TCDD 45161, North British built-Staner 8F. [!] There is also a number of carriages, goods wagons, cranes, pump trollies etc. on show. Kemal Atatürk's private carriage is also on show. Some locos stand on isolated sections of track whilst many are stationed around the old engine shed turntable. The bulk of the locos are 2-10-2, 2-8-2 and the 2-8-0 Stanier. So, you get the impression that Turkish trains weren't particularly fast but were most likely quite heavy. With the collection standing out in the open the whole site looks rather sad and neglected. I got the feeling of an elephant's graveyard surrounded by these giants of steam suffering the effects of being weathered by the sun and rain. It's a great pity that such a superb collection of railway history is slowly crumbling away. It just seems to confirm the lack of interest in heritage of any sort once you are outside of the UK. Kemal Atatürk is revered as the father of modern Turkey and yet his German-built private carriage is sadly neglected. It didn't look like anyone had cleaned the inside of it for many years. When we were there, there were very few visitors apart from a Japanese tour group. Tour groups from cruise ships visiting the old Greek and Roman ruins seem to provide the bulk of the visitors to the site but for them it's a very brief stop and I am not convinced that they generate much income for the museum. There is no such thing as a lottery in Turkey so funding cannot be obtained that way as it often is in the UK."

(vi). The magazine 'Fern Express'

has produced a special issue, III/2013, Nr.

119, ISSN 0933-7598 on Turkey – a mixture of articles in German on modern developments and historical trips. It is hoped to translate some of these for future issues.

B. PALESTINE.

An interesting website for those interested in such things is 'PM Palestine Monitor' which consists largely, it would appear, of non-stop whingeing rather than any positive proposals. On 09.08.2013 Fatima Masri wrote:-

"The Israeli Civil Administration is promoting a plan for the construction of a grandiose railway system in the occupied Palestinian territories. The proposed plan, expected to be completed in 2035 will include the construction of 473 km. of rail, 30 stations and 11 separate railway lines. The Palestinian Authority refuses to take part in the plan, which includes construction of the railway in areas A and B, under the PA's jurisdiction.

In normal circumstances, an improvement in the transportation system would arouse public consent. Yet in Palestine, an Israeli railway running through land defined by international law as temporarily occupied reaffirms the Israeli objective of permanent dominion.

The map proposed for the rail network clearly reflects the settler population's needs. The central line will link Palestinian cities with the highest settlement presence – Jenin, Nablus and Hebron – to the outskirts of Jerusalem and to the Israeli city of Be'er Sheva in the Negev desert. A latitudinal line will run through Hebron, Jericho, and Tulkar-em, connecting the illegal West Bank settlements of Ariel, Kiryat Arba and Ma'ale Adu-mim to Israel.

If completed, the ease of access between Israel and the West Bank will encourage more Israelis to live in the occupied territories as well as facilitate movement of Israeli troops within Palestinian land.

The huge investment entailed in the plan – estimated in 27.8 billion dollars – reaffirms Israel's intention to secure its control on the disputed land of occupied Palestinian territories. Mustafa Barghouti, Secretary-General of the Palestinian National Initiative (PNI) defined the Israeli railway plan as the 'ultimate attempt to annex the West Bank.'

Israeli media stresses the benefits for commuting Palestinians, who are not formally restrained from accessing the trains. However, it is not clear how the current extensive system of checkpoints and travel restrictions imposed on the Palestinian popu-

lation will be applied without compromising the whole purpose of a fast track. If no ethnic separation is enforced, settlers – who live in inaccessible enclaves and are authorised to carry weapons, and Palestinians would find themselves sitting side by side in train cars. From 2004 to 2011, episodes of violence committed by settlers increased 315%. According to the United Nation's Office for the Coordination of Humanitarian Affairs (OCHA) over 90% of monitored complaints regarding settler violence have been closed without indictment. Even if Palestinians are not legally prevented from accessing the trains, travelling in conditions that do not grant Palestinian security might lead to the voluntary exclusion of the local population.

Some 1 million Israeli Shekels have already been invested in the planning process. This large investment is in stark contrast to the absence of financial aid to Area C of the Palestinian territories, which are under Israeli full civil and security control. As an occupying power, the Fourth Geneva Convention legally requires Israel to fulfil the local population's basic needs. Despite this, the Israeli Civil Administration has rejected several urgent infrastructure plans proposed by the Palestinian Authority.

The lack of funds will likely postpone the start of construction for several years. However, the mere existence of the plan virtually occupies the lands on which it is supposed to develop, as building along the future railway track is prohibited.

The plan entails a permanent alteration of the landscape, something that is explicitly prohibited by the Fourth Geneva Convention.

Furthermore, Israeli planners have arbitrarily decided the railway path without the consultation of Palestinian officials. Even though the plan will be open to objections in the coming weeks, hiring lawyers and planners to ensure the maximum safeguard of Palestinian land will be detrimental to the Palestinian Authority's diminishing budget.

The plan was approved only days before U.S. Secretary of State John Kerry's most recent attempt to resume the peace talks, raising doubts on Israel's true intentions. Additional distrust is due to the recent statement made by Israeli Transportation Minister Yisrael Katz in which the MK member said: 'A Palestinian state is unacceptable, mainly because of our right to this land.' This is troubling considering Katz is one of the main supporters of the Railway plan.

The new railway system seeks to further integrate Palestinian geography and economy into Israel dashing the already fee-

ble hopes for a two-state solution. In her article for Haaretz, Rachel Neeman suggests that the plan encourage the realisation of a bi-national state. However, Palestinian reactions suggest a different ending to the peace talks. Secretary General of PNI Mustafa Barghouti views the approval of the railway plan as a new attempt to foil Palestinian demands and further implement an Apartheid regime in Palestine."

[Ed. tentatively offers a Personal Opinion... Now, I know there are many opinions on what is happening in the Middle East, but I find it intriguing that one definition of an Apartheid State is when Israelis and Palestinians may be forced to sit together in the same train cars! Whereas insisting that two separate states be formed is NOT classed as 'Apartheid'!! And that Israel can be criticised for failing to invest in basic needs of Palestinians but then criticised for being prepared to invest millions in improving transport... Is this writer expecting troop trains to be run? Changing the landscape is apparently breaking the Geneva Convention, but expanding Palestinian cities is not? I have until now largely tried to avoid getting involved too closely in political squabbles, as any historical study of the region shows that the fights just go on and on in different forms, but I DO believe in critical reading of texts and this text is simply totally self-contradictory. Something just does not make sense here (as so often in M.E Politics...)]

C. SYRIA.

For some time now no railway news has come from Syria, for understandable reasons, the state has been split into different warring factions whereas the role of railways is of course to link areas together. There is one rather sad item in 'Die Welt' for 7.11.2013 p.7: "In two bomb attacks in Syria at least 16 people have been killed. The first one detonated yesterday in front of the entrance to the Syrian Railway Administration in the capital, Damascus, as the news agency Sana reported. Eight persons were thereby killed...."

D. SAUDI ARABIA.

In 'Eisenbahn-Revue International' 11/2013 p.583: The 'DB International' branch of the Deutsche Bahn will undertake the programme management, control of vehicle production and numerous engineering responsibilities for the construction of the 450km high-speed line from Jeddah to Mecca and

Medina. The contract by the Saudi Railways Organisation is worth around ‘a mid-two-digit-Million’ sum – i.e. perhaps around 50M. There will be five stations on the line, between which the trains will run at 320 km/h.

The ‘Wirtschaft’ page of the ‘Frankfurter Rundschau’ of 4/11/2013 (p.16) adds a little more human detail in an item headed ‘The Pilgrim Express’ by Peter Kirnich: ‘Many disappointed travellers would gladly cast the Deutsche Bahn out into the desert – but in fact it is already there! At the end of September the DB subsidiary ‘DB International’ signed the biggest contract in its history, in Saudi Arabia. The Saudis are building a 450km high-speed line in order to convey the millions of Moslems who travel every year to the pilgrim destinations of Mecca and Medina; the line will link these cities with the airport at Jeddah. ‘We are taking responsibility for the checking of plans for the permanent way and necessary equipment, supervision of the construction, the production of rolling stock and the project management’, says DB-International head Niko Warbanoff.... A Spanish consortium has the overall responsibility for the project, which will in total cost seven Billion Euros, for the construction is very demanding. ‘The DB and German engineering know-how has a good reputation worldwide,’ says Warbanoff. ‘It is in demand in several countries, so why should we let lucrative contracts go?’.... It is especially the countries in Arabia that are currently investing in railways, more than any other part of the world, in order to resolve their transportation problems. ‘We reckon alone in Saudi-Arabia, Qatar, the United Arab Emirates, Kuwait and Oman an investment in the rail infrastructure of around 100 Billion Euros by 2020,’ says Warbanoff.

Where until recently camel trains were the main means of transport, the Railway should soon take over all these loads. Warbanoff dreams of goods trains that run from Saudi Arabia via Jordan, Syria and Turkey to Western Europe. ‘That can certainly form an alternative transport route, even though it will probably be a very long time before it happens.’

For Saudi Arabia the new line between the two holiest sites of Islam the highest priority. This past year once again almost two million Moslems took part in the pilgrimage to Mecca. According to estimates by the Saudi authorities this number could quadruple in the next ten years. By 2017 at the latest they should be able to shuttle between the two cities by train; 8,000 passengers per hour in each direction, at a speed of 320 km/h.

The trains will come from the Spanish firm Talgo, which is one of the best-known producers of railway rolling stock. However, even the Spaniards have not yet built passenger express trains that can cope with the extreme climatic conditions as experienced in Saudi-Arabia. ‘The greatest problem is certainly the heat,’ says Warbanoff. 50 degrees C in the shade is normal there. ‘The rolling stock, but also the tracks and the electronic equipment and even the rails must be prepared accordingly,’ he says. This is difficult, but possible.

The railway industry sees it the same way. The fact that in German trains the air-conditioning units strike when the outside temperature is 30°C is mainly due to the fact that they are not designed for higher ranges; however in a ‘Climate Tunnel’ in Vienna trains are already being tested that can function under extreme conditions – from -50° to 50°. The sand is also not unproblematic, says Warbanoff. From time to time one will have to push it aside with a special plough train; or one must build embankments. The soil itself is not so complicated, for under the desert sand there is mostly hard rock. ‘That is soluble in terms of construction,’ he says, although it will also involve substantial works. His team comprises 1,200 members, who have already gained experience in many parts of the world, including construction of the Chinese high-speed line and of a mile-long bridge over the Yellow River, the modernisation of freight railways in South Africa and on railway bridges in Siberia at temperatures down to -50°....

Since 1966 DB International has been active in over 100 countries – including the Arabian Peninsula. ‘Here we have made our greatest turnover in recent years’ he says. The Arab countries are preparing themselves for the time when oil will not be so easily available as now; and so they are planning a gigantic railway network. In many cities individual car traffic is also reaching its limit, and so extensive metro and other urban transport systems are being built in Riyadh, Mecca and Qatar and a driverless People-Mover-System on stilts that should traverse the Women-Only university campus in Riyadh.[*]

DB International is involved in several of these projects. In the UAE the DB will shortly commence a Joint Venture in which it will itself operate freight trains. This will be the first time that the freight organisation DB Schenker Rail will be operating trains itself outside Europe. The contract was won partly through Warbanoff and his team. ‘We are expecting many further lucrative contracts in the next ten years,’ says the 37-year old manager.”

[* - *Of course if you don't allow women to drive, and you don't allow men into the entire campus, then this is the only technical solution! Ed.]*

103:09.

NOTES AND COMMENTS.

(a). THE JERUSALEM OLD STATION.

See 101:09 (xiv) and 102:

Walter Zanger has written further on this topic, in his ‘From Jerusalem’ Vol.1 5 No. 9, August 2013:

‘They have opened an enormous model-railroad in the First Station, the old Jerusalem railway station, now restored.... That place is crowded now with school children; it is something to do in town, open 7 days a week, and doesn't cost anything to get in. I saw many more restaurants and a few more shops this week. But the interesting movie on the history of the Israel railroad has closed and nothing has changed about the (absence of) English information for tourists or other non-speakers of Hebrew.

The model railroad room is really impressive if you like that sort of thing. They've got several hundred feet of track in all kinds of intricately-detailed scenery on high, low and medium levels, going through central European towns, castles, mountains, tunnels, bridges, work yards, stations, terminals, factories, farms. the lot. All the way around a very large shed. Unhappily, the exhibition is expensive, 75 Shekels (\$21) for adults and 55 Shekels (\$15.50) for kids. That's a lot! I liked the whole thing, though....’

(b). BORSIG LOCOS ON THE JAFFA – JERUSALEM LINE.

From ‘Die Lokomotive – Illustrierte Monatsfachzeitung für Eisenbahn-Techniker’, 1. Jahrgang, Mai bis Dezember 1904, Wien – Berlin – Zürich. i.e. From the first year of this monthly illustrated magazine for railway engineers. On p. 194 (not dated but presumably from the number quite late in this year) is a rather proud article: ‘Deutsche Lokomotiven in Kleinasien’

– ‘German Locomotives in the Middle East’:-

“A good picture of German commercial initiatives and German determination and action is formed by the large railway projects which are currently being driven forward with great success in the Middle East. The first section of one great line, which should link the Mediterranean Sea with the Persian Gulf, the so-called Bagdadbahn, has now been completed – 200km. in length. Construction of this line has been carried out by the well-known civil-engineering firm of Holzmann & Co. of Frankfurt, and the locomotives required for its operations all come from German factories and are currently being built. Also on the second big line, the 1,800km. long Hedjaz Bahn, which is being built with Turkish funds but under the supervision of a German engineer, the first section of 460km. has been completed, and here also almost exclusively German locomotives are used; and even on the third railway line in the Middle East – the Jaffa – Jerusalem, whose construction and operation has been led by a French company, Borsig-built locomotives will soon be working.

The accompanying illustration [not here reproduced] shows a locomotive that has recently been shipped to Jaffa from the Locomotivfabrik A. Borsig of [Berlin-]Tegel which is intended to handle the traffic on that very mountainous line and to replace the American-built locomotives used until now.

The locomotive is built according to the well-known Mallet-Rimroth system, i.e. as a double-compound locomotive. The motion is formed of two independent steam-powered bogies, joined only by a hinge. The rear mechanism, which is fixed together with the boiler, the main frames and the cab, carries the two high-pressure cylinders, while the front bogie carries the low-pressure cylinders. The great advantage of this form of construction is that the entire weight is available for adhesion, and on the other hand the flexibility of the front bogie allows for the easy traversal of curves.

Despite the gauge of only 1 metre the loco has a quite respectable weight of 35,000kg not counting the tender, and on the level can travel comfortably at 45km/h.

For safety when travelling over the long and steep gradients which have to be overcome, the loco is fitted with a steam brake, which works on two brake shoes on each of the eight wheels, and which are therefore able to halt the engine quickly even from a high speed.

For travelling downhill a very clever counter-air-pressure resistance brake, originally developed by Riggenbach, is fitted, which works in that on the downhill run first the steam regulator and then the chimney exhaust pipe fitted in the smokebox are closed and the gear is then set to reverse; in consequence when moving forward air is sucked in from the atmosphere through the low-pressure cylinder through an opening opened at the same time as the exhaust pipe in the smokebox is closed, is compressed into the connecting pipe and the high-pressure cylinders and then from these through a one-way pipe and a release valve fitted into this it is released back to the atmosphere. Depending now on how the driver winds

the ventilator more open or more closed through a simple handwheel, the counter-pressure on the cylinders is then greater or smaller, and the driver has full control over the speed during the descent simply by opening or closing this valve.

As a third form of security there is, in addition to the handbrake on the tender, the well-known ‘Le Chatelier brake’ which allows fresh steam to be admitted from the boiler directly in front of the pistons in cases of sudden urgency and danger and so creates a further system of counter-pressure in the cylinders.”

NOTE ON SUEZ CANAL.

In ‘Black Eight’ No. 132 p.60 in a reader’s letter by Alan Collis is an interesting observation from his time there in 1953: “The necessity for the canal-edge piling shown in the [image] becomes very apparent when, as an alternative to off-duty locomotive spotting (not easy with those Arabic numerals!) I indulged in some ship-spotting’ alongside the waterway. Until actually witnessing the phenomenon I had not realised that, upon the approach of a vessel, the water level recedes very markedly towards the approaching hull, due to the action of the propeller(s) shifting large volumes of water rearward in order to thrust the hull forward. Then, as the vessel passes the viewing point, the water level (or ‘wash’) increases by the same amplitude (obviously) and this wave oscillation then gradually declines until the whole process is repeated as the next vessel in the convoy approaches, each transit thus subjecting the edge piling to considerable hydraulic forces.”

103:09.

Activities in 1936. From ‘Royal Engineer Journal’ 1937, Vol. 51, p. 375-393.

RAILWAY OPERATION AND MAINTENANCE IN PALESTINE.

By Captain J. H Anderson, R.E., and Lieutenant W.H.B. Wheeler, R.E.

On 30th. September 1936, the first contingent of the Detachment, 8th. (Railway) Company, R.E landed at Haifa, as part of the Palestine reinforcements No. 1, and went into camp with the 42nd. (Field) Company, R.E. at Lydda.

To understand the situation as they

found it, on the 1st. October, it is necessary to consider (i) the railways available, (ii) the distribution of troops and (iii) the method of supply.

(i). The railways of Palestine, all single line, consist of the standard gauge line which enters Palestine from Egypt at Rafa and running through Lydda Junction and Tulkarm, terminates at Haifa (212 kilometres), and a narrow-gauge line (105cm), which runs from Haifa to Afule and on to Samakh 87 kilometres) at the southern end of the Sea of Galilee, where it passes into Syria. There is a standard-gauge

branch from Jaffa and Tel-Aviv through Lydda Junction to Jerusalem, and a narrow-gauge branch from Afule through Massoudieh (60 kilometres) to Nablus (87 kilometres) and a further branch from Massoudieh to Tulkarm (18 kilometres.) The portion of the line from Massoudieh to Afuleh had not been used for four years, but the portion from Tulkarm to Nablus had been in use up to the time the Ramin Bridge was damaged by sabotage and had to be destroyed by 42nd. Company R.E. This bridge was later repaired by 17th. And 42nd. Companies. Owing to sabotage, naval and military crews still manned certain trains,

הרכבת

all passenger trains were preceded by pilot trollies, and certain armoured units patrolled the line after dark. The pilot trollies had been constructed by fitting rail wheels to Ford V-8's and by mounting a Lewis gun in the rear...; and to give the minimum time to saboteurs, they preceded the trains through the section by some 2,000 yards. Accidents did happen to these trollies, and they were rather between the devil and the deep sea, one naval driver of a following train having been heard to remark, "I've had a couple of them across my bows before now!" However, they did their job, as no train piloted by a motor trolley ever came to grief, whereas prior to the use of these pilot trollies, several trains had been derailed with loss of life.

(ii). The distribution of troops in October was roughly as follows:

Force Headquarters and Headquarters 1st. Division were in Jerusalem. Of the brigades forming the 1st. Division: 1 I.B. (Infantry Brigade) and 3 I.B. were in Jerusalem, and 2 I.B. was in Jaffa.

Headquarters 5th. Division was in Haifa. Of the brigades forming the 5th. Division, 15 I.B. was in Haifa, 12. I.B. was in Nazareth, and 16 I.B. was in Nablus.

Troops were actually covering wide areas, and of the 16.I.B. in Nablus, two battalions with Cavalry, R.A., R.E., R.A.S.C. , R.T.C.. and R.A.F. were actually in Nablus, one battalion with certain attached troops was at Jenin, and one battalion, less detachments, was at Tulkarm.

(iii). The system of supply was as follows:- the Main Supply Depot was in Haifa, and was fed from U.K. and Egypt by sea. There were Supply Depots at Sarafand, near Lydda, and at Jerusalem, which were fed by rail from Haifa, and to a certain extent from Egypt. There were D.I.D.'s at Tulkarm, Afule and Samakh, fed by rail. Supplies for units at out-stations were sent forward by M.T. Convoy (Motor Transport). The supplies to be carried daily to Jenin were approximately one ton, and to Nablus approximately three tons.

THE OBJECT.

The object of the inclusion of Railway Troops in the Palestine reinforcements was to ensure that a sufficient reserve of suitable personnel would be available in the country to maintain the essential railway services in the event of a railway strike. To familiarise all ranks with the loco's, stock, methods of working, and layouts, the detachment was at once distributed as extra men on the trains on the main line, and in main yards, from Kantara to Haifa, and from Jaffa to Jerusalem.

It was, however, soon evident that the critical days had passed, when a full dress railway strike had appeared imminent, and that the Railway Troops now in Palestine, while standing by for action on the main line, could be made available for running extra trains. Force Headquarters, therefore, conceived the idea of opening the Afule – Massoudieh – Nablus – Tulkarm line as a military railway in order to bring supplies and civilian stores to Jenin and Nablus from Haifa and Tulkarm, thus relieving the pressure on M.T.

THE RECONNAISSANCE TRAINS.

As most of this line lay in the 'Triangle of Death' (Nablus – Jenin – Tulkarm), one of the most disturbed parts of Palestine, no information was available as to the condition of the line nor the damage done by the Arabs, and, as the scheme progressed, the O.C. Railway Troops, R.E., began to collect information which would enable him to run a reconnaissance train. This information was obtained mostly by road reconnaissance to stations, and on October 6th. a railway reconnaissance, in which all fighting services were represented, left Haifa for Jenin.

The train, preceded by a petrol trolley, consisted of a pair of armoured high-sided trucks containing machine-guns, and a naval pom-pom, manned by the R.N., a few wagons of tools and stores manned by 8th. (Railway) Company R.E., and a rake of wagons armed by an infantry escort. At the back of the train was a service car, manned by observers and others. Overhead, the R.A.F. made contact with the outside world. As the Officer i/c train said bitterly, "The whole thing is so formidable that there is little hope of the Arabs making an attack."

O. i/c train proved to be correct, and the train went and returned without interference. On October 13th. A further reconnaissance, only slightly less formidable, was made as far as Massoudieh, but the petrol trolley went through as far as Nablus. The only difficulties encountered were the slipping of engine wheels on the heavy grades, due to the track being overgrown by an oily weed, a derailment due to a fall of rock in a cutting, and the failure of the water supply at Massoudieh, due to the breaking of the valve gear. These reconnaissances showed that the track was still in good condition, and that the opening of the line was a feasible proposition.

SERVICE.

Narrow-gauge locomotives were scarce in the sheds of the Palestine Railways, so a locomotive was hired by them from the

Chemin de Fer Hijaz, on behalf of the A.D.Tn. This locomotive, together with a small tank engine which had been left at Tulkarm, was handed over to the 8th. (Rly.) Coy, R.E. On 5th. November, with a request that, commencing on 6th. November, a train should be run daily from Haifa to Nablus and back with a connecting service from Tulkarm to Massoudieh. This service was for civil and military traffic, and to run on seven days a week, leaving Haifa at 08.30, arriving Nablus 14.30, leaving Nablus 15.30, and arriving Haifa 20.50. Stock was to be provided by the Palestine Railways as required, but the operation and maintenance of the entire line beyond Afule was to be the responsibility of the Railway Troops. (Appendix A shows the complete timings and a table of distance.)

PERSONNEL.

Detachment 8th. (Rly.) Coy, R.E. had by this time been reinforced by one Officer and 45 other ranks, 35 of which had been specially enlisted from the R.E.S.R. (Royal Engineers Special reserve) for the emergency. All had been concentrated at Haifa, and, with the detachments from the 42nd. (Field) Coy., R.E. and the Infantry, were available for the operation and maintenance of the line. Very soon after the opening of the line, O.C. Detachment 8th. (Rly.) Coy., RE. took over the duties of O.C. Railway Troops, R.E., and the 25 Sappers of the 42nd. (Field) Coy., R.E. who were employed on the railway were placed under his command. This made the total strength of the detachment 126. Out of this strength was formed an operating section of approximately 30, and a maintenance section of approximately 60, the remaining members being employed on camp duties, on technical work with the Palestine Railways and as Movement Control Staff. The operating section was located at Haifa, with an outstation at Nablus, and the maintenance section at Jenin, with an outstation at Massoudieh.

THE OPERATING PROBLEM.

As the Detachment consisted entirely of operating and workshops trades, the solution of the operating problem was easy. The factors were as follows:- The line was single throughout, and at every station one or two loops and station buildings existed.

From Haifa to Jenin grades and curves were fairly easy, but after leaving Jenin, the line entered the hills of Samaria, and in certain sections grades of 2 per cent and curves of 19 degrees were encountered. For a class II engine, the maximum loads were as follows: Haifa – Afule 250 tons, Afule - Jenin 200 tons; Jenin - Nablus 150 tons. 500 tons

were permitted in the reverse direction from Jenin to Afule.

There was a good water-supply at Massoudieh and Tulkarm and a poor unreliable supply at Sileh and Jenin. The Executive Engineer (X.E.N.) made several attempts to improve the supply at these two stations, but the language difficulty was too great in every case. As the water supply at Jenin had to serve the local garrison, loco-watering there was never popular, and it became less so after one day when the sluice valve broke and emptied the carefully husbanded contents of the reservoir into the tents on the low-lying ground adjoining the line. In normal circumstances, a loco filled at Kafr Yehosua, the last watering-point on the Palestine Railway section, could expect to reach Massoudieh.

The Palestine Railway is operated by electric staff with Western Electric Control, but all instruments had been removed from the stations between Afule and Nur esh Shems. The Palestine Police occupied the station buildings at Jenin, Arabeh and Sileh, and had telephones on an omnibus circuit connecting them to Jenin main Police Station and Post Office. Afule, Jenin, Nablus and Tulkarm were on the Post Office telephone, but all services were bad, and one was very lucky to get a call through in less than half-an-hour. Even then, it was likely that at the most important point in a conversation a voice would ask, "Are you speaking?" and without waiting for an answer would cut off the connection. There were no signals on the line between Afule and Nur esh Shems except for home signals at Nablus and Nur esh Shems, all points being worked by hand tumblers. As it was possible that the section Massoudieh – Nablus might be required by either engine in succession, it was decided to open the line in three sections, viz.:– Massoudieh to Nablus, to Tulkarm, and to Afule, using a single wooden staff of different cross-section for each of the above sections. Blockmen were posted at Massoudieh and at Afule, and A/M.C.O Nablus and A/M C.O. Tulkarm, who were traffic operators from Detachment 8th. (Rly). Coy., undertook the duties of blockmen at those stations. Station limit boards and flag boards were installed at all stations except Nablus and Nur esh Shems.

PRELIMINARY WORK.

The two trips made by the Reconnaissance trains showed that a fair amount of clearing would have to be done before a regular service could be operated with safety. The slipping caused by weeds growing thickly on some parts of the line had been such as to bring the trains to a standstill, and

on the second reconnaissance one of the wagons in the train had been derailed by accumulations of chalk which had fallen on to the track in one of the cuttings between Sileh and Massoudieh.

In order to remedy these and other defects, two construction trains were run on October 15th. and 19th. consisting of a low-sider and four vans for stores and personnel, a water tank wagon, and as the trips were of three days' duration, the Service Car was added for the comfort and convenience of the Officer in charge. As a precautionary measure, the lowsider was propelled by the engine, but the only attempts at sabotage met with were of an easily visible nature such as stones and short lengths of rail, originally 100 metre mark posts, laid on the track. These two trips enabled the weeds to be removed in the worst places, and the cuttings were cleared sufficiently to ensure that further derailments would not occur.

On the second of these trips, a brake failure caused the train to crash through the wire knife rests which closed the two rail entrances to Jenin camp. It was very fortunate that no real damage was done, as there were tents pitched close to the track, and such wire as had not got itself wound round the axles of the lowsider converted this vehicle into a kind of chariot which mowed down three or four sets of guy ropes, felling the tents which they supported. This little incident was the subject of many 'leg-pulls' later on, but was taken surprisingly well, particularly by the owners of the damaged tents.

During these few days the 17th. and 42nd. (Field) Companies were also assisting towards the common object of rebuilding the bridge at Ramin, repairing the water column at Sebastieh, and many other jobs. The reconstructed bridge at Ramin forms a prominent memorial to their industry.

THE PERMANENT WAY.

The rails used were of flat-bottomed section, about 45 pounds per yard in weight, and 9 metres long. They were fastened to pressed steel sleepers by a clip and a chair-plate held down by a 'T' headed bolt which could be withdrawn through a slot in the sleeper, so that rail changing did not necessitate the removal of the sleepers. To allow for widening the gauge on curves, the chair-plates and clips were made in five sizes, giving a maximum variation of 2½ centimetres.

The fishplates used were flanged to fit along the flat bottom of the rail, giving a very stiff joint; evidence was found that a

plain fishplate had been used at some time but had been discarded in favour of this type. The absence of any oil on the fishplates for four years had led to crippling of the rails on long straights, some of which had a ghastly appearance, even after they had been most carefully lifted and slewed. On the curves, particularly where the track had a hard bed, crippling was almost entirely absent. On the sharper curves, which went up to 19 degrees, side wear was very pronounced.

The most interesting feature of the permanent way was its standard turnout. The angle of the turnout was 1 in 8, the switch blades and crossing were of cast steel, the switches being pivoted on a steel bearing plate to which were fastened bearing blocks and stock rail clips, the whole being coach-screwed to timbers. Timbers were also used under the crossing, but laced steel sleepers were used in the leads. Check rails were bolted to the stock rail with distance blocks in the usual manner. The point-operating gear consisted of a single stretcher without adjustment, and a rod connecting this to a tumbler.

These turnouts were admirable in every way, the switch blades were always snug and had no tendency to stand open, there were no adjustments to make and the arrangement of the tumbler was such that the setting of the points was indicated to the driver of an approaching train.

That the track had had a rough time was evident by the large number of sleepers marked by the wheels of derailed vehicles, but it was in a surprisingly good condition in most places, considering how long it had been neglected.

The formation fell naturally into three classes, black cotton soil, soft sandstone and chalk, and limestone and hard rock. Of these, the third gave little trouble and not much can be said about it; a few loose rocks were removed from the walls of the cuttings and one or two embankments had to be built up where the cattle crossings had knocked them about. Between the other two there was little to choose. The cotton soil was found in the plains where the line usually lay in shallow cuttings or on low banks; side drains had evidently existed at one time, but four rains had filled them in. As there were about 25 kilometres of line on cotton soil, it was not possible to re-excavate the drains throughout, and only the worst places, where water was likely to accumulate in large quantities, were tackled. This lack of good drainage was a continual source of trouble and prevented the track from being out in really good order.

The chalk and sandstone were found mostly between Sileh and Massoudieh, where the line passed through numerous cuttings. Here again the Rains had done their work and the side drains in the cuttings were overflowing with fallen matter. During the hot weather this did not give any trouble, as the chalk set almost as hard as cement; but after the traffic had shaken it, the first rain brought it down in large and small pieces which fell in the track, having nowhere else to go. [A photograph shows] a portion of a counterforted wall in one of the cuttings which had been built to prevent collapse of the soil. One of the arches is totally unsupported at one side, and the soil is supporting the arch. The engineer thought seriously of having the whole wall down, but after watching it carefully for about a week, during which time no movement took place, it was allowed to remain. It never came down, but had it done so, it would have brought about 1,000 tons of masonry with it as well as the side of the cutting.

One of the most annoying things was the sinkage of the track on either side of the numerous culverts. The humps so formed caused the engine to ride very badly, and one of the worst of the culverts had a permanent speed restriction of 15 kilometres per hour on it for the whole of the time that the Railway was being operated. No amount of lifting seemed to have any permanent effect, the passage of one train was often enough to undo several hours of careful work. It is said that this same trouble was noticed during the operation of the line when first captured from the Turks in 1918.

In most parts of the track the ballast was too coarse to give a good close bed for the sleepers, and on the cotton soil particularly it had a tendency to work its way upwards and outwards. Ballast in Palestine, so it seems, is the panacea for all ills of the permanent way, and no excuse for putting more on the formation is overlooked. The Arab platelayers erroneously put most of it in the middle of the track, where, instead of draining the water off the formation, it causes a water pocket to form right under the bed, with obvious results.

Weeds were plentiful and could be divided into good and bad weeds. The bad ones looked like a lavender bush, smelt like an olive, and exuded oil when crushed, causing serious slipping of the wheels of the engine. The bad weeds were removed. The good weeds did not appear until the first rain had fallen, and then mostly in the cotton soil. The virtue of these weeds, which were of a grassy nature, lay in their ability to hold

the ballast in place against a stream of water flowing across it. In all good permanent way work weeds of any sort are abhorred, but in this case they prevented washouts in about four places, and so they were allowed to remain. It was noticed, after a washout on the main line, that the platelayers were mixing straw with the ballast. On being asked why, the ganger said it was to bind the ballast together. It seems that this is the normal way of dealing with a place which washed out, and the weeds mentioned above performed the same service as the straw, probably with rather more certainty.

STATIONS.

The station layouts on the line, were, generally speaking, simple, consisting of a straight road, a loop, and a lie-by. Junctions and termini were naturally somewhat more fully equipped, and Haifa, with its dual gauge, was in a class of its own. Little trade was done at Arabeh and Sileh and as attempts had been made to force the points to a half-cock position, there being no blockmen there, they were spiked over at the end of the stations facing the down grade. To give the driver warning at night of the position of the points, the P.W. gangs lit lamps on the station limit and flag boards and the train crew brought them in. The lamps were padlocked to the boards, but in spite of this precaution two were stolen.

Jenin station was rather a problem, a good deal of trade was done there and one of the lines was permanently blocked by a rake of derelict wagon underframes. Further, it was surrounded by a camp, and shunting, particularly at night, was rather a hazardous business as it was not unusual to find marquee pickets firmly embedded in the centre of the track.

The station buildings were well constructed in the local stone and those on the disused portion of the line would have made admirable platelayers' quarters. Unfortunately the Police had seen their opportunity some years before us and a post had been established in each one.

Stations on this line have something in common with those in the more rural districts at Home, in that they are anything up to a mile from the town or village whose name they bear.

THE MAINTENANCE PROBLEM.

The factors which affected the maintenance problem were:-

- The number of men available.
- Accommodation existing.
- The requirements of security.

The possibility of sabotage.
Administrative arrangements.

The initial state of the track.
The probable effect of traffic on the track.

When the opening of the line was first projected, the strike was still oncoming, and although the reconnaissances carried out by road had revealed no sign of sabotage of a serious nature, it was thought likely that the appearance of a train would be the signal for a concerted effort in this direction. For this reason, and because of the impossibility of protecting the line with certainty in the broken country, it was essential that the line should be closely patrolled.

A scheme was therefore prepared by O.C. Railway Troops, R.E., for the placing of small gangs of Sappers, with Infantry protective troops, at each of the stations along the line. These gangs were to divide and work outwards from the stations through their length and would then return, making adjustments and repairs to the track as required. To deal with any heavy or emergency work, it was proposed that gangs of about fifteen men should be stationed at Haifa and Nur esh Shems, where other useful work could be found for them when they were not required for permanent way work. This scheme closely followed the proposals put forward by the Palestine Railways when it was suggested that they should be responsible for the maintenance of the line.

The main difficulties which lay against this scheme were the accommodation and rationing of the large number of small parties scattered over a wide area. The optimum arrangements for the maintenance required dispersion, but the administrative and security factors required concentration.

The cessation of the strike, and the absence of any opposition to the two reconnaissance trains, caused the administrative factor to gain weight. Further, on the two trips made by the construction train, men had worked in small parties at many points along the line without interference, and Infantry protection during the hours of daylight was no longer necessary. At night, however, it was still necessary to take precautions, and had the platelayers been scattered in small parties they would have had either to sacrifice working-strength to provide their own protection at night, or Infantry picquets would have had to have been provided.

The idea of dispersing small parties over a wide area was therefore abandoned. Road traffic was normal again and it was pos-

sible to use single M.T. Vehicles to convey the gang to the stations and other accessible points on the line, and the subsequent organisation of the Engineer's Department was built up on this basis.

THE ENGINEER'S DEPARTMENT.

On October 24th. the Detachment 8th.(Railway) Coy., R.E. was divided into two parts, one part remaining in Haifa to form the Operating Department, and the other part going into the camp at Jenin to form the Northern Division of the Engineer's Department.

In the first instance, four gangs from Detachment 8th. (Rly). Coy. R.E. took over the line from Afule, at kilometre 0.0 to the tunnel at kilometre 48.2. For this task they were supplemented by fourteen men from the 42nd. (Field) Company R.E., making a total of 34 men, these, together with a maintenance gang 14 strong, the Permanent Way Inspector (P.W.I.) and O. i/c. were accommodated in the camp at Jenin. The two lines from Massoudieh to Nablus and Tulkarm, together with the stretch between the tunnel and Massoudieh comprised the Southern Division of the Engineer's Department. Three gangs found by the 42nd. (Field) Coy. R.E. worked outward from the junction at Massoudieh, where they were accommodated in the disused buildings provided originally for the Arab platelayers, and two further gangs, also found by the company, worked from Nablus and Tulkarm.

The object aimed at was to give gangs of six or eight men a length of 12 or 16 kilometres for purely maintenance work, and the large gang at Jenin was to undertake any heavy work which might arise at any point on the system. Two of the gangs at Jenin worked outwards from that station, and the other two were taken to Sileh each day by M.T. and worked outwards from there.

The gangs were equipped with tools (Beater Picks, Baskets, Shovels, Crow-bars, Sledge hammers, hand hammers, adjustable spanners, fish spanners, cold chisels, track gauges, track jacks, detonators, etc.) and the tools for the gangs working outward from Sileh were stored in a locked van kept in the station. Four 'Pump' and three hand trollies were obtained from the Palestine Railways and were allotted to the gangs for movements within their lengths. A great deal of useful work was done in this way. Old drains were cleared and new ones dug at the worst points; slewing, lifting, packing and boxing were also done in many places, and the necessary signalling devices were sited and erected, The maintenance gang also did some useful work, a culvert was re-

constructed, and an embankment which had been badly undercut by the flood-water was made up. More than this was impossible in the sort time available.

As things were superficially politically stable, an as the 42nd. (Field) Coy. were due to return to Moascar, four of the gangs in the Southern Division of the Engineer's Department were withdrawn during the second week, and the maintenance of the sections from Massoudieh to Tulkarm and Nablus was again taken over by the Palestine Railways. This left the stretch from Afule to Massoudieh (60 km.) for which the Executive Engineer (X.E.N.) took responsibility. The distribution was then one officer (X.E.N.) and 45 other ranks at Jenin, and 14 other ranks at Massoudieh. Sixteen men of the 42nd. (Field) Coy. remained with the Department to make up this number, and when all duties had been found there was one man per 1½ kilometres. This corresponds roughly with practice on the main lines at home, but it must be remembered that the track was taken over in a very poor condition and there was correspondingly more to be done.

The service opened on November 6th. The trains were, of course, running at greater speeds than on any of the preliminary runs, and the effect of the four years' lapse in the maintenance of the track began to be seen. For this reason, the normal system of maintenance had to be abandoned and the problem resolved itself into three questions: first, which were the really bad places; second, were platelayers or unskilled labour required to remedy them; and third, what was the best distribution of labour to these places? Once these questions had been answered the working strength was sorted into whatever parties were required, but as there were only eight men with any knowledge of platelaying the task of detailing the parties was often difficult and the track suffered accordingly. Fortunately for the Engineer's Department, the timings were slack enough to allow speed restrictions to be put on at one or two places which could not be dealt with immediately by the gangs. The drivers themselves helped to a very great extent by getting to know the places which were likely to give trouble and driving over them with caution.

The most common troubles were subsidence of the formation causing slacks, and falls of chalk and soft rock in cuttings and scarps. The Rains when they came increased these troubles and added three more, namely - sinkage of the inside rails on the curves which had been canted for higher speeds than those obtaining; washouts; and

the burying of the track by earth and rubbish washed onto it. During one heavy fall of rain the track was buried to a depth of two feet for a distance of about fifty metres at a point between Sileh and Massoudieh. This caused a delay to traffic of one hour, but on that particular day the main line suffered some twenty hours' delay, and the line to Syria had a delay of six hours from similar causes.

The worst of the trouble lay in the section between Sileh and Massoudieh, as falls of rock and chalk were likely to occur in the cuttings at any time and, as most of these cuttings were on a curve, it was impossible for the driver to see any obstruction until he was right on top of it. A motor-trolley was therefore obtained from the Palestine Railways, and this, stabled at Massoudieh, was used to patrol the section daily before the running of the first train. This trolley eventually broke down, and the patrol had to be carried out on a 'pump' trolley, a very tedious business.

The system of patrolling differed from that in force on the main lines at Home and elsewhere, in that there was no daily patrol of the whole length carried out on foot. The only section which was patrolled daily by any method was the section from Sileh to Massoudieh, as mentioned above; other sections were patrolled on foot about twice a week and by trolley whenever considered necessary, as, for example, after a fall of rain. The method of finding the bad places was for either the X.E.N. or the P.W.I. to feel them by making a trip on the footplate as frequently as other work permitted - the proof of the pudding is, after all, in the eating. The chainage of a fresh bump or hollow was carefully noted and a trolley patrol was sent out to ascertain the cause.

The student of Railway Engineering practice will throw up his hands in horror at such practices, but they were as good as circumstances permitted and did not let the Engineer down. Had the Railway been in operation during the strike, it would have been rather a different matter, but as we were not troubled by attempts at sabotage, it was considered worth while to take a small risk in order to economize in man power.

Ballast trains were run frequently in the section Sileh - Massoudieh simply for the purpose of clearing the falls of rock and chalk and re-establishing the drainage in the cuttings. The trains consisted of the small engine from Tulkarm and four low-sided wagons manned by all available personnel. The timings of these trains were arranged so that the full rake was drawn into Massoudieh by the time that the morning train was due to leave

Sileh. While this train was running in the section, the ballast train was being emptied on a very convenient embankment within station limits, this being made possible by a warning arrangement. By the time the morning train whistled up for its flag, the ballast train had been unloaded, the gang had been fed, and they were then ready to go back into the section for another spell, while the booked train made the journey to Nablus and back.

Altogether some 500 tons of material were removed from the cuttings in this way, and yet in spite of this they were, taken as a whole, still in a very bad state when the railway closed down. All this work was nothing better than navying, and it was a sickening sight to see about thirty skilled tradesmen wielding nothing more than a shovel for hours on end, but all ranks appreciated the necessity of the task and 'made the muck fly.'

OTHER WORK.

Although nominally belonging to the Engineer's Department, the Sub-Detachment at Jenin and Massoudieh, being on the spot, were called upon to deal with any emergency which might arise. Breakdowns, engine failures, shortage of coal and water, all these things and many others formed no mean part of the work of the department.

November 25th. was undoubtedly the 'black day.' The cow-catcher of the engine drawing the morning train picked up a check rail from a level crossing close to Arabeh station, and by propelling it forward broke the stretcher rod of the facing points, pulling the switch blades in together. The engine and tender all but one pair of wheels were derailed. The Engineer's department was on the scene in very good time, and working in shifts, set about the arduous task. This was almost as bad as it could have been, as the tender could not be uncoupled from the engine and both had to be lifted together.

THE LOCOMOTIVE DEPARTMENT.

The locomotive obtained from the Chemin de Fer Hijaz was No. 106, a 2-8-0 tender engine built by Hartman in 1916. It was not superheated and the boiler carried a pressure of 12 atmospheres, giving a tractive effort of 5,650 kilogrammes, which allowed a maximum load behind the tender of 150 tons over the most severe sections of the line. The tender carried 4,000 gallons of water and five tons of coal, and the total weight of the engine and tender was 85 tons with a maximum axle load of 10 tons. For night-work, the engine was fitted with a motor-car headlamp, the current being supplied

by train lighting batteries which were charged three times a week.

The engine at Tulkarm was No. 16, a six-coupled tank engine built by Kraus in 1899. It weighed 24 tons and had a tractive effort of 4,470 kilogrammes at a boiler pressure of 12 atmospheres. It was really a shunting engine and used to pull a tender with extra coal and water when going up to Massoudieh; this reduced its load to 75 tons. It is interesting to note that this engine was one of the first engines to be captured from the Turks during the advance from Gaza in the autumn of 1917.

Both these engines were vacuum-braked and in good condition. By arrangement with the Palestine Railways, we were allowed to use their running shed at Haifa, fitting work, engine preparation and disposal being done by Detachment 8th. (Rly.) Coy., boiler work being done by Palestine Railways. One day each week No. 106 was washed out and to take its turn another engine of a similar class was loaned by Palestine Railways. The presence of this similar class of engines at Haifa enabled spares to be obtained if required.

Locomotive duties were divided among five crews on a weekly basis, one crew took the morning train to Nablus, one crew took the evening train back to Haifa and were on Company employment next day forming a reserve crew, one crew on night duty and one crew at Tulkarm. All fitting work, except on shed duty, was done at night, and as coaling was done by basket, it was usually midnight before the engine came on shed. The hour allowed at Nablus was barely sufficient to complete the necessary shunting, to turn the engine and clean the smokebox. The coal used was Welsh, and owing to the heavy blast on the grades, a short brick arch, and fine coal, it was not unusual to find the smokebox filled to the blast nozzle with ash on arrival at Nablus.

THE TRAFFIC DEPARTMENT.

The rolling stock of the narrow gauge consisted mainly of high- and low-sided wagons and box vans, all running on bogies with oil axle boxes. The vehicle mainly used was the box van which had a tare of 10 tons and a maximum load of 15 tons; it could take up to 25 men for troop moves.

The maximum number of vehicles permitted on a train was thirty and the heaviest train actually hauled consisted of nineteen loaded wagons, seven empties and a brake, making a gross load of about 350 tons. Fifty per cent of the stock was fitted with hand-brakes and trains had to have a brake power

of 40 per cent, i.e. two braked vehicles in every five. For this reason extra brakemen travelled with the train if required.

The opening of the line was well advertised in the press, and after a few days, a certain amount of civil traffic began to arrive, mostly through Tulkarm. During the period 14th. November to 13th. December 1,1023 tons of goods were moved, and the average train load from Haifa was one coach and six box vans, about 90 tons. The line was closed to ordinary traffic on 17th. December, and on 22nd. December the section Afule - Massoudieh was finally closed and the section Tulkarm - Nablus handed over to the Palestine Railways for operation. On the 21st.-22nd. December and the 23rd. January, three parties left for the U.K., and the main body returned to Lydda, where they are now being employed in charge of trains and as extra men on the main line.

In addition to the normal daily service, nine troop trains and several construction trains were run, extra engines being supplied when necessary by the Palestine Railways. [One photo] shows a troop train with the 2nd. Battalion Scots Guards en route from Nablus to Haifa. [Eleven bogie vehicles.] During the period 19th.-20th. December, the line played its part in the main evacuation of the Palestine Force. In all, five troop trains and five empty stock trains were run, covering a distance of 714 train kilometres, and while on the military railway these trains ran on time, without a hitch. The running of these extra trains over sections worked by single staff led to the opening of certain sections on a temporary basis for 'telephone and ticket' working, and on one occasion for 'wireless and ticket.' On this occasion two troop trains had to be worked from Nablus to Massoudieh in succession, one train going to Haifa and the other to Tulkarm. Short-range wireless sets were installed at Nablus and Massoudieh, and by the kindness of the Signal Officer a set was installed at Haifa and a spare set was put on the train for Haifa in case of emergency. Telephony was unreliable and all messages were transmitted by Morse telegraphy. In spite of the fact that the official range of these sets is only twelve miles, reception was good between Nablus and Massoudieh, and block working messages were picked up at Haifa.

In certain cases the long section from Afule to Massoudieh was broken into two or even three portions. After withdrawal of the long section staff one section was worked by short staff and the other by 'telephone and ticket', using the Post Office telephones, special arrangements having been made to get 'urgent calls'. In order to obtain

flexibility of working for the petrol trolley patrols and the ballast trains, a field line was installed between Sileh and Massoudieh, and the section Afule – Massoudieh broken into two, viz. Afule – Sileh, worked by staff, and Sileh – Massoudieh, worked by 'telephone and ticket.' As it was not considered safe to station a blockman at Sileh by himself, the guard of the train arriving at Sileh acted as blockman and obtained permission to issue a ticket to the driver or gave 'Train out of Section.' This telephone was no exception to the general rule and on more than one occasion the section had to be worked by 'Pilotman and Austin 7.'

CONCLUSION.

The experience of these six weeks of Railway Operation and Maintenance was of great value, not only on account of the useful work done, but also on account of the training which the Railway tradesmen received and the many opportunities for getting any and every sort of job done under adverse conditions.

The long run over difficult grades, usually with full loads, gave particularly good training to drivers and firemen, and to guards and brakemen. There could be no slackness on the part of engine crews, who had only one hour in which to shunt and to clean fire and smoke-box between two journeys, each of six hours duration. This daily run of 224 kilometres for six days a week with one engine required good and conscientious work also from the repair staff who, in addition, had the difficulty of working in with, and borrowing tools and spares from a shed staff who did not speak the same language.

Some of the crews were able to test their ability to deal with an emergency and to work a train home with a partially disabled engine.

Probably the most difficult thing to contend with was the lack of reliable telephonic communication. Either something went wrong and nobody knew about it for a long time, or else one could see things about to go wrong and was powerless to do anything about it. Everything had to be left to the man on the spot. The impossibility of operating a railway with anything like efficiency without a second telephone system was continually demonstrated.

The engineer's department suffered, as has been mentioned, from the lack of platelayers, but those who had any knowledge of the work did very well. The remainder had to be employed on entirely unskilled work although this was very necessary to the safety of the line.

As a general rule, the local inhabitants were friendly disposed towards the railway, and apart from a little stone-throwing, the detachment met with little or no opposition. The villagers soon got accustomed to the idea of a daily train and were not slow

to see its uses. Traffic increased slowly but surely throughout the whole time and quite a number of passengers were carried.

The grand finale to the whole venture, namely the running of a series of troop trains, went without a hitch, and the line closed on a high note. It seemed a pity to withdraw the service at a time when traffic had reached paying proportions and was increasing daily, but its military uses had come to an end and the Palestine Railways were not prepared to continue it.

After four years of peaceful sleep, the old Turkish line awoke to two months of considerable activity, only to fall asleep again, this time, perhaps, for ever. Who knows?

Appendix 'A'. Working Timetable, Haifa – Nablus.

Station	Distance kms.	Time mins.	Conditional Mixed No. 101		Daily Mixed No. 103	
Haifa	-	-	----	04.00	----	08.30
Acre Junction	2	9	04.09	-----	-----	08.39
Kafr Yehosua	20	29	04.38	04.42	09.08	09.12
Afule	15	30	05.12	05.22	09.42	09.52
Jenin	17	40	06.02	06.12	10.32	10.42
Arabeh	12	32	06.44	06.47	11.14	11.17
Sileh	12	35	07.22	07.32	11.52	12.02
Massoudieh	20	58	08.30	08.57	13.00	13.27
Sebastieh	5	20	09.17	09.19	13.47	13.49
Nablus	13	41	10.00	-----	14.30	-----

Nablus – Haifa.

Station	Distance kms.	Time mins.	Cond. Mixed. No. 102.	Cond. Mixed 104	Dly. Mixed 106			
Nablus	-	----	-----	10.06	----	12.30	----	15.30
Sebastieh	13	28	10.34	10.36	12.58	12.59	15.58	16.00
Massoudieh	5	16	10.52	11.02	13.15	13.25	16.16	16.26
Sileh	20	70	12.12	12.27	14.35	14.45	17.36	17.46
Arabeh	12	32	12.59	13.04	15.17	15.22	18.18	18.23
Jenin	12	28	13.32	13.42	15.50	16.00	18.51	19.01
Afule	17	30	14.12	14.22	16.30	18.00	19.31	19.41
Kafr Yehosua	15	30	14.52	14.55	18.30	18.35	20.11	20.15
Acre Junction	20	30	-	15.25	-	19.05	-	20.45
Haifa	2	5	15.30	-	19.10	-	20.50	-

Massoudieh – Tulkarm.

Station	Distance kms.	Time mins.	Condl. Mixed 212.	Condl. Mixed 214.	Condl. Mixed 216			
Massoudieh	-	-	-	06.55	-	13.00	----	14.00
Anabta	10	20	07.15	07.18	13.20	13.25	14.20	14.25
Nur Esh Shams	6	14	07.32	07.38	13.30	13.44	14.39	14.44
Tulkarm	4	12	07.50	-	13.56	-	14.56	-

Plus Condl. Mixed 218 - dep. Massoudieh 17.00, Anabta 17.20 - 17.25, Nur Esh Shams 17.39 - 17.44, arr. Tulkarm 17.56.

Tulkarm – Massoudieh.

Station	Distance kms.	Time mins.	Condl. Mixed 211	Condl. Mixed 213	Condl. Mixed 215			
Tulkarm	4	-	----	07.15	----	11.35	----	15.05

MODERN INLAND PASSENGER COACHES.

By Ernst Wolf. In 'Eisenbahn' (Wien) 1/1969, p.5. (Translation by the Editor.)

"When one looks at the passenger carriage fleet of Israel Railways, three things strike one especially:-

First, that the carriages of an Asiatic state railway should be so European.

Secondly, that they are all so clearly designed only for internal traffic.

Thirdly, that in spite of various constructors and dates of construction, a degree of standardisation almost unique among State railways has been achieved.

At the foundation of the State the Israel Railways took over from the Mandate government rolling stock that was similar to that of many British overseas railways, for example the Egyptian State Railways, which appeared exotic to the European observer – especially the passenger coaches appeared very much to match the 'British Colonial' model.

Today one sees this only in a section of the goods wagon fleet. The steam locomotives have been replaced by diesels from America, Belgium and West Germany, and the older carriages are now found, just as with us, in use mainly in departmental or as training vehicles.

In ordering a new passenger fleet the Israel Railways laid down a specific type, which the different suppliers then built with only minor modifications. The coaches are of standard gauge, but are a little wider than normal Central European ones. The seating

is 2 + 3, the seats are upholstered in blue. There are no divisions into different Classes.

The length over buffers is 23.4m, length between bogie centres is 16m., bogies have a 2.5m wheelbase. The bogies are of Minden-Deutz type. The carriage sides are dark blue, the roof light grey, and bogies are black. There is a decorative yellow stripe over the windows, similar to the First-Class stripe used by the DB. The first of the new carriages were built by Orenstein and Koppel in West Germany; at each end there is a double door which is flush with the carriage sides. In between there are two sets of five windows for each of the large saloons, divided by a toilet window. The windows are of the normal type, i.e. in one piece and almost totally openable. The roofs show at the end the curving in that is typical for contemporary DB coaches. The suspension of the bogies consists of screw springs and shock absorbers. The carriages were delivered with concertina gangway ends, but they have now received rubber ones. They are numbered 51 to 58 and have 96 seats (10 x 5, minus those seats that are missing at the ends due to the symmetrical positioning of the doors.) This German series was delivered with both vacuum and air brakes, the next series had only air brakes.

The next delivery came from France from Carel et Fouché. [in Aubevoye]. The

French carriages are distinguished from the German ones especially by their straight and level roof profile. The bogies have rubber suspension without shock absorbers. These carriages were also delivered with concertina gangway covers, but are now receiving rubber ones. Numbered 21 [sic] to 80, to this are added 81 to 82 and 83 to 84 with a service compartment or a buffet compartment and only 50 seats.

The third and newest series came from Boris Kidric in Yugoslavia [in Maribor.] These coaches were delivered already fitted with rubber gangway ends. The suspension is once again with screw springs and shock absorbers. The roof ends are flattened gradually, the doors are inset and they are reminiscent of the Swiss light steel carriages.

To the normal carriages with the numbers 601 - 612 and 616 - 630 there are also two versions with a catering compartment, 613 - 615 and 631 - 635. These 'Half-Restaurant cars' have only single doors at the restaurant end.

Apart from the coaches described here, Israel Railways uses also former diesel railcars of West German origin, which after removal of the motors and transmission are now hauled by locomotives. These however do not pass within the framework of this article."

A ZIONIST HOMECOMING IN 1939.

In "Mein Weg nach Jerusalem" by Georg Herlitz, (Verlag Rubin Mass, Jerusalem, 1964), he describes (in German) his activities as an official of various Zionist organisations and as the first and main Archivist of the Zionist organisation. On pp. 181-185 is his account of his return to his home in Jerusalem following the 21st. Zionist Conference, held in Geneva in August 1939. [The Editor came across this book in Jerusalem and forthwith decided to stop grumbling about the crowded and boring waits at Berlin-Tegel for an 'Air Berlin' flight of under four hours to Tel Aviv...]

"This was the last month before the outbreak of the Second World War and its early conclusion was a result of this growing threat and the attack by Hitler-Germany on Poland. The few days that we were able to spend together at this Congress were filled with tension.... many participants, especially those from East European countries, were quite willing to close the Conference immediately after its Opening – the states in which

they and their families lived were under immediate threat from a German invasion and had already begun to mobilise their military forces. The danger of being separated from their families grew....

... Dr. Weizmann's farewell to the Conference, that ended after only ten days, showed how well he understood the situation...He spoke only a few words in farewell before departing for what might be the last

connection to London. "None of us," he said, "knows what the next hours will bring us. I take my leave now from friends on the Left, the Right and the Centre, and not with any calmness. I pray for only one thing, that we will all meet up together again, alive, and, should we experience that, that our work will continue...."

The return from the 21st. Congress was made in haste and totally unprepared,

almost in panic. The two main companies which in normal times operated the ships to Eretz Israel, the 'Adriatica' of Italy and the 'Messageries Maritimes' of France, were wholly unprepared for such a mass movement of hundreds of passengers, especially since a large proportion of their ships were required for the transport of troops following the outbreak of war. One thing was however clear from the outset; a route through Italy and travel on an Italian ship was out of the question, due to the political links between Fascist Italy and Hitler's Germany. The Zionist Executive had therefore to find a route for all the Congress participants from Eretz Israel to return via Marseilles and for this to arrange transit visas for France. This was managed without problems, as was also interestingly the provision of transit visas for Egypt, since the French ships would bring us to the Egyptian harbour of Port Said. The main problem lay in finding out on what day there would be an opportunity to travel from Marseilles across the Mediterranean. No-one in Geneva could tell us this; but one day we were told that we should take the train to Marseilles the next day, in order to wait there for the first opportunity of a return passage to Eretz Israel. When a ship, our ship, any ship would depart, nobody knew.

The railway journey was already marked by the threatened outbreak of war; it was not only that all compartments were packed and the corridors filled with military personnel and shocked civilians who were trying to get to their destinations, but also the lighting in the trains was turned down low and the stations through which we passed were in darkness. Whoever had not until now fully realised it now, after this journey, was sure: The war will be starting soon.

In Marseilles all hotels were already overfilled, for in this harbour city were gathered all the people who were hoping to reach their homes overseas as quickly as possible. I finally managed to find a room. After a wait of eight days we were finally informed that we would board a Egyptian ship due to sail to Port Said on Friday 1st. September at 12.00.

The joy which filled us on hearing this news turned out to be premature. When we got to the harbour there was indeed a large modern ship, the 'Misr' at the quay, and it was full of activity. About 250 of us boarded the ship and we were told that all bunks were already filled and that we would have to be content with places on deck or in the restaurant. We were prepared to accept this, and also for the fact that we would have to fight for a place at every mealtime.

What however disturbed us more was that Arabic-speaking young people were gathering and taking a threatening attitude towards those passengers from Eretz-Israel. This attitude grew more noticeable as the day passed. Rumours began to spread among us; the large number of Egyptian students on board would not allow it that Jews should travel with them; they would even prevent the ship leaving harbour. The tension grew the nearer we got to Friday, the day of our planned departure, and it was with some disquiet that we lay down on our planks.

.....The Sabbath had begun, but it became a day of Unrest rather than a day of Rest. Hardly had the ship awoken to the new day than we noticed from the movements that apparently a Very Important Person was due to board. This turned out to be the British Consul at Marseilles, who had come to facilitate negotiations between the Captain and the representatives of the Jewish and Egyptian passengers. From one of the participants I later learned the details. The result was that we, the Jewish passengers, were told that we would have to pack and to leave the ship on that very day, the Jewish Sabbath. 250 men and women walked down the gangway from the ship onto the quay under the cheers of the victorious Egyptian students and awaited further advice. We learned that the Captain of the ship had behaved totally correctly, and had declared that he would not bow to such terror. The British Consul had also behaved impeccably. He had declared that the Jews from Eretz Israel stood under his protection, but nevertheless advised us not to undertake the journey on this ship. He could only protect us while in Marseilles, his authority did not extend further and there was no saying what the Egyptians might do to us en route.

Eventually I went with some officials of the 'Palestine and Egypt Lloyd' from the harbour to an hotel in Marseilles and waited for further developments. I did not have long to wait – that same evening we were told that our group would depart on the next day, Sunday 3rd. September 1939, at mid-day on a ship of the 'Messageries Maritimes' for Port Said. And so it was. Our group of some ten persons went on Sunday morning to the harbour again and found several other Congress participants.... who had also had the luck to get passages on this ship, the 'Theophile Gautier', that was going to Port Said and then on through the Suez Canal to the French East Indies and conveying French troop reinforcements, Embarkation passed peacefully, but hardly had we left the harbour than the radio announced that England

and France had declared war on Germany. The Second World War had begun. On the ship the results of this were immediately visible. In all the passageways of the ship the electric bulbs were unscrewed, and.. as well as the normal routine Test Alarm... in the evening the Alarm signal sounded a second time, and none of us doubted that this time we were in real danger..... No-one would tell us what was happening, only the next day were we informed that a radio message had been received that German submarines had been sighted in the Mediterranean. Our concerns rose as we could gain no information as to the course our ship was taking. Only as we awoke on the early morning of Wednesday in a large harbour, and we were informed that this was the French naval harbour of Bizerta in Tunis, did we realise we had spent three days following the coast of North Africa.

Our ship continued on its way for a further two days and on Friday as evening fell arrived at Port Said. Following all the harbour formalities and those at the station we boarded the train that would bring us, via the ferry at Kantara on the Suez Canal, to the border of Eretz Israel at Rafiah. It was bringing French nationals, who lived in Egypt and who had now been mobilised, via Palestine to Syria, which at this time was still under French rule. A military band accompanied the train of these French nationals, and hundreds of family members accompanied those who had been mobilised.

Around midnight we reached the Egyptian – Palestinian border station at Rafiah, and in the morning hours our destination, Rehovot. We were home again. To make sure that we really felt this, the Station Master of Rehovoth took us to his own home, since there was no Buffet on the station, and his wife prepared tea and cakes for us all. Then we boarded several taxis, and an hour later we were in Jerusalem, and a few minutes later, on the Sabbath afternoon, I reached my home in North-Talpiot....”

LOCOMOTIVE RERAILING IN SUEZ CANAL ZONE.

103:12

'Construction of two gantries utilising light steel trestling for carrying four 20-ton Morris pulley blocks for lifting purposes. By Lt.-Col. G.C.L. Alexander, O.B.E., T.D., R.E. From the 'Railway Gazette', February 13th. 1953, pp. 180-183.

Rerailing of locomotives is sometimes necessary in circumstances setting as many problems as those attending the work at Weedon, L.M.R..... but without comparable facilities to meet them.

A War Department train carrying military stores and equipment was derailed by terrorists in the Suez Canal Zone on December 15, 1951. The train was routed from Adabiya to Nefisha and was derailed at El Zeitiya, some 3 miles south-west of Suez. The train was being hauled by an ex L.M.S.R. Class '8F' 2-8-0 heavy freight locomotive, W.D. No. 70387 'Corporal W. J. Lendrin V.C., R.E., now No. 503.....

As a result the engine with its tender were completely overturned, derailing and telescoping the first seven vehicles. Owing to the considerable disruption caused by the derailment to the track and formation no accurate proof could be obtained to show the exact cause of the derailment, but it can be assumed that either fishplates and a length of rail had been removed, or that a portion of the track had been demolished by an explosion. The train is known to have been travelling at 25 m.p.h. And the locomotive came to rest on its side some 60 yd. from the assumed point of derailment. All the track over this length was torn up and the formation disturbed by the leading wagons.

The alignment at the site of derailment is straight. The main-line track is single-line and built with flat-bottom rails on wooden sleepers, ballasted with local soil. The track is on an embankment 3 ft. above the general ground level. Siding line runs parallel with the main line at 30ft. centres and is also on an embankment. The engine, tender and some of the wagons came to rest in the valley formed between the two embankments.

The surrounding ground is low lying, swampy and subject to flooding at spring tides and also after heavy rain, and consists of sandy clay soil, approximately 3 ft thick, overlying a sand subsoil. Considerable rainfall occurred in the four weeks following

the derailment. The open drainage channels on either side of the main line were damaged and blocked, and it was subsequently found that a close-jointed pipe conveying sillage beneath the tracks had been completely severed. Although attempts were made to divert the sillage, the contents were seeping into the ground beneath the wreckage.

The main drainage channels from the area fall directly into the sea and are also subjected to tidal variations, and consistently became blocked with waste products from the nearby oil refinery and other local refuse. Despite the close attention paid to the drainage work constructed during the reclamation of the damaged stock, the standing water level throughout the area was never lowered more than 6 in. below general ground level.

In view of the pressing need to maintain rail communication between Adabiya and the remainder of the Canal Zone, it was essential that immediate steps were taken to provide an alternative track, as the removal of the derailed stock was likely to take several weeks, owing to there being no breakdown crane available, a feature which added considerably to the difficulties.

It was decided that the adjacent siding should be utilised and connected to the main-line south of the derailment, this involved the construction of an embankment of approximately 300 cu. yd.; the material to be obtained from the immediate vicinity. Two D7 bulldozers were obtained to assist in this construction, but due to the softness of the surrounding ground, these machines could not be used to the best advantage, although they were successfully used to construct a temporary access road from the main road to the derailment site.

To complete the construction of this embankment and the subsequent connecting of the track by manual labour, the services of 20 Mauritian troops and a company of the Royal Sussex Regt. (110 men) were obtained to assist the 15 Sappers who were available from 10 Railway Squadron. The link through was completed at noon on Monday, December 17, 1951, and the first train passed the site immediately the line reopened.

To ensure complete structure clearance the corner of the roof of a 40-ton box wagon had to be removed by flame-cutting....

Lifting the Engine.

The method decided upon to lift the engine involved the construction of two gantries over the locomotive, utilising light steel trestling. Using four 20-ton Morris blocks and tackle the locomotive would be raised into an upright position. To lighten the load as much as possible, the motion on the upper side and the pony wheels were removed; the necessary stores were obtained by the Transportation Directorate. Delivery of the material commenced in the middle of February.

To support the south side piers of the two gantries, advantage was taken of the sheet piling already placed to support the diversion banking. It was considered necessary for the movement of normal rail traffic that a completely new diversion track should be made to allow the construction of these piers. The building of this further diversion involved the construction of another embankment of approximately 350 cu. yd. and infantry working parties were made available for this work.

It was planned to pivot the locomotive on the lower driving wheels, it being considered that no damage would occur to the wheels or the main frame. It was never established where the centre of gravity lay, but it was estimated from scaled drawings that the locomotive would reach the point of balance at about 60deg. from the horizontal.

The Morris blocks which were available were two 20-ton and two 15-ton tested to 22½ tons. It was therefore decided, as the greater proportion of the weight of the locomotive (65 tons approximately) would be at the firebox end, to use the heavier blocks at the rear, and the lighter ones at the front. The two types of blocks were of different ratios, and no strain gauges were available in the Canal Zone to ensure equal distribution of the weight on each tackle, and therefore it was not possible to record the actual power required to lift the locomotives.

It was hoped that even distribution could be achieved by watching the power exerted by each of the two pulling teams, and then taking up the necessary turns on the easier tackle, thus re-distributing the load evenly. This, in fact, was quite successful. There was no means of estimating the drag caused by suction, but it was hoped that this would not exceed 10 tons.

It was planned to pack as lifting proceeded, but it was realised that after 40 deg. It would not be possible unless cribs and specially cut timber were used in bracing back to the sheet piling. It was decided that packing would be dispensed with after 40 deg. The plan envisaged the far two blocks taking over the weight at the point of balance and lowering the locomotive to its upright position.

In the derailment the tender had telescoped into the cab of the locomotive, and before the lifting operation could begin on the locomotive, it was essential that the tender should be withdrawn a minimum of 18 in. clear of the locomotive. This was achieved utilising steel wire rope and two sheave blocks and a 0-6-0 shunting engine. The tackle was made fast to a palm tree stump which was found to be capable of taking the load required.

Two gantries were constructed with headroom 20 ft. From the lower wheels of the locomotive to the underside of the gantry girders. Each gantry consisted of two towers of L trussing and two 24 in x 7 1/4 in. RSJs, 40 ft. Long, supporting two sets of Morris blocks and overhead attachments. These attachment sets were supported on flat bottom rails spot welded to the top flanges of the RSJs and the rails used as skids to enable the tackles to be traversed by means of jacking, thus keeping them in a vertical position as the locomotive was pivoted about the lower wheels.

Lifting Operation.

Two pairs of 3 1/2 in. dia. steel wire rope strops of measured length were connected to each of the two Morris blocks for the initial lift, and connected to the underside frame of the locomotive by means of hooks. Points of connection were (a) at the point on the frame between the two rear driving wheels and (b) at a point on the frame in front of the forward driving wheel. The strops were passed under the locomotive and round the firebox in case of (a), and round the boiler at the junction of the smokebox and boiler in the case of (b).

Two further pairs of 3 1/2 in. dia. steel wire strops of measured length were connected to the other Morris blocks to take over the locomotive at the point of balance, estimated to be between 60 deg. - 65

deg. from the horizontal. Attachments of the hooks in this case were made at similar points on the frame as previously mentioned, but on the topside frame, A 25 ft. length of Larsen steel piling was placed longitudinally under the pivot wheels to reduce the amount of sinkage, This proved quite a success, considering that it was 'floating' on water table level. When the locomotive was lifted upright the upper set of wheels were lowered into another 25ft. length of steel sheet piling.

The lifting operation was completed in two days. On the first day the locomotive was raised through approximately 25 deg., and then left overnight resting on packing. On the following day the lift was completed; packing followed the lift up to 40 deg. From then it it was not possible to use packing, as the angle was too acute. The locomotive reached the point of balance at approximately 63 deg. This part of the task was completed on March 26, 1952.

Before the actual lifting of the locomotive, a temporary track on which to haul the locomotive from its position beneath the gantries had been constructed. When the locomotive was lifted upright and the wheels placed in the two lengths of steel sheet piling there was a considerable sinkage at the

of 3 1/2 in. dia. steel wire rope. Locomotive 70387 was then taken in tow and removed to Railway Workshops at Suez for overhaul on March 31, 1952.

Rerailing of Tender.

After the removal of the locomotive from the site the tender was raised by the following method. A sleeper platform was constructed alongside the tender and steel piling channels laid along the length in the position that the top side wheels would take when righted. The steel wire rope and tackle utilised previously were anchored to a group of small palm trees at right angles to the tender, and the running end attached to the cable of a bulldozer winch, attachment was made from the tackle to the lifting eyes provided on the tender, and the 10-ton mobile crane was used to assist in the overturning motion.

When righted the tender was held in position by the crane and tackle with the wheels resting in the steel piling channel, while another timber crib was built below the other wheels. The tender was then lowered down into another set of channels in an upright position. Further lengths of channel were then placed to lead the tender on to the track that had previously been construct-

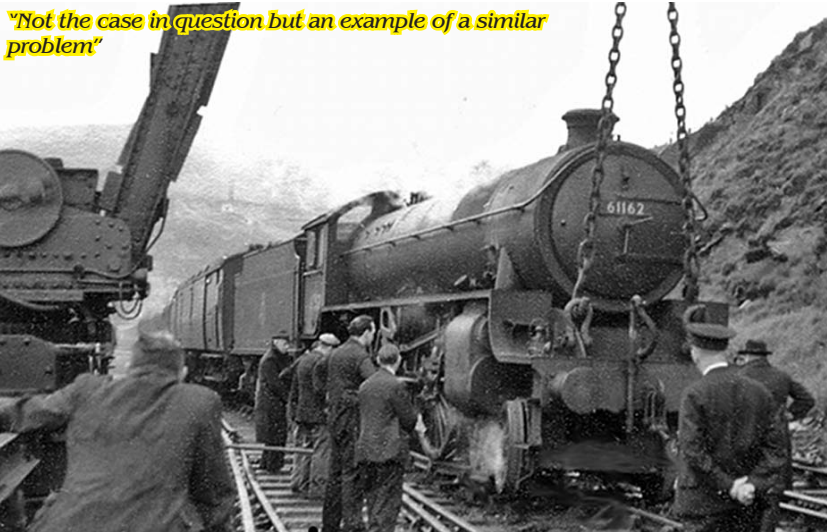
ed beneath the locomotive. The tender was hauled on to this track by the winch of the D7 bulldozer and sent to Railway Workshops on April 3, 1952.

Clearance of Site.

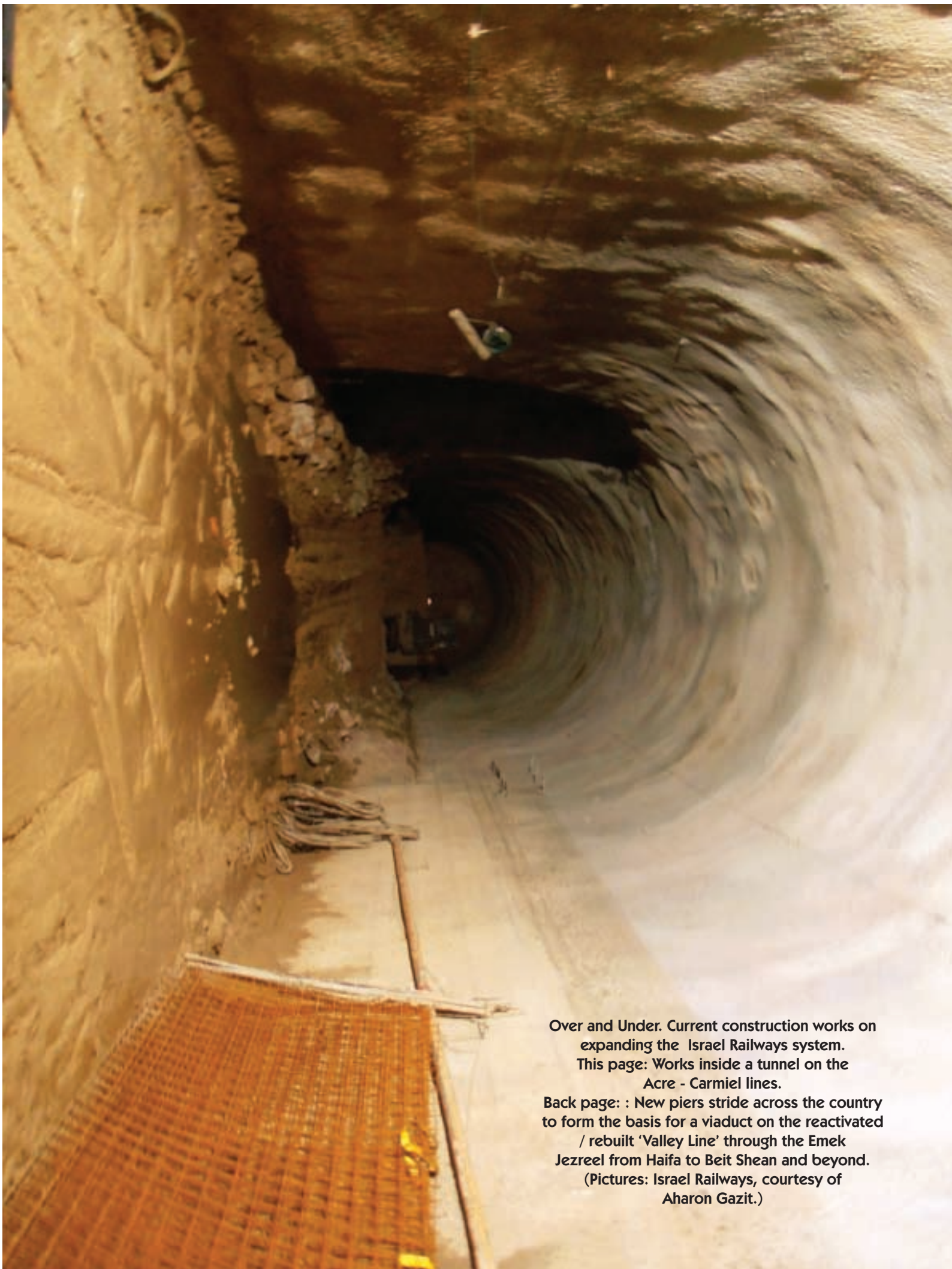
The removal of all materials and stores used in the reclamation of the derailment was commenced immediately the tender had been removed. Sappers of 3 Field Squadron dismantled the gantries with the

aid of the 10-ton mobile crane and Sappers of 10 Railway Squadron, assisted by a party of East African Pioneers, loaded the materials into rail wagons for disposal. The site was completely cleared of all W.D. Stores and the permanent Infantry Guard which had been mounted on the site since the derailment was stood down on Saturday April 19, 1952. Reinstatement of the old alignment was left to the Egyptian State Railways Administration. Locomotive No. 70387 was back in service by May 1952."

.....



"Not the case in question but an example of a similar problem"



**Over and Under. Current construction works on expanding the Israel Railways system.
This page: Works inside a tunnel on the Acre - Carmiel lines.
Back page: : New piers stride across the country to form the basis for a viaduct on the reactivated / rebuilt 'Valley Line' through the Emek Jezreel from Haifa to Beit Shean and beyond.
(Pictures: Israel Railways, courtesy of Aharon Gazit.)**

