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CENTRAL INTELLIGENCE AGENCY

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HIGHWAYS, RAILROADS, AND BRIDGES IN RUMANIA (C)

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HIGHWAYS, RAILROADS, AND BRIDGES IN RUMANIA (C) 50X1-HUM**Introduction**

It was necessary to use published maps to verify alignment, to locate bridges, used were 1:100,000, of Yugoslavia

All capacities are reported in metric terms. The term "girder truss" is used in this report to mean any truss with horizontal top and bottom chord and of indeterminate truss design.

Listed below are the names and geographic and UTM coordinates of locations used throughout this report. The coordinates of well-known locations are not shown. Coordinates for connecting railroad and highway points are not shown. Locations of points of reference used in this report for which no names were given have not been included in the following list. Such locations, where mentioned, are referred to by their UTM coordinates.

<u>Location</u>	<u>Geographic</u>	<u>UTM</u>
ADAM CLISI	N44-05, E27-58	NJ-7681
ALEXANDRIA	N43-59, E25-20	LJ-6570
AVRIG	N45-44, E24-23	KL-9567

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<u>Location</u>	<u>Geographic</u>	<u>UTM</u>
BABADAG	N44-54, E28-43	PK-3672
BACLES	N44-29, E23-08	FQ-6928
BAIA	N44-44, E28-40	PK-3254
BAIA DE ARAMA	N44-59, E22-48	FQ-4385
BAILE FELIX	N46-59, E21-58	ET-7404
BAILE HERCULANE	N44-54, E22-26	FQ-1372
BAILE HERCULANE (GARA)	N44-52, E22-23	FQ-1069
BALACITA	N44-23, E23-08	FQ-6917
BALOTA (Mountain)	N45-18, E23-53	FQ-4242
BALS	N44-22, E24-06	KK-6815
BALTANELE	N44-34, E23-10	FQ-7138
BALTA VERDE	N44-21, E22-36	Not available
BANEASA	N44-04, E27-42	NJ-5679
BANLOC	N45-23, E21-08	ER-1126
BARSESTI	N45-04, E23-14	FQ-7692
BARZUICA	N44-34, E23-01	FQ-6037
BASCOV	N44-54, E24-49	LK-2873
BAZIAS	N44-48, E21-24	EQ-3162
BISTRITA	N44-35, E22-47	FQ-4239
BOCENI	N44-34, E23-00	FQ-5836
BOTOSESTI PAIA	N44-24, E23-17	FQ-8019
BRADESTI	N46-20, E25-21	GQ-0730
BREAZA DE JOS	N45-10, E25-41	LL-9503
BREAZA DE SUS	N45-11, E25-40	LL-9406
BROSCARI	N44-30, E22-51	FQ-4830
BROSTENI	N44-45, E23-00	FQ-5858
BUDESTI	N44-14, E26-27	MJ-5798

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<u>Location</u>	<u>Geographic</u>	<u>UTM</u>
BUMBESTI	N45-09, E23-22	FR-8602
BURILA MARE	N44-27, E22-34	Not available
CALAPAT	N43-59, E22-55	FP-5573
CALARASI	N44-12, E27-20	NJ-2693
CAMPINA	N45-08, E25-40	MK-0098
CAINENI	N45-30, E24-19	KL-8941
CAPATANESTI	N44-55, E24-47	LK-2677
CARANSEBES	N45-25, E22-14	ER-9529
CARAULA	N44-11, E23-16	FP-8096
CAROL I	N44-17, E27-03	NK-0604
CARBUNESTI	N44-57, E23-31	FQ-9881
CERNA VODA	N44-18, E28-02	NK-8210
CETATE	N44-06, E23-03	FP-6486
CIOVARNASANI	N44-45, E22-52	FQ-4858
CIULNITA	N44-26, E27-21	NK-2819
CLEANOV	N44-21, E23-13	FQ-7613
CLOSANI	N45-04, E22-47	FQ-4192
COBADIN	N44-05, E28-13	NJ-9980
COLONESTI	N44-38, E24-40	LK-1544
CORBUL DE SUS	N44-25, E28-29	FK-3219
CORNESTI	N45-00, E23-09	FQ-7085
CORONINI	N44-41, E21-40	EQ-5448
CUJMIRUL	N44-13, E22-56	FP-5497
CURTEA DE ARGES	N45-08, E24-42	LL-1701
DANCUL	N44-22, E22-43	Not available
DEDOVITA	N44-38, E22-46	FQ-4043
DEGERATI	N44-38, E22-58	FQ-5645

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<u>Location</u>	<u>Geographic</u>	<u>UTM</u>
DENTA	N45-22, E21-15	ER-2023
DETA	N45-24, E21-13	ER-1727
DEVA	N45-53, E22-55	FR-4783
DIVIT	N44-47, E21-29	EQ-3859
DOMNESTI	N44-34, E28-33	PK-2435
DOROBANTUL	N44-24, E28-20	PK-0518
DRAGASANI	N44-40, E24-20	KK-8249
DRENCOVO	N44-38, E21-58	EQ-7743
DUBOVA	N44-37, E22-16	FQ-0042
FANTANELE	N44-37, E28-34	PK-2541
FETESTI	N44-23, E27-35	NK-6714
FILLIASI	N44-33, E23-32	GQ-0036
FLAMANDA	N44-24, E22-43	Not available
FLORESTI	N44-45, E22-58	FQ-5458
FUNDULEA	N44-28, E26-32	MK-6123
HAESTI	N44-43, E25-18	LK-6653
HALICEA MARE	N44-05, E23-19	FP-8585
HARA APAHIDA	N46-48, E23-45	GS-1087
HEMENI	N44-11, E23-05	FP-6693
HIURGIU	N43-53, E25-58	MJ-1660
HOGOSITA	N44-24, E23-22	FQ-8718
HROTA (SEDAM IZVORA)	N44-55, E22-26	FQ-1374
HURUIA	N44-16, E22-42	Not available
HUARDENITA	N44-24, E23-09	FQ-7118
HURA VALI	N44-40, E22-34	FQ-2347
HVALTA SIMBANU	N44-37, E22-44	FQ-3841
HAMANQIA	N44-44, E28-41	PK-3354

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<u>Location</u>	<u>Geographic</u>	<u>UTM</u>
HARSOVA	N44-42, E27-57	NK-7548
HINOVA	N44-33, E22-46	FQ-4134
IOAN CORVIN	N44-07, E27-50	NJ-6485
ISTRIA	N44-35, E28-42	PK-3637
JANA MARE	N44-25, E22-41	Not available
JIMBOLIA	N45-48, E20-44	Not available
JUPANEC	N44-43, E22-24	FQ-1153
LEHLIU	N44-28, E26-52	MK-8524
LIPNITA	N44-06, E27-36	NJ-4882
LUGOJ	N45-42, E21-55	ER-7059
LUNGULETUL	N44-37, E25-40	LK-9441
LUPATORI	N44-18, E26-48	MK-8506
MAGLAVITUL	N44-02, E23-06	FP-6878
MANASTIREA	N44-13, E26-54	NJ-9195
MANGALIA	N43-48, E28-36	PJ-2752
MANICESTI	N45-01, E24-43	LK-2087
MEDJIDIA	N44-15, E28-17	PK-0100
MEHADIA	N44-54, E22-22	FQ-0873
MOLDAVA VECE	N44-43, E21-37	BQ-4952
MOLDOVENI	N44-43, E26-31	MK-6151
MURFATLAR	N44-10, E28-24	PJ-1292
NEGRU VODA	N43-48, E28-12	NJ-9752
NEGURENI	N44-06, E27-45	NJ-6083
OLTENITA	N44-06, E26-38	NJ-7181
OPRISOVA	N44-17, E23-06	FQ-6606
ORSOVA	N44-43, E22-25	FQ-1151
OSTROY	N44-06, E27-22	NJ-2984

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<u>Location</u>	<u>Geographic</u>	<u>UTM</u>
PANTELIMON	N44-29, E26-12	MK-3625
PATULE	N44-21, E22-46	FQ-4212
PERSANI	N45-47, E25-13	LL-6071
PESTIEANA DE JIU	N44-51, E23-19	FQ-8168
PESTISANI	N45-05, E23-03	FQ-6193
PETROSENI	N45-25, E23-22	FR-8533
PIATRA OLT	N44-23, E24-16	KK-8416
PITESTI	N44-51, E24-51	LK-3270
PLENITA	N44-13, E23-12	FP-7499
PLOPI	N44-32, E23-01	FQ-6033
POPESTI	N44-57, E24-29	LK-2480
PREDEAL	N45-30, E25-34	LL-8839
PRUNISOR	N44-36, E22-55	FQ-5241
PUNGHINA	N44-17, E22-56	FQ-5405
RACOVITA	N45-41, E24-20	KL-9362
RAMNICUL VALCEA	N45-06, E24-23	KK-9397
RASINA	N44-52, E23-22	FQ-8872
ROGOVA	N44-28, E22-48	FQ-4426
ROSIUTA	N44-52, E22-59	FQ-5670
ROVINARI	N44-55, E23-12	FQ-7276
RUDARI	N44-08, E23-18	FP-8391
RUNCU	N45-07, E23-08	FQ-6797
SACUL	N45-34, E22-08	ER-8747
SALCIA	N44-09, E22-56	FP-5489
SALIGNY	N44-18, E28-07	NK-8603
SAMBATA DE JOS	N45-48, E24-49	LL-3075
SARIGHIOL	N44-57, E28-51	PK-4678

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<u>Location</u>	<u>Geographic</u>	<u>UTM</u>
SECURICEA	N44-27, E22-43	Not available
SAPUNARI	N44-30, E26-50	MK-8727
SILISTRA (Bulgaria)	N44-07, E27-17	NJ-2085
SIMIAN	N44-37, E22-42	FQ-3541
SINAI	N45-21, E25-33	LL-8723
SINOE	N44-38, E28-43	PK-3744
SLATINA	N44-25, E24-22	KK-9023
SLOBOZIA	N44-34, E27-21	NK-2935
STAMORA MORAVITA	N45-17, E21-16	ER-2013
STEFANESTI	N44-31, E26-43	MK-7929
STOINICI	N44-34, E24-47	LK-2437
STREHAIA	N44-37, E23-13	FQ-7343
SUMITA	N44-40, E21-44	BQ-6046
TABNA	N44-35, E23-02	FQ-6139
TALMACIU	N45-40, E24-16	KL-8660
TARGU JIU	N45-03, E23-17	FQ-7990
TARGUSOR	N44-28, E28-25	PK-1224
TEREGOVA	N45-09, E22-17	FR-0100
TIGANASUL	N44-26, E22-30	Not available
TISMANA	N45-03, E22-58	FQ-5390
TITU	N44-39, E25-32	LK-8446
TULCEA	N45-13, E28-48	PL-4104
TUNSI	N44-55, E23-26	FQ-9376
TURCINESTI	N45-06, E23-19	FQ-8396
TURNU MAGARELE	N43-45, E24-52	LJ-2846
TURNU-SEVERIN	N44-38, E22-40	FQ-3244
ULMENI	N44-09, E26-43	MJ-7788

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<u>Location</u>	<u>Geographic</u>	<u>UTM</u>
URSATEI	N45-05, E23-11	FQ-7294
URZICENI	N44-43, E26-38	MK-7151
VALEA ANILOR	N44-22, E22-55	FQ-5314
VALEA NEAGRA	N44-19, E28-33	PK-2505
VANJULET	N44-26, E22-47	FQ-4222
VANJU MARE	N44-25, E22-52	FQ-4921
VIDA	N44-16, E25-30	LK-8103
VIEASU	N44-21, E22-49	FQ-4513
VINTILA BRATIANU	N44-49, E28-53	PK-5062
VLADENI	N45-46, E25-22	LL-7370
VRATA	N44-12, E22-51	FP-4795
VERCIOROVA	N44-43, E22-29	FQ-1753

A. HIGHWAYS AND HIGHWAY BRIDGES

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The dimensions reported [redacted] seemed to be fairly accurate (within 10 to 20 percent), as verified locally [redacted]. In all cases the width of the roads as reported was the width of the traveled way. On unpaved roads, however, the shoulders were not clearly defined, and there was greater possibility that the widths reported were erroneous.

Clearance under the bridge was the distance from the lowest truss chord or girder to the water or ground. In the case of deck-type arch bridges, the clearance was the vertical distance from the underside of the apex of the arch to the ground or water.

On girder-through bridges the height of truss was the overhead clearance.

1. Highway: TURNU-SEVERIN - BUCHAREST

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The official name of the highway was State Highway Turnu-Severin - Bucharest via PITESTI.

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a. Location and Over-All Description (See Annex A)

The highway was approximately 340 km long and extended in a westerly direction from BUCHAREST to TURNU-SEVERIN via PITESTI. About two-thirds of the wearing course was compacted gravel and one-third concrete. Plans had been made and construction had begun to pave the gravel wearing course with asphalt.

b. Detailed Description of Highway by Sectors

(1) Sector TURNU-SEVERIN - CRAIOVA

The length of this sector was 115 km. The wearing course of a 40 km sector from CRAIOVA west to GQ-0333 had been paved with asphalt by February 1958. A project to pave the entire sector was begun in 1955 and was to be completed in 1960. The remaining 75 km had a compacted gravel wearing course. The width of the gravel wearing course was estimated to be 6 m, that of the asphalt wearing course 7 or 8 m. It was an all-weather road in fair condition. When potholes developed, they were repaired in one or two days by local farmers or villagers who were responsible for the maintenance of certain portions of the sector.

On both sides of the highway, along almost the entire sector, were 25- to 50-cm-wide compacted dirt shoulders. Earthen drainage ditches about 1 m wide and 50 cm deep extended along both sides of the sector except for a section with a steep grade (see para. A 1 c (7) below), where only one drainage ditch existed, and for a section built on a fill (see para. A 1 c (3) below), about 1½ km east of TURNU-SEVERIN, where no drainage ditches existed.

The terrain from TURNU-SEVERIN to TABNA was mostly rolling farm country with stony soil. From TABNA to CRAIOVA, the terrain was gentle rolling hills with some deciduous woods and farms. an average of 200 to 250 vehicles of all types used this highway sector in a 24-hour period.

50X1-HUM

(2) Sector CRAIOVA-PITESTI

This sector was about 125 km long. The wearing course was gravel and, with the exception of one dangerous bottleneck near BALS (see para. A 1 c (16) below), was in fair condition. This sector was to be paved with asphalt as soon as the Turnu-Severin - Craiova sector was completed. The highway passed through gentle rolling foothills near CRAIOVA and through larger ones near PITESTI. There were numerous deciduous woods along the entire sector. Compacted dirt shoulders 25 to 50 cm wide extended along both sides of the highway. There were earthen ditches about 1 m wide and 50 cm deep on both sides of the highway. An estimated 200 to 250 vehicles of all types used this sector in a 24-hour period.

(3) Sector PITESTI-BUCHAREST

This sector was about 100 km long. The wearing course was concrete, about 8 m wide. The highway had been paved with concrete before World War II and was maintained in excellent condition. There were no bottlenecks. Compacted dirt shoulders 25 to 50 cm wide were along both sides of the highway, and adequate drainage was provided by earthen ditches about 1 m wide and 50 cm deep on both sides of the highway. An estimated 350 to 400 vehicles of all types used this highway in a 24-hour period.

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50X1

c. Bridges and Bottlenecks

There were 17 bridges (one under construction) and four bottlenecks on this highway.

50X1-HUM

they were all over 10 tons because he had driven over them with gross loads of at least 10 tons.

50X1-HUM

(1) Bridge near TURNU-SEVERIN (See Annex B, Item 1, for location; see Annex C for sketch.)

50X1-HUM

This bridge was about 600 m east of TURNU-SEVERIN at about FQ-3243. It spanned an unknown stream. It was a single-span, earth-filled spandrel, concrete arch bridge. The over-all length was about 10 m. The wearing course was asphalt and about 6 to 8 m wide. There were no sidewalks, although metal guardrails about 1 m high were constructed on each side of the bridge. Overhead clearance was unlimited. The surrounding terrain was marshy, and a vehicle would have difficulty fording the stream. The bridge was built before World War II.

(2) Topolnita Bridge (See Annex B, Item 2, for location; see Annex D for sketch.)

50X1-HUM

This was a half-through Howe multiple-span steel bridge in good condition. Its three spans were each about 8 to 10 m long. The wearing course was cobblestone and was about 8 m wide. There were sidewalks 1 m wide on both sides. The overhead clearance was unlimited and the underbridge clearance was 4 m. There were six round concrete piers about 40 cm in diameter. The best location for fording the river was about 20 m south of the bridge, where the river bed consisted of hard-packed sand and gravel. This bridge spanned the Topolnita River at FQ-3343.

(3) Fill (See Annex B, Item 3, for location.)

This fill began about 1.5 km east of TURNU-SEVERIN and was about 1 km long. It was about 2.5 m high, surrounded by marshy terrain, and of rocks, earth, and gravel.

(4) Poroinel Bridge (See Annex E, Item 1, for location.)

This bridge spanned the Poroinel River at FQ-3940. It was a wooden bridge about 6 or 7 m wide and about 10 m long. The wearing course was gravel, the deck of wood. Source was unable to recall further details nor was he able to sketch this bridge. The river bottom was hard-packed sand and gravel, and the best location for fording was about 10 m north of the bridge.

(5) Balotei Highway Overpass (See Annex E, Item 2, for location; see Annex F for sketch.)

50X1-HUM

This was a steel, through-plate girder bridge at FQ-4341. It was in good condition. It spanned a single-track railroad line. The wearing course was gravel and about 6 to 8 m wide. It had unlimited overhead clearance.

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(6) Prunisor Highway Bridge (See Annex E, Item 3, for location; see Annex G for [redacted] sketch.) 50X1-HUM

This pony-truss bridge spanned the Husnitei River at FQ-5241. It was wooden and had an 8-m-wide wearing course. It had an unrecalled number of wooden piers, each about 40 cm in diameter. [redacted] it 50X1-HUM before World War II; it was still in good condition. Overhead clearance was unlimited. The terrain was soft and muddy and the current was swift. [redacted]

50X1-HUM

(7) Balota Mountain Bottleneck (See Annex E, Item 4, for location.) 50X1-HUM

This bottleneck was located on the Balota Mountain and extended from FQ-3940 to FQ-4341. It consisted of a 1-km-long winding road on a high mountainside. The gradient was unknown [redacted] shift into second gear when ascending or descending the mountain 50X1-HUM automobile.

50X1-HUM

In 1955 a bypass was built to avoid a very dangerous landslide area in this sector (See Annex H for [redacted] sketch). The sharpest curve had a 2½-m radius and another bad curve had an 8-m radius. 50X1-HUM

(8) Water-Covered Sector (See Annex I for location.)

This sector began approximately 7 km east of PRUNISOR and extended from FQ-5939 to FQ-6239. This sector of highway passed through marshy terrain and during and after rains was covered with 25 to 30 cm of water. In winter it was frequently covered with ice. It was not marked with signs and was very dangerous for anyone not familiar with the area. [redacted]

[redacted] when this sector was paved with asphalt 50X1-HUM it would be raised to a safe level.

50X1-HUM

(9) Strehala Highway Bridge (See Annex J, Item 1, for location; see Annex K for [redacted] sketch.) 50X1-HUM

This was a half-through Howe truss bridge at FQ-7543. It was in good condition and had one span. The roadway was about 6 m wide, and 50-cm-wide sidewalks extended along each side. The wearing course was asphalt, and the overhead clearance was unlimited. The underbridge clearance was about 3½ to 4½ m. [redacted] 50X1-HUM bridge spanned the Motru-Lui River.

(10) Motru-Lui Highway Bridge (See Annex J, Item 2, for location; see Annex L for [redacted] sketch.) 50X1-HUM

This concrete bridge at FQ-8241 spanned the Motru-Lui River. It was a through-plate girder bridge in excellent condition. It had 12 round concrete piers. There were five spans, about 10 m long. The roadway was about 8 m wide; two sidewalks, each about 1 m wide, extended along both sides. Overhead clearance was unlimited. The river was shallow, with a rock and gravel bed, and could easily be ferried on both sides of the bridge.

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(11) Filiasi Highway Bridge (See Annex J, Item 3, for location; see Annex M for [redacted] sketch.) 50X1-HUM

This pony-truss half-through wooden bridge at FQ-9937 spanned part of an unknown lake. The roadway was wooden planks and was about 6 to 8 m wide; there were no sidewalks. The bridge had 6 or 8 wooden piers about 5 m apart. The wooden guardrails were about 1½ m high. Overhead clearance was unlimited. [redacted] 50X1-HUM

(12) Jiului Highway Bridge (See Annex J, Item 4, for location.)

This concrete bridge at FQ-9438 spanned the Jiului River. This bridge was the same type and had approximately the same dimensions, clearances, and spans as the Motru-Lui highway bridge described in paragraph A 1 c (10) above. The river was shallow and had a rock and gravel bed; it could easily be forded on both sides of the bridge.

(13) Bottleneck, Bypass, and Bridge Under Construction (See Annex N for location.) 50X1-HUM

This section was about 3 km northwest of BRADESTI and extended from GQ-0631 to GQ-0731. Construction began during the first part of 1957. When last seen [redacted] in February 1958, initial preparations had been completed for building a bridge to span two valleys on the site. The initial preparations included leveling three hilltops, removing trees and brush from the site, and laying fills of earth from the hilltops in certain places. (See Annex O for [redacted] sketch.) 50X1-HUM

The new road was to be built about 60 m above the existing road. Sources of labor were local farmers and villagers, required to "volunteer" one or two days per week for work on the project, which was under the supervision of civilian engineers. Construction equipment consisted of picks, shovels, axes, saws, and horse-drawn wagons. No heavy construction equipment, such as tractors, bulldozers, graders, etc. [redacted] 50X1-HUM

[redacted] the bridge was to be constructed of reinforced concrete. Plans called for the project to be completed by 1962. 50X1-HUM

The old road descended into a valley and was very dangerous because of the poor drainage system and frequent landslides.

(14) Highway Bridge near CRAIOVA (See Annex P for location.)

This concrete bridge at GQ-1816 about 4 km northwest of CRAIOVA spanned an unknown river. It was the same type and had approximately the same dimensions and spans as the Motru-Lui highway bridge described in paragraph A 1 c (10) above. The only difference was that this bridge had an underbridge clearance of 6 to 7 m.

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(15) Bals Highway Bridge (See Annex Q, Item 1, for location; see Annex R sketch of this bridge.) 50X1-HUM

This half-through steel, pony-truss highway bridge was at KK-6815 in the center of BALS. The wearing course was about 8 m wide. Two sidewalks about 1 m wide extended along each side of the wearing course. The bridge was supported by 9 reinforced concrete piers. Overhead clearance was unlimited. The bridge was in excellent condition. No nearby fording sites were known 50X1-HUM

(16) Dangerous Bottleneck near BALS (See Annex Q, Item 2, for location.)

This was a 2-km-section starting about 1 km east of BALS at KK-7014 and extending to KK-7215. The highway was built on the side of a hill, and its only drainage ditch was not able to adequately drain the continual flow of water, which covered the highway with a film of slippery mud.

(17) Slatina Highway Bridge (See Annex Q, Item 3, for location; see Annex S for sketch.) 50X1-HUM

This bridge spanned the Oltul River at KK-8822 about 1 km southwest of SLATINA. It was a steel, pony-truss multiple-span bridge. It had an asphalt wearing course about 8 m wide with two 1-m-wide sidewalks on each side. Support was furnished by 15 reinforced concrete piers about 40 cm in diameter.

Overhead clearance was unlimited. The bridge was in good condition; it was damaged during the Second World War but repaired immediately after the war's end. 50X1-HUM

(18) Vedeia Highway Bridge (See Annex T for location; see Annex U for sketch.) 50X1-HUM

This open-spandrel concrete arch bridge at LK-1342 spanned the Vedeia River. It was supported by an unknown number of reinforced concrete piers about 35 cm in diameter. The concrete wearing course was about 8 m wide. Two sidewalks about 1 m wide extended along each side. There were steel guard-railings about 1½ m high. Overhead clearance was unlimited. The bridge was in very good condition.

Although the surrounding terrain was marshy during rainy weather, the river could be forded on both sides of the bridge during dry weather. 50X1-HUM

(19) Pitesti Highway Bridge (See Annex V for location; see Annex W for sketch.) 50X1-HUM

This bridge was in PITESTI at LK-3270. It was a steel, multiple-truss through bridge and in good condition. It had four spans supported by 10 reinforced concrete piers; each pier was about 40 cm in diameter. Overhead clearance was about 5 m.

The river could be forded on either side; the water was usually shallow and had a hard-packed gravel and sand bed.

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(20) Lunguletul Highway Bridge (See Annex X for location; see sketch.) 50X1-HUM

This bridge was about 1 km east of LUNGULETUL at IK-8440 and spanned the Dambovita River. It was a concrete slab bridge. The wearing course was concrete and was 8 m wide; there were two 1-m-wide sidewalks on each side. Overhead clearance was unlimited and the underbridge clearance was about 2½ m. The bridge had eight reinforced concrete piers, each about 40 cm in diameter. The span length was 8 to 10 m. Normal water depth was about 1½ m. No nearby fording sites were known. 50X1-HUM

(21) Railroad Overpass (See Annex Z for location; see Annex AA for sketch.) 50X1-HUM

This bridge was near the city limits of BUCHAREST, at MK-2070. It was a filled-spandrel concrete arch bridge with an over-all length of about 40 m. The wearing course was concrete and about 8 m wide. Two 1-m-wide sidewalks extended on each side. Overhead clearance was unlimited and underbridge clearance between normal water level and the soffit was about 8 to 10 m. The span of the arch was about 15 m. The bridge spanned an unknown number of railroad tracks.

• 2. Road: ORSOVA-TIMISOARA

50X1-HUM

a. Location and Over-All Description

50X1-HUM

[redacted] estimated traffic density at 200 to 250 vehicles per day. Most of the traffic consisted of 4- to 6-ton trucks which when loaded, weighed up to 15 metric tons. The road was heavily used by oil and steel industry vehicles. 50X1-HUM

The surface of the road was concrete from ORSOVA to a point about 10 km south of TEREGOVA. This sector was built before World War II. From that point to SACUL, the surface was sand and crushed rock, and from SACUL to TIMISOARA, sand and river gravel. The road was in good condition. The capacity limit was not posted, but [redacted] it was at least 15 metric ton. 50X1-HUM

The road was generally 8 to 10 m wide. It narrowed in some places to a width of 6 to 8 m, but remained wide enough for 2-lane traffic throughout. There were gravel and sand shoulders about 35 to 40 cm wide on each side of the concrete-surfaced sector. There were no shoulders along the gravel sectors.

In the sector from JUPANEC to about FQ-107572 the road was bounded on the west side by a sheer rock wall 20 to 30 m high. On the river side of the road, there was a guardrail 120 to 150 cm high, consisting of three concrete rails set on concrete posts 10 m apart. In this sector, the road varied from 3 to 8 m above the river level and was characterized by many sharp curves. 50X1-HUM

There were three tunnels from ORSOVA to TIMISOARA, one of which was a few kilometers north of CARANSEBES. [redacted] they were the same width as the road in other parts of the sector. There were three bridges along this sector of road.

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50X1

b. Bridge Data

50X1-HUM

(1)

It had steel, through-type arch trusses on concrete piers. It was an old bridge, but in good condition. The over-all width of the asphalt-surfaced wearing course was about 9 m, including an 8-meter-wide road and sidewalks 50 to 60 cm wide on each side; the length between abutments was 80 to 100 m. The height above the water level was 8 to 10 m and the overhead clearance was unlimited. There was only one full pier, in the center of the bridge. The other intermediate piers were concrete bents, each consisting of two cylindrical concrete columns. There were three or four steel arch trusses about 2½ to 3 m high and 20 to 25 m long. The I-beams which formed the bottom chords had a web 20 cm high and flanges 15 to 20 cm wide.

50X1-HUM

50X1-HUM

(2) There was a concrete arch, deck-type, closed-spandrel bridge in the center of CARANSEBES.

50X1-HUM

It was an old bridge, but in good condition. The length of the bridge was 80 to 100 m and its over-all width was 10 to 12 m. There was a 40- to 50-cm-wide sidewalk on each side of the roadway, with rails on both sides. It had an asphalt-covered wearing course. The height above the water level was 6 to 8 m; the overhead clearance was unlimited.

50X1-HUM

50X1-HUM

(3) Another concrete arch, deck-type, closed-spandrel bridge was in the center of LUGOJ.

50X1-HUM

The length of the bridge was 150 m and the over-all width was 10 to 12 m. There was a 40- to 50-cm-wide sidewalk with a railing on each side. It had an asphalt-covered wearing course. The condition of the bridge was good. Its overhead clearance was unlimited. The intermediate piers were concrete

50X1-HUM

3. Road: CRAIOVA-ALEXANDRIA-BUCHAREST

50X1-HUM

a. Location and Over-All Description

50X1-HUM

about 400 to 500 vehicles used this road in a 24-hour period. From CRAIOVA to ALEXANDRIA the road had a gravel surface. From ALEXANDRIA to BUCHAREST it had an asphalt surface. The condition of the road was very good. Its capacity was not posted, but [redacted] drove a 10-ton truck over it. The traveled way from CRAIOVA to ALEXANDRIA was 8 m wide; from ALEXANDRIA to BUCHAREST it was about 10 m wide. The shoulders were of hard-packed earth and gravel about 30 to 40 cm wide. There were no significant cuts or fills. railroad crossings were all grade crossings. Their locations [redacted] There were no significant grades. There were six bridges along this route.

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50X1

b. Bridge Data

(1) The Stoenesti Bridge at LJ-004889 crossed the Oltul River. It was in good condition. The length of the bridge was 50 to 60 m and the width was 8 to 10 m, including 1-m-wide sidewalks. There were iron picket railings on both sides. The height above the water level was about 3 m. The bridge had a concrete superstructure and columnar concrete piers. The abutments were of masonry construction, sloping at a 45° angle. The intermediate piers were cylindrical columns about 35 cm in diameter, two to each pier. The columns were surmounted with 1-m caps. The thickness of the bridge structure from the asphalt surface of the roadway to the pier caps was about 35 cm. There were 5 spans, each about 10 m long. During dry weather traffic was able to ford the river on both sides of the bridge. The normal depth of the river at this point was about 1 m.

(2) The Alexandria Bridge at LJ-671706 crossed the Vedeia River. The length of the bridge was 35 to 40 m and the width 8 to 10 m, including 1-m-wide sidewalks on each side. The condition of the bridge was good. It was a multiple-steel truss, through-type bridge.

50X1-HUM

the intermediate piers each consisted of two cylindrical concrete columns about 35 cm in diameter. The bottom chord of the trusses was about 30 cm wide. The number of spans was unknown, but estimated each span to be about 6 to 8 m long. There were three truss sections, each about 10 m long. The height above the water level was about 3 m. Overhead clearance was 4½ m and the capacity, which was not posted, was at least 10 tons. The river depth at this point was about 1½ m. The river bottom was soft. The nearby terrain was also soft; Source knew of no bypass possibilities.

50X1-HUM

50X1-HUM

(3) The Teleorumanul Bridge at LJ-726743 spanned the Teleorumanul River. It was about 40 m long and 8 to 10 m wide, including 1-m-wide sidewalks with wrought-iron guardrails on both sides. The condition of the bridge was good; its capacity was at least 10 tons. It had a concrete arch on concrete bents. each of the intermediate piers consisted of two concrete columns about 40 cm in diameter. It was a five-span bridge: the three center spans were about 10 m long and the two end spans 2 to 3 m long. The height above the water level was 2½ to 3 m and the overhead clearance was unlimited. The bridge had a concrete wearing course. There were no known bypass possibilities. The river at this point was about 2 m deep. The river bottom and nearby terrain were soft.

50X1-HUM

(4) The Podul Neaslovului Bridge was at MK-089035. It was about 40 m long and 8 to 10 m wide, including a 40- to 45-cm-wide sidewalk on each side. The condition of the bridge was good; its capacity was at least 10 tons. The bridge had a concrete arch on concrete bents. Source was not able to describe the abutments but said the intermediate piers each consisted of three cylindrical columns of reinforced concrete about 60 cm in diameter. There were three intermediate piers: both end ones were shorter than the center pier and were built into the earth embankment. There were two main center spans, lengths unknown. The end span on each end of the bridge was shorter by an unknown amount than the center spans. The height above the water level was about 3 m, and the overhead clearance was unlimited. The river bottom was soft and offered no bypass possibilities. There was an iron-picket rail about 120 to 140 cm high on each side of the bridge. The bridge had an asphalt wearing course.

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50X1

(5) The Podul Sabarului Bridge was at MK-179127. It was about 20 to 25 m long and 8 to 10 m wide, including a 40- to 45-cm-wide sidewalk on each side. There was an iron-picket railing on each side, 120 to 140 cm high. The condition of the bridge was good; the capacity was at least 10 tons. The type of bridge was a girder or concrete slab on concrete bents. Source was not able to describe the abutments but said the intermediate piers were concrete bents with an unknown number of cylindrical concrete columns, each about 60 cm in diameter. There were two main center spans. The end spans were shorter than the center spans by an unknown amount and rested on pier bents, which were shorter than the center pier. The height above the water level was $1\frac{1}{2}$ m and the overhead clearance was unlimited. The river at this point had a soft bottom and there were no bypass possibilities. The water was about 2 m deep.

50X1-HUM

4. Road: TURNU-SEVERIN TO MOLDAVA VECHIE

a. Location and Over-All Description

50X1-HUM

there were many sharp short curves from ORSOVA to BAZIAS. (See Annex EB for details of highway and railroad crossings at GURA VAII.)

About 20 to 30 vehicles used this road in a 24-hour period. From TURNU-SEVERIN to a point about $1\frac{1}{2}$ km southeast of GURA VAII, the surface was asphalt; there were also two asphalt stretches, each 3 km long, one east and the other west of ORSOVA. The rest of the road was surfaced with sand and crushed rock or gravel. The width of the traveled way from TURNU-SEVERIN to ORSOVA was about 8 to 10 m; in the sectors ORSOVA-DUBOVA, DRENCOVO-SUMITA, and CORONINI-DIVIT, the road was 7 or 8 m wide; in the sectors DUBOVA-DRENCOVO, SUMITA-CORONINI, and DIVIT-BAZIAS, the road was generally 4 to 5 m wide except in the first sector, where there were three 6- to 8-m-wide sections at the following places: from EQ-994380 to EQ-980362 (about 2.5 km), from EQ-851319 to EQ-840328 (about 1.2 km), and from EQ-818382 to EQ-802401 (about 2.6 km). Other than these three wide places, there were only occasional turn-outs in the sector DUBOVA-DRENCOVO.

Shoulders existed only on the asphalted sectors and were about 35 cm wide, of crushed rock and sand. On the graveled sectors, Source was not able to distinguish between the traveled way and the shoulders (if any). From DUBOVA to DRENCOVO, SUMITA to CORONINI, and DIVIT to BAZIAS, most of the road was cut into the sheer rock bank of the Danube River. In these sectors, the rock wall into which the road was cut often overhung the road, forming a partial tunnel. There were many rock falls and slides. The road level along these sectors varied from 1 to 7 m above the water level of the Danube River. Most of the river bank was revetted with a rock wall. All of these sectors cut through rock were posted at 16 km per hour and 6 m vertical clearance. The north side of the road from FQ-261439 to FQ-249449 and from FQ-227476 to FQ-178521 was flanked by an almost vertical retaining wall of cut stone, reaching a height of 35 to 50 m in some places. There were no significant or limiting grades.

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50X1

The railroad crossings were all grade crossings. [redacted]

50X1-HUM

For additional details of railroad crossings at GURA VAI, see Annex BB.)

50X1-HUM

In 1956 and 1957 a drainage ditch about 2.5 km long was built on the north side of the road west of TURNU-SEVERIN, by the Improvement Section (Sectia Ameliorarii) of the Forestry Ministry, for soil erosion control. It was intended to carry off the waste water of the Turnu Severin Power and Water Plant and the excess run-off from the slopes above the road. It crossed under the road through a culvert at FQ-276429 and drained into the Danube River. It was faced with concrete about 20 cm thick and was trapezoidal in cross-section, 80 cm wide at the bottom, about 2 m wide at road level, and about 1 1/2 m deep. The uphill embankment was faced with concrete for an additional 80 to 100 cm. There was a 30-cm-high concrete curb between the road and this ditch. (See Annex CC for [redacted] sketch of a civilian POL and coal depot near ORSOVA.)

50X1-HUM

b. Bridge Data

50X1-HUM

(1.)

[redacted] it spanned the Jidoaita River. It was a steel Howe-truss through bridge with a length of 40 m and a width of 8 m, including two 35-cm-wide sidewalks. The distance between the abutments at river level was about 30 to 35 m. The abutments were made of stone. On the west end of the bridge the stone abutment was vertical; on the east end, it was vertical for about 2 m and then sloped back from the river at about a 45° angle. There were four or five intermediate pier bents, each consisting of two cylindrical concrete columns at least 30 cm in diameter. There were five or six spans, but there were only two steel girders. The condition of the bridge was good. Its height above the water level was 4 1/2 to 5 m and the overhead clearance was unlimited; the steel trusses were about 5 to 6 m high. The bridge capacity was not posted but was at least 10 tons. The wearing course of the bridge was cobblestone. There were no bypass possibilities in the immediate vicinity of the bridge because of the sharply sloping banks. In 1956 and 1957, both sides of the river bank upriver from the bridge were revetted with concrete by the Ministry of Roads. On both sides the revetment started off at bridge level and sloped down to a height of about 1 1/2 m above the water level. On the northwest side, the new revetment extended 300 to 350 m and on the southeast side about 180 to 200 m.

50X1-HUM

50X1-HUM

(2.)

[redacted] it spanned the Vodita River. It was a steel arch-truss on concrete bents, about 50 m long and 8 to 10 m wide. There were no sidewalks. [redacted] the river banks had a slope of about 35 degrees from the abutments down to the water level. The intermediate piers, number unknown, were concrete bents with cylindrical concrete columns about 35 cm in diameter. The number and length of spans were unknown but there were three steel arch trusses. The condition of the bridge was good. Its height above the water level was about 2 m and the overhead clearance was unlimited; the steel arch spans were 2 1/2 to 3 m high. [redacted] the capacity was at least 10 tons.

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50X1-HUM

50X1-HUM

50X1-HUM

It was possible to bypass the bridge on the north side, where the river bottom was solid.

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50X1

(3) [redacted] 50X1-HUM

[redacted] it spanned the Cerna River. It was a steel arch-truss on concrete bents about 120 to 150 m long and 8 to 10 m wide, not including a 40- to 45-cm-wide sidewalk on each side. Source was not able to describe the abutments but said the intermediate piers, number unknown, each consisted of three cylindrical concrete columns 60 to 80 cm in diameter. The number of spans was unknown; there were about six or eight steel arch trusses, each 20 to 25 m long. The condition of the bridge was good; its wearing course was of asphalt. The height above the water level was 6 to 8 m and the overhead clearance was about 6 to 8 m; the steel arch trusses were supported by overhead cross bracings. The capacity was unknown. 50X1-HUM

(4) Source did not know the name of the bridge at FQ-083487 but it spanned the Jeselnita River. It was a steel arch-truss on concrete bents about 25 to 30 m long and 8 to 10 m wide. There were no sidewalks on either side. [redacted] the river 50X1-HUM

banks from the abutments down to the water level were faced with river stone and sloped about 60 degrees. The intermediate piers were concrete bents, each with two cylindrical concrete columns 50 to 60 cm in diameter. There were four spans and two steel arch trusses. There was one pier under the juncture of the two steel arches and one pier under the center point of each arch. The bridge was old, but in good condition. Its capacity was at least 10 tons and it had unlimited overhead clearance. The height above the water level was about 3 m. The bridge had a gravel wearing course.

Fording the river was possible about 10 m upriver from the bridge, where the banks sloped gently and the river bottom was firm.

5. Road: FUNDULEA-MANASTIREA 50X1-HUM

About 300 to 350 vehicles per day used this road. See Annex DD for [redacted] the alignment of the sector FUNDULEA-LUPTATORI.

[redacted] The road surface was gravel and sand; it was in fair condition. The width of the road was about 8 to 10 m. There were some minor, but no significant grades.

There were many culverts made of half-sections of corrugated pipe; they were 2 to 2½ m high, 4 to 5 m wide, and encased in concrete. There were no bridges.

The road from LUPTATORI to CALARASI through CAROL I was used very little. [redacted] 50X1-HUM

6. Road: BUCHAREST-FUNDULEA-LEHLIU-CALARASI 50X1-HUM

[redacted] About 600 to 700 vehicles used this road daily. [redacted]

[redacted] The asphaltting of this road began before World War II and was completed as far as FUNDULEA. The project was resumed in 1954 and, in 1957, was completed as far as CALARASI. The condition of the road was very good. It was about 10 m wide, including a 50-cm-wide graveled shoulder on each side. It was a fairly straight and level road, with no significant grades. 50X1-HUM

There were no significant bridges.

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50X1

7. Road: BUCHAREST-URZICENI-SLOBOZIA-DOROBANTUL-CONSTANTA

50X1-HUM

Over 1000

vehicles per day used this road. It was asphalted during World War II along its entire length; its condition was very good.

50X1-HUM

The road was about 10 m wide, including a 50-cm-wide gr shoulder on each side. It was level and straight, and had no significant grades.

At HARSOVA, there was no bridge across the Danube River, and road traffic was ferried across by two identical diesel boats, each carrying up to 20 trucks. The crossing point was at NK-695555, and it was called the Harsova Ferry. Both boats operated simultaneously, and the trips left each shore about every half-hour. A one-way trip across the river required 15 to 30 minutes. There was 24-hour service. A Security Police EM armed with a PPSH submachinegun was stationed at the ferry terminal on the left bank.

The only significant bridge on this road was at MK-660706. It was called Podul Ialomitei and was built during World War II. It was a concrete slab bridge, 25 to 30 m long, 10 m wide, including the sidewalks, and about 3 m high above the water level. The intermediate piers, number unknown, were concrete bents, each with two concrete columns, which were rectangular (50 x 40 cm) in cross-section. The road on the bridge was surfaced with asphalt. There were iron-picket guardrails on both sides. There was no bypass possibility because of deep water and a soft river bottom.

8. Road: PLOESTI-Bucharest Outskirts-SAPUNARI-CALARASI

50X1-HUM

It was not open to traffic because it was undergoing improvement by an unidentified battalion of the Military Construction Forces (Forțele Militare de Construcție - FMC), which was asphaltting the entire sector and, at the same time, widening the road to 10 or 12 m. As of early 1958, the sector PLOESTI-STEFANESTI was completed; the sector STEFANESTI-SAPUNARI was being asphalted, and earthwork was under way in the sector SAPUNARI-CALARASI. The sector BUCHAREST-SAPUNARI was called locally "the Military Work Site" (Chantierul Armatii). The FMC battalion was equipped with bulldozers, truck-mounted and tracked power shovels, dump trucks, rollers, and other unidentified road construction equipment.

9. Road: BROSTENI-STREHAIA

50X1-HUM

About 60

to 80 vehicles per day used this road, which had a sand and gravel surface; it was in fair condition. The road was 10 m wide and very level throughout.

50X1-HUM

The only bridge in this sector was at FQ-599560 and was called Podul Motului Lupsa. It was an old timber-trestle bent bridge in fair condition, with a capacity up to 10 tons. It was 30 m long, 8 m wide, and 8 m above the water level. The wearing course was gravel. The river was very swift and was subject to flooding in spring and winter.

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50X1

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10. Road: BAIJA DE ARAMA-TISMANA-PESTISANI-URSATEI-BARSESTI-TARGU JIU 50X1-HUM

[redacted] About 100 vehicles per day used this road, which had a gravel surface and was 8 to 10 m wide. 50X1-HUM

[redacted] there were plans to asphalt this road from BAIJA DE ARAMA to TISMANA because of the proposed construction at CLOSANI of a large lumber mill and furniture factory. In late 1957, [redacted] 50X1-HUM

[redacted] 15 to 20 IRTA trucks to haul sand and gravel from RUNCU to spread on this sector of the road, possibly in preparation for the asphalt work. The condition of the road was fair. [redacted] 50X1-HUM

There was only one significant bridge along this road. It was at FQ-463840 and was called Podul Motrului la Apa Neagra. It was a wooden-trestle bent bridge, about 10 to 15 m long, 8 m wide, and 20 m high, with at least 3 spans. The road surface on the bridge was made of split or sawed logs laid transversely, with no earth, gravel, or sand wearing course. There were wooden guardrails 160 cm high on each side. [redacted] capacity at 9 or 10 tons. The river banks at this point were almost vertical, and there was no bypass possibility. 50X1-HUM

Like most wooden bridges in Rumania [redacted] this one was made of oak (salcam). The only preservative treatment was scorching or charring. 50X1-HUM

11. Road: FLORESTI-BAIJA DE ARAMA 50X1-HUM

[redacted] About 50 vehicles per day traveled this road, which had a gravel and sand surface. Its condition was fair. [redacted] The road was 8 to 10 m wide, including shoulders. The point at FQ-480812 was top of a hill. The approaches to it from BAIJA DE ARAMA and from FQ-4737 were fairly steep. Along this sector there was a steep drop-off on the east side of the road into the valley; there were no guardrails. There were many rock falls on this sector from the upper slopes. 50X1-HUM

There was only one bridge on this road, at FQ-515617. [redacted] it had a concrete superstructure. It was 6 to 8 m long and 8 to 10 m wide, including a sidewalk on each side; it was 4 or 5 m above the water level. The wearing course was gravel. There was no bypass possibility in the immediate vicinity. 50X1-HUM

12. Road: BAIJA HERCULANE (GARA)-GROTA 50X1-HUM

[redacted] GROTA was a summer resort area. BAIJA HERCULANE (GARA) was the railroad station for the village of BAIJA HERCULANE.

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50X1

a. Location and Over-All Description

50X1-HUM

From the railroad station to BAILE HERCULANE the road was surfaced with concrete; it was asphalted in 1956 from BAILE HERCULANE to GROTA. The condition of the road was good.

The road was 8 to 10 m wide and had sand and gravel shoulders 40 to 50 cm wide along all sectors. The road was generally 3 or 4 m above the water level of the adjacent river. There was a concrete post guardrail on the river side along the entire road. There were no significant grades.

b. Bridge Data

(1)

50X1-HUM

It was a deck-type bridge with a concrete superstructure. It was an old bridge but the superstructure and the concrete wearing course were in very good condition.

The bridge was 25 m long between abutments and about 10 m wide, including a 50-cm-wide sidewalk on each side. There were wrought-iron guardrails on each side, about 1½ m high. The height above the water level was 4 or 5 m, and the overhead clearance was unlimited. Source did not know the bridge capacity. There was no feasible bypass in the immediate vicinity because of the steep river banks.

50X1-HUM

(2)

It was a steel arch-truss through-type bridge about 30 m long between abutments and 10 m wide, including a 50-cm-wide sidewalk on each side. It was an old bridge but in very good condition; the wearing course was concrete. The height above the water level was 2½ to 3 m and the overhead clearance was unlimited.

there were three steel arch trusses. Capacity and bypass data were unknown.

50X1-HUM

(3)

It was a steel arch-truss through-type bridge about 60 to 80 m long and about 10 m wide, including a 50-cm-wide sidewalk on each side. It was an old bridge but in very good condition; the wearing course was cobblestone. The height above the water level was 8 to 10 m and the overhead clearance was unlimited. The bridge had six to eight steel arch trusses, each about 5 m high. Because of the steep river bank there was no possible bypass in the immediate vicinity. Capacity was unknown.

(4)

50X1-HUM

It was a wooden-trestle bent bridge, in good condition, about 10 to 12 m long and about 8 m wide. There were wooden guardrails on each side. The height above the water level was 8 m and the overhead clearance was unlimited. Its wearing course was cobblestone. The intermediate piers were wooden trestle bents and there were two spans; the type of abutments was unknown. Because of the steep and high river banks there were no bypass possibilities in the immediate vicinity. There was a posted load limit.

The bridge was built in 1956. It was a temporary structure to be replaced by a permanent bridge.

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50X1

13. Roads: TURNU-SEVERIN - TARGU JIU

50X1-HUM

a. Location and Over-All Description

50X1-HUM

curve never existed and the road at this point was straight and bounded on both sides by level truck farms (see Annex GG). The road was surfaced throughout with crushed rock, river gravel, and sand. The condition of the road was fair; there were occasional potholes, but no washboard. Rock and sand were occasionally stockpiled along the roadside for maintenance. The top average speed was about 100 km per hour. The road capacity was unknown. It was 10 m wide, including the shoulders, and about 250 vehicles per day traveled it throughout the year. The point at FQ-405560 was the top of a hill. The approaches to it from FQ-348500 and from FQ-415564 were both steep grades, requiring first or second gear for loaded trucks. In wet weather, these grades were very slippery and trucks often had to use tire chains. This sector frequently iced over in the winter. There was a similar grade rising from FQ-488575 to FQ-492582, and dropping off to FQ-513589. There was a sharp downgrade south from FQ-489575, with no guard-rails. From ROSIUTA to FQ-600780, there were many steep grades and many sharp curves; the road was slippery in wet weather.

b. Bridge Data

(1) Highway bridge at FQ-322446. This bridge, called Podul din Bariera Jiului, was a concrete slab bridge 8 to 10 m long, about 8 m wide, and 6 or 7 m above the usually dry riverbed. The wearing course of this bridge was earth. There were iron-picket rails on both sides, about 1½ m high. The river banks were very steep, almost vertical, and there was no bypass in the immediate vicinity; however, Source pointed out bypass routes through the fields east of the road (see Annex GG).

(2) Highway Bridge at FQ-343493. It was called Podul Topolnitei and was a concrete arch bridge on concrete bents, open-spandrel, deck-type, 50 to 60 m long, about 10 m wide, and 6 to 8 m above the river at the peak of the arch. There were concrete sidewalks on both sides, 50 cm wide, and iron-picket rails 1½ m high. The wearing course of the bridge was earth. The concrete bents each consisted of two cylindrical concrete columns about 50 cm in diameter. The river bottom at this point was firm and the banks were not steep; fording was possible.

(3) Highway Bridge at FQ-483572. It was called Podul Cosustei and was in the village of CIOVARNASANI. It was similar to the bridge described in paragraph A 13 b (2) above. It was 80 to 100 m long and 10 to 12 m above the river. There were no bypass possibilities.

(4) Highway Bridge at FQ-560619. It was called Podul Motrului and was also similar to the bridge described in paragraph A 13 b (2) above, except that it was 35 to 40 m long and 5 to 6 m above the river. There were no bypass possibilities in the immediate vicinity.

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50X1



(5) Highway Bridge at approximately FQ-7789. It was called Podul Jiului and was also similar to the bridge described in paragraph A 13 b (2) above, except that it was about 150 m long and about 15 m above the river. The wearing course of the bridge was cobblestone.

14. ROAD: CALARASI-MANASTIREA-OLTENITA

50X1-HUM

[REDACTED]
[REDACTED] About 200 to 250 vehicles per day traveled this road. The [REDACTED] The road had a gravel surface from CALARASI to ULMENI, and an asphalt one from ULMENI to OLTENITA. [REDACTED] the entire road was to be asphalted. The condition of the road was unknown. The road was 10 m wide, including the shoulders. There were no significant grades and no major bridges. The road was not subject to flooding, but snow drifts tended to pile up on it during the winter.

50X1-HUM

15. FUNDULEA-OLTENITA

50X1-HUM

[REDACTED]
[REDACTED] The road had a gravel surface in fair condition, and was about 10 m wide, including the shoulders. There were no significant grades or major bridges. [REDACTED] this road was suitable for heavy traffic only in dry weather.

50X1-HUM

16. BUCHAREST-BUGESTI-OLTENITA

50X1-HUM

[REDACTED]
[REDACTED] It was surfaced with concrete slabs, probably around 1936 or 1937, and was in excellent condition. Traffic density was 500 to 600 vehicles per day. It was about 10 m wide, plus graveled shoulders on each side about 50 cm wide.

The only major bridge along this road was in the city of BUGESTI. It was a concrete arch bridge on concrete bents, and was about 25 m long, 10 m wide over-all, and 4 m above the water level. The concrete bents, number unknown, were about 3½ m high, while the arches curved up another 50 to 80 cm. There were no overhead obstructions. There were sidewalks and guardrails on both sides.

17. BUCHAREST-RUSE (Bulgaria)

a. Location and Over-All Description

50X1-HUM

[REDACTED]
[REDACTED] traffic density at 500 to 1000 vehicles per day. The surface was concrete slab, about 10 m wide, with gravel shoulders 50 cm wide. The entire road, which was built several years before World War II, was in very good condition; it was level throughout.

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50X1

b. Bridge Data

(1) There was a bridge at MK-263086 called Podul Sabarului la Jilava. It was a concrete slab bridge with a concrete road surface, and was in excellent condition. It was 35 to 40 m long, about 10 m wide, and 3 to 4 m above the water level. There were six or seven spans. In the center was a full concrete pier, about 1½ m thick at the bottom, and tapering to about 1 m at the top. The other piers were concrete bents, each with two cylindrical concrete columns 50 cm in diameter. There were sidewalks on both sides of the road, and guardrails 120 to 140 cm high. There were no overhead obstructions. The bridge accepted all loads of vehicular traffic. The nearby terrain was marshy, and Source said there were no bypass possibilities.

(2) There was a bridge at MK-254071 called Podul Sabarelului. It was a concrete slab bridge in good condition, with sidewalks and guardrails on each side. It was about 20 to 25 m long, about 10 m wide over-all, and 1½ to 2 m above the water level. Source did not know the number of spans, nor could he describe the abutments; he said the intermediate piers were concrete bents, each with two cylindrical columns, 50 to 60 cm in diameter. There were no overhead obstructions. Source did not know the capacity, but the bridge accepted all loads of vehicular traffic. The banks of the river at the bridge site sloped gently, but the nearby terrain was marshy, and made by-passing impossible.

(3) There was a bridge at MK-248024 called Podul Argesului. It was a through Howe-truss steel bridge in one section, with a concrete road surface. It was in good condition. It was 70 to 80 m long, about 10 m wide, including a sidewalk on each side, and about 5 m above the water level. Source did not know the number of spans, but there were intermediate piers of concrete bents, each with two cylindrical columns. The steel truss was about 6 m high, braced overhead, and the overhead clearance was 5 to 5½ m. Source did not know the capacity. The nearby terrain and the riverbed were firm, and the bridge could be bypassed.

(4) There was a bridge at MK-199917 called Podul Neajlovului. It was a concrete segmented-arch deck-type bridge, 50 to 60 m long, about 10 m wide, including sidewalks and rails on both sides, and 5 or 6 m above the water level. It was in good condition. There were 4 or 5 spans, each 10 to 15 m long. The intermediate piers were concrete bents, each with two cylindrical concrete columns about 60 cm in diameter. The segmented arches had a rise of about 80 cm. Overhead clearance was unlimited. The bridge accepted all loads of vehicular traffic. The nearby terrain was soft, and there were no bypass possibilities.

(5) There was a railroad bridge across the Danube River at OLTENITA, which was called Podul Prieteniei. Construction began in 1954, and Source heard that it was completed in 1957. It was a single-track through steel truss, with sidewalks on both sides. It was 800 to 1000 m long and 15 to 20 m above the water level. It had very thick concrete columns as intermediate supports.

There was a ferry boat crossing of the Danube River at OLTENITA. It was similar to the one at HARSOVA.

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50X1

18. CONSTANTA-NEORU VODA-Bulgarian Border

50X1-HUM

It was used by about 100 vehicles per day. The concrete surface was in excellent condition and was about 10 m wide. There were no bridges and no significant grades.

19. CERNA VODA-MURFATLAR

50X1-HUM

It was used by about 300 vehicles per day. Its gravel surface was in good condition and was about 10 m wide. There was a short fill about 3 m high in the vicinity of NK-9403; from SALIGNY to NK-840077 there was a fill, which reached a height of 8 m.

The only bridge on this road was a highway overpass over a double-track railroad line at PK-008010. It was a 1-span, steel Howe-truss through bridge, with built-up approaches. It was 10 to 12 m long, and about 6 m high above the railroad tracks. There were sidewalks on both sides. The steel trusses were about 2½ m high, and the overhead clearance was unlimited.

20. CONSTANTA-TULCEA

50X1-HUM

The traffic density was about 500 vehicles per day, much of which consisted of Soviet military traffic. The road was surfaced with concrete, was about 10 m wide, and was in excellent condition. From PK-225105 to PK-2425, there were several minor grades. For several kilometers on each side of BABADAG, there was a constant gradual uphill grade into BABADAG.

There was a highway overpass over a single-track railroad line at PK-323449. It had a concrete superstructure and a concrete wearing course. It was about 6 m long, about 10 m wide, and about 6 m high above the railroad tracks. There were 50-cm-wide sidewalks and low railings on each side. The overhead clearance was unlimited. The approaches to the overpass were built up with fill.

A highway overpass over a single-track railroad line at PK-332462 was identical in structure and dimensions to the one at PK-323449.

There was a highway overpass over a single-track railroad line at PK-344671. The railroad at this point passed through a natural ravine. The overpass was concrete, about 6 or 7 m long, about 10 m wide, and 8 or 9 m above the railroad tracks, with unlimited overhead clearance. There were sidewalks and guardrails on both sides.

At PK-383992, there was a highway overpass over a single-track railroad line. It had a concrete superstructure and was 6 or 7 m long, about 10 m wide, and about 6 m high above the railroad track. It had natural approaches.

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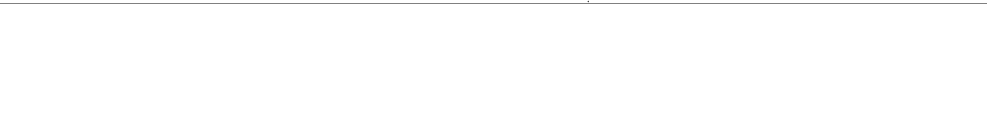
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50X1

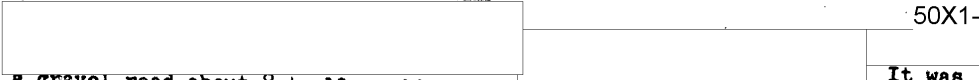
21. PK-360805 to SARIGHIOL



50X1-HUM

The road was surfaced with gravel, and was in fair condition. It was about 10 m wide. There were no grades and no major bridges.

22. HAMANZIA to VINTILA BRATIANU



50X1-HUM

It was a gravel road about 8 to 10 m wide, and was in fair condition. There were no major grades or bridges. All railroad crossings were grade crossings.

23. PK-333535-SINOE-ISTRIA-CORBUL DE SUS-VALEA NEAGRA

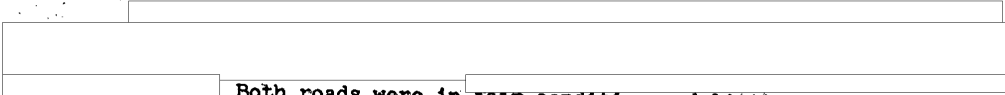
50X1-HUM



This road was often used as an alternate to the CONSTANTIA-TULCEA highway, and was the scheduled route of passenger buses between the two cities. It was a gravel road, about 10 m wide, and was in good condition. All railroad crossings were grade crossings except the one at PK-340529, which had a concrete superstructure and filled approaches.

24. MEDJIDIA-CAROL I-TARGUSOR-PK-246280 and MEDJIDIA-CAROL I-TARGUSOR-DOMNESTI-FANTANELE-BAIA

50X1-HUM



Both roads were in fair condition and little used; they were surfaced with gravel and were about 8 m wide. There were no significant grades or major bridges.

25. TARGU JIU-ROVINARI-FILIASI

50X1-HUM



The road was surfaced with gravel and was about 10 m wide, but Source heard from some road engineers (names unrecalled) that it was to be surfaced with asphalt and probably widened to 12 m. In 1958, the sectors from FQ-988371 to FQ-970438 and from FQ-988438 to FQ-9944 were already asphalted.

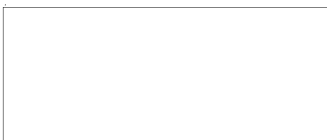
50X1-HUM

The entire road was in very good condition. There were no major cuts or fills. The road was never flooded and was always open to traffic. There were only minor grades and no major bridges.

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50X1

26. TARGU JIU-CARBUNESTI-FILIASI



50X1-HUM

The traffic density was about 500 vehicles per day. The road was surfaced with gravel and was in very good condition. It was about 10 m wide.

This road, as well as all roads leading into TARGU JIU, were to be asphalted. For 2 km directly south of CARBUNESTI, the road was built on a 4-m-high fill. There were no significant grades on this road. All rail-road crossings were grade crossings.

50X1-HUM

50X1-HUM

There was a wooden pile trestle bridge at FQ-983804. It was 20 to 25 m long, 8 to 10 m wide, and 4 or 5 m high. The road surface on the bridge was hewed corduroy, about 25 to 30 cm thick. It was in very good condition, passing over the bridge. There were log rails 1 1/2 m high, on both sides, but no sidewalks. There were no bypass possibilities.

50X1-HUM

At FQ-988572, there was a bridge identical in construction to the bridge at FQ-983804, and of the same dimensions.

both of these bridges were to be replaced by concrete bridges when the road was asphalted.

50X1-HUM

27. TARGU JIU-TURGINESTI

50X1-HUM

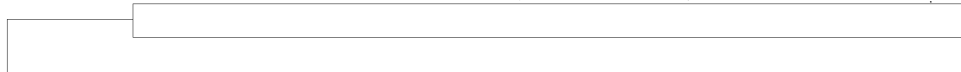


The traffic volume was about 500 vehicles per day. The road was surfaced with gravel and was 8 to 10 m wide. This road was to be asphalted, but no work on it as of early 1958. The road was in very good condition. There were no significant grades, no major bridges, and no major cuts or fills.

50X1-HUM

50X1-HUM

28. CORNESTI-RUNCU



50X1-HUM

surface was gravel. The road was about 8 m wide and was in very good condition. There were no significant grades, major bridges, or major cuts or fills.

29. CARBUNESTI-RASINA-PESTIEANA DE JIU



50X1-HUM

Before 1954, it had been an unimproved road about 6 m wide. In 1954 and 1955, it was rebuilt; and, as of 1958, it was a gravel road about 10 m wide, and in very good condition. It was to be concreted. The traffic volume reached 1000 vehicles per day, mostly in connection with the oil field development and exploitation. There were no major bridges. From CARBUNESTI, there was a steep uphill grade to TUNSI, requiring downshifting to first gear. Then there was a level stretch 1 km long, a short uphill grade and then a downhill grade to FQ-8570, from which point the road was level to PESTIEANA DE JIU. There was a series of short, sharp curves near RASINA.

50X1-HUM

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50X1

[redacted] Over most of [redacted] 50X1-HUM
 route, the roadbed was scarified, then a 50-to 60-cm-thick layer of boulders was spread, covered with a 10-cm-thick layer of sand and crushed rock. Source observed a different method of construction in the sectors 1½ km west of CARBUNESTI and 7 km east of PESTIEANA DE JIU, where there was a clay subsoil. He was told that a new method was used to prevent sliding of the roadbed. A 40-cm-thick layer of intertwined branches and small brush was laid down directly on the clay subsoil, after the organic layers had been scraped off. This was covered by 20 to 25 cm of river sand and gravel, mixed with a little hydrocement. A transverse solid layer of creosoted rough timbers 20 to 25 cm in diameter followed, and this was covered by 20 cm of river sand, 50 to 60 cm of boulders, and 10 cm of sand and crushed rock.

30. CARBUNESTI JIU Oil Field Road Net

50X1-HUM

The development of this oil field was begun in 1952 and 1953. [redacted]

[redacted]
 Altogether there were about 500 trucks on the job, furnished by similar motor transport firms in CRAIOVA, PITESTI, DEVA, and TARGU JIU.

[redacted] (See Annexes KK and LL for location and alinement of roads within this net.)

50X1-HUM

There was also a similar oil field development and a similar road net constructed on the east side of the Gilort River [redacted]

50X1-HUM

The Carbonești Jiu road net consisted of a central axis road (labeled M-M on the annexes), a primary network (magistrala, labeled M on the annexes), and a secondary network (not labeled on the annexes). The axis and primary roads were completed in 1956 and had gravel surfaces; [redacted]

50X1-HUM

[redacted] they would be concreted in the future. The secondary roads were completed by 1957 and also had gravel surfaces. The axis road was 15 to 16 m wide, the primary roads were about 12 m wide, and the secondary roads were 10 to 12 m wide. There were many steep grades on which a loaded truck had to shift down to first gear. The surface deteriorated somewhat in the winter and spring, but was restored to good condition with the onset of dry weather. There were no major bridges, but a few culverts made of metal pipe.

50X1-HUM

31. PIATRA OLT-RAMNICUL VALCEA-SIBIU

50X1-HUM

[redacted] traffic density at about 500 vehicles per day. The surface was gravel from PIATRA OLT to CAINENI, and the width was about 10 m. The road was asphalted from CAINENI to SIBIU before World War II. The road was in very good condition. In general, it had no sharp curves or steep grades, and speed could be maintained throughout. All railroad crossings were grade crossings.

For 20 km north of DRAGASANI, the road was out into low hills. After that, the road rose gradually to about 150 m above water level. From KK-8274 north to SIBIU, the road stayed within 10 m (horizontal distance) of the river. From KL-9113 to KL-8656, the river valley was V-shaped and was about 25 to 50 m wide. From DRAGASANI to KL-8656, there were guardrails on the river side of the road made of concrete posts and steel or iron rails.

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50X1

At KL-866243, there was an old steel arch-truss through bridge. The road surface on the bridge was gravel. It appeared to be in good condition and carried all normal traffic. It was 25 to 30 m long, about 10 m wide, and up to 10 m high above water level. There were three spans on columnar concrete piers. The steel arch trusses were 3½ to 4 m high, and the overhead clearance was unlimited. There were no sidewalks and no bypass possibilities.

There was a highway bridge at KL-869600. It was a concrete arch bridge set on columnar concrete piers. The concrete arches were shallow. The bridge was not more than 50 m long, about 10 m wide, and about 10 m high above the shallow river. There were guardrails and probably also sidewalks, on both sides. Overhead clearance was unlimited. The banks were steep in the immediate vicinity, and the riverbed was rocky and firm.

32. TIMISOARA-DENTA-Yugoslav Border

50X1-HUM

The road was surfaced with gravel, and was about 10 m wide and in good condition. There were no significant grades. All railroad crossings were grade crossings. A bridge in the center of DENTA had a concrete superstructure and was not more than 10 m long. The stream that it crossed was shallow, and had low banks in the immediate vicinity of the bridge.

33. DETA-BANLOG-JIMBOLIA

50X1-HUM

It was surfaced with gravel, and was about 10 m wide and in very good condition. There were no significant grades. At DR-903325, there was a highway bridge called Podul Timisului. It was a 2-span concrete arch bridge, with shallow arches resting on columnar concrete piers. It was 15 m long, 10 m wide, and 4 m high in the center. There were guardrails and sidewalks on both sides.

34. FITESTI-CURTEA DE ARGEȘ

50X1-HUM

The road had a concrete surface, except for a graveled sector 3 or 4 km long from BASCOV to CAPATANESTI. The concrete sectors were about 10 m wide and were in very good condition. The graveled sector was also about 10 m wide and was in very good condition. There were no significant grades and no major bridges. All railroad crossings were grade crossings.

35. BASCOV-RAMNICUL VALCEA

50X1-HUM

The traffic density was about 100 vehicles per day. The road was surfaced with gravel. It was about 10 m wide and was in very good condition. There was a bridge across the Olt River at KK-940978. It was a concrete arch bridge with shallow arches resting on columnar concrete piers. It was not more than 40 m long, about 10 m wide, and about 8 m above water level.

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50X1

36. BUCHAREST-PLOESTI-BRASOV-SIBIU-CLUJ-ORADEA-Hungarian Border

50X1-HUM

Traffic density varied from 200 to 250 vehicles per day from BUCHAREST to BRASOV, to 25 to 30 vehicles per day between ORADEA and the Hungarian border. The surface from BUCHAREST to MK-270271 was cobblestone. From MK-270271 to PLOESTI, it was asphalt; and from PLOESTI to the Hungarian border, it was concrete, with occasional sectors of asphalt surfacing. The sector from CAMPINA to BRASOV was asphalted. The road, which was about 10 m wide throughout, was in excellent condition. There were no major grades on this road. From CAMPINA, there was a gradual uphill grade to LL-8628 and then a gradual downhill grade to BRASOV. There were minor grades west from BRASOV.

The only significant fill was from SAMBATA DE JOS almost continuously to KL-903603. It attained a height of about 2½ m.

There was a double-track railroad bridge, "Podul Constanta," over the highway at MK-270268. It was about 30 m long, 10 to 12 m wide, and about 8 m high above the highway surface. It had four spans. The end spans were each 3 to 5 m long, and the 2 center spans were each 10 to 12 m long. The abutments, faced with cut stone, sloped back at about 45 degrees. The three intermediate piers each consisted of three concrete columns about 80 cm in diameter. There were two lanes of highway traffic on each side of the center pier. The understructure of the bridge was faced with concrete.

50X1-HUM

At MK-270271, there was a highway bridge over Lake Herastrau. It was a concrete slab or concrete girder bridge of four or five spans. It was 20 to 25 m long, 10 m wide, and 4 or 5 m above water level. There were iron guardrails and sidewalks on both sides.

The bridge at MK-263410 was called Podul Seaftica. It was a 2-span concrete arch bridge about 15 m long, 10 m wide, and 3 m high. The two spans, with a shallow arch, rested on a center pier of concrete columns.

There was a fill 100 to 150 m long at MK-268475. It was straight, not curved, as shown on Sheet 4045 of AMS Series M606. The embankment was about 3 m high and about 16 to 20 m wide at the water level. The side slopes were grassed. At about midpoint, there was a concrete culvert about 6 m wide and 2 to 2½ m high through the fill.

At MK-298549, there was a bridge called Podul Ialomiteii. It was concrete, with shallow arches resting on columnar concrete piers. It was 15 to 20 m long, 10 m wide, and 4 m high. There were guardrails and sidewalks on both sides. There were no bypass possibilities.

The bridge at MK-279610 was called Podul Prahovei. It was an old concrete bridge, with shallow arches resting on columnar concrete piers. It was 15 to 20 m long, 10 m wide, and 6 m high. There were guardrails and sidewalks on both sides. There were no bypass possibilities.

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50X1

The bridge at LL-935089 was similar in structure to the one at MK-279610, but it was 4 m high.

In the sector of this road [redacted] 50X1-HUM there were several stretches where the road had guardrails on the downhill side [redacted] From LL-935089 to 50X1-HUM BRASOV, there were four tunnels. [redacted] only one immediately north of PREDEAL, which was the longest one (about 600 m long). The shortest one was about 30 m long. They all had an arched cross-section, stone block walls, and concrete-faced ceilings. The highway maintained its normal width through the tunnels and had shoulders 50 to 60 cm wide. The tunnels were 7 to 8 m high.

50X1-HUM

At LL-7568, there was a cutoff (see Annex NN). [redacted] The route directly west from AVRIG (see Annex OO) was unfamiliar [redacted] through RACOVITA and TALMACIU, and thought that the short route was probably a new or recently improved road.

50X1-HUM

The bridge at KL-903603 was called Podul Oltului. It was a steel arch-truss through bridge with a concrete wearing course. It was about 20 m long, 10 m wide, and about 6 m high. Source did not know the number of spans. Overhead clearance was unlimited. There were no bypass possibilities.

An old concrete bridge at FS-982020 was called Podul Muresului. It was a concrete slab or concrete girder bridge, 100 to 120 m long and about 8 m high. Source did not know the number of spans but said the intermediate piers were constructed of concrete columns about 60 cm in diameter. There was no bypass or alternate route.

There was a concrete bridge, Podul Crisului, at FS-500932. The spans, number unknown, were shallow arches resting on intermediate piers built of concrete columns. The bridge was about 20 m long, about 10 m wide, and 4 m high.

37. ORADEA-BAILE FELIX

[redacted] 50X1-HUM was a gravel road in fair condition and 8 to 10 m wide. There were no major bridges or fills, and no significant grades.

38. SIMIAN-VANJU MARE-CALAFAT

[redacted] 50X1-HUM density of traffic at 400 to 500 vehicles per day. The road had a gravel surface throughout, and was about 10 m wide, including shoulders. It was in good condition.

From FQ-408342 to FQ-408285, there was a continuous steep upgrade with many short sharp curves, and it was necessary for a truck or a sedan in poor condition to shift to first gear. The curves continued until FQ-430264. From FQ-482175 to FQ-492152, there was a short upgrade, and then a gradual downgrade to the south. There was a steep upgrade from FP-610870 to FP-630868.

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50X1

The only bridge was a wooden one in HINOVA, 6 to 8 m long. At this bridge site, the river bottom was sandy, and the river could be forded. 50X1-HUM

At CALAFAT, there was a ferry for railroad cars. [redacted]

[redacted] the ferry carried about five or six railroad cars and that much of the freight carried by this railroad line consisted of vegetables.

50X1-HUM

There was an alternate route from FQ-407284 to VANJULET through VANJULET. It was an old road [redacted]

[redacted] It was a gravel road in fair condition, 10 m wide, with no significant grades.

50X1-HUM

39. CETATE-PLENITA and CETATE-CARAUULA-PLENITA and MAGLAVITUL-GALICE-MARE-RUDARI-PLENITA 50X1-HUM

These three roads were very similar. [redacted]

[redacted] During the summer and fall harvest seasons, traffic density reached a volume of 200 vehicles per day. All three roads were surfaced with gravel, were about 8 to 10 m wide, and in very good condition. There were no significant grades or major bridges.

50X1-HUM

40. FQ-407284 - GRUIA-CUJMRUL

[redacted] it was rebuilt from the base up by Military Construction Troops; the sector VRATA-CUJMRUL was entirely new. (See Annex QQ for correct alignment [redacted] It was called the "Strategic Highway" (Strategica) because it paralleled the Yugoslav border and serviced the border fortifications on the Rumanian side. The road had an estimated over-all traffic density of 50 vehicles per day, but the sector through SALCIA was little used. The entire road was surfaced with gravel. It was 10 to 12 m wide and in very good condition. From FQ-407284 to SECURICEA, there was a downhill grade, which was not very steep. Proceeding south into GRUIA, there was a 2-km uphill grade; proceeding south from GRUIA, there was a 2-km downhill grade, neither one of them dangerously steep. There were no bridges.

There was an old road from FQ-407284 to GRUIA through DANCUL, which was little used for through traffic after the Strategic Highway was built; it was still in good condition as of 1957. It was a gravel road about 10 m wide, and had no bridges or significant grades.

41. BALTA VERDE-JANA MARE-FLAMANDA

This was a gravel road about 10 m wide and in good condition. There were no bridges or significant grades.

42. GRUIA-PATULE-VANJULET-FQ-407284

This road was surfaced with gravel and varied from 8 to 10 m in width. It was in poor condition, but offered fair passage in the summer. It had no bridges or significant grades.

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50X1

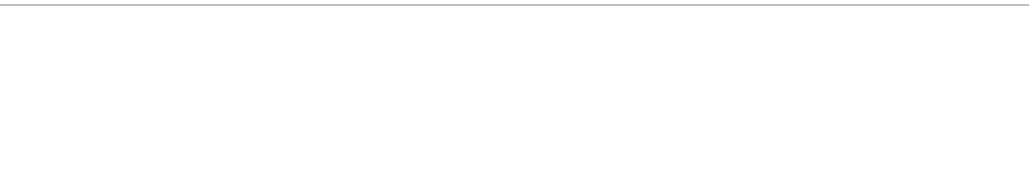
43. SECURICEA-BURILA MARE-TIGANASUL

50X1-HUM

This road was surfaced with gravel and was about 10 m wide. It was in very good condition. It had several minor grades.

44. Eleven Secondary Roads

50X1-HUM



a. PUNGHINA-OPRISOVA-GEMENI-CETATE

This was a gravel road in fair condition, about 10 m wide, with a few minor grades and no bridges.

b. OPRISOVA-BALACITA-VALEA ANILOR
OPRISOVA-BALACITA-VANJU MARE

These two roads were surfaced with gravel and were in very good condition. They were about 10 m wide. There were no grades or bridges.

c. PLENITA-CLEANOV-GUARDENITA-BACLES-PLOPI-BARZUICA-TABNA

This was a gravel road in good condition and about 10 m wide. There were no bridges. Because there was a steep grade through BARZUICA, an alternate route through BOCENI was used in wet weather.

d. COGOSITA-BOTOSESTI FATA-BACLES

This was a gravel road in good condition, with varying widths from 8 to 10 m. It had only minor grades and no bridges.

e. BACLES-FQ-870270

This was an earth-surfaced road about 10 m wide and in fair condition. There were no major grades or bridges.

f. PLOPI-BALTANELE-STREBENIA

This was a gravel road about 10 m wide and in very good condition. It had several minor grades, but no bridges.

g. BACLES-DEDOVITA-FQ-430418-BISTRITA

This was a gravel road in fair condition, with widths varying from 8 to 10 m. There were no bridges or significant grades.

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50X1

h. ROGOVA-BROSCARI-BISTRITA-FQ-392407

This was a gravel road about 10 m wide, and in fair condition. There were no bridges or significant grades.

i. FQ-400384 - FQ-393375

This was an unimproved road, with a slight downhill grade to the south.

j. BROSCARI - FQ-414324

This was a gravel road about 8 m wide, in very good condition. There were no bridges. There was a steep uphill grade from BROSCARI halfway to FQ-414324, and then a steep downhill grade into FQ-414324.

k. FRUNISOR-DEGERATI

This was a little-used gravel road about 8 m wide and in poor condition. It had many sharp curves and a steep uphill grade proceeding out of FRUNISOR and out of DEGERATI.

45. SILIGTRA-OSTROV-LIPNITA-BANEASA-NEGURENI-IOAN CORVIN-ADAM CLISI-COBADIN-MURFATLAR-CONSTANTA

50X1-HUM

[redacted] a bypass around OSTROV (see Annex RR). It was used by about 300 vehicles per day. It was a concrete road with 50-cm-wide shoulders on each side, and was in excellent condition. From OSTROV to NJ-390844, the road was built on a fill about 3 or 4 m high. Through the wooded area near NJ-5382, there were several minor cuts. There were several minor grades from OSTROV to ADAM CLISI.

50X1-HUM

There was a 1-span bridge at NJ-377847. [redacted]

the superstructure was concrete. It was in good condition. It was 5 to 6 m long and about 10 m wide, including walks and rails both sides. Its height above the water level was 4 m. There were no overhead obstructions. There was no ready bypass in the immediate vicinity.

50X1-HUM

At PJ-128925, there was a highway overpass over a double-track railroad line. It had a concrete superstructure, and was about 10 m long and 10 m wide, including walks and rails on both sides. It was 5 to 6 m high above the railroad tracks. The railroad at this point passed through a natural cut.

B. RAILROADS AND RAILROAD BRIDGES

[redacted] all major railroad bridges (about 10 m or longer) in Rumania were guarded 24 hours a day by troops of the Auxiliary Security Police.

50X1-HUM

Except where otherwise noted, all railroads mentioned in this report were standard European gauge and nonelectrified, and all highway-railroad crossings were grade crossings.

Bridge height was that vertical distance from the lowest chord or girder of a bridge to the water or ground level below. Height of truss was the vertical distance from the rails to the highest point of the truss.

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50X1

[redacted] rough sketch of a typical bearing for railroad bridge (see Annex SS). This was the only type [redacted] although they varied in size with the size and weight of the bridge.

Railroad ties were all wooden, usually beech, and were creosoted. They were about 25 x 20 cm in cross-section, with a pronounced bevel on the upper corners; S-irons were driven into both ends. They were spaced about three per meter. The rails, fastened to the ties with spikes or square-headed screws, were of two types. The old type came in lengths of 10 to 12 m and the new in lengths of 35 to 50 m [redacted]

1. Railroad ORADEA-BUCHAREST

This railroad line was single-track from the Hungarian border to PLOESTI, and double-track from PLOESTI to BUCHAREST. [redacted]

[redacted] the entire route would be double-tracked in the distant future. The sector from GARA APAHIDA to SIBIU was double-tracked, but the second track had not been in use up to and including early 1958. This sector had been under construction since 1945, and there were still crews working on a second track for several kilometers east of SIBIU. The electrification of the sector from PLOESTI to BUCHAREST had been under way since 1953 or 1954. The transmission lines were installed but, in 1958, [redacted] the sub stations and transformers were not completed.

[redacted] the railroad paralleled the highway.

The route had many tunnels of various but undetermined lengths, particularly in the sectors through PERSANI, BRASOV, BREAZA DE JOS, and BREAZA DE SUS.

There was a 2½ m fill from the Hungarian border through ORADEA to ET-8312. From AVRIG to SAMBATA DE JOS, the railroad line was built on a 2½ m fill.

[redacted] several engines on this line [redacted]

[redacted] There was an upgrade from KL-808742 to KL-850690. Two locomotives were required on the sectors from PERSANI to VLADENI, BRASOV to SINAI, and BREAZA DE SUS to SINAI.

There was a railroad spur from LL-9357 to LL 9552. It served an oil refinery.

The bridge at ET-717126 spanned the Crisal-Repede River. It was a steel arch-truss through bridge, single-track, about 20 m long and 5 to 6 m high.

The bridge at FT-146044 spanned the Crisal River. It was a steel arch-truss through bridge, 15 m long and 6 m high. The steel arches were about 5 m high, and the overhead clearance was unlimited.

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50X1

The bridge at FS-979020 was called Podul Muresului. It was a girder-truss through bridge, single-track, about 120 m long, 6 to 7 m high. The girder trusses were 5 or 6 m high with overhead cross bracing. Although the railroad line in this sector was double-tracked, there was no bridge for the second track.

A railroad bridge at KL-808742 was a steel girder-truss through bridge, 20 m long, 5 m high, and with trusses about 5 m high.

The railroad bridge at KL-868600 was similar to the one at KL-808742, except that it was 15 m long and 8 m high.

The bridge at KL-900600 was a steel girder-truss through bridge, 60 to 80 m long and 8 m high, with trusses about 5 m high.

The bridge at MK-236629, Podul Prahovei, was a steel girder-truss through bridge 50 to 60 m long, 5 m high. The trusses were 6 or 7 m high with overhead cross bracing.

The bridge at MK-229554, Podul Ialomitei, was a steel arch-truss through bridge, with unlimited overhead clearance. It was about 35 m long and 4 to 5 m high.

2. Railroad BUCHAREST-CONSTANTA

50X1-HUM

[redacted]
[redacted]
From BUCHAREST to PANTELIMON the line was occasionally double-tracked; the rest of the line to CONSTANTA was single-tracked.

The sectors of the line that were built on fill were as follows: MK-460236 to MK-520230, fill up to 5 m high; MK-650214 to MK-700220, fill up to 12 or 15 m high; MK-737213 to MK-780217, fill up to 20 m high; NK-3719 to CERNA VODA, fill up to 6 m high; CERNA VODA to MEDJIDIA, short sectors of fill, the highest about 8 m at SALIGNY. There was a sector 1 km long in the area at MK-333235 built on fill 8 to 10 m high.

The railroad servicing facilities [redacted] were repair shops and coal yards at CIULNITA, FETESTI, and MEDJIDIA, and water tanks at CERNA VODA, CIULNITA, FETESTI, MEDJIDIA, and at MK-728214. The last was filled with water from a coal-steam pumping station at MK-750215. 50X1-HUM

The bridge at MK-245256 was called Podul Constantei. Its superstructure was faced with concrete. It was a 2-span, double-tracked bridge over the highway. Each span was 6 to 8 m long with about 8 m underbridge clearance. The center pier was made of four or five concrete columns, 80 cm in diameter. The stone abutments were vertical.

The double-tracked railroad bridge, Podul Herastrau, at MK-274268, was a 2-span, steel girder-truss deck-type bridge, 12 to 15 m long and about 5 m high. There were guardrails and wooden sidewalks on both sides.

The bridge at MK-294252 was similar in all respects to the one at MK-274268, except that it was single-tracked.

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50X1

There was a railroad bridge (or culvert) at MK-333235. It was 1-span, 6 m long and 8 to 10 m high. The vertical abutments were faced with concrete, as was the floor of the culvert.

There was a railroad bridge (or culvert) at MK-671218, similar to the one at MK-333235, except that it was 1 or 2 m longer and 12 to 15 m high.

There was a railroad bridge (or culvert) at MK-750215 similar to the one at MK-671218, except that it was 20 m high.

The railroad bridge at MK-682147 was a steel girder-truss through bridge, 350 to 400 m long and 10 m high. The girder trusses were 8 to 10 m high with overhead cross bracing. The intermediate piers were constructed of concrete columns. There were walks on both sides.

The bridge at NK-810103 was built in 1878 by the French engineer SALIGNY, (fnu). It was a single-track steel girder-truss through bridge and was over 1 km long and 35 m high. The intermediate piers, number unknown, were built of concrete columns about 1 m in diameter. The steel girder trusses were 8 to 10 m high, and were surmounted by a trusswork of inverted arches which increased in height toward the center of the bridge, where it reached a height of 25 to 30 m above the girder trusses. There was a 24-hour guard consisting of two security police at each end.

The Bucharest-Constanta railroad line was paralleled on the right (south) side by an oil pipeline 50 to 60 cm in diameter. From CERNA VODA to CONSTANTIA, the railroad was paralleled by a water pipeline about 40 cm in diameter.

3. Railroad BUCHAREST-OLTENITA

50X1-HUM

There were some cuts and fills along this line, but they were all minor.

The bridge at MK-460162 was a steel girder-truss, 1-span bridge, 10 m long and 4 m high. The trusses were about 3 m high and the overhead clearance was unlimited. The abutments were concrete with vertical walls.

The bridge at MJ-610980 was identical to the one at MK-460162, except that it was 2 m higher.

The bridge at MJ-668961 was a steel arch-truss through bridge, probably with two spans. The intermediate piers were built of concrete columns. The bridge was 20 m long, 2½ to 3 m high, and the arch trusses were 3 m high. The overhead clearance was unlimited.

4. Railroad BUCHAREST-GIURGIU

50X1-HUM

The only significant feature he was able to recall other than the bridges (see below) was a fill about 3½ m high from IK-9611 to IK-9209.

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50X1

The bridge at MK-140187 was a 1-span steel girder-truss through bridge, about 10 m long, 3½ m high. The girder trusses were 6 m high and had overhead cross bracing.

The bridge at MK-080160 was a steel arch-truss through bridge, about 40 m long and about 5 m high. The arch trusses were about 3½ m high. Overhead clearance was unlimited.

The bridge at MK-028136 was identical to the one at MK-140187, except that it had no overhead cross bracing; consequently, the overhead clearance was unlimited.

The bridge at LK-949103 was a steel arch-truss through bridge about 35 m long and 4 m high, with unlimited overhead clearance.

The bridge at LK-864059 was identical to the one at MK-028136.

The bridge at LK-815036 was a steel arch-truss through bridge 25 to 30 m long and 4 m high. The arch trusses were 3½ m high.

The bridge at LJ-934751 was a concrete-arch deck-type bridge over a dry riverbed. The approaches on both ends were built on fill 5 m high. The over-all length of the fill was about 800 m.

5. Railroad BUCHAREST-PITESTI-TIMISOARA

50X1-HUM

The only notable features he was able to recall other than the bridges were a 2½-m-high fill from TITU to GARSTI and a railroad repair shop, roundhouse, water tanks, and a coalyard at TITU.

The bridge, Podul Grand, at MK-239250 was a highway bridge over 20 to 30 railroad tracks. It was a steel arch-truss through bridge about 800 m long, 15 m wide, and 10 m above the railroad tracks. The arch trusses were 6 m high. The concrete intermediate piers, number unknown, were full (not columnar).

The bridge at LK-920462 was a steel girder-truss through bridge, about 18 to 20 m long and 3 m high. The intermediate pier (or piers) was made of concrete columns. The overhead clearance was 6 m; it had been increased in 1953 from 5½ m because many people who were riding on top of the cars because of lack of space inside had been killed as the train passed under the overhead cross bracing of this bridge.

The bridge at LK-852468 was a steel girder-truss through bridge not more than 15 m long and about 2 to 2½ m high. The overhead clearance was 6 m.

The bridges at LK-821478, LK-804482, and LK-775491 were all identical to the one at LK-852468.

The bridge at LK-638533 was a steel arch-truss through bridge, 20 to 25 m long and 3½ m high. There were three arch trusses, each 3 m high. The intermediate piers, number unknown, were built of concrete columns.

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50X1

The bridge at LK-590558 was a steel girder-truss through bridge, 15 m long and 2 m high. The trusses were about 6 m high, and had overhead cross bracing.

The bridge at LK-439655 was similar to the one at LK-590558, except that it was 10 m long and 3½ m high.

The bridge at LK-369661 was a steel arch-truss through bridge, about 300 m long and up to 6 m high. The overhead clearance was 5½ to 6 m.

6. Railroad PITESTI-CRAIOVA-TURNU SEVERIN-TIMISOARA

50X1-HUM

PITESTI was a large railroad center, with a very large repair shop and a large railroad yard. There were water tanks and coalyards at ORSOVA and CARANSEBES and a railroad repair shop at CARANSEBES.

The road was characterized by many steep grades. From PITESTI to STOLNICI, trains were pulled by one locomotive, but beyond that, an additional locomotive was attached. From LK-0125 to Recea Station at KK-972241, there was a steep downgrade. From FQ-426426 to FQ-400410, there was a very steep downgrade, which required two or three locomotives and the addition of a special braking crew. There was a level safety spur along this downgrade so that, if the brakes started to fail, the train could switch onto the spur and come to a safe halt.

From FQ-720421 to FQ-580398, the railroad was built on a fill 2½ m high. This area was subject to flooding. From GURA VAII to VERCIOROVA, on the north side of the railroad line, there was a cut-stone retaining wall, which reached 25 m at its highest point. From SLATINA to LUGOJ, the road was built on fill not more than 2 m high. From LUGOJ to TIMISOARA, there was only occasional fill, in the wet areas.

South of PITESTI, there were several small bridges (one at LK-355621 and one at LK-342595)

50X1-HUM

The bridge at KK-888183 was called Podul Oltului la Slatina. It was a steel arch-truss through bridge, 100 m long and 10 to 12 m high. The arch trusses were 8 to 10 m high and 20 to 25 m long. Overhead clearance was unlimited. The intermediate piers, number unknown, were made of concrete columns.

The bridge at KK-690142 was called Podul Oltului la Balsi. It was a steel arch-truss through bridge, 50 to 60 m long and 8 to 10 m high. The arch trusses were 8 to 10 m high and about 20 m long.

The bridge at KK-182169 was called Podul Amaradiei. It was a steel girder-truss through bridge, more than 100 m long and 10 to 12 m high. The girder trusses were 7 to 8 m high and had overhead cross bracing.

The bridge at FQ-950382 was called Podul Jiului. It was a steel girder-truss through bridge, about 100 m long and 8 to 9 m high. The trusses were 7 to 8 m high and had overhead cross bracing. The intermediate piers, number unknown, were made of concrete columns.

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50X1



The bridge at FQ-820412 was called Podul Motrului. It was a steel girder-truss through bridge, 40 m long and 8 to 9 m high. The girder trusses were 7 to 8 m high; the overhead clearance was the same height.

The bridge at FQ-769421 was called Podul Slanicului la Strehai. It was a steel arch-truss through bridge, 15 to 20 m long and 6 to 8 m high. The arch trusses were 6 to 7 m high, and the overhead clearance was unlimited.

The bridge at FQ-340424 was called Podul Topolnitii. It was a steel girder-truss through bridge with three spans, about 40 m long and 6 to 7 m high. The girder trusses were 6 to 8 m high and had overhead cross bracing. The two intermediate piers were made of concrete columns.

The bridge on the southwest edge of GURA VAIL was a steel arch-truss through bridge, 30 m long and 2½ to 3 m high. The arch trusses were 3½ m high and the overhead clearance was unlimited. The intermediate piers, number unknown, were made of concrete columns. la.

The bridge on the south edge of VERCIOROVA was a steel arch-truss through bridge, rebuilt in 1954. It was 30 m long and 2½ to 3 m high. The arch trusses were 3½ m high and the overhead clearance was unlimited. The intermediate piers, number unknown, were made of concrete columns. lb.

The bridge at FQ-104564 was a steel girder-truss through bridge. It was 45 m long and 4 m high. The girders were 6 m high and had overhead cross bracing.

The bridge in MEHADIA was a steel girder-truss through bridge 100 to 120 m long and 7 m high. The girder trusses were 6 m high and had overhead cross bracing. The intermediate piers, number unknown, were full (not columnar).

The bridge at ER-637647 was called Podul Timisului. It was a steel girder-truss through bridge, 60 m long and 5 m high. The girder trusses were 6 m high and had overhead cross bracing.

7. Railroad FILIASI-TARGU JIU

50X1-HUM

The sector from FQ-900884 to FQ-828886 was in a cut 4½ to 5 m deep and 25 to 30 m wide at the top. There were no retaining walls along this cut.

There was a bridge at FQ-987571 called Podul Gilotrului la Turburea. It was a steel girder-truss through bridge, 25 m long and 5 m high. The girder trusses were 6 m high and had overhead cross bracing.

The bridge at FQ-980804, called Podul Vidimului la Carbunesti, was the same type and size as the one at FQ-987571.

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50X1

8. Railroad BUMBESTI-PETROSENI

50X1-HUM

[redacted]
[redacted] it was built after World War II, and had many tunnels. It was subject to frequent landslides; there was a particularly severe one in 1956, which caused many casualties.

9. Railroad TURNU SEVERIN-TISMANA

50X1-HUM

[redacted]
[redacted] It was a narrow-gauge single-tracked railroad line, used primarily to service the forest products industry at TISMANA. Passenger trains were seldom run on this line. It hauled logs and timbers to two large sawmills in TISMANA, and finished products from them.

[redacted] a large complex of forest product mills was being built in CLOSANI but that, in the meantime, the Tismana sawmills were kept in operat

50X1-HUM

This railroad line was built (possibly after World War II) and operated by the Forest Utilization and Transport Industry (Industrie Forestiera Pentru Exploatare si Transport - IFET). (See Annexes TT-1 and TT-2 for alinement of this railroad line and location of a railroad repair shop just north of TURNU-SEVERIN, also operated by IFET).

There were four bridges on this line (see Annexes TT-1 and TT-2 for location). All were creosoted wooden (oak) trestle bridges, 10 to 20 m long and 2 to 3½ or 4 m high.

50X1-HUM

10. Railroad PITESTI-CURTEA DE ARGES

[redacted]
[redacted] From PITESTI to POPESTI, there was a fill about 2½ m high. From MANICESTI to LK-1796, there was a cut, reaching 5 m in depth.

A bridge at LK-225831 was a steel girder-truss through bridge, 15 m long and 4 m high. The girder trusses were about 6 m high and had overhead cross bracing.

50X1-HUM

11. Railroad TIMISOARA-STAMORA MORAVITA

[redacted]
[redacted] There were no notable features except for four bridges, all similar in structure, at ER-135547 (called Podul Timisului), ER-151466 (called Podul Timiselului la Jebel), ER-169390, and ER-170363. They were all steel girder-truss through bridges, with girder trusses about 6 m high with overhead cross bracing. The first one was about 35 m long and 3½ m high. The one at ER-151466 was 10 to 15 m long and 3½ m high. The one at ER-169390 was not more than 8 m long and 2½ to 3 m high. The one at ER-170363 was about 25 m long and 3½ m high.

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50X1

12. Railroad ORADEA-BAILE FELIX

50X1-HUM

[redacted]
[redacted]
[redacted] There were no notable features that he was able to recall, and there were no bridges. The railroad bed was in very good condition.

13. Railroad BUCHAREST-URZICENI- HARSOVA

50X1-HUM

[redacted] see Annex
[redacted] UU). There were a water tank and a small repair shop at URZICENI. From SLOBOZIA to HARSOVA, the railroad line passed through wet terrain, and the entire sector was built on fill reaching a height of 5 m.

The only bridge [redacted] on the railroad line was Podul Ialomitei la Moldoveni, at MK-593504. It was a steel arch-truss through bridge, about 50 m long and 3 m high. The arch trusses were 2½ m high, and the overhead clearance was unlimited.

50X1-HUM

14. Railroad PITESTI-TURNU MAGURELE

50X1-HUM

[redacted]
[redacted]
[redacted] two bridges.

The bridge at LK-380019 was a steel girder-truss through bridge, about 10 m long and 2½ m high. The arch trusses were 6 to 7 m high and had overhead cross bracing.

The bridge at LJ-387890 was called Podul Vedei la Rosiorii de Vede. It was a steel girder-truss bridge, about 50 to 60 m long and 5 m high. The girder trusses were 6 to 7 m high and had overhead cross bracing.

15. Railroad CRAIOVA-CALAFAT

50X1-HUM

[redacted]
[redacted] no significant features about this line other than one bridge at GQ-222048, called Podul Jiului la Balta-Verde. It was a steel girder-truss bridge, through-type, about 70 m long and 6 to 7 m high. The girder trusses were about 6 m high and had overhead cross bracing.

16. Railroad CRAIOVA-SIBIU

50X1-HUM

[redacted]
[redacted] There were several tunnels, but Source was not able to locate them on the reference maps. [redacted] the railroad bed was cut into the side of the hillsides for much of the distance and reached a height of 100 m above the level of the river.

50X1-HUM

50X1-HUM

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50X1

The bridge at KK-823468, called Podul Pesteanea, was a steel girder-truss through bridge about 10 m long and 3 m high. The overhead clearance, because of overhead cross bracing, was 6 to 7 m.

The bridge at KK-829536 was a 1-span girder-truss deck-type bridge, 5 m long and 2 m high.

The bridge at KL-935053 was called Podul Oitului la Bogdanesti. It was a steel girder-truss through bridge, 35 to 40 m long and 8 m high. The overhead clearance was 6 to 7 m.

The bridge at KL-872259, called Podul Oitului la Proeni, was similar to the one at KL-935053, except that it was 30 m long.

The bridge at KL-865478, called Podul Oitului la Turnu Rosu, was similar to the one at KL-935053, except that it was 35 m long and more than 10 m high.

17. Railroad CRAIOVA-ALEXANDRIA-BUCHAREST

50X1-HUM

From VIDA to BUCHAREST, the railroad bed was built on a fill about 5 m high. All the bridges on this line were of the same type; that is, steel girder-truss through type.

The bridge at LJ-006897, called Podul Oitului, was 60 m long, 6 to 7 m high, and had a 6- to 7-m overhead clearance.

The bridge at LJ-391884, called Podul Vedi, was 35 m long, 4 m high, and had a 6-m overhead clearance.

The bridge at LJ-439890 was 25 m long, 3½ to 4 m high, and had a 6 m overhead clearance.

The bridge at LJ-621940, called Podul Teleormanului, was 60 m long, 4 to 5 m high, and had a 6-m overhead clearance.

The bridge at LK-949102, called Podul Neajlovului, was 50 to 60 m long, 5 m high, and had a 6-m overhead clearance.

The bridge at MK-080159, called Podul Argesului, was 60 m long, 5 to 6 m high, and had a 6-m overhead clearance.

The bridge at MK-140187, called Podul Ciocogaria, was 30 m long, 5 to 6 m high, and had a 6-m overhead clearance.

18. Railroad BACAU-BUCHAREST

50X1-HUM

three bridges.

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50X1

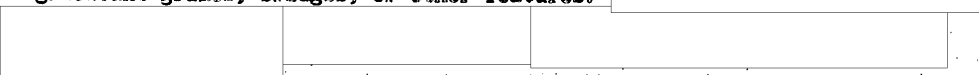
The bridge at NM-157021, called Podul Trotosului, was a steel arch-truss through bridge, 35 m long and 6 m high. The arch trusses were about 3 m high, but had no overhead cross bracing; therefore, the overhead clearance was unlimited.

The bridge at NL-121570, called Podul Milcovului, was a steel arch-truss through bridge, 25 m long and 6 m high. The arch trusses were about 3 m high and had no overhead cross bracing.

The bridge at ML-894005, called Podul Buzaului, was a steel girder-truss through bridge, 150 to 160 m long and about 6 m high. The girder trusses had overhead cross bracing, with an overhead clearance of about 6 m.

19. Four Single-Tracked Railroads

The following railroad lines were all single-tracked, and had no significant grades, bridges, or other features. 50X1-HUM



MEDJIDIA-TULCEA

MEDJIDIA-NEGRU VODA

CONSTANTA-MANGALIA

CIULNITA-CALARASI

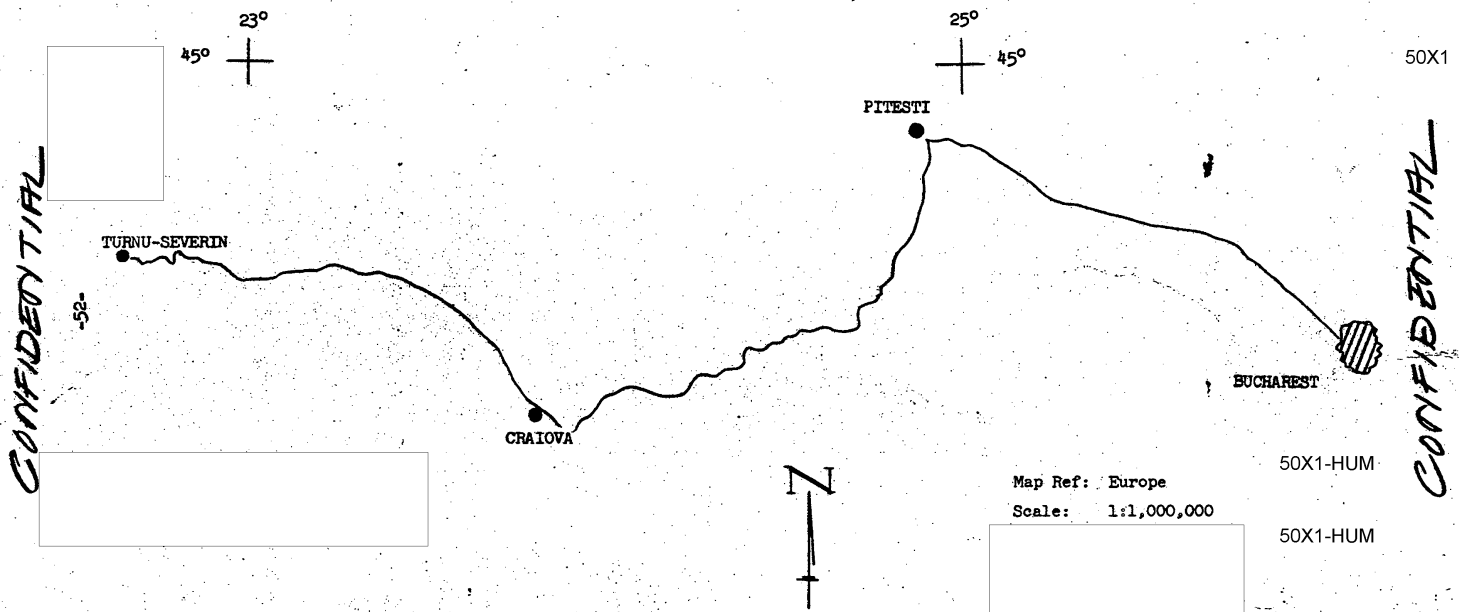
CONFIDENTIAL

50X1-HUM

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RUMANIAN STATE HIGHWAY TURNU-SEVERIN-CRAIOVA-PITESTI-BUCHAREST

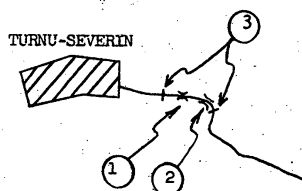
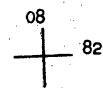


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ANNEX B

Declassified in Part - Sanitized Copy Approved for Release 2013/11/12 : CIA-RDP80T00246A026801500001-8 REST, ROMANIA 50X1-HUM

50X1

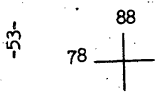


- Legend:
- 1. Highway Bridge
 - 2. Topolnita Bridge
 - 3. Fill

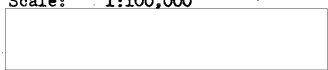
50X1-HUM

CONFIDENTIAL

CONFIDENTIAL



Map Ref: Yugoslavia
Scale: 1:100,000

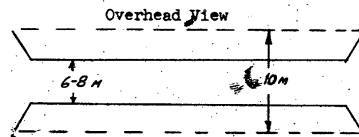
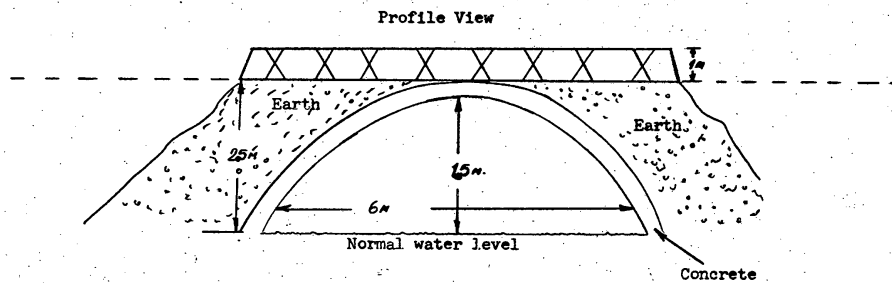


50X1-HUM

ANNEX C

SKETCH OF HIGHWAY BRIDGE NEAR TURNU-SEVERIN, RUMANIA

50X1-HUM



50X1-HUM

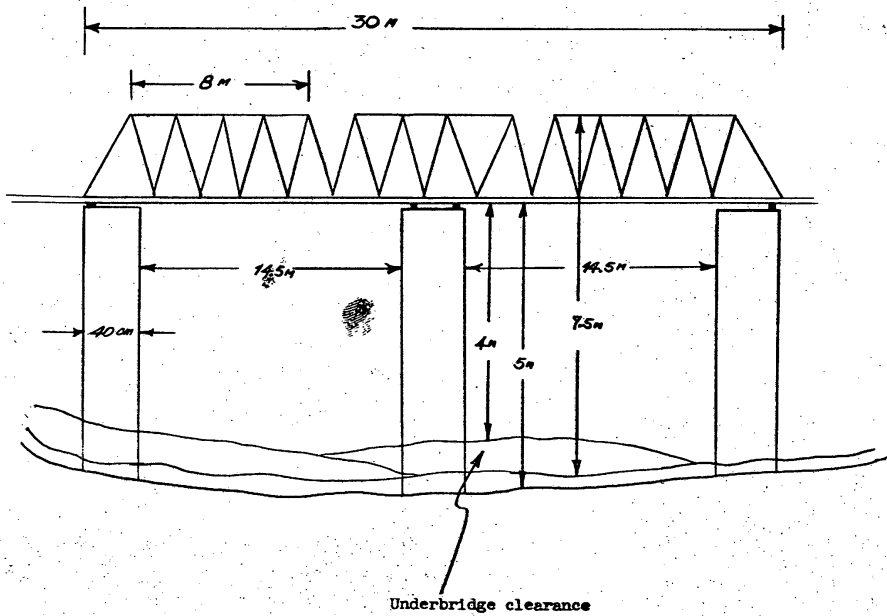
CONFIDENTIAL

CONFIDENTIAL

ANNEX D

SKETCH OF TOPOLNITA HIGHWAY BRIDGE IN ROMANIA

50X1-HUM



50X1

CONFIDENTIAL



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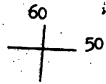
CONFIDENTIAL

50X1-HUM

PINPOINT LOCATION OF BRIDGES AND BOTTLENECKS NEAR PRUNISOR, ROMANIA

50X1-HUM

- Legend:
- 1. Poroinei Bridge
 - 2. Balotei Highway Overpass
 - 3. Prunisor Bridge
 - 4. Balota Mountain Bottleneck



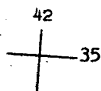
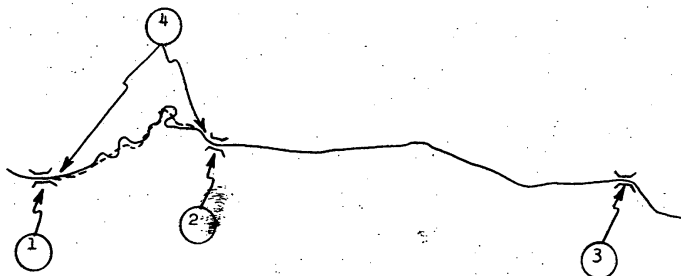
Map Ref: Romania
1:100,000
Strehaia

50X1-HUM

CONFIDENTIAL



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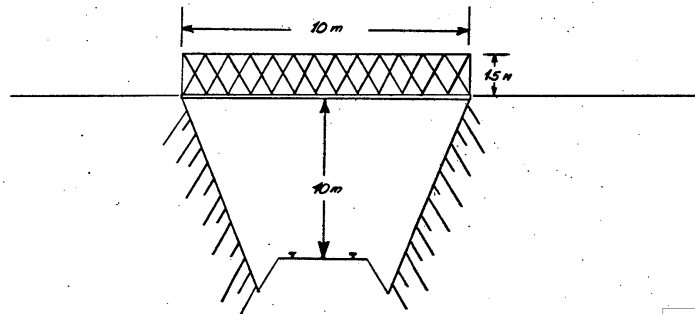
NOTE: Road as existed in Feb. 1958
 Road as shown on map



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SKETCH OF BALOTEI HIGHWAY OVERPASS IN ROMANIA

50X1-HUM



CONFIDENTIAL

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CONFIDENTIAL

50X1-HUM

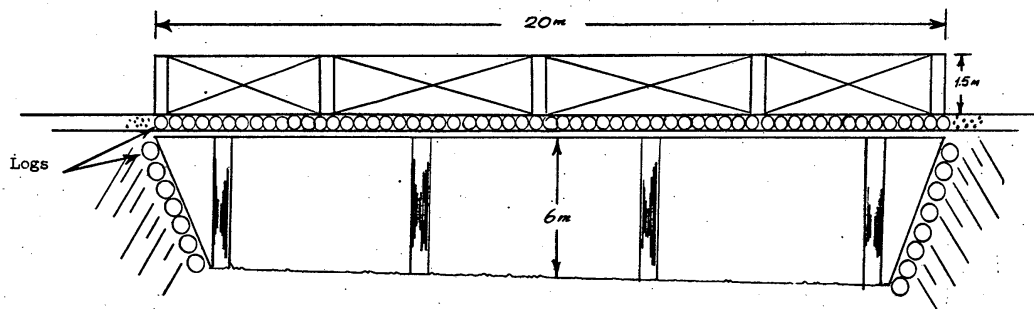
SKETCH OF PRUNISOR HIGHWAY BRIDGE ACROSS THE HUSNITTEI RIVER IN RUMANIA

50X1-HUM

CONFIDENTIAL

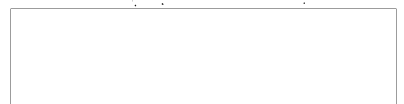


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CONFIDENTIAL

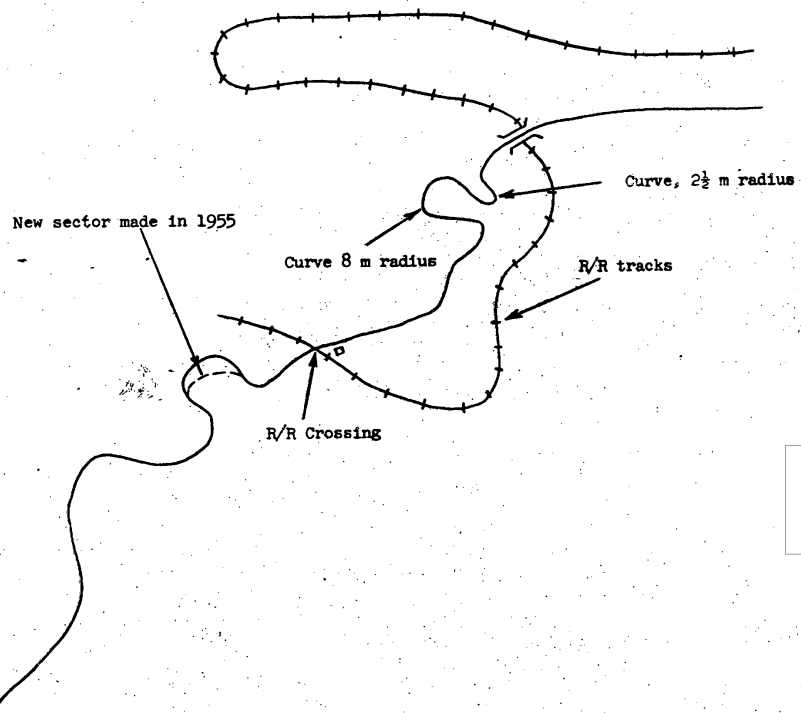
50X1-HUM



CONFIDENTIAL



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50X1-HUM

CONFIDENTIAL

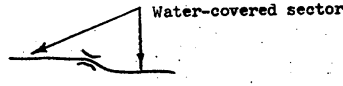
HIGHWAY TURNU-SEVERIN-BUCHAREST

CONFIDENTIAL



-60-

38
51



43
65

Map Ref: Romania
Scale: 1:100,000



50X1-HUM

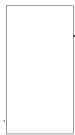
50X1-HUM

50X1
CONFIDENTIAL

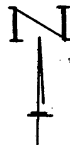
PINPOINT LOCATION OF FOUR BRIDGES NEAR STREHAIA, ROMANIA, ON STATE HIGHWAY
TURNU-SEVERIN-BUCHAREST

50X1-HUM

CONFIDENTIAL



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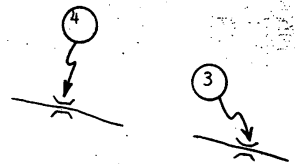


Legend:

- 1. Strehaia Highway Bridge
- 2. Motru-Lui Highway Bridge
- 3. Filiasi Highway Bridge
- 4. Jiului Highway Bridge

50X1

CONFIDENTIAL



Map Ref: Romania
1:100,000
Strehaia



50X1-HUM

50X1-HUM

[Redacted]

SKETCH OF STREHAIA HIGHWAY BRIDGE ACROSS THE MOTRU-LUI RIVER IN RUMANIA

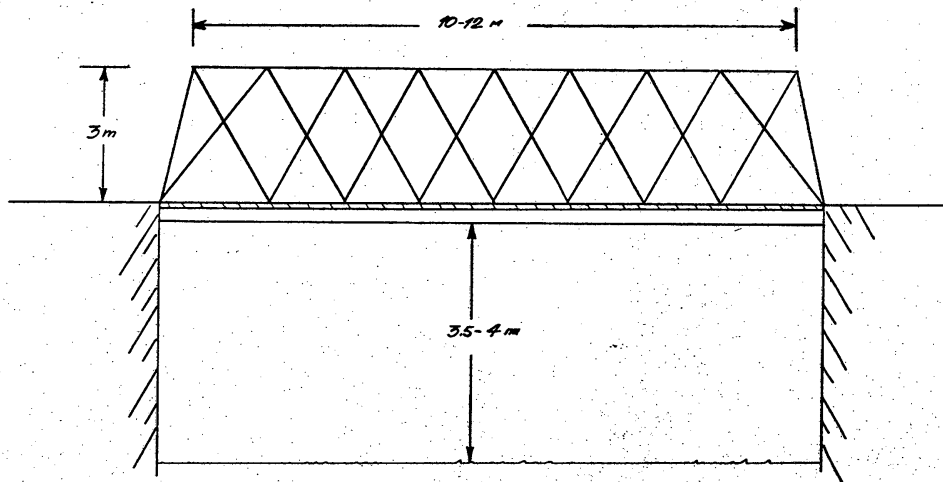
50X1-HUM

[Redacted]

50X1

CONFIDENTIAL

CONFIDENTIAL



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[Redacted]

50X1-HUM

[Redacted]

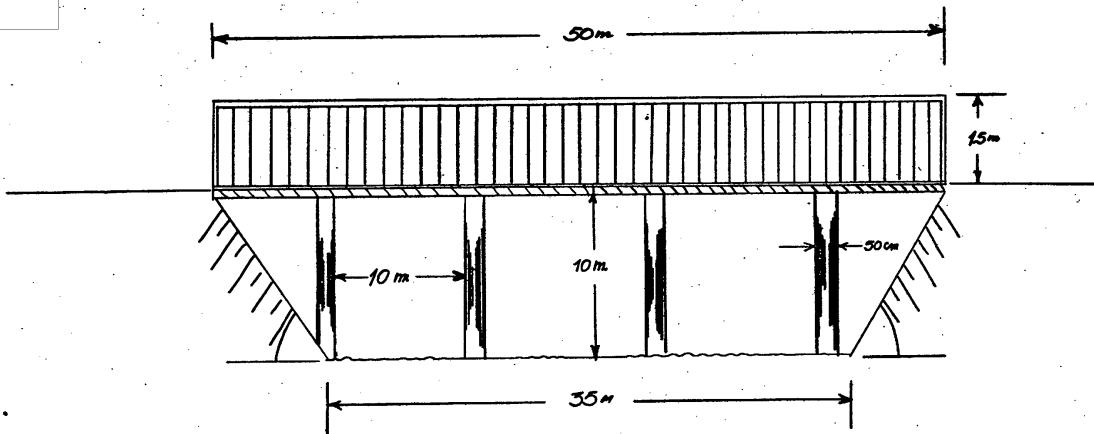
SKETCH OF MOTRU-LUI HIGHWAY BRIDGE ACROSS THE MOTRU-LUI RIVER IN RUMANIA

50X1-HUM

[Redacted]

CONFIDENTIAL

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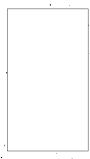
50X1

CONFIDENTIAL

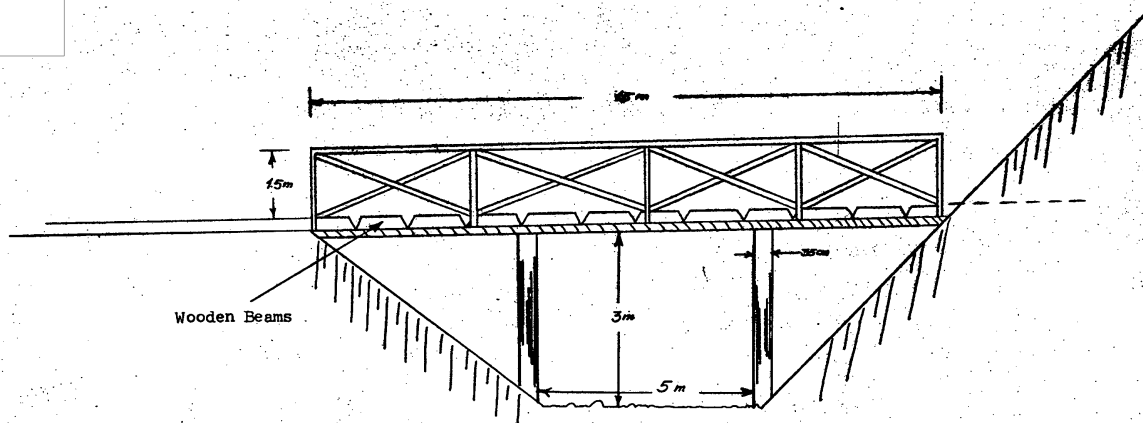
[Redacted]

50X1-HUM

CONFIDENTIAL



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CONFIDENTIAL

50X1-HUM



PINPOINT LOCATION OF SITE OF NEW BRIDGE AND BYPASS NEAR BRADESTI, ROMANIA

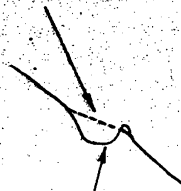
50X1-HUM

50X1

CONFIDENTIAL

CONFIDENTIAL

Bypass and Bridge Site



Original Route



Map Ref: Romania
1:100,000
Plenita

50X1-HUM

50X1-HUM

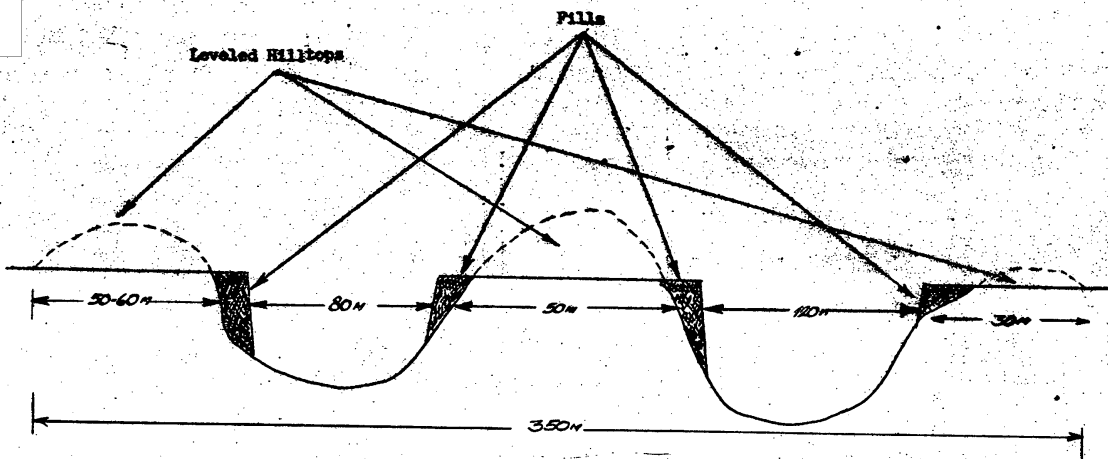
SKETCH OF NEW BRIDGE SITE NEAR BRADESTI, ROMANIA

50X1-HUM

50X1

CONFIDENTIAL

CONFIDENTIAL



NOTE: All distances are approximate

50X1-HUM

PINPOINT LOCATION OF HIGHWAY BRIDGE NEAR CRAIOVA, ROMANIA

50X1-HUM

50X1



50X1-HUM

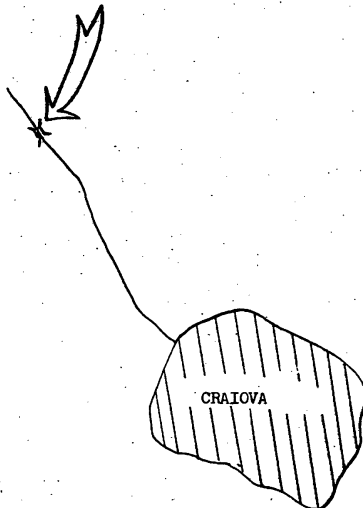
Map Ref: Romania
1:100,000
Craiova

50X1-HUM

CONFIDENTIAL

CONFIDENTIAL

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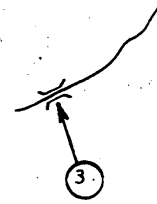
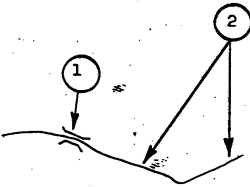
[Redacted] PINPOINT LOCATION OF TWO BRIDGES AND BOTTLENECKS NEAR SLATINA, ROMANIA

50X1-HUM

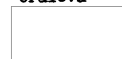
- Legend:
- 1. Bals Highway Bridge
 - 2. Bottleneck
 - 3. Slatina Highway Bridge



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Map Ref: Romania
1:100,000
Craiova



50X1-HUM

50X1-HUM

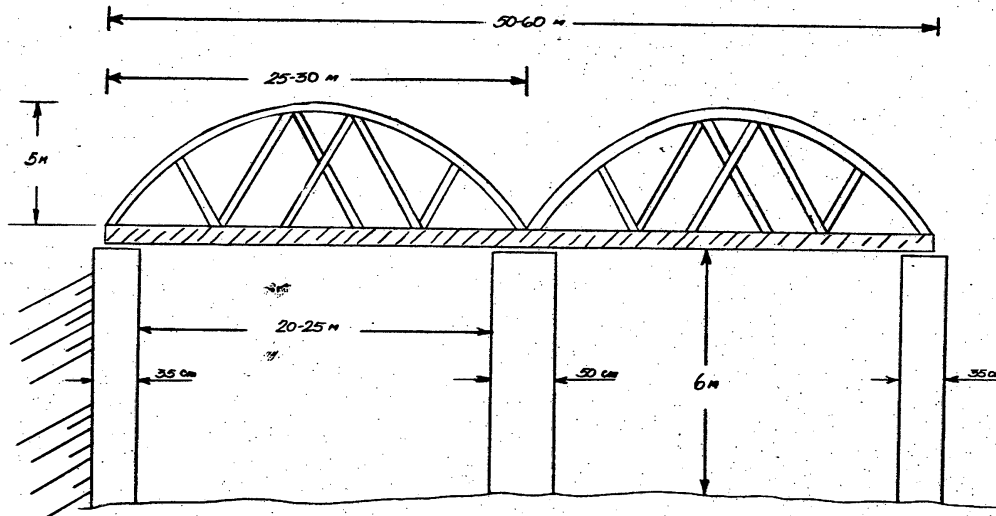
CONFIDENTIAL

50X1

CONFIDENTIAL

SKETCH OF BALS HIGHWAY BRIDGE IN RUMANIA

50X1-HUM



CONFIDENTIAL

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CONFIDENTIAL

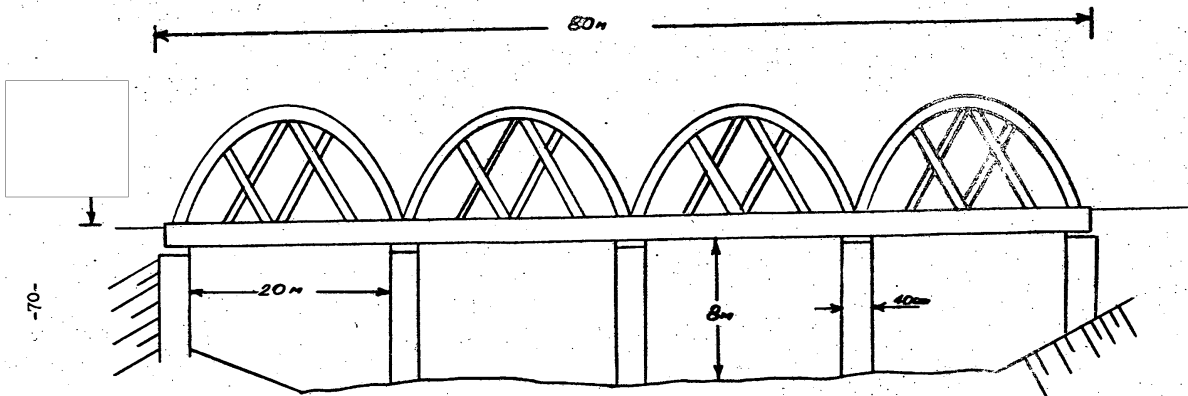
50X1-HUM

ANNEX S

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SKETCH OF SLATINA HIGHWAY BRIDGE IN ROMANIA

50X1-HUM



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CONFIDENTIAL

50X1

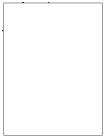
50X1-HUM

ANNEX T



PINPOINT LOCATION OF VEDEA HIGHWAY BRIDGE NEAR COLONESTI, ROMANIA

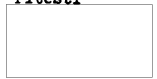
50X1-HUM



50X1

50X1-HUM

Map Ref: Romania
1:100,000
Pitesti



50X1-HUM

CONFIDENTIAL

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CONFIDENTIAL



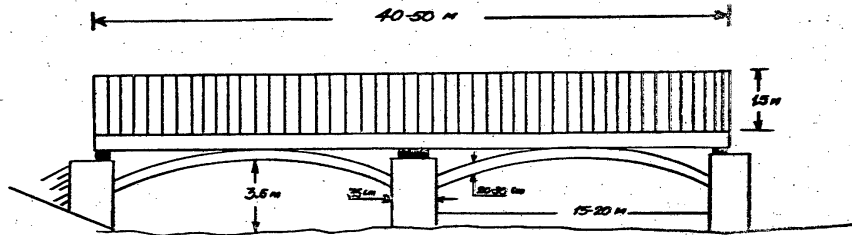
SKETCH OF VEDEA HIGHWAY BRIDGE ACROSS THE VEDEA RIVER IN ROMANIA

50X1-HUM

CONFIDENTIAL



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CONFIDENTIAL

50X1

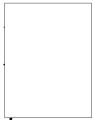
50X1-HUM



[REDACTED] PINPOINT LOCATION OF HIGHWAY BRIDGE IN PITESTI, ROMANIA

50X1-HUM

CONFIDENTIAL



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50X1-HUM

Map Ref: Romania
1:100,000
Pitesti

50X1-HUM



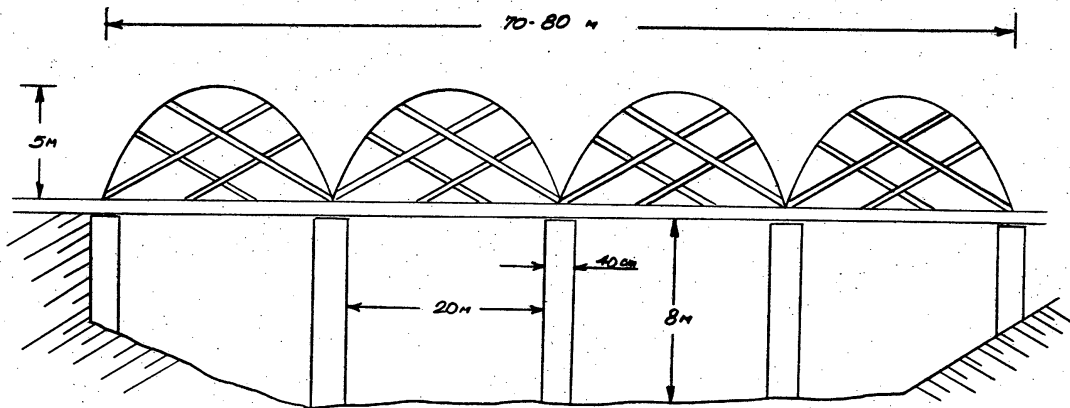
CONFIDENTIAL



SKETCH OF PITESTI HIGHWAY BRIDGE IN RUMANIA

50X1-HUM

50X1



CONFIDENTIAL

CONFIDENTIAL

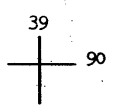
50X1-HUM

[REDACTED] PINPOINT LOCATION OF HIGHWAY BRIDGE NEAR LUNGULETUL, ROMANIA

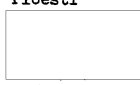
50X1-HUM

CONFIDENTIAL

-75-



Map Ref: Romania
1:100,000
Floesti



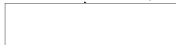
CONFIDENTIAL

50X1

50X1-HUM
50X1-HUM



ANNEX Y

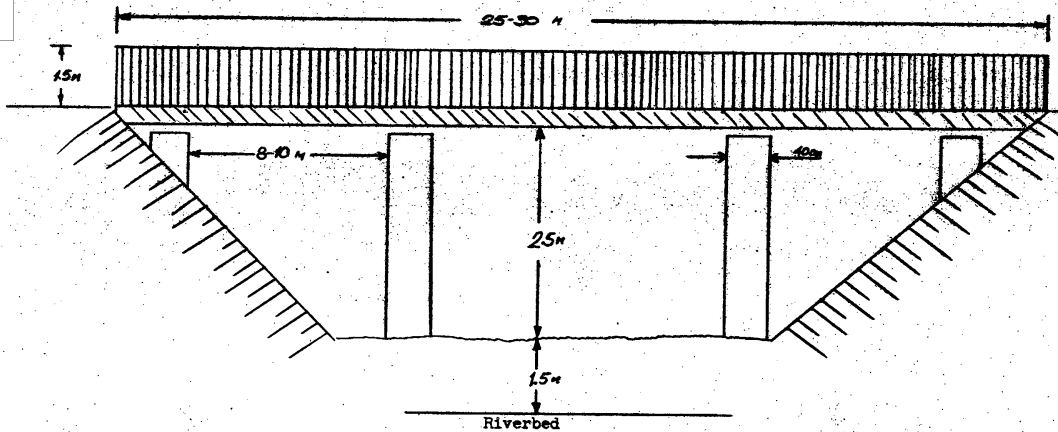


SKETCH OF LUNGULETUL HIGHWAY BRIDGE ACROSS THE DAMBOVITA RIVER IN ROMANIA

50X1-HUM



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CONFIDENTIAL
50X1



50X1-HUM



PINPOINT LOCATION OF RAILROAD OVERPASS NEAR BUCHAREST, ROMANIA

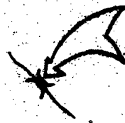
50X1-HUM

50X1

CONFIDENTIAL

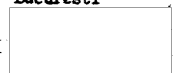


-77-



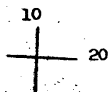
50X1-HUM

Map Ref: Romania
1:100,000
Bucuresti



50X1-HUM

CONFIDENTIAL



ANNEX AA



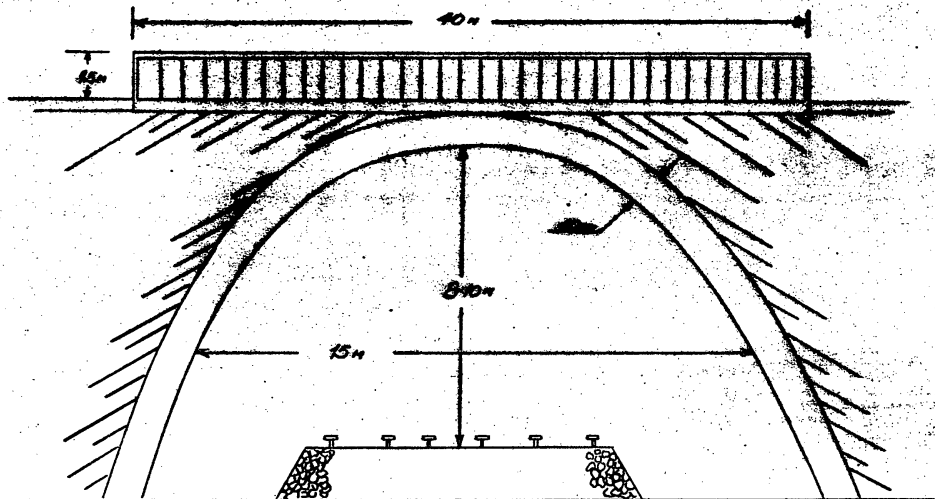
SKETCH OF RAILROAD OVERPASS NEAR EUCAREST, ROMANIA

50X1-HUM

CONFIDENTIAL



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50X1

CONFIDENTIAL



50X1-HUM

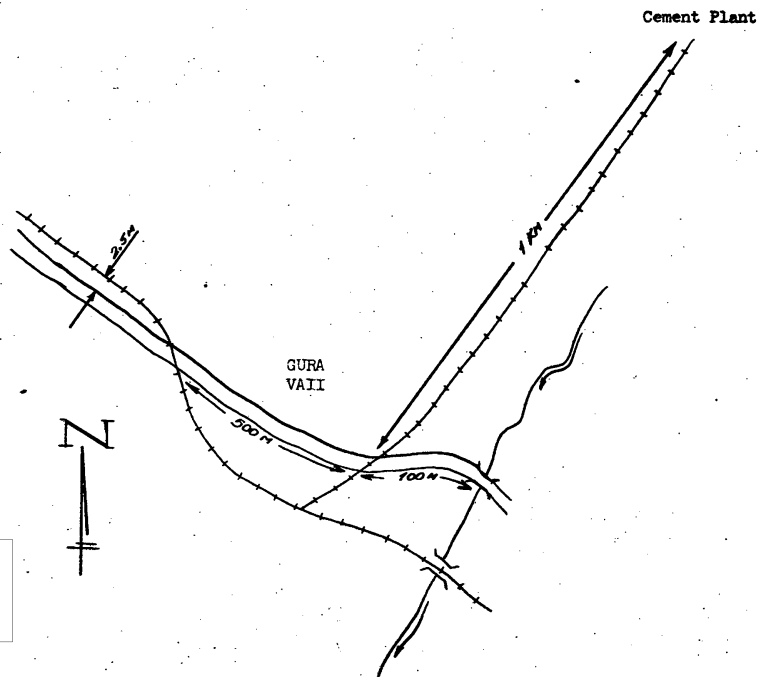
SKETCH OF HIGHWAY AND RAILROAD CROSSINGS AT GURA VAIU, ROMANIA

50X1-HUM

NOT TO SCALE

CONFIDENTIAL

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50X1

CONFIDENTIAL

50X1-HUM

CONFIDENTIAL

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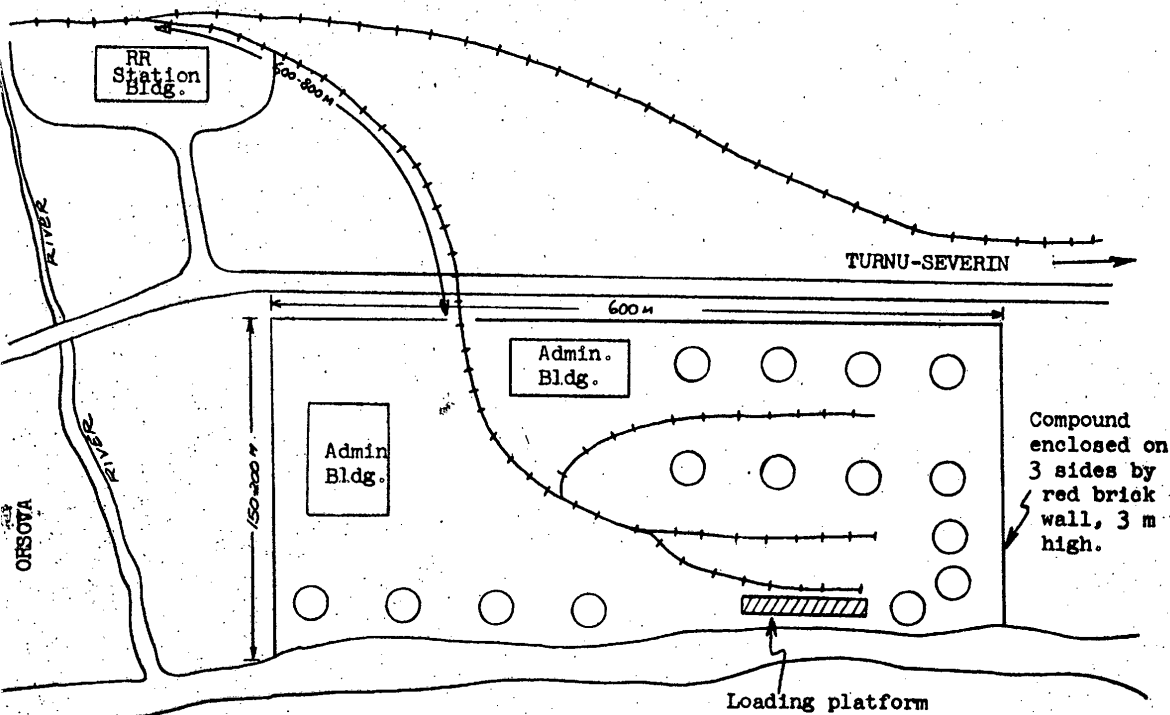
50X1

ANNEX CC

SKETCH OF CIVILIAN POL AND COAL DEPOT AT ORSOVA, ROMANIA

50X1-HUM

Not to Scale



NOTE: There were at least 15 tanks, as shown, each of at least 25 to 30 metric tons capacity, and all above ground. Source heard that the total capacity was about 2000 metric tons of oil. This depot received oil shipment by tank for supplying Orsova and for transloading onto river boats.

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ANNEX DD

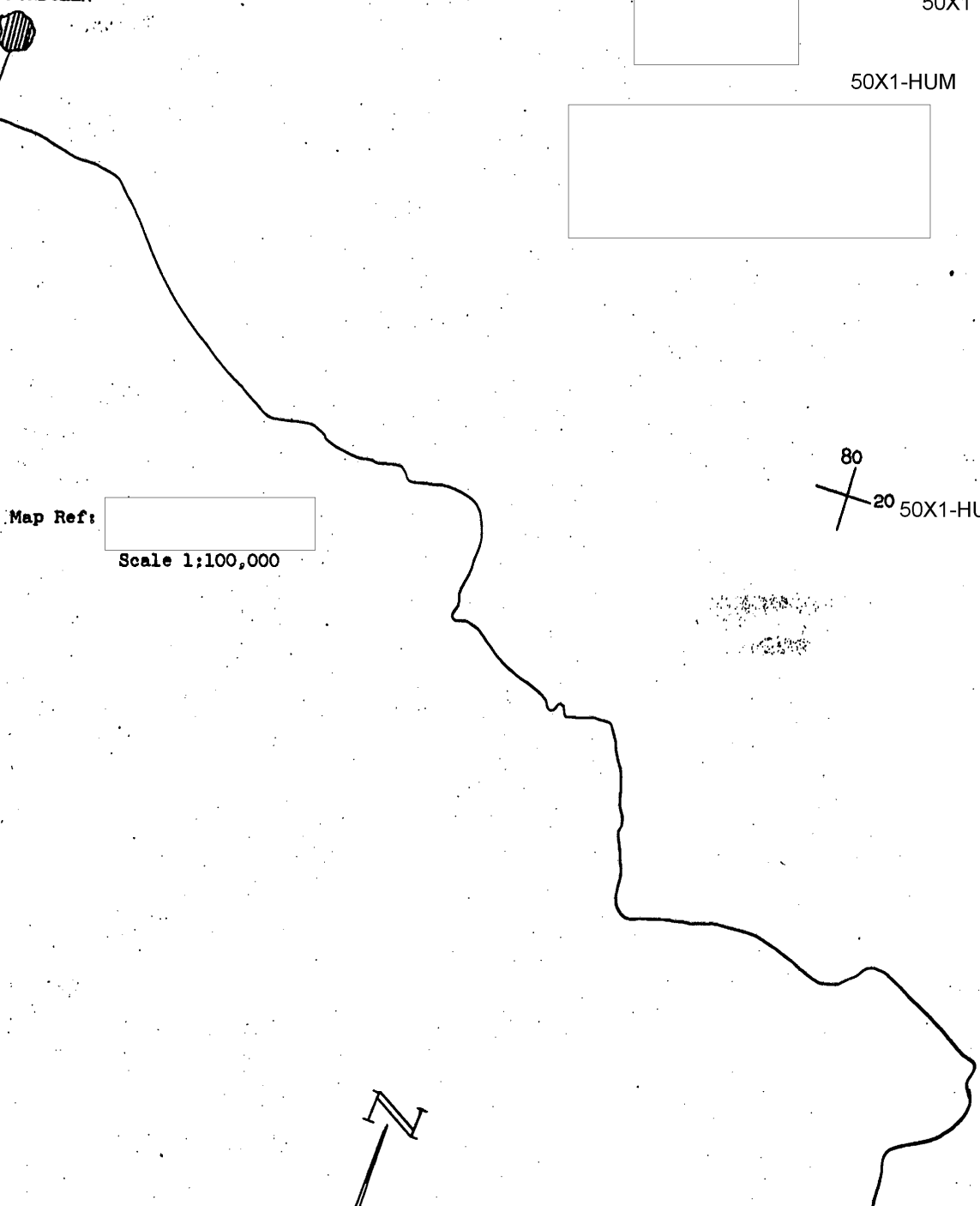
OVERLAY TRACING OF ALINEMENT OF A PORTION OF THE 50X1-HUM ROAD FUNDULEA TO MANASTIREA, RUMANIA

FUNDULEA

-81-

50X1

50X1-HUM

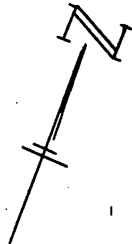


Map Ref:

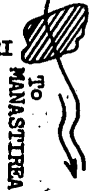
[Redacted Box]

Scale 1:100,000

80
20 50X1-HUM



LUPTATORI



70
00

CONFIDENTIAL

CONFIDENTIAL

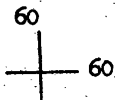
ANNEX EE



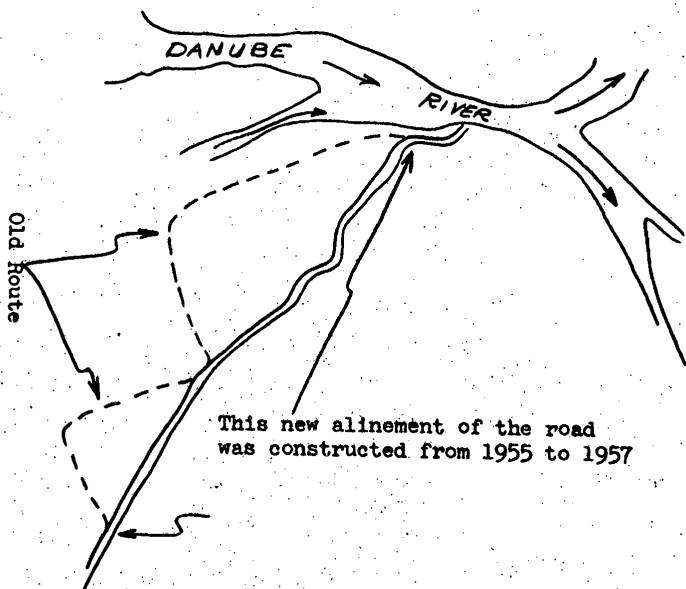
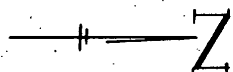
OVERLAY TRACING OF NEW ROUTE OF ROAD NEAR HARSOVA, HUMANIA

50X1-HUM

-82-



50X1

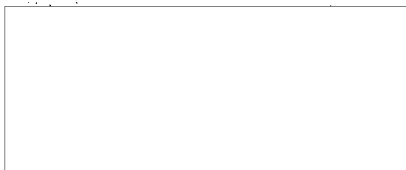


50X1-HUM

50X1-HUM

Map Ref:

Scale: 1:100,000



CONFIDENTIAL

CONFIDENTIAL

ANNEX FF

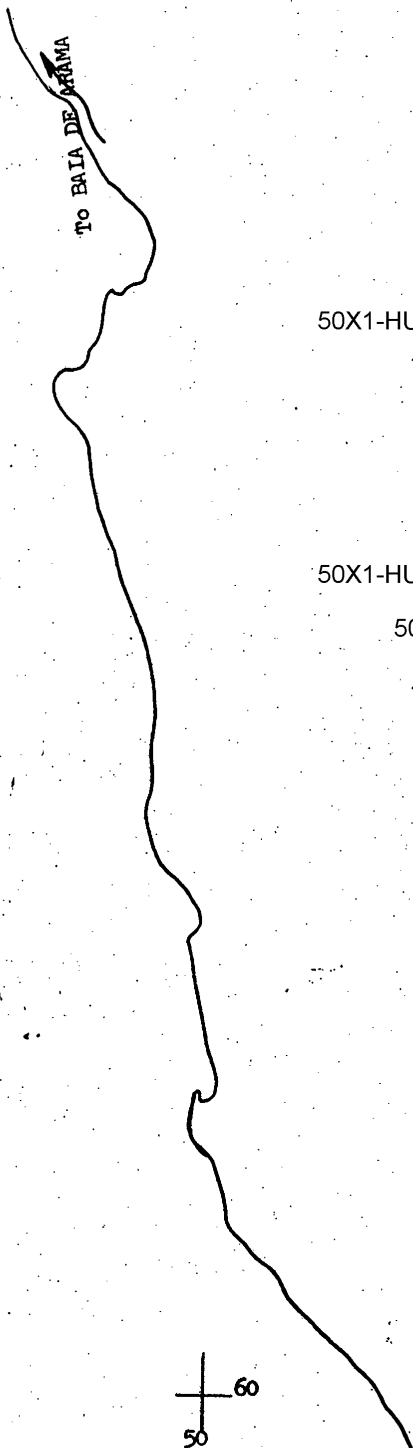
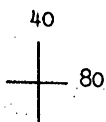


OVERLAY TRACING OF A PORTION OF THE HIGHWAY FLORESTI-
BAIA DE ARAMA, RUMANIA

-83-



50X1



50X1-HUM

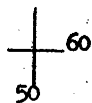
50X1-HUM

50X1-HUM

Map Ref:

Strehaia

Scale: 1:100,000



FLORESTI

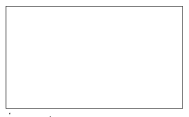
CONFIDENTIAL

CONFIDENTIAL
ANNEX 06



50X1-HUM
OVERLAY TRACING OF CORRECT ALINEMENT AND BRIDGE BYPASS
ROUTES NEAR TURNU-SEVERIN, RUMANIA

-84-



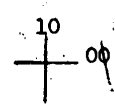
50X1

Map Ref:

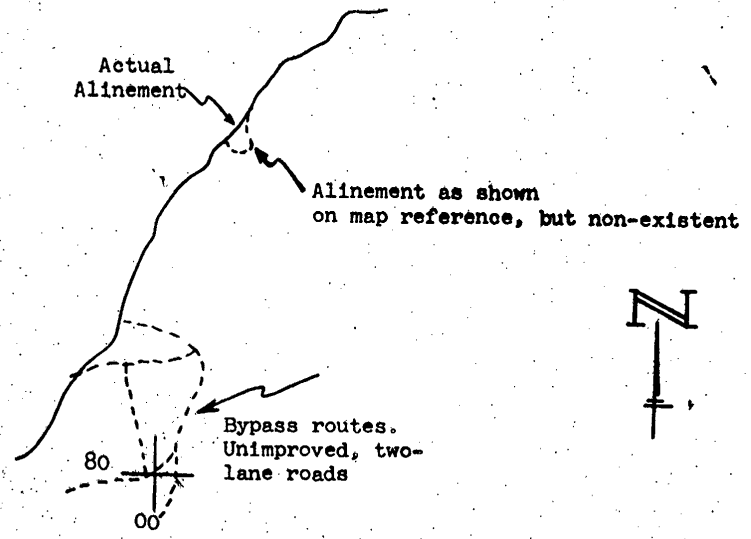


Scale: 1:100,000

50X1-HUM



50X1-HUM



CONFIDENTIAL

OVERLAY TRACING OF CORRECT ALINEMENT OF ROAD NEAR ZEBIL, ROMANIA

50X1-HUM

50X1

50X1-HUM

50X1-HUM

CONFIDENTIAL

CONFIDENTIAL



Map Ref:

TULCEA

Scale: 1:100,000



TULCEA

Actual location and route of turn-off to ZEBIL

Turn-off as incorrectly shown on reference map

ZEBIL



CONSTANTA

-85-

CONFIDENTIAL

-86-

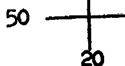
50X1



ANNEX II



OVERLAY TRACING OF A PORTION OF THE ROAD FROM
MEDJIDIA TO TULCEA, RUMANIA



50X1-HUM



50X1-HUM

FANTANELE

50X1-HUM

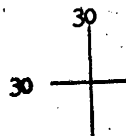
Map reference:



Scale 1:100,000



DOMNESTI



Main Highway
CONSTANTA-TULCEA

CONFIDENTIAL

CONFIDENTIAL

-87-



50X1

ANNEX JJ

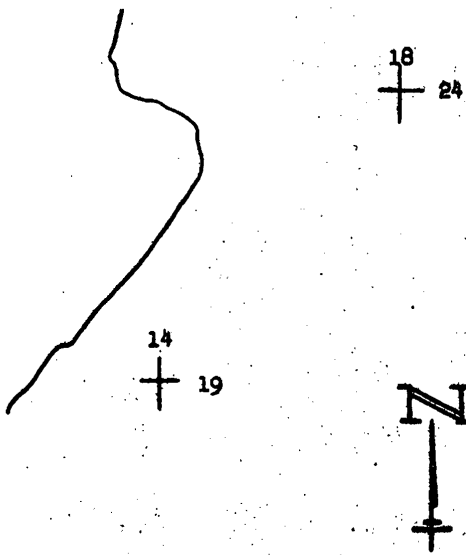


OVERLAY TRACING OF A PORTION OF THE ROAD FROM
MEDJIDIA TO TULCEA, RUMANIA

50X1-HUM



50X1-HUM



Map Reference:



Scale 1:100,000

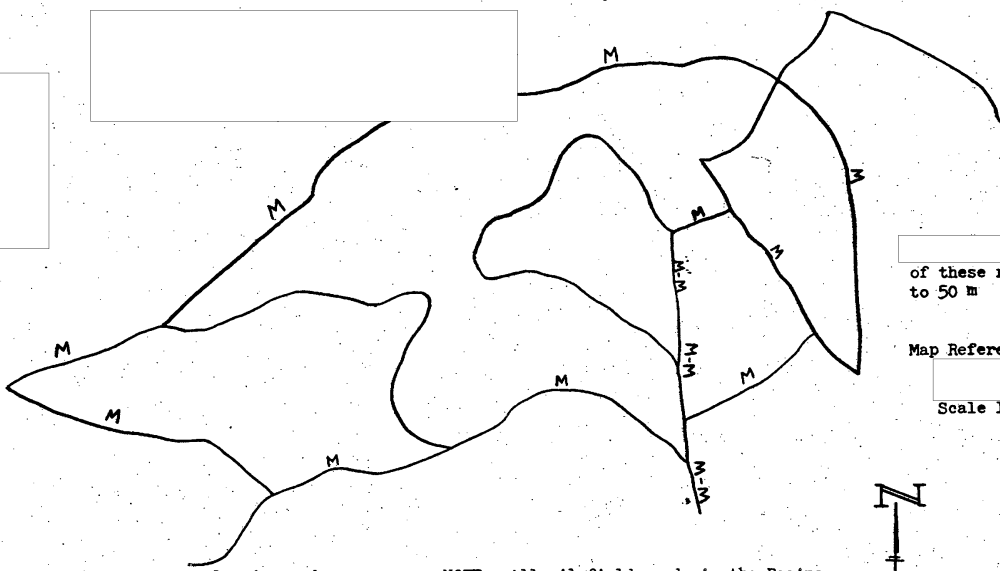
50X1-HUM

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OVERLAY TRACING OF OIL FIELD ROAD NET NEAR RASINA, RUMANIA

CONFIDENTIAL

-88-



M-M denotes central axis road.
M denotes primary net.
Secondary net is not labeled.

NOTE: All oil field roads in the Rasina area were constructed by the Petroleum Industry Ministry.

80
70

the alignment of these roads is accurate to 50 m

Map Reference:
Scale 1:100,000

80

50X1-HUM
50X1-HUM

CONFIDENTIAL

CONFIDENTIAL

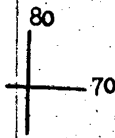
-89-

50X1

ANNEX LL

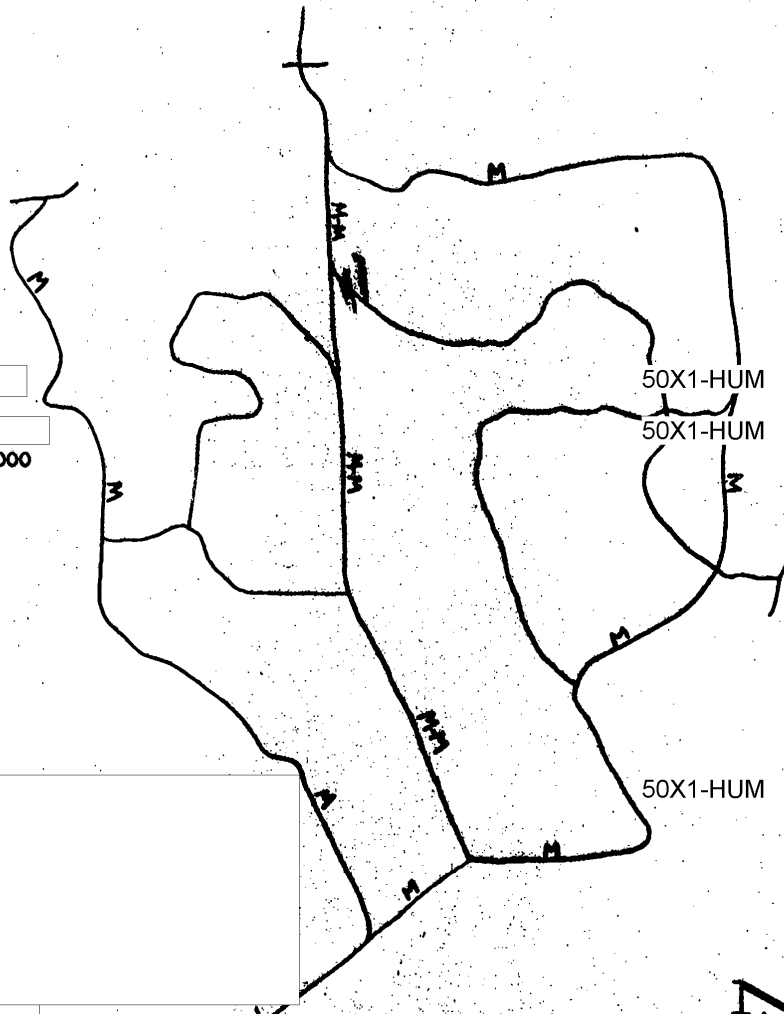
OVERLAY OF OIL FIELD ROAD NET NEAR RASINA, RUMANIA

50X1-HUM



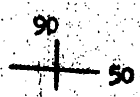
Map Reference:

Strehaia
Scale 1:100,000



the alignment of these roads is accurate to 50 m.

M-M denotes central axis road.
M denotes primary net.
Secondary net is not labeled.



CONFIDENTIAL

CONFIDENTIAL

-90-

50X1

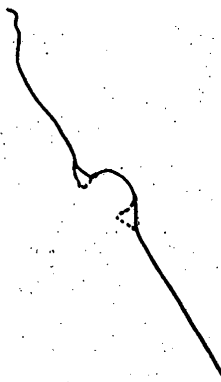
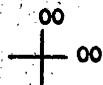


ANNEX MM

OVERLAY OF ROAD ALINEMENT ON BUCHAREST-ERASOV HIGHWAY, RUMANIA



50X1-HUM



Map Reference:

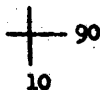
[] 50X1-HUM

VALENI DE MUNTE

[] 50X1-HUM

Solid line indicates alinement as reported by Source.

Dotted line indicates alinement as shown on reference map.



CONFIDENTIAL

CONFIDENTIAL

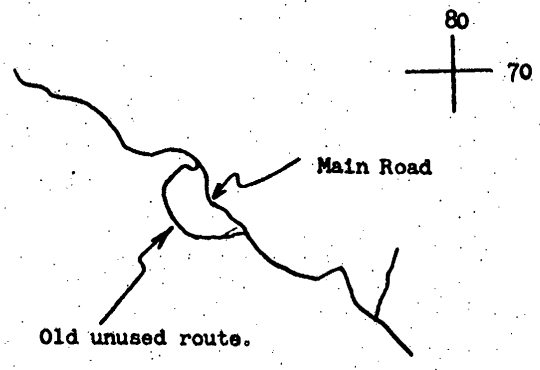
-91-

50X1



ANNEX NN

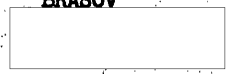
OVERLAY SHOWING GUTOFF ON BUCHAREST-SIBIU HIGHWAY, RUMANIA



50X1-HUM

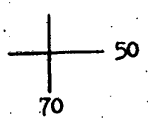
Map Reference:

BRASOV



50X1-HUM

50X1-HUM



CONFIDENTIAL

CONFIDENTIAL

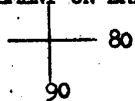
-92-

50X1



ANNEX 00

OVERLAY SHOWING ROAD ALINEMENT ON ERASOV-SIBIU HIGHWAY, RUMANIA



50X1-HUM

Map Reference:



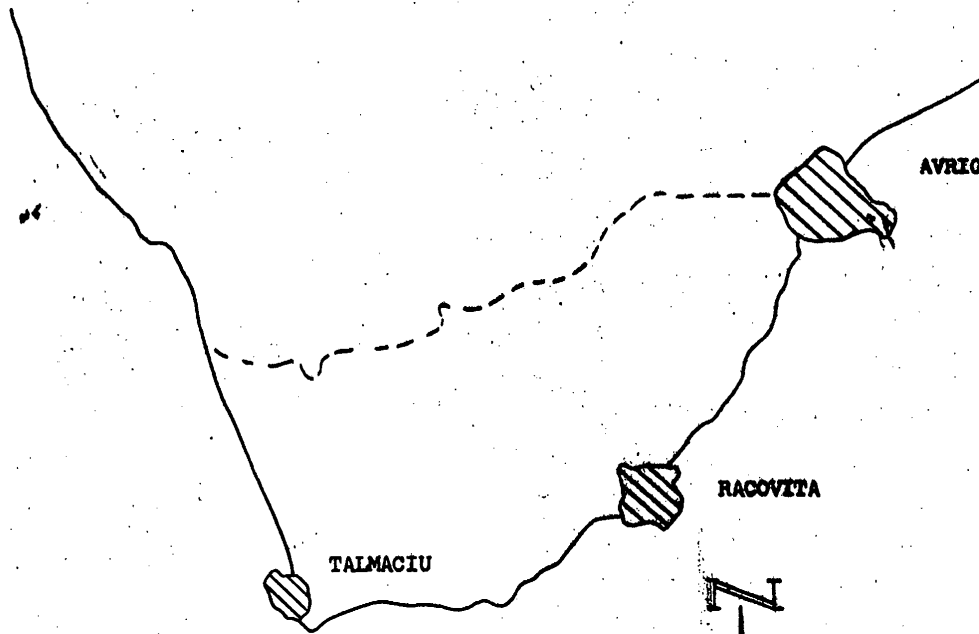
SIBIU



Scale 1:100,000

50X1-HUM

50X1-HUM



Solid line indicates main highway ERASOV-SIBIU

Dash line indicates short cut never traveled by Source, as shown on reference map.

CONFIDENTIAL

CONFIDENTIAL

-93-



50X1

ANNEX PP

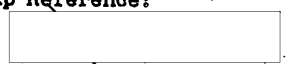
50X1-HUM

OVERLAY TRACING OF ALINEMENT OF HIGHWAY SIMIAN-VANJU MARE-CALAFAT, RUMANIA



50X1-HUM

Map Reference:

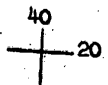
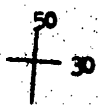


Scale 1:100,000



50X1-HUM

Dotted line indicates alignment as reported by Source



CONFIDENTIAL

CONFIDENTIAL

-94-

50X1



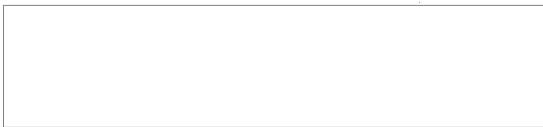
ANNEX QQ

50X1-HUM

OVERLAY TRACING OF ALINEMENT OF NEW STRATEGIC HIGHWAY FROM PQ-407284 THROUGH GRUIA TO CUJMIRUL, RUMANIA

60
1
00

50X1-HUM



Map References:

50X1-HUM

Yugoslavia 1:100,000

50X1-HUM



GRUIA

40
90

CONFIDENTIAL

OVERLAY OF HIGHWAY BYPASS AROUND OSTROV, RUMANIA

50X1-HUM

50X1-HUM

50X1-HUM

50X1

CONFIDENTIAL

CONFIDENTIAL

-95- 90 10

Map Reference:
Scale 1:100,000



Graveled road through OSTROV



Main highway bypass, concrete surface

30
+ 80

CONFIDENTIAL

-97-

50X1

ANNEX TT-1

OVERLAY SHOWING ALINEMENT OF NARROW-GAUGE TURNU SEVERIN-TISMANA RAILROAD, RUMANIA

FLORESTI

50X1-HUM

40
60

[] not sure which of these two dash lines indicated the true alignment.

50X1-HUM

50
50
50X1-HUM

NOTE: Arrows indicate points [] located precisely. The rest of the alignment was claimed to be accurate to 50 m. Numbers 2, 3, and 4 indicate bridge locations.

Map Reference:

[] 50X1-HUM

Scale 1:100,000

[] 50X1-HUM

IFET railroad repair shop

45
35

TURNU SEVERIN

MAIN LINE RR

DANUBE RIVER

CONFIDENTIAL

CONFIDENTIAL

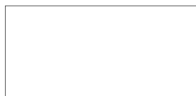
-98-

CLOSANI

50X1

45
+
90

ANNEX TT-2



60
+

TISMANA

OVERLAY SHOWING ALINEMENT OF
NARROW-GAUGE TURNU SEVERIN-TISMANA
RAILROAD, RUMANIA

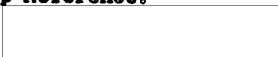
50X1-HUM



50X1-HUM

NOTE: Arrows indicate points
located [redacted]
The rest of the alignment
was claimed to be accurate
to 50 m. Number 1 indicates
location of bridge.

Map Reference:



50X1-HUM

Scale 1:100,000



45
+
65

65

CONFIDENTIAL

CONFIDENTIAL

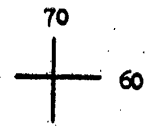
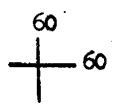
-99-



50X1

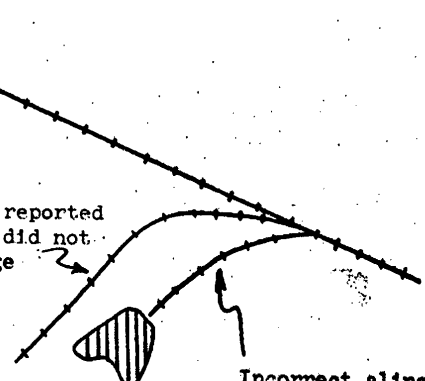
ANNEX UU

OVERLAY SHOWING CORRECTED ALINEMENT OF BUCHAREST-URZICENI-HARSOVA RAILROAD,
RUMANIA



Correct alignment as reported
The line did not
go through the village
of MOLDOVENI

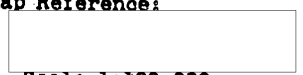
50X1-HUM



Incorrect alignment as shown on map
sheet 4545.

MOLDOVENI

Map Reference:

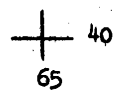
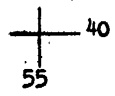


Scale 1:100,000



50X1-HUM

50X1-HUM



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