

REPORT ON OIL ENGINE MACHINERY.

No. 17012

15 SEP

Received at London Office

Writing Report 10th SEPT 1926 When handed in at Local Office

Port of HAMBURG

Survey held at

KIEL

Date, First Survey 13th MAY 1925Last Survey 28th AUGUST 1926

Number of Visits 72

Single
Twin
Triple
Quadruple

Screw vessel

"CALLIOPE"

Tons { Gross 8744.
Net 5026.

at KIEL

By whom built HOWALDTSWERKE

Yard No. 075 When built 1926

ines made at KIEL

By whom made HOWALDTSWERKE

Engine No. 445 When made 1926

key Boilers made at KIEL

By whom made HOWALDTSWERKE

Boiler No. 1416 When made 1926

ce Horse Power 2700 Two Eng.

Owners BAL. AMERIK. PETROL. IMP. G. m. b. H

Port belonging to DANTZIG

Horse Power as per Rule 776

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted yes

le for which vessel is intended NORTH ATLANTIC CARRYING PETROLEUM IN BULK

ENGINES, &c.—Type of Engines 2 Sulzer Diesel Engines 2 or 4 stroke cycle 2 Single or double acting single
 num pressure in cylinders 38 kg/cm² Diameter of cylinders 600 mm Length of stroke 1060 mm No. of cylinders 2 x 4 No. of cranks 8 = 2 x 4
 of bearings, adjacent to the Crank, measured from inner edge to inner edge 780 mm Is there a bearing between each crank yes
 tions per minute 110 Flywheel dia. 2100 mm Weight 10300 kg Means of ignition Spark Plug Kind of fuel used Diesel & Heavy fuel oil
 Shaft, dia. of journals as per Rule 375.5 mm Crank pin dia. 390 mm Crank Webs Mid. length breadth 540 mm Thickness parallel to axis Solid
 as fitted 390 mm Mid. length thickness 220 mm Thickness around eye-hole
 wheel Shaft, diameter as per Rule 375.5 mm Intermediate Shafts, diameter as per Rule 376 mm Thrust Shaft, diameter at collars as per Rule 289 mm
 as fitted 390 mm as fitted 344 mm as fitted 390 mm
 Shaft, diameter as per Rule 290 mm Screw Shaft, diameter as per Rule 315 mm Is the tube screw shaft fitted with a continuous liner yes
 as fitted 345 mm as fitted 344 mm

ze Liners, thickness in way of bushes as per Rule 17 mm Thickness between bushes as per rule 13 mm Is the after end of the liner made watertight in the
 as fitted 24.2 mm of 22.2 mm as fitted 17 mm
 er boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive
 liners are fitted, is the shaft lapped or protected between the liners rubber lapped, lub. oil or arm. an approved Oil Gland or other appliance fitted at the after

the tube shaft Length of Bearing in Stern Bush next to and supporting propeller 200 mm in propeller bracket 1400 mm
 elli, dia. 3900 mm Pitch 3850 mm No. of blades 4 Material Bronze whether Moveable yes Total Developed Surface 519 m sq. feet

od of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication
 er Thickness of cylinder liners 45 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with

nducting material yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine funnel
 ing Water Pumps, No. 2 Centrifugal pumps 11 ft. by 1/2 ft. Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Pumps worked from the Main Engines, No. 2 D.F. Diameter 160 mm Stroke 140 mm Can one be overhauled while the other is at work yes
 ps connected to the Main Bilge Line No. and size 2 cyl. D.F. 150 mm diam. 220 mm stroke 2 filler to main engine D.F. 160 x 140 mm
 How driven Electric driven 2 Fl. Diesel Engines 2 D.F. 100 mm diam. 140 mm stroke

ast Pumps, No. and size 11 ft. by 1/2 ft. D.F. 250 x 175 x 300 mm Lubricating Oil Pumps, including Spare Pump, No. and size 1 ft. by 1/2 ft. 100 mm diam. 140 mm stroke
 two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

ps, No. and size:—In Machinery Spaces 10 each of 90 mm - 1 of 130 mm 3.54 In Forepeak 2 of 80 mm from Fore. Sp. room & Long. Sp.
 olds, &c. 1 of 90 mm from aft ship 2 of 60 mm Cofferdam bilge. Pank 2 of 110 mm dia 2 of 130 mm from Cofferdam 1 of 130 mm from

pendent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 of 130 mm - 1 of 90 mm
 all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces

rom easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes
 all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves & Cocks yes

they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes Are the Overboard Discharges above or below the deep water line above & below
 they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes

t pipes pass through the bunks How are they protected
 t pipes pass through the deep tanks main cargo suction line & heating coils Have they been tested as per Rule yes

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 e arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one

partment to another yes Is the Shaft Tunnel watertight machinery aft Is it fitted with a watertight door worked from
 wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

n Air Compressors, No. 1 each engine No. of stages 3 Diameters 640-580-140 Stroke 560 mm Driven by Crank shaft main eng.
 iliary Air Compressors, No. 1 (Twin type) No. of stages 3 Diameters 325-290-65 Stroke 180 mm Driven by Electric motor

all Auxiliary Air Compressors, No. No. of stages 2 Diameters 110-35 Stroke 120 mm Driven by Solid Cup Oil engine
 venging Air Pumps, No. 2 Pro. turbo revolving lower each having an intake volume Stroke of 400 atm. of free air Driven by Electric motor

iliary Engines crank shafts, diameter as per Rule 150.9 mm
 as fitted 160 mm

2 RECEIVERS.—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes
 the internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces manholes - fore and aft covers

there a drain arrangement fitted at the lowest part of each receiver yes
 ch Pressure Air Receivers, No. 2 Starting 8 Cubic capacity of each 800 liter Internal diameter 540 mm thickness 25 mm

less, lap welded or riveted longitudinal joint Peanles Material L. A. Steel Range of tensile strength 50-60 kg Working pressure by Rules 102.8
 rting Air Receivers, No. 2 Total cubic capacity 2 x 5000 liter Internal diameter 1200 mm thickness 18.5 mm

less, lap welded or riveted longitudinal joint thicker Material Steel Range of tensile strength 40-50 kg Working pressure by Rules 25.7 kg/cm²

IS A DONKEY BOILER FITTED?

yes ✓

If so, is a report now forwarded?

yes

PLANS. Are approved plans forwarded herewith for Shasting

yes

Receivers

Mar. 1.6.24 - 16818

Separate Tanks

Preparation of

Donkey Boilers

General Pumping Arrangements

16818

Oil Fuel Burning Arrangements

16818

SPARE GEAR

All spare articles as required per Section 6 of the Rules for the Construction and Survey of Diesel Engines and their Auxiliaries (1925-26) have been supplied.

The foregoing is a correct description,

HOWALDTSWERKE

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 12/3-30/6-8/7-15/7-11/8-19/8-1/9-4/9-11/9-17/9-29/9-2/10-6/10-9/10-30/10-31/10-3/11-17/11-1/12-4/12-11/12-14/12-23/12-27/12-29/12-31/12-2/1-9/1-12/1-15/1-18/1-22/1-25/1-28/1-31/1-3/2-6/2-9/2-12/2-15/2-18/2-22/2-25/2-28/2-31/2-3/3-6/3-9/3-12/3-15/3-18/3-22/3-25/3-28/3-31/3-3/4-6/4-9/4-12/4-15/4-18/4-22/4-25/4-28/4-31/4-3/5-6/5-9/5-12/5-15/5-18/5-22/5-25/5-28/5-31/5-3/6-6/6-9/6-12/6-15/6-18/6-22/6-25/6-28/6-31/6-3/7-6/7-9/7-12/7-15/7-18/7-22/7-25/7-28/7-31/7-3/8-6/8-9/8-12/8-15/8-18/8-22/8-25/8-28/8-31/8-3/9-6/9-9/9-12/9-15/9-18/9-22/9-25/9-28/9-31/9-3/10-6/10-9/10-12/10-15/10-18/10-22/10-25/10-28/10-31/10-3/11-6/11-9/11-12/11-15/11-18/11-22/11-25/11-28/11-31/11-3/12-6/12-9/12-12/12-15/12-18/12-22/12-25/12-28/12-31/12-3/13-6/13-9/13-12/13-15/13-18/13-22/13-25/13-28/13-31/13-3/14-6/14-9/14-12/14-15/14-18/14-22/14-25/14-28/14-31/14-3/15-6/15-9/15-12/15-15/15-18/15-22/15-25/15-28/15-31/15-3/16-6/16-9/16-12/16-15/16-18/16-22/16-25/16-28/16-31/16-3/17-6/17-9/17-12/17-15/17-18/17-22/17-25/17-28/17-31/17-3/18-6/18-9/18-12/18-15/18-18/18-22/18-25/18-28/18-31/18-3/19-6/19-9/19-12/19-15/19-18/19-22/19-25/19-28/19-31/19-3/20-6/20-9/20-12/20-15/20-18/20-22/20-25/20-28/20-31/20-3/21-6/21-9/21-12/21-15/21-18/21-22/21-25/21-28/21-31/21-3/22-6/22-9/22-12/22-15/22-18/22-22/22-25/22-28/22-31/22-3/23-6/23-9/23-12/23-15/23-18/23-22/23-25/23-28/23-31/23-3/24-6/24-9/24-12/24-15/24-18/24-22/24-25/24-28/24-31/24-3/25-6/25-9/25-12/25-15/25-18/25-22/25-25/25-28/25-31/25-3/26-6/26-9/26-12/26-15/26-18/26-22/26-25/26-28/26-31/26-3/27-6/27-9/27-12/27-15/27-18/27-22/27-25/27-28/27-31/27-3/28-6/28-9/28-12/28-15/28-18/28-22/28-25/28-28/28-31/28-3/29-6/29-9/29-12/29-15/29-18/29-22/29-25/29-28/29-31/29-3/30-6/30-9/30-12/30-15/30-18/30-22/30-25/30-28/30-31/30-3/31-6/31-9/31-12/31-15/31-18/31-22/31-25/31-28/31-31/31-3/32-6/32-9/32-12/32-15/32-18/32-22/32-25/32-28/32-31/32-3/33-6/33-9/33-12/33-15/33-18/33-22/33-25/33-28/33-31/33-3/34-6/34-9/34-12/34-15/34-18/34-22/34-25/34-28/34-31/34-3/35-6/35-9/35-12/35-15/35-18/35-22/35-25/35-28/35-31/35-3/36-6/36-9/36-12/36-15/36-18/36-22/36-25/36-28/36-31/36-3/37-6/37-9/37-12/37-15/37-18/37-22/37-25/37-28/37-31/37-3/38-6/38-9/38-12/38-15/38-18/38-22/38-25/38-28/38-31/38-3/39-6/39-9/39-12/39-15/39-18/39-22/39-25/39-28/39-31/39-3/40-6/40-9/40-12/40-15/40-18/40-22/40-25/40-28/40-31/40-3/41-6/41-9/41-12/41-15/41-18/41-22/41-25/41-28/41-31/41-3/42-6/42-9/42-12/42-15/42-18/42-22/42-25/42-28/42-31/42-3/43-6/43-9/43-12/43-15/43-18/43-22/43-25/43-28/43-31/43-3/44-6/44-9/44-12/44-15/44-18/44-22/44-25/44-28/44-31/44-3/45-6/45-9/45-12/45-15/45-18/45-22/45-25/45-28/45-31/45-3/46-6/46-9/46-12/46-15/46-18/46-22/46-25/46-28/46-31/46-3/47-6/47-9/47-12/47-15/47-18/47-22/47-25/47-28/47-31/47-3/48-6/48-9/48-12/48-15/48-18/48-22/48-25/48-28/48-31/48-3/49-6/49-9/49-12/49-15/49-18/49-22/49-25/49-28/49-31/49-3/50-6/50-9/50-12/50-15/50-18/50-22/50-25/50-28/50-31/50-3/51-6/51-9/51-12/51-15/51-18/51-22/51-25/51-28/51-31/51-3/52-6/52-9/52-12/52-15/52-18/52-22/52-25/52-28/52-31/52-3/53-6/53-9/53-12/53-15/53-18/53-22/53-25/53-28/53-31/53-3/54-6/54-9/54-12/54-15/54-18/54-22/54-25/54-28/54-31/54-3/55-6/55-9/55-12/55-15/55-18/55-22/55-25/55-28/55-31/55-3/56-6/56-9/56-12/56-15/56-18/56-22/56-25/56-28/56-31/56-3/57-6/57-9/57-12/57-15/57-18/57-22/57-25/57-28/57-31/57-3/58-6/58-9/58-12/58-15/58-18/58-22/58-25/58-28/58-31/58-3/59-6/59-9/59-12/59-15/59-18/59-22/59-25/59-28/59-31/59-3/60-6/60-9/60-12/60-15/60-18/60-22/60-25/60-28/60-31/60-3/61-6/61-9/61-12/61-15/61-18/61-22/61-25/61-28/61-31/61-3/62-6/62-9/62-12/62-15/62-18/62-22/62-25/62-28/62-31/62-3/63-6/63-9/63-12/63-15/63-18/63-22/63-25/63-28/63-31/63-3/64-6/64-9/64-12/64-15/64-18/64-22/64-25/64-28/64-31/64-3/65-6/65-9/65-12/65-15/65-18/65-22/65-25/65-28/65-31/65-3/66-6/66-9/66-12/66-15/66-18/66-22/66-25/66-28/66-31/66-3/67-6/67-9/67-12/67-15/67-18/67-22/67-25/67-28/67-31/67-3/68-6/68-9/68-12/68-15/68-18/68-22/68-25/68-28/68-31/68-3/69-6/69-9/69-12/69-15/69-18/69-22/69-25/69-28/69-31/69-3/70-6/70-9/70-12/70-15/70-18/70-22/70-25/70-28/70-31/70-3/71-6/71-9/71-12/71-15/71-18/71-22/71-25/71-28/71-31/71-3/72-6/72-9/72-12/72-15/72-18/72-22/72-25/72-28/72-31/72-3/73-6/73-9/73-12/73-15/73-18/73-22/73-25/73-28/73-31/73-3/74-6/74-9/74-12/74-15/74-18/74-22/74-25/74-28/74-31/74-3/75-6/75-9/75-12/75-15/75-18/75-22/75-25/75-28/75-31/75-3/76-6/76-9/76-12/76-15/76-18/76-22/76-25/76-28/76-31/76-3/77-6/77-9/77-12/77-15/77-18/77-22/77-25/77-28/77-31/77-3/78-6/78-9/78-12/78-15/78-18/78-22/78-25/78-28/78-31/78-3/79-6/79-9/79-12/79-15/79-18/79-22/79-25/79-28/79-31/79-3/80-6/80-9/80-12/80-15/80-18/80-22/80-25/80-28/80-31/80-3/81-6/81-9/81-12/81-15/81-18/81-22/81-25/81-28/81-31/81-3/82-6/82-9/82-12/82-15/82-18/82-22/82-25/82-28/82-31/82-3/83-6/83-9/83-12/83-15/83-18/83-22/83-25/83-28/83-31/83-3/84-6/84-9/84-12/84-15/84-18/84-22/84-25/84-28/84-31/84-3/85-6/85-9/85-12/85-15/85-18/85-22/85-25/85-28/85-31/85-3/86-6/86-9/86-12/86-15/86-18/86-22/86-25/86-28/86-31/86-3/87-6/87-9/87-12/87-15/87-18/87-22/87-25/87-28/87-31/87-3/88-6/88-9/88-12/88-15/88-18/88-22/88-25/88-28/88-31/88-3/89-6/89-9/89-12/89-15/89-18/89-22/89-25/89-28/89-31/89-3/90-6/90-9/90-12/90-15/90-18/90-22/90-25/90-28/90-31/90-3/91-6/91-9/91-12/91-15/91-18/91-22/91-25/91-28/91-31/91-3/92-6/92-9/92-12/92-15/92-18/92-22/92-25/92-28/92-31/92-3/93-6/93-9/93-12/93-15/93-18/93-22/93-25/93-28/93-31/93-3/94-6/94-9/94-12/94-15/94-18/94-22/94-25/94-28/94-31/94-3/95-6/95-9/95-12/95-15/95-18/95-22/95-25/95-28/95-31/95-3/96-6/96-9/96-12/96-15/96-18/96-22/96-25/96-28/96-31/96-3/97-6/97-9/97-12/97-15/97-18/97-22/97-25/97-28/97-31/97-3/98-6/98-9/98-12/98-15/98-18/98-22/98-25/98-28/98-31/98-3/99-6/99-9/99-12/99-15/99-18/99-22/99-25/99-28/99-31/99-3/100-6/100-9/100-12/100-15/100-18/100-22/100-25/100-28/100-31/100-3/101-6/101-9/101-12/101-15/101-18/101-22/101-25/101-28/101-31/101-3/102-6/102-9/102-12/102-15/102-18/102-22/102-25/102-28/102-31/102-3/103-6/103-9/103-12/103-15/103-18/103-22/103-25/103-28/103-31/103-3/104-6/104-9/104-12/104-15/104-18/104-22/104-25/104-28/104-31/104-3/105-6/105-9/105-12/105-15/105-18/105-22/105-25/105-28/105-31/105-3/106-6/106-9/106-12/106-15/106-18/106-22/106-25/106-28/106-31/106-3/107-6/107-9/107-12/107-15/107-18/107-22/107-25/107-28/107-31/107-3/108-6/108-9/108-12/108-15/108-18/108-22/108-25/108-28/108-31/108-3/109-6/109-9/109-12/109-15/109-18/109-22/109-25/109-28/109-31/109-3/110-6/110-9/110-12/110-15/110-18/110-22/110-25/110-28/110-31/110-3/111-6/111-9/111-12/111-15/111-18/111-22/111-25/111-28/111-31/111-3/112-6/112-9/112-12/112-15/112-18/112-22/112-25/112-28/112-31/112-3/113-6/113-9/113-12/113-15/113-18/113-22/113-25/113-28/113-31/113-3/114-6/114-9/114-12/114-15/114-18/114-22/114-25/114-28/114-31/114-3/115-6/115-9/115-12/115-15/115-18/115-22/115-25/115-28/115-31/115-3/116-6/116-9/116-12/116-15/116-18/116-22/116-25/116-28/116-31/116-3/117-6/117-9/117-12/117-15/117-18/117-22/117-25/117-28/117-31/117-3/118-6/118-9/118-12/118-15/118-18/118-22/118-25/118-28/118-31/118-3/119-6/119-9/119-12/119-15/119-18/119-22/119-25/119-28/119-31/119-3/120-6/120-9/120-12/120-15/120-18/120-22/120-25/120-28/120-31/120-3/121-6/121-9/121-12/121-15/121-18/121-22/121-25/121-28/121-31/121-3/122-6/122-9/122-12/122-15/122-18/122-22/122-25/122-28/122-31/122-3/123-6/123-9/123-12/123-15/123-18/123-22/123-25/123-28/123-31/123-3/124-6/124-9/124-12/124-15/124-18/124-22/124-25/124-28/124-31/124-3/125-6/125-9/125-12/125-15/125-18/125-22/125-25/125-28/125-31/125-3/126-6/126-9/126-12/126-15/126-18/126-22/126-25/126-28/126-31/126-3/127-6/127-9/127-12/127-15/127-18/127-22/127-25/127-28/127-31/127-3/128-6/128-9/128-12/128-15/128-18/128-22/128-25/128-28/128-31/128-3/129-6/129-9/129-12/129-15/129-18/129-22/129-25/129-28/129-31/129-3/130-6/130-9/130-12/130-15/130-18/130-22/130-25/130-28/130-31/130-3/131-6/131-9/131-12/131-15/131-18/131-22/131-25/131-28/131-31/131-3/132-6/132-9/132-12/132-15/132-18/132-22/132-25/132-28/132-31/132-3/133-6/133-9/133-12/133-15/133-18/133-22/133-25/133-28/133-31/133-3/134-6/134-9/134-12/134-15/134-18/134-22/134-25/134-28/134-31/134-3/135-6/135-9/135-12/135-15/135-18/135-22/135-25/135-28/135-31/135-3/136-6/136-9/136-12/136-15/136-18/136-22/136-25/136-28/136-31/136-3/137-6/137-9/137-12/137-15/137-18/137-22/137-25/137-28/137-31/137-3/138-6/138-9/138-12/138-15/138-18/138-22/138-25/138-28/138-31/138-3/139-6/139-9/139-12/139-15/139-18/139-22/139-25/139-28/139-31/139-3/140-6/140-9/140-12/140-15/140-18/140-22/140-25/140-28/140-31/140-3/141-6/141-9/141-12/141-15/141-18/141-22/141-25/141-28/141-31/141-3/142-6/142-9/142-12/142-15/142-18/142-22/142-25/142-28/142-31/142-3/143-6/143-9/143-12/143-15/143-18/143-22/143-25/143-28/143-31/143-3/144-6/144-9/144-12/144-15/144-18/144-22/144-25/144-28/144-31/144-3/145-6/145-9/145-12/145-15/145-18/145-22/145-25/145-28/145-31/145-3/146-6/146-9/146-12/146-15/146-18/146-22/146-25/146-28/146-31/146-3/147-6/147-9/147-12/147-15/147-18/147-22/147-25/147-28/147-31/147-3/148-6/148-9/148-12/148-15/148-18/148-22/148-25/148-28/148-31/148-3/149-6/149-9/149-12/149-15/149-18/149-22/149-25/149-28/149-31/149-3/150-6/150-9/150-12/150-15/150-18/150-22/150-25/150-28/150-31/150-3/151-6/151-9/151-12/151-15/151-18/151-22/151-25/151-28/151-31/151-3/152-6/152-9/152-12/152-15/152-18/152-22/152-25/152-28/152-31/152-3/153-6/153-9/153-12/153-15/153-18/153-22/153-25/153-28/153-31/153-3/154-6/154-9/154-12/154-15/154-18/154-22/154-25/154-28/154-31/154-3/155-6/155-9/155-12/155-15/155-18/155-22/155-25/155-28/155-31/155-3/156-6/156-9/156-12/156-15/156-18/156-22/156-25/156-28/156-31/156-3/157-6/157-9/157-12/157-15/157-18/157-22/157-25/157-28/157-31/157-3/158-6/158-9/158-12/158-15/158-18/158-22/158-25/158-28/158-31/158-3/159-6/159-9/159-12/159-15/159-18/159-22/159-25/159-28/159-31/159-3/160-6/160-9/160-12/160-15/160-18/160-22/160-25/160-28/160-31/160-3/161-6/161-9/161-12/161-15/161-18/161-22/161-25/161-28/161-31/161-3/162-6/162-9/162-12/162-15/162-18/162-22/162-25/162-28/162-31/162-3/163-6/163-9/163-12/163-15/163-18/163-22/163-25/163-28/163-31/163-3/164-6/164-9/164-12/164-15/164-18/164-22/164-25/164-28/164-31/164-3/165-6/165-9/165-12/165-15/165-18/165-22/165-25/165-28/165-31/165-3/166-6/166-9/166-12/166-15/166-18/166-22/166-25/166-28/166-31/166-3/167-6/167-9/167-12/167-15/167-18/167-22/167-25/167-28/167-31/167-3/168-6/168-9/168-12/168-15/168-18/168-22/168-25/168-28/168-31/168-3/169-6/169-9/169-12/169-15/169-18/169-22/169-25/169-28/169-31/169-3/170-6/170-9/170-12/170-15/170-18/170-22/170-25/170-28/170-31/170-3/171-6/171-9/171-12/171-15/171-18/171-22/171-25/171-28/171-31/171-3/172-6/172-9/172-12/172-15/172-18/172-22/172-25/172-28/172-31/172-3/173-6/173-9/173-12/173-15/173-18/173-22/173-25/173-28/173-31/173-3/174-6/174-9/174-12/174-15/174-18/174-22/174-25/174-28/174-31/174-3/175-6/175-9/175-12/175-15/175-18/175-22/175-25/175-28/175-31/175-3/176-6/176-9/176-12/176-15/176-18/176-22/176-25/176-28/176-31/176-3/177-6/177-9/177-12/177-15/177-18/177-22/177-25/177-28/177-31/177-3/178-6/178-9/178-12/178-15/178-18/178-22/178-25/178-28/178-31/178-3/179-6/179-9/179-12/179-15/179-18/179-22/179-25/179-28/179-31/179-3/180-6/180-9/180-12/180-15/180-18/180-22/180-25/180-28/180-31/180-3/181-6/181-9/181-12/181-15/181-18/181-22/181-25/181-28/181-31/181-3/182-6/182-9/182-12/182-15/182-18/182-22/182-25/182-28/182-31/182-3/183-6/183-9/183-12/183-15/183-18/183-22/183-25/183-28/183-31/183-3/184-6/184-9/184-12/184-15/184-18/184-22/184-25/184-28/184-31/184-3/185-6/185-9/185-12/185-15/185-18/185-22/185-25/185-28/185-31/185-3/186-6/186-9/186-12/186-15/186-18/186-22/186-25/186-28/186-31/186-3/187-6/187-9/187-12/187-15/187-18/187-22/187-25/187-28/187-31/187-3/