

**USS COLE (DDG 67)
NAVIGATION BRIEF
FOR ENTERING ADEN, YEMEN
12 OCTOBER 2000**

I. TIDES AND CURRENTS

Time of Arrival: 0430Z/0730C

The tides are subject to large diurnal inequality, which may increase or diminish the rise by 0.3m or more. About the time of the moon's quarter there is frequently only one HW and one LW in the 24 hours.

The tidal current on the flood tide, during both monsoons, sets strongly NE past Ras Marbut until it is checked by the drying bank on the NE side of the harbor. It is then deflected E and NE into the upper reaches of the harbor. At about half flood a distinct E set is experienced between Aliya Island and the mainland NW.

On the ebb tide the current curves W by Jerama Beacon and then flows along the S side of the harbor, it has a more S set when past Ras Marbut.

The estimated average maximum velocity at springs is 1.5 knots, but it depends on the strength and direction of the monsoon.

Caution: A wreck, with a depth of 1m, lies about 2 miles SSW of Ras Marbut. Another wreck, with a least depth of 3.5m lies about 1 mile W of Ras Marbut. Both wrecks are marked by light buoys.

II. WEATHER

Skies:

Wind:

Seas:

III. ASTRONOMICAL DATA

Sunrise: 0549

Sunset: 1743

Moonrise: 1638 96% Illumination

Moonset: 0453 98% Illumination

IV. CHARTS

62097- 3rd Edition corrected through NTM 39/00

62098- 4th Edition corrected through NTM 39/00

IALA "A" Bouyage System.

Broadcast Warnings in Effect:

V. GROUND TACKLE:

Ready Anchor: Centerline Anchor, channel depth is 24 feet beneath the keel

Scope of Chain: -N/A-

Status of Windlass: UP

Launch boats: NO

Accom Ladder: STOWED

Ready Lifeboat: LIBERTY

VI. TUGS AND PILOTS:

Tug: 2 tugs will be used in the harbor

Docking Pilot embarks near the vicinity of the outer pair of lighted buoys.

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VII. DOCKING

Berth:
Wind: ESE 7-10
Current:
Pier heading:

VIII. SIGNIFICANT TRAFFIC:

Entering/Departing Movements: -Merchant entering and departing-
Harbor special events: -NONE-
Media Coverage: -NONE-

IX. TRACK

| LEG | RNG | CSE | DIST | TURN BRG/RNG | AID |
|-----|-----|-------|---------|--------------|----------------|
| 1 | NO | 345°T | 2780YDS | 074°T/089R | "A" F WR 2 ½ s |
| 2 | NO | 028°T | 3500YDS | 116°T/088R | "A" F WR 2 ½ s |
| 3 | YES | 047°T | 1910YDS | 124°T/077R | "B" Sig Sta |
| 4 | NO | 077°T | 950YDS | 159°T/082R | "O" Bn |
| 5 | NO | 067°T | 1100YDS | | |

TOTAL TRANSIT DISTANCE & TIME: 5.1NM - 1hr 00m

Leg 1 is laid for 10kts/15 Deg Rudder
Legs 2-5 are laid for 5kts/15 Deg Rudder
Visual Navigation Aids are marked in GREEN
Radar Navigation Aids are marked in ORANGE
Restricted Water is outlined in BLUE

X. STATUS OF NAVIGATION EQUIPMENT:

Gyro Error - 0° by Azimuth
Equipment Down:

XI. STATUS OF ENGINEERING PLANT:

| | | | | | | |
|-----------|----|-----|------|----|----|---|
| GTM | 1A | 2AX | 1BX | 2B | | |
| GTG | 1X | 2X | 3-SB | | | |
| Firepumps | 1 | 2X | 3 | 4 | 5X | 6 |

Limiting Casualties: 1A GTM not available- CASREP 00051

XII. COMMUNICATIONS

Bridge to Bridge - VHF Channel 16. -
Intl Call Sign - Break on 345°T leg.
- The following signals are used in the harbor:
-By day, 2 black balls, night R over R means channel is clear to enter.
-By day, cone point up, night G channel is clear to leave.

Vessels entering or leaving Inner Harbor show the following:
-By day, 3rd Sub, night W over R vessel is entering.
-By day, 2nd Sub, night R over W vessel is leaving.

XIII. SHUTDOWN

- SPY: Shift to Low Power when 25nm from land, secure when 5nm from land.
- IFF: Secure upon reaching 13nm from Low Water Baseline from shore. CIC will initiate.
- TACAN: Secure upon reaching 15nm from land.
- SLQ-32: Secure upon reaching 15nm from land.
- SPS-67: Shift to short pulse upon reaching approach buoy.
- SPS-64: Shift to short pulse upon reaching approach buoy.

XIV. SPECIAL CONSIDERATIONS/EVENTS

- Honors: -NONE-
- Visitors: Pace Instructor
- Helo Ops: -NONE-
- Harbor Exercises: NONE
- Uniform: All Hands coveralls with Blue Ball Caps.

XV. EMERGENCIES

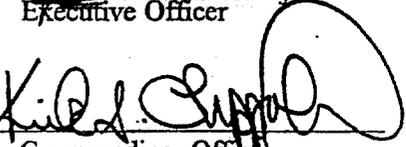
- Steering Casualty: IAW Steering/Emergency Steering Bill
- Engineering Casualties: IAW Restricted Maneuvering Doctrine.
- Man Overboard: In the event of a man overboard situation, COLE will be slowed to bare steerageway and a boat recovery will be made.
- Loss of Gyro: In the event of a loss of gyrocompass, the Navigation team will shift to magnetic headings and relative bearings. Courses will be called out in degrees magnetic with deviation being incorporated into the heading.

XVI. OPERATIONAL RISK MANAGEMENT

- Identify Hazards- New port, shoal water and no tide data.
- Assess the Risks vs. Benefits- Transit in Shoal depth for COLE vs. refueling prior to arrival in Gulf.
- Evaluate Control Options- Be prepared to drop anchor if there is any doubt of ships safety.
- Implement Controls-Drop anchor at first sign of possible danger.
- Supervise- Fantail and Forecastle Supervisors keep bridge informed via WICS CMD B of possible approaching shoals.

Submitted: 
 Navigator

Reviewed: 
 Executive Officer

Approved: 
 Commanding Officer

USS COLE (DDG 67)
AIDS TO NAVIGATION

VISUAL

| DESIG | DESC | LAT | LONG |
|-------|-----------------------|----------|-----------|
| A | WR 2 1/2 s 57m 26/22m | 12-45.9N | 044-59.3E |
| B | TR(46) SIG STA | 12-47.3N | 044-58.4E |
| C | FI(2) R 15s 20m 3M | 12-44.3N | 044-55.3E |
| D | SQUARE I(42) | 12-45.4N | 044-55.1E |
| E | PINNACLE ROCK BN | 12-45.2N | 044-55.3E |
| F | FI R 5s 10M | 12-45.9N | 044-55.3E |
| G | R Tr | 12-45.8N | 044-54.7E |
| H | Iso G 2s 10m 10M | 12-47.1N | 044-53.6E |
| I | Iso G 2s 26m 10M | 12-47.4N | 044-53.1E |
| J | Inner Channel Bn #3 | 12-48.1N | 044-58.9E |
| K | Altya Island Bn | 12-48.9N | 044-59.7E |
| L | Vazirat al Abid Bn | 12-48.5N | 045-01.9E |
| M | Tr | 12-47.8N | 045-00.5E |
| N | Clock Tr | 12-47.4N | 044-58.9E |
| O | Beacon | 12-47.5N | 044-58.6E |

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SECTOR 8

ARABIAN COAST—RAS BAB AL MANDAB TO ADEN HARBOR

Plan.—This sector describes the Arabian coast along the N side of the Gulf of Aden from Ras Bab al Mandab, at the entrance of Bab el Mandeb, to and including Aden Harbor (Bandar At Tawahi). The sequence of description is from W to E.

General Remarks

8.01 The general characteristic of the W part of the Arabian coast between Ras Bab al Mandab and Ras al Hadd is a low and narrow coastal plain backed by a rocky and precipitous range of mountains.

These mountains, rising between 1,219 and 2,438m, attain their greatest height in the SW, then they decrease in elevation and complexity of structure toward the E.

These mountains are succeeded E by lower table-topped and scarp-bounded uplands decreasing to about 610m. Numerous wadies drain from the highlands and cultivation is carried on near their channels.

Farther E the foothills of the coastal ranges form bold headlands and small rocky islets.

Along the eastern third of this coast steep-to cliffs form the seaward edge of extensive tablelands, which average about 183m in elevation. The remaining coast to the S entrance of the Gulf of Oman is generally low.

Jabal Haikah is a small range of irregular outline, rising to 1,63m, about 3 miles NE of Ras Bab al Mandab.

Jabal Arar, a range of mountains, extends about 14 miles S from a position about 35 miles NNE of Ras Bab al Mandab, then about 21 miles SE. Jabal am Wusid (Barn Hill), the SE peak of this range, is square-shaped and conspicuous, with a peak in the middle.

Jabal Hajar, dark and irregular in outline, extends about 15 miles ESE from a position about 17 miles NE of Ras Bab al Mandab. This range rises to 335m but actually appears low, as the sandy plain rises gradually to about 122 to 152m at its base.

Jabal Kharaz (12°44'N., 44°09'E.) is a mountainous range extending to within 1 mile of the coast. On the W side of its summit is a ruins of roughly hewn stone.

Notch, a peak 2,051m high, stands about 2 miles N of Jabal Kharaz. A range which extends about 65 miles E from Notch lies from 20 to 25 miles inland and attains heights of 914 to 1,981m.

Depths in the approach to this part of the Arabian coast are deep and clear. The 20m curve generally parallels the coast at distances of from 91m to 4 miles offshore.

Rambler Knoll (12°32'N., 44°10'E.), with a least depth of 18.3m lies about 5 miles offshore. This shoal, and a visible wreck lying about 4 miles S of Ras al Arah, are the only known dangers lying outside the 20m curve.

Caution.—See Pub. 170, Sailing Directions (Planning Guide) for the Indian Ocean, for cautions concerning the People's Democratic Republic of Yemen.

Ras Bab al Mandab to Adan as Sughra

8.02 Ras Bab al Mandab (12°41'N., 43°28'E.) is a prominent wedge-shaped headland. Shaykh Malu, 17.3m high, lies on the coastal reef close WSW of Ras Bab al Mandab. It is connected with the cape by a rocky ledge.

A shoal with depths of less than 10.9m extends about 0.1 mile SSW from Shaykh Malu. Ras Bab al Mandab is reported to give a good radar return up to a distance of 10 miles.

The coast between Ras Bab al Mandab and Warner Point, about 2 miles E, is much indented with small bays. A square, dark hill, 146m high, with the ruins of a fort, stands about 0.5 mile NNE of Warner Point.

Ghubbat al Haykah (12°39'N., 43°45'E.), entered between a point about 2 miles ENE of Warner Point and Ras al Arah, about 24 miles farther ESE, has a low and sandy coast. The shore of the bay is fringed by a reef, and depths of less than 5.5m extend as far as 1.5 miles offshore.

Vessels should keep outside the 20m curve by day and not shoal to depths less than 25m at night.

Ras al Arah (12°36'N., 43°55'E.), low, sandy, and rounded, is difficult to distinguish. A large house stands near the coast about 2 miles N of Ras al Arah. An isolated 31m patch was reported to lie about 10 miles SW of Ras al Arah.

Anchorage.—Good anchorage can be taken in 11m, mud and sand, in the bight NW of Ras al Arah. The coast here is rather steep, and the anchorage is sheltered from the strong winds of the NE monsoon. Jabal am Wusid (Barn Hill) bearing between 003° and 007° leads to this anchorage.

Between Ras al Arah and Jabal Marsa, about 30 miles E, the coast is low and sandy with a few shrubs, but in places there are some rocky points and cliffs of sand, 6.1 to 9.1m high.

A shoal of hard sand with depths of 3.9 to 10.9m at its outer edge lies as far as 3 miles offshore between Ras al Arah and Khawr al Umayrah, about 12 miles E. This bank is steep-to on its outer edge, and the sea breaks in places in heavy weather.

Several vessels have been wrecked in this vicinity. By day vessels should keep outside depths of 30m and not venture into depths less than 40m at night. Discolored water has often been seen in this locality.

A conical hill stands near the coast about 2 miles NW of the entrance of Khawr al Umayrah. This hill, reported to be conspicuous from SE, is black on its summit and E side.

8.03 Jabal Marsa (12°40'N., 44°25'E.) is a small projection, 44m high, and shows as a black, well-defined bluff.

Jabal al Birkah, a double-peaked saddle hill, and Jabal Sunamma, 168m high, are two conspicuous sandhills with dark summits, lying about 4 miles NW and 5 miles WNW, respectively, of Jabal Marsa.

Bandar Imran (12°45'N., 44°35'E.) is entered between Jabal Marsa and Ras Imran, a rocky promontory, 224m high, about 19 miles ENE. A sandy plain covered with bushes backs the low shore of this bay for a distance of about 10 miles.

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This bay is free from dangers with the exception of a 4.2m patch lying about 6 miles NW of Ras Imran and 1 mile offshore.

Anchorage, sheltered from E winds, can be taken in 3.9 to 9.1m, sand and shells, NW of Ras Imran, from 0.5 mile to 2 miles offshore.

Jazirat Aziz (12°44'N., 44°43'E.), a small rocky island, lies close SW of Ras Imran, and is separated from the latter by a narrow channel encumbered with rocks.

Jazirat Aziz is reported to give a good radar return up to a distance of 26 miles.

Bandar Fuqum (12°45'N., 44°46'E.) is entered between Ras Imran and Ras Fuqum, the W extremity of Adan as Sughra, about 6 miles E. The shores of the bay are low and swampy. A tomb with a few fishermen's huts nearby stands on the W side of the bay. A small dark islet lies close off the tomb.

Jazirat al Juhub (12°44'N., 44°46'E.), about 2 miles E of Ras Imran, is round. A drying rock lies about 0.3 mile ESE of Jazirat al Juhub.

Approaches to Bandar at Tawahi

8.04 Adan as Sughra (Little Aden Peninsula) (12°45'N., 44°52'E.) is a mountainous mass that resembles Aden Peninsula to the E; these two peninsulas seem to be two islands from a distance.

Jabal al Muzalqam (12°45'N., 44°52'E.), the summit of Adan as Sughra, stands in the center of the peninsula and is conspicuous. Jabal Ihsan is a conspicuous double peak on the E end of the peninsula.

A deep ravine winds from Bandar Imran to **Bandar Shaykh** (12°44'N., 44°53'E.).

A conspicuous fort stands on a hill about 0.5 mile NNW of **Ras Abu Qiyamah** (12°44'N., 44°54'E.); **Sheikh Ghadir Temple** stands about 0.5 mile farther NNW.

Khawr Ghadir (12°44'N., 44°54'E.), entered between Ras Abu Qiyamah and a 19.8m islet about 0.5 mile NE, affords anchorage in 5.5 to 16.4m, sand. A shoal with depths of 1.2 to 5.5m connects the islet with the shore 0.5 mile NE.

Four conspicuous chimneys stand near the NW shore of **Khawr Ghadir**, and about 0.45 mile farther W is a conspicuous flare. A bank with depths of less than 9.1m extends as far as 183m E from **Jazirat Salil** (12°44'N., 44°55'E.).

Between the E end of this bank and the islet are two above-water rocks and two rocks awash. The light structure on **Jazirat Salil** was reported to be very difficult to distinguish; its dark coloring blends with the brown background of the surrounding mountains.

Aden Peninsula (12°46'N., 45°01'E.), connected to the mainland by a low isthmus, is high, rocky and volcanic.

Several precipitous peaks stand near the center of this peninsula. **Jabal Shamsan**, on which there is a disused signal station, is conspicuous.

Aden Peninsula is reported to give a good radar return up to a distance of 29 miles.

Several radio masts, which are up 183m high and which show aircraft warning lights, stand on the isthmus N of Aden Peninsula.

Tides—Currents.—Between Aden Peninsula and the 200m curve the current appears to set WNW at a velocity of about 2 knots during the NE monsoon. The current sets N off the E side of Aden Peninsula during both monsoons.

Anchorage.—Anchorage can be taken off the E side of Aden Peninsula in regular depths of 9.1 to 33m.

During the NE monsoon a heavy swell sets in, but from June to August, during W winds, there is good anchorage and smooth water under the lee of Sirah.

Sirah (12°47'N., 45°03'E.), with a round tower on its summit, is a rocky island lying off the E side of Aden Peninsula. A causeway joins the W end of this island with the peninsula.

Ras Marshaq (12°45'N., 45°03'E.), the termination of a narrow promontory, is reported to give a good radar return up to a distance of 20 miles.

Aden Harbor (12°47'N., 44°57'E.)

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8.05 Aden Harbor (Bandar at Tawahi) is a fine natural harbor entered between Adan as Sughra and Aden Peninsula.

The port, consisting of an Outer and Inner Harbor, is essentially a transshipment port and an important fueling station. It affords shelter from all directions except from the S.

The Inner Harbor is partially protected from the SW by a breakwater.

Winds—Weather.—Sandstorms occur from May to August. They come at sunset from a N or NNW direction and at times blow hard until about 2200. The air is then so thick with sand that it is impossible to see more than a short distance.

Except for a dense cloud of sand banking up from the N and NW an hour to two before sunset, little forewarning is given.

About two hours after the beginning of the storm there is a calm, and after a short interval the wind blows hard from the S for another two hours; the sand then clears and the wind lessens.

Vessels in the Inner Harbor during this period should be well secured to the mooring buoys, or if anchored, both anchors should be used.

During August dense mists occur at times; the high land is only visible then for a short distance.

During the SW monsoon hot sandy winds prevail, but on the W side of the peninsula cool breezes are from seaward.

During the NE monsoon the climate of Adan is cool and pleasant, especially from November to January. During the SW monsoon it is very hot, damp, and oppressive. The settlement is exceptionally free from infectious diseases and epidemics.

Tides—Currents.—The tides are subject to a large diurnal inequality, which may increase or diminish the rise by 0.3m or more.

About the time of the moon's quarter there is frequently only one HW and one LW in the 24 hours.

An automatic tide gauge is located in a hut on the head of **Post Office Pier**, about 0.3 mile E of **Ras Marbut** (Streamer Point) (12°47'N., 44°58'E.).

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The tidal current on the flood tide, during both monsoons, sets strongly NE past Ras Marbut until it is checked by the drying bank on the NE side of the harbor.

It is then deflected E and NE into the upper reaches of the harbor. At about half flood a distinct E set is experienced between Aliya Island and the mainland NW.

On the ebb tide the current curves W by Jerama Beacon (12°48'N., 45°00'E.) and then flows along the S side of the harbor, it has a more S set when past Ras Marbut.

The estimated average maximum velocity at springs is 1.5 knots, but it depends on the strength and direction of the monsoon.

Depths—Limitations.—Aden Oil Harbor is approached through a channel, best seen on the chart, which has been dredged to a depth of 14.7m.

The channel leads to a basin located just N of the berthing facilities; this basin has also been dredged to a depth of 14.7m. The berths are protected from the S by a long breakwater.

There are four berths, all of which can accommodate vessels up to 110,000 dwt with a maximum length of 229m.

Berths Nos. 1 and 2, situated on the N side of the breakwater, consist of T-headed jetties and mooring dolphins.

Berths Nos. 3 and 4 are on either side of a pier which projects 0.2 mile NE from the SW side of the turning basin.

Berth No. 4 is the deepest berth and was dredged to a depth of 15.8m.

Asphalt Jetty, 100m long and dredged to 9.4m, lies 0.65 mile W of the breakwater head. Two other jetties, with dredged depths of 5.5m and 6.1m, lie close W of Asphalt Jetty.

There are depths of 11 to 20m in the entrance to the Outer Harbor. The Outer Harbor is transited via a 2.5 mile long channel which is 183m wide and has been dredged recently to a depth of 11.7m, in a sand and mud bottom. The limits of the Outer Harbor may best be seen on the chart.

The Inner Harbor is entered N of the breakwater extending from Ras Marbut and includes the area NE of Outer Harbor.

A channel, dredged to 11m, leads from the outer part of Inner Harbor to Maallah Wharf. The channel varies in width from 125 to 280m.

Maallah Wharf is 955m long and has depths alongside of 6.7 to 11m. A ro-ro berth, which is 150m long and has a depth of 7.6m alongside, is located along the W face of Maallah Wharf.

In the main part of Inner Harbor there are mooring berths for working cargo and for fueling. A few of those can accommodate vessels drawing up to 11.3m, while others are for vessels drawing up to 10.4m.

Aspect.—Adan as Sughra and Aden Peninsula are so prominent that there is no difficulty in identifying the approach to Aden Harbor.

The Signal Station tower, 46m high, located close SE of Ras Marbut, is conspicuous, as is the clock tower on a hill about 0.5 mile E of the same point.

Pilotage.—Pilotage is compulsory for all vessels of over 200 grt entering or leaving Inner Harbor or Oil Harbor, or moving from one to the other, with the exception of naval vessels exempted by the Port Officer.

Pilotage is available 24 hours and is available for tankers only during daylight hours.

All vessels arriving off the port and wishing to enter must make the usual signal for a pilot. The pilot boards vessels bound for the Oil Harbor and deep-draft vessels bound for the Inner Harbor in the vicinity of 12°44'N, 44°57'E.

Pilots for other vessels board in the vicinity of the outer pair of lighted buoys.

In normal circumstances, pilotage presents no special difficulties, but during the SW monsoon, sand storms may occur suddenly and violently. Tugs for the assistance of pilots are maintained.

The ETA of a vessel should be signaled 48 and 12 hours in advance.

Signals.—The following signals controlling traffic in the dredged channel through Outer Harbor are shown from the top mast of the signal station at Ras.

By day, two black balls and at night, signal "R" over "R" meaning channel is clear to enter.

By day, a cone point up and at night signal "G" meaning channel is clear to leave.

Vessels entering or leaving Inner Harbor by this channel show the following signals at the yard arm or the top of the mast.

By day, 3rd Substitute and at night signal "W" over "R" meaning vessel is entering.

By day, 2nd Substitute, signal "R" over "W" meaning vessel is leaving.

Regulations.—All vessels within the harbor limits of Aden Harbor shall take up such berths, or shall shift or leave their berths, as directed by the port officer.

Vessels underway in the Inner Harbor or entrance channel are not to pass each other.

If a vessel is entering the Inner Harbor at the same time as another intends to leave, the latter has the preference.

If two vessels are ready to leave the Inner Harbor simultaneously, the vessel moored nearest the entrance shall be taken out first, unless otherwise ordered by the port officer.

If more than one vessel is entering or leaving the Inner Harbor or Oil Harbor, or navigating in the dredged channels leading into those harbors, every following vessel will keep at least 0.4 mile astern of the ship ahead.

No vessel shall, except with the permission of the port officer, be navigated in the Inner Harbor, Oil Harbor, or the buoyed channels leading to those harbors without a depth of 0.6m or more below her keel, or in the case of a vessel drawing more than 11.2m, without a depth of 1.2m or more below her keel.

Vessels in the Inner Harbor shall anchor, moor, or unmoor where and when required by the port officer.

Vessels with a draft of 3.6m or more must not remain at single anchor in the Inner Harbor without permission.

No vessel carrying dangerous petroleum products is allowed to enter or leave the harbor during the hours of darkness.

Vessels 50,000 dwt or over are not permitted to berth in Oil Harbor at night.

There are local regulations regarding dangerous goods and explosives, and vessels carrying them must give 24 hours notice of arrival.

Tankers whose draft exceeds 9.1m cannot enter the harbor at night.

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It has also been reported that the maximum cargo limit is 55,000 dwt and that movement at night is only allowed for gas-free vessels.

Anchorage.—Anchorage is available in Outer Harbor, clear of the dredged channels, N and W of a line best seen on the chart.

Anchorage is not recommended seaward of this line as numerous submarine cables are laid from a point about 0.5 mile SSE of Ras Marbut. Deep-draft vessels may find anchorage in depths of about 13 to 15m over sand in an area SE of Oil Harbor. The Quarantine Anchorage is charted N of the approach fairways, offering depths of about 8 to 11m over a mud and sand bottom.

Directions.—The channels are well marked by buoys, beacons, and lighted ranges.

Vessels approaching the port should avoid a spoil ground charted 3 miles S of Aden Peninsula.

When approaching from W, pass 1 mile S of Adan a Sughra and then to the entrance of the dredged channel. At night, steer with Elephant's Back Light bearing not greater than 061° for the entrance.

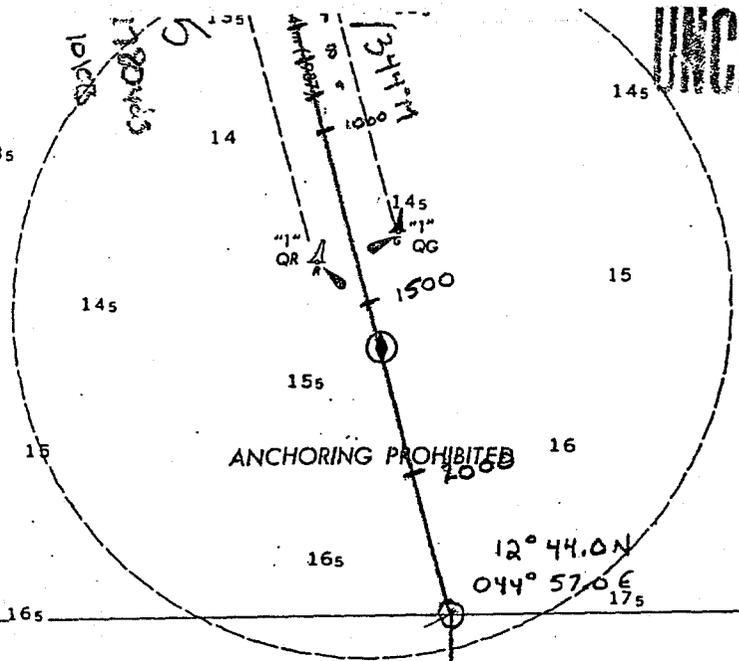
When approaching from E, pass 1 mile S of Aden Peninsula and then steer to the entrance of the dredged channel. At night pass 1.5 miles S of Ras Marshaq light, and then steer W for the entrance channel.

Caution.—A wreck, with a depth of 1m, lies about 2 miles SSW of Ras Marbut. Another wreck, with a least depth of 3.5m lies about 1 mile W of Ras Marbut. Both wrecks are marked by light buoys.

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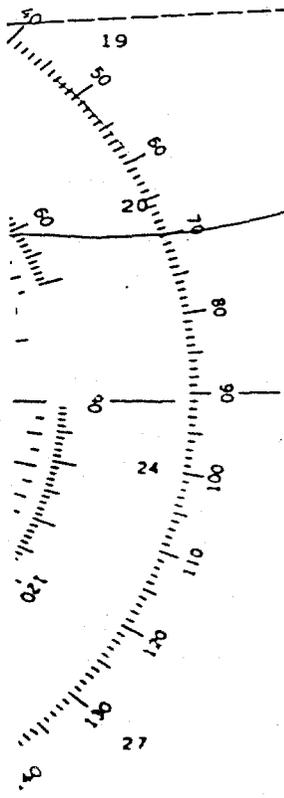
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ANCHORAGE
FOR
DEEP DRAFT SHIPS



ANCHORING PROHIBITED

12° 44.0' N
044° 57.0' E

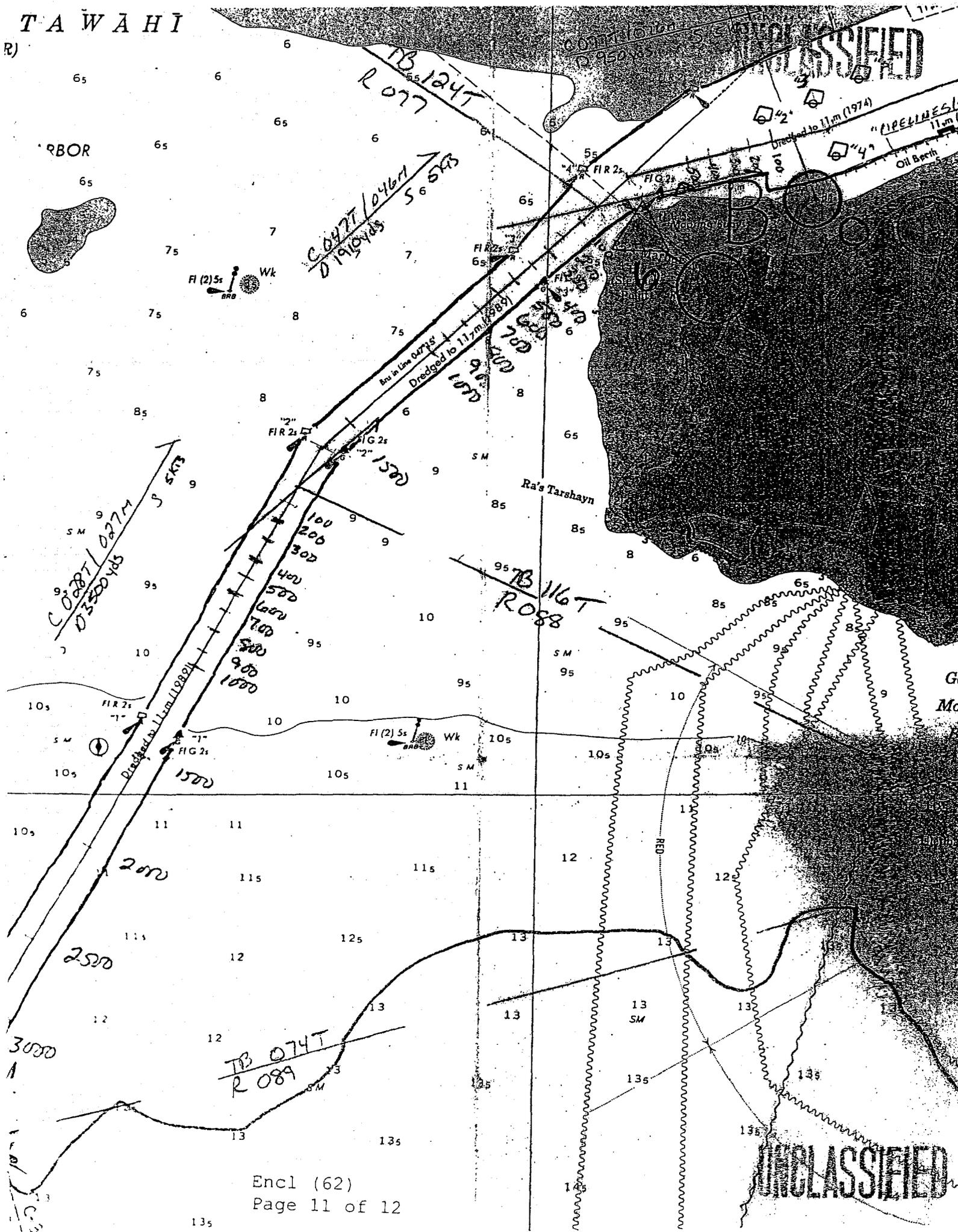


C-000T/001M
D-14.02M S-10KTS

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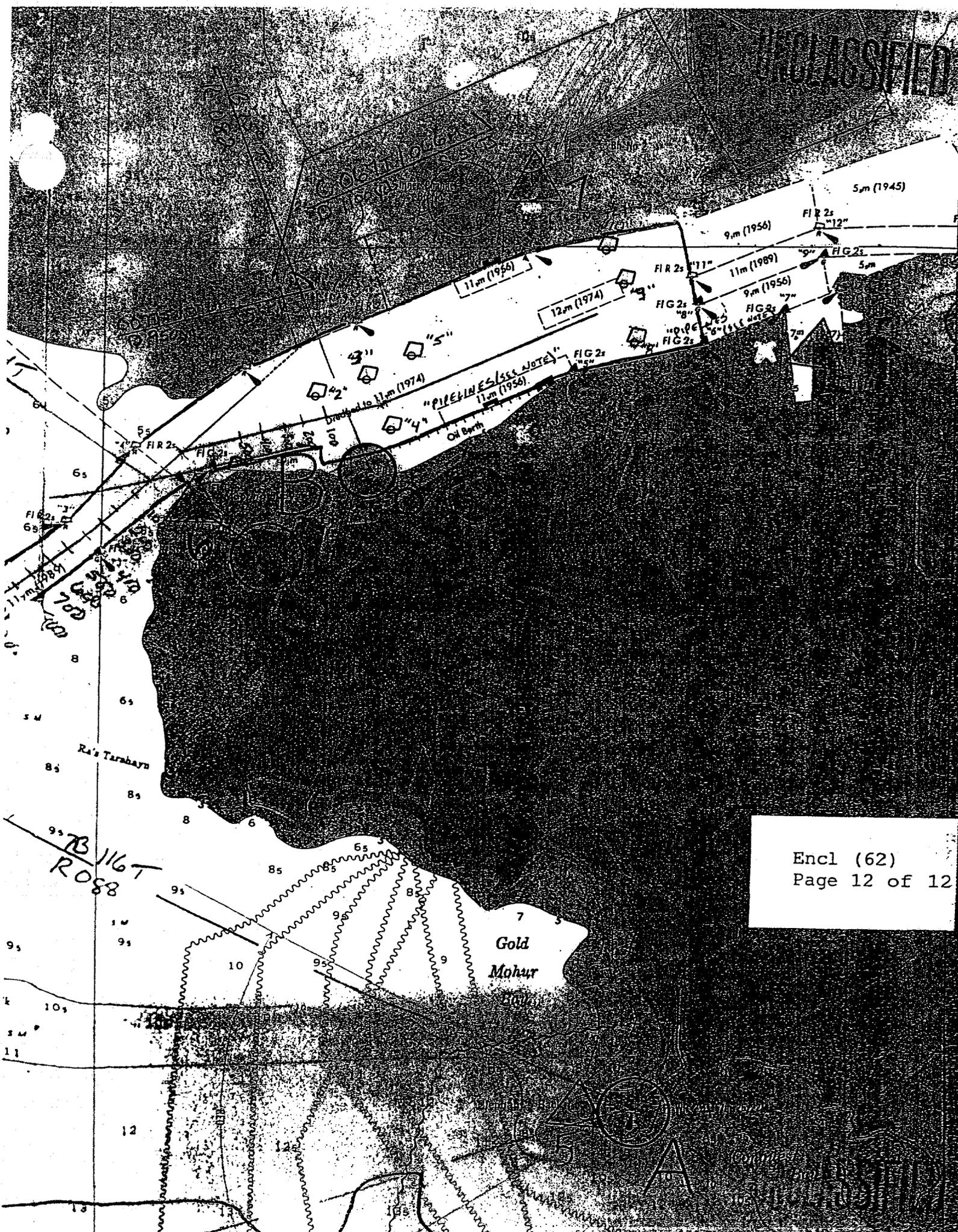
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Gold Mohur

7B 116 T
RO 88

Ra's Tarabays

"PIPELINES (See Note)"
11m (1956)

Oil Berth

11m (1974)

12m (1974)

11m (1989)

9m (1956)

5m (1945)

9m (1956)

FIR 2s "11"

FIR 2s "12"

FIG 2s

FIG 2s "8"

FIG 2s "7"

FIG 2s "6"

FIG 2s "5"

FIG 2s "4"

FIG 2s "3"

FIG 2s "2"

FIG 2s "1"

FIG 2s "0"

FIG 2s "9"

FIG 2s "8"

FIG 2s "7"

FIG 2s "6"

FIG 2s "5"

FIG 2s "4"

FIG 2s "3"

FIG 2s "2"

FIG 2s "1"

FIG 2s "0"

FIG 2s "9"

FIG 2s "8"

FIG 2s "7"

FIG 2s "6"

FIG 2s "5"

FIG 2s "4"

FIG 2s "3"

FIG 2s "2"

FIG 2s "1"

FIG 2s "0"

FIG 2s "9"

FIG 2s "8"

FIG 2s "7"

FIG 2s "6"

FIG 2s "5"

FIG 2s "4"

FIG 2s "3"

FIG 2s "2"

FIG 2s "1"

FIG 2s "0"