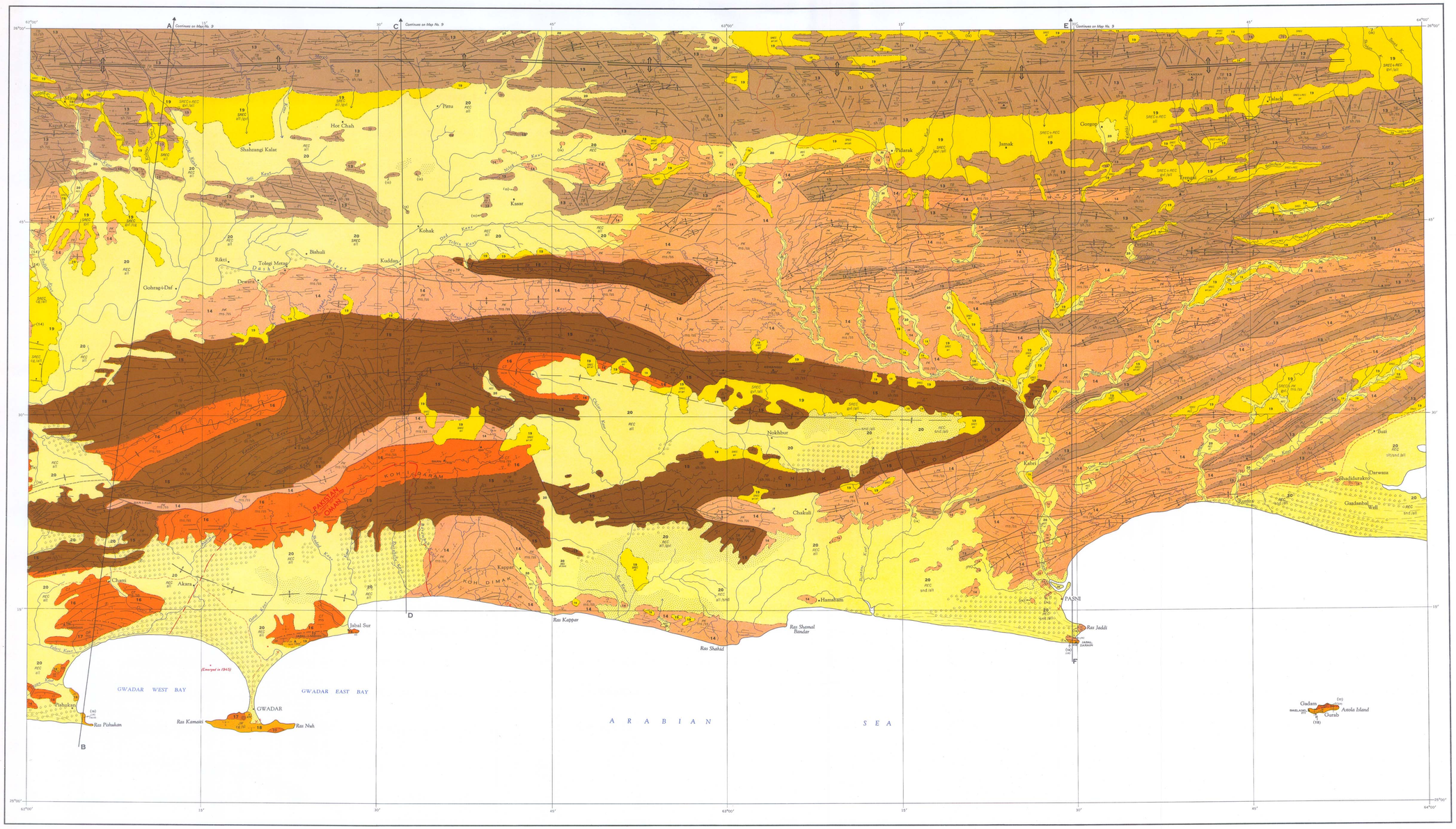
GEOLOGICAL MAP NO. 4
PASNI
31 K·O



GEOLOGICAL SYMBOLS

Geological boundaries
- *Alluvium boundary*
- *Coeformable or intrusive boundary*
- *Unconformable or disconformable boundary*
- *Intraformational boundary*
- *Formation boundary transgressing bedding (interfacies)*
- *Formation boundary, location questionable*

Attitudes
- *Bedding, field observation (horizontal, inclined, vertical, overturned)*
- *Bedding, photo interpretation (horizontal, inclined, vertical, overturned)*
- *Joints, field observation (horizontal, inclined, vertical)*
- *Joints, photo interpretation (dip direction unknown, inclined, vertical)*
- *Cleavage or schistosity, field observation (inclined, vertical)*
- *Stratiform foliation, photo interpretation (vertical, dip unknown)*
- *Lineation (plunging, horizontal)*

Dip and plunge values (in degrees)
- *Bedding traces (eroded edges of bedding with dips)*
- *Bedding traces (vertical, overturned)*
- *Fault (existence and position certain)*
- *Fault (existence or position uncertain, or concealed by alluvium)*
- *Fault (inclined, vertical)*
- *Fault (solid circle indicates side relatively downthrown)*
- *Fault (normal movement)*
- *Fault (reverse movement)*
- *Fault (relative direction of strike-slip movement)*
- *Faulting (close spaced, reverse, unmappably complex, strike and dip directions as indicated)*
- *Faulting (close spaced, reverse, unmappably complex, sections only)*
- *Thrust fault (existence and position certain)*
- *Thrust fault (existence or position uncertain)*
- *Thrust fault (direction of movement of allochthon)*
- *Thrust fault (Klippe, Fenster)*
- *Anticline axis (existence and position certain)*
- *Anticline axis (existence or position uncertain, or axis concealed by alluvium)*
- *Syncline axis (existence and position certain)*
- *Syncline axis (existence or position uncertain, or axis concealed by alluvium)*
- *Fold axis, plunging (arrow indicates direction of plunge, bar locates culmination or depression)*
- *Folding (close-spaced, unclassified, unmappably complex, strike of axis as indicated)*
- *Folding (close-spaced, overturned, unmappably complex, dip of axial plane as indicated)*
- *Structural "high" (concealed basement)*
- *Structural "low" (concealed basement)*
- *Igneous plug or small stock (alluvium boundary, intrusive boundary)*
- *Volcanic crater*
- *Fossil locality (previous survey, present survey)*
- *Dykes and sills (single, multiple)* — dyke
- *Coal seams*
- *Formation symbols (SEE Stratigraphic Legend) examples* — REC, OU
- *Formation symbol (outside area of application)* — (VU)
- *Formation symbols (combined formations)* — PH+BC
- *Volcanic rocks (area pattern showing occurrence)*

Lithology symbols:

dolomite ... dm	tuff ... tf	diorite ... dr
shelly limestone ... sl	volcanic material (undefined) ... vc	pegmatite ... pg
limestone ... ls	basalt ... bs	porphyry ... po
marl ... mr	andesite ... an	alluvium (undefined) ... all
shale ... sh	granite ... gr	clay ... cly
mudstone ... ms	syenite ... sy	silt ... slt
sandstone ... ss	diorite ... di	sand ... snd
conglomerate ... cg	gabbro ... gb	gravel ... gvl
agglomerate ... ag	ultrabasic rocks ... ub	boulders ... bld

Lithology symbols (combined in order of importance) ... sh/ls/ss

Mineral prospect or occurrence (visited during present survey)
Mineral occurrence (reported by previous survey; location uncertain)
Quarry or mine (in operation)
Quarry or mine (abandoned)
Seepage of oil
Seepage of gas
Seepage of oil and gas
Seepage of sulphurous waters
Mud volcano
Abandoned oil well
Abandoned well with show of oil
Abandoned well with show of gas
Abandoned well
Well (drilling)

Minerals: *alum* ... al; *antimony* ... sb; *arsenic* ... ar; *asbestos* ... as; *barium* ... ba; *building stone* ... bs; *celestite* ... ce; *chromite* ... cr; *clay* ... cl; *coal* ... c; *copper* ... cu; *feldspar* ... fp; *fluorite* ... fl; *fullers earth* ... fe; *glass sand* ... gl; *gypsum* ... gy; *iron ore* ... fe; *laterite* ... la; *lead* ... pb; *limestone* ... ls; *magnesite* ... mg; *manganese* ... mn; *mica* ... mi; *natural gas* ... g; *ochre* ... oc; *petroleum* ... p; *salt* ... s; *serpentine* ... sp; *strontium* ... st; *sulphur* ... sf; *talc* ... tc; *vermiculite* ... vt

GEOGRAPHICAL SYMBOLS

Road unclassified
Motorable trail
Railway
Political boundaries
- *International*
- *Divisional*

River, stream, or nala (dry, perennial, or seasonal flow)
Canal
Lake
Human (playa)
Sandy tracts
Sand dunes (showing direction of prevailing wind)
Strand lines or elevated beaches
City or town, village
Peak, high point, or spot elevation (with elevation in feet) ... A 7500

Names
- *City* ... QUETTA
- *Main town or district headquarters* ... PANJGUR
- *Village or place* ... Nag
- *Peaks, passes, plains* ... TAHATU, KHUZAR PASS, KARAMI PLAIN
- *River, stream, nala, human, lake, or canal* ... Lundai N., Hamun Lake
- *Peninsula or cape* ... Ras Malan
- *Bay or inlet* ... MIANI HOR
- *Ranges (spaced names)* ... SIAHAN RANGE
- *Divisions* ... KALAT
- *Countries* ... IRAN

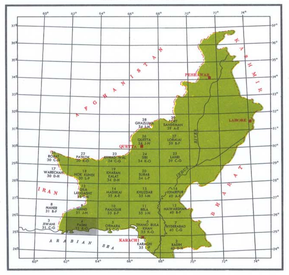
Lithographed by the Surveys and Mapping Branch, Department of Mines and Technical Surveys, Ottawa, Canada, 1958.

Surveyed and compiled in 1953-56, by THE PHOTOGRAPHIC SURVEY CORPORATION LIMITED, TORONTO, CANADA in co-operation with THE GEOLOGICAL SURVEY OF PAKISTAN, using aerial photographs taken in 1952-54.

31 K-O
INTERNAL REFERENCE

1	2	9	10	1	2	9	10
3	4	11	12	3	4	11	12
5	6	13	14	5	6	13	14
7	8	15	16	7	8	15	16

MAP SHEET INDEX



RECONNAISSANCE GEOLOGY
OF PART OF
WEST PAKISTAN

PUBLISHED FOR THE GOVERNMENT OF PAKISTAN
BY THE GOVERNMENT OF CANADA

SCALE 1:253,440

Four Miles to One Inch

Miles
4 3 2 1 0 4 8 12 16 20

Base map compiled from aerial photographs and Survey of Pakistan topographic maps.

A COLOMBO PLAN CO-OPERATIVE PROJECT

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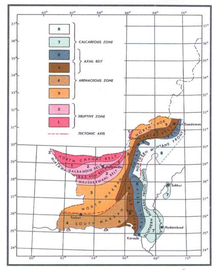
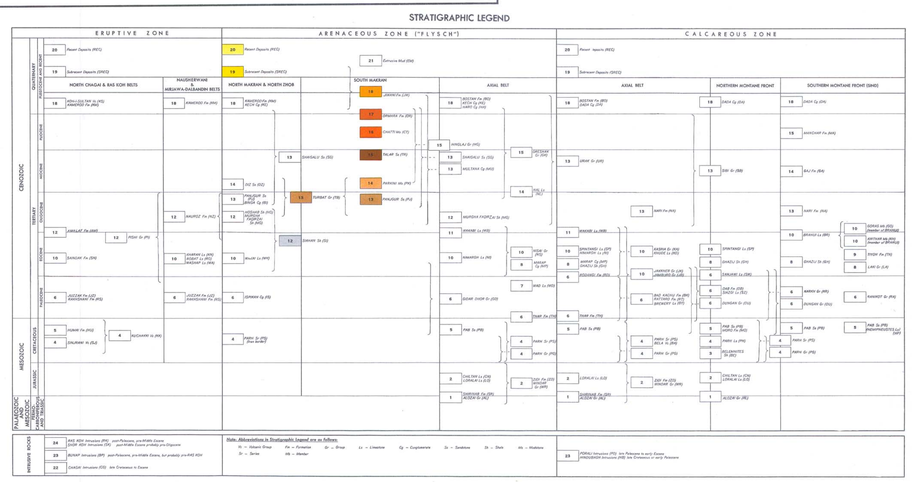
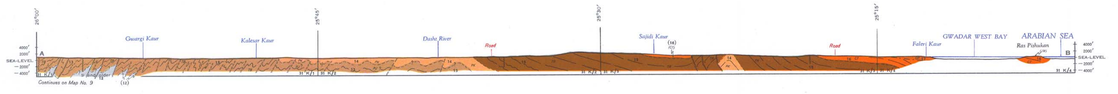
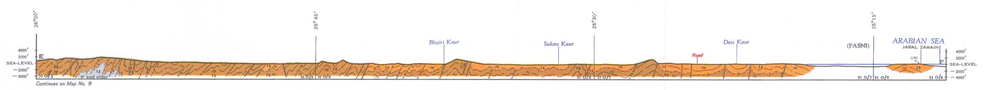
AREA KEY TO STRATIGRAPHIC LEGEND



STRATIGRAPHIC LEGEND



STRUCTURE-SECTIONS ALONG LINES A-B, C-D, E-F.