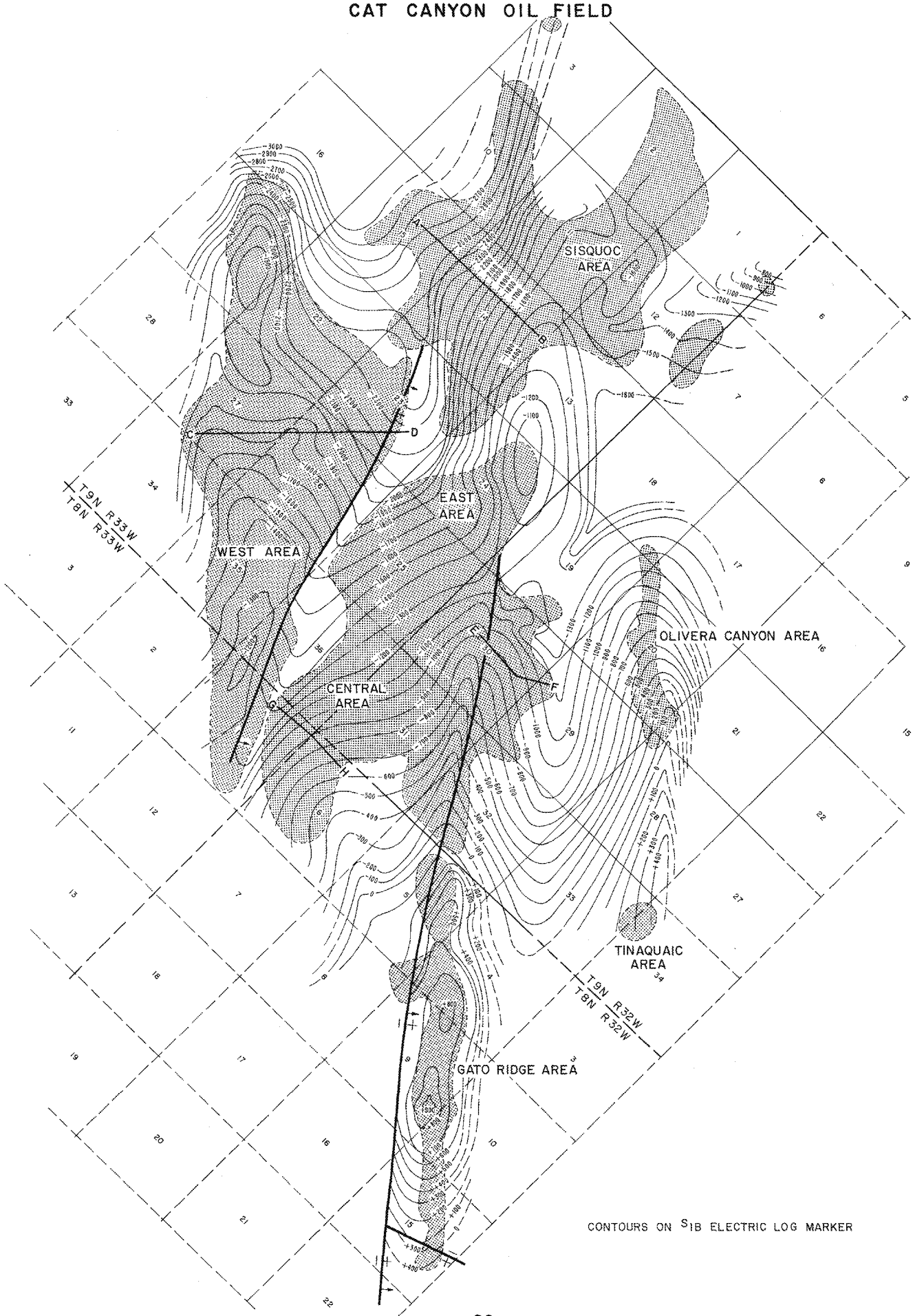
CAT CANYON OIL FIELD



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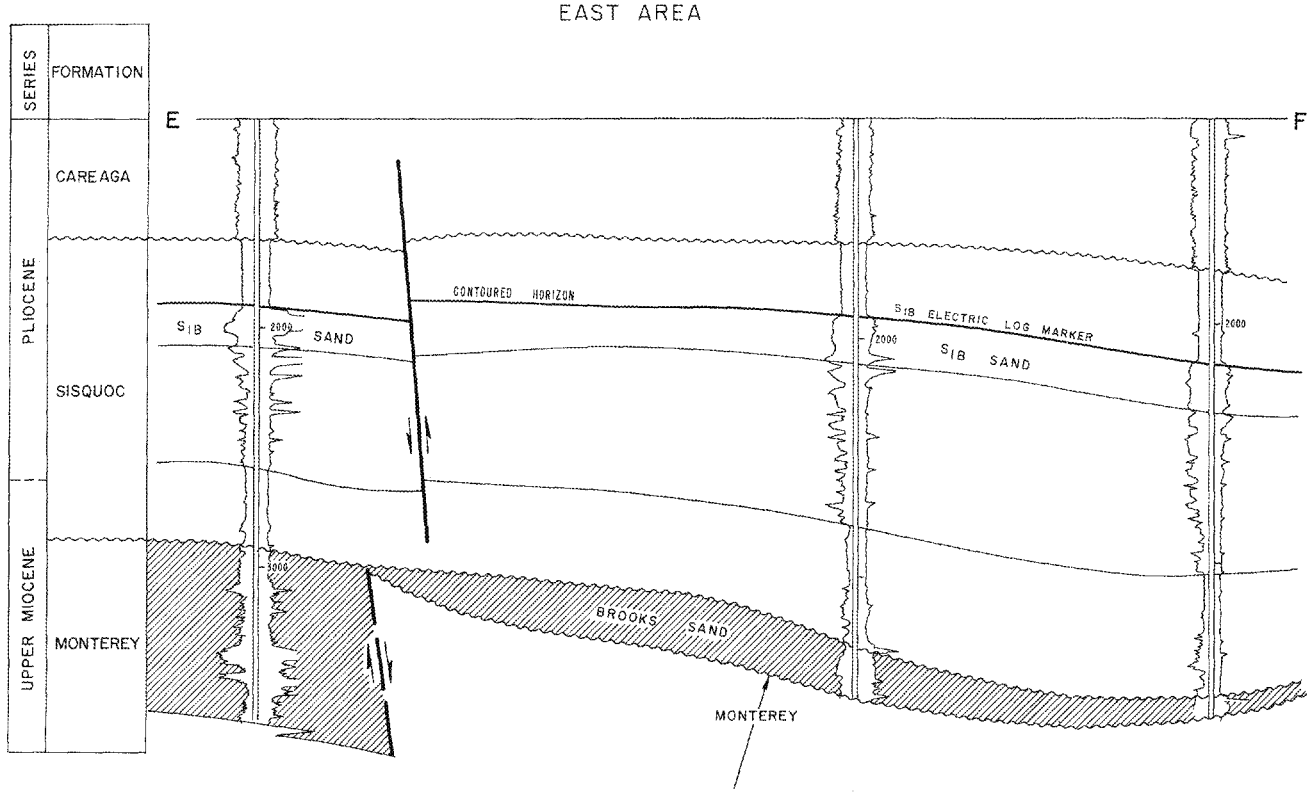
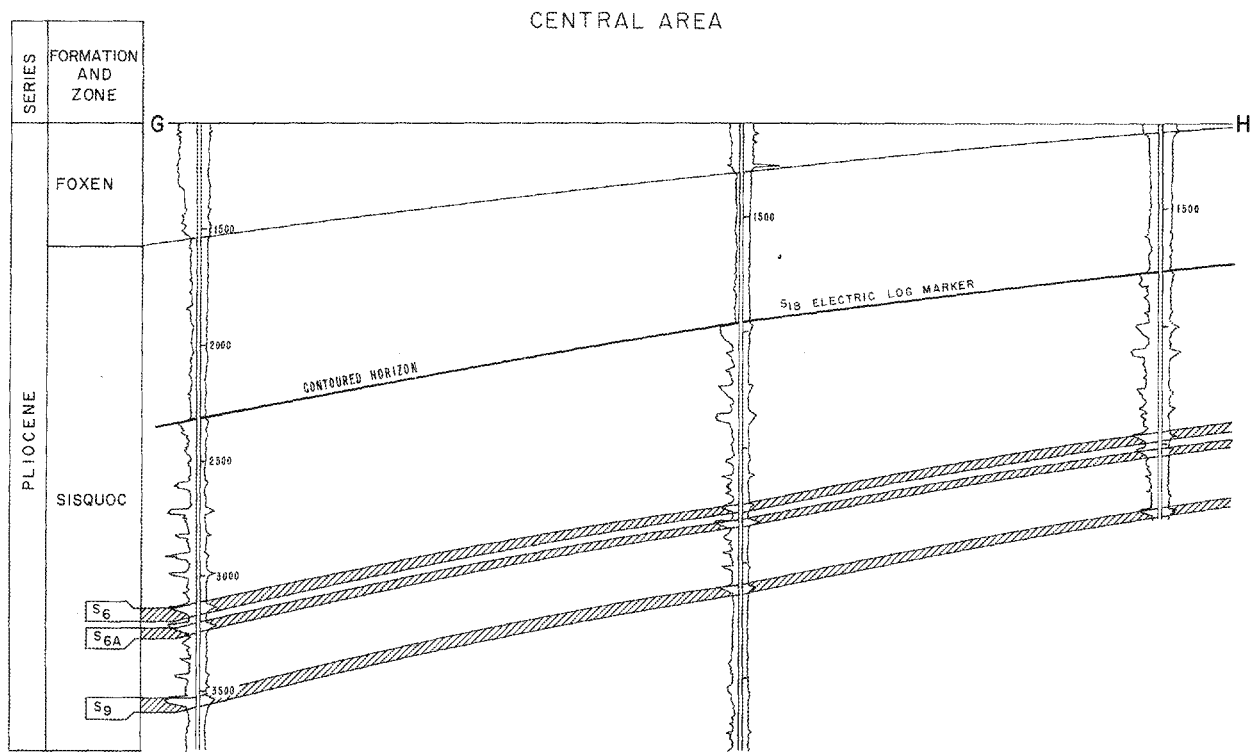
CAT CANYON OIL FIELD

East Area and Central Area

EAST AREA



CENTRAL AREA



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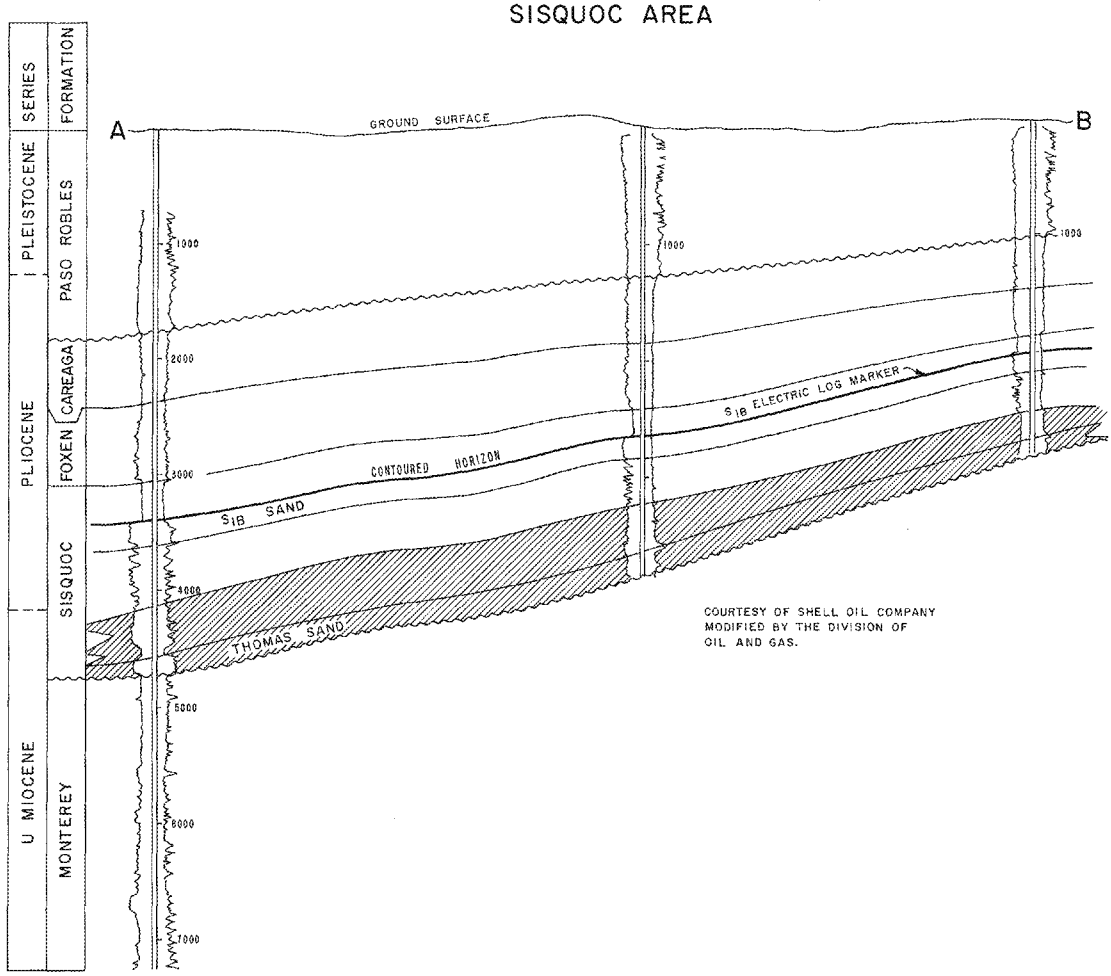
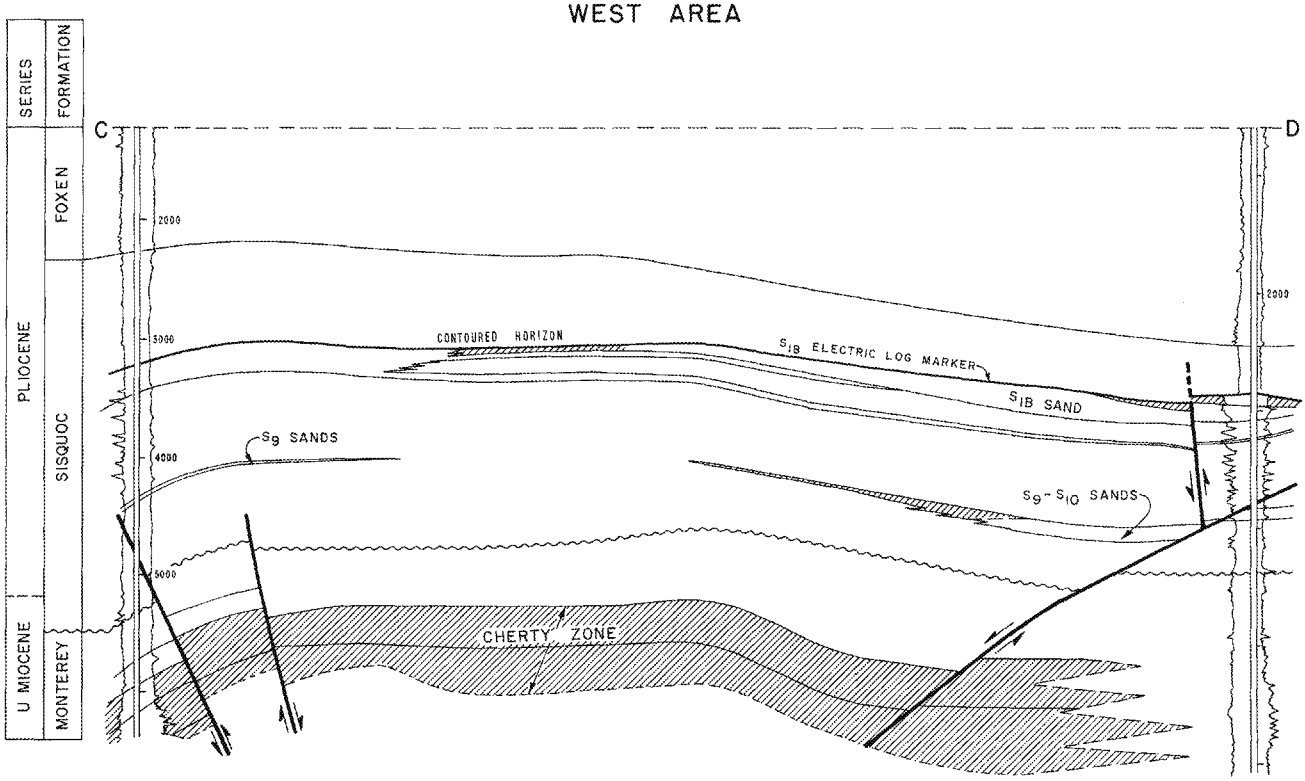
CAT CANYON OIL FIELD

Sisquoc Area and West Area

SISQUOC AREA



WEST AREA



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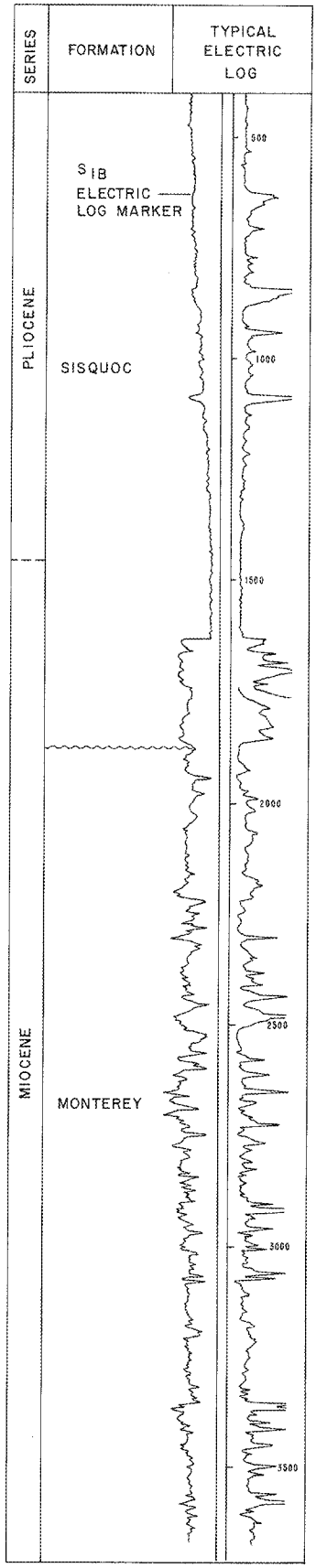
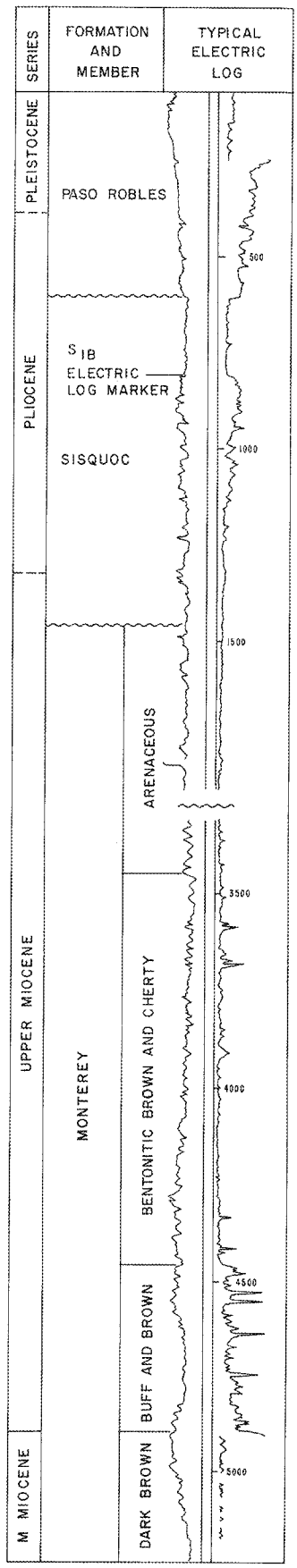
CAT CANYON OIL FIELD

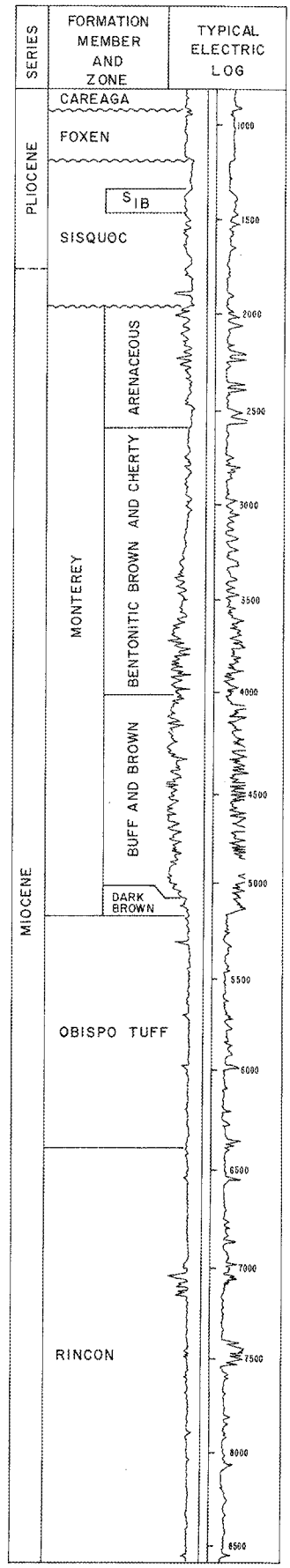
GATO RIDGE AREA



TINAQUAIC AREA



OLIVERA CANYON AREA



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COUNTY: SANTA BARBARA

CAT CANYON OIL FIELD

(SEE AREAS FOR ADDITIONAL INFORMATION)

DISCOVERY WELL AND DEEPEST WELL

	Present operator and well designation	Original operator and well designation	Sec. T. & R.	B.&M.	Total depth (feet)	Pool (zone)	Strata & age at total depth
Discovery well	Union Oil Co. of Calif. "Palmer Stendel" (Old) 1	Palmer Union Oil Co. Well No. 1	26 9N 33W	SB	3,200	Sisquoc	
Deepest well	Shell Western Expl. & Prod. Inc. "Studer" 45-17	Marathon Oil Co. "Studer" 45-17	17 9N 33W	SB	9,887 a/		Monterey Miocene

POOL DATA

ITEM	SISQUOC					FIELD OR AREA DATA
Discovery date	1908					
Initial production rates						
Oil (bbl/day)	150					
Gas (Mcf/day)	-					
Flow pressure (psi)						
Bean size (in.)						
Initial reservoir pressure (psi)	1,000					
Reservoir temperature (°F)	105					
Initial oil content (STB/ac.-ft.)	1,700					
Initial gas content (MSCF/ac.-ft.)	0					
Formation	Sisquoc					
Geologic age	Pliocene					
Average depth (ft.)	2,800					
Average net thickness (ft.)	600					
Maximum productive area (acres)						8,970
RESERVOIR ROCK PROPERTIES						
Porosity (%)	27-31					
So_i (%)	68-70					
Sw_i (%)	30-32					
Sg_i (%)						
Permeability to air (md)	150-500					
RESERVOIR FLUID PROPERTIES						
Oil:						
Oil gravity (°API)	13-15					
Sulfur content (% by wt.)	3.83					
Initial solution GOR (SCF/STB)						
Initial oil FVF (RB/STB)						
Bubble point press. (psia)						
Viscosity (cp) @ °F	90-110 @ 105					
Gas:						
Specific gravity (air = 1.0)						
Heating value (Btu/cu. ft.)						
Water:						
Salinity, NaCl (ppm)	18,000-25,000					
T.D.S. (ppm)	20,000-26,000					
R_w (ohm/m) (77°F)	0.40-0.58					
ENHANCED RECOVERY PROJECTS						
Enhanced recovery projects						
Date started						
Date discontinued						
Peak oil production (bbl)						8,373,328
Year						1953
Peak gas production, net (Mcf)						6,597,998
Year						1967

Base of fresh water (ft.): See areas

Remarks: Four Deer Oil Field was originally classified as an area of Cat Canyon Oil Field.
a/ Directional well; true vertical depth is 9,810 feet.

Selected References:
Prutzman, P.W., 1912, Petroleum in Southern California: Calif. State Mining Bureau Bull. 63.
Woodring, W.P., and M.N. Bramlette, 1950, Geology and Paleontology of the Santa Maria District, California: U.S. Geol. Survey Prof. Paper 222, p. 120.

DATE: January 1989

CALIFORNIA DIVISION OF OIL AND GAS

COUNTY: **SANTA BARBARA**

CAT CANYON OIL FIELD EAST AREA

DISCOVERY WELL AND DEEPEST WELL

	Present operator and well designation	Original operator and well designation	Sec. T. & R.	B.&M.	Total depth (feet)	Pool (zone)	Strata & age at total depth
Discovery well	Shell Western Expl. & Prod. Inc. "Field Fee" 1	Brooks Oil Co. Well No. 1	31 9N 32W	SB	3,098	Brooks	
Deepest well	Shell Western Expl. & Prod. Inc. "Victory" 20	Palmer Union Oil Co. "Stendel" 20	30 9N 32W	SB	7,200		Knoxville Cretaceous

POOL DATA

ITEM	SISQUOC	BROOKS	MONTEREY			FIELD OR AREA DATA
Discovery date	June 1953	1909	October 1953			
Initial production rates						
Oil (bbl/day)	25	150	7a/			
Gas (Mcf/day)	-	-	-			
Flow pressure (psi)						
Bean size (in.)						
Initial reservoir pressure (psi)	1,100	1,150	-			
Reservoir temperature (°F)	100-150	135	-			
Initial oil content (STB/ac.-ft.)	1,600	2,000	-			
Initial gas content (MSCF/ac.-ft.)	231	-	-			
Formation	Sisquoc	Sisquoc	Monterey			
Geologic age	Pliocene	Pliocene	Miocene			
Average depth (ft.)	3,000	3,500	-			
Average net thickness (ft.)	250	150	-			
Maximum productive area (acres)						1,970
RESERVOIR ROCK PROPERTIES						
Porosity (%)	30-35***	35	fractured shale			
S_{oi} (%)	60-70***	85	-			
S_{wi} (%)	30-40***	15	-			
S_{gi} (%)						
Permeability to air (md)	1,480	3,350	-			
RESERVOIR FLUID PROPERTIES						
Oil:						
Oil gravity (°API)	9-18	6-11	6			
Sulfur content (% by wt.)	4.1	6.0	-			
Initial solution GOR (SCF/STB)	700	300	-			
Initial oil FVF (RB/STB)	1.06	-	-			
Bubble point press. (psia)						
Viscosity (cp) @ °F	-	15,000 @ 135	-			
Gas:						
Specific gravity (air = 1.0)						
Heating value (Btu/cu. ft.)						
Water:						
Salinity, NaCl (ppm)	5,485	7,242	5,660			
T.D.S. (ppm)	5,956	8,323	6,631			
R_w (ohm/m) (77°F)	-	0.12	0.13			
ENHANCED RECOVERY PROJECTS						
Enhanced recovery projects	steamflood	steamflood				
Date started	1979	1967				
Date discontinued	1990	1990				
	cyclic steam	cyclic steam				
	1964	1964				
	active	active				
Peak oil production (bbl)						b/
Year						
Peak gas production, net (Mcf)						b/
Year						

Base of fresh water (ft.): 1,000

Remarks: A portion of this area was formerly known as the Slick-Moorman area.
a/ Commingled with production from the Brooks Sand.
b/ Early production not broken down by area.

Selected References:

Bailey, Wm. C., 1953, Operations in District No. 3: Calif. Div. of Oil and Gas, Summary of Operations--Calif. Oil Fields, Vol. 39, No. 2.
Cross, R.K., 1940, East Cat Canyon Area of the Cat Canyon Oil Field: Calif. State Div. of Mines Bull. 118, p. 435.
Prutzman, P.W., 1912, Petroleum in Southern California: Calif. State Mining Bureau Bull. 63 p. 379.
Vonde, T.R., 1982, Specialized Pumping Techniques Applied to a Very Low Gravity Sand-Laden Crude, Cat Canyon Field, California: SPE Journal of Petroleum Technology, Vol. 34, No. 9, p. 1951.
Woodring, W.P. and M.N. Bramlette, 1950, Geology and Paleontology of the Santa Maria District, Calif.: U.S. Geol. Survey Prof. Paper 222, p. 121.

DATE: January 1991 ***Representative values for area, formation, and depth

CALIFORNIA DIVISION OF OIL AND GAS

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COUNTY: SANTA BARBARA

CAT CANYON OIL FIELD
CENTRAL AREA

DISCOVERY WELL AND DEEPEST WELL

	Present operator and well designation	Original operator and well designation	Sec. T. & R.	B.&M.	Total depth (feet)	Pool (zone)	Strata & age at total depth
Discovery well	Texaco Producing Inc. "Los Alamos" 32	Pacific Western Oil Corp. "Los Alamos" 32	6 8N 32W	SB	5,210	Sisquoc	Monterey Miocene
Deepest well	Same as above	"	"	"	"	"	"

POOL DATA

ITEM	SISQUOC a/					FIELD OR AREA DATA
Discovery date	May 1956					
Initial production rates						
Oil (bbl/day)	184					
Gas (Mcf/day)	-					
Flow pressure (psi)						
Bean size (in.)						
Initial reservoir pressure (psi)	1,100					
Reservoir temperature (°F)	103					
Initial oil content (STB/ac.-ft.)	1,600					
Initial gas content (MSCF/ac.-ft.)						
Formation	Sisquoc					
Geologic age	Pliocene					
Average depth (ft.)	2,800					
Average net thickness (ft.)	45					
Maximum productive area (acres)	620					
RESERVOIR ROCK PROPERTIES						
Porosity (%)	32-37***					
So_i (%)	60-70***					
Sw_i (%)	30-40***					
Sg_i (%)						
Permeability to air (md)	400-2,000***					
RESERVOIR FLUID PROPERTIES						
Oil:						
Oil gravity (°API)	7-15					
Sulfur content (% by wt.)						
Initial solution GOR (SCF/STB)						
Initial oil FVF (RB/STB)						
Bubble point press. (psia)						
Viscosity (cp) @ °F						
Gas:						
Specific gravity (air = 1.0)						
Heating value (Btu/cu. ft.)						
Water:						
Salinity, NaCl (ppm)						
T.D.S. (ppm)						
R_w (ohm/m) (77°F)						
ENHANCED RECOVERY PROJECTS						
Enhanced recovery projects	waterflood					
Date started	1965					
Date discontinued	1986					
	fireflood					
	1963					
	1965					
	cyclic steam					
	1963					
	active					
Peak oil production (bbl)	b/					
Year						
Peak gas production, net (Mcf)	b/					
Year						

Base of fresh water (ft.): 800 - 1,300

Remarks: a/ Includes the S1b thru S9 sands.
b/ Early production not broken down by areas.

Selected References: Bailey, Wm. C., 1956, Operations in District No. 3: Calif. Div. of Oil and Gas, Summary of Operations--Calif. Oil Fields, Vol. 42, No. 2, p. 93.

DATE: January 1989 ***Representative values for area, formation, and depth

CALIFORNIA DIVISION OF OIL AND GAS

ED_013796_00000202-00007

COUNTY: SANTA BARBARA

CAT CANYON OIL FIELD
SISQUOC AREA

DISCOVERY WELL AND DEEPEST WELL

	Present operator and well designation	Original operator and well designation	Sec. T. & R.	B.&M.	Total depth (feet)	Pool (zone)	Strata & age at total depth
Discovery well	B.E. Conway "Goodwin" 1	Union Oil Co. of Calif. "Santa Maria Realty" 1	10 9N 33W	SB	5,415 a/	Sisquoc-Monterey	
Deepest well	Chevron U.S.A. Inc. "Fugler" 4-10	Standard Oil Co. of Calif. "Fugler" 4-10	10 9N 33W	SB	7,934		Point Sal Miocene

POOL DATA

ITEM	FOXEN	SISQUOC b/	THOMAS	MONTEREY		FIELD OR AREA DATA
Discovery date	May 1980	December 1944	November 1954	December 1944		
Initial production rates						
Oil (bbl/day)	4c/	69d/	89	69		
Gas (Mcf/day)						
Flow pressure (psi)						
Bean size (in.)						
Initial reservoir pressure (psi)	350	820-1,300	1,700-1,900	2,000		
Reservoir temperature (°F)	79	105-120	130-120	180		
Initial oil content (STB/ac.-ft.)	1,580	1,780	-	325		
Initial gas content (MSCF/ac.-ft.)						
Formation	Foxen	Sisquoc	Sisquoc	Monterey		
Geologic age	Pliocene	Pliocene	Pliocene	Miocene		
Average depth (ft.)	1,750	2,750	4,900	4,000		
Average net thickness (ft.)	50	500	70	500		
Maximum productive area (acres)						2,420
RESERVOIR ROCK PROPERTIES						
Porosity (%)	30-35	25-33	20-33	fractured shale		
S_{oi} (%)	68-73!	50-70	30-50	-		
S_{wi} (%)	27-32!	20-50	33-60	-		
S_{gi} (%)	-	0-10	10-17	-		
Permeability to air (md)	358-1,280	750-2,000	300-500	-		
RESERVOIR FLUID PROPERTIES						
Oil:						
Oil gravity (°API)	9.4	6.0-8.0	8.0-16.0	6.4-11.0		
Sulfur content (% by wt.)	-	4.5	-	-		
Initial solution GOR (SCF/STB)	-	0-100	-	-		
Initial oil FVF (RB/STB)	-	1.072	-	-		
Bubble point press. (psia)						
Viscosity (cp) @ °F	-	325 @ 130	35-40 @ 72	500 @ 180		
Gas:						
Specific gravity (air = 1.0)	-	0.66	0.80	-		
Heating value (Btu/cu. ft.)						
Water:						
Salinity, NaCl (ppm)	9,200+	588-13,332	18,700	10,550-17,300		
T.D.S. (ppm)	-	2,870-14,287	20,604	12,547-20,722		
R_w (ohm/m) (77°F)	0.60+	0.43-3.13	0.30	0.32-0.51		
ENHANCED RECOVERY PROJECTS						
Enhanced recovery projects	cyclic steam	cyclic steam				
Date started	1980	1963				
Date discontinued	active	active				
		steamflood				
		1968				
		1986				
		waterflood				
		1970				
		1971				
		fireflood				
		1973				
		1978				
Peak oil production (bbl)						e/
Year						
Peak gas production, net (Mcf)						e/
Year						

Base of fresh water (ft.): 1,000 - 1,400

Remarks: A portion of this area was formerly known as the Bradley Canyon area.
a/ Original total depth. The well was subsequently redrilled to a total depth of 5,550 feet; true vertical depth is 5,534 feet.
b/ Includes the S_1 thru S_{18} sands.
c/ Commingled with production from the Sisquoc.
d/ Commingled with production from the Monterey.
e/ Early production not broken down by area.

Selected References: Angrove T.J., 1970, Optimizing High Temperature Steam Stimulation Operations, SPE Paper 3178, presented at the California Regional Meeting of the Society of Petroleum Engineers of AIME, Santa Barbara, Calif., Oct. 28-30.
Bailey, Wm. C., 1954, Operations in District No. 3: Calif. Div. of Oil and Gas, Summary of Operations--Calif. Oil Fields, Vol. 40, No. 2.

DATE: January 1989 !Log derived value

CALIFORNIA DIVISION OF OIL AND GAS

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COUNTY: SANTA BARBARA

CAT CANYON OIL FIELD WEST AREA

DISCOVERY WELL AND DEEPEST WELL

	Present operator and well designation	Original operator and well designation	Sec. T. & R.	B.&M.	Total depth (feet)	Pool (zone)	Strata & age at total depth
Discovery well	Union Oil Co. of Calif. "Palmer Stendel" (Old) 1	Palmer Union Oil Co. Well No. 1	26 9N 33W	SB	3,200	Sisquoc	
Deepest well	Shell Western Expl. & Prod. Inc. "Studer" 45-17	Marathon Oil Co. "Studer" 45-17	17 9N 33W	SB	9,887 a/		Monterey Miocene

POOL DATA

ITEM	SISQUOC b/	S_6-S_6A GAS c/	ALEXANDER d/	LOS FLORES		FIELD OR AREA DATA
Discovery date	1908	September 1960	March 1953	August 1938		
Initial production rates						
Oil (bbl/day)	150	-	200	716		
Gas (Mcf/day)	-	500	-	-		
Flow pressure (psi)	-	1,000-1,025	-	-		
Bean size (in.)	-	6/64	-	-		
Initial reservoir pressure (psi)	1,000	-	-	1,600-1,900		
Reservoir temperature (°F)	105	-	-	175-200		
Initial oil content (STB/ac.-ft.)	1,700	-	-	-		
Initial gas content (MSCF/ac.-ft.)	0	-	-	-		
Formation	Sisquoc	Sisquoc	Sisquoc	Monterey		
Geologic age	Pliocene	Pliocene	Pliocene	Miocene		
Average depth (ft.)	2,800	3,405	3,750	6,000		
Average net thickness (ft.)	600	45	200	1,500		
Maximum productive area (acres)	-	40	-	-		2,880
RESERVOIR ROCK PROPERTIES						
Porosity (%)	27-31	27-31	23-30	fractured shale		
So_i (%)	68-70	-	79†	-		
Sw_i (%)	30-32	11-13†	21†	-		
Sg_i (%)	-	87-89†	-	-		
Permeability to air (md)	150-500	150-500	150-400	-		
RESERVOIR FLUID PROPERTIES						
Oil:						
Oil gravity (°API)	13.0-16.5	-	23.0	11.0-22.0		
Sulfur content (% by wt.)	3.03	-	3.13	5.07		
Initial solution GOR (SCF/STB)	800	-	766	1,000-6,300		
Initial oil FVF (RB/STB)						
Bubble point press. (psia)						
Viscosity (cp) @ °F	3,100 @ 100	-	-	1,200 @ 100		
Gas:						
Specific gravity (air = 1.0)						
Heating value (Btu/cu. ft.)						
Water:						
Salinity, NaCl (ppm)	18,000-25,000	-	20,544	9,700-13,000		
T.D.S. (ppm)	20,000-26,000	-	-	15,500-18,000		
R_w (ohm/m) (77°F)	0.25-0.33	-	-	0.39-0.56		
ENHANCED RECOVERY PROJECTS						
Enhanced recovery projects	waterflood			gas injection		
Date started	1954			1947		
Date discontinued	active			1955		
	cyclic steam			waterflood		
	1964			1972		
	active			1974		
Peak oil production (bbl)						e/
Year						
Peak gas production, net (Mcf)		143,086				e/
Year		1961				

Base of fresh water (ft.): 1,000

Remarks: a/ Directional well; true vertical depth is 9,810 feet. b/ Includes the S_1 through S_6 sands; formerly called the Pliocene pool. c/ The zone was abandoned in 1978. Cumulative production is 310,000 Mcf of gas. Only one well, Mobil Oil Corp. "Los Flores" 109-21, produced from this zone. d/ Includes the S_9 thru S_{10} sands. e/ Early production not broken down by area.

Selected References:

Huey, W.F., 1954, West Cat Canyon Area of Cat Canyon Oil Field: Calif. Div. of Oil and Gas, Summary of Operations--Calif. Oil Fields, Vol. 40, No. 1.

Manlove, C., 1938, West Cat Canyon Oil Field: Calif. State Div. of Mines Bull. 118, p. 432.

Prutzman, P.W., 1912, Petroleum in Southern California: Calif. State Mining Bureau Bull. 63, p. 382.

Regan, L.J. Jr., and A.W. Hughes, 1949, Fractured Reservoirs of Santa Maria District, California: Am. Assoc. Petroleum Geologists Bull., Vol. 33, No. 1, p. 32.

Woodring, W.P., and M.N. Bramlette, 1950, Geology and Paleontology of the Santa Maria District, California: U.S. Geol. Survey Prof. Paper 222, p. 120.

DATE: January 1989 †Log derived value

CALIFORNIA DIVISION OF OIL AND GAS

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COUNTY: SANTA BARBARA

CAT CANYON OIL FIELD
GATO RIDGE AREA

DISCOVERY WELL AND DEEPEST WELL

	Present operator and well designation	Original operator and well designation	Sec. T. & R.	B.&M.	Total depth (feet)	Pool (zone)	Strata & age at total depth
Discovery well	Pinal Dome Corp. Well No. T-2	Pinal Dome Oil Co. Well No. T-2	15 8N 32W	SB	3,400	Monterey	
Deepest well	Gato Corp. "Tognazzini" 1	Barnsdall Oil Co. of Calif. "Tognazzini" 1	9 8N 32W	SB	6,510		Monterey Miocene

POOL DATA

ITEM	SISQUOC	MONTEREY				FIELD OR AREA DATA
Discovery date	March 1937	January 1915				
Initial production rates						
Oil (bbl/day)	580a/	50				
Gas (Mcf/day)	-	0				
Flow pressure (psi)						
Bean size (in.)						
Initial reservoir pressure (psi)	-	500**				
Reservoir temperature (°F)	110	110-160**				
Initial oil content (STB/ac.-ft.)						
Initial gas content (MSCF/ac.-ft.)						
Formation	Sisquoc	Monterey				
Geologic age	Pliocene	Miocene				
Average depth (ft.)	2,210	3,800				
Average net thickness (ft.)	200	300				
Maximum productive area (acres)						690
RESERVOIR ROCK PROPERTIES						
Porosity (%)	25-32***	fractured shale				
S_{oi} (%)	65***	-				
S_{wi} (%)	35***	-				
S_{gi} (%)						
Permeability to air (md)	1,000-4,000	-				
RESERVOIR FLUID PROPERTIES						
Oil:						
Oil gravity (°API)	13	9-14				
Sulfur content (% by wt.)	-	5.87				
Initial solution GOR (SCF/STB)						
Initial oil FVF (RB/STB)						
Bubble point press. (psia)						
Viscosity (cp) @ °F	-	1,000 @ 160				
Gas:						
Specific gravity (air = 1.0)						
Heating value (Btu/cu. ft.)						
Water:						
Salinity, NaCl (ppm)	-	7,425				
T.D.S. (ppm)	-	11,500				
R_w (ohm/m) (77°F)						
ENHANCED RECOVERY PROJECTS						
Enhanced recovery projects						
Date started						
Date discontinued						
Peak oil production (bbl)						b/
Year						
Peak gas production, net (Mcf)						b/
Year						

Base of fresh water (ft.): 0 - 400

Remarks: Pinal Dome Corp. well No. T-2 produced a total of 8,062 bbl of oil from March 1916 to June 1917. This production was not considered commercial at the time, and the well was abandoned in 1920.
a/ Commingled with production from the Monterey.
b/ Early production not broken down by area.

Selected References:
Cross, R.K., 1940, Gato Ridge Area of Cat Canyon Oil Field: State Div. of Mines, Bull. 118, p. 438.
Dolman, S.G., 1931, Operations in District No. 3: Calif. Div. of Oil and Gas, Summary of Operations--Calif. Oil Fields, Vol. 17, No. 3, p. 34.
Woodring, W.P., and M.N. Bramlette, 1950, Geology and Paleontology of the Santa Maria District, California: U.S. Geol. Survey Prof. Paper 222, p. 121.

DATE: January 1989 **Estimated value ***Representative values for area, formation, and depth

CALIFORNIA DIVISION OF OIL AND GAS

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COUNTY: SANTA BARBARA

CAT CANYON OIL FIELD
TINAQUAIC AREA

DISCOVERY WELL AND DEEPEST WELL

	Present operator and well designation	Original operator and well designation	Sec. T. & R.	B.&M.	Total depth (feet)	Pool (zone)	Strata & age at total depth
Discovery well	Richards Oil Co. "Wickenden" 1	Four-Five-Six Oil Co. "Wickenden" 1	33 9N 32W	SB	4,606	Monterey	
Deepest well	Richards Oil Co. "Wickenden" 5	Continental Oil Co. "Wickenden" 5	33 9N 32W	SB	5,250		Monterey Miocene

POOL DATA

ITEM	MONTEREY					FIELD OR AREA DATA
Discovery date	February 1945a/					
Initial production rates						
Oil (bbl/day)	90					
Gas (Mcf/day)	0					
Flow pressure (psi)						
Bean size (in.)						
Initial reservoir pressure (psi)						
Reservoir temperature (°F)	103					
Initial oil content (STB/ac.-ft.)						
Initial gas content (MSCF/ac.-ft.)						
Formation	Monterey					
Geologic age	Miocene					
Average depth (ft.)	2,020-3,180					
Average net thickness (ft.)	1,200-3,200					
Maximum productive area (acres)	70					
RESERVOIR ROCK PROPERTIES						
Porosity (%)	fractured shale					
So_i (%)						
Sw_i (%)						
Sg_i (%)						
Permeability to air (md)						
RESERVOIR FLUID PROPERTIES						
Oil:						
Oil gravity (°API)	6-8					
Sulfur content (% by wt.)						
Initial solution GOR (SCF/STB)						
Initial oil FVF (RB/STB)						
Bubble point press. (psia)						
Viscosity (cp) @ °F						
Gas:						
Specific gravity (air = 1.0)						
Heating value (Btu/cu. ft.)						
Water:						
Salinity, NaCl (ppm)						
T.D.S. (ppm)						
R_w (ohm/m) (77°F)						
ENHANCED RECOVERY PROJECTS						
Enhanced recovery projects						
Date started						
Date discontinued						
Peak oil production (bbl)	7,342					
Year	1948					
Peak gas production, net (Mcf)						
Year						

Base of fresh water (ft.): 300 - 600

Remarks: a/ The heavy oil could not be produced efficiently using the techniques available at the time, and the well was abandoned in December 1945. The well was reentered, deepened to 4,972 feet, and completed by Foxen Ridge Oil Company in June-July 1948.

Selected References: Dolman, S.G., 1945, Operations in District No. 3: Calif. Div. of Oil and Gas, Summary of Operations--Calif. Oil Fields, Vol. 31, No. 2.

DATE: January 1989

CALIFORNIA DIVISION OF OIL AND GAS

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COUNTY: SANTA BARBARA

CAT CANYON OIL FIELD
OLIVERA CANYON AREA

DISCOVERY WELL AND DEEPEST WELL

	Present operator and well designation	Original operator and well designation	Sec. T. & R.	B.&M.	Total depth (feet)	Pool (zone)	Strata & age at total depth
Discovery well	Shell Western Expl. & Prod. Inc. "McNee" 2	Union Oil Co. of Calif. "McNee" 2	20 9N 32W	SB	4,034	Monterey	
Deepest well	Shell Western Expl. & Prod. Inc. "McNee" 4	Union Oil Co. of Calif. "McNee" 4	20 9N 32W	SB	9,001		Rincon(?) Miocene

POOL DATA

ITEM	SISQUOC	MONTEREY a/				FIELD OR AREA DATA
Discovery date	October 1979	June 1944				
Initial production rates						
Oil (bbl/day)	34	37				
Gas (Mcf/day)						
Flow pressure (psi)						
Bean size (in.)						
Initial reservoir pressure (psi)	1,350***	1,400**				
Reservoir temperature (°F)	-	135**				
Initial oil content (STB/ac.-ft.)						
Initial gas content (MSCF/ac.-ft.)						
Formation	Sisquoc	Monterey				
Geologic age	Pliocene	Miocene				
Average depth (ft.)	2,550	3,000				
Average net thickness (ft.)	20	1,500				
Maximum productive area (acres)						240
RESERVOIR ROCK PROPERTIES						
Porosity (%)	25-32***	fractured shale				
S_{oi} (%)	65***	-				
S_{wi} (%)	35***	-				
S_{gi} (%)						
Permeability to air (md)	1,000-4,000***	-				
RESERVOIR FLUID PROPERTIES						
Oil:						
Oil gravity (°API)	8.4	6.0-8.0				
Sulfur content (% by wt.)						
Initial solution GOR (SCF/STB)						
Initial oil FVF (RB/STB)						
Bubble point press. (psia)						
Viscosity (cp) @ °F		750 @ 135**				
Gas:						
Specific gravity (air = 1.0)						
Heating value (Btu/cu. ft.)						
Water:						
Salinity, NaCl (ppm)	2,605	11,984-24,800				
T.D.S. (ppm)	3,765	17,660-30,002				
R_w (ohm/m) (77°F)	1.80	0.23-0.34				
ENHANCED RECOVERY PROJECTS						
Enhanced recovery projects						
Date started						
Date discontinued						
Peak oil production (bbl)	15,911	369,422				
Year	1981	1963				
Peak gas production, net (Mcf)						
Year						

Base of fresh water (ft.): 600

Remarks: a/ Includes Cherty, Bentonitic Brown, and Buff & Brown zones.

Selected References: Dolman, S.G., 1944, Operations in District No. 3: Calif. Div. of Oil and Gas, Summary of Operations--Calif. Oil Fields, Vol. 30, No. 2, p. 43.

DATE: January 1989 **Estimated value ***Representative values for area, formation, and depth

CALIFORNIA DIVISION OF OIL AND GAS

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