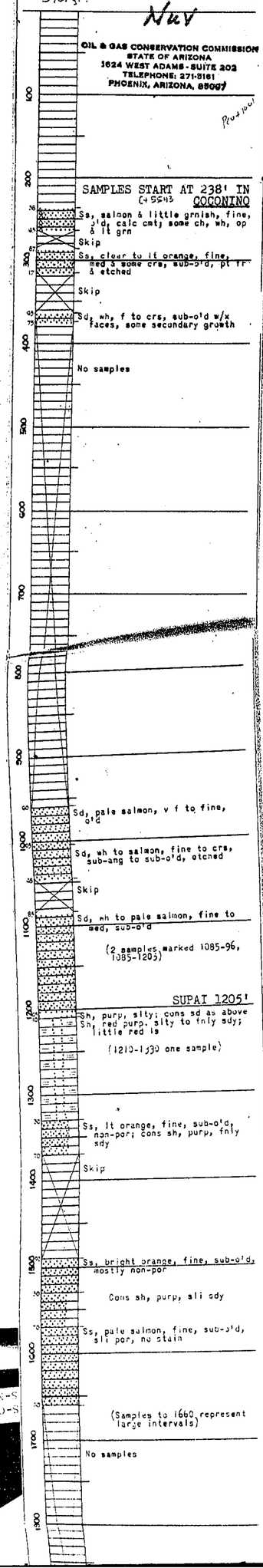
P-W

COLLINS-COBB Sec 35-34N-8E, Cocon.
COLLINS-NAVAJO #1 Sec35-T34N-8E, Coco.

BIA Quad. Loc. - USGS - Flagstaff
places well in 2-23N-8E

#3-5

STATE ARIZONA	COMPANY COLLINS + Cobb
COUNTY COCONTNO	FARM NAVAJO — WELL NO. 1
AREA	COMMENCED
SURVEY	COMPLETED
SEC. 4	PRODUCTION D & A — TOTAL DEPTH 3298'
T. 34N R. 8E	DENVER SAMPLE LOG SERV
	LOG NO. 110
	REMARKS Possibly TD 3440 in Precamb.
ELEVATION 5795' 5781 gl?	Collins #1 X Nav



OIL & GAS CONSERVATION COMMISSION
STATE OF ARIZONA
1624 WEST ADAMS - SUITE 202
TELEPHONE: 271-5161
PHOENIX, ARIZONA, 85007

Prod 100'

SAMPLES START AT 238' IN COCONINO (+5543)

Ss, salmon & little grnish, fine, sub'd, calc cmt; some ch, wh, op & lt grn

Skip

Ss, clear to lt orange, fine, med & some crs, sub-o'd, pt fr & etched

Skip

Sd, wh, f to crs, sub-o'd w/x faces, some secondary growth

No samples

Sd, pale salmon, v f to fine, o'd

Sd, wh to salmon, fine to crs, sub-ang to sub-o'd, etched

Skip

Sd, wh to pale salmon, fine to med, sub-o'd

(2 samples marked 1085-96, 1085-1205)

SUPAI 1205'

Sh, purp, slty; cons sd as above
Sh, red purp, slty to fnly sdy; little red ls

(1210-1330 one sample)

Ss, lt orange, fine, sub-o'd, non-por; cons sh, purp, fnly sdy

Skip

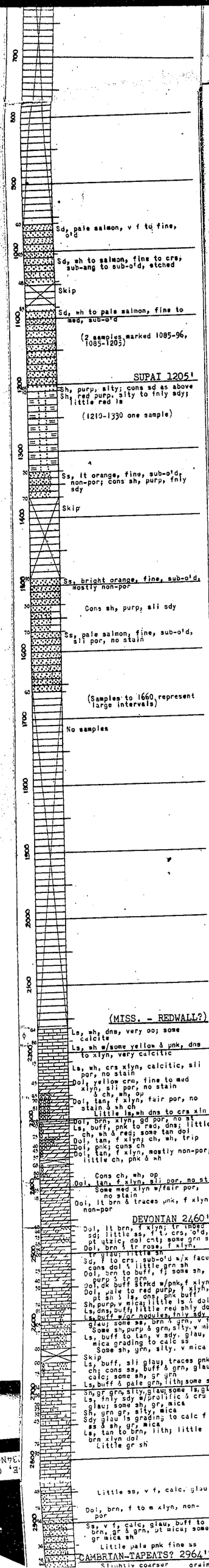
Ss, bright orange, fine, sub-o'd, mostly non-por

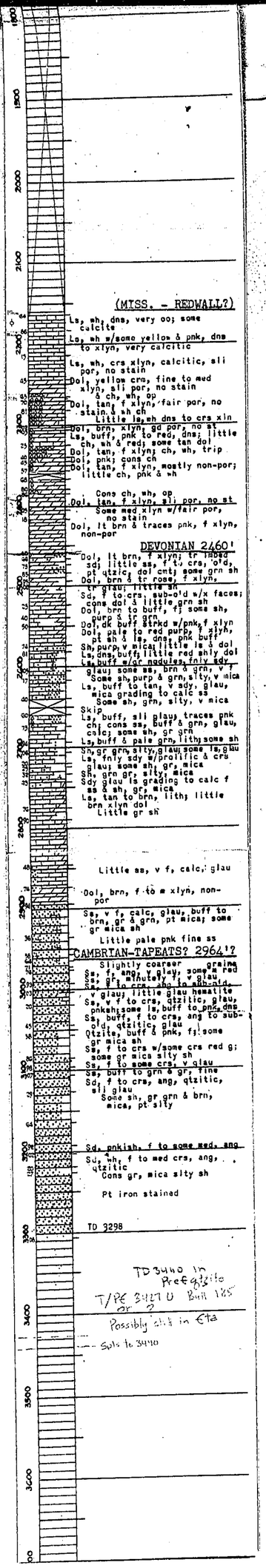
Cons sh, purp, sli sdy

Ss, pale salmon, fine, sub-o'd, sli por, no stain

(Samples to 1660 represent large intervals)

No samples


700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
Sd, pale salmon, v f to fine, o'd
Sd, wh to salmon, fine to crs, sub-ang to sub-o'd, etched
Skip
Sd, wh to pale salmon, fine to med, sub-o'd
(2 samples marked 1085-96, 1085-1205)
SUPAI 1205'
Sh, purp, silty; cons sd as above
Sh, red purp, silty to fnly sdy; little red ls
(1210-1330 one sample)
Ss, lt orange, fine, sub-o'd, non-por; cons sh, purp, fnly sdy
Skip
Ss, bright orange, fine, sub-o'd, mostly non-por
Cons sh, purp, sli sdy
Ss, pale salmon, fine, sub-o'd, sli por, no stain
(Samples to 1660 represent large intervals)
No samples
(MISS. - REDWALL?)
Ls, wh, dns, very oo; some calcite
Ls, wh w/some yellow & pnk, dns to xlyn, very calcitic
Ls, wh, crs xlyn, calcitic, sli por, no stain
Dol, yellow crm, fine to med xlyn, sli por, no stain & ch, wh, op
Dol, tan, f xlyn, fair por, no stain & wh ch
Little ls, wh dns to crs xln
Dol, brn, xlyn, gd por, no st
Ls, buff, pnk to red, dns; little ch, wh & red; some tan dol
Dol, tan, f xlyn; ch, wh, trip
Dol, pnk; cons ch
Dol, tan, f xlyn, mostly non-por; little ch, pnk & wh
Cons ch, wh, op
Dol, tan, f xlyn, sli por, no st
Some med xlyn w/fair por, no stain
Dol, lt brn & traces pnk, f xlyn, non-por
DEVONIAN 2460'
Dol, lt brn, f xlyn; tr imbed sd; little ss, f to crs, o'd, pt qtzic; dol cmt; some grn sh
Dol, brn & tr rose, f xlyn, tr glau; little sh
Sd, f to crs, sub-o'd w/x faces; cons dol & little grn sh
Dol, brn to buff, f; some sh, purp & tr grn
Dol, dk buff strkd w/pnk, f xlyn
Dol, pale to red purp, f xlyn, pt sh & ls, dns, pnk buff
Sh, purp, v mica; little ls & dol
Ls, dns, buff; little red shly dol
Ls, buff w/gr nodules, fnly sdy glau; some ss, brn & grn, v f
Some sh, purp & grn, silty, v mica
Ls, buff to tan, v sdy, glau, mica grading to calc ss
Some sh, grn, silty, v mica
Skip
Ls, buff, sli glau; traces pnk ch; cons ss, buff & grn, glau, calc; some sh, gr grn
Ls, buff & pale grn, lith; some sh
Sh, gr grn, silty, glau; some ls, glau
Ls, fnly sdy w/prolific & crs glau; some sh, gr, mica
Sh, grn gr, silty, mica
Sdy glau ls grading to calc f ss & sh, gr, mica
Ls, tan to brn, lith; little brn xlyn dol
Little gr sh
Little ss, v f, calc, glau
Dol, brn, f to m xlyn, non-por
Ss, v f, calc, glau, buff to brn, gr & grn, pt mica; some gr mica sh
Little pale pnk fine ss
CAMBRIAN-TAPEATS? 2964'?
Slightly coarser grains



(MISS. - REDWALL?)

Ls, wh, dns, very oo; some calcite

Ls, wh w/some yellow & pnk, dns to xlyn, very calcitic

Ls, wh, crs xlyn, calcitic, sli por, no stain

Dol, yellow crm, fine to med xlyn, sli por, no stain & ch, wh, op

Dol, tan, f xlyn, fair por, no stain & wh ch

Little ls, wh dns to crs xln

Dol, brn, xlyn, gd por, no st

Ls, buff, pnk to red, dns; little ch, wh & red; some tan dol

Dol, tan, f xlyn; ch, wh, trip

Dol, pnk; cons ch

Dol, tan, f xlyn, mostly non-por; little ch, pnk & wh

Cons ch, wh, op

Dol, tan, f xlyn, sli por, no st

Some med xlyn w/fair por, no stain

Dol, lt brn & traces pnk, f xlyn, non-por

DEVONIAN 2460'

Dol, lt brn, f xlyn; tr inbed sd; little ss, f to crs, o'd, pt qtzic; dol cmt; some grn sh

Dol, brn & tr rose, f xlyn, tr glau; little sh

Sd, f to crs, sub-o'd w/x faces; cons dol & little grn sh

Dol, brn to buff, f; some sh, purp & tr grn

Dol, dk buff strkd w/pnk, f xlyn

Dol, pale to red purp, f xlyn, pt sh & ls, dns, pnk buff

Sh, purp, v mica; little ls & dol

Ls, dns, buff; little red shly dol

Ls, buff w/gr nodules, fnly sdy glau; some ss, brn & grn, v f

Some sh, purp & grn, silty, v mica

Ls, buff to tan, v sdy, glau, mica grading to calc ss

Some sh, grn, silty, v mica

Skip

Ls, buff, sli glau; traces pnk ch; cons ss, buff & grn, glau, calc; some sh, gr grn

Ls, buff & pale grn, lith; some sh

Sh, gr grn, silty, glau; some ls, glau

Ls, fnly sdy w/prolific & crs glau; some sh, gr, mica

Sh, grn gr, silty, mica

Sdy glau ls grading to calc f ss & sh, gr, mica

Ls, tan to brn, lith; little brn xlyn dol

Little gr sh

Little ss, v f, calc, glau

Dol, brn, f to m xlyn, non-por

Ss, v f, calc, glau, buff to brn, gr & grn, pt mica; some gr mica sh

Little pale pnk fine ss

CAMBRIAN-TAPEATS? 2964'?

Slightly coarser graine

Ss, f, ang, v glau; some m red

Ss, gr, minutely f, v glau

Ss, f to crs, ang to sub-o'd, v glau; little glau hematite

Ss, v f to crs, qtzitic, glau, pnksh; some ls, buff to pnk, dns

Ss, buff, f to crs, ang to sub-o'd, qtzitic, glau

Qtzite, buff & pnk, f; some gr mica sh

Ss, f to crs w/some crs red g; some gr mica silty sh

Ss, f to some crs, v glau

Ss, buff to grn & gr, fine

Sd, f to crs, ang, qtzitic, sli glau

Some sh, gr grn & brn, mica, pt silty

Sd, pnkish, f to some med, ang

Sd, wh, f to med crs, ang, qtzitic

Cons gr, mica silty sh

Pt iron stained

TD 3298

TD 3440 in Pre€ qtzite

T/P€ 3427 U Bull 185 or ?

Possibly shift in €ta

Sols to 3440

Prob. same as Collins-Cobb well in 22-34N-8E - ? -?-

35-34N-8E

County Coconino

Area 1½ mi NW The Gap

JNC 10/21/74

BURRELL COLLINS #1-X Natoine-Navajo

Lease No.

Well Name COLLINS #1 NAVAJO (sometimes Known as No 1-X

*** See notes on location dated 10/19/90 SLR

Location _____ Sec 4? (22, 23 or 36?) Twp 34 N Range 8E Footage _____ Probable correct location Sec. 2 - T33N - R8E - See NOTE Bull 182

Elev 5781 L-S Gr 5783 DF KB Spud Date 1945? Completed Abandon 1947 Total Depth 3298 ✓ 3440? (sp's to 3430) 3244 (OM-201)

Approx. Cost $

Drilled by Rotary ___
Cable Tool ___

n Horizon

roduction P & A

06 Mcl TD 147'

D. 3246 in Contrion 8-14-47
ymd by J B Collins.
and 320' of dol. lst. probably Devonian.

Sample Log AmStrat
Sample Descrip. x
Sample Set Phy #91 (260-3430)
Cores

reboxed as #1871 6/90 SLR

NOTE:

Using BLM protection diagrams added to our 1974 USGS 1:50,000 base map and quad. location of McGavock (see Letter 1-7-71) this well is in Sec. 2 - T33N - R8E - near center of section. Apx lat & long location:- 36°-17'-05" - 111°-30'-05"

Good match L-S gl elevation of 5781' with 5760'+ (40' C.I.) of preliminary edition of Shinumo Alter SE USGS topo. 7½' quad, 1955

J N Conley
10-21-74

P.S. I am using a TD of 3440'
JNC

Bond Am't $ _____ Cancelled _____ Date Organization Report _____

Filing Receipt _____ Dated _____ Well Book x Plat Book x

Loc. Plat ___ Dedication _____

SAMPLE NO. ~~91~~ 1871

PERMIT NUMBER NONE Date Issured _____

3-5

Prob. same as Collins Cobb well in 22-34N-8E - ?
-?-

35-34N-8E

County Coconino

Area 1½ mi NW The Gap

JNC 10/21/74

BURRELL COLLINS #1-X Natoine-Navajo

Lease No.

Well Name COLLINS #1 NAVAJO (sometimes Known as No 1-X

** See notes on location dated 10/19/90 SLR

Location Sec 4? (22, 23 or 36?) Twp 34 N Range 8E Footage

Probable correct location Sec. 2- T33N- R8E - See NOTE Bull 182

Elev 5781 LS Gr 5783 DF KB (JNC 10/21/74) Spud Date 1945? Completed 1947 Abandon Total Depth 3298 ✓ 3440? (sp's to 3430) 3244 (OM-201)

Approx. Cost $

Contractor:

Drilled by Rotary
Cable Tool

Casing Size	Depth	Cement

Production Horizon

Initial Production P & A

REMARKS Also see Collins-Cobb No 1 TD 147'

1947 Review. AAPG. vol. 32 p. 985 shows completion at T.D. 3246 in Cambrian 8-14-47 ymd by J B Collins.

U.S.G.S. PP 233-D (J. Hodgeet al) p. 82, 180' of Lst, prob Miss. and 320' of dol. lst. probably Devonian:

Elec. Logs (1)

Applic to Plug ___ Plugging Record ___ Completion Report ___

Sample Log AmStrat
Sample Descrip. x
Sample Set Phy #91 (360-3430) reboxed as #1871 6/90 SLR
Cores

Water well - accepted by

Bond Co. & No.

Bond Am't $ Cancelled Date Organization Report

Filing Receipt Dated Well Book x Plat Book x

Loc. Plat Dedication

SAMPLE NO. ~~91~~ 1871

PERMIT NUMBER NONE Date Issued

3-5

County Coconino

Area Gap Trading Post

Lease No. I-149-IND-6792

Well Name Collins Cobb #1 (~~[illegible]~~) ?

see Navajo

Location SE SE Sec 22 Twp 34N Range 8E Footage 1150 FSL; ~~1500~~ FEL

Elev 5781 Gr 5783 KB Spud Date ~~1947~~ 6-9-45 Complete Abandon ~~1948~~ 7-7-45 Total Depth ~~[illegible]~~ 1477

Contractor: Approx. Cost $

Drilled by Rotary
Cable Tool

Casing Size	Depth	Cement

Production Horizon

Initial Production D & A

REMARKS: Also see Collins Navajo No 1. TD-3440

Elec. Logs

Applic to Plub Plugging Record Completion Report

Sample Log
Sample Descript
Sample Set
Cores

Water well - accepted by

Bond Co. & No.

Bond Am't $ Cancelled Date Organization Report

Filing Receipt dated Well Book Plat Book

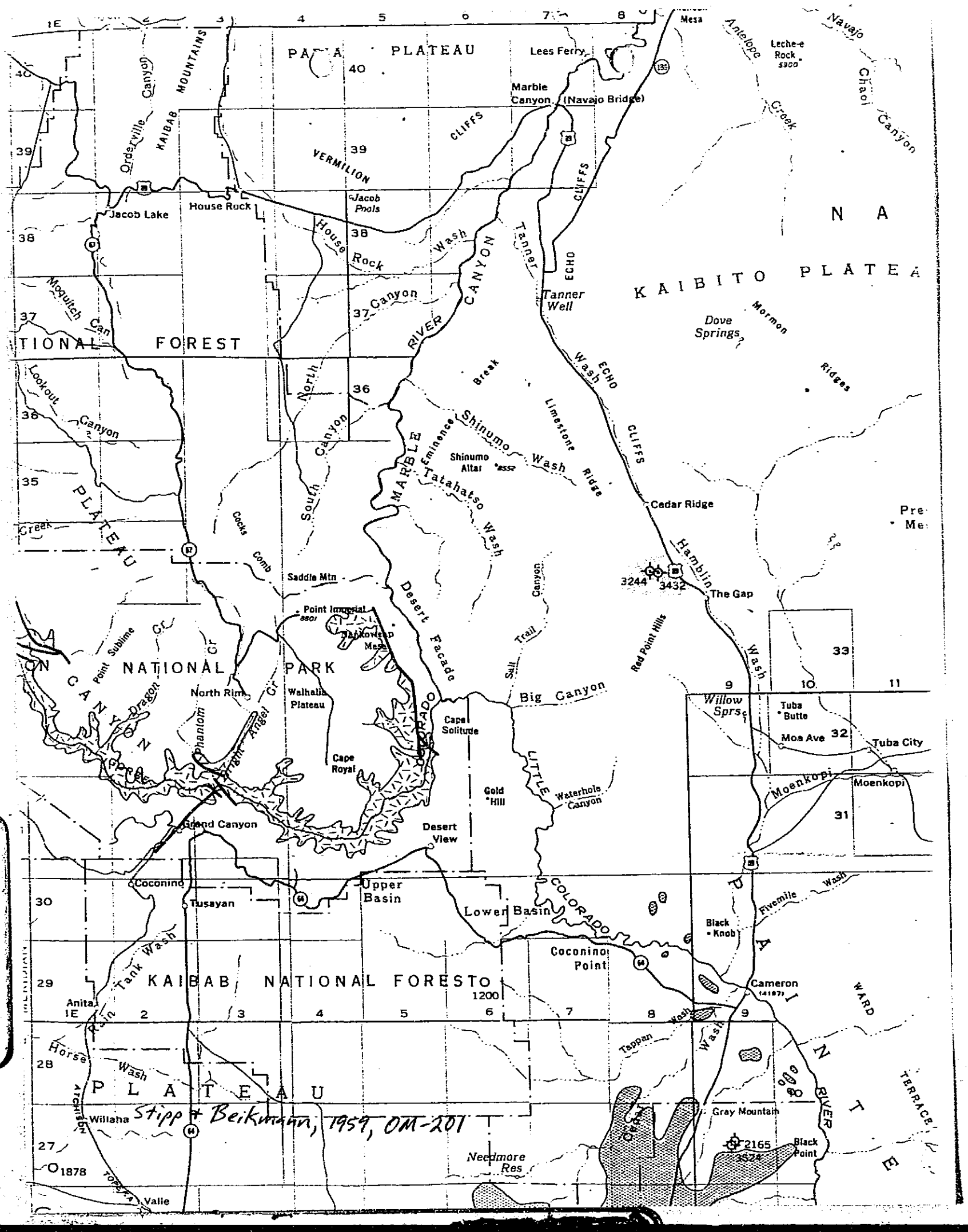
Loc. Plat Dedication

PERMIT NO. None Date Issued

3-55

Formation Tops	Scout	Sample	E. Log	Remarks
Kaibab			surface	
Toroweap			225	
Coconino			335	
Supai			1245	
Miss			1940	
Devonian			2460	
Cambrain			2600	
Tonto			2590	
Bright Angel			2970	
Tapeats			3090	
Pre-Cam. Quzt.			3427	

Core Analysis, DST charts, etc. _____


PLATEAU
Lees Ferry
Marble Canyon (Navajo Bridge)
Mesa
Antelope Creek
Leche-e Rock
Navajo
Chaol Canyon
Orderville Canyon
KAIBAB MOUNTAINS
VERMILION CLIFFS
Jacob Lake
House Rock
Jacob Pools
House Rock Wash
Tanner Canyon
Tanner Well
ECHO CLIFFS
KAIBITO PLATEAU
Dove Springs
Mormon Ridges
Moquitch Can
TIONAL FOREST
Lookout Canyon
North Canyon
South Canyon
MARBLE CANYON
Break
Eminence
Shinumo Wash
Shinumo Altar
Limestone Ridge
Tatahatso Wash
Cedar Ridge
Hamblin Wash
The Gap
Cocks Comb
Saddle Mtn
Point Imperial
Desert Facade
Salt Trail
Big Canyon
Red Point Hills
Willow Sprs
Tuba Butte
Moa Ave
Tuba City
Moenkopi
Point Sublime
NATIONAL PARK
North Rim
Walhalla Plateau
Cape Solitude
Cape Royal
Gold Hill
LITTLE COLORADO
Waterhole Canyon
Grand Canyon
Desert View
Coconino
Tusayan
Upper Basin
Lower Basin
Coconino Point
Black Knob
Fivemile Wash
Cameron
KAIBAB NATIONAL FORESTO
Tank Wash
Anita
Tappan Wash
Horse Wash
PLATEAU
Willaha
Gray Mountain
Black Point
Needmore Res
Valle
WARD TERRACE
Stipp + Beikmann, 1959, OM-201

Location: Section	T.	R.	County	Land status	Operator, lease, and well number	Completion date	Elevation (feet)	Total depth (feet)	Geologic formation: Surface	Bottom	Status
					Northeast quadrant						
16	1 N	1 E	Maricopa	Pat'd	Isabel-Hartner Co	1940		957	Qal	QT	W
9	1 N	2 E	do	do	Central Ariz. L. and P. Co	1942	1053	1942	Qal	QT	W
SW¼SE¼ 2	1 N	3 E	do	do	Peoples Gas and Oil Co., Gardiner 1	1945	1200	3550	Qal		A
NW¼SW¼ 5	1 N	4 E	do	do	American Union Petroleum Co. 1	1931	1210	600	Qal		A
23	1 N	6 E	do	do	Roosevelt Water Conservation District	1949	1250	910	Qal	QT	W
8	2 N	1 E	do	do	Roosevelt Irrigation District	1943	1200	1000	Qal	QT	W
SE¼SW¼ 30	2 N	4 E	do	do	L. P. Newcom, Langley 1	1938	1190	1050	Qal	Qal	A
NE¼NW¼ 30	2 N	4 E	do	do	L. D. Tutwieler, Camelback 1	1907		2818	Qal		A
33	2 N	6 E	do	do	Granite Reef Farms	1948		652	Qal	gr	W
8	3 N	1 E	do	do	Boswell Cotton Co	1948		760	Qal	QT	W
21	3 N	2 E	do	do	Salt River Water Users	1948		1000	Qal	QT	W
24	3 N	2 E	do	do	E. R. Spear	1946		1040	Qal	gr	W
NE¼NW¼ 2	3 N	4 E	do	State	Glenn Oil Co., State 1	1948	1644	4159	Qal	pCs	A
11	4 N	2 E	do	do	B. S. Smith	1948		1201	Qal		W
SW¼SW¼ 8	4 N	4 E	do	do	Glenn Oil Co., State 2	1950	1750	4520	Qal		A
SW¼SE¼SW¼ 8	4 N	4 E	do	do	Biery, State 1	1951	1720	5396	Qal		A
NW¼NW¼ 13	4 N	4 E	do	Pat'd	Bert Campbell, Pierce 1	1950	2095	1585	Qal		A
NE¼NW¼ 14	5 N	3 E	do	State	Landrum-Gabrielson, State 1-14	1953	1630	1146	Qal	pCs	A
SW¼NE¼ 7	5 N	4 E	do	Pat'd	Landrum-Gabrielson, Salyer 1	1953	1825	1040	Qal	pC	A
NW¼NW¼ 9	13 N	5 E	Yavapai	do	Arizona Verde Oil Co. 2	1913		1225	Qal	ig	A
NW¼NW¼ 14	13 N	5 E	do	do	Arizona Verde Oil Co. 1	1913		1625	Qal	ig	A
SW¼SW¼ 3	13 N	20 E	Navajo	do	P. D. Lynch, Aztec Land and Cattle Co. 2	1956	5956	3140	Pk	PIPs	A
NW¼NE¼ 28	13 N	27 E	Apache	State	Rincon Drilling Syndicate, State 1	1940	6225	685	Ꞧc		A
NW¼NE¼ 4	14 N	20 E	Navajo	Pat'd	Adamana Oil Co. 1	1924	5820	3387	Ꞧm	Mr	A
NW¼SE¼ 33	14 N	20 E	do	do	L. M. Lockhart, Aztec Land and Cattle Co. 1	1949	5990	3724	Ꞧm	gr	A
SE¼NE¼ 14	14 N	26 E	Apache	Public	Franco Ariz. Oil Co., Roe 1	1940	5672	2595	Ꞧm	gr	A
14	15 N	18 E	Navajo	Pat'd	Winslow Oil Co. 1			3000	P?		A
NE¼NE¼ 19	15 N	18 E	do	do	Union Oil Co. of Calif., Aztec 1	1943	6112	3850	Pcs	D	A
NE¼ 23	15 N	18 E	do	do	Holbrook Oil Co. 1	1924	6020	3775	Pcs	D	A
NW¼NE¼ 21	15 N	19 E	do	do	Hopi Oil Co. 1	1927		2420	Pcs	Mr	A
SW¼NE¼ 34	15 N	19 E	do	do	Union Oil Co. of Calif., N. Mex. and Ariz. Land Co. 1	1944	6034	3609	Pcs	gr	A
NW¼SE¼ 21	15 N	29 E	Apache	do	Blair Townsend-Harrison, Prod. Co. Fee 1				Ꞧ		D
NE¼NE¼ 22	15 N	29 E	do	State	Argo Oil Co. and others, State 1	1944	5360	2637	Ꞧc	pC?	A
SE¼ 32	15 N	30 E	do	do	C. A. Hinkson	1946	6100	1300	K	Pcs	W
NW¼SW¼ 1	16 N	16 E	Navajo	Pat'd	J. C. Eisele, McCanley 1	1954	5535	4400	Pk		A
NE¼NE¼ 20	16 N	17 E	do	do	Black Canyon Oil Co. 1	1927	5700	510	Pcs	Pcs	A
1	16 N	23 E	do	Public	Petrified Forest	1934	5527	1023	Ꞧc	Pcs	W
NW¼NW¼ 21	17 N	20 E	do	Pat'd	Great Basin Oil Co., Taylor-Fuller 1	1927	5270	4675	Pcs	pCgr	A
SE¼SE¼ 31	18 N	20 E	do		Besoil Co., Hunt 1			1683	Ꞧm	PIPs	D
NW¼SW¼ 1	19 N	22 E	do	Pat'd	Hager, Mills, and Landrum, Santa Fe 1	1955	5670	1182	Ꞧc	Pcs	A
SW¼NW¼ 6	19 N	23 E	do	State	General Petroleum Corp., Creager 1	1949	5710	3432	Ꞧc	pCgr	A
SE¼SE¼ 6	19 N	24 E	Apache	Public	Zuni-Ariz. Oil Co. 1	1921	5400	950	Ꞧc	Ꞧc	A
13	20 N	11 E	Coconino	Pat'd	Babbitt Co., Airport 1	1940		950	Pk	Pcs	W
NW¼SW¼ 13	20 N	12½E	do	do	Ariz.-Sunshine Oil Co. 1	1920		1470	Pk	PIPs	W
19	20 N	13 E	do	do	W. H. Switzer 1	1945		640	Pk	Pcs	W
NW¼SW¼SW¼ 11	21 N	6 E	do		U. S. Navy, Navajo Ordnance 1	1950	7050	1654	v	PIPs	W
16	21 N	7 E	do		Flagstaff City 1	1932	6944	813	v	Pcs	W
26	22 N	6 E	do		Flagstaff City 2	1938	7335	1021	v	Pcs	W
SW¼NW¼ 3	22 N	10 E	do	Pat'd	Flagstaff Associates, Kellum 1	1953	5550	2265	v	Mr?	A
NW¼NW¼ 24	23 N	30 E	Apache	Public	Hogback Oil Co., Tufts 1	1932	6900	1550	Ꞧm	gr	A
24	25 N	24 E	do	Indian	El Paso Natural Gas Co.	1952	6520	2396	T	Pcd	W
SE¼NW¼ 19	26 N	31 E	do	do	U. S. Indian Service		6800	1795	Ꞧc	Pc	W
29	27 N	1 E	Coconino	Pat'd	Smith			1878	Pk		W
SW¼SW¼ 15	27 N	9 E	do	do	Barron-Steele Co., Babbitt-Bar 1	1948	5200	2165	Pk	PIPs	A
NE¼NE¼ 21	27 N	9 E	do	do	Lockhart Brothers, Babbitt 1	1949	5210	3624	Pk	Ꞧt?	A
*	29 N	6 E	do	do	Richardson Ranch 1	1948		1200	Pk		W
27*	29 N	30 E	Apache	Indian	Wilson-Cranmer, Navajo Tribal 1	1922	7550	249	PIPs	pCgn	A
11*	30 N	27 E	do	do	Wilson-Cranmer, Navajo Tribal 2	1922	6650	806	Ꞧc	gr	A
26*	32 N	23 E	do	do	Amerada Petroleum Corp., Navajo Tribal 1	1951	6320	5766	Jm	gr	A
SW¼SE¼ 22*	34 N	8 E	Coconino	do	Burrell Collins, Natoine Navajo 1-X	1947	5795	3244	Pk	Ꞧt	A
SE¼SE¼ 22*	34 N	8 E	do	do	Burrell Collins, Navajo 1	1949	5795	3432	Pk	pCu	A
NE¼NE¼ 28*	37 N	14 E	do	do	Sinclair Oil and Gas Co., Navajo Tribal 1	1952	6620	7214	Jc	Ꞧt	A
SE¼SW¼ 7*	41 N	23 E	Apache	do	San Juan Oil and Development Co., Navajo 1	1924	4925	2081	Pc	MI?	A
SW¼SE¼ 28	41 N	26 E	do	do	Gulf Oil Corp. Walker Creek 1		5202		J		A
NE¼NW¼ 29	41 N	27 E	do	do	Hancock Oil Co., Navajo Tribal 29-1	1956	5666	6500	J	De	A
NW¼SW¼ 10	41 N	30 E	do	do	Superior Oil Co., Navajo 13-10		4875		J		A
SE¼NE¼ 11	41 N	30 E	do	do	El Paso Natural Gas Co., Navajo Tribal 10	1956	4803	472	Jm	Jm	A
SW¼NE¼ 13	41 N	30 E	do	do	El Paso Natural Gas Co., Navajo Tribal 1	1956	5106	705	Jm	Jm	A
SW¼SW¼ 16	41 N	30 E	do	do	Superior Oil Co., Navajo 14-16		5112		J		D
SE¼NE¼ 26	41 N	30 E	do	do	El Paso Natural Gas Co., Navajo Tribal 8	1956	5225	580	Jm	Jm	A
SE¼NE¼ 7	41 N	31 E	do	do	El Paso Natural Gas Co., Navajo Tribal 7	1956	4897	470	Jm	Jm	A
SE¼NE¼ 18	41 N	31 E	do	do	El Paso Natural Gas Co., Navajo Tribal 2	1956	5034	420	Jm	Jm	A
NW¼NW¼ 19	41 N	31 E	do	do	El Paso Natural Gas Co., Navajo Tribal 3	1956	5027	740	Jm	Jm	A
SW¼SE¼ 19	41 N	31 E	do	do	El Paso Natural Gas Co., Navajo Tribal 4	1956	5091	605	Jm	Jm	A

mation
y com-
ially

subdivision of the section. The locations that are noted as approximate are those for which there are insufficient data or those that were drilled in the unsurveyed parts of the State into [illegible]h it was necessary to project townships and sections.

[illegible] ownership of th[illegible] on which wel[illegible] have been drilled is shown as [illegible]

The elevations shown for the wells are th[illegible] Whether these are the elevations of the ground [illegible] floor or other datum, is unknown, as is the deg[illegible] were originally determined.

The total depths shown are believed to be rea[illegible] [illegible]sistencies in [illegible] were al[illegible]und.

Rim, Mazatzal land splits into three northeastward-trending spurs, the Chediski, Christopher Mountain, and Pine ridges previously mentioned. Between these ridges there are normal sections (fig. 25) of the Devonian sedimentary rocks, and the Late Devonian seas obviously had access to the interridge basins throughout the time of the deposition of the Martin formation in central Arizona. This access may have been mostly to the northwest, or complete connection between the northwestern and southeastern seas may have extended between Mazatzal land proper and the northeastward continuation, the granitic Holbrook ridge. The authors have postulated a sag, or gap, between the land masses near the Mogollon Rim, which they have called the "Mogollon sag." The presence of the upper part of the Martin formation in the area between Grasshopper and the O. W. Ranch on Chediski ridge shows that the Late Devonian seas spread through a gap between Mazatzal land and the granitic Holbrook ridge during the late phases of Martin deposition, but it does not prove that the gap was a seaway throughout the time of the deposition of the Martin formation. Data now available do not prohibit the contouring of 300 feet of the Martin formation in the Mogollon sag, but the tentative lines of equal thickness (pl. 13) suggest that the Mogollon sag was not a seaway throughout the time of Martin deposition.

The granitic Holbrook ridge is indicated by the absence of Devonian sedimentary rocks above granite in the logs of the Taylor-Fuller No. 1 well (Great Basin Oil Co.) and the New Mexico-Arizona Land Co. No. 1 well (Union Oil Co. of California and Continental Oil Co.). No Devonian strata were recognized in the samples from the Taylor-Fuller well, but the Redwall limestone may be represented by 11 feet of limestone which rests on crystalline rocks. The New Mexico-Arizona Land Co. No. 1 well encountered only 10 feet of limestone, probably Redwall, and entered weathered granite at 3,593 feet. The granitic Holbrook ridge probably continues northeastward to the Defiance uplift, as indicated by the Creager-State No. 14-6 well (General Petroleum Corp.), northeast of Holbrook, which encountered granite at a depth of 3,355 feet.

The Defiance uplift must have been a high area during the Paleozoic, for only in Permian time was it completely buried. The structure of the pre-Cambrian rocks in the Defiance uplift, like that of the pre-Cambrian rocks in central Arizona, trends northeastward. According to Hinds (1936b, p. 101), there may have been a continuous belt of mountains from central Arizona to southwestern Colorado as a result of the Mazatzal revolution during pre-Cambrian time. He considers the quartzite of the Defiance uplift very similar to the Mazatzal quartzite in central Arizona. These quartzites could have persisted throughout the Paleozoic as a chain of ridges because they are extremely resistent to erosion. According to Wilson (1939), who described the Mazatzal revolution in central Arizona, there were no orogenic movements after the Mazatzal revolution in this area until the Tertiary.

Devonian and Mississippian strata are probably present in normal thicknesses in Black Mesa basin to the northwest of the granitic Holbrook ridge. The present shape of Black Mesa basin may be due to Laramide or later movements, but its location was probably predetermined by Paleozoic deposition in the same area. It is much less probable that it was a Paleozoic land area. The presence of middle Paleozoic rocks is indicated by the fact that the Aztec Land and Cattle Co. No. 1 well (Union Oil Co. of California and Continental Oil Co.) penetrated about 45 feet of Redwall limestone and 32 feet of what is probably Martin formation before the well was abandoned. The other well drilled by the same companies 9 miles to the east seems to have been closer to the crest of the granitic Holbrook ridge, inasmuch as it penetrated only 10 feet of what is probably Redwall limestone before entering granite.

The Black Mesa basin of Paleozoic time probably trended northeastward parallel with the granitic Holbrook ridge. The section of the Martin formation at Jerome, about 500 feet thick (Darton, 1925, pp. 57-59), is probably in the southern extension of the basin. The Redwall limestone, though not especially thick at Jerome, is considerably thicker there than near Pine and Payson. Only 120 feet of Devonian strata are exposed on the flank of Elden Mountain (Brady, 1933, p. 303); the base of the formation is not exposed. The northward continuation of Black Mesa basin is suggested by the thick sections of Devonian and Mississippian rocks shown in wells in southeastern Utah (Bass, 1944). The XX No. 1 well (Burrell Collins, Collins), in Coconino County (fig. 9), encountered 180 feet of limestone, probably of Mississippian age, and 320 feet of dolomitic limestone, probably of Devonian age. The samples from this well, loaned by the Sinclair Oil Co., were examined by J. B. Collins. However, they are incomplete and difficult to correlate.

The Black Mesa and San Juan basins are separated by the Defiance uplift. These three structural features may be genetically related, and, if this is correct, the two basins may have had a similar history. Devonian and Mississippian oil- and gas-bearing rocks are known in the San Juan basin, and this occurrence suggests that these rocks may also exist in the Black Mesa basin.

The principal evidence against a Paleozoic Black Mesa basin is the fact that the early Paleozoic forma-

Devonian and Mississippian Rocks of Central Arizona

By JOHN W. HUDDLE *and* ERNEST DOBROVOLNY

SHORTER CONTRIBUTIONS TO GENERAL GEOLOGY, 1950

GEOLOGICAL SURVEY PROFESSIONAL PAPER 233-D

Stratigraphic studies, in the central part of the State, as the basis for postulating stratigraphy and petroleum possibilities in northeastern Arizona

UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON : 1952

TABLE II

15 TEST HOLES IN NORTHEAST ARIZONA AND 3 IN SOUTHEASTERN UTAH

County	Company	Location	Completion	Depth	Formation Started in	Deepest Formation Penetrated	Reported Gas & Oil Showings	Structural Feature
Coconino	Collins-Cobb	Sec. 1-33N-9E	1948	3440	Kaibab l. s.	Tapeats s. s.	Shows Oil in Supai and in Tapeats s. s.	Large Fold-Low West Closure
	Barron-Steele	S.E. Sec. 15-27N-9E	1948	2150	Kaibab l. s.	In Supai	Shows in Supai	Large N trending Fold-Low South Closure
	Babbitt No. 1	Sec. 30-20-N-12½E		1155	Kaibab l. s.	Supai?	Water in Coconino	Northwest Flank Sunshine Fold
Apache	Argo Oil Co.	Sec. 22-15N-29E	1945	2637	Chinle sh.	Granite	Showings asphalt in Supai	Large Dome, N.W. striking anticline
	Hogback Oil Co.	Sec. 24-23N-30E	1927	1510	Chinle sh.	Granite	None reported	Faulted fold—southeast flank Defiance Uplift
	Franco-Arizona Oil Company	Sec. 14-14N-26E	1941	2592	Moenkopi	Granite	None reported	Large dome—N.W. striking anticline
	Zuni Oil Co.	Sec. 6-19N-24E	1922	943	Chinle sh.	Lower Moenkopi or Coconino s. s.	Showing small Gas & Oil at 943	Far down East flank of Little Carrizo fold
Navajo	Adamana Oil Co.	Sec. 4-14N-20E	1924	3387	Moenkopi	Naco	Oil in sh. 1740-50 sh. 1940-50, sd. 2250-2300 sd. 2480-95, 3380 sdy. l.s.	1½ Mi N. E. of top of Holbrook anticline
	Black Canyon Oil Co.	Sec. 20-18N-17E	1923	510	Kaibab l.s.	Coconino s. s.	None	N. W. flank, Holbrook anticline
	Great Basin Oil Co.	Sec. 21-17N-20E	1926	4675	Coconino s. s.	Granite	1925-1935, gas-salt water; 3590-3596 l.s., oil-water; 3685-3870 Arkosic s.s., oil-water	On Higgins Dome. Closure 60 ft. Covers 200 acres, more or less
	Holbrook Oil Co.	Sec. 23-15N-18E	1925	3775	Coconino s. s.	Devonian?	Show Gas & Oil	Down North flank, Holbrook anticline
	Hopi Oil Co.	Sec. 21-15N-19E	1922	2420	Coconino s. s.	Rice	Show Gas & Oil	Down North slope, Holbrook anticline
	Union-Continental No. 1	Sec. 19-15N-19E	1943	3850	Coconino	Cambrian?	Small shows oil	On top large dome on Holbrook Anticline
	Union-Continental No. 2	Sec. 24-15N-19E	1944	3607	Coconino s. s.	Granite	Shows of Oil	On top large dome on Holbrook anticline
	Midwest	Sec. 7-41N-23E	1923-24	2080	Supai	Redwall	Show gas	On Monument Uplift. Gypsum Creek
Utah	Utah-Southern	Sec. 29-40S-18E	1926	3650	Supai	Basement (Cambrian)	Show Gas & Oil	On Cedar Ridge anticline
	Western Gas No. 1 Byrd-Frost	Sec. 22-43S-22E	1948	6090	Navajo s. s.	Cambrian?	Show oil in Coconino and other horizons. 28,000,000 cu. ft. gas in Hermosa l.s. at 4630-4690 ft.	On Boundary Butte anticline
	Western Gas No. 2s Byrd Frost	Sec. 22-43S-22E	1948	1517	Coconino c. s.		130 bbls. of oil per day from 1504-1534 feet	On Boundary Butte anticline

STATE LAND DEPARTMENT

GAS AND OIL POSSIBILITIES OF NORTHEAST ARIZONA

By
DORSEY HAGER
Consulting Geologist

NOVEMBER, 1948

O. C. WILLIAMS
Commissioner

JAHN TYLER

(Umbach) AAPG Bulletin Vol. 32 (1948)

DEVELOPMENT

The Fulcher basin-Kutz Canyon area of Pictured Cliffs gas production was extended 7 miles southeastward with the completion of the Florance Drilling Company's Hudson No. 1 in Sec. 10, T. 26 N., R. 10 W., San Juan County, New Mexico.

The Blanco gas area was extended northward approximately one mile by the Florance's Pierce (Federal) No. 1 in Sec. 17, T. 30 N., R. 9 W. However, the

TABLE II

SUCCESSFUL WILDCATS COMPLETED IN ARIZONA, WESTERN NEW MEXICO AND NORTHERN NEW MEXICO IN 1947

Key Number	County	Well	Location	Depth (Feet)	Formation at Total Depth	Date	Remarks
1	San Juan	Byrd-Frost et al. Hargrave 1	Sec. 4, T. 27 N., R. 10 W.	6,745	Morrison	12- 8-47	20 barrels oil per day after mechanical difficulties
2	San Juan	Petroleum Products' Santa Fe 1	Sec. 21, T. 21 N., R. 8 W.	4,707	Morrison	11-28-47	5 barrels of oil per day on pump

TABLE III

UNSUCCESSFUL WILDCATS COMPLETED IN ARIZONA, WESTERN AND NORTHERN NEW MEXICO

Key Number*	County	Well	Location	Depth (Feet)	Formation at Total Depth	Date	Remarks
			NEW MEXICO				
3	San Juan	British-American's Cronican (Federal) 1	Sec. 23, T. 30 N., R. 16 W.	5,953	Chinle	9-27-47	D & A
4	McKinley	Petroleum Products' Lavington (Federal) 1	Sec. 22, T. 17 N., R. 6 W.	2,996	Morrison	12-22-47	D & A
5	McKinley	Gallup Dome's Ford 1	Sec. 22, T. 15 N., R. 18 W.	2,419	Chinle	11-14-47	D & A
6	Rio Arriba	Florance's Jicarilla 1	Sec. 23, T. 32 N., R. 3 W.	3,710	Mesa Verde	9 -6-47	D & A
7	Union	Pure Oil Co.'s Loleita Wiggins 1	Sec. 13, T. 31 N., R. 36 E.	3,514	Granite	3 -1-47	D & A
8	Union	Pure Oil Co.'s L. B. Sayre 1	Sec. 6, T. 30 N., R. 37 E.	3,564	Mississippian	6-30-47	D & A
9	Colfax	Neill and Alexander's Sauble 2	Sec. 1, T. 26 N., R. 24 E.	1,754	Santa Rosa	4- 1-47	D & A
10	Colfax	Neill and Steffan's Sauble 3	Sec. 3, T. 26 N., R. 24 E.	1,595	Santa Rosa	6-11-47	D & A
11	Guadalupe	Branch's Fee 1	Sec. 3, T. 10 N., R. 25 E.	1,038	Santa Rosa	7-17-47	D & A
12	Quay	Jensen Oil Co.'s First Nat'l. Bank 1	Sec. 27, T. 10 N., R. 31 E.	3,196	Permian	9-26-47	D & A
13	Torrance	Eidal Mfg. Co.'s Mitchell 1	Sec. 33, T. 44 N., R. 8 E.	3,592	Pre-Cambrian	12- 4-47	D & A
14	Valencia	Ringle's Tome 1	Sec. 34, T. 6 N., R. 4 E.	641	Tertiary	8- 1-47	D & A
15	Valencia	Ringle's Tome 1	Sec. 34, T. 6 N., R. 4 E.	670	Tertiary	9- 7-47	D & A
16	Valencia	Haddock Constr. Co.'s Gober 1A	Sec. 18, T. 5 N., R. 3 E.	6,347	Chinle	3- 1-47	D & A
17	Grant	Seyfried's State 1	Sec. 8, T. 27 N., R. 15 W.	1,070	Tertiary	7- 1-47	D & A
			ARIZONA				
18	Coconino	Burrell Collins' Collins 2	Sec. 22, T. 34 N., R. 8 E.	3,246	Cambrian	8-14-47	D & A
19	Maricopa	Dixie Oil Co.'s State 1	Sec. 34, T. 1 N., R. 5 W.	3,505	Tertiary	3- 1-47	D & A
20	Pima	ElRoy Oil & Development's Co.'s State 1	Sec. 8, T. 12 S., R. 11 E.	3,520	Tertiary	5- 2-47	D & A

* See Figure 1.

Arizona
County: Coconino

T. 34N R. 8 E
Sec. 22 (apx) 35
SE, SE

Burrell Collins - Navako 1

Elev: 5795
Tops: Samp.-Elec.-Scout Drill-Pub.

FM.	Depth	Thick.
Pk	0'	
p€u	3430'	

T.D. 3432
Spud.
Comp. 1949
Samples:

Gas
Oil Well
Water

Prod: D&A

References: U.S.G.S. Dry hole map
Log Location: 1.Dept.Geol.___2.Bur.Mines___3.USGS___4.Others___
Type Log: Drill___Elec___Sample___Graphic___Typed___Other___

Arizona
County: Coconino

T. 34N R. 8 E
Sec. ~~22~~ 35 (apx)
SW, SE

Burrell Collins - Natione 1-X

Elev: 5795
Tops: Samp.-Elec.-Scout Drill-Pub.

FM.	Depth	Thick.
Pk	0'	
€t	3240	

T.D. 3244
Spud.
Comp. 1947
Samples:

Gas
Oil Well
Water

Prod: D&A

References: U.S.G.S. Dry hole map
Log Location: 1.Dept.Geol.___2.Bur.Mines___3.USGS___4.Others___
Type Log: Drill___Elec___Sample___Graphic___Typed___Other___

Full Well Report for CONOCO INC
Copyright 1996 by Petroleum Information, Corp.
PIA935 ********** JUN 10, 1996 14:53:28 ********** WELL 1

API Nbr: 02005600050000 State: ARIZ County: COCONINO
Meridian: GILA & SALT RIVER Meridn Code: 26
Province: PLATEAU SEDIMENTARY Prov Code: 635
Oper: BURRELL-COLLINS COBB Oper Code: 099999
Lease: Well: Lease Code:
Field: WILDCAT Field Code:

T034N R008E SEC2 Spot: SW
FOOTAGES: 0FNL 0FEL CNGRS T-R-SEC /QTR SEC

Oper Elev: 5680TS RIG HT: Log Td:

Other Depths: DRLR 3285 WSTD PBTD OLDTD

Status: D&A Spud Date: 01 01 1801
Hole Dir: VERTICAL Comp Date: 01 01 1801
Numeric Class: INL-5 FNL-0
Alpha Class: INL-WF FNL-WF

Latitude: Source: Longitude:

INITIAL POTENTIAL TESTS:

FORMATION TOPS: (Source,Names,Depths,Shows)

SPL
452CCNN 475 419SUPI 1230 419NACO 1930
359RDWL 2040

FORMATION BASES: (Base & Depth)

452CCNN 1230 419SUPI 1930 419NACO 2040

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

OTHER WELL INFO:

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Horizontal Drilling Data ***

Full Well Report for CONOCO INC
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API Nbr: 0200560004000 State: ARIZ County: COCONINO
Meridian: GILA & SALT RIVER Meridn Code: 26
Province: PLATEAU SEDIMENTARY Prov Code: 635
Oper: COLLINS Oper Code: 099999
Lease: NAVAJO Well: 1 Lease Code:
Field: WILDCAT Field Code:

T034N R008E SEC4 Spot:
LOC NARR: FTG NOT REPORTED

Oper Elev: 6271KB RIG HT: Log Td:

Other Depths: DRLR 3298 WSTD PBTD OLDTD

Status: D&A Spud Date: 01 01 1801
Hole Dir: VERTICAL Comp Date: 01 01 1801
Numeric Class: INL-5 FNL-0
Alpha Class: INL-WF FNL-WF

Latitude: Source: Longitude:

CASING:
@ 161 W/ 50SX

INITIAL POTENTIAL TESTS:

FORMATION TOPS: (Source,Names,Depths,Shows)

SPL
419SUPI 0 , 419NACO 256B , 359RDWL 3135 ,
451HRMT 825 419SUPI 1205 419NACO 1570
359RDWL 2100

FORMATION BASES: (Base & Depth)

452KIBB 238 , 452TRWP 525 , 452CCNN 825 ,
451HRMT 1205 419SUPI 1570 419NACO 2100

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

LOG SURVEYS:

ILD AVC
CA

OTHER WELL INFO:

(2)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CONSERVATION BRANCH

Sec. 22
T 34N
R 8E
G&SR Mer.

INDIVIDUAL WELL RECORD

INDIAN LAND:

Date October 20, 1949

Ref. No. 1

Reservation Navajo

State Arizona

Tribal - 1-149-Ind-6792

County Coconino

Lessee Burrell Collins

Field Wildcat

Operator Burrell Collins

District Artesia

Well No. 1 Natoine

Subdivision NE SW¼ SE¼

Location 990 feet from south and 1635 feet from east lines (unsurveyed)

Drilling approved June 4, 1945

Well elevation 5772 (Oper) feet

Drilling commenced June 9, 1945

Total depth 147 feet

Drilling ceased July 7, 1945

Initial production

Completed for production

Gravity A.P.I.

Abandonment approved August 30, 1945

Initial R. P.

Geologic Formations Surface	Lowest Tested	Productive Horizons Name	Depths	Contents
Permian	Permian			

WELL STATUS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1945						Drg.	Abd.	P&A				

Remarks Lost hole and skidded over 15 feet to No. 1-X.

No permit

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PIA935 ********** JUN 10, 1996 14:53:28 ********** WELL 6

API Nbr: 02005600060000 State: ARIZ
County: COCONINO
Meridn Code: 26
Meridian: GILA & SALT RIVER
Province: PLATEAU SEDIMENTARY
Prov Code: 635
Oper Code: 099999
Oper: BURRELL COLLINS
Lease: FEDERAL Well: 1-X
Lease Code:
Field: WILDCAT
Field Code:

Spot: SW SE
T034N R008E SEC36
LOC NARR: 1.2 MI N OF GAP TRADING POST US HWY 89 & 2.8 MI W
ON SIDE ROAD. ON APPARENT CREST OF SMALL DOMAL. ANTI-
CLINE LANDING ABOUT N15W-ON E FLANK KAIBAB UPWARD

Oper Elev: 5900ES RIG HT: Log Td:

Other Depths: DRLR 1660 WSTD PBTD OLDTD

Spud Date: 07 16 1945
Comp Date: 01 01 1946

Status: J&A
Hole Dir: VERTICAL
Numeric Class: INL-5 FNL-8
Alpha Class: INL-WF FNL-WF

Latitude: Source: Longitude:

INITIAL POTENTIAL TESTS:

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

OTHER WELL INFO:

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Horizontal Drilling Data ***

Full Well Report for CONOCO INC
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PIA935 ********** JUN 10, 1996 14:53:28 ********** WELL 7

API Nbr: 02005600060001 State: ARIZ County: COCONINO
Meridian: GILA & SALT RIVER Meridn Code: 26
Province: PLATEAU SEDIMENTARY Prov Code: 635
Oper: REEVES & RANKIN Oper Code: 099999
Prev. Oper: BURRELL COLLINS
Lease: NATION WELL Well: 1 Lease Code:
Field: WILDCAT Field Code:

T034N R008E SEC36 Spot: SW SE
LOC NARR: 1.2 MI N OF GAP TRADING POST ON US HWY 89 & 2.8 MI W ON SIDE ROAD. ON APPARENT CREST OF SMALL DOMAL. ANTI-CLINE LANDING ABOUT N15W-ON E FLANK KAIBAB UPWARD.

Oper Elev: 5800ES RIG HT: Log Td:

Other Depths: DRLR 1959 WSTD PBTD OLDTD 1660

Status: D&AW DEEPEN Spud Date: 03 12 1946
Hole Dir: VERTICAL Comp Date: 10 08 1946
Numeric Class: INL-5 FNL-0
Alpha Class: INL-WFD FNL-WF

Latitude: Source: Longitude:

INITIAL POTENTIAL TESTS:

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

OTHER WELL INFO:

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Horizontal Drilling Data ***

Full Well Report for CONOCO INC
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API Nbr: 0200505023000 State: ARIZ
Meridian: GILA & SALT RIVER
Province: PLATEAU SEDIMENTARY
Oper: MERCER & COBB
Lease: NAVAJO Well: 1
Field: WILDCAT

T034N R008E SEC27

Oper Elev: 5795GR RIG HT:

Other Depths: DRLR 3240 WSTD PBTD

Status: D&A-O
Hole Dir: VERTICAL
Numeric Class: INL-5 FNL-0
Alpha Class: INL-WF FNL-WF

Latitude: Source: Longitude:

INITIAL POTENTIAL TESTS:

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

OTHER WELL INFO:

DRILLING SHOWS:
2260-2260 WET 3040-3041 OIL

County: COCONINO
Meridn Code: 26
Prov Code: 635
Oper Code: 099999
Lease Code:
Field Code:

Spot: NW NW SE

Log Td:

OLDTD

Spud Date: 01 01 1947
Comp Date: 04 05 1947

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Horizontal Drilling Data ***

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PIA935 ********** JUN 10, 1996 14:53:28 ********** WELL 3

API Nbr: 02005050880000 State: ARIZ
County: COCONINO
Meridn Code: 26
Meridian: GILA & SALT RIVER
Prov Code: 635
Province: PLATEAU SEDIMENTARY
Oper Code: 099999
Oper: BURRELL-COLLINS
Lease Code:
Lease: NAVAJO Well: 1-NATOINE
Field Code:
Field: WILDCAT

Spot: NE SW SE

T034N R008E SEC22
FOOTAGES: 990FSL 1635FEL CNGRS T-R-SEC /FULL SEC
LOC NARR: LOST HOLE SKIDDED RIG TO API 02-005-05021

Log Td:

Oper Elev: 5772GR RIG HT:

OLDTD

Other Depths: DRLR 147 WSTD PBTD

Spud Date: 06 09 1945
Comp Date: 08 30 1945

Status: J&A
Hole Dir: VERTICAL
Numeric Class: INL-5 FNL-8
Alpha Class: INL-WF FNL-WF

Longitude:

Latitude: Source:

INITIAL POTENTIAL TESTS:

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

OTHER WELL INFO:

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Horizontal Drilling Data ***

Full Well Report for CONOCO INC
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API Nbr: 02005050220000 State: ARIZ County: COCONINO
Meridian: GILA & SALT RIVER Meridn Code: 26
Province: PLATEAU SEDIMENTARY Prov Code: 635
Oper: COLLINS BURREL Oper Code: 099999
Lease: NAVAJO Well: 1X Lease Code:
Field: WILDCAT Field Code:

= 1XX-3

T034N R008E SEC22 Spot: SE SE

Oper Elev: 5776GR RIG HT: Log Td:
Form@TD: 109PCMB

Other Depths: DRLR 3432 WSTD PBTD OLDTD
Permit: Proj Depth: Proj Form: 109PCMB

Status: D&A-O Spud Date: 07 15 1957
Hole Dir: VERTICAL Comp Date: 06 25 1958
Numeric Class: INL-5 FNL-0
Alpha Class: INL-WF FNL-WF

Latitude: Source: Longitude:

CASING:
6 5/8 @ 3184 W/ 100SX

Contr: Tools: ROTARY RIG Nbr:

INITIAL POTENTIAL TESTS:

FORMATION TOPS: (Source,Names,Depths,Shows)

LOG
452KIBB 0 452CCNN 325 419SUPI 1205
359RDWL 1945 152MUAV 2470 152TONT 2580
152BGAG 2990 152TPTS 3090 109GRNT 3420

SPL
452KIBB 0 419SUPI 1230 359RDWL 2026
152MUAV 2470 306TMPB 2487 152BGAG 2990
152TONT 3090 109PCMB 3420

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

LOG SURVEYS:

EL HALB

OTHER WELL INFO:

DRILLING SHOWS:
3432-3432 109PCMB OIL -

Description of well cuttings (2148'-3287')
from
Darrell Collins well #1
1½ mi. N.W. of the Gap
TD reported 3440'
Analysis by Frank Turner

Depth in feet	Composition of cuttings	Remarks
2148-2153	Limestone, rare shale	Limestone: gray, medium grained.
2164-2165	Limestone	Limestone: gray to white, medium grained.
2165-2169	Limestone	Limestone: white, medium grained.
2169-2172	Limestone	Limestone: white, medium grained, contains some calcite. Very rare shale fragments found.
2172-2175	do.	Do.
2182-2186	do.	Do.
2186-2197	Limestone and sandstone	Limestone: cream colored, medium to fine grained, contains rare calcite sandstone; dark red.
2197-2204	Limestone	Limestone: white, fine grained to medium grained; contains calcite.
2204-2209	do.	Do.
2209-2215	do.	Do.
2215-2225	do.	Do.
2225-2245	do.	Do.
2270-2275	do.	Do.
2275-2281	do.	Do.
2281-2287	Limestone	Limestone: white, fine to medium grained, rare calcite.
2287-2290	Limestone	Limestone: cream colored, medium grained.

Description of well cuttings (2148'-3287') from Burrell Collins well #1-Cont.

Depth in feet	Composition of cuttings	Remarks
2290-2297	Limestone	Limestone: cream colored, medium grained.
2300-2302	do.	Do.
2305-2325	do.	Do.
2325-2337	do.	Do.
2337-2340	Sandstone	Sandstone, very calcareous:dark, reddish brown.
2340-2345	do.	Sandstone: pink to cream, fine grained.
2340-2347	do.	Sandstone: tan, contains pyrite and biotite mica.
2345-2350	Limestone and sandstone	Limestone: gray to cream, some sandstone.
2350-2351	Limestone	Limestone: cream color, rare calcite.
2369-2375	do.	Limestone: light tan, fine to medium grained.
2375-2380	do.	Do.
2380-2382	do.	Do.
2386-2394	do.	Limestone: light grayish orange, fine grained.
2394-2405	do.	Limestone: gray to cream, some calcite.
2425-2432	do.	Limestone: very sandy.
2440-2447	Sandstone	Sandstone: tan, contains pyrite and biotite mica.
2447-2460	do.	Sandstone: light gray, very limey, contains pyrite cubes.
2460-2462	do.	Do.
2462-2463	Limestone	Limestone: light gray, sandy.

Description of well cuttings (2148'-3287') from Burrell Collins well #1-Cont.

Depth in feet	Composition of cuttings	Remarks
2463-2466	Limestone	Limestone: dark reddish gray, sandy, some calcite.
2475-2480	Sandstone	Sandstone: brown, very calcareous, pyrite cubes.
2485-2490	do.	Sandstone: dark reddish gray.
2490-2495	do.	Sandstone: yellow brown.
2490-2500	do.	Sandstone: yellow brown, rare quartz.
2509-2517	do.	Do.
2517-2525	Quartzite	Quartzite: red brown, very fine.
2532-2537	Sandstone	Sandstone: dark red brown, fine grained.
2550-2560	Limestone	Limestone: dark red brown, fine grained, very sandy.
2560-2566	do.	Do.
2570-2574	do.	Do.
2581-2589	do.	Limestone, very sandy.
2595-2605	do.	Limestone: sandy.
2660-2665	do.	Do.
2672-2675	do.	Limestone: fine to medium grained.
2675-2682	Limestone, and little shale	Limestone: gray. Shale: calcareous gray.
2694-2696	Limestone	Limestone: dark gray.
2706-2711	do.	Limestone: gray, medium grain.
2732-2735	do.	Limestone: gray, some sandstone.

Description of well cuttings (2148'-3287') from Burrell Collins well #1-Cont.

Depth in feet	Composition of cuttings	Remarks
2738-2743	Limestone and shale	Limestone: sandy. Shale: brown.
2743-2753	Limestone	Limestone: dark gray, fine grained, sandy.
2753-2760	Limestone - quartzite?	Limestone: gray, fine to medium grained, contains peridotite, iron stains.
2760-2767	Limestone - schist	Limestone: gray, rare schist.
2767-2773	Limestone	Limestone: gray.
2778-2781	do.	Do.
2778-2810 ??	Limestone and quartzite	Limestone and quartzite: gray.
2781-2790	Limestone	Limestone: gray.
2790-2799	do.	Do.
2805-2810	do.	Do.
2802-2805	Limestone and quartzite	Limestone and quartzite: gray.
2805-2810	do.	Do.
2810-2818	do.	Do.
2835-2840	Limestone	Limestone: gray, fine grained.
2840-2848	do.	Do.
2848-2858	do.	Limestone: gray, fine grained, sandy.
2858-2865	do.	Do.
2865-2873	do.	Do.

Description of well cuttings (2148'-3287') from Burrell Collins well #1-Cont.

Depth in feet	Composition of cuttings	Remarks
2874-2881	Limestone	Limestone: gray, fine grained, sandy.
2894-2898	Sandstone	Sandstone: gray, fine grained, intermingled peridotite.
2911-2914	do.	Sandstone: gray, fine grained. Some schist.
2914-2922	do.	Do.
2922-2930	Sandstone, schist, possibly quartzite	Do.
2944-2954	Shale, quartzite	Shale: gray, calcareous.
2954-2958	Quartzite	Quartzite: gray.
2964-2974	do.	Do.
2958-2964	do.	Quartzite: gray, fine-grained.
2964-2974	do.	Do.
2971-2976	Quartzite, schist	Quartzite: dark gray, fine grained. Schist: micaceous, peridotite common.
2993-3003	do.	Do.
3003-3011	Quartzite, schist, quartz, peridotite	Quartzite: gray, fine grained. Schist: few fragments. Quartz: clear. Peridotite common, some iron stains.
3041-3045	Quartzite, quartz, schist, peridotite	Quartzite: gray. Some peridotite.
3045-3058	Quartzite, schist, pyrite, peridotite	Quartzite: gray, fine-grained. Schist: dark gray. Pyrite and peridotite in quartzite.
3058-3065	Quartzite, schist	Quartzite?
3125-3129	Quartz, schist	Quartz probably from quartzite. Schist common, iron stains.
3129-3136	Sandstone, quartzite, quartz	

Description of well cuttings (2148'-3287') from Burrell Collins well #1-Cont.

Depth in feet	Composition of cuttings	Remarks
3168-3176	Quartzite and schist	Quartz: probably from quartzite; schist fragments: some iron stains.
3164-3168	Quartz, schist	do.
3168-3184	do.	Quartz sands: probably from sandstone, tan-colored from iron.
3192-3200	Quartz sands	Quartz: clear. Quartz sand: tan, fine-grained, probably from sandstone.
3200-3205	Quartz, quartz sand	Quartz sand: probably from quartzite, mica schist, peridotite. Iron stains possibly from pyrite.
3202-3205	do.	Quartz sand: clear, very fine-grained, probably from sandstone.
3237-3243	Quartz sand	Quartz sand: clear to tan, very fine-grained, probably from sandstone.
3275-3287	do.	

BOND NO. _____

AMOUNT _____

CANCELLED _____

ORGANIZATION REPORT _____

No Permit

Based upon examination of the sedimentary rocks exposed in the Whitney Pass area[1] and other exposed sections in the Virgin Mountains to the north and northwest,[2] the following sedimentary sections are indicated to be encountered in drilling a test well on the Cedar Wash Structure.

CAMBRIAN

Formations of Cambrian age can be observed in the Virgin Mountain section about 6 miles northwest of the Cedar Wash Structure. McNair[3] shows the section there to be 2,200 feet thick. In considering the known thinning of the formations to the southeast, it is estimated that the Cambrian will be about 2,000 feet thick beneath the Cedar Wash Structure.

The sedimentary section comprising this period consists of the Lower Cambrian Prospect Mountain Quartzite and sandstones and the Middle Cambrian shales and limestones.

The Prospect Mountain formation is correlated with the Tapeats sandstone in the Grand Canyon section to the east. The log on record at the Arizona Oil and Gas Commission of the Collins and Cobb Well, drilled near the Gap in Coconino County, indicated oil shows in this section. This was a cable tool test and recovered a black oil-saturated mud from the Tapeats

[1] Unpublished report by Donald McCarthy, April 1949, "Section of Paleozoic Rock Outcropping Near the Arizona-Nevada Border, approximately at the South End of the Virgin Mountains."

[2] Unpublished Confidential Report of Alex W. McCoy Associates, Inc., "Strategically Located Leased Blocks in Southeast Nevada and Their Relationship to Oil and Gas Possibilities of the Region."

[3] McNair, Andrew H., Paleozoic Stratigraph of Part of Northwestern Arizona: Bull., A.A.P.G., Vol. 35, 1951.

file 3-5

zone which was petroliferous enough to burn. The shales, limestones, and dolomites of the Cambrian age above this zone are correlative with the Bright Angel shales and the Muav limestones of the Grand Canyon section. These formations had oil and gas shows in Tidewater Oil Company's Paria Dome Test in south central Utah.

ORDOVICIAN

According to McNair, there exists approximately 200 feet of Ordovician Dolomitic Limestone in the Virgin Mountain section which he has tentatively assigned to the Ordovician Pogonip formation. It was noted, however, that McCarthy measured as much as 900 to 1,000 feet of section in the Whitney Pass area which he identified as Ordovician. In the Shell well drilled approximately 50 miles southwest of the Cedar Wash Structure in Clark County, Nevada, approximately 110 feet of Ordovician was logged.

We assign an estimated thickness of 200 to 400 feet of Ordovician on Cedar Wash. The Ordovician is one of the most prolific oil and gas producing zones in the U. S., being locally designated as the Ellenberger in west Texas, the Arbuckle in Oklahoma, and the Silicious in western Kansas.

DEVONIAN

The Virgin Mountain section reveals about 550 feet of gray-brown limestone and dolomitic limestones of Devonian age. These are assigned to the Muddy Peak formation of Nevada which is correlative with the Marin of northern Arizona.

The Devonian rocks are known to be petroliferous in southeastern Utah and should be considered a possible oil and gas potential in the Cedar Wash area.

file 3-5

State of Arizona
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500

Fife Symington
Governor

Larry D. Fellows
Director and State Geologist

July 10, 1996

Mr. Bruce H. Wiley
Conoco, Inc.
10 Desta Drive, Suite 100W
Midland, Texas 79705

file 3-5

Dear Bruce:

The Application for a Research/Study Permit was mailed yesterday. A copy of the cover letter and signed application page are enclosed for your file.

Thank you for sending the PI printouts for the Collins wells. Some notes and photos of my October 1990 field check of the two wells on the 7.5' Bodaway Mesa Quadrangle are enclosed in return. The TD and elev of the Collins-Burrel 1X on the printout matches very well with the abandoned well monument for the Collins well 1XX-3, and the relative position of the Burrell-Collins 1 Natoine on the printout matches very well with the abandoned well monument for the Collins well 1X (note from the enclosed USGS sheet that the 1X was skidded 15 feet from the 1 Natoine). The two wells, however, are actually in 35-34n-8e rather than 22-34n-8e as inscribed on the well monuments and as listed in the PI printouts.

It looks like the Burrell Collins 1X (36-34n-8e on the printout) was a reentry of the Burrell-Collins 1 Natoine, and the Reeves & Rankin 1 (also 36-34n-8e on the printout) was a deepening of the Burrell Collins 1X (i.e 1 Natoine). The TD of the Reeves and Rankin 1 on the printout matches very well with the abandoned well monument for the Collins well 1X. I think these three wells are the same hole.

The other three holes on the printouts are more problematic. In light of the actual location of the Collins 1X and Collins 1XX-3 the two holes on the printouts in sections 2 and 4 would actually be in sections 13 and 15, and the hole on the printout in section 27 would actually be in 2-33n-8e, and the elevations would match up pretty well. However, no wells are shown on the Bodaway map in sections 2, 4, 13, 15, 27-34n-8e or 2-33n-8e, which suggests to me that no well monuments are present, and that no holes actually exist. Only a field check would confirm or deny this.

Two contemporary accounts about the wells are enclosed. Hager, 1948, records TD at 3440' in Tapeats. He also records a show of oil in Tapeats (which matches up somewhat with the oil show reported at 3432' in Precambrian on the PI printout for the Collins Burrel well). Umbach, 1948, records TD at 3246' in Cambrian. As can be seen in these two accounts, there was already confusion about the locations of these wells in 1948.

We have a sample at 3440' for the Collins Cobb well. It consists of a few loose fine sand grains. Note that Huddle & Dobrovolny, 1952, (enclosed) noted that samples from the XX 1 were incomplete and difficult to correlate.

In any event, in light of all this, I suspect the Collins well 1XX-3 was the only well drilled to 3440' and that it TD'd in Cambrian Tapeats. Printouts of seven wells probably record reentries. Oh well.

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil and Gas Program Administrator

Enclosures

State of Arizona
Arizona Geological Survey
845 North Park Avenue, #100
Tucson, Arizona 85719
(602) 882-4795

Fife Symington
Governor

Larry D. Fellows
Director and State Geologist

August 12, 1991

Mr. James G. Palacas
U. S. Geological Survey
P. O. Box 25046, MS 971
Denver, CO 80225-0046

Dear James:

I am writing to let you know that the Oil & Gas Conservation Commission was merged into the Arizona Geological Survey on July 1, 1991. I can now be reached at my new address, that is, the letterhead address and phone number.

My files indicate that you are still in possesion of the well samples on the Collins-Cobb well in Coconino County, Arizona. I trust that these samples are still secure in your possession.

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Program Administrator

Permit # 3-5

United States Department of the Interior

GEOLOGICAL SURVEY
BOX 25046 M.S. _____
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

IN REPLY REFER TO:

Office of Energy and Marine Geology
Branch of Petroleum Geology

TAKE PRIDE IN AMERICA

November 21, 1991

Dr. Steven L. Rauzi
Arizona Geological Survey
845 North Park Avenue, #100
Tuscon, AZ 85719

Pre-Permit # 3-5

Dear Steve,

Under separate cover, I am sending back to you the well cuttings samples on the Collins-Cobb #1, Coconino County, Arizona. I looked through the samples, and in the Tapeats zone the sample content is so small (a few grams of loose sand grains) that if we performed our standard analyses (Rock-Eval, extractions, etc.) the results would be meaningless.

However, I thank you very kindly for your effort and time spent in sending me the samples. I hope we can work out some cooperative studies on the Precambrian in the near future. Best wishes and warm regards.

Sincerely yours,

Jim Palacas

James G. Palacas

NOV 1991
ARIZONA GEOLOGICAL SURVEY

#210-A

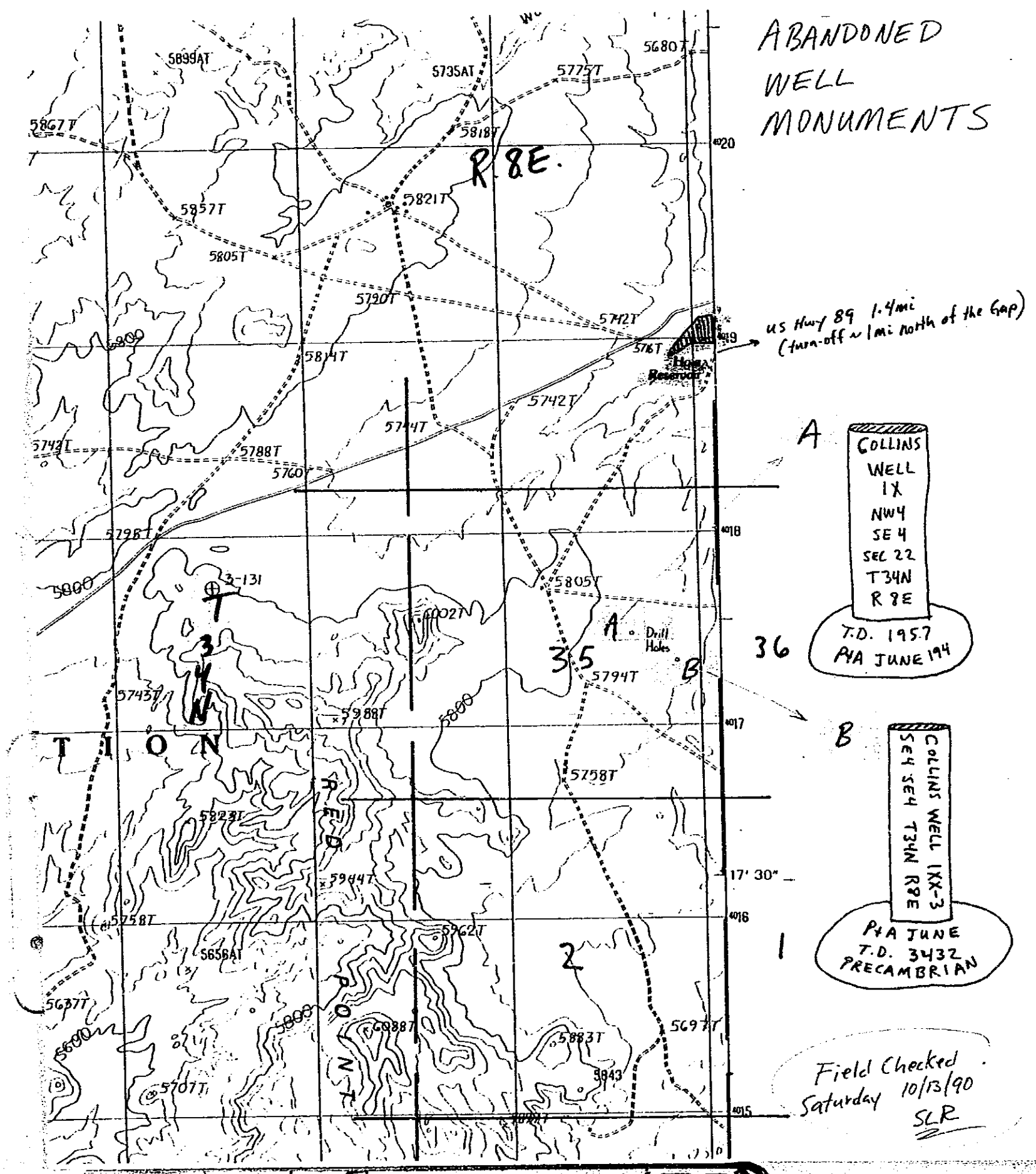
October 19, 1990

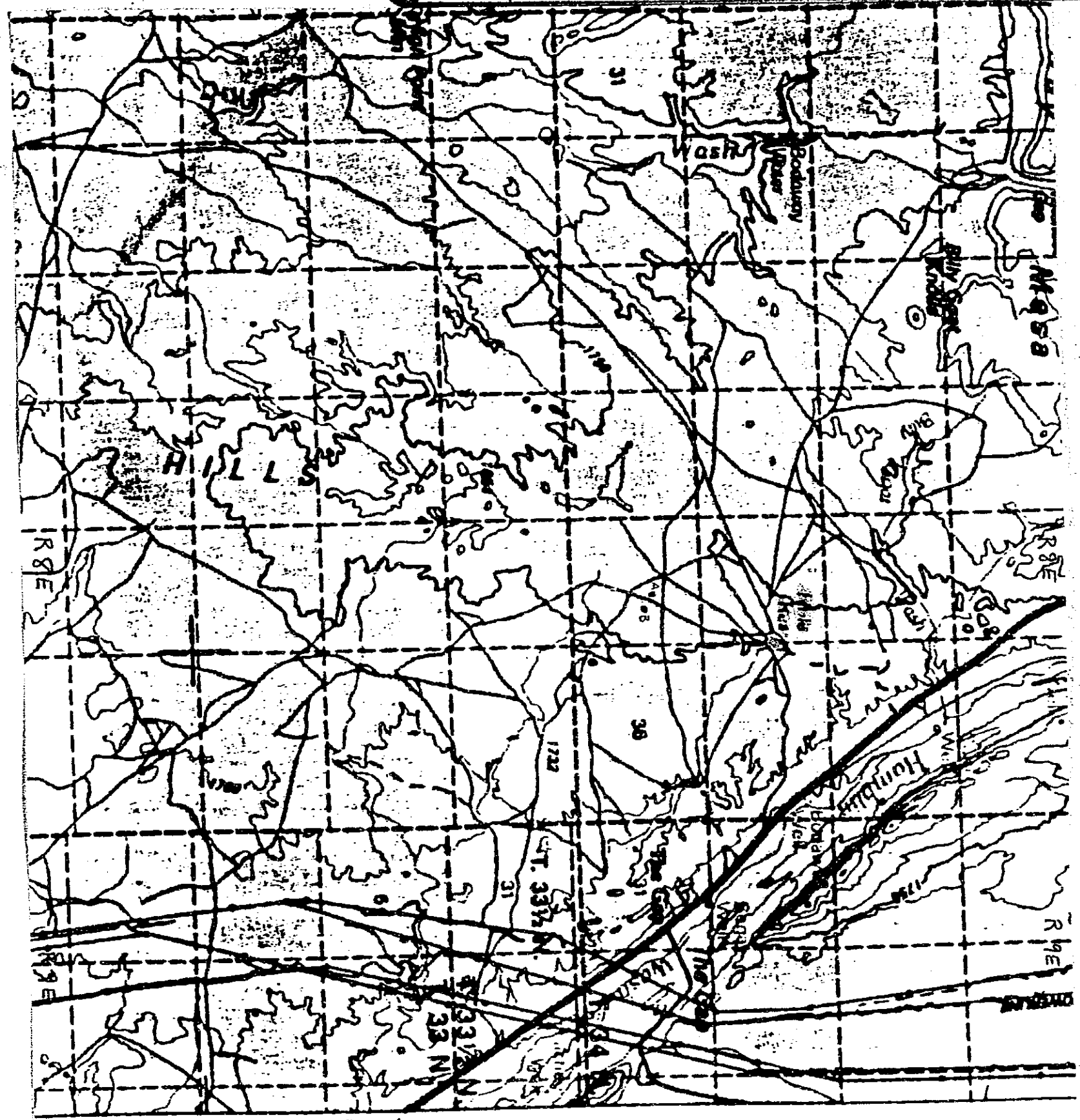
Memo: **Collins Well File #3-5**
From: SLR Steven L. Rauzi
Re: Field inspection of well location

On Saturday, October 13, 1990, I inspected the Collins well location. Before leaving the office, I overlaid the BLM Protraction Diagram Number 40 onto the BODAWAY 7.5-minute topographic map. I arrived on location with this map.

The field inspection verified that the two drill holes indicated on the BODAWAY topographic map are in fact the Collins wells #1X and #1XX-3. Even though 22-34n-8e is inscribed on the well monuments, the locations of the two Collins wells are in fact in section 35-34n-8e. The Collins 1X is in sw ne 35-34n-8e, and the 1XX-3 is in ne se 35-34n-8e.

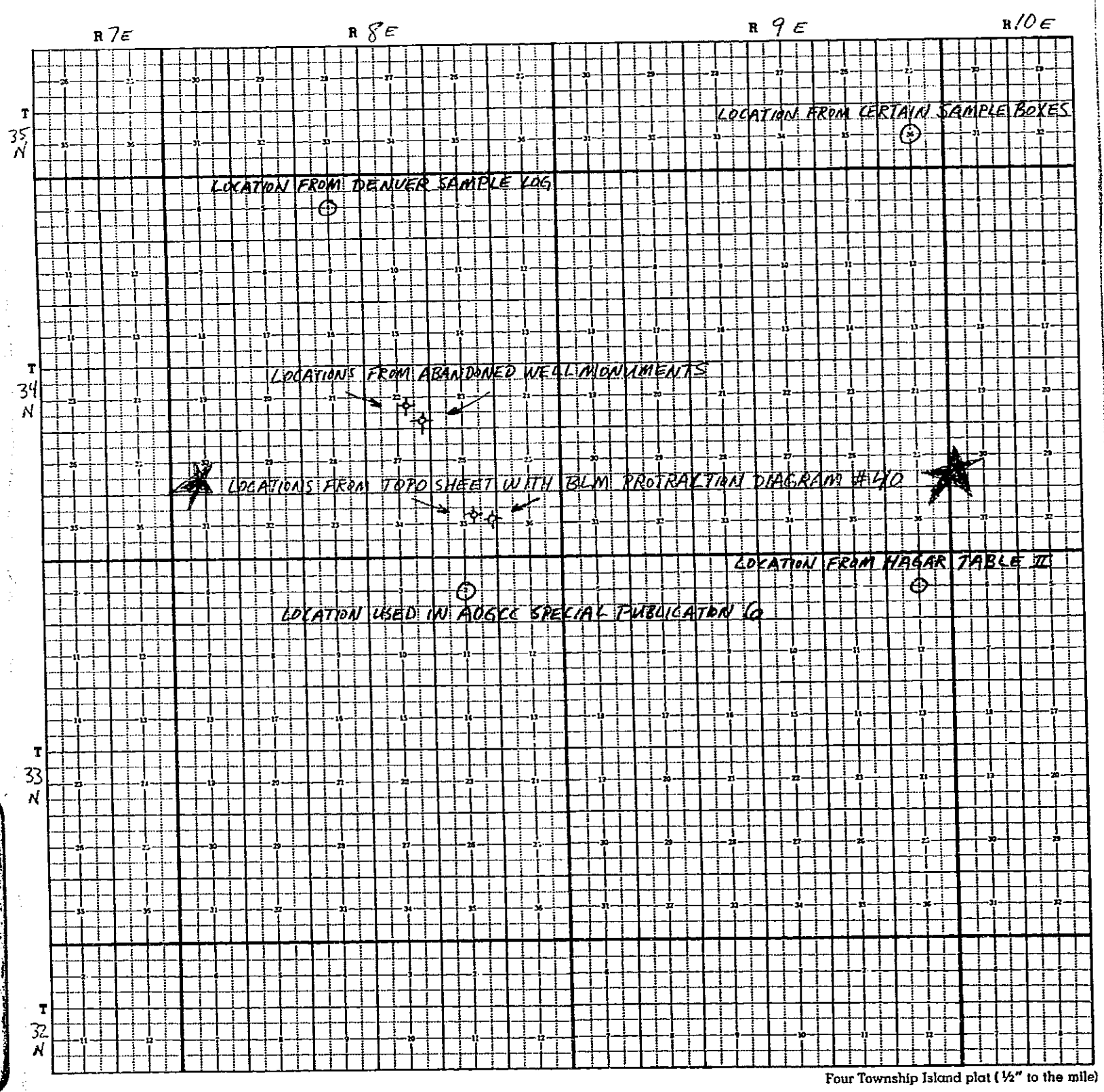
Attached to this memo are annotated photographs taken at the locations, an annotated copy of the BODAWAY topographic map, an annotated copy of the 1989 BLM Strip Distract Visitor Map, and a township plat showing the various locations that have previously been used for the Collins wells.


ABANDONED
WELL
MONUMENTS
R 8E.
T 34 N
T I O N
Hoga Reservoir
Drill Holes
us Hwy 89 1.4mi
(turn-off ~ 1mi north of the Gap)
A
COLLINS
WELL
1X
NW4
SE 4
SEC 22
T34N
R 8E
T.D. 1957
P&A JUNE 194
B
COLLINS WELL 1XX-3
SE4 SE4 T34N R8E
P&A JUNE
T.D. 3432
PRECAMBRIAN
Field Checked
Saturday 10/13/90
SLR
17' 30"

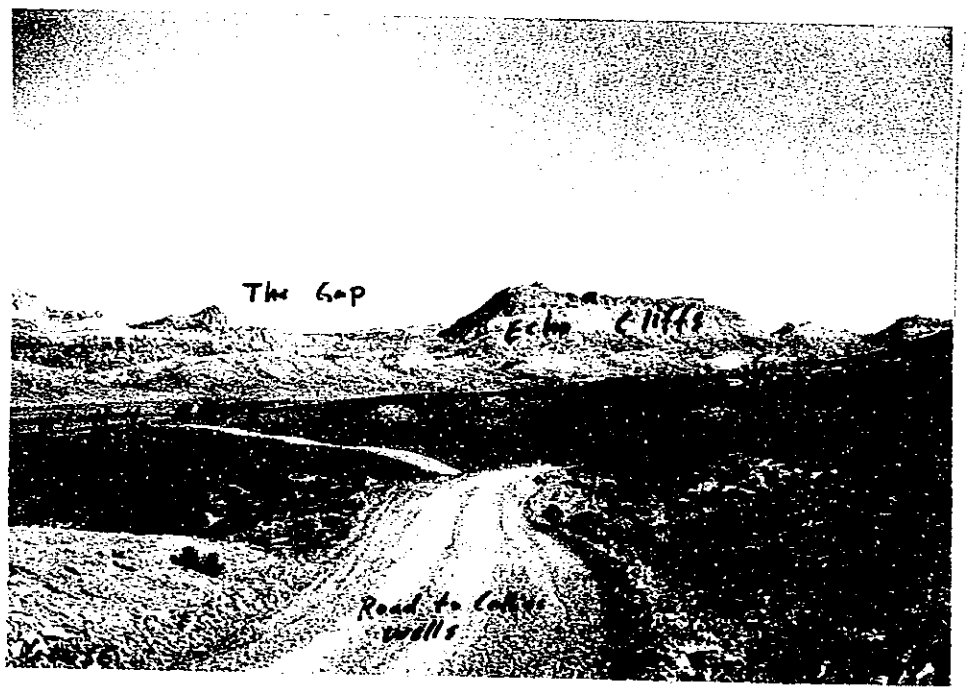

HILLS
Wash
Holbrook
R 8 E
R 9 E
T. 33 N.
33
FLAGSTAFF, AZ
83 MILES

No. 4B. TOWNSHIP PLAT.—Bradford-Robinson Ptg. Co., Mfrs. Robinson's Legal Blanks, 1824-46 Stout St., Denver, Colorado

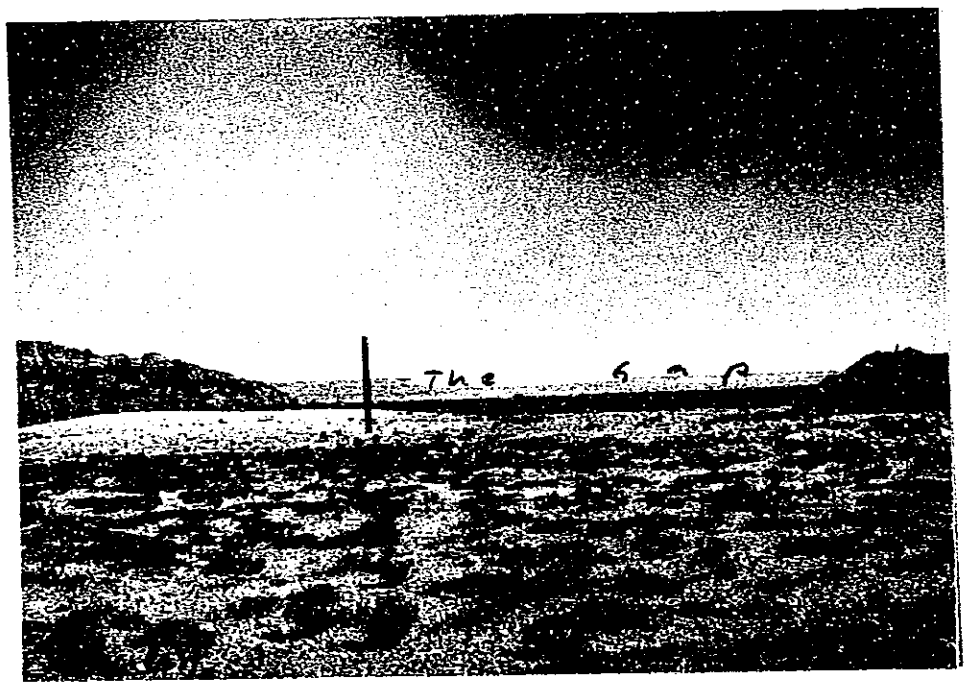
County COCONINO, State ARIZONA

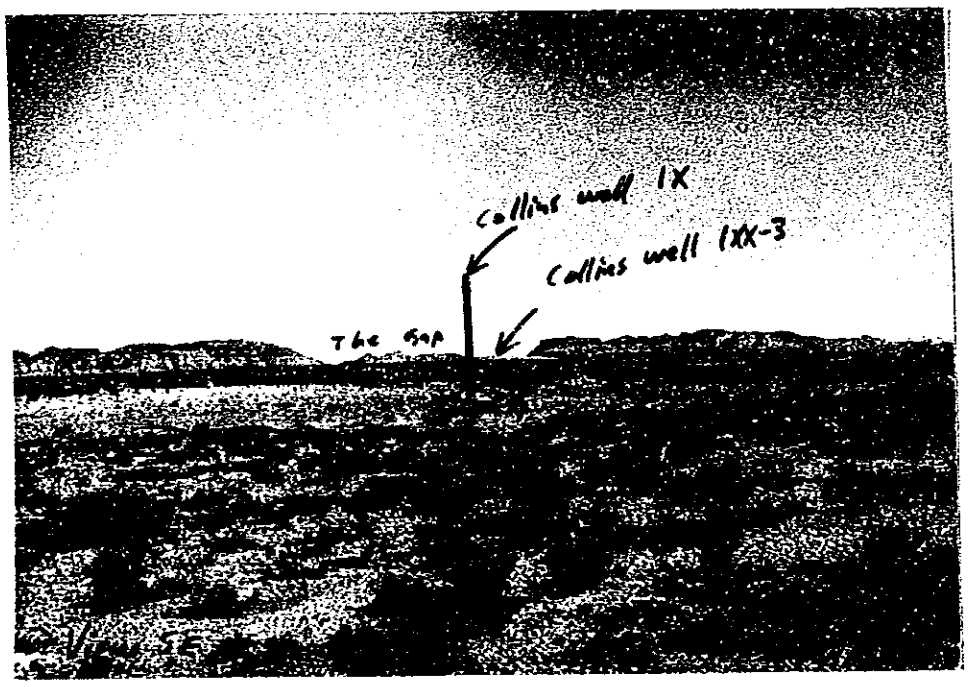


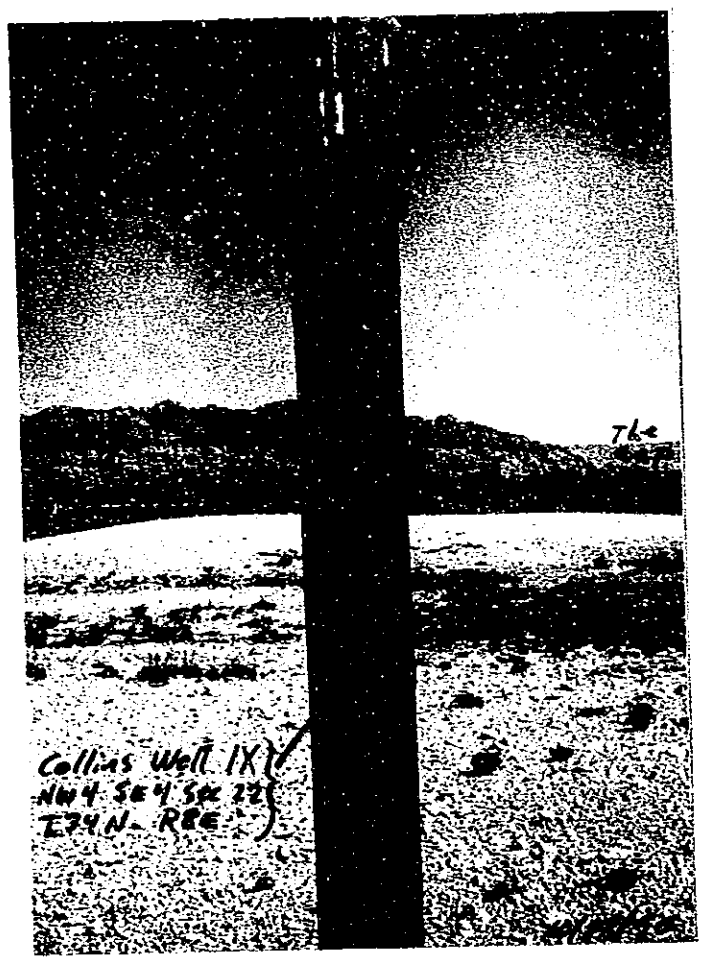
Four Township Island plat (½" to the mile)

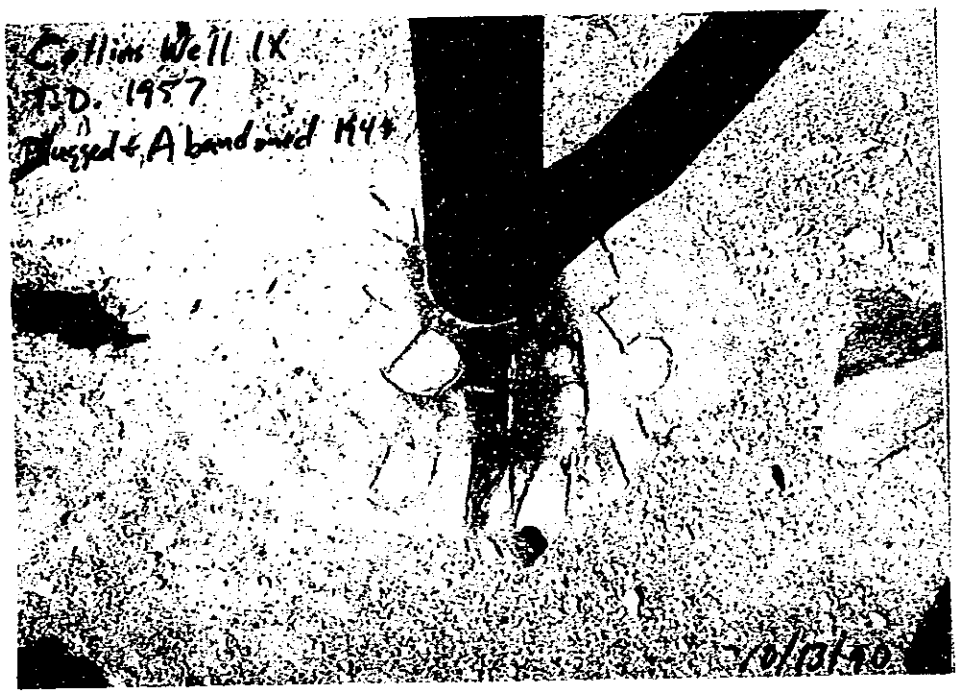

The Gap
Echo Cliffs
Road to Collins Cobb wells

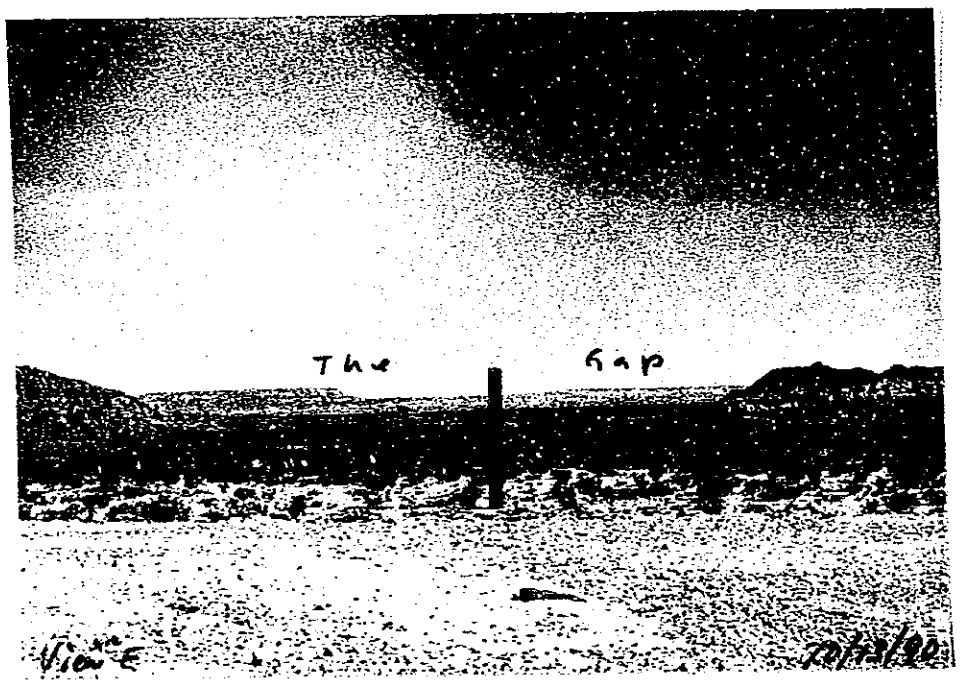
View NE
Road to Collins Cobb wells

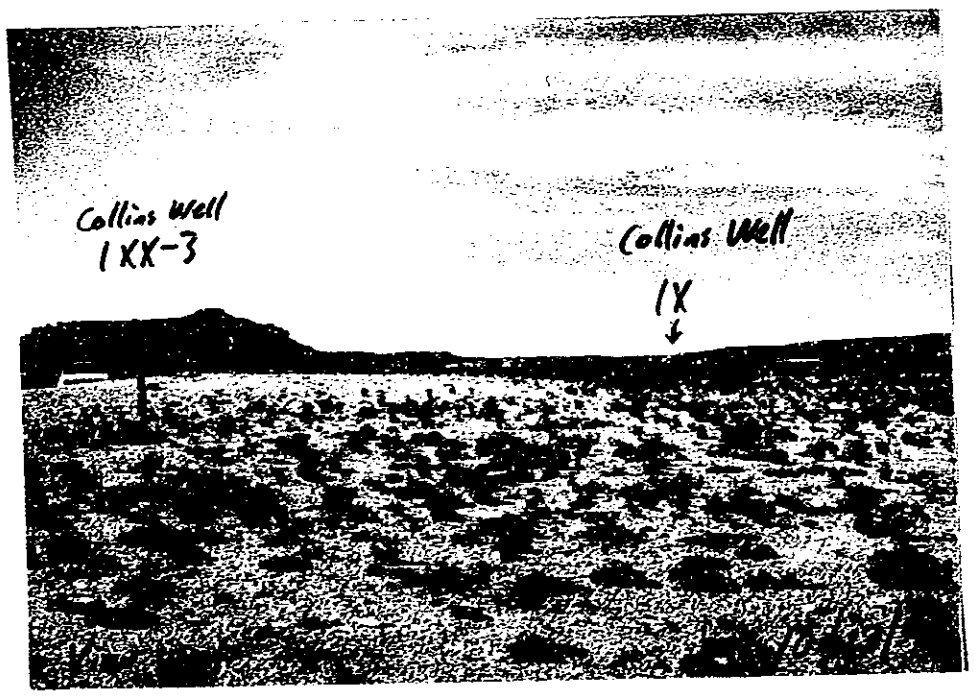

The Gap

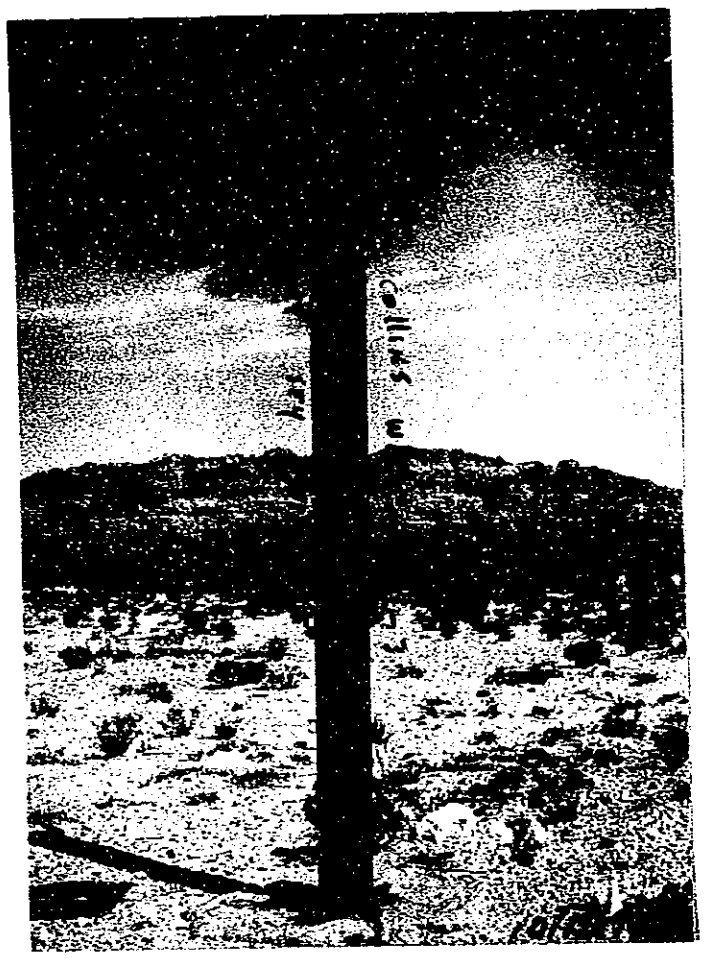

Collins well IX
Collins well IXX-3
The Gap


Collins Well IX
NW4 SE4 Sec 22
T24N - R8E


Collins Well IX
T.D. 1957
Plugged & Abandoned 1944


The Gap
View E
20/12/80


Collins Well
1XX-3
Collins Well
1X



PYA June

The Gap

Oil and Gas Conservation Commission
STATE OF ARIZONA
5150 N. 16th STREET, SUITE B-141
PHOENIX, ARIZONA 85016
PHONE: (602) 255-5161

July 5, 1990

Mr. James G. Palacas
U. S. Geological Survey
Denver Federal Center, MS 971
P. O. Box 25046
Denver, CO 80225-0046

RE: Well sample box 1871 (2), Collins-Cobb well,
Coconino County, Arizona

Dear James:

I finished boxing the Collins Cobb well samples this week and will be shipping them to you, with the sample log, via UPS tomorrow. They should reach you by Wednesday or Thursday.

I am enclosing our sample policy for your file and a copy of our record of borrowed material. I have also enclosed Dorsey Hager's Table II which lists the oil shows in the Tapeats Sandstone. However, I think his location should be in Range 8 East.

I hope that your analysis of these samples is fruitful and I eagerly anticipate word of your results.

Sincerely,

Steve

Steven L. Rauzi
Oil & Gas Specialist

Enclosures

'L & GAS CONSERVATION COMMISSI

OIL & GAS CONSERVATION COMMISSION
STATE OF ARIZONA
5150 N. 16th ST., B141
PHOENIX, ARIZONA 85016
602 - 255- 5161

SAMPLE POLICY

The Oil and Gas Commission hereby adopts the following as its policy regarding samples and cores. In the declaration of policy "samples" is meant to include rotary and cable tool cuttings and chips and cores, core slabs and core chips.

1. Samples received by the Commission under Rule 12-7-21 shall be preserved and maintained in good order.

2. A record or file shall be kept indicating the location of samples from each well.

3. Samples are to be maintained for use as a public library.

4. Samples may be examined on the premises by any person requested to do so. Reasonable notice for retrieval of the samples may be required.

5. Samples may be loaned for use off-premises to any responsible person at the discretion of the Commission.

6. Users of samples shall take reasonable and customary measures to maintain the integrity and volume of each individual sample and shall not mix samples together.

   a. Users may use ordinary tests for mineralogical determination. Acid must not be placed in the bulk sample, rather one or two individual grains may be removed to a separate container for acid tests.

   b. Solvents must not be placed in the bulk sample, rather one or two individual grains may be removed to a separate container for solvent tests.

   c. In no case shall bulk solvent extraction, pyrolosis or other destructive tests be run on any samples without prior permission of the Commission.

7. Users shall return all individual samples to their original containers. If the container is damaged beyond use, a new container shall be provided.

8. Users shall replace all samples in order from top of the hole down in the original sample box.

9. Users shall provide the Commission, within 30 days of their completion, copies of all logs, paleontological and other reports, maturation studies, source rock analysis and any other study or analysis made possible by use of samples from the Commission's library. The Commission will grant a 6-month confidentiality period if so requested by the owner of the report and may grant one six-month extension of the period of confidentiality if so requested.

11/21/86 - ADOPTED AS REVISED BY THE OIL AND GAS CONSERVATION COMMISSION.

RECORD OF OGCC MATERIAL TAKEN FROM OFFICE TO BE RETURNED

Description of Material:

Well samples of Collins Cobb well, sample box Number 1871 (2 boxes) from 560' to 3430'

I, (print) James Palacas, representing USGS Petroleum Division, whose address is BX 25046, DFC, MS 971, Denver, CO 80225, and whose phone number is 303-236-9383 am in receipt of the above described material this _____ day of _____ 19__, and will return same to the OGCC office on the _____ day of _____ 19__. ASAP after geochemical analysis

_____
(Signature)

Authorized by:

Steven L. Rauzi 7/5/90

OIL & GAS CONSERVATION COMMISSION
STATE OF ARIZONA
5150 N. 16th ST., B141
PHOENIX, ARIZONA 85016

TABLE II

15 TEST HOLES IN NORTHEAST ARIZONA AND 3 IN SOUTHEASTERN UTAH

County	Company	Location	Completion	Depth	Formation Started in	Deepest Formation Penetrated	Reported Gas & Oil Showings	Structural Feature
Coconino	Collins-Cobb	Sec. 1-33N-9E	1948	3440	Kaibab l. s.	Tapeats s. s.	Shows Oil in Supai and in Tapeats s. s.	Large Fold-Low West Closure
	Barron-Steele	S.E. Sec. 15-27N-9E	1948	2150	Kaibab l. s.	In Supai	Shows in Supai	Large N trending Fold-Low South Closure
	Babbitt No. 1	Sec. 30-20-N-12½E		1155	Kaibab l. s.	Supai?	Water in Coconino	Northwest Flank Sunshine Fold
Apache	Argo Oil Co.	Sec. 22-15N-29E	1945	2637	Chinle sh.	Granite	Showings asphalt in Supai	Large Dome, N.W. striking anticline
	Hogback Oil Co.	Sec. 24-23N-30E	1927	1510	Chinle sh.	Granite	None reported	Faulted fold—southeast flank Defiance Uplift
	Franco-Arizona Oil Company	Sec. 14-14N-26E	1941	2592	Moenkopi	Granite	None reported	Large dome—N.W. striking anticline
	Zuni Oil Co.	Sec. 6-19N-24E	1922	943	Chinle sh.	Lower Moenkopi or Coconino s. s.	Showing small Gas & Oil at 943	Far down East flank of Little Carrizo fold
Navajo	Adamana Oil Co.	Sec. 4-14N-20E	1924	3387	Moenkopi	Naco	Oil in sh. 1740-50 sh. 1940-50, sd. 2250-2300 sd. 2480-95, 3380 sdy. l.s.	1½ Mi N. E. of top of Holbrook anticline
	Black Canyon Oil Co.	Sec. 20-16N-17E	1923	510	Kaibab l.s.	Coconino s. s.	None	N. W. flank, Holbrook anticline
	Great Basin Oil Co.	Sec. 21-17N-20E	1926	4675	Coconino s. s.	Granite	1925-1935, gas-salt water; 3590-3596 l.s., oil-water; 3685-3870 Arkosic s.s., oil-water	On Higgins Dome. Closure 60 ft. Covers 200 acres, more or less
	Holbrook Oil Co.	Sec. 23-15N-18E	1925	3775	Coconino s. s.	Devonian?	Show Gas & Oil	Down North flank, Holbrook anticline
	Hopi Oil Co.	Sec. 21-15N-19E	1922	2420	Coconino s. s.	Rice	Show Gas & Oil	Down North slope, Holbrook anticline
	Union-Continental No. 1	Sec. 19-15N-18E	1943	3850	Coconino	Cambrian?	Small shows oil	On top large dome on Holbrook Anticline
	Union-Continental No. 2	Sec. 24-15N-19E	1944	3607	Coconino s. s.	Granite	Shows of Oil	On top large dome on Holbrook anticline
	Midwest	Sec. 7-41N-23E	1923-24	2080	Supai	Redwall	Show gas	On Monument Uplift. Gypsum Creek
Utah	Utah-Southern	Sec. 29-40S-18E	1926	3650	Supai	Basement (Cambrian)	Show Gas & Oil	On Cedar Ridge anticline
	Western Gas No. 1 Byrd-Frost	Sec. 22-43S-22E	1948	6090	Navajo s. s.	Cambrian?	Show oil in Coconino and other horizons. 28,000,000 cu. ft. gas in Hermosa l.s. at 4630-4690 ft.	On Boundary Butte anticline
	Western Gas No. 2s Byrd Frost	Sec. 22-43S-22E	1948	1517	Coconino c. s.		130 bbls. of oil per day from 1504-1534 feet	On Boundary Butte anticline

STATE LAND DEPARTMENT

GAS AND OIL POSSIBILITIES OF NORTHEAST ARIZONA

By
DORSEY HAGER
Consulting Geologist

NOVEMBER, 1948

O. C. WILLIAMS
Commissioner

JAHN TYLER

file in permit #20

Amoco Production Company
Security Life Building
Denver, Colorado 80202

September 13, 1972

Mr. E. A. Koester
Oil and Gas Conservation Commission
4515 N. 7th Avenue
Phoenix, Arizona 85013

Dear Ed:

Attached is our scout ticket on the Eisele well. This data was assembled in the "old days" of detailed scout checks so it should be pretty good. As you can see, there is no report of flowing gas and the TD is 4231 by the ticket. However, sample TD is 4260. The Schlumberger log gives a depth of 4190.

Our tops (from various workers): Permit #20 1-16N-16E - Navajo Co.

T/Naco Penn 2285' (E Log)
T/Miss 3400' (E Log & Sample Log)
T/Dev Martin 3730' (E Log)
or
T/Carbonate 3470' (Sample Log)

One of our geologists ran the samples in 1957 and felt Granite Wash was drilled from 3770' to about 4200' and that granite was penetrated to sample TD 4260. Geo Log gives 3730' as top pre-Cambrian granite. I am enclosing an extra Geo Log copy that you can have if you need it.

We believe there is a relatively normal section in the Sinclair Cow Springs 34N-8E well, based on regional correlations. The Collins well does indeed have a very thin Pennsylvanian section (78'?), while wells to the south (Sinclair #1 Santa Fe 28N-1W and Lockhart #1 Babbitt, 27N-9E) appear to be lacking in Penn sediments. This area of thinning extends north into southern Utah. Frankly, Ed, I have not done enough work on a regional scale to say whether this is an isolated uplift as Turner implies or whether it is just a regional thinning out of the Paleozoic geosyncline to the west. This is part of an area I have been trying to get some studies started in, but have not been able to procure the personnel. 28-37N-14E

file 3-5

RECEIVED
SEP 15 1972
O & G CONS. COMM.

Apparently Humble is having velocity problems--witness their #2 well. I was surprised to hear they are moving southeast. Getting into the Sonoran embayment it looks like to me.

Hope the info will be of some help.

Sincerely,

Glenn

H. G. Richards

HGR/cdm

Enclosures: Scout Ticket
Geo Log

RECEIVED
SEP 15 1972
O & G CONS. COMM.

1-10-72

Collins-Cobb or Burrell Collins deep test (Precambrian) in T34S-R8E, Coconino Co., Az

T33S-R8E-Sec. 2 — 10/21/74

There is considerable confusion concerning the well or wells drilled by Collins and/or Cobb in the subject township. Some records suggest two deep holes (one to Cambrian Tapeats, TD 3298', and one to Precambrian, TD 3440) were drilled.

The MNA card, Sample #91, shows a hole to 3432', carried as Collins-Cobb #1 (same as Burrell Collins #1) in 23-34N-8E.

NOTE:

Using BLM protection diagrams added to our 1974 USGS 1:500,000 base map and quad. location of McGavock (see Letter 1-7-71) this well is in Sec. 2 - T33N - R8E - near center of section, Apx L&L location:- 36°-17'-05" - 111°-30'-05"

Good match L-S gl elevation of 5781' with 5760'+ (40' C.I.) of preliminary edition of Shinumo Alter SE USGS topo. 7½' quad, 1955

J N Conley
10-21-74

of the cuttings by
ell, reported total
description by
-34S-8E. The log
depth of 3298'.
just one deep
in reply to my
drangle 61, District 3,
le West and 14.6 miles
(1) No two of our
added are in
T34N-R8E, but
in the south

JNC

1-10-72

Collins-Cobb or Burrell Collins deep test (Precambrian) in T34S-R8E, Coconino Co., Az

T33S-R8E-Sec. 2 — 10/21/74

There is considerable confusion concerning the well or wells drilled by Collins and/or Cobb in the subject township. Some records suggest two deep holes (one to Cambrian Tapeats, TD 3298', and one to Precambrian, TD 3440) were drilled.

The MNA card, Sample #91, shows a hole to 3432', carried as Collins-Cobb #1 (same as Burrell Collins #1) ? in 23-34N-8E. A lithologic description of the cuttings by Frank Turner of a Burrell Collins #1 well, reported total depth of 3440', matches reasonably well the description by Denver Sample Log Service of a well in 4-34S-8E. The log shows the well bottoming in Tapeats at a depth of 3298'.

It is my belief that there was just one deep well drilled. McGavock's letter of 1/7/72 in reply to my letter of 1/4/72 locates the well in Quadrangle 61, District 3, B.I.A.'s Land Net System, being 0.3 mile West and 14.6 miles South of the NE corner of the quad. (#61) No two of our maps with B.I.A.'s protraction diagrams added are in agreement as to the geographic location of T34N-R8E, but based on the B.I.A. location the well is in the south half of this township.

JNC

RECEIVED
JAN 10 1972
O & G CONS. COMM.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Water Resources Division
P. O. Box 253
Flagstaff, Arizona 86001

January 7, 1971

Mr. Jack N. Conley
Oil & Gas Conservation Commission
4515 North 7th Avenue
Phoenix, Arizona 85013

Dear Jack:

Like youall, we have several different locations for the Burrell Collins (Collins-Cobb) oil test near The Gap.

We have never located the well on a map but just taken locations reported from other outfits. All the locations we have were referred to in your letter.

However, I had the former Navajo Tribal Drilling Superintendent and "Doc" Gillespie, from our office, locate (from memory) the well on the Shinumo Alter 15' Quad map. Their locations coincided so closely that I'll give you a guess. Try Quad 61, 0.3 W x 14.6S. The elevation in that area is about 5,800 feet.

We have no Twp. & Rge. projection in that area so you will have to take it from there.

The community of The Gap is located at the junction of Highway 89 and 21; the 7½' map is wrong.

The above data may do no more than add to the confusion, but that's what I'm here for. Sorry I can't be more help.

Sincerely yours,

E. H. McGavock

January 4, 1972

Mr. Ed Holbrook
Post Office Box 253
Flagstaff, Arizona 86002

Re: Burnell Collins (Collins-Cobb) wells in T34N-R8E, Coconino County, Arizona

Dear Ed:

I am thoroughly confused as to the location of the Collins (Cobb) wells drilled in the subject downship, and the meager and conflicting information pertaining to them. Based on the correspondence in our files everyone that has attempted to unravel the mix-up has also been confused.

If at all possible, I would like to resolve a few of the inconsistencies. One of the most important is whether or not two deep tests were drilled in the township. We have a set of drill-bit cuttings from 550 to 3430'. The Museum of Northern Arizona's index card for this set of samples states that the well was drilled by Collins-Cobb (Same as Burrell Collins), #1, no form or lease name, in (A-34-8)23 dd. We also have a Geo-Log sample card showing the form name as #1 Navajo and location in the C SE/4 SE/4 of Section 23. The MNA card indicates that this well bottomed in Precambrian rocks.

But, to confuse matters, we also have information indicating that another deep hole (for the area) was drilled nearby. We have a lithologic description by a Frank Turner, 2148-3287', in our file of a well reportedly drilled to a total depth of 3440' by Burrell Cobb, #1 ?, 1½ miles NW of The Gap. This location description and total depth fits roughly that of the MNA card.

We also have a Denver Sample Log of a Collins #1 Navajo in Sec. 4 - T34N-R8E; samples start at 238' in Coconino and bottom at 3298' in Cambrian Tapeats(?). The lithologies described by Turner match reasonably well those shown on Denver's log between 2148' and 3287', although there are descrepancies in the sample intervals.

The Museum also has a card for a well bottoming in Tapeats at a depth of 3244'. It lists this particular hole as the Burrell-Collins #3 (same as Natoine-Navajo #2-X) in the SW/4 SE/4 Sec. 22 - T34N-R8E.

January 4, 1972

To further confuse the matter, Laughlin-Simmons determined the elevations of two wells in the township: Collins #1-X ? , 1150' FSL and 1500' FEL? of Sec 22 - T34N-R8E, or 450' N and 850' W of #1-XX-3, elevation 5783'DF, 5781'GR; and Collins #1-XX-3, SE SE of Sec. 22-T34N-R8E, elevation 5776' DF, 5774' GR. An inquiry to this firm elicited the information that they did not attempt to determine the exact section.

I doubt seriously if two wells were drilled to Cambrian or Precambrian depths in this vicinity. But just where the one that was drilled is located, I do not know.

And, another discrepancy: The Gap SW 7½ minute quad, 1955 does not show any elevations near 5781' in the vicinity of The Gap. The Gap community, as shown on this quad has an elevation of about 5360'. Incidentally, this quad shows the location of The Gap to be northwest of the junction of Hwy 89 and Hwy 21. The State Highway Map shows it to be at the junction.

I've got you thoroughly confused by now. But there are some water wells in the area, such as 3K-340 in Quad. 61 and 3K-316 in Quad. 60. Perhaps some of your personnel in the past spotted some of the Burrell Collins or Cobb holes into a photo, or map of the area. Or perhaps you have some information in your files that might resolve some of the problems. I assure you that anything you might have pertaining to the matter that you can furnish us will be most sincerely appreciated.

I am enclosing a sketch map showing the location of a Collins well, and a letter to Laughlin-Simmons listing some locations. Perhaps from the sketch map you can give me your guess as to what section the well shown is in, if you don't have better dope.

Very truly yours,

JACK N. CONLEY

Enclosures - as stated

JNC:lb

cc: file

OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

File:-

April 8, 1971

Laughlin-Simmons & Company
3021 North Oklahoma
Oklahoma City, Oklahoma 73105

Gentlemen:

The Arizona Oil & Gas Conservation Commission will publish a catalog later this year listing all wells drilled for oil, gas, or stratigraphic information in the State for which we have well-cuttings and/or cores in this library or the one maintained by the Arizona Bureau of Mines in Tucson.

In some instances we have had considerable difficulty in correctly identifying wells and their respective cuttings. This is definitely the case for an area in T34N, R8E, Coconino County. We have noted on a scout ticket of a major oil company that you surveyed some elevations and locations of well locations and wells in this particular area. We are writing you with the hope that you can perhaps kindly furnish us some information, free of charge as we have no budget for such items, that will help resolve the problem.

In T34N-R8E we have completion cards, well-sample cards, scout tickets, and other information indicating that perhaps as many as four locations were staked. We doubt that more than one or two wells were actually drilled deep enough to test any of the objective reservoirs.

This is the information we have:

T34N-R8E

Section 22

1. Burrell Collins #1 Natoine Navajo
   O&GCC location: 1150' FSL & 1500' FEL of section.
   U.S.G.S. location: 990' FSL & 1635' FEL.
   Hole junked and abandoned.

2. Burrell Collins #1-X Natoine Navajo
   O&GCC location: 15' from #1 Natoine Navajo.
   L-S location from scout ticket: 1150' FSL & 1500' FEL of section, Elevation 5781' ground, 5783' K.B.

3. Burrell Collins #1XX-3 ____?____
   L-S location from scout ticket: 450' S & 850' E of Collins #1-X Natoine Navajo, Elevation 5776' D.F.

Section 23

4. Burrell Collins (Collins-Cobb) #1 Navajo
   M.N.A. sample card location: SE SE of section.
   Geo-Log sample card location: C SE SE of section.

Section 4

5. Collins #1 Navajo
   Denver Sph. Log (American Stratigraphic Company) location: CENTER of section.
   (Formation tops and other information jibe with that of Burrell Collins #1-X Natoine Navajo location in Section 22.)

Any information that you may be able to contribute will be most sincerely appreciated.

Very truly yours,

J. N. Conley
Staff Geologist

JNC:jd

(A-34-8)23dd
Collins-Cobb #1 (s/a Burrell Collins #1)
We have a set of samples (#91)
550-3430'; MNA card for this set
shows hole bottomed in Precambrian.
We have another card, MNA, but no
samples indicated, for a Burrell-Collins #3
(same as Natoine-Navajo #1-X) showing a total
depth of 3244' in Tapeats, in (A-34-8) 22dc.

LAUGHLIN-SIMMONS & CO.
OF TEXAS, INC.
WELL ELEVATIONS
P. O. BOX 3535
TULSA, OKLAHOMA 74152

April 13, 1971

Mr. J. N. Conley
Oil & Gas Conservation Commission
4515 North 7th Ave.
Phoenix, Arizona 85013

Dear Sir:

Relative to your inquiry regarding some completion cards of wells in Township 34n-8e, Coconino County, Arizona, we regret we can supply you with no information at all that would be helpful.

Attached is a copy of the only two wells on which we ran elevations in that township. They were run twenty years ago and the information other than the elevation seems to be very meager. The locations apparently were questioned and not worth our party's time in checking.

Again we are sorry.

Yours very truly,

LAUGHLIN-SIMMONS & CO.

By: L. D. Simmons

LDS:w
Enc.

COUNTY: [illegible] ELEV: 5781 Gr

COMPANY: Collins DATE RECD: 7-26-52

FARM: ? WELL NO: 1-X

L S & CO. NO: 1-5

LOCATION: 1350'FS & 1500'FE? Of Sec 22-34N-6E
450'N & 850'W of 1-XX-3

Arizona

[redacted] Est 5776 DF

COUNTY: Coconio ELEV: 5774 Gr

COMPANY: Collins DATE RECD: 7-26-52

FARM: [illegible] WELL NO: 1XX-?

L S & CO. NO: A-4

LOCATION: SE SE ? of Sec 22-34N-6E

OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

File:-
Burrell Collins 1-X
Natoine-Navajo
Coconino Co., Az

April 8, 1971

Laughlin-Simmons & Company
3021 North Oklahoma
Oklahoma City, Oklahoma 73105

Gentlemen:

The Arizona Oil & Gas Conservation Commission will publish a catalog later this year listing all wells drilled for oil, gas, or stratigraphic information in the State for which we have well-cuttings and/or cores in this library or the one maintained by the Arizona Bureau of Mines in Tucson.

In some instances we have had considerable difficulty in correctly identifying wells and their respective cuttings. This is definitely the case for an area in T34N, R8E, Coconino County. We have noted on a scout ticket of a major oil company that you surveyed some elevations and locations of well locations and wells in this particular area. We are writing you with the hope that you can perhaps kindly furnish us some information, free of charge as we have no budget for such items, that will help resolve the problem.

In T34N-R8E we have completion cards, well-sample cards, scout tickets, and other information indicating that perhaps as many as four locations were staked. We doubt that more than one or two wells were actually drilled deep enough to test any of the objective reservoirs.

This is the information we have:

T34N-R8E

Section 22

1. Burrell Collins #1 Natoine Navajo
   O&GCC location: 1150' FSL & 1500' FEL of section.
   U.S.G.S. location: 990' FSL & 1635' FEL.
   Hole junked and abandoned.

2. Burrell Collins #1-X Natoine Navajo
   O&GCC location: 15' from #1 Natoine Navajo.
   L-S location from scout ticket: 1150' FSL & 1500' FEL of section, Elevation 5781' ground, 5783' K.B.

3. Burrell Collins #1XX-3 ___?___
   L-S location from scout ticket: 450' S & 850' E of Collins #1-X Natoine Navajo, Elevation 5776' D.F.

Section 23

4. Burrell Collins (Collins-Cobb) #1 Navajo
   M.N.A. sample card location: SE SE of section.
   Geo-Log sample card location: C SE SE of section.

Section 4

5. Collins #1 Navajo
   American Stratigraphic Company location: CENTER of section.
   (Formation tops and other information jibe with that of Burrell Collins #1-X Natoine Navajo location in Section 22.)

Any information that you may be able to contribute will be most sincerely appreciated.

Very truly yours,

J. N. Conley
Staff Geologist

JNC:jd

LAUGHLIN-SIMMONS & CO.
OF TEXAS, INC.
WELL ELEVATIONS
P. O. BOX 3538
TULSA, OKLAHOMA 74152

April 13, 1971

Mr. J. N. Conley
Oil & Gas Conservation Commission
4515 North 7th Ave.
Phoenix, Arizona 85013

Dear Sir:

Relative to your inquiry regarding some completion cards of wells in Township 34n-8e, Coconino County, Arizona, we regret we can supply you with no information at all that would be helpful.

Attached is a copy of the only two wells on which we ran elevations in that township. They were run twenty years ago and the information other than the elevation seems to be very meager. The locations apparently were questioned and not worth our party's time in checking.

Again we are sorry.

Yours very truly,

LAUGHLIN-SIMMONS & CO.

By: L. D. Simmons

LDS:w
Enc.

[redacted]

COUNTY: Coconino [redacted] ELEV: 5783 DF 5781 Gr

COMPANY: Collins DATE RECD: 7-28-52

FARM: ? WELL NO: 1-X

L S B CO. NO: A-5

LOCATION: 1150'FS & 1500'FEW Of Sec 22-[illegible]-6E
450'N & 850'W of 1-XX-3

[redacted]

Arizona

[redacted] ELEV: 5776 DF 5774 Gr

COUNTY: Coconio

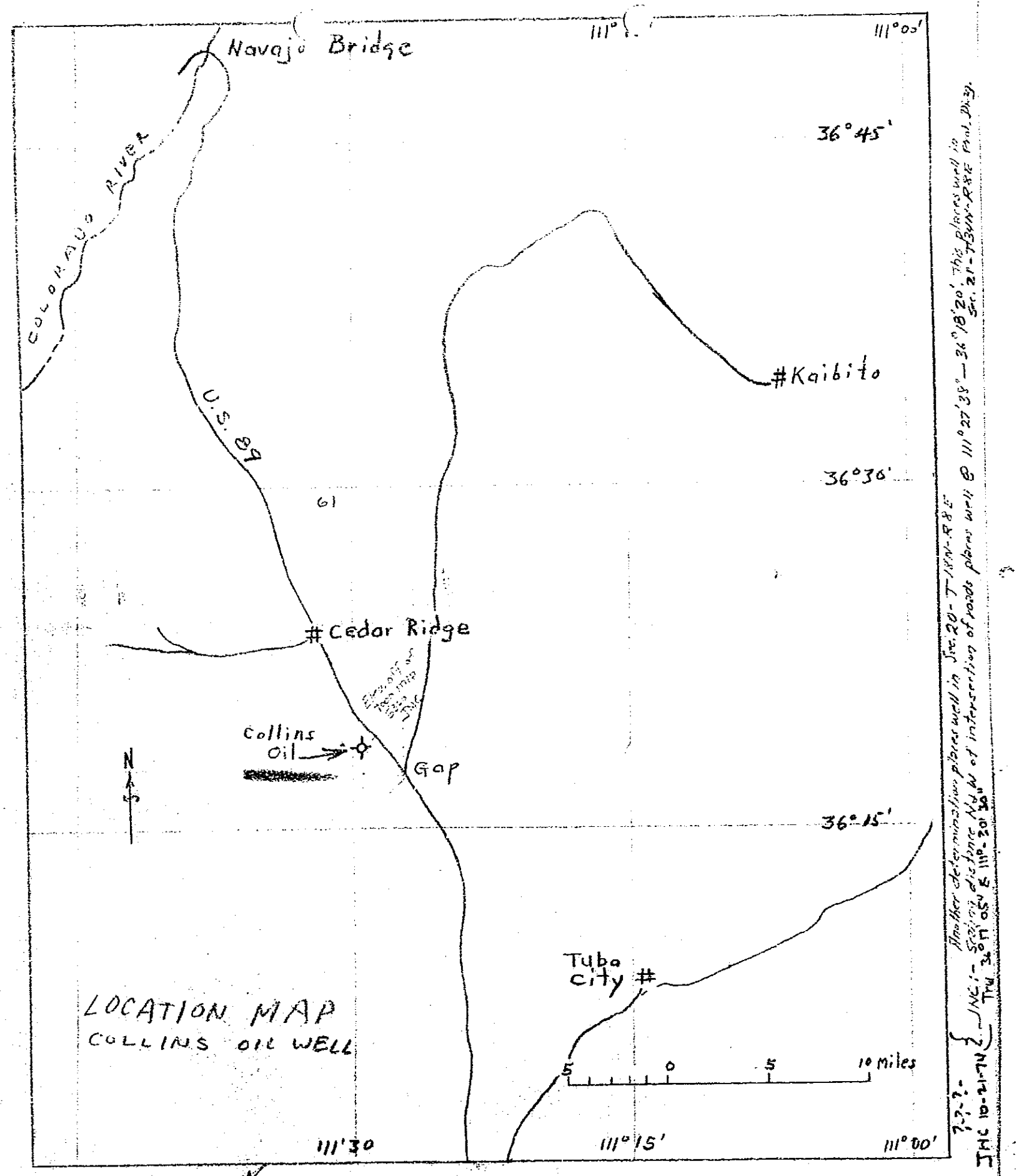
COMPANY: Collins DATE RECD: 7-28-52

FARM: WELL NO: 1XX-?

L S B CO. NO: A-4

LOCATION: SE SE ? of Sec 22-[illegible]-6E

[redacted]



Another determination plotted well in Sec. 20-T-18N-R8E
INC. - Specific distance N of W of intersection of roads plotted well @ 111°27'35" — 36°18'20"
T34N 36°17'05" N & 111°30'30" W Sec. 21-T34N-R8E Prod. Dk-3).

JHC 10-21-74

?-?-?-

Reject

22-34N-8E
COCONINO COUNTY

3 mi W & 1.3 mi. N of The Gap

Quad. 61:60 apx Sec 22-T34N-R8E

OFFICE OF
State Land Department
STATE OF ARIZONA
Phoenix, Arizona

ROGER ERNST
[redacted]
STATE LAND COMMISSIONER

July 30, 1954

Mr. Thomas G. Roberts
U. S. Department of the Interior
Geological Survey
P. O. Box 187
University Station
Albuquerque, New Mexico

Dear Mr. Roberts:

This will acknowledge receipt of samples from the Collins-Cobb #1, Section 22, Township 24N., Range 8 East, Coconino County, and for which we wish to thank you for their prompt return. If we can be of any further assistance to you, please call on us.

Very truly yours,

Muriel R. Bates, Secretary to
Mr. Phillip W. Johnson

mb

COPY

permit

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 187, University Station
Albuquerque, New Mexico

July 20, 1954

Mrs. Muriel R. Bates
State Land Department
State of Arizona
Phoenix, Arizona

Dear Mrs. Bates:

I am returning to you today by parcel post two boxes of samples in one package from the Collins-Cobb No. 1, 22, T 34 N., R 8 E., Coconino County.

Thank you very much for sending the samples to me and for a copy of the notes concerning this test well.

Very truly yours,

Thomas G. Roberts

Thomas G. Roberts

6808

ARIZONA
STATE LAND DEPARTMENT

Noted by	To	Date
Ans. by		Date

RECEIVED
JUL 22 1954
STATE LAND
DEPT.

The permit

S-706 B

4

SOUTHERN PACIFIC COMPANY

"YOUR FRIENDLY RAILROAD"

NOTICE OF ARRIVAL OF FREIGHT

[redacted]

CAR NO. PMT TRUCK F/B 1255

SHIPPER M P STEWART

RECEIVED AT

STATION FROM (7100) YUMA ARIZ JU[redacted]

CONSIGNEE P W JOHNSON STATE LAND OFFICE
PHOENIX ARIZ

DELIVERY AT

STATION TO

DESCRIPTION OF ARTICLES AND MARKS		★WEIGHT	RATE	FREIGHT	ADVANCES	PREPAID	C. O. D. AND RETURN CHARGE
1 CTN PRINTED MATTER	R	50	M/C	1 30	CASH	1 30	
DBS MG							

SUBJECT TO STORAGE CHARGES IN ACCORDANCE WITH PUBLISHED TARIFFS. MAKE CHECKS PAYABLE TO THE COMPANY

STORAGE CHARGES WILL BE EFFECTIVE _____

PLEASE CONTACT THIS OFFICE, ADVISING DELIVERY ARRANGEMENTS DESIRED.

TO COLLECT [redacted]

THE ORIGINAL PAID FREIGHT BILL MUST BE SURRENDERED FOR OVERCHARGES TO BE REFUNDED AND MUST ACCOMPANY CLAIMS FOR OVERCHARGES, LOSS OR DAMAGE.

INDICATE BY SYMBOL IN COLUMN PROVIDED ★HOW WEIGHTS OBTAINED. R-RAILROAD SCALE. S-SHIPPER'S TESTED WEIGHTS. E-ESTIMATED-WEIGH AND CORRECT. T-TARIFF CLASSIFICATION OR MINIMUM.

[redacted]

SOUTHERN PACIFIC COMPANY

S-708 B

3

"YOUR FRIENDLY RAILROAD"

FREIGHT BILL

(ORIGINAL)

FOR CHARGES ON ARTICLES TRANSPORTED

CAR NO PMT TRUCK F/B 1255

SHIPPER

M P STEWART

RECEIVED AT

STATION FROM

(7100) YUMA ARIZ JU [redacted]

CONSIGNEE

P W JOHNSON STATE LAND OFFICE
PHOENIX ARIZ

DELIVERY AT

STATION TO

DESCRIPTION OF ARTICLES AND MARKS		★WEIGHT	RATE	FREIGHT	ADVANCES	PREPAID	C. O. D. AND RETURN CHARGE
1 CTN PRINTED MATTER	R	50	M/C	1 30	CASH	1 30	
DBS MG							

LOCATION	
WAREHOUSE	POST OR SECTION

RECEIVED PAYMENT FOR THE COMPANY _____ 19____

_____ AGENT

MAKE CHECKS PAYABLE TO THE COMPANY PER _____ CASHIER OR COLLECTOR

TO COLLECT

[redacted]

SUBJECT TO STORAGE CHARGES IN ACCORDANCE WITH PUBLISHED TARIFFS
THE ORIGINAL PAID FREIGHT BILL MUST BE SURRENDERED FOR OVERCHARGES TO BE REFUNDED AND MUST ACCOMPANY CLAIMS FOR OVERCHARGES, LOSS OR DAMAGE.

INDICATE BY SYMBOL IN COLUMN PROVIDED ★HOW WEIGHTS OBTAINED. R-RAILROAD SCALE. S-SHIPPER'S TESTED WEIGHTS. E-ESTIMATED-WEIGH AND CORRECT. T-TARIFF CLASSIFICATION OR MINIMUM.

July 12, 1954

Mr. Thomas G. Roberts
U. S. Department of the Interior
Geological Survey
P. O. Box 187,
University Station
Albuquerque, New Mexico

Dear Mr. Roberts:

In response to your request for samples from the Collins-Cobb #1, Section 22, Township 34N., Range 8 East, Coconino County, we are today shipping via Railway Express, two boxes collect. Samples on this well were only taken from the depth of 560' to 3430'. One box contains samples of footage from a depth of 560' to 2900', while the other contains samples from 2900' to 3430'.

As to your other question as to whether or not this test is the same one as is sometimes called the Burrell-Collins No. 1XX Collins, we are enclosing a copy of notes taken by A. B. Cobb, Jr., which we believe to be correct. I do not know that the legal description was established, other than what we have listed in our pamphlet entitled, "Exploratory Deep Wells of the State of Arizona". However, I am forwarding copies of this correspondence on to Mr. Johnson at Tucson, Arizona. If there is any more information he can supply you in connection with this well, I am sure he will be glad to assist you.

Very truly yours,

Muriel R. Bates, Secretary to
Phillip W. Johnson

mb
encl.

No permit

COPY

July 12, 1954

Mr. Phillip W. Johnson
P. O. Box 2270
Tucson, Arizona

Dear Phil:

Enclosed is a letter from a Mr. Thomas G. Roberts of the U.S.G.S. at Albuquerque, New Mexico. Also, my answer to him, as well as a copy of notes taken by A. B. Cobb, Jr. Would you please look this over and let me know if I have answered this request correctly? Please send all correspondence back to me for my files here. There seems to be some question as to the correct description, and I would like to know which is correct. The sample bones definitely state 36-35N.-9E, while our list shows 22-34N-8E. Of course, being projected might be the answer.

We are undergoing reconstruction here in the office. You should be here, can hardly hear yourself think. It's going to be real sharp. There are about nine or ten private offices along this one side. Best regards.

Sincerely,

Muriel R. Bates

mb
Encl.

COPY

No permit

RAILWAY EXPRESS AGENCY

INCORPORATED

UNIFORM EXPRESS RECEIPT—NOT NEGOTIABLE—TERMS AND CONDITIONS

1. The provisions of this receipt shall inure to the benefit of and be binding upon the consignor, the consignee and all carriers handling this shipment and shall apply to any reconsignment, or return thereof.

2. In consideration of the rate charged for carrying said property, which is dependent upon the value thereof and is based upon an agreed valuation of not exceeding fifty dollars for any shipment of 100 pounds or less and not exceeding fifty cents per pound, actual weight, for any shipment in excess of 100 pounds, unless a greater value is declared at the time of shipment, the shipper agrees that the company shall not be liable in any event for more than fifty dollars for any shipment of 100 pounds or less, or for more than fifty cents per pound, actual weight, for any shipment weighing more than 100 pounds, unless a greater value is stated herein. Unless a greater value is declared and stated herein the shipper agrees that the value of the shipment is as just above set out and that the liability of the company shall in no event exceed such value.

3. Unless caused by its own negligence or that of its agents, the company shall not be liable for—

a. Delivering in weight or quality caused by shrinkage, leakage, or evaporation.
b. The death, injury, or escape of live freight.
c. Loss of money, bullion, bonds, coupons, jewelry, precious stones, valuable papers, or other matter of extraordinary value, unless such articles are enumerated in the receipt.

4. Unless caused in whole or in part by its own negligence or that of its agents, the company shall not be liable for loss, damage or delay caused by—

a. The act or default of the shipper or owner.
b. The nature of the property, or defect or inherent vice thereof.
c. Improper or insufficient packing, securing, or addressing.
d. The Act of God, public enemies, authority of law, quarantine, riots, strikes, perils of navigation, the hazards of dangers incident to a state of war, or occurrence in customs warehouse.
e. The examination by, or partial delivery to the consignee of C. O. D. shipments.
f. Delivery under instructions of consignor or consignee at stations where there is no agent of the company after such shipments have been left at such stations.

5. Packages containing fragile articles or articles consisting wholly or in part of glass must be so marked and be packed so as to insure safe transportation by express with ordinary care.

6. When consigned to a place at which the express company has no office, shipments must be marked with the name of the nearest station at which delivery will be accepted or be marked with forwarding directions if to go beyond the express company's line by a carrier other than an express company. If not so marked shipments will be refused.

7. As conditions precedent to recovery claims must be made in writing to the originating or delivering carrier within nine months after delivery of the property or, in case of failure to make delivery, then within nine months and fifteen days after date of shipment; and suits shall be instituted only within two years and one day after the date when notice in writing is given by the carrier to the claimant that the carrier has disallowed the claim or any part or parts thereof.

8. If any C. O. D. is not paid within thirty days after notice of non-delivery has been mailed to the shipper the company may at its option return the property to the consignor.

9. Free delivery will not be made at points where the company maintains no delivery service; at points where delivery service is maintained free delivery will not be made at addresses beyond the established and published delivery limits.

Special Additional Provisions as to Shipments Forwarded by Vessel from the United States to Places in Foreign Countries.

10. If the destination specified in this receipt is in a foreign country, the property covered hereby shall, as to transit over ocean routes and by their foreign connections to such destination, be subject to all the terms and conditions of the receipts or bills of lading of ocean carriers as accepted by the company for the shipment, and of foreign carriers participating in the transportation, and as to such transit is accepted for transportation and delivery subject to the acts, tariffs, laws, regulations, and customs of overseas and foreign carriers, custodians, and governments, their employees and agents.

11. The company shall not be liable for any loss, damage, or delay to said shipment over ocean routes and their foreign connections, the destination of which is in a foreign country, occurring outside the boundaries of the United States, which may be occasioned by any such acts, tariffs, laws, regulations, or customs. Claims for loss, damage or delay must be made in writing to the carrier at the port of export or to the carrier issuing this receipt, within nine months after delivery of the property at said port or in case of failure to make such delivery then within nine months and fifteen days after date of shipment; and claims so made against said delivering or issuing carrier shall be deemed to have been made against any carrier which may be liable hereunder. Suits shall be instituted only within two years and one day after the date when notice in writing is given by the carrier to the claimant that the carrier has disallowed the claim or any part or parts thereof. Where claims are not so made, or if suits are not instituted thereon in accordance with the foregoing provisions, the carrier shall not be liable.

12. It is hereby agreed that the property destined to such foreign countries, and assessable with foreign governmental or customs duties, taxes or charges, may be stopped in transit at foreign ports, frontiers or dependencies, and there held pending examination, assessments and payments, and such duties and charges, when advanced by the company shall become a lien on the property.

To Destination Office: Albuquerque N Mex

Consignee: Mr Thomas L Peterson

Date Shipped: 7-12 195 4

Advances:

Street Address or Non-Agency Location: U S Dept of Interior

Receipt Number: No. 8621

Value Charges: X X | X X

Station Forwarding Office: (1613-M) Phoenix, Ariz. (M)

Declared Value: 50

Express Charges: DO

Refrigeration Charges: NOT

Pieces | Articles | Description: 1 Oil Well Test Chamber

Weight:

Tax: USE

Shipper: State Land Dept

Class | Paid in Part

Storage: THESE

Shipper's Street Address: 422 Room

COLLECT (Original) | Scale or Rate | Priced by

Total: SPACES

C. O. D.

SHIPPER'S COLLECT RECEIPT

NOTE—The Company will not pay over $50, in case of loss, or 50 cents per pound, actual weight, for any shipment in excess of 100 pounds, unless a greater value is declared and charges for such greater value paid.

C. O. D. Service Charge Write in YES or NO: X

RAILWAY EXPRESS AGENCY

INCORPORATED

(Form 5082)

Received shipment described hereon, subject to the Classifications and Tariffs in effect on the date hereof, value herein declared by Shipper to be that entered in space hereon reading "Declared Value," which the Company agrees to carry upon the terms and conditions printed hereon, to which the Shipper agrees and as evidence thereof accepts this receipt.

	Number Pieces	Date	Hour
For the Company	1	195	A.M. P.M.

1

Use pencil

OFFICE OF
State Land Department
STATE OF ARIZONA
Phoenix, Arizona

July 12, 1954

ROGER ERNST
STATE LAND COMMISSIONER

LCH
LAH
CAA
MBB
OJC
EFH
PWJ
CTP
VLS
RDW
PHX
HOLB
FILE

Mr. Phillip W. Johnson
P. O. Box 2270
Tucson, Arizona

Dear Phil:

Enclosed is a letter from a Mr. Thomas G. Roberts of the U.S.G.S. at Albuquerque, New Mexico. Also, my answer to him, as well as a copy of notes taken by A. B. Cobb, Jr. Would you please look this over and let me know if I have answered this request correctly? Please send all correspondence back to me for my files here. There seems to be some question as to the correct description, and I would like to know which is correct. The sample boxes definitely state 36-35N.-9E, while our list shows 22-34N-8E. Of course, being projected might be the answer.

We are undergoing reconstruction here in the office. You should be here, can hardly hear yourself think. It's going to be real sharp. There are about nine or ten private offices along this one side. Best regards.

Sincerely,

Muriel

Muriel B. Bates

mb
Encl.

RECEIVED
JUL 14 1954
WATER RESOURCES DIVISION
U. S. GEOLOGICAL SURVEY
GROUND WATER BRANCH

RECEIVED
JUL 16 1954
STATE LAND DEPT.

No permit

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 187, University Station
Albuquerque, New Mexico

July 6, 1954

Mr. Phillip W. Johnson
Geologist
Arizona State Land Department
Phoenix, Arizona

Dear Mr. Johnson:

Thank you for sending me the lists of exploratory deep wells of the state of Arizona and of cutting and core samples available through your office. I would like to borrow the set of samples for the Collins No. 1 Cobb, 36-35N-9E (projected), Coconino County. I have borrowed the set of samples for this test in the New Mexico Bureau of Mines collection, but the samples do not start until 1220', and have several large skips. I assume this test to be the same one as that sometimes designated the Burrel-Collins No. 1XX Collins. Is that correct?

Please send the samples via express collect. I will return the samples promptly. Thank you for your cooperation.

Very truly yours,

Thomas G. Roberts

Thomas G. Roberts

6392

ARIZONA
STATE LAND DEPARTMENT

Noted by	To	Date
Ans. by		Date

RECEIVED
JUL 9 1954
STATE LAND DEPT.

No permit

July 12, 1954

Mr. Thomas G. Roberts
U. S. Department of the Interior
Geological Survey
P. O. Box 187,
University Station
Albuquerque, New Mexico

Dear Mr. Roberts:

In response to your request for samples from the Collins-Cobb #1, Section 22, Township 34N., Range 8 East, Coconino County, we are today shipping via Railway Express, two boxes collect. Samples on this well were only taken from the depth of 560' to 3430'. One box contains samples of footage from a depth of 560' to 2900', while the other contains samples from 2900' to 3430'.

As to your other question as to whether or not this test is the same one as is sometimes called the Burrell-Collins No. 1XX Collins, we are enclosing a copy of notes taken by A. B. Cobb, Jr., which we believe to be correct. I do not know that the legal description was established, other than what we have listed in our pamphlet entitled, "Exploratory Deep Wells of the State of Arizona". However, I am forwarding copies of this correspondence on to Mr. Johnson at Tucson, Arizona. If there is any more information he can supply you in connection with this well, I am sure he will be glad to assist you.

Very truly yours,

Muriel R. Bates, Secretary to
Phillip W. Johnson

COPY

RECEIVED
JUL 16 1954
STATE LAND
DEPT.

mb
encl.

No permit

March 9, 1955

Mr. Phillip W. Johnson
P. O. Box 2270
Tucson, Arizona

Dear Phil:

The enclosed letter from Mr. George A. Kiersch of the University of Arizona has been given to me for answer. I thought you would be coming to Phoenix most any day and have been holding it here for your attention. I believe the correct location to be Section 22, Township 3½N., Range 8E. I do not know for certain that the correct legal description was ever established, other than what has been listed in our pamphlet. For your information and convenience, I am inclosing copies of data contained in our folder.

I am also enclosing a letter from Mr. Malcolm F. Farmer, Museum of Northern Arizona regarding summer work on core samples.

Best regards.

Sincerely,

Muriel R. Bates

mb
Enclosures

Impermeable

COPY

May 12, 1949

Mr. A. B. Cobb, Jr.
617 - 4th Avenue North
Great Falls, Montana

Dear Mr. Cobb:

Under separate cover I am forwarding you one copy each of our new list of Arizona wells and the cutting samples we have available.

I was very glad to have met you at Albuquerque and certainly appreciate finally having our mixup on the Collins-Cobb well at the Gap straightened out. We still have neither an accurate (within 400 ft.) location nor the elevation of the last well.

We are hopeful that your interest in Arizona will become more active in the near future, and please be assured of our continued cooperation in any way possible.

Very truly yours,

L. A. Heindl
Geologist

LAH:kb

No permit

Flagstaff, Arizona
8 December 1948

Mr. A. P. Cobb, Jr.
617 4th Avenue N.
Great Falls, Montana

Dear Sir:-

Dr. E. [illegible] Colton of the Museum of Northern Arizona [illegible] the State Land Department have the cuttings from the Collins-Cobb well [illegible] has left it to me to gather up some of the [illegible] on the Cobb well.

You may not be as acquainted with the ti-in of the State Land Office in the Museum's Northern Arizona on this work. The State Land Office is in the process of bringing up to date all available information on the wells drilled for oil in the state and the MNA is planning to be the permanent repository of all well samples of Arizona north of the Mogollon rim. The cuttings will be analyzed by personnel from the MNA, the University of Arizona and the U.S.G.S., as available, and the records thus obtained plus the well cuttings become a permanent part of the history of oil drilling in Arizona. You can [illegible] understand that we would like to have as complete information as possible on each well.

We are short three items in connection with the Collins-Cobb well. We do not have an accurate location or elevation; we do not have a copy of the driller's log and we do not have a complete history. Any information you could give us regarding any of these items would be greatly appreciated.

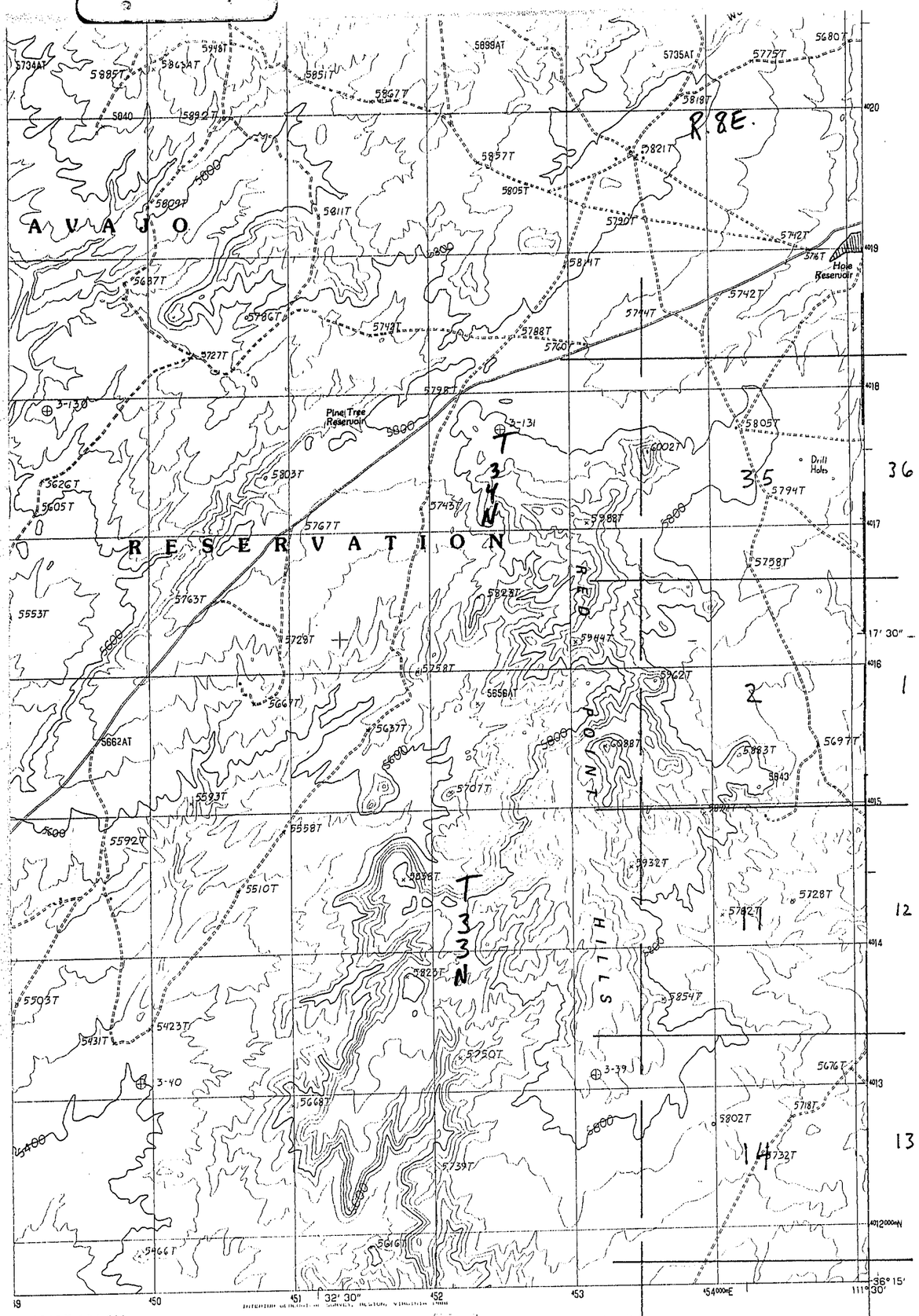
Mr. Miles Hendrick, at the Gap, told me that you had [illegible] hundred feet of samples from the well with you but that you planned to send them to the MNA when you no longer had any use for them. We are going ahead with checking those samples we have and will be anxious to have the rest of the hole when you have finished with it.

Your cooperation is greatly appreciated and if we may render any assistance to you in the future, please let us know. In case you do not already have a copy of Forney Hager's report "Oil Possibilities of Northeastern Arizona" and the revised oil and gas zone of Arizona (as of June, 1948) please let me know and copies will be forwarded you.

Very truly yours

L.A.Heindl
State Land Department

no permit



SCALE 1:24 000

MILES

FEET

KILOMETERS

METERS

CONTOUR INTERVAL 40 FEET

SUPPLEMENTARY CONTOUR INTERVAL 20 FEET

convert feet to meters multiply by .3048
convert meters to feet multiply by 3.2808

ARIZONA

QUADRANGLE LOCATION

1 Shinumo Altar
2 Cedar Ridge
3 Toh Bih Nosteny
4 Blue Moon Reservoir
5 The Gap
6 Salt Trail Canyon
7 Willow Mountain
8 Willow Springs

ROAD LEGEND

Improved Road
Unimproved Road
Trail

Interstate Route U.S. Route State Route

BODAWAY MESA, ARIZONA
PROVISIONAL EDITION 1988