

U. S. LAND OFFICE Santa Fe, N. M.
SERIAL NUMBER SF 078064
LEASE OR PERMIT TO PROSPECT _____

[illegible]

RECEIVED
FEB 28 1964 DEPA
OIL CON. COM.
DIST. 3

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

LOCATE WELL CORRECTLY

Company Shell Oil Company Address P. O. Box 1200, Farmington, N. M.
Lessor or Tract Federal - Water Well Field Histi State New Mexico
Well No. 4-1 Sec. 24 T. 25N R. 12W Meridian N.M.P.M. County San Juan
Location 454 ft. N. of N Line and 2074 ft. E. of E Line of Sec. 24 Elevation 6435 KB
(Describe floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed _____ Original Signed By _____
W. M. MARSHALL

Date February 21, 1961 Title Div. Exploitation Engineer

The summary on this page is for the condition of the well at above date.

Commenced drilling September 6, 1950. Finished drilling September 17, 1950.

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

None (Denote gas by G)

No. 1, from _____ to _____ No. 2, from _____ to _____ No. 3, from _____ to _____	No. 4, from _____ to _____ No. 5, from _____ to _____ No. 6, from _____ to _____
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IMPORTANT WATER SANDS

No. 1, from 2035 to 3.15 No. 3, from _____ to _____
No. 2, from _____ to _____ No. 4, from _____ to _____

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From—	To—	
130 3/8	18	12	DAVID WHITE	61	Baker	100% 100%	100%	100%	Production
6-5/8	35	12	DAVID WHITE	826	Baker	100% 100%	100%	100%	Production
6-5/8	19 1/2	12	DAVID WHITE	255	Baker	100% 100%	100%	100%	Production
	20	12	DAVID WHITE	100	Baker	100% 100%	100%	100%	Production

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
13-3/8	70	76	displacement	-	-
8-5/8	2835	650 Diamix + 100	displacement	-	-
6-5/8	3215	-	-	-	-

PLUGS AND ADAPTERS

Heaving plug—Material Length Depth set

Adapters—Material Size

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

TOOLS USED

Rotary tools were used from 0 feet to 325 feet, and from - feet to - feet.

Cable tools were used from - feet to - feet, and from - feet to - feet.

DATES

February 21, 1961
 The production for the first 24 hours was 3100 barrels of fluid of which 100% was oil; 100% water; and 0% sediment.
 If gas well, cu. ft. per 24 hours
 Rock pressure, lbs. per sq. in.
 Put to producing December 60
 Gravity, °Bé.
 Gallons gasoline per 1,000 cu. ft. of gas

EMPLOYEES

_____, Driller Brinkerhoff Drilling Co., Driller
_____, Driller _____, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
1238	1430	200	Pictured Cliffs
1430	1590	152	Lewis
1590	2076	486	Cliff House
2076	3681	1605	Allison - Menefee
3681	-	-	Point Lookout

SHELL OIL COMPANY

Bisti Water Well
 WELL NO. W-1

DRILLING REPORT

FOR PERIOD ENDING

9-17-60

Bisti

(FIELD)

San Juan, New Mexico

(COUNTY)

24

(SECTION OR LEASE)

T. 25 N., R. 12 W.

(TOWNSHIP OR RANCHO)

DAY 1960	DEPTHS		REMARKS
	FROM	TO	
			Location: 454' S. and 2070' W. of Northeast corner, Section 24, T. 25 N., R. 12 W., N.M.P.M., San Juan County, New Mexico. Elevations: KB 6434.9, DF 6433.4, GL 6425.7
9/6	0	156	Spudded 9:00 A.M. 9-6-60. Ran and cemented (61') 13-3/8" - 48# H-40 casing at 70' with 70 sacks cement treated with 2% calcium chloride. Good returns to surface. Flanged up and waited on cement. Pressure tested casing and BOP with 400 psi, OK.
9/7 to 9/13	156	3825	Drilled 3669'. (12-1/4" hole) drilling with water.
9/14 to 9/17	3825 TD		Ran Electrical Survey - Sonde stopped at 700'. Ran bit - hit bridges at 1000 - 2700'. Bit stopped 100' off bottom. Mixed mud. Attempted to run Electric Log - sonde stopped at 700', spudded through to 1100'. Conditioned mud - tight spot at 2040'. Attempted to run logs - stopped at 896'. Conditioned mud - made two round trips. Ran Electrical Survey and Microlog. Ran and cemented (2826') 8-5/8", 32#, H-40 casing at 2835' with 650 sacks 1:1 Diamix and 100 sacks regular cement. Ran temperature survey - found solid cement behind casing at 1100'. Drilled out cement plug - cleaned out to bottom. Released rig 7:00 P.M. 9-17-60.
			Mud Summary: Wt. 8.9 - 9.1#/gal. Vis. 80 - 165 sec. WL 5.8 - 6.4 cc FC 2/32"
			Contractor: Brinkerhoff Drilling Company Contractor Pusher: J. Babcock Drillers: S. E. Kenney E. Babcock J. Speaker Co. Pusher: E. B. Johnstone

CONDITION AT			END	OF PERIOD
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12-1/4"	0	3825	13-3/8"	70'
			8-5/8"	2835'
DRILL PIPE SIZES 4-1/2				

M. W. McGarry, Jr.

SHELL OIL COMPANY

Bisti Water Well

WELL NO. W-1

Bisti

(FIELD)

San Juan, New Mexico

(COUNTY)

DRILLING REPORT

FOR PERIOD ENDING

11-6-60

24

(SECTION OR LEASE)

T. 25 N., R. 12 W.

(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
9/18	3825		Moved in completion rig. Swabbed 250+ barrels water in 9 hours, fluid level 700' from surface.
	TD		
9/19			Cleaned up location.
9/20			Ran pump and rods. Pumping 6:00 P.M. 9-21-60.
to			
9/21			
9/22			Pumping - no gauge.
9/23			Pumping muddy water - no gauge.
9/24			Pumped average 131 B/D water.
to			
10/4			
10/5			Pumped 24 hours (not tested). Installing main power line.
10/6			Pumped average of 113 B/D water.
to			
10/15			
10/16			Pulled rods and tubing.
10/17			Shut in for pressure buildup.
to			
10/24			
10/25			Ran 24-hour static pressure survey. Installed power lines.
10/26			Rigged up to bail. Ran bailer - hit fill at 2930'±. Bailed approximately 6 cu. ft. - top of fill remained at 2925-2930'.
10/27			Shut in.
to			
11/6			

CONDITION AT			END	OF PERIOD	
HOLE			CASING SIZE	DEPTH SET	
SIZE	FROM	TO			
12-1/4"	0	3825	13-3/8"	70'	
			8-5/8"	2835'	
DRILL PIPE SIZES					
		4-1/2			

M. W. McGarry, Jr.

STAMP

SHELL OIL COMPANY

Bisti Water Well

WELL NO. W-1

DRILLING REPORT

FOR PERIOD ENDING

11-19-60

Bisti

(FIELD)

San Juan, New Mexico

(COUNTY)

24

(SECTION OR LEASE)

T. 25 N., R. 12 W.

(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
11/7 to 11/9	3825 TD		Moved in completion rig. Mixed mud. Ran 7-7/8" bit on 4 drill collars and 2" tubing to 2790' and displaced water with mud - conditioned mud.
11/10			Lowered 2" string to 2835' where string took weight. Began rotating and seals went out on Guiberson rotating head. Repaired same. Cleaned out bridge 2845-52', then hole open to 2886'.
11/11			Cleaned out to 2947' - Fill cleans out very hard and hole continues to slough. Large chunks of shale in returns.
11/12			Cleaned out to 3167' (220' in last 24 hours).
11/13			Cleaned out to 3262' (95' in 24 hours).
11/14			Cleaned out to 3478' (216' in last 24 hours).
11/15			Pulled out to check bit, reran, found fill at 3349' (120' above previous clean-out point. Lost approximately 100 barrels mud during trip.
11/16			Cleaned out to 3691'.
11/17			Cleaned out to 3825' (TD). Conditioned mud 3 hours, pulled into 8-5/8" casing and waited 1/2 hour. Ran back, hit bridge at 2867', cleaned out.
11/18			Cleaned out to bottom (no fill in bottom). Circulated 4 hours and pulled into casing, waited 4 hours. Hit small bridges at 2942' and 3595', no fill on bottom. Circulated 45 minutes and pulled into casing and waited 4 hours, hit slight bridge at 3595'.
11/19			Ran 6-5/8", 18.9# and 20# liner perforated with 48 - 2" x .050 slots/ft. Hung at 3815' on B & W liner hangers. Liner took 8000# wt. at 3249' going in. Displaced mud in open hole with water (145 barrels). Pumped in 163 cubic feet 8-12 gravel (3 cubic ft. gravel/5 barrels water), pressure increased abruptly to 2500 psi. Bled down and built up several times in attempt to break down bridge - no success. Attempted to reverse out gravel - no success. Tried to rotate tubing to release from hanger but could not rotate. Pulled 45,000# on tubing and slacked off suddenly several times, then backed out of hanger.
CONDITION AT END OF PERIOD			
HOLE			CASING SIZE
SIZE	FROM	TO	DEPTH SET
12-1/4"	0	3825	13-3/8"
			8-5/8"
			6-5/8" Liner 2835-3815
DRILL PIPE SIZES			
4-1/2			

M. W. McGarry, Jr.

SIGNED

SHELL OIL COMPANY

Bisti Water Well

WELL NO. W-1

Bisti

(FIELD)

San Juan, New Mexico

(COUNTY)

DRILLING REPORT

FOR PERIOD ENDING

11-30-60

24

(SECTION OR LEASE)

T. 25 N., R. 12 W.

(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
11/20	3825 TD		Pulled tubing and gravel packing tools. Made up liner seal cap on bottom. Ran in, hit tight spot at 756'. Pulled out, leaving bottom 20" of liner seal cap in hole. Ran spear, engaged fish at 771'.
11/21			Recovered fish consisting of 7-9/16" OD sleeve on third try with spear. Fish was stuck on spear with rubber and lead from packer element. Ran 7-3/4" impression block which dragged at 760', but went through. Block showed slight grooving on one side and reduction in size to 7-11/16" minimum OD. Reran block to bottom with no drag at 760' and recovered good imprint of top of liner hanger. One piece of lead was stuck in impression block. Ran 7-1/2" x 36" feeler to 2650'. Free all the way down.
11/22			Ran 7-3/8" OD liner seal cap, set with 10,000#. Ran 2" tubing open ended to 3699', cleaned out fill (mud and gravel) to bottom (3815').
11/23			Rigged down drilling equipment.
11/24			Ran Reda pump on 3" tubing, hung pump at 2718'. Pumped approximately 2 hours, 5760 B/D rate with stabilized fluid level at 2480'.
11/25			Started Reda pump at 1:30 P.M. (Fluid level 490'), pumping at rate of 6250 B/D rate. Fluid level at 4:10 P.M., 2510'.
11/26			Pumping at rate of 4800± barrels - fluid level 2645' at 6:30 P.M.
11/27			Shut in. Changed manifolding to high pressure fittings. Preparing old water well for water disposal (Bisti field source water well).
11/28			Attempted to inject water into old water well, pressure increased from 100 to 450 psi. Shut down Reda pump.
11/29			Rigged pump and tank at old water well. Started producing at 3:48 P.M. and injecting into old water well. Pumped 15 hours at rate of 4300 B/D. Injection pressure at old well increased from 450 psi to 550 psi during first 11 hours, stabilized at 550 psi last 4 hours.
11/30			Pumped and injected into old water well - rate 5,000 B/D.

CONDITION AT END OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12-1/4"	0	3825	13-3/8"	70'
			8-5/8"	2835'
			6-5/8"	Liner 2835-3815
DRILL PIPE SIZES 4-1/2				

M. W. McGarry, Jr.

SIGNED

SHELL OIL COMPANY

Bisti Water Well

WELL NO. W-1

DRILLING REPORT

FOR PERIOD ENDING

1-3-61

Bisti

(FIELD)

San Juan, New Mexico

(COUNTY)

24

(SECTION OR LEASE)

T. 25 N., R. 12 W.

(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
12/1	3825 TD		Pumped 4300 B/D rate, fluid level stabilized at 2550'. Production water directed to pump.
12/2			Pumped 4300 B/D with 225 psi at wellhead, fluid level 2547'.
12/3			Pumped 3600 B/D with 230 psi at wellhead, fluid level 2592'.
12/4			Pumped at rate of 3120 B/D rate at 10:00 A.M., 215 psi at wellhead, fluid level 2618'. Shut in at 4:30 P.M. due to repeated automatic shutdown by the Reda pump control system.
12/5 to 12/18			Shut in.
12/19			Started pump - pumping to stabilize and obtain pressure buildup.
12/20			Pumped at stabilized rate of 3100 B/D for 12 hours, shut in.
12/21 to 12/28			Obtained pressure buildup with Mairhak pressure recorder.
12/29 to 1/3/61			Shut in, pulled Reda pump - suspended operations.

CONDITION AT			END	OF PERIOD	
HOLE			CASING SIZE	DEPTH SET	
SIZE	FROM	TO			
12-1/4"	0	3825	13-3/8"	70'	
			8-5/8"	2835'	
			6-5/8"	Liner 2835-3815	
DRILL PIPE SIZES			4-1/2		

M. W. McGarry, Jr.

SIGNED