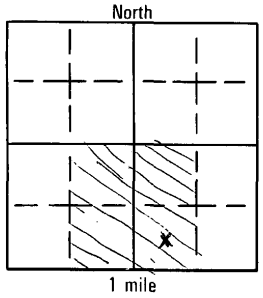
SOUTH DAKOTA WATER WELL COMPLETION REPORT

10-85

Location W½SE¼ Sec 14 Twp 11N Rg 7E

County Butte

Please mark well location with an "X"



Well Completion Date 1-12-91

PROPOSED USE:
☑ Domestic ☐ Municipal ☐ Test Holes
☐ Irrigation ☐ Industrial ☑ Stock

Method of Drilling: Rotary

CASING DATA:
☑ Steel ☐ Plastic ☐ Other
If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
15.5 LB/FT	5½ IN	0 FT	932 FT	7⅞ IN
11.6 LB/FT	4½ IN	932 FT	3490 FT	6¼ IN
____ LB/FT	____ IN	____ FT	____ FT	____ IN
____ LB/FT	____ IN	____ FT	____ FT	____ IN

GROUT:
Was the well grouted? ☑ YES ☐ NO
To what depth? 400 & 200 FEET
What is grouting material? Lite & Premium
If cement, number of sacks? 200 + ~~35~~ 35
Describe grouting procedure Pressure method
Cwell was 1" cmtd @ surface
following bond log
What was grout weight? 13 & 14 LB/GAL

SCREEN: ☑ Perforated pipe ☐ Manufactured Jet Perf 22.7 GR
Diameter ____ IN Length ____ FEET
Material
Slot Size Jets Set From 3292 Feet To 3304 Feet Primary
Slot Size ____ Set From 3316 Feet To 3330 Feet Primary
Slot Size ____ Set From 3342 3390 Feet To 3350 3406 Feet
Other information 3414 3423 Primary

Was a packer or seal used? ☐ YES ☑ NO
If so, what natural?
Describe packer(s) and location?

Was well disinfected upon completion? ☑ YES ☐ NO
Explain
Bacteriological analysis ☑ YES ☐ NO
Laboratory sent to Twin City Lab, Rapid City

Well Owner:
Name LAVERNE Shuck & DEON SHUCK
Address Newell, S.D.

Well Log:

Formation	Depth From	Depth To
Gray & tan silty sh	0	30
Gray sh w/ small ss stringers	30	90
Gray, Dark Gray & Black shale w/ some calcareous concretions (Pierre)	90	-2160
Chalk & lmy sh (Niobrara)	2160	2230
Gray sh & slt clay (Carlile)	2230	2853
Gray shaly limestone (Greenhorn)	2853	2870
DARK Gray sh w/ thin SS Layers (Mowry)	2870	3115
Gray & Brown to tan SS (DAKOTA Group)	3115	3265
Gray sandy sh/some Brn (Fuson)	3265	3290
Grey to white hard SS (LAKOTA)	3290	3490

STATIC WATER LEVEL +191' Feet
If flowing: closed in pressure ____ PSI
GPM flow ____ through ____ inch pipe
Controlled by ☐ Valve ☐ Reducers ☐ Other
If other; specify
Can well be completely shut in?

WELL TEST DATA:
☑ Pumped ☐ Bailed ☐ Other
Describe: Drawdown + static levels measured by airline

Pumping Level Below Land Surface
502 ft. After 2 Hrs. pumped 25 GPM
____ ft. After ____ Hrs. pumped ____ GPM
____ ft. After ____ Hrs. pumped ____ GPM

REMARKS: E-LOGS ON FILE
G/R-N/N
CMT BOND

JAN 1991 DIVISION OF WATER RIGHTS Pierre, SD

This well was drilled under license # 205
And this report is true and accurate.
Drilling firm Materi Exploration Inc
Signature of License Representative:
Signature of Well Owner: (VERITAS Energy Inc.)
Date 1/18/90

GOODWELL, INC. — **SONIC CEMENT BOND**

COUNTY ____ FIELD or LOCATION ____ WELL ____ COMPANY ____

COMPANY: LAVERNE SHUCK
WELL: WATER WELL #1
FIELD: SHUCK RANCH
COUNTY: BUTTE STATE: SOUTH DAKOTA
LOCATION — Other Services:
Sec. 14 Twp. 11N Rge. 7E

Permanent Datum: GROUND LEVEL, Elev. ____ Elev.: K.B. ____
Log Measured From G.L., ____ Ft. Above Perm. Datum D.F. ____
Drilling Measured From G.L. G.L. ____

Date	12-12-1990		Type Fluid in Hole	WATER	
Run No.	TWO		Dens.	Visc.	
Depth—Driller	3460'		Max. Rec. Temp.		
Depth—Logger	3450'		Est. Cement Top	585'	
Btm. Log Interval	3450'		Equip. / Location	811	UPTON
Top Log Interval	250'		Recorded By	T. BICKETT	
Open Hole Size	6¾"		Witnessed By	MR. BARRITT	

CASING REC.	Size	Wt/Ft	Grade	Type Joint	Top	Bottom
Surface String						
Prot. String	5½"				0'	938'
Prod. String	4½"				938'	3490'
Liner						

PRIMARY CEMENTING DATA

STRING	Surface	Protection	Production	Liner
Vol. of cement				
Type of cement				
Additive				
Additive by %				
Retarder				
Retarder by %				
Wt. of slurry				
Water loss				
Drill. mud type				
Drilling mud wt.				

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COMPRESSIVE STRENGTH (p.s.i. Curing Temp.)

Time Elapsed	Surface		Protective		Production		Liner	
24 hrs.		°F		°F		°F		°F
48 hrs.		°F		°F		°F		°F
72 hrs.		°F		°F		°F		°F

PRIMARY CEMENTING PROCEDURE

	Hour — date	Hours from start of operation
Started pumping cement		
Plug on bottom		
Release pressure		
Start Cement Bond Log		
Finish Cement Bond Log		

Equipment Data: Type standoff / Logging speed / Bias: Max. / Cartridge No. / Spacing

Preceding fluid ____ Volume ____ bbls. Pipe reciprocated during Pumping: Yes ____ No ____
Returns: Full ____ Partial ____ None ____ Pipe reciprocated after plug down: Yes ____ min., No ____

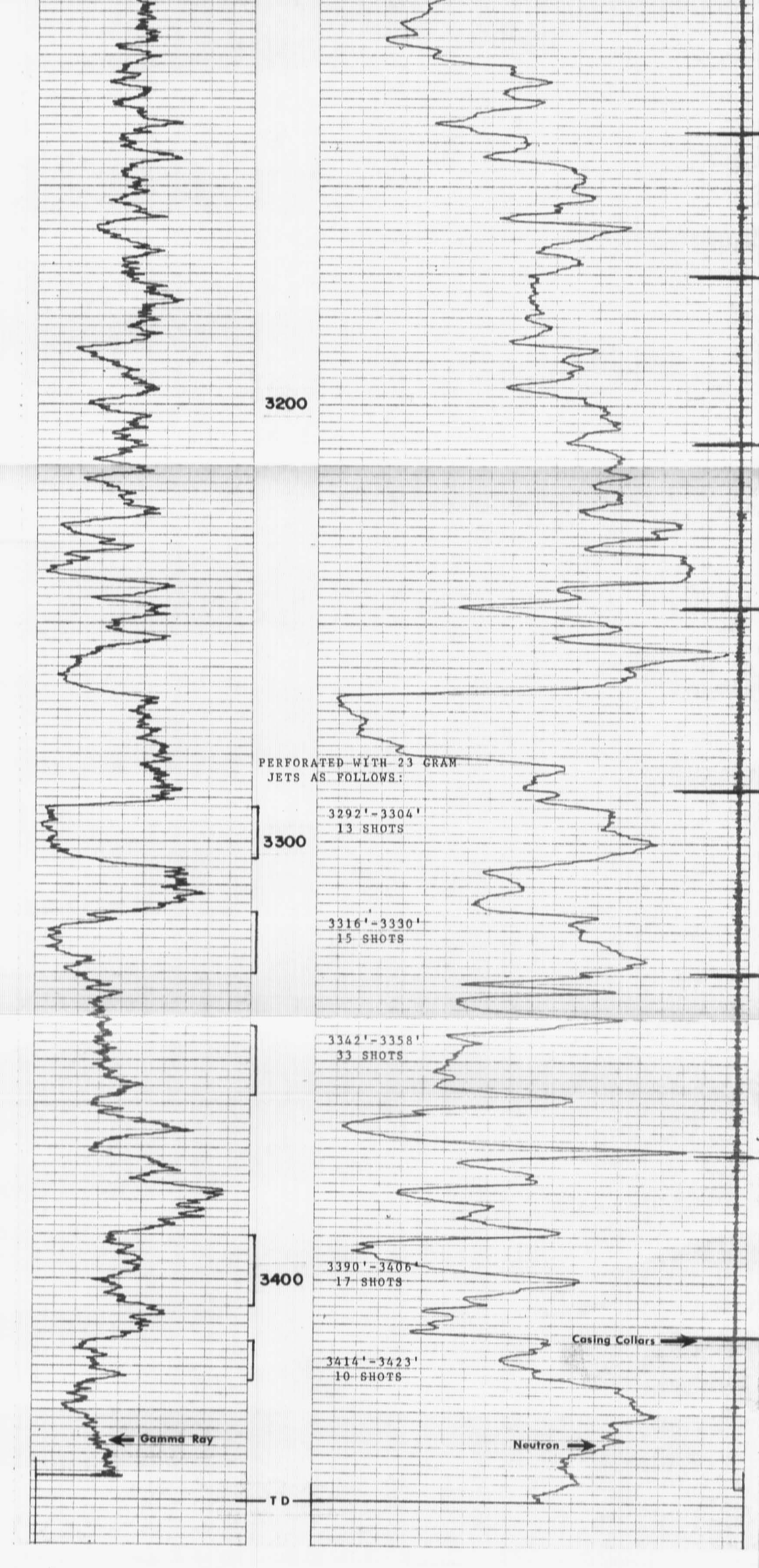
CEMENT BOND

DEPTHS 1" = 100'

AMPLITUDE INCREASES →

GAMMA RAY

DEPTHS 5" = 100' — Neutron



GOODWELL, INC.

UPTON, WYOMING

FILING NO.

GAMMA RAY-NEUTRON

- COMPANY: LAVERNE SHUCK
- WELL: WATER WELL #1
- FIELD: SHUCK RANCH
- COUNTY: BUTTE — STATE: SOUTH DAKOTA
- LOCATION:
- OTHER SERVICES:
- SEC. 14 — TWP. 11N — RGE. 7E
- PERMANENT DATUM: GROUND LEVEL — ELEV.
- LOG MEASURED FROM: G.L. — FT. ABOVE PERM. DATUM
- DRILLING MEASURED FROM: G.L.
- ELEV.: K.B. — D.F. — G.L.

DATE	11-26-1990
RUN NO.	ONE
TYPE LOG	G/R-N/N
DEPTH—DRILLER	3290'
DEPTH—LOGGER	3283'
BOTTOM LOGGED INTERVAL	3282'
TOP LOGGED INTERVAL	1840'
TYPE FLUID IN HOLE	MUD
SALINITY, PPM CL.	
DENSITY	
LEVEL	FULL
MAX. REC. TEMP., DEG F.	
OPERATING RIG TIME	1½ HOUR
RECORDED BY	BULLARD/JENKINS
WITNESSED BY	MR. BARRITT

BORE-HOLE RECORD				CASING RECORD			
RUN NO.	BIT	FROM	TO	SIZE	WGT.	FROM	TO
1	6¼"	0'	3290'				

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THIS HEADING AND LOG CONFORMS TO API RP 33

EQUIPMENT DATA

GAMMA RAY			NEUTRON		
RUN NO.			RUN NO.		
TOOL MODEL NO.			LOG TYPE		
DIAMETER			TOOL MODEL NO.		
DETECTOR MODEL NO.			DIAMETER		
TYPE			DETECTOR MODEL NO.		
LENGTH			TYPE		
DISTANCE TO N. SOURCE			LENGTH		
			SOURCE MODEL NO.		
GENERAL			SERIAL NO.		
HOIST TRUCK NO.			SPACING		
INSTRUMENT TRUCK NO.			TYPE		
TOOL SERIAL NO.			STRENGTH		

LOGGING DATA

GENERAL				GAMMA RAY				NEUTRON			
RUN NO.	DEPTHS FROM	DEPTHS TO	SPEED FT/MIN.	T.C. SEC.	SENS. SETTINGS	ZERO DIV. L OR R	API G.R. UNITS PER LOG DIV.	T.C. SEC.	SENS. SETTINGS	ZERO DIV. L OR R	API N. UNITS PER LOG DIV.

REFERENCE LITERATURE

REMARKS

GAMMA RAY — DEPTH