WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION

New Well [XX] Temporary Abandon [ ] Work-Over [ ] Deepen [ ] Plug Back [ ] Same Reservoir [ ] Different Reservoir [ ] Oil [ ] Gas [ ] Dry [ ]

DESCRIPTION OF WELL AND LEASE

Operator: Arizona Public Services	Address & Phone No.: 400 N. 5th St. Phoenix 602-250-3020
Federal, State or Indian Lease Number or name of lessor if fee lease: Woodrow Estate	Well Number: TG 3-05 / Field & Reservoir: Clifton
Location: S 19, T 4S, R 30E	County: Greenlee
Sec. Township-Range or Block & Survey: Up Casius Canyon	

Date spudded	Date total depth reached	Date completed, ready to produce	Elevation (DF, KB, RT or Gr.)	Elevation of casing head flange
10/28/2005	12/23/2005	NA	3590 feet	Unk feet

Total depth	P.B.T.D.	Single, dual, or triple completion?	If this is a dual or triple completion furnish separate report for each completion
1,000		2-inch tube TD	

Producing interval(s) for this completion	Rotary tools used (interval)	Cable tools used (interval)
NA	AH0'-320' HQ320'-1,000'	

Was this well directionally drilled?	Was directional survey made?	Was copy of directional survey filed?	Date filed
No			

Type of electric or other logs run (check logs filed with the Commission): Temp — Date filed: Attached

CASING RECORD

Casing (report all strings set in well -- conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amount pulled
Surface	8-inc	6-inch		0-120'		0

TUBING RECORD

Size	Depth set	Packer set at
2- in.	1,000 ft.	ft.

LINER RECORD

Size	Top	Bottom	Sacks cement	Screen (ft.)
in.	ft.	ft.		

PERFORATION RECORD

Number per ft.	Size & type	Depth interval
		NA

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Amount & kind of material used	Depth interval

INITIAL PRODUCTION

Date of first production	Producing method (indicate if flowing, gas lift or pumping -- if pumping, show size & type of pump)

Date of test	Hours tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
			bbls.	MCF	bbls.	*API

Tubing pressure	Casing pressure	Calculated rate of production per 24 hrs.	Oil	Gas	Water	Gas - oil ratio
			bbls.	MCF	bbls.	

Disposition of gas (state whether vented, used for fuel or sold)

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Principal of the David Brown & Associates (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

4/3/2006
Date

Signature

Mail completed form to:
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress, #100
Tucson, AZ 85701

Permit No. 00931

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Well Completion or Recompletion Report and Well Log
File One Copy
Form No. 4

10/98

DETAIL OF FORMATIONS PENETRATED

FORMATION	TOP	BOTTOM	DESCRIPTION *
Canyon Fill	0	26	Mixture of silt, sand, gravel, of mixed litholgies
Longfellow Limestone	26	50	Yellow to light tan calcareous Limestone
Coronado Sandstone	50	469	Yellow to brick red, quartzite, and arkosic sandstone with argillaceous layers
Pre-Cambrian Granite	469	834	Brick red granite with occasional aplite dike.
Diabasic Dike	834	860	Dark Gray diabase dike, microcrystalline
Pre-Cambrian Granite	860	877	Granite, as above
Diabase Dike	877	883	Diabase, as above
Pre-Cambrian Granite	883	1,000	Granite, as above

* Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

INSTRUCTIONS:

Attach drillers log or other acceptable log of well.
This Well Completion or Recompletion report and well log shall be filed with the Oil and Gas Program Administrator, Arizona Geological Survey, 416 W. Congress #100, Tucson, AZ 85701 not later than thirty days after completion pursuant to A.A.C. R12-7-121.

Form No. 4

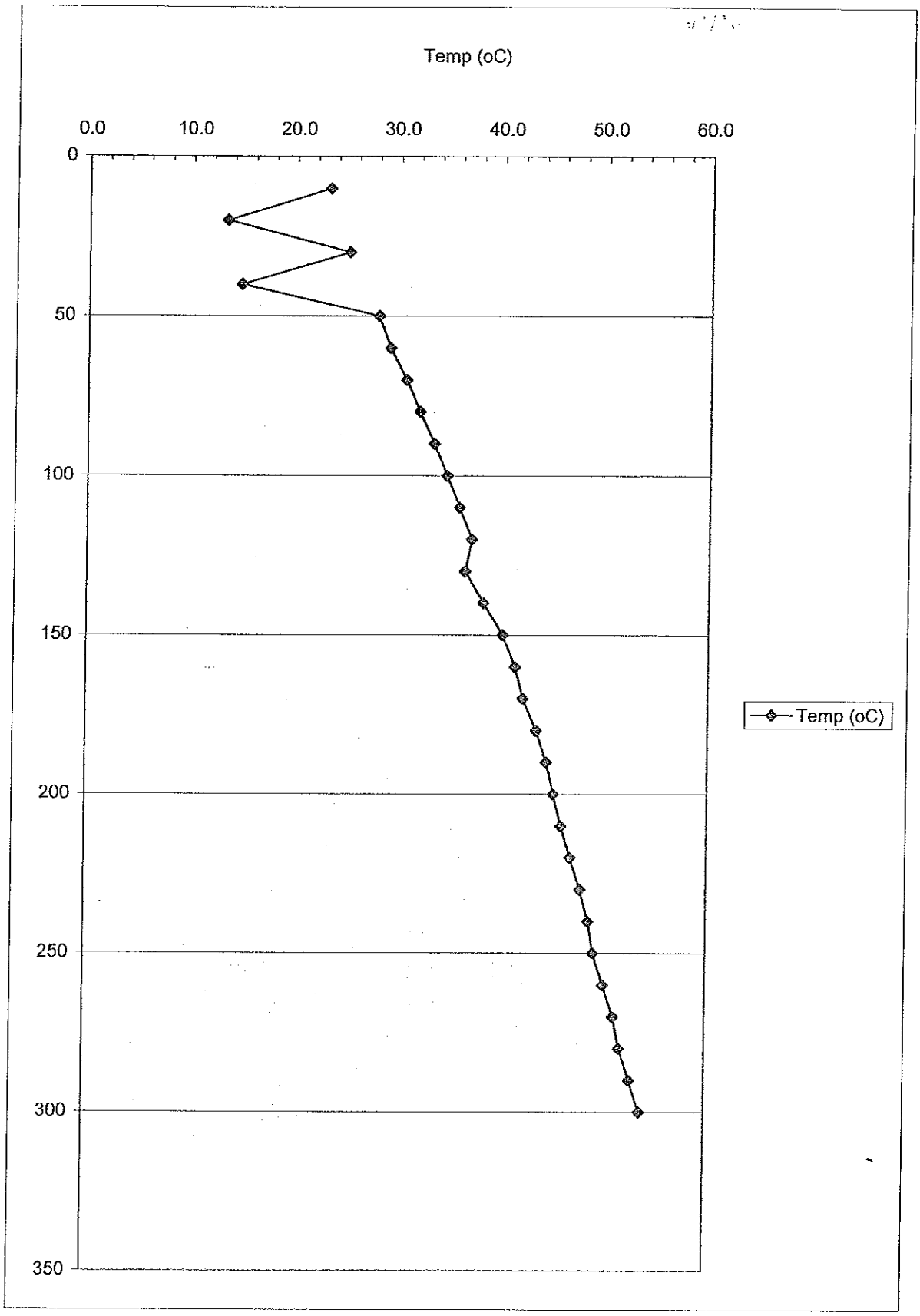
TG-2 Gradient 01/11/2006

TG-3-05

(931)

Depth (meters)	Temp (oC)	Comments	MRT (oC)	Blooie Line Temp (oC)
10	23.2	air?		
20	13.3	air?		
30	25.1	air?		
40	14.7	air?	25.6	
50	28.0			26.60
60	29.1			
70	30.7			
80	32.0			
90	33.4			32.20
100	34.7			
110	35.9			
120	37.1			
130	36.5			
140	38.3			
150	40.2			
160	41.4			
170	42.2			
180	43.5			
190	44.5			
200	45.2			
210	46.0			
220	46.9			
230	47.9			
240	48.7			
250	49.2			
260	50.2			
270	51.2			
280	51.8			
290	52.8			
300	53.8			

931


Temp (oC)
0.0
10.0
20.0
30.0
40.0
50.0
60.0
0
50
100
150
200
250
300
350
Temp (oC)

11-2-05 TG 3-05 931

drilling @ 300'
Pounded down to 300' with air hammer
Started lifting so much water air hammer wouldn't work.
Will rig up core rig to cut HQ core to TD.
Will probably only drill the 3-05 and 1-05 this year

11-30-05
Pounded down to 325'
Choked the air hammer down to where more air used to lift with than run hammer.
Lifting about 4500 gal/min
Are moving core rig back out from 1-5
program is to go to 1000'

1-6-06
TD 1000' On site right now trying to grout to surface
6" to 120' w/ good surf returns
2" to 1000' + grouting
Good seal at bottom, drilled through fault zone

Timothy McDonald
Sr. Power Technologies Engr
Technology Development Dept

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MS 8378
PO Box 53999
Phoenix, Arizona 85072-3999

rcd 9-16-05

Steven Rauzi
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, Arizona 85701

P/N 931

Dear Mr. Rauzi

We have an amendment to the recently issued "Permit to Drill" from your department to Arizona Public Service. Well number TG 3-05 will actually be drilled on the Woodrow Estate owned by Lori Knight at PO Box 226 Thatcher AZ 85552. The well location will be 200 feet west of the boundary with the Guadalupe Fernandez Jr. property. The Land Description and registered survey plat has not changed.

Sincerely Yours

Timothy McDonald

Timothy McDonald

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER

APPLICATION TO DRILL ☒ RE-ENTER OLD WELL ☐

NAME OF COMPANY OR OPERATOR: Arizona Public Service Company

Address	City	State	Phone Number
400 N. 5th Street	Phoenix	Arizona	602-250-3020

Drilling Contractor: Boart Longyear Co.

Address: 7773 West Sellon Ln. Peoria, Az. 85345

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or if fee lease, name of lessor: Fee	Well number: TG 3-05	Elevation (ground): 3590 ft.
Nearest distance from proposed location to property or lease line: 150 feet	Distance from proposed location to nearset drilling, completed or applied-for well on the same lease: N/A feet	
Number of acres in lease: NA	Number of wells on lease, including this well, completed in or drilling to this reservoir: Ø	

If lease purchased with one or more wells drilled, from whom purchased. Name: N/A Address:

Well location (give footage from section lines): 628 ft East and 505 ft. South	Section - Township - Range or Block and Survey: Sec. 19 T4S R30E	Dedication per A.A.C. R12-7-104(A)(3): N/A
Field and reservoir (if wildcat, so state): N/A	County: Greenlee	

Distance in miles and direction from nearest town or post office: 1 mile north of Clifton, Az.

Proposed depth: 1200 ft.	Rotary or cable tools: Rotary	Approximate date work will start: Oct. 10, 2005
Bond status: attached Amount: $25,000	Organization Report: On file / Or attached	Filing Fee of $25.00: Attached

Remarks: Temperature Gradient Well

API. # 02-011-90003

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the: Leader-Technology Dev't. of the ARIZONA PUBLIC SERVICE (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Signature: [signature]

Date: 8/29/05

Mail completed form to:
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress, #100
Tucson, AZ 85701-1315

Permit Number: 931

Approval Date: 9-6-05

Approved By: SL Rauz

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Drill or Re-enter
File Two Copies

Form No. 3

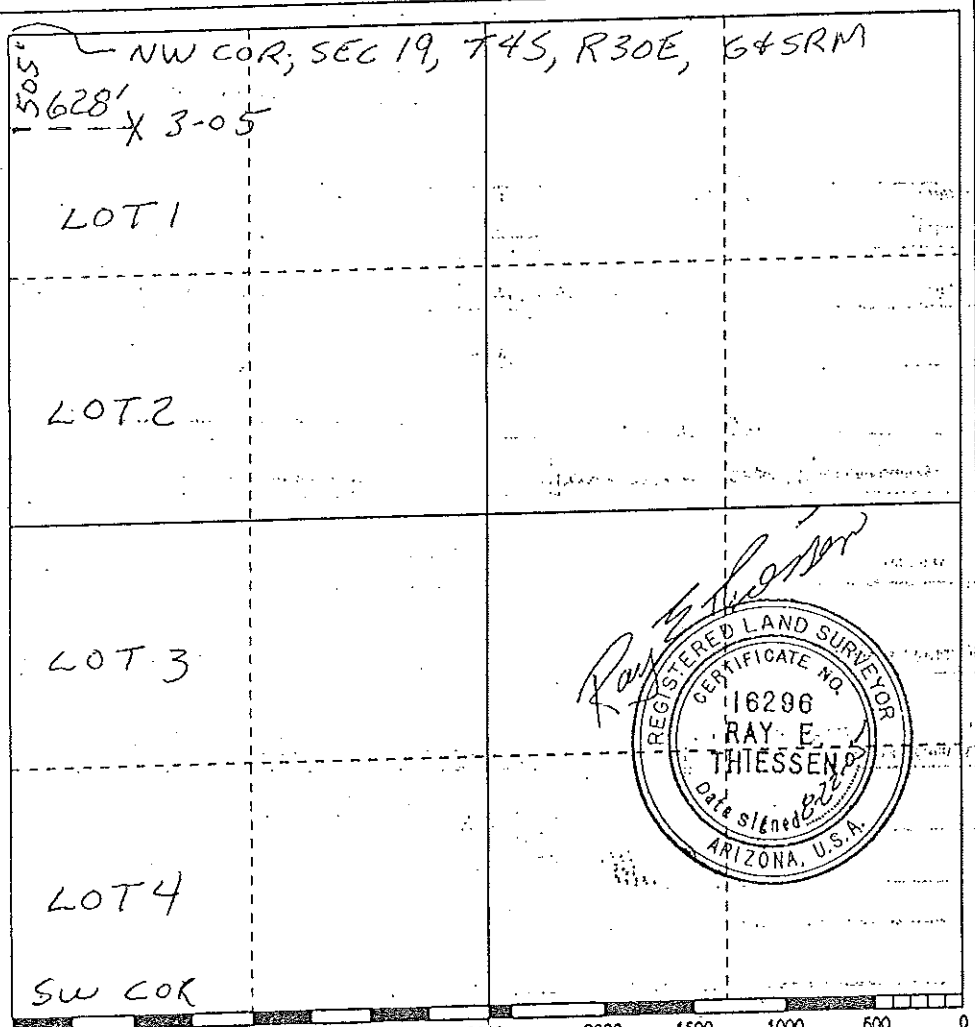
(Complete Reverse Side)

5/96

PERMIT 931

1. Operator shall outline on the plat the acreage dedicated to the well in compliance with A.A.C. R12-7-107.
2. A registered surveyor shall show on the plat the location of the well and certify this information in the space provided.
3. ALL DISTANCES SHOWN ON THE PLAT MUST BE FROM THE OUTER BOUNDARIES OF THE SECTION.
4. Is the operator the only owner in the dedicated acreage outlined on the plat below ? YES ____ NO X
5. If the answer to question four is no, have the interests of all owners been consolidated by communitization agreement or otherwise? YES ____ NO X If answer is yes, give type of consolidation ____
6. If the answer to question four is no, list all the owners and their respective interests below:

Owner	Land Description
Lori Knight (Woodrow Estate)	LOT 1, SEC 19, T4S, R30E, G&SRM
PO Box 226, Thatcher AZ 85552	GREENLEE COUNTY, AZ



CERTIFICATION

I hereby certify that the information abov is true and complete to the best of my knowledge and belief.

Name: PETER JOHNSTON

Position: LEADER - TECH DEVT.

Company: ARIZONA PUBLIC SERVICE

Date: 8/29/05

I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

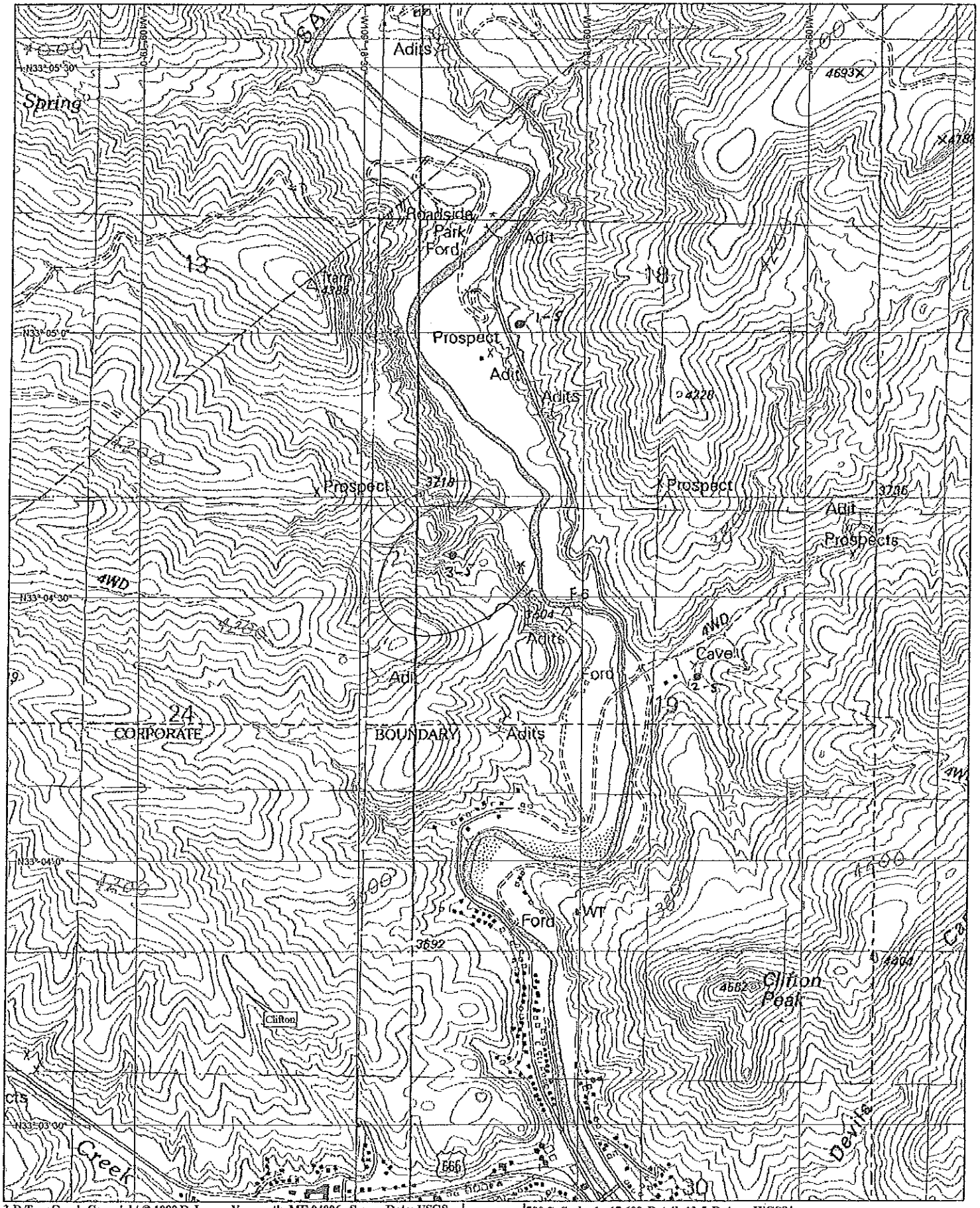
Date Surveyed: 8-22-05

Registered Land Surveyor: RAY E THIESSEN

Certificate No.: RLS 16296

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement	Type
6 inch	10.79	Schedule 20	surface	120 ft.	120 ft.	60	neat

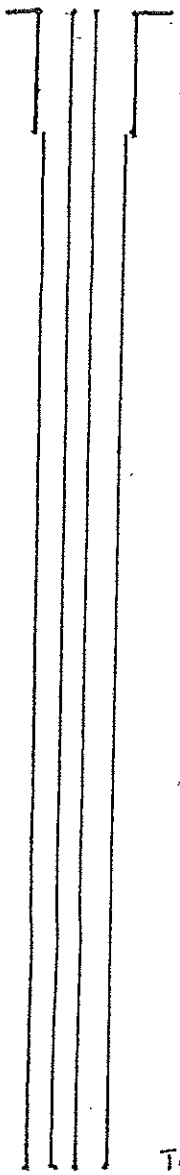


3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 700 ft Scale: 1 : 17,600 Detail: 13-5 Datum: WGS84

Elev. 3590'

6" schedule 20 casing

minimum depth 120 ft.



931

2" tubing to TD

Total Depth 1200 ft.

Clifton Temperature Gradient Well 3-05