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 Street Phoenix, AZ 602-250-3020
Federal, State or Indian Lease Number or name of lessor if fee lease: June Palmer	Well Number: TG 1-05 / Field & Reservoir: Clifton
Location: Uphill from Potter ranch turnoff	County: Greenlee
Sec. Township-Range or Block & Survey: NE¼, SW¼, S 18, T 4S, R 30E, G&SRM	

Date spudded	Date total depth reached	Date completed, ready to produce	Elevation (DF, KB, RT or Gr.)	Elevation of casing head flange
10/13/05	11/15/05		3615 feet	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
635'		2-inch tube TD	

Producing interval(s) for this completion	Rotary tools used (interval)	Cable tools used (interval)
NA	AH 0-550' HQ 550-635'	

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)	Date filed
Hand Temp	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-inch	6-inch		0-80'		0

TUBING RECORD

Size	Depth set	Packer set at
2- in.	635 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. 00929

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*
Pre-Cambrian Granite	0	635	Brick red granite with lenses of dark gray felsic granodiorite.

* 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

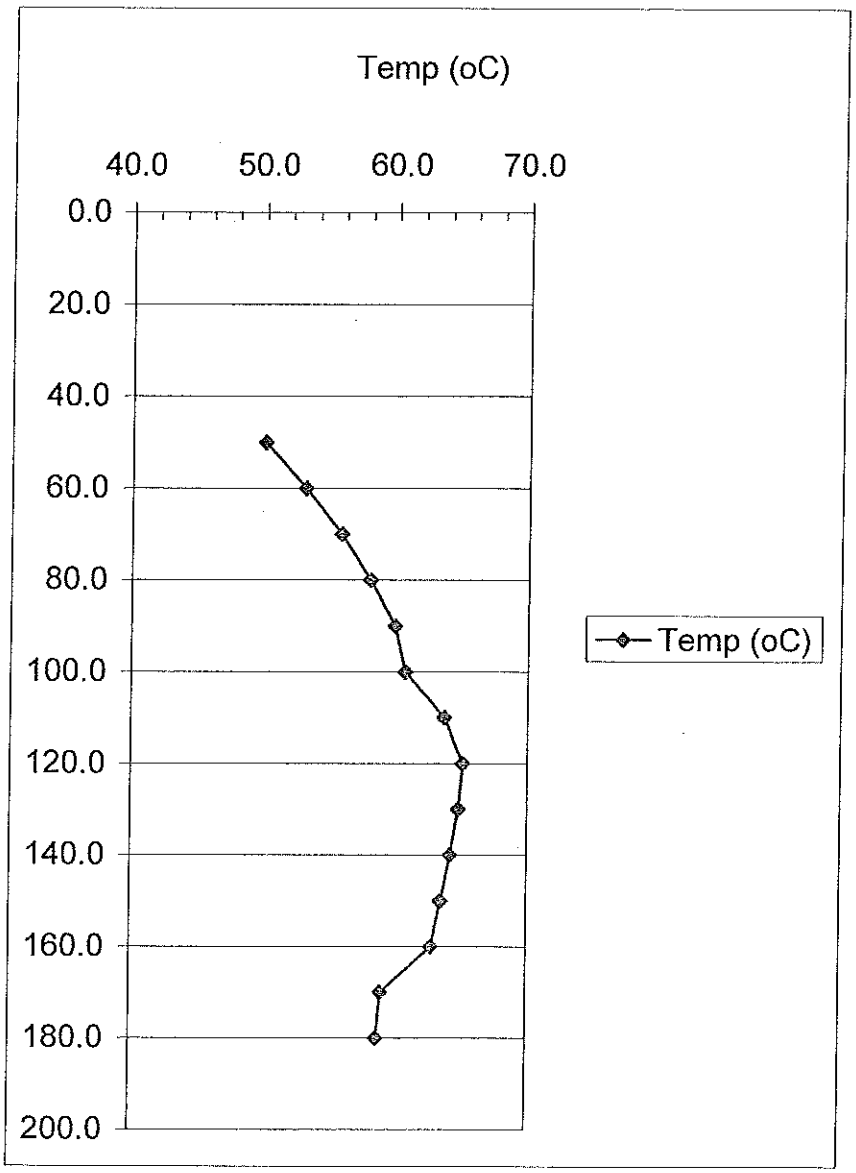
TG-1 Gradient 10/30/2005

929

Depth (meters)	Temp (oC)	Comments	MRT (oC)	Blooie Line Temp (oC)
50	50.0	air?		
60	53.1	air?		
70	55.8			
80	58.0			
90	59.9			
100	60.7			54.40
110	63.7		62.7	
120	65.1		71.0?	57.20
130	64.8			
140	64.2			60.00
150	63.5			62.70
160	62.8			
170	59.0			51.60
180	58.7			

TG 1-05

929


Temp (oC)
40.0
50.0
60.0
70.0
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
180.0
200.0
Temp (oC)

TG-1 Gradient 01/11/2006

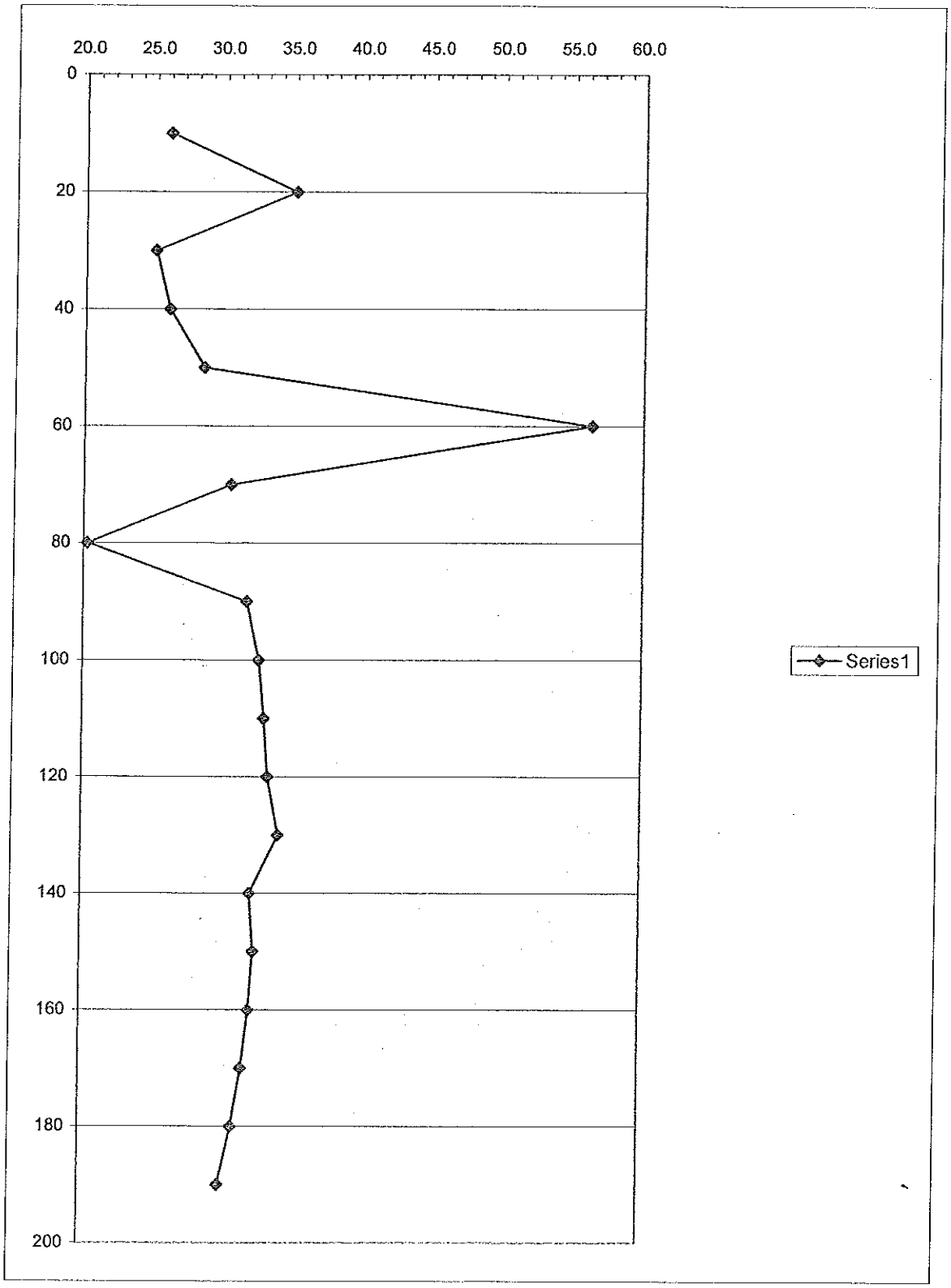
TG 1-05

928

Depth (meters)	Temp (oC)	Comments
10	26.0	air?
20	35.0	air?
30	25.0	air?
40	26.0	air?
50	28.5	
60	56.3	
70	30.5	
80	20.3	
90	31.7	
100	32.6	
110	33.0	
120	33.3	
130	34.1	
140	32.1	
150	32.4	
160	32.1	
170	31.6	
180	30.9	
190	30.0	

TG 1-05

929


20.0
25.0
30.0
35.0
40.0
45.0
50.0
55.0
60.0
0
20
40
60
80
100
120
140
160
180
200
Series1

10-20-05 Dave Brown called fr Clifton

929

drilling @ 540' on 1st hole TG-01-05
drilling ahead nicely
Encountered a little hot wtr
140-150°F in diverter
BHT ~ 170°F @ 360'
Air lifting about 200 gpm
Colder acquifer on top drowning out true T.
~ 100'/hr but now down to 40'/hr.
Will run tbg and set with 70-80 sec mud
Good thermocouple with fm to monitor T.

11-2-05
Hole @ 540' with lost circulation.
All attempts to begain circulation unsuccessful
Are moving in core rig to cut HQ core to TD.
Will probably only drill the 1-05 and 3-05 this year

11-30-05
Hole TD @ 635' with coring
Ran 2" tubing to TD.
Encountered altered zone @ TD that started to squeeze around hole
Crystal-lithic tuff

1-6-06 ?
TD 683' 6" to 80' w/ cont returns 2" to 683' w no returns.
Running temperature measurements
Locked well head

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 Seldon 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 1-05	Elevation (ground): 3615 ft.
Nearest distance from proposed location to property or lease line: 345 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: N/A	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): 1301' East and 1962' North	Section - Township - Range or Block and Survey: Sec. 18 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: 1.5 miles north of Clifton, Az

Proposed depth: 800'	Rotary or cable tools: Rotary	Approximate date work will start: Sept. 20, 2005
Bond status: attached Amount: $25,000	Organization Report On file Or attached	Filing Fee of $25.00 Attached

Remarks

Temperature Gradient Well

API # 02-011-90001

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the: Loader-Tech Dept 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: P. Johnson

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: 929

Approval Date: 9-6-05

Approved By: S. Ramirez

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

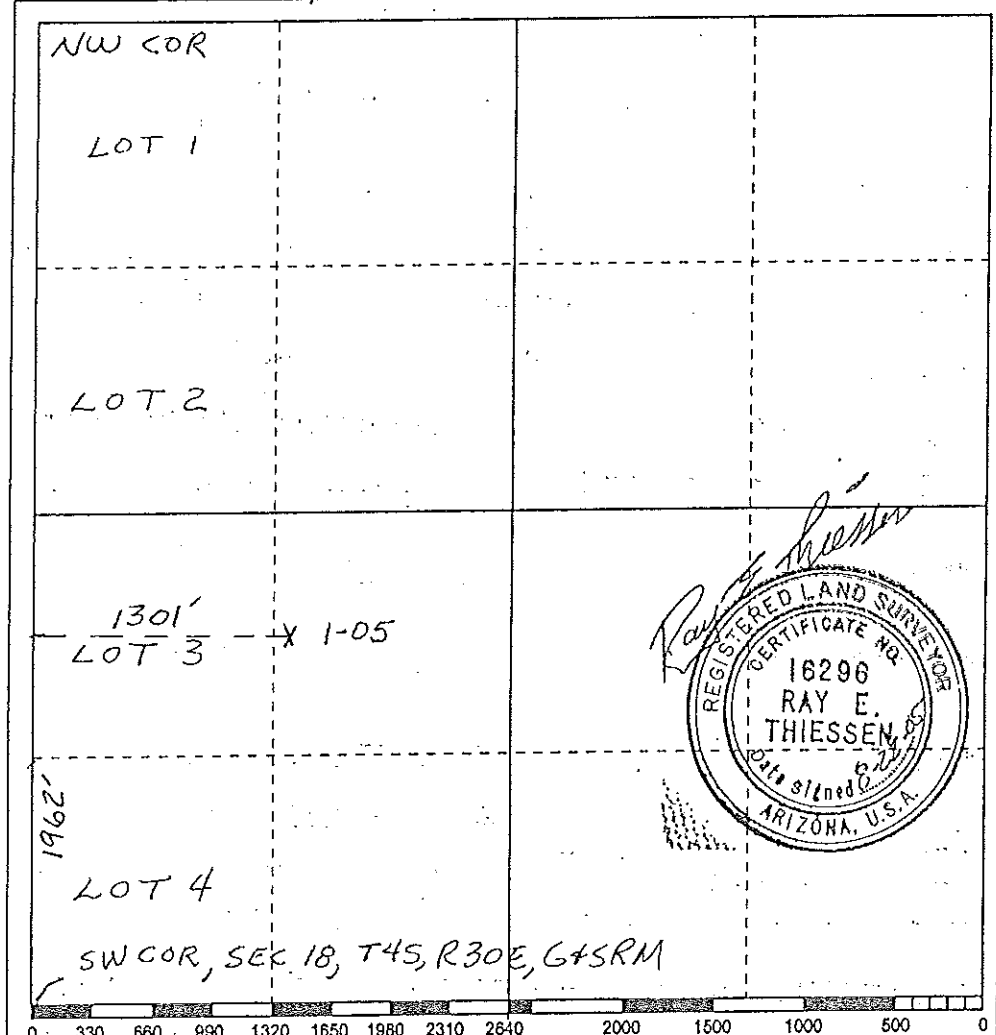
Form No. 3

(Complete Reverse Side)

5/96

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
Ms. June Palmer	NE4, SW4, SEC 18, T4S, R30E, G+SRM
Potter Ranch, Clifton, Az 85533	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.

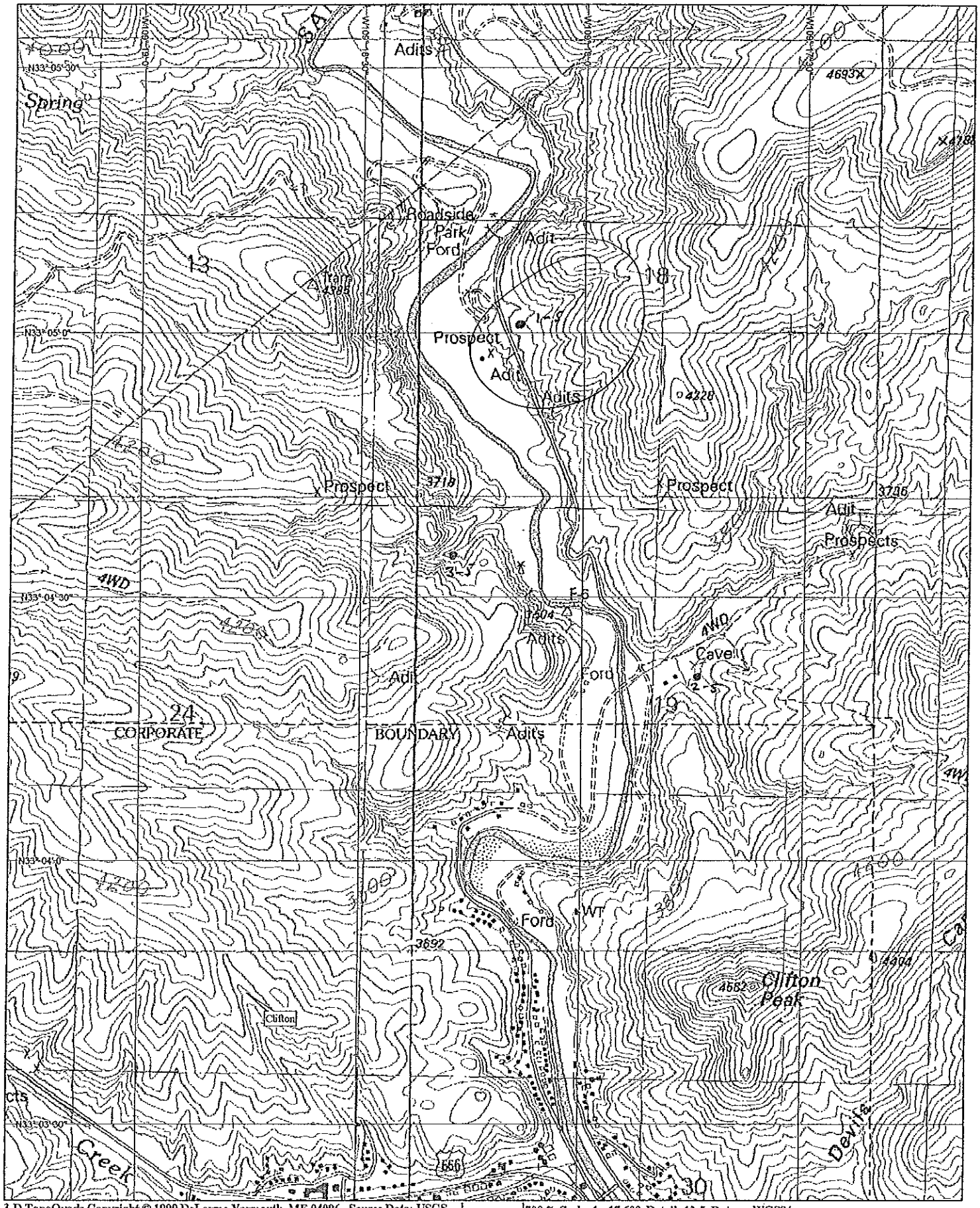
Date Surveyed: 8-22-05

Registered Land Surveyor: RAY E. THIESSEN

Certificate No.: RLS 16296

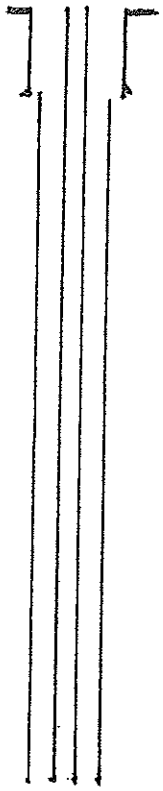
PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement	Type
6 inch	10.79	Schedule 20	Surface	80 ft.	80 ft.	40	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'



surface casing 6 inch schedule 20 casing
minimum depth 80 ft.

2 inch tubing to TD
Total Depth 800 ft.

Clifton Temperature Gradient Well 1 - 05

929