

*for the
1st well*
Lea County, New Mexico

APPLICATION FOR AUTHORIZATION TO INJECT

		Dagger Draw Water Flood
I.	PURPOSE: <input checked="" type="checkbox"/> Secondary Recovery Pressure Maintenance	Disposal Storage
	Application qualifies for administrative approval? <input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
II.	OPERATOR:	Artesia, New Mexico 88210
	ADDRESS: <u>105 South 4th Street,</u>	PHONE: <u>(505) 748-4281</u>
III.	CONTACT PARTY: <u>Sam Brandon</u>	
	WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.	
IV.	Is this an expansion of an existing project? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, give the Division order number authorizing the project: _____	
V.	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.	
VI.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, <small>Oil Conservation Division</small> <small>1220 S. St. Francis Drive</small> <small>Santa Fe, NM 87505</small>	
VII.	Attach data on the proposed operation, including:	
	1. Proposed average and maximum daily rate and volume of fluids to be injected; 2. Whether the system is open or closed; 3. Proposed average and maximum injection pressure; 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than re-injected produced water; and, 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).	
*VIII.	Attach appropriate geologic data on the injection zone including appropriate litho logic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.	
IX.	Describe the proposed stimulation program, if any.	
*X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).	
*XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.	
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.	
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.	
XIV.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.	

NAME: Sam Brandon TITLE: Operations Engineer
SIGNATURE: Sam Brandon DATE: _____

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 13227/13228 Exhibit No. 20
Submitted by:
Yates Petroleum Corporation
Hearing Date: March 4, 2004

**C-108 Application for Authorization to Inject
Yates Petroleum Corporation
North Dagger Draw Waterflood Project
Sections 19 and 30, T19S, R25E
Eddy County, New Mexico**

- I. The purpose of converting these wells is to initiate a waterflood project in the Canyon Dolomite.**

Yates Petroleum Corporation plans to convert 5 wells to a water injection service into the Canyon Dolomite.

- II. Operator: Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
Sam Brandon (505) 748-4281**

- III. Well Data: See Attachment A**

- IV. This is not an expansion of an existing project.**

- V. See attached map, Attachment B.**

- VI. See Attachment C.**

- VII. 1. Proposed average daily project injection volume will be approximately 12500 BWPD (2500 BWPD per well). Maximum daily injection volume will be approximately 25000 BWPD (5000 BWPD per well).**

- 2. This will be a closed system.**

- 3. Proposed average injection pressure – 0 psi. Rates will be controlled to maintain pressure below formation fracture pressure.**

Proposed maximum injection pressure –1520 psi.

- 4. Sources of injected water would be produced water from the Canyon Dolomite.**

- VIII. 1. The proposed injection interval is the portion of the Canyon Dolomite formation consisting of porous Dolomite at depths of 7620' – 7908'.**

**Application for Authorization to Inject
North Dagger Draw Waterflood Project**

-2-

- 2. Possible Fresh water zones overlie the proposed injection formations at depths to approximately 390'. There are no fresh water zones underlying the formation.**
- IX. The proposed disposal interval may be acidized with 15 or 20% HCL acid.**
- X. Logs were filed at your office when the well was drilled.**
- XI. There are four active fresh water wells within one mile of the proposed water injection wells. Analysis of water from these wells and a location map are Attachment D.**
- XII. Yates Petroleum Corporation has examined geologic and engineering data and has found that there is no evidence of faulting in the proposed interval. (Attachment E)**
- XIII. Proof of notice.**
 - A. Certified letters sent to the surface owner and offset operators attached (Attachment F)**
 - B. Copy of legal advertisement attached.
(Attachment G)**

XIV. Certification is signed.

**Yates Petroleum Corporation
Ross EG Federal Com No. 5
Sec. 19-19S-25E
Eddy County, New Mexico**

Attachment A
Page 1

III. Well Data

A. 1. Lease Name/Location

Ross EG Federal Com No. 5
Sec. 19-19S-25E
860' FNL & 860' FEL (A)

30-015-26937

2. Casing Strings:

Proposed well condition:

9 $\frac{1}{2}$ " 36# at 1161'. Hole size 14 $\frac{3}{4}$. Cemented with 1300 sacks. Cement circulated

7" 26# J55 & N80 at 8230'. Hole size 8 $\frac{3}{4}$ ". Cemented in two stages with 675 sacks in first stage (cement circulated) and 1075 sacks in second stage (cement circulated). DV tool @ 5775'.

3. Tubing string will be plastic coated or cement lined 2 $\frac{1}{8}$ " 6.5# N80.

4. Propose to use Guiberson or Baker plastic-coated or nickel-plated packer set at 7650'±.

B. 1. Injection Formation: Canyon

2. Injection interval into cased hole perforations 7725'-7908'.

3. Well was originally drilled as a Canyon well with perforations at 7725'- 41', 7775-7809', 7827-43' and 7881'-82'.

4. Next higher (shallow) oil or gas zone within 2 miles - Wolfcamp
Next lower (deeper) oil or gas zone within 2 miles - Strawn.

**Yates Petroleum Corporation
Ross EG Federal Com No. 12
Sec. 19-19S-25E
Eddy County, New Mexico**

Attachment A
Page 1

III. Well Data

A. 1. Lease Name/Location

Ross EG Federal Com No. 12
Sec. 19-19S-25E
1980' FNL & 660' FEL (W) 30-015-27053

2. Casing Strings:

Proposed well condition:

9 $\frac{5}{8}$ " 36# at 1077'. Hole size is 14 $\frac{3}{4}$ ". Cemented with 1300 sacks. Cement circulated.

7" 23 & 26# J55 & N80 at 8275'. Hole size is 8 $\frac{3}{4}$ ". Cemented in two stages with 600 sacks in first stage (cement circulated) and 850 sacks in second stage (cement circulated). DV tool @ 5624'.

3. Tubing string will be plastic coated or cement lined 2 $\frac{7}{8}$ " 6.5# N80.
4. Propose to use Guiberson or Baker plastic-coated or nickel-plated packer set at 7680' \pm .

B. 1. Injection Formation: Canyon

2. Injection interval into cased hole perforations 7740'-7882'.
3. Well was originally drilled as a Canyon well with perforations at 7792'- 7804' and 7830'-40'.
4. Next higher (shallow) oil or gas zone within 2 miles - Wolfcamp
Next lower (deeper) oil or gas zone within 2 miles - Strawn.

**Yates Petroleum Corporation
Ross EG Federal Com No. 9
Sec. 19-19S-25E
Eddy County, New Mexico**

Attachment A
Page 1

III. Well Data

A. 1. Lease Name/Location

Ross EG Federal Com No. 9
Sec. 19-19S-25E
1980' FSL & 660' FEL (1)

30-015-26949

2. Casing Strings:

Proposed well condition:

9 $\frac{1}{8}$ " 36# K55 at 1120'. Hole size 14 $\frac{3}{4}$ ". Cemented with
1200 sacks. Cement circulated

7" 23 & 26# J55 & N80 at 8230'. Hole size 8 $\frac{3}{4}$ ".
Cemented in two stages with 650 sacks in first stage
(cement circulated) and 850 sacks in second stage (cement
circulated). DV tool @ 5624'.

3. Tubing string will be plastic coated or cement lined 2 $\frac{1}{8}$ " 6.5# N80.

4. Propose to use Guiberson or Baker plastic-coated or nickel-plated
packer set at 7670' \pm .

B. 1. Injection Formation: Canyon

2. Injection interval into cased hole perforations 7718'-7896'.

3. Well was originally drilled as a Canyon well with perforations at
7718'-24', 7752-72', 7801-28' and 7844'-56'.

4. Next higher (shallow) oil or gas zone within 2 miles - Wolfcamp
Next lower (deeper) oil or gas zone within 2 miles - Strawn.

Yates Petroleum Corporation
Dagger Draw 30N Com No. 15
Sec. 30-19S-25E
Eddy County, New Mexico

Attachment A
Page 1

III. Well Data

- A.
1. Lease Name/Location
Dagger Draw 30N Com No. 15
Sec. 30-19S-25E
660' FNL & 660' FEL
 2. Casing Strings:
Proposed well condition:
9 $\frac{5}{8}$ " 36#, K55 at 1115'. Hole size 14 $\frac{3}{4}$ ". Cemented with
1100 sacks. Cement circulated.

7" 26# K55 at 8058'. Hole size 8 $\frac{3}{4}$ ". Cemented in two
stages with 500 sacks and second stage with 620 sacks.
Top of cement 480' by temperature survey.
 3. Tubing string will be plastic coated or cement lined 2 $\frac{7}{8}$ " 6.5# N80.
 4. Propose to use Guiberson or Baker plastic-coated or nickel-plated
packer set at 7580' \pm .
- B.
1. Injection Formation: Canyon
 2. Injection interval into cased hole perforations 7620'-7826'.
 3. Well was originally drilled as a Canyon well with perforations at
7620'-70', 7677-99', 7742-68', 7780-94' and 7802'-26'.
 4. Next higher (shallow) oil or gas zone within 2 miles – Wolfcamp
Next lower (deeper) oil or gas zone within 2 miles – Strawn.

**Yates Petroleum Corporation
Dagger Draw 30N Com No. 17
Sec. 30-19S-25E
Eddy County, New Mexico**

Attachment A
Page 1

III. Well Data

A. 1. Lease Name/Location

Dagger Draw 30N Com No. 17
Sec. 30-19S-25E
1665' FNL & 660' FEL

*30-015-
27378*

H

2. Casing Strings:

Proposed well condition:

9 $\frac{5}{8}$ " 36# K55 at 1105'. Hole size is 14 $\frac{3}{4}$ ". Cemented with 1100 sacks. Cement circulated.

7" 26# K55 at 8100'. Hole size is 8 $\frac{3}{4}$ ". Cemented in two stages with 600 sacks in first stage and 700 sacks in second stage (cement circulated). DV tool @ 5041'.

3. Tubing string will be plastic coated or cement lined 2 $\frac{1}{2}$ " 6.5# N80.

4. Propose to use Guiberson or Baker plastic-coated or nickel-plated packer set at 7610' \pm .

B. 1. Injection Formation: Canyon

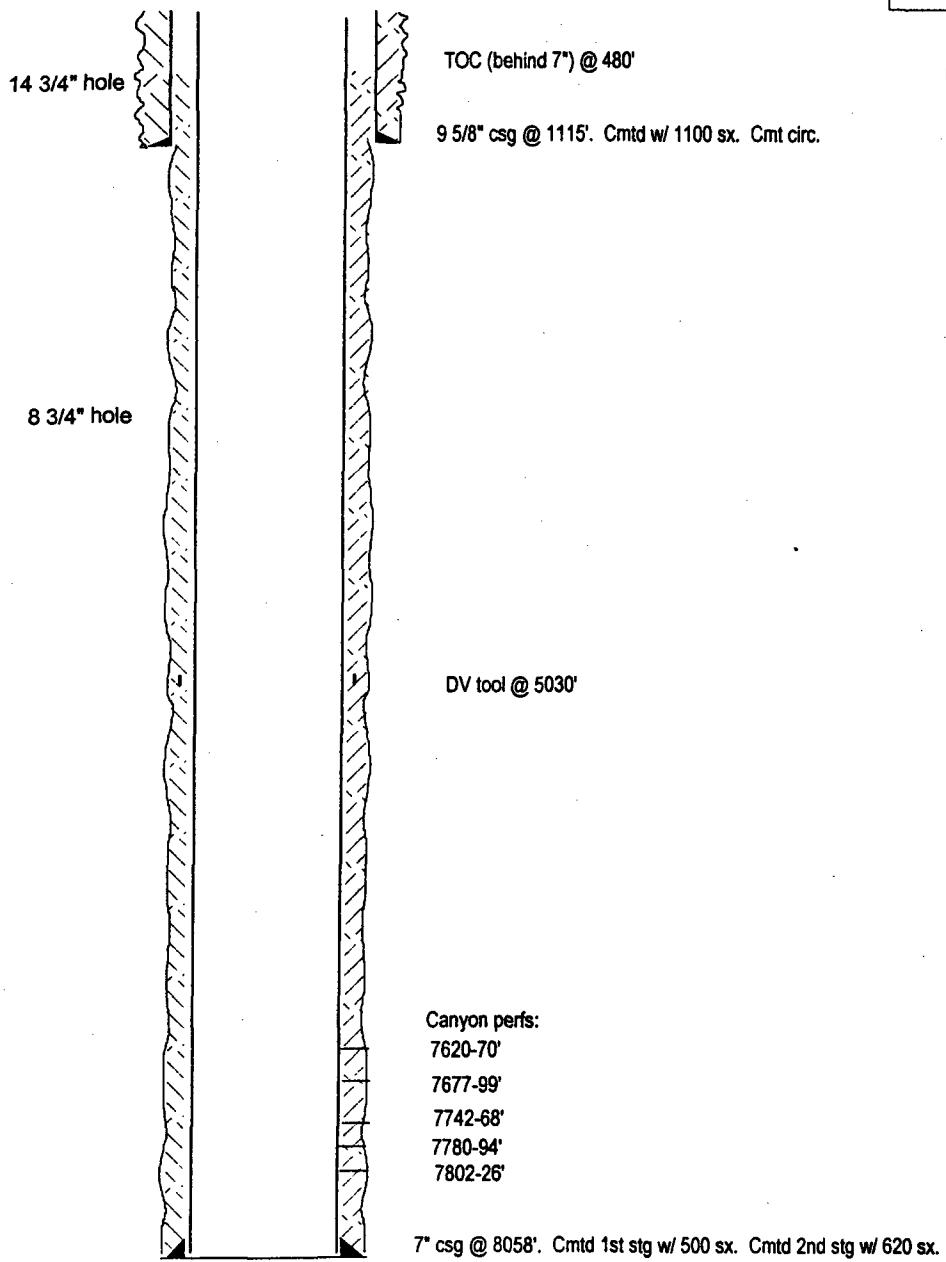
2. Injection interval into cased hole perforations 7654'-7827'.

3. Well was originally drilled as a Canyon well with perforations at 7654'-99', 7720-48', 7772-89' and 7802'-27'.

4. Next higher (shallow) oil or gas zone within 2 miles – Wolfcamp
Next lower (deeper) oil or gas zone within 2 miles – Strawn.

Well Name: Dagger Draw 30N Com # 15 Field: _____
 Location: 660' FNL & 660' FEL Sec. 30-19S-25E Eddy Co, NM
 GL: 3539.5' Zero: _____ AGL: _____ KB: _____
 Spud Date: 10/14/93 Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
9 5/8" 36# K55	1115'
7" 26# K55	8058'



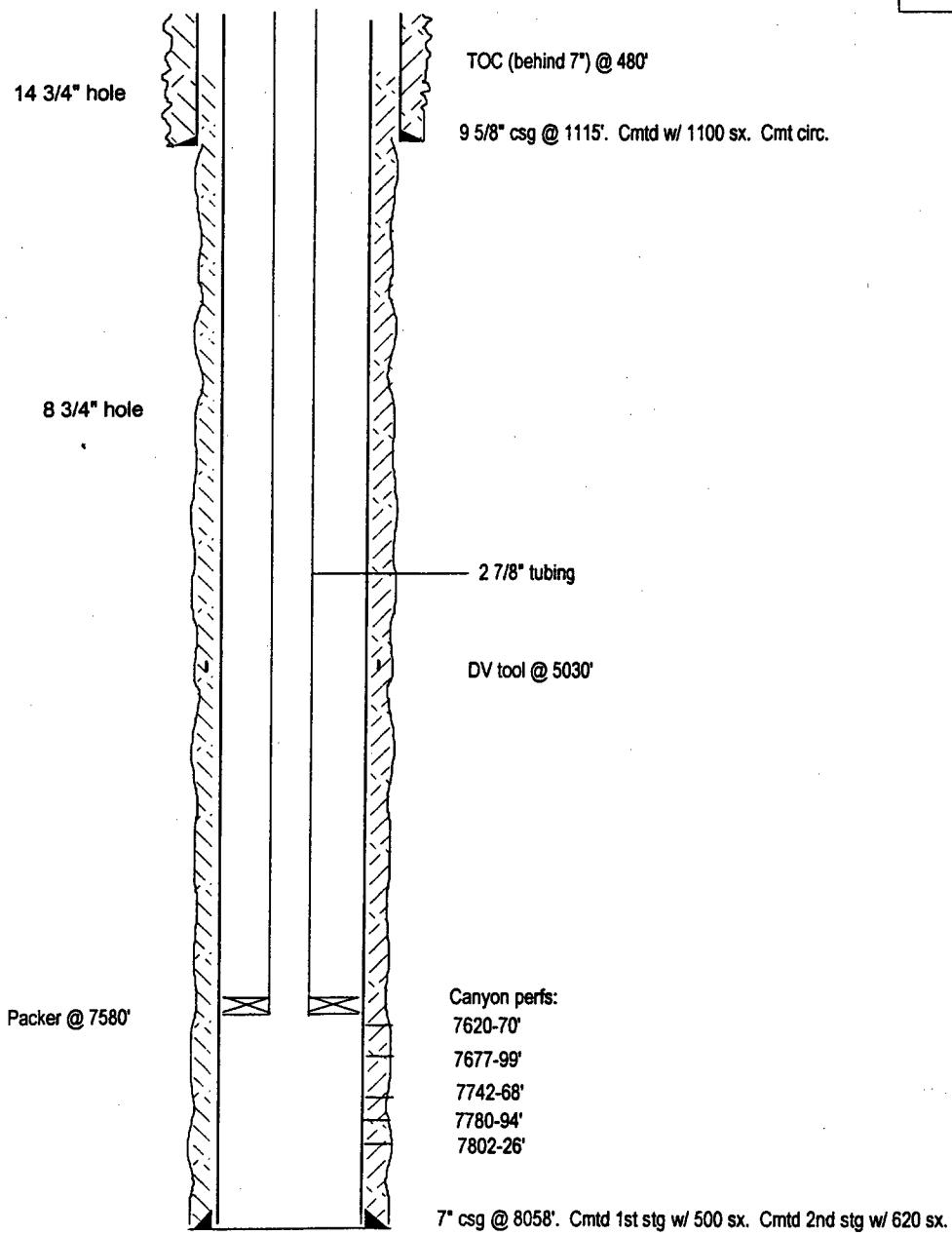
CURRENT CONFIGURATION

SKETCH NOT TO SCALE

DATE: 9/11/03

Well Name: Dagger Draw 30N Com # 15 Field: _____
 Location: 660' FNL & 660' FEL Sec. 30-19S-25E Eddy Co, NM
 GL: 3539.5' Zero: _____ AGL: _____ KB: _____
 Spud Date: 10/14/93 Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
9 5/8" 36# K55	1115'
7" 26# K55	8058'



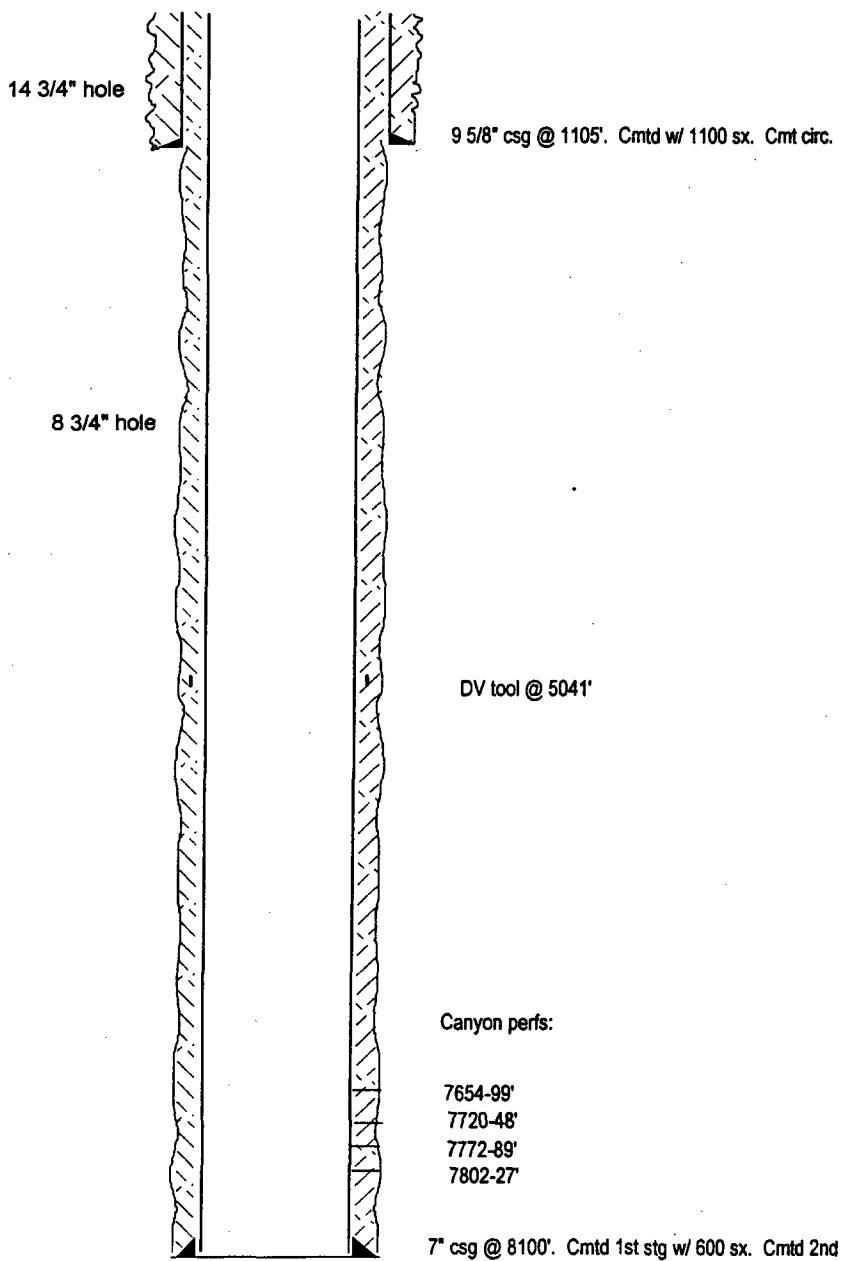
PROPOSED CONFIGURATION

SKETCH NOT TO SCALE

DATE: 9/11/03

Well Name: Dagger Draw 30N Com # 17 Field: _____
 Location: 1665' FNL & 660' FEL Sec. 30-19S-25E Eddy Co, NM
 GL: 3564.5' Zero: _____ AGL: _____ KB: _____
 Spud Date: 4/20/93 Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
9 5/8" 36# K55	1105'
7" 26# K55	8100'



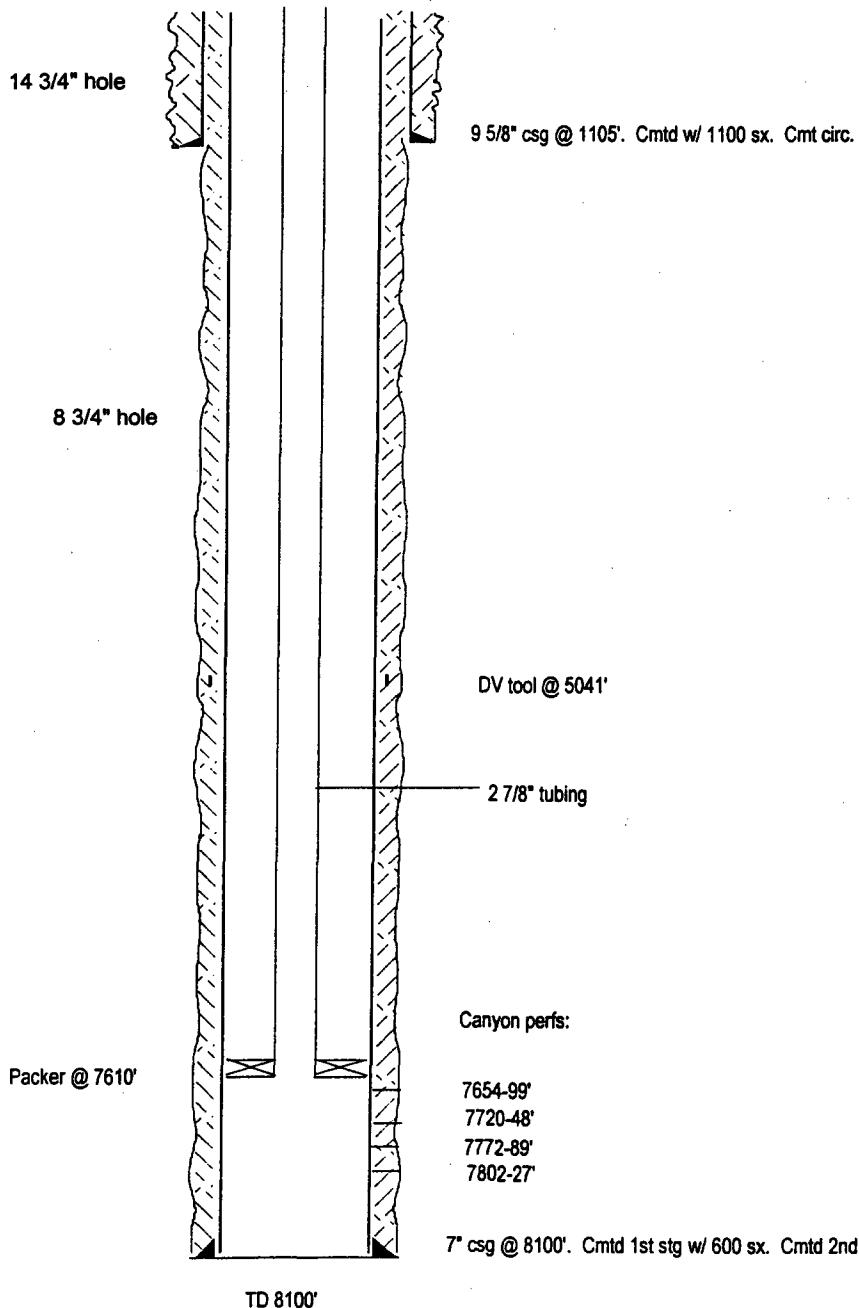
CURRENT CONFIGURATION

SKETCH NOT TO SCALE

DATE: 9/11/03

Well Name: Dagger Draw 30N Com # 17 Field: _____
 Location: 1665' FNL & 660' FEL Sec. 30-19S-25E Eddy Co, NM
 GL: 3564.5' Zero: _____ AGL: _____ KB: _____
 Spud Date: 4/20/93 Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
9 5/8" 36# K55	1105'
7" 26# K55	8100'



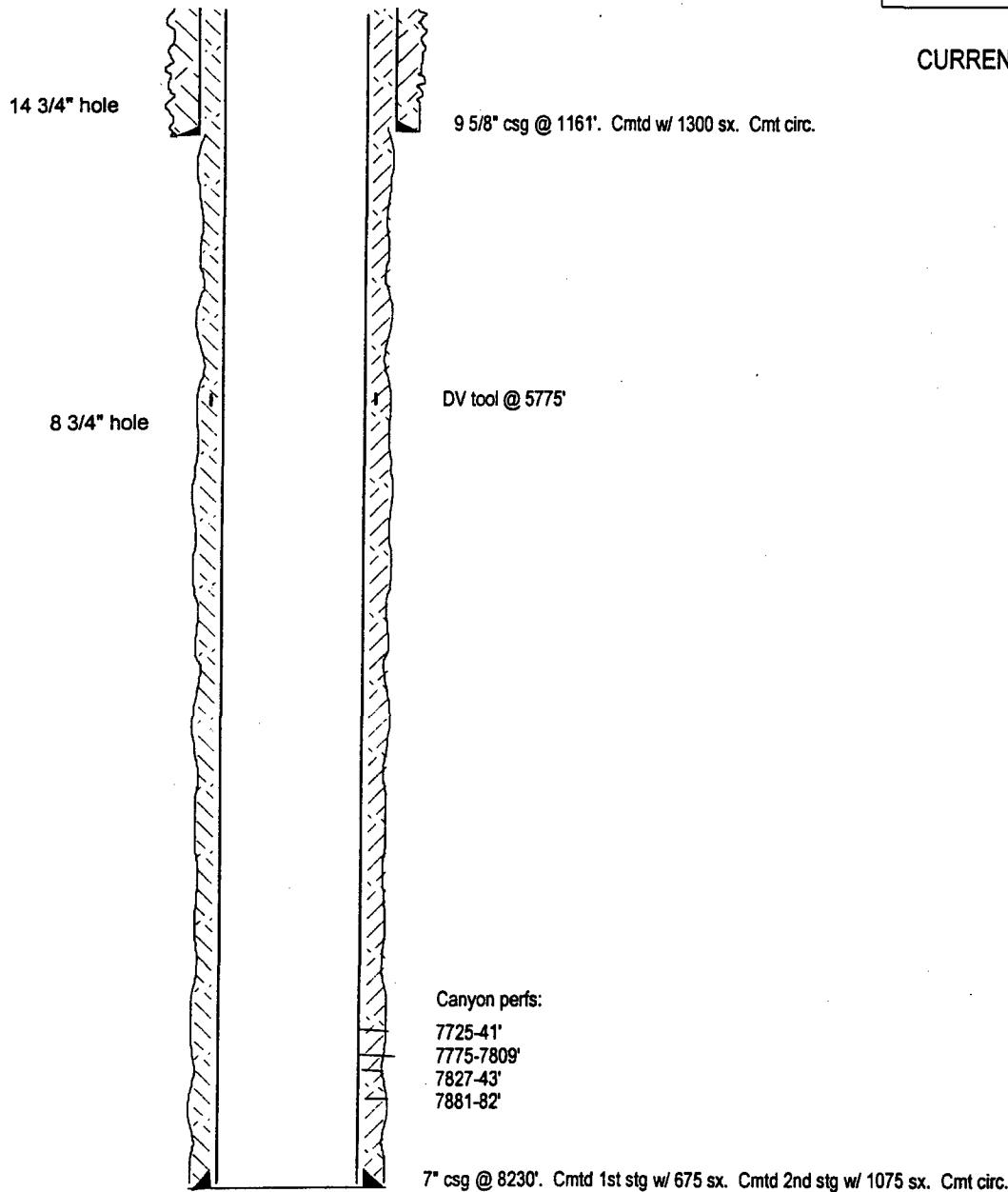
SKETCH NOT TO SCALE

DATE: 9/11/03

Well Name: Ross EG Federal Com #5 Field: _____
 Location: 860' FNL & 860' FEL Sec. 19-19S-25E Eddy Co, NM
 GL: 3573' Zero: _____ AGL: _____ KB: _____
 Spud Date: 4/10/92 Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
9 5/8" 36#	1161'
7" 26# N80 & J55	8230'

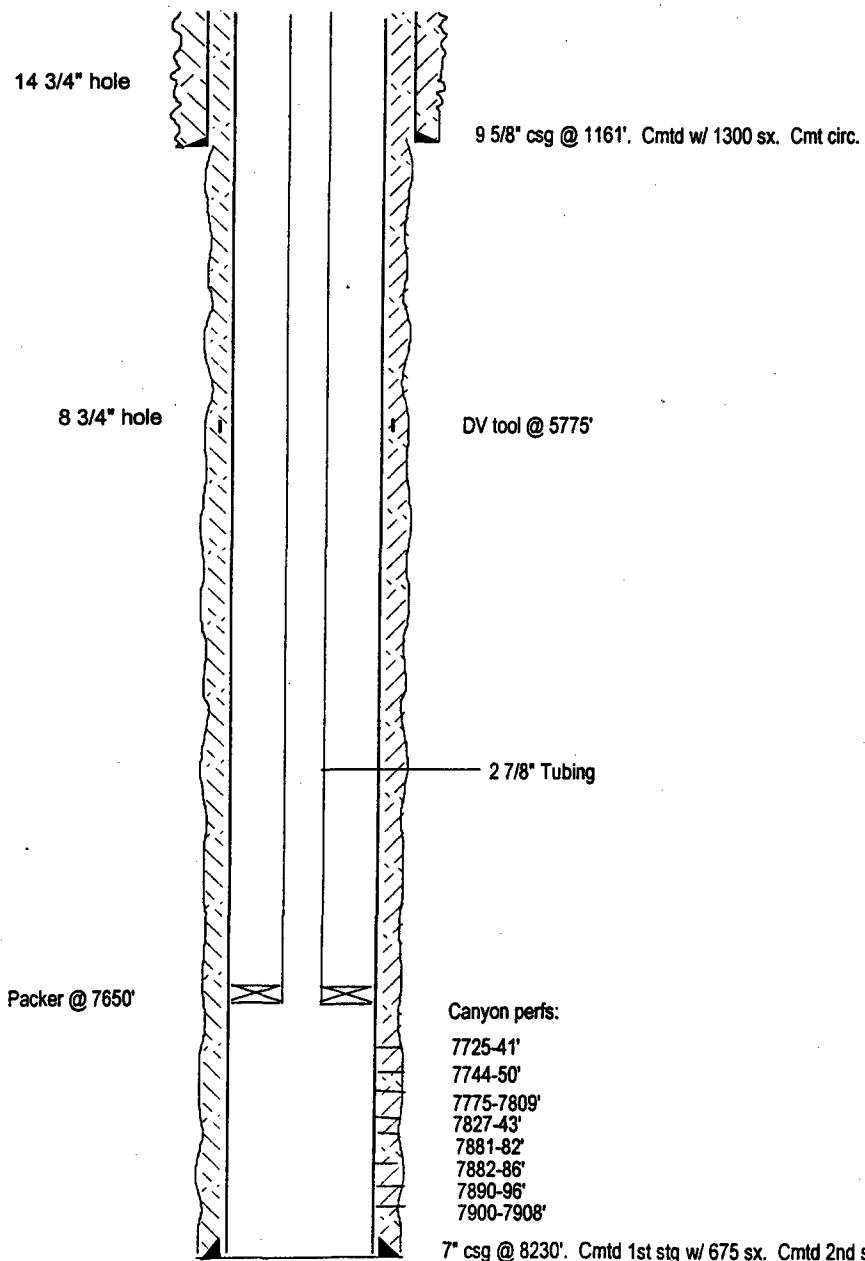
CURRENT CONFIGURATION



DATE: 9/11/03

Well Name: Ross EG Federal Com #5 Field: _____
 Location: 860' FNL & 860' FEL Sec. 19-19S-25E Eddy Co, NM
 GL: 3573' Zero: _____ AGL: _____ KB: _____
 Spud Date: 4/10/92 Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
9 5/8" 36#	1161'
7" 26# N80 & J55	8230'



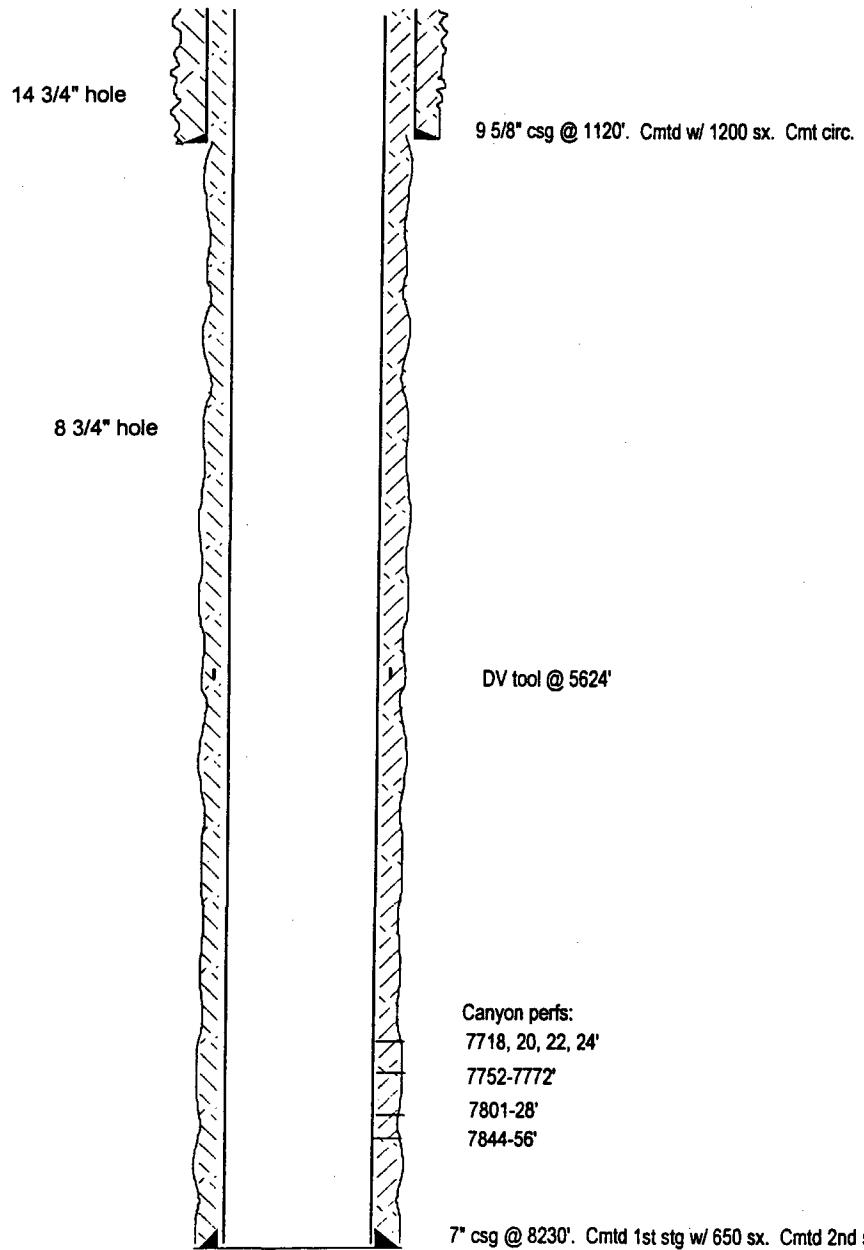
PROPOSED CONFIGURATION

SKETCH NOT TO SCALE

DATE: 9/11/03

Well Name: Ross EG Federal Com #9 Field: _____
 Location: 1980' FSL & 660' FEL Sec. 19-19S-25E Eddy Co, NM
 GL: 3571' Zero: _____ AGL: _____ KB: _____
 Spud Date: 7/22/93 Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
9 5/8" 36#	1120'
7" 23 & 26# N80 & J55	8230'

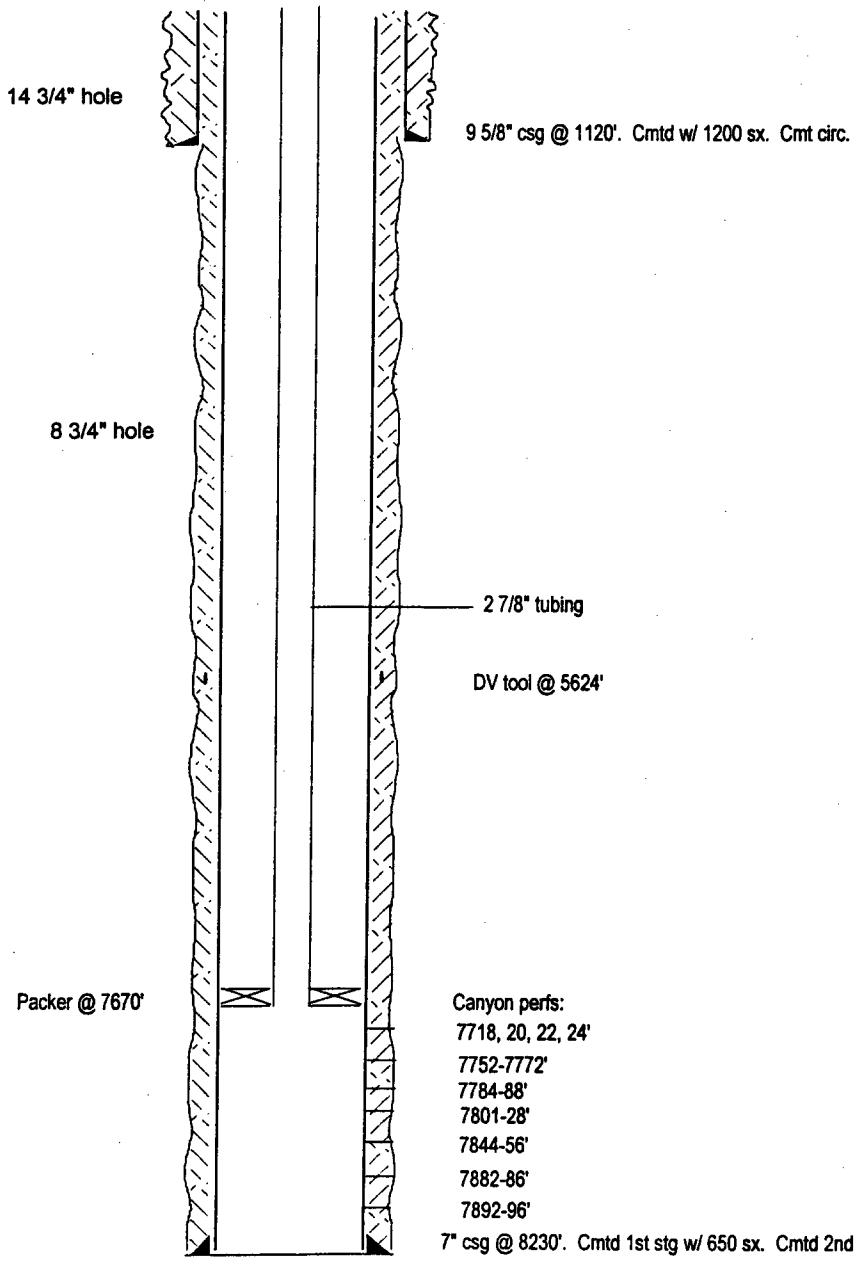


SKETCH NOT TO SCALE

DATE: 9/11/03

Well Name: Ross EG Federal Com #9 Field: _____
 Location: 1980' FSL & 660' FEL Sec. 19-19S-25E Eddy Co, NM
 GL: 3571' Zero: _____ AGL: _____ KB: _____
 Spud Date: 7/22/93 Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
9 5/8" 36#	1120'
7" 23 & 26# N80 & J55	8230'



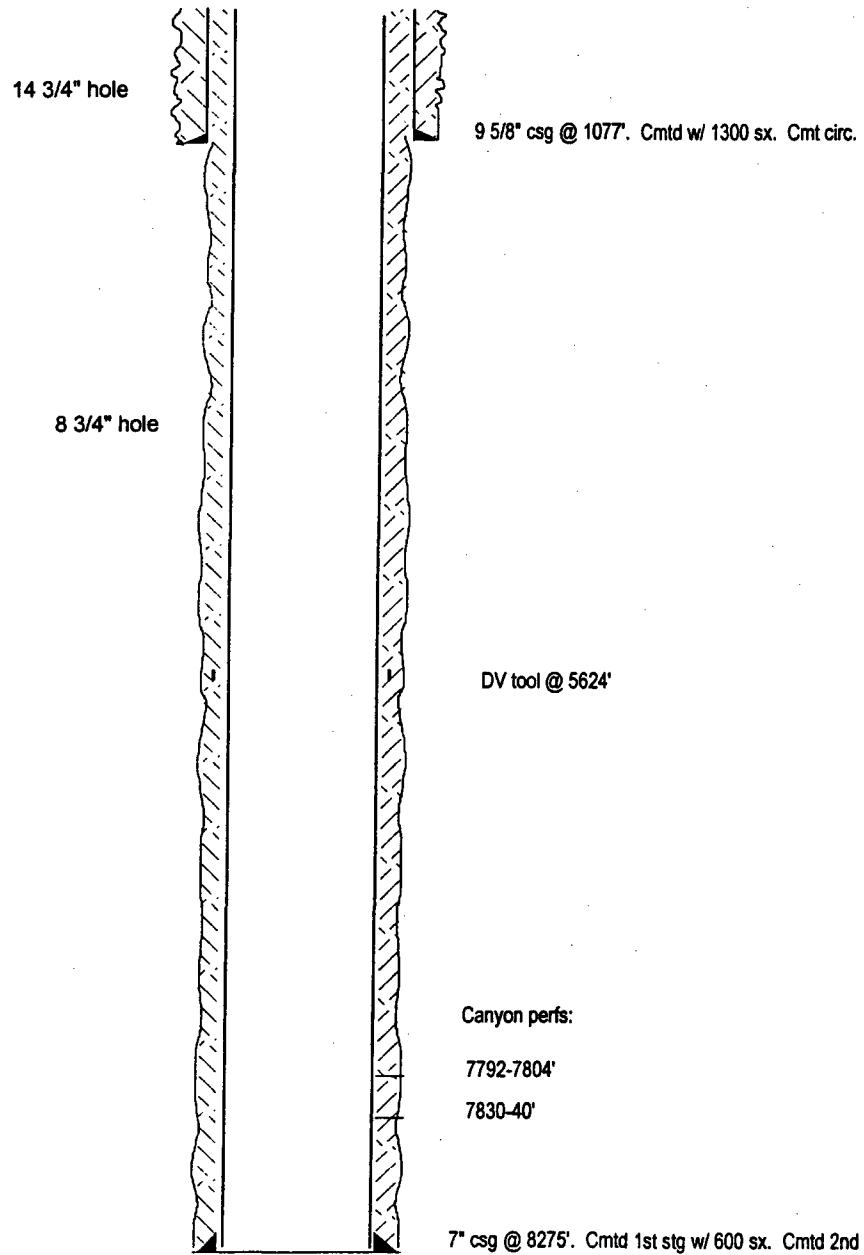
PROPOSED CONFIGURATION

SKETCH NOT TO SCALE

DATE: 9/11/03

Well Name: Ross EG Federal Com #12 Field:
 Location: 1980' FNL & 660' FEL Sec. 19-19S-25E Eddy Co, NM
 GL: 3582' Zero: AGL: KB:
 Spud Date: 7/30/93 Completion Date:
 Comments:

Casing Program	
Size/Wt/Grade/Conn	Depth Set
9 5/8" 36#	1077'
7" 23 & 26# N80 & J55	8275'



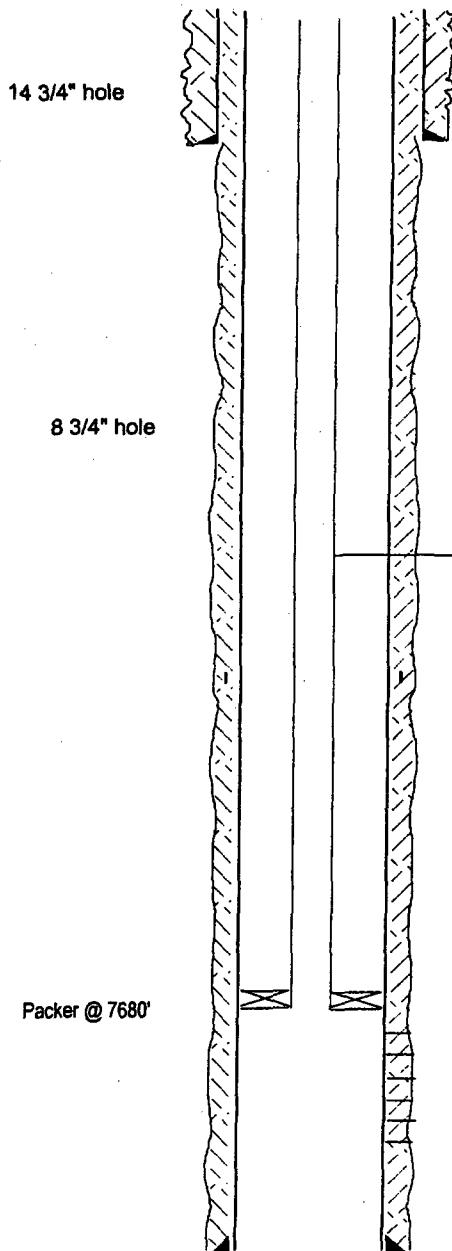
CURRENT CONFIGURATION

SKETCH NOT TO SCALE

DATE: 9/11/03

Well Name: Ross EG Federal Com #12 Field: _____
 Location: 1980' FNL & 660' FEL Sec. 19-19S-25E Eddy Co, NM
 GL: 3582' Zero: _____ AGL: _____ KB: _____
 Spud Date: 7/30/93 Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
9 5/8" 36#	1077'
7" 23 & 26# N80 & J55	8275'



PROPOSED CONFIGURATION

SKETCH NOT TO SCALE

DATE: 9/11/03

YATES PETROLEUM CORPORATION
NORTH DAGGER DRAW FIELD
PROPOSED WATER INJECTION WELLS

SECTIONS 19 AND 30
T19S-R25E
EDDY COUNTY, NEW MEXICO

ATTACHMENT B

State	County	Sec.	Sec. 1/4	Sec. 1/16	Sec. 1/32	Sec. 1/64	Sec. 1/128	Sec. 1/256	Sec. 1/512	Sec. 1/1024	Sec. 1/2048	Sec. 1/4096	Sec. 1/8192	Sec. 1/16384	Sec. 1/32768	Sec. 1/65536	Sec. 1/131072	Sec. 1/262144	Sec. 1/524288	Sec. 1/1048576	Sec. 1/2097152	Sec. 1/4194304	Sec. 1/8388608	Sec. 1/16777216	Sec. 1/33554432	Sec. 1/67108864	Sec. 1/134217728	Sec. 1/268435456	Sec. 1/536870912	Sec. 1/1073741824	Sec. 1/2147483648	Sec. 1/4294967296	Sec. 1/8589934592	Sec. 1/17179869184	Sec. 1/34359738368	Sec. 1/68719476736	Sec. 1/137438953472	Sec. 1/274877856944	Sec. 1/549755713888	Sec. 1/109951142776	Sec. 1/219902285552	Sec. 1/439804571104	Sec. 1/879609142208	Sec. 1/175921828416	Sec. 1/351843656832	Sec. 1/703687313664	Sec. 1/1407374627328	Sec. 1/281474925464	Sec. 1/562949850928	Sec. 1/1125899701856	Sec. 1/2251799403712	Sec. 1/4503598807424	Sec. 1/9007197614848	Sec. 1/18014395229696	Sec. 1/36028790459392	Sec. 1/72057580918784	Sec. 1/144115161837568	Sec. 1/288230323675136	Sec. 1/576460647350272	Sec. 1/115292129470544	Sec. 1/230584258941088	Sec. 1/461168517882176	Sec. 1/922337035764352	Sec. 1/1844674071528704	Sec. 1/3689348143057408	Sec. 1/7378696286114816	Sec. 1/14757392572229632	Sec. 1/29514785144459264	Sec. 1/59029570288918528	Sec. 1/11805914057783656	Sec. 1/23611828115567312	Sec. 1/47223656231134624	Sec. 1/94447312462269248	Sec. 1/18889462492458496	Sec. 1/37778924984916992	Sec. 1/75557849969833984	Sec. 1/15111569993966976	Sec. 1/30223139987933952	Sec. 1/60446279975867888	Sec. 1/12089255951774776	Sec. 1/24178511903548552	Sec. 1/48357023807097104	Sec. 1/96714047614194208	Sec. 1/193428095228388416	Sec. 1/386856190456776832	Sec. 1/773712380913553664	Sec. 1/1547424761827107328	Sec. 1/3094849523654214656	Sec. 1/6189699047308429312	Sec. 1/1237939809461685864	Sec. 1/2475879618923371728	Sec. 1/4951759237846743456	Sec. 1/9903518475693486912	Sec. 1/19807036911386773824	Sec. 1/39614073822773547648	Sec. 1/79228147645547095296	Sec. 1/15845629529109418592	Sec. 1/31691258558218837184	Sec. 1/63382517116437674368	Sec. 1/12676503423275334872	Sec. 1/25353006846550669744	Sec. 1/50706013693101339488	Sec. 1/10141202738620267876	Sec. 1/20282405477240535752	Sec. 1/40564810954481071504	Sec. 1/81129621858962143008	Sec. 1/162259243717922826016	Sec. 1/324518487435845652032	Sec. 1/649036974871688104064	Sec. 1/1298073949683376208128	Sec. 1/2596147899366752416256	Sec. 1/5192295798733504832512	Sec. 1/10384591597467009664	Sec. 1/20769183194934019328	Sec. 1/41538366389868038656	Sec. 1/83076732779736077312	Sec. 1/16615346555947215424	Sec. 1/33230693111894430848	Sec. 1/66461386223788861696	Sec. 1/13292277247557772332	Sec. 1/26584554495115544664	Sec. 1/53169108990231089328	Sec. 1/10633821798046217656	Sec. 1/21267643596092435312	Sec. 1/42535287192184870624	Sec. 1/85070574384369741248	Sec. 1/17014114876873948296	Sec. 1/34028229753747896592	Sec. 1/68056459507495793184	Sec. 1/13611291901491558632	Sec. 1/27222583802983117264	Sec. 1/54445167605966234528	Sec. 1/10889034121193446856	Sec. 1/21778068242286893712	Sec. 1/43556136484573787424	Sec. 1/87112272969147574848	Sec. 1/17422454593829554888	Sec. 1/34844909187659109776	Sec. 1/69689818375318219552	Sec. 1/13937963675063643904	Sec. 1/27875927350127287808	Sec. 1/55751854700254575616	Sec. 1/11150370940050915328	Sec. 1/22300741880101830656	Sec. 1/44601483760203661312	Sec. 1/89202967520407322624	Sec. 1/17840593504881464528	Sec. 1/35681187009762929056	Sec. 1/71362374019525858112	Sec. 1/14272474803050171624	Sec. 1/28544949606100343248	Sec. 1/57089899212200686496	Sec. 1/11417979844400137296	Sec. 1/22835959688800274592	Sec. 1/45671919377600549184	Sec. 1/91343838755200108368	Sec. 1/18268767750400201776	Sec. 1/36537535500800403552	Sec. 1/73075071001600807104	Sec. 1/14615014203200161424	Sec. 1/29230028406400322848	Sec. 1/58460056812800645696	Sec. 1/11292011225600128936	Sec. 1/22584022451200257872	Sec. 1/45168044902400515744	Sec. 1/90336089804800101488	Sec. 1/18067217968800202032	Sec. 1/36134435937600404064	Sec. 1/72268871875200808128	Sec. 1/14453774375040161632	Sec. 1/28907548750080323264	Sec. 1/57815097500160646528	Sec. 1/11563019500320128156	Sec. 1/23126039000640256312	Sec. 1/46252078001280512624	Sec. 1/92504156002560105248	Sec. 1/18500831205120202048	Sec. 1/37001662410240404096	Sec. 1/74003324820480808192	Sec. 1/14800664964960161632	Sec. 1/29601329929920323264	Sec. 1/59202659859840646528	Sec. 1/11640331971920128156	Sec. 1/23280663943840256312	Sec. 1/46561327887680512624	Sec. 1/93122655775360808192	Sec. 1/18624531155072161632	Sec. 1/37249062310144323264	Sec. 1/74498124620288646528	Sec. 1/14899624940561632156	Sec. 1/29799249881123263264	Sec. 1/59598499762246512624	Sec. 1/11799699932449128156	Sec. 1/23599399864898256312	Sec. 1/47198799729796512624	Sec. 1/943975994595930808192	Sec. 1/18879519811918632156	Sec. 1/37758799623837263264	Sec. 1/75517599347674512624	Sec. 1/15103519695349128156	Sec. 1/30207039390698256312	Sec. 1/60414078781396512624	Sec. 1/12082817564279128156	Sec. 1/24165635128458256312	Sec. 1/48331267256916512624	Sec. 1/966625345138330808192	Sec. 1/19332506926766632156	Sec. 1/38665013853533263264	Sec. 1/77330027707066512624	Sec. 1/15466005541433128156	Sec. 1/30932011082866256312	Sec. 1/618640221657330808192	Sec. 1/1237280443146632156	Sec. 1/24745608862933263264	Sec. 1/49491217725866512624	Sec. 1/989824354517330808192	Sec. 1/19796867303533128156	Sec. 1/39593734607066256312	Sec. 1/791874692141330808192	Sec. 1/15837473828533128156	Sec. 1/31674947657066256312	Sec. 1/633498953141330808192	Sec. 1/1266997906826632156	Sec. 1/25339958136533263264	Sec. 1/50779896273066512624	Sec. 1/101559781414133128156	Sec. 1/20311956282833263264	Sec. 1/406239125657330808192	Sec. 1/812478311314133128156	Sec. 1/16249666263433263264	Sec. 1/32499332526866512624	Sec. 1/649986650535330808192	Sec. 1/12499733026733128156	Sec. 1/24999466053533263264	Sec. 1/49998932107066512624	Sec. 1/999978642141330808192	Sec. 1/19999573053533128156	Sec. 1/39999146107066256312	Sec. 1/799982922141330808192	Sec. 1/15999657053533128156	Sec. 1/31999314053533263264	Sec. 1/63998674107066512624	Sec. 1/12999733026733128156	Sec. 1/25999466053533263264	Sec. 1/519998932107066512624	Sec. 1/104998664214133128156	Sec. 1/20999733053533263264	Sec. 1/419998932107066512624	Sec. 1/82999573026733128156	Sec. 1/16599914053533263264	Sec. 1/331998674107066512624	Sec. 1/663998932107066512624	Sec. 1/13079973053533128156	Sec. 1/26159946053533263264	Sec. 1/523198932107066512624	Sec. 1/1054998664214133128156	Sec. 1/21099973053533263264	Sec. 1/420998932107066512624	Sec. 1/84099573026733128156	Sec. 1/16819914053533263264	Sec. 1/336198674107066512624	Sec. 1/672198932107066512624	Sec. 1/13449973053533128156	Sec. 1/26899946053533263264	Sec. 1/541998932107066512624	Sec. 1/1092998664214133128156	Sec. 1/21859973053533263264	Sec. 1/437198932107066512624	Sec. 1/87419573026733128156	Sec. 1/16889914053533263264	Sec. 1/337798674107066512624	Sec. 1/675598932107066512624	Sec. 1/13559973053533128156	Sec. 1/27119946053533263264	Sec. 1/543598932107066512624	Sec. 1/1103998664214133128156	Sec. 1/22079973053533263264	Sec. 1/441198932107066512624	Sec. 1/88219573026733128156	Sec. 1/16649914053533263264	Sec. 1/332998674107066512624	Sec. 1/665998932107066512624	Sec. 1/13359973053533128156	Sec. 1/26719946053533263264	Sec. 1/534598932107066512624	Sec. 1/1083998664214133128156	Sec. 1/21479973053533263264	Sec. 1/429198932107066512624	Sec. 1/85819573026733128156	Sec. 1/16449914053533263264	Sec. 1/331398674107066512624	Sec. 1/662798932107066512624	Sec. 1/13229973053533128156	Sec. 1/26459946053533263264	Sec. 1/532198932107066512624	Sec. 1/1070998664214133128156	Sec. 1/21219973053533263264	Sec. 1/424398932107066512624	Sec. 1/84819573026733128156	Sec. 1/16319914053533263264	Sec. 1/330398674107066512624	Sec. 1/661598932107066512624	Sec. 1/13029973053533128156	Sec. 1/26239946053533263264	Sec. 1/530598932107066512624	Sec. 1/1051998664214133128156	Sec. 1/21019973053533263264	Sec. 1/422798932107066512624	Sec. 1/85419573026733128156	Sec. 1/16129914053533263264	Sec. 1/329398674107066512624	Sec. 1/657598932107066512624	Sec. 1/12739973053533128156	Sec. 1/25479946053533263264	Sec. 1/524598932107066512624	Sec. 1/1022998664214133128156	Sec. 1/20459973053533263264	Sec. 1/419198932107066512624	Sec. 1/83819573026733128156	Sec. 1/15839914053533263264	Sec. 1/327398674107066512624	Sec. 1/661598932107066512624	Sec. 1/13449973053533128156	Sec. 1/26879946053533263264	Sec. 1/533598932107066512624	Sec. 1/1092998664214133128156	Sec. 1/21759973053533263264	Sec. 1/435198932107066512624	Sec. 1/87019573026733128156	Sec. 1/16529914053533263264	Sec. 1/330398674107066512624	Sec. 1/663598932107066512624	Sec. 1/13139973053533128156	Sec. 1/26279946053533263264	Sec. 1/531598932107066512624	Sec. 1/1062998664214133128156	Sec. 1/21159973053533263264	Sec. 1/427198932107066512624	Sec. 1/84419573026733128156	Sec. 1/16229914053533263264	Sec. 1/325398674107066512624	Sec. 1/657598932107066512624	Sec. 1/12839973053533128156	Sec. 1/25679946053533263264	Sec. 1/534598932107066512624	Sec. 1/1032998664214133128156	Sec. 1/20359973053533263264	Sec. 1/421198932107066512624	Sec. 1/83719573026733128156	Sec. 1/16039914053533263264	Sec. 1/323398674107066512624	Sec. 1/655598932107066512624	Sec. 1/12649973053533128156	Sec. 1/25379946053533263264	Sec. 1/532598932107066512624	Sec. 1/101399866421413312

North Dagger Draw Waterflood Phase 1a
Form C-108

Tabulation of data on wells within area of review

Well Name	Operator	Type	Spud	Total Depth	Producing Zone	Perforations	Completion Information
Barbara Federal #4 1980' FSL & 660' FWL Sec. 17-19S-25E	Yates Petroleum Corp	P&A	11/28/65	8070'	Penn	7736-52', 7800-16'	9 5/8" @ 1072'. Cmtd w/ 790 sx. 5 1/2" @ 7840'. Cmtd w/ 645 sx. Pulled from 4720' 4 1/2" @ 7960'. Cmtd w/ 400 sx.
Barbara 17 SW Com #17 1650' FSL & 1650' FWL Sec. 17-19S-25E	Yates Petroleum Corp	oil	11/8/93	9370'	Canyon	7710-17', 7742-58', 7772-88', 7790-98'	9 5/8" @ 1132'. Cmtd w/ 1600 sx. 7" @ 9370'. Cmtd w/ 1300 sx.
Barbara 17 SW Com #10 780' FSL & 730' FWL Sec. 17-19S-25E	Yates Petroleum Corp	oil	1/12/91	8105'	Canyon	7682-91', 7750-59', 7786-95', 7830-39', 7850-59'	9 5/8" @ 1219'. Cmtd w/ 1200 sx. 7" @ 8105'. Cmtd w/ 1600 sx.
Barbara Federal #2 1980' FSL & 1980' FWL Sec. 18-19S-25E	Conoco	P&A	8/18/72	7954'		7622-60', 7720-32', 7746-64', 7772-84', 7798-7808', 7864-68'	13 3/8" @ 395'. Cmtd w/ 400 sx 8 5/8" @ 1009'. Cmtd w/ 575 sx. 5 1/2" @ 7954'. Cmtd w/ 400 sx.
Barbara Federal #6 1980' FSL & 1980' FEL Sec. 18-19S-25E	Conoco	P&A	6/20/76	8170'	Canyon	7690-7720', 7742-54, 7766-82', 7792-7800'	13 3/8" @ 415'. Cmtd w/ 300 sx 8 5/8" @ 1120'. Cmtd w/ 800 sx. 5 1/2" @ 8010'. Cmtd w/ 180 sx.
Barbara 18SE Federal # 8 710' FSL & 990' FEL Sec. 18-19S-25E	Yates Petroleum Corp	oil	5/13/89	8104'	Canyon	7723-43', 7758-78', 7792-7808', 7815-27' 7844-64', 7881-7909', 7915-58'	9 5/8" @ 1200'. Cmtd w/ 800 sx. 7" @ 8100'. Cmtd w/ 820 sx.
Barbara 18SE Federal # 12 710' FSL & 1980' FEL Sec. 18-19S-25E	Yates Petroleum Corp	oil	5/9/91	8100'	Canyon	7612-22', 7733-50', 7790-7810', 7818-30' 7840-50', 7882-96'	9 5/8" @ 1200'. Cmtd w/ 2550 sx. 7" @ 8088'. Cmtd w/ 1500 sx.
Lodewick 'A' # 1 660' FNL & 1980' FWL Sec. 19-19S-25E	Yates Petroleum Corp	oil	10/20/81	7950'	Canyon	7776-84', 7844-60', 7872-82', 7798-35' 7844-81'	13 3/8" @ 400'. Cmtd w/ 725 sx 8 5/8" @ 1199'. Cmtd w/ 800 sx. 5 1/2" @ 7950'. Cmtd w/ 1900 sx.
Ross E G Federal Com #2 660' FNL & 1980' FEL Sec. 19-19S-25E	Yates Petroleum Corp	oil	8/21/86	8100'	Canyon	7700-03', 7706-09', 7714-20', 7782-93'	9 5/8" @ 1200'. Cmtd w/ 1200 sx. 7" @ 8100'. Cmtd w/ 400 sx.
Parish 'IV' Com #1 1980' FSL & 1980' FEL Sec. 19-19S-25E	Yates Petroleum Corp	oil	3/14/87	8115'	Canyon	7801-05, 7816-30', 7865-71', 7913-17'	9 5/8" @ 1147'. Cmtd w/ 1200 sx. 7" @ 8115'. Cmtd w/ 675 sx.
Parish 'IV' Com #5 915' FSL & 660' FEL Sec. 19-19S-25E	Yates Petroleum Corp	oil	10/14/91	8250'	Canyon	7614-18', 7683-84', 7716-19', 7726-31', 7771-74, 7782-90', 7806-17', 7644-50'	9 5/8" @ 1090'. Cmtd w/ 900 sx. 7" @ 8248'. Cmtd w/ 1600 sx.

North Dagger Draw Waterflood Phase 1a
Form C-108

Tabulation of data on wells within area of review

Well Name	Operator	Type	Spud	Total Depth	Producing Zone	Perforations		Completion Information		
Dagger Draw #14 660' FNL & 1980' FWL Sec. 19-19S-25E	Yates Petroleum Corp	oil	3/12/93	8091'	Canyon	7708-24', 7734-73', 7782-7802', 7814-40'		9 5/8" @ 1080'. Cmtd w/ 1100 sx.	7" @ 8091'. Cmtd w/ 1205 sx.	
Parish IV Com #4 1780' FNL & 1980' FEL Sec. 19-19S-25E	Yates Petroleum Corp	oil	5/15/91	8250'	Canyon	7747-69', 7776-86', 7790-94', 7798-7804'		9 5/8" @ 1215'. Cmtd w/ 1410 sx.	7" @ 8250'. Cmtd w/ 1550 sx.	
Chamiza AJC Com #1 990' FSL & 1980' FEL Sec. 19-19S-25E	Yates Petroleum Corp	oil	4/23/91	8210'	Canyon	7617-25', 35', 37', 7646-54', 7673-77', 7712-16'	9 5/8" @ 1215'. Cmtd w/ 1100 sx.	7" @ 8210'. Cmtd w/ 1800 sx.	7714-49', 7762-75', 7801-12', 7830-47'	
Ross EG Fed Com #6 660' FNL & 1980' FWL Sec. 20-19S-25E	Yates Petroleum Corp	oil	2/4/92	8300'	Canyon	7786-7808', 7860-64', 7830-44'		8 5/8" @ 1093'. Cmtd w/ 1675 sx.	7" @ 8300'. Cmtd w/ 1300 sx.	
Ross EG Fed Com #1 1980' FNL & 1980' FWL Sec. 20-19S-25E	Yates Petroleum Corp	oil	3/23/78	9450'	Canyon	7683-7702', 7780-7806', 7827-41'	13 3/8" @ 293'. Cmtd w/ 250 sx.	8 5/8" @ 1064'. Cmtd w/ 600 sx.	CBIP @ 8190'	4 1/2" @ 9444'. Cmtd w/ 490 sx.
Ross EG Federal #3 660' FNL & 660' FWL Sec. 20-19S-25E	Yates Petroleum Corp	oil	1/14/89	8080'	Canyon	7762-65.5', 7775-81', 7795-98', 7806-22'	9 5/8" @ 1210'. Cmtd w/ 950 sx.	7" @ 8080'. Cmtd w/ 800 sx.		
Ross EG Federal Com #8 1980' FNL & 660' FWL Sec. 20-19S-25E	Yates Petroleum Corp	oil	6/5/92	8270'	Canyon	7766-76', 7796-7808', 7818-34', 7852-64'	9 5/8" @ 1124'. Cmtd w/ 1000 sx.	7" @ 8270'. Cmtd w/ 1525 sx.		
Ross EF Federal Com #7 1980' FNL & 1980' FWL Sec. 20-19S-25E	Yates Petroleum Corp	oil	3/15/92	9420'	Morrow	9084-88', 9098-9124'	9 5/8" @ 1151'. Cmtd w/ 1270 sx.	7" @ 8300'. Cmtd w/ 1750 sx.		
Patriot AIZ Com #4 810' FSL & 1980' FWL Sec. 20-19S-25E	Yates Petroleum Corp	oil	1/8/94	8220'	Canyon	7654-57', 7664-70', 7680-88', 7733-42', 7762-66', 7816-29'	4 1/2" @ 9419'. Cmtd w/ 200 sx.	9 5/8" @ 1158'. Cmtd w/ 1100 sx.	7" @ 8220'. Cmtd w/ 1425 sx.	
Ross EG Federal #4 1980' FNL & 660' FWL Sec. 20-19S-25E	Yates Petroleum Corp	oil	7/10/91	8300'	Canyon	7792-7800', 7812-19', 7840-47', 7874-97'	9 5/8" @ 1220'. Cmtd w/ 1100 sx.	7" @ 8300'. Cmtd w/ 1650 sx.		
Patriot AIZ Com #1 990' FSL & 660' FWL Sec. 20-19S-25E	Yates Petroleum Corp	oil	1/12/91	8230'	Canyon	7621-27', 7641-45', 7707-09', 7751-63', 7798-7810', 7835-39'	9 5/8" @ 1086'. Cmtd w/ 1100 sx.	7" @ 8227'. Cmtd w/ 1675 sx.		

North Dagger Draw Waterflood Phase 1a
Form C-108

Tabulation of data on wells within area of review

Well Name	Operator	Type	Spud	Total Depth	Producing Zone	Perforations	Completion Information
Aspden AOH Fed Com #3 1980' FNL & 1990' FWL Sec. 29-19S-25E	Yates Petroleum Corp	oil	5/1/95	8310'	Canyon	7638-45', 7651-65', 7680-98', 7710-18', 7776-92', 7812-20'	9 5/8" @ 1165'. Cmtd w/ 1300 sx. 7" @ 8310'. Cmtd w/ 1625 sx.
Aspden AOH Fed Com #2 330' FSL & 1980' FWL Sec. 29-19S-25E	Yates Petroleum Corp	oil	7/5/95	8270'	Canyon	7704-08', 7721-23', 7744-62', 7776-84', 7798-7802' (7932-46' Squeezed)	9 5/8" @ 1165'. Cmtd w/ 1200 sx. 7" @ 8270'. Cmtd w/ 1400 sx.
Voight AJD Com #3 660' FNL & 1980' FWL Sec. 29-19S-25E	Yates Petroleum Corp	oil	9/10/93	8270'	Canyon	7700-06', 7716-20', 7750-54', 7762-78' 7810-14'	9 5/8" @ 1116'. Cmtd w/ 1400 sx. 7" @ 8270'. Cmtd w/ 1600 sx.
Boyd X State Com #4 1980' FSL & 1980' FWL Sec. 29-19S-25E	Yates Petroleum Corp	oil	10/10/93	8300'	Canyon	7680-90', 7730-50', 7784-90'	9 5/8" @ 1165'. Cmtd w/ 1200 sx. 7" @ 8300'. Cmtd w/ 1575 sx.
Voight AJD Com #1 660' FNL & 660' FWL Sec. 29-19S-25E	Yates Petroleum Corp	oil	1/23/92	8250'	Canyon	7654-60', 7668-72', 7678-82', 7690-94', 7718-30', 7758-72'	9 5/8" @ 1089'. Cmtd w/ 1000 sx. 7" @ 8250'. Cmtd w/ 1650 sx.
Boyd X State Com #2 1980' FSL & 660' FWL Sec. 29-19S-25E	Yates Petroleum Corp	oil	11/21/92	8300'	Canyon	7670-80', 7708-24', 7738-42', 7768-84 7812-24'	9 5/8" @ 1100'. Cmtd w/ 900 sx. 7" @ 8300'. Cmtd w/ 1375 sx.
Voight AJD Com #2 1980' FNL & 660' FWL Sec. 29-19S-25E	Yates Petroleum Corp	oil	9/12/92	8270'	Canyon	7657-62', 7694-7704', 7726-42', 7760-68' 7815-18', 7824-26'	9 5/8" @ 1050'. Cmtd w/ 1100 sx. 7" @ 8270'. Cmtd w/ 1600 sx.
Aspden AOH Fed Com #1 660' FSL & 660' FWL Sec. 29-19S-25E	Yates Petroleum Corp	oil	9/16/94	8300'	Canyon	7700-06', 7710-12', 7718-34', 7755-71'	9 5/8" @ 1160'. Cmtd w/ 1000 sx. 7" @ 8300'. Cmtd w/ 1150 sx.
Dagger Draw #2 1969' FSL & 629' FEL Sec. 30-19S-25E	Roger C. Hanks Inc.	P&A	3/18/76	9368'	Canyon	7632-46', 7652-76', 7682-92', 7730-56', 7772- 98', 7832-42', 60-74', 88-98', 7906-28'	8 5/8" @ 1220'. Cmtd w/ 550 sx. 4 1/2" @ 7994' (shot off @ 5530'). Cmtd w/ 475 sx.
Dagger Draw #1 1980' FSL & 1980' FWL Sec. 30-19S-25E	Yates Petroleum Corp	oil	9/7/87	8000'	Canyon	7779-93', 7834-35'	9 5/8" @ 1125'. Cmtd w/ 1200 sx. 7" @ 8000'. Cmtd w/ 1112 sx.
Dagger Draw #5 990' FNL & 1980' FEL Sec. 30-19S-25E	Yates Petroleum Corp	oil	11/19/87	8100'	Canyon	7632-54', 64-74', 7720-24', 28-32', 38-48', 7784-98', 7804-20' (7863-76, 82-96 sqzd)	8 5/8" @ 1250'. Cmtd w/ 425 sx. 5 1/2" @ 8100'. Cmtd w/ 1805 sx.

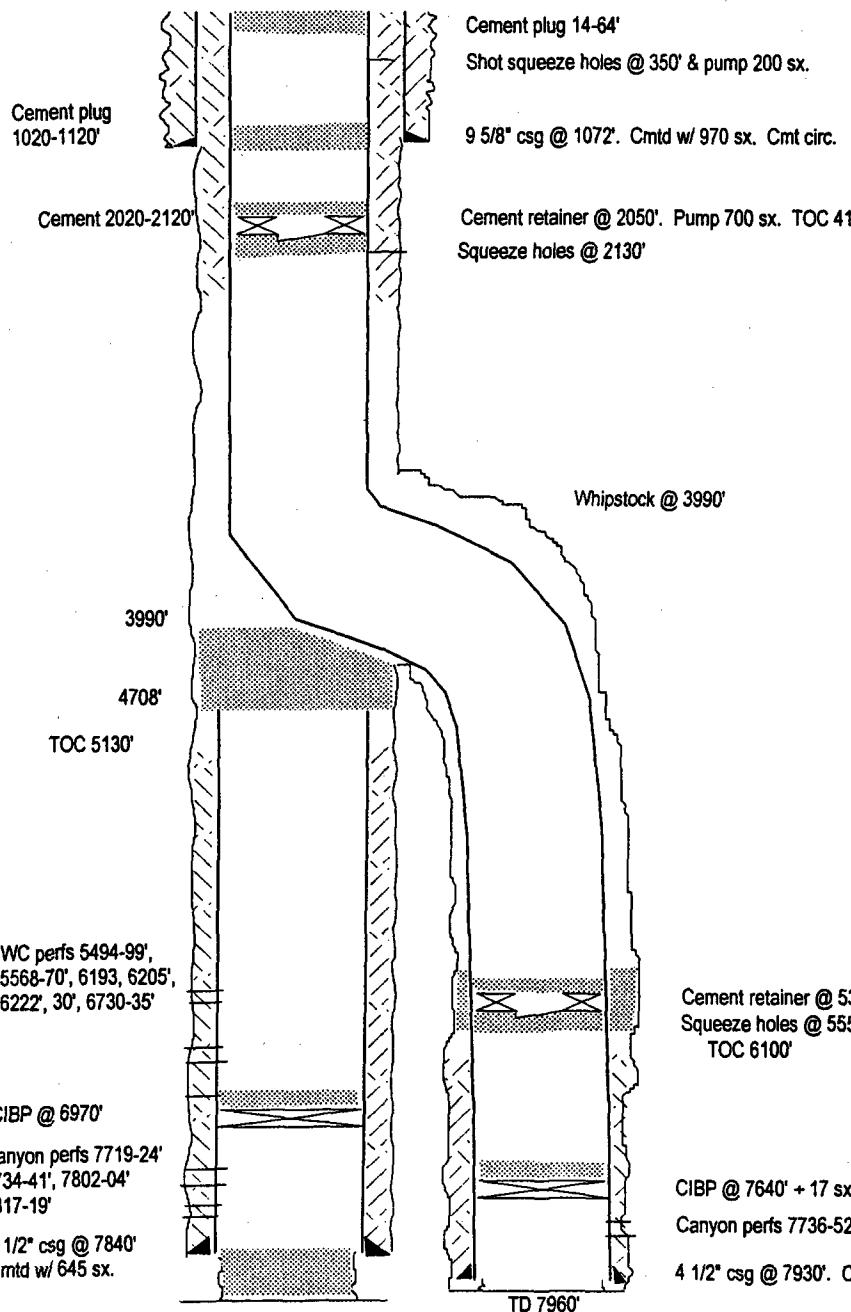
North Dagger Draw Waterflood Phase 1a
Form C-108

Tabulation of data on wells within area of review

Well Name	Operator	Type	Spud	Total Depth	Producing Zone	Completion Information	
						Perforations	
Dagger Draw #8 1980' FSL & 1980' FEL Sec. 30-19S-25E	Yates Petroleum Corp	oil	12/26/87	8008'	Canyon	7630-44', 7651-65', 7673-92', 7728-52', 7766-78', 7784-7810'	8 5/8" @ 1205'. Cmtd w/ 615 sx. 5 1/2" @ 8008'. Cmtd w/ 820 sx.
Dagger Draw #13 1980' FNL & 1980' FWL Sec. 30-19S-25E	Yates Petroleum Corp	oil	1/1/792	8100'	Canyon	7684-92', 7700-16', 7742-52', 7761-71' 7780-7803'	9 5/8" @ 1090'. Cmtd w/ 1100 sx. 7" @ 8100'. Cmtd w/ 1350 sx.
Dagger Draw 30SE Com #16 Yates Petroleum Corp 660' FSL & 660' FEL Sec. 30-19S-25E	Yates Petroleum Corp	oil	5/24/94	8100'	Canyon	7651-97', 7702-24', 7734-40', 7744-90'	9 5/8" @ 1106'. Cmtd w/ 1100 sx. 7" @ 8100'. Cmtd w/ 1115 sx.
Pincushion AHN #3 660' FSL & 1980' FWL Sec. 30-19S-25E	Yates Petroleum Corp	oil	10/17/91	8204'	Canyon	7633-37', 7699-7705', 7736-53', 7772-82' 7818-20'	9 5/8" @ 1129'. Cmtd w/ 900 sx. 7" @ 8204'. Cmtd w/ 1430 sx.
Dagger Draw #12 2130' FNL & 1800' FEL Sec. 30-19S-25E	Yates Petroleum Corp	oil	6/30/92	8100'	Canyon	7645-73', 7683-7712', 7725-53'	9 5/8" @ 1120'. Cmtd w/ 1100 sx. 7" @ 8100'. Cmtd w/ 1500 sx.
Dagger Draw Federal #11 660' FSL & 1980' FEL Sec. 30-19S-25E	Yates Petroleum Corp	oil	6/11/91	8114'	Canyon	7636-52', 7658-67', 7682-7710', 7736-60' 7785-95'	9 5/8" @ 1205'. Cmtd w/ 1949 sx. 7" @ 8114'. Cmtd w/ 1500 sx.

Well Name: Barbara Federal #4 Field: _____
 Location: 1980' FSL & 660' FWL Sec. 17-19S-25E Eddy Co, NM
 GL: 3552' Zero: _____ AGL: _____ KB: _____
 Spud Date: 4/10/92 Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
9 5/8" 32.3#	1072'
5 1/2" 17#	7840'
5 1/2" cut & pulled from 4720'	
4 1/2" 11.6#	7930'

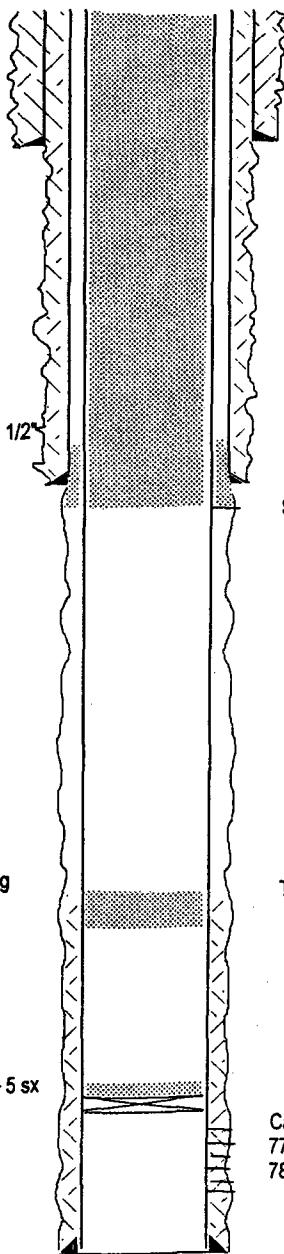


SKETCH NOT TO SCALE

DATE: 9/15/03

Well Name: Barbara Federal #2 Field: _____
 Location: 1980' FSL & 1980' FWL Sec. 18-19S-25E Eddy Co, NM
 GL: 3601' Zero: _____ AGL: _____ KB: 3616'
 Spud Date: _____ Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
13 3/8" 54#	395'
8 5/8" 24#	1099'
5 1/2" 17#	7954'



CURRENT CONFIGURATION

13 3/8" csg @ 395'. Cmtd w/ 400 sx. Cmt circ.

Cement plug 1150' to surface.

8 5/8" csg @ 1099'. Cmtd w/ 725 sx. Cmt circ.

Squeeze holes @ 1150'.

TOC 6100' by calc.

13 sx cement plug
6100-6205'

CIBP @ 7600' + 5 sx
cement

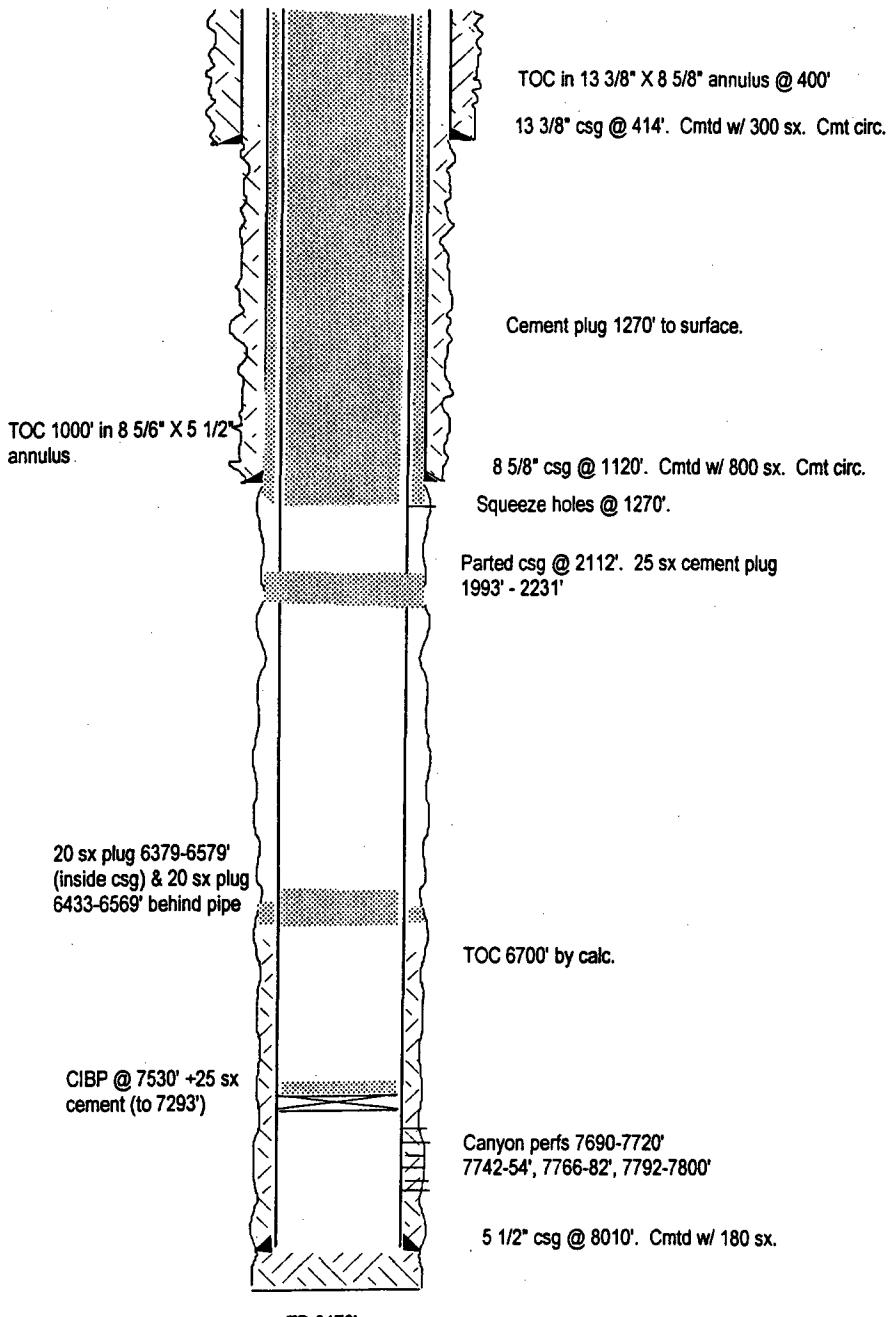
5 1/2" csg @ 7954'. Cmtd w/ 400 sx.

SKETCH NOT TO SCALE

DATE: 9/15/03

Well Name: Barbara Federal #6 Field: _____
 Location: 1980' FSL & 1980' FEL Sec. 18-19S-25E Eddy Co, NM
 GL: 3592' Zero: _____ AGL: _____ KB: 3606'
 Spud Date: _____ Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
13 3/8" 54#	414'
8 5/8" 24#	1120'
5 1/2" 17#	8010"



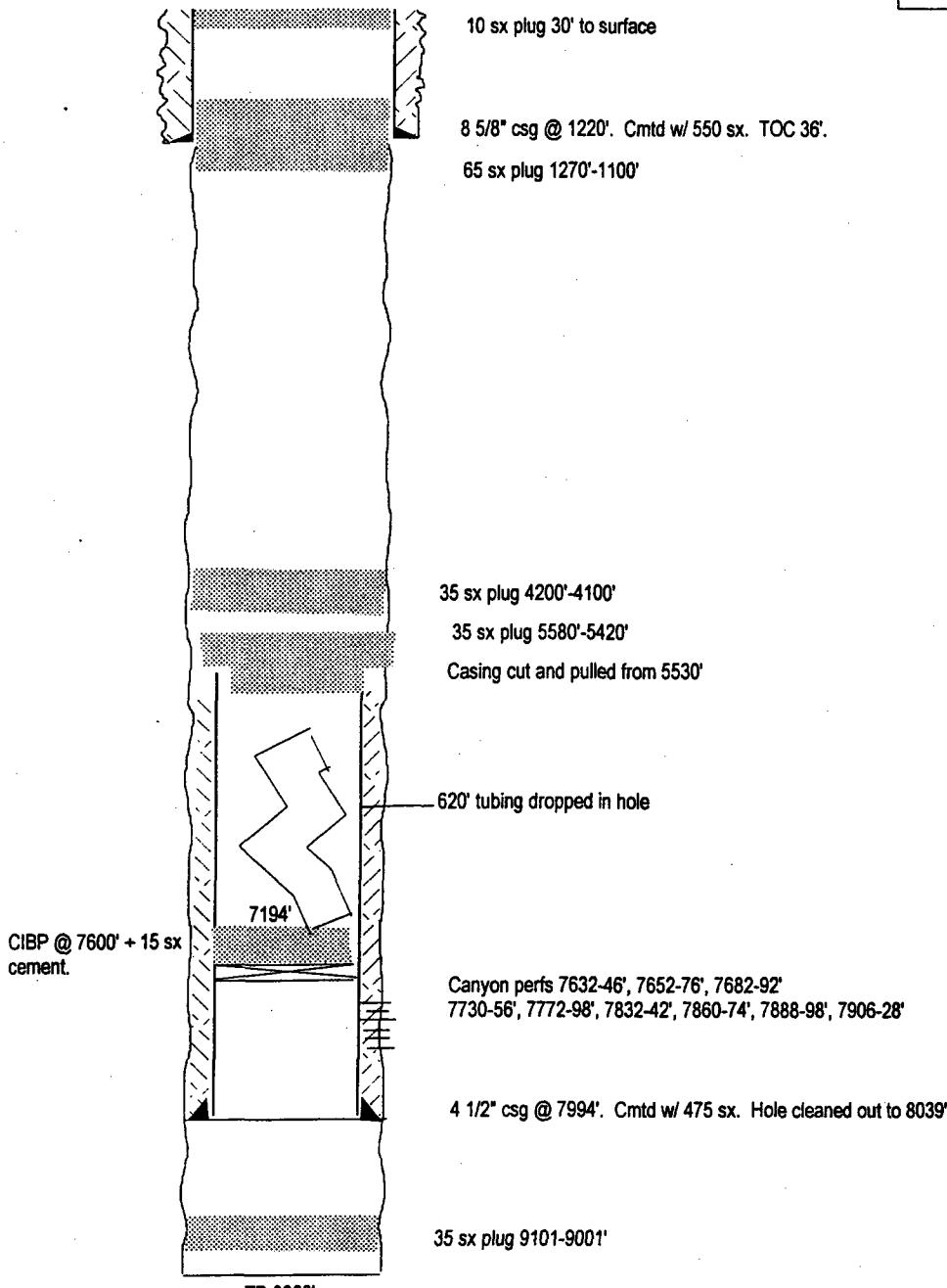
CURRENT CONFIGURATION

SKETCH NOT TO SCALE

DATE: 9/15/03

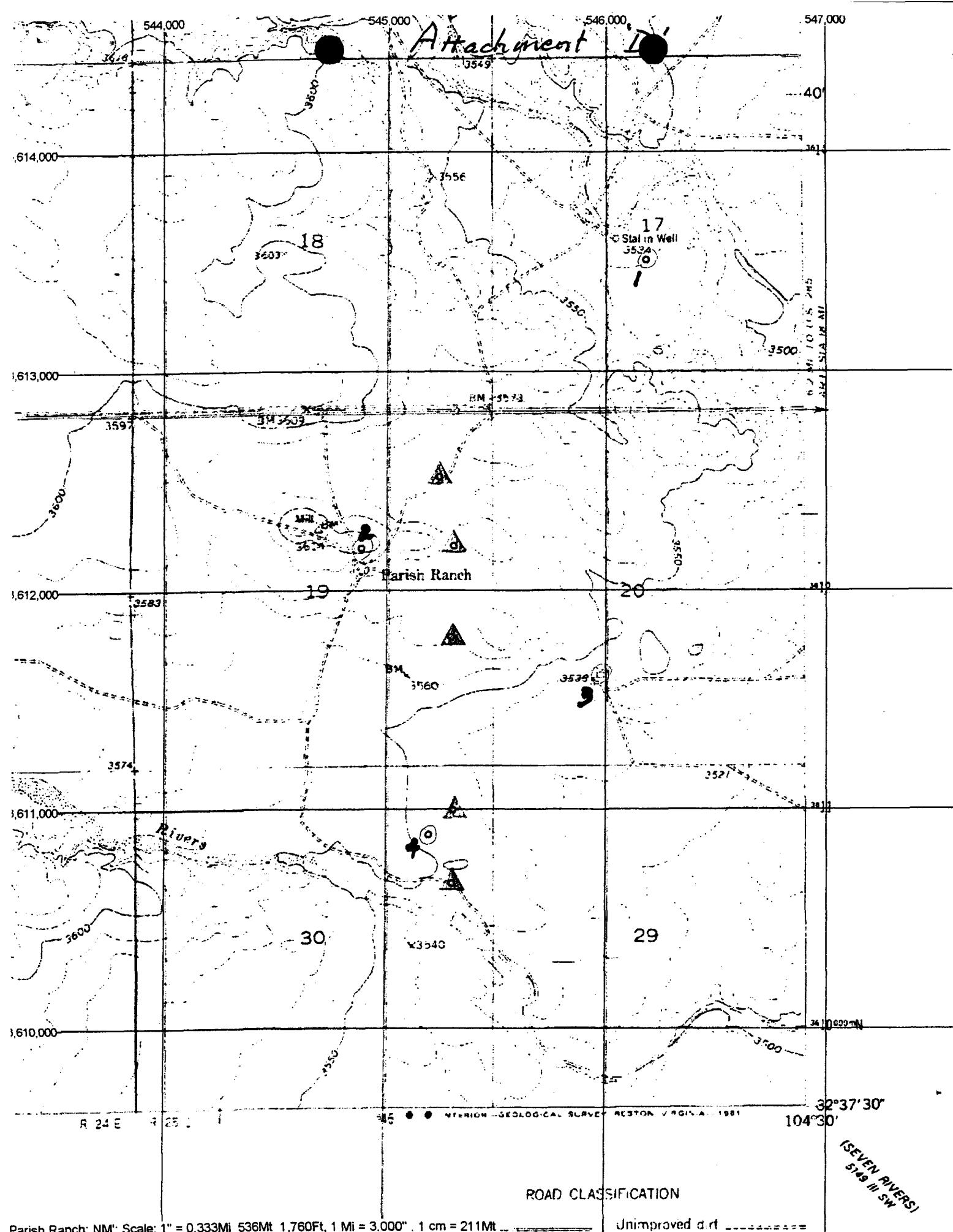
Well Name: Dagger Draw No. 2 Field: _____
 Location: 1969' FSL & 629' FEL Sec. 30-19S-25E Eddy Co, NM
 GL: 3540.9' Zero: _____ AGL: _____ KB: _____
 Spud Date: _____ Completion Date: _____
 Comments: _____

Casing Program	
Size/Wt/Grade/Conn	Depth Set
8 5/8"	1220'
4 1/2"	7994'



SKETCH NOT TO SCALE

DATE: _____



Parish Ranch; NM'; Scale: 1" = 0.333Mi 536Mt 1,760Ft, 1 Mi = 3.000". 1 cm = 211Mt

Unimproved dirt -----

17SEVEN RIVERS
5149 III SW

ROAD CLASSIFICATION

29.

Attachment 1

Map ref. #1

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
Lab Team Leader - Sheila Hernandez
(915) 495-7240

Water Analysis Report by Baker Petrolite

Company: YATES PETROLEUM INC
Region: PERMIAN BASIN
Area: ARTESIA, NM
Lease/Platform: HOWELL RANCH HOUSE
Entity (or well #): FRESH WATER WELL
Formation: UNKNOWN
Sample Point: WELLHEAD

Sales RDT: 33514
Account Manager: MIKE HARRISON (505) 910-9392
Sample #: 136439
Analysis ID #: 38454
Analysis Cost: \$40.00

Summary		Analysis of Sample 136439 @ 75 °F					
Sampling Date:	9/26/03	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	10/3/03	Chloride:	78.0	2.2	Sodium:	110.0	4.79
Analyst:	ANNA McELANEY	Bicarbonate:	392.0	6.42	Magnesium:	38.0	3.13
TDS (mg/l or g/m3):	1101.2	Carbonate:	0.0	0.	Calcium:	149.0	7.44
Density (g/cm3, tonne/m3):	1.001	Sulfate:	329.0	6.85	Strontium:	2.0	0.05
Anion/Cation Ratio:	1.0000000	Phosphate:			Barium:	0.1	0.
Carbon Dioxide:		Borate:			Iron:	0.1	0.
Oxygen:		Silicate:			Potassium:	3.0	0.08
Comments:		Hydrogen Sulfide:			Aluminum:		
		pH at time of sampling:			Chromium:		
		pH at time of analysis:		7.43	Copper:		
		pH used in Calculation:		7.43	Lead:		
					Manganese:		
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite CaCO_3		Gypsum $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$		Anhydrite CaSO_4		Celestite SrSO_4		Barite BaSO_4		CO_2 Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.56	19.61	-0.98	0.00	-1.05	0.00	-1.15	0.00	0.66	0.00	0.2
100	0	0.68	25.21	-0.98	0.00	-0.98	0.00	-1.14	0.00	0.52	0.00	0.27
120	0	0.81	31.51	-0.97	0.00	-0.89	0.00	-1.11	0.00	0.41	0.00	0.34
140	0	0.96	38.16	-0.95	0.00	-0.78	0.00	-1.07	0.00	0.32	0.00	0.42

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

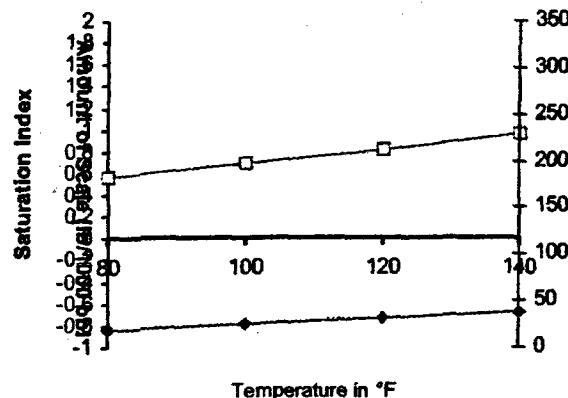
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

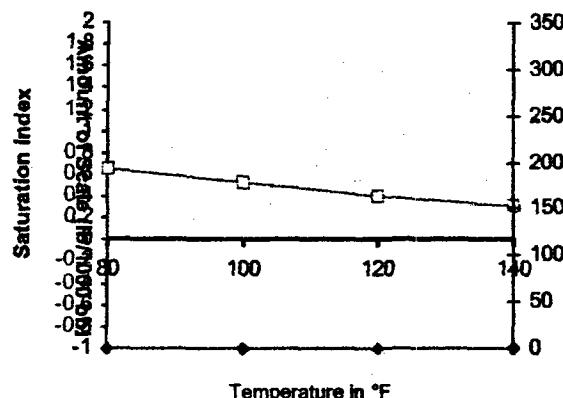
Scale Predictions from Baker Petrolite

Analysis of Sample 136439 @ 75 °F for YATES PETROLEUM INC, 10/3/03

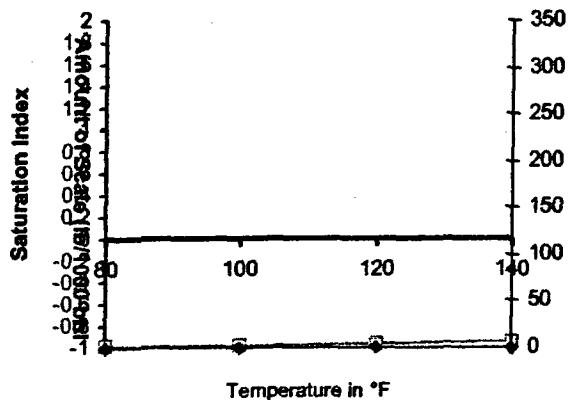
Calcite - CaCO₃



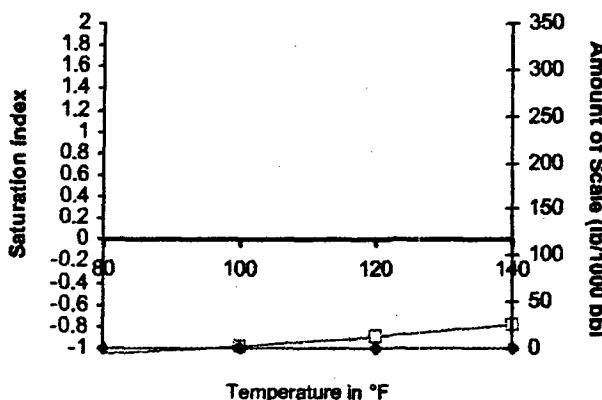
Barite - BaSO₄



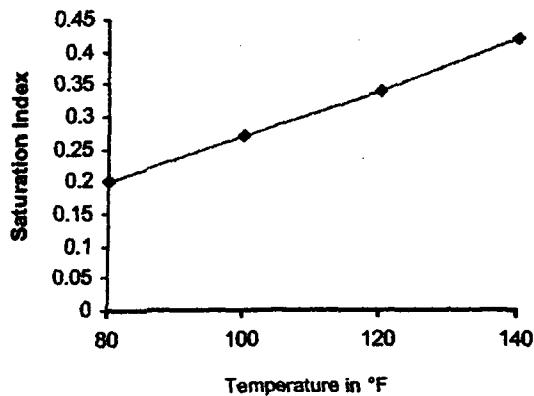
Gypsum - CaSO₄·2H₂O



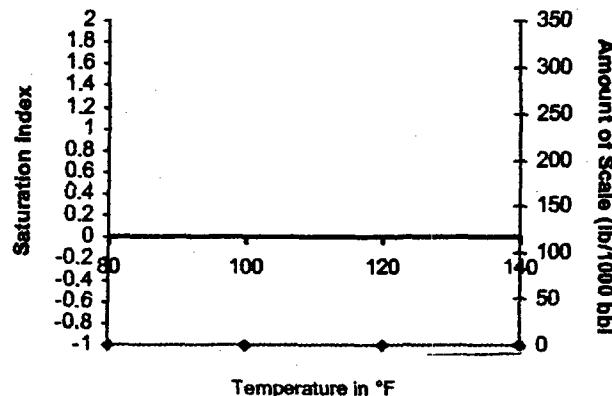
Anhydrite - CaSO₄



Carbon Dioxide Partial Pressure



Celestite - SrSO₄



Attachment D

Map ref #2

North Permian Basin Region
 P.O. Box 740
 Sundown, TX 79372-0740
 (806) 229-8121
 Lab Team Leader - Sheila Hernandez
 (915) 495-7240

Water Analysis Report by Baker Petrolite

Company: YATES PETROLEUM INC
 Region: PERMIAN BASIN
 Area: ARTESIA, NM
 Lease/Platform: HOUGHTALING RANCH HOUSE
 Entity (or well #): FRESH WATER WELL
 Formation: UNKNOWN
 Sample Point: WELLHEAD

Sales RDT: 33514
 Account Manager: MIKE HARRISON (505) 910-9392
 Sample #: 136440
 Analysis ID #: 38453
 Analysis Cost: \$40.00

Summary		Analysis of Sample 136440 @ 75 °F					
Sampling Date:	9/26/03	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	10/3/03	Chloride:	88.0	2.48	Sodium:	167.3	7.28
Analyst:	ANNA McELANEY	Bicarbonate:	375.0	6.15	Magnesium:	99.0	8.14
TDS (mg/l or g/m3):	2187.5	Carbonate:	0.0	0.	Calcium:	328.0	16.37
Density (g/cm3, tonne/m3):	1.002	Sulfate:	1122.0	23.36	Strontium:	4.0	0.09
Anion/Cation Ratio:	0.9999994	Phosphate:			Barium:	0.1	0.
Carbon Dioxide:		Borate:			Iron:	0.1	0.
Oxygen:		Silicate:			Potassium:	4.0	0.1
Comments:		Hydrogen Sulfide:			Aluminum:		
		pH at time of sampling:			Chromium:		
		pH at time of analysis:		7.34	Copper:		
		pH used in Calculation:		7.34	Lead:		
					Manganese:		
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										CO ₂ Press
Temp	Gauge Press.	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄		
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.61	24.13	-0.36	0.00	-0.43	0.00	-0.61	0.00	0.94	0.00	0.22
100	0	0.73	30.08	-0.37	0.00	-0.37	0.00	-0.60	0.00	0.79	0.00	0.3
120	0	0.86	36.72	-0.36	0.00	-0.28	0.00	-0.58	0.00	0.67	0.00	0.38
140	0	1.00	43.72	-0.34	0.00	-0.17	0.00	-0.54	0.00	0.57	0.00	0.47

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

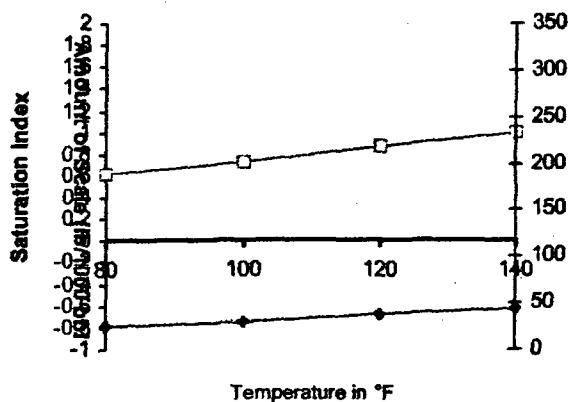
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO₂ pressure is actually the calculated CO₂ fugacity. It is usually nearly the same as the CO₂ partial pressure.

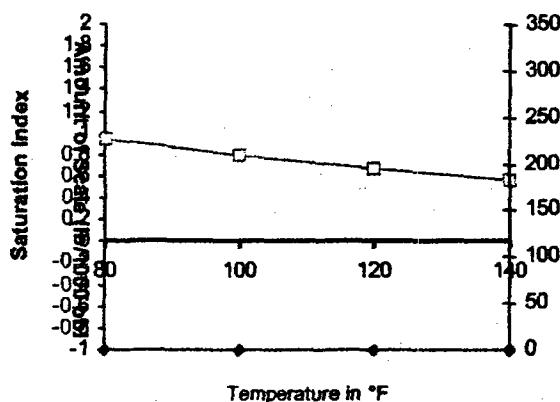
Scale Predictions from Baker Petrolite

Analysis of Sample 136440 @ 75 °F for YATES PETROLEUM INC, 10/3/03

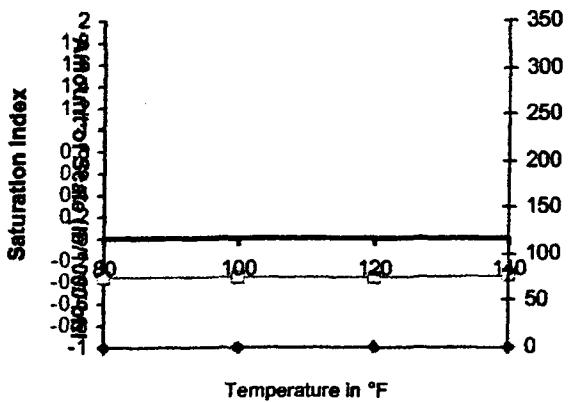
Calcite - CaCO₃



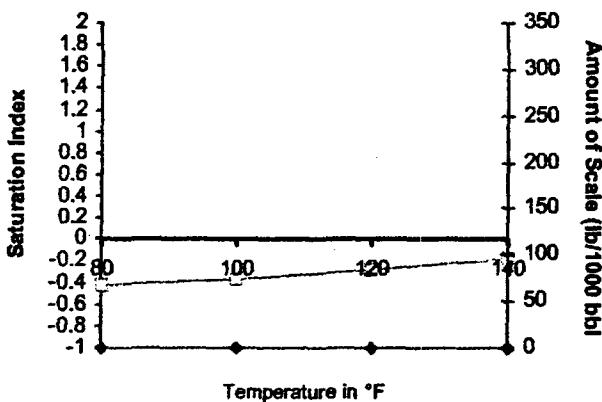
Barite - BaSO₄



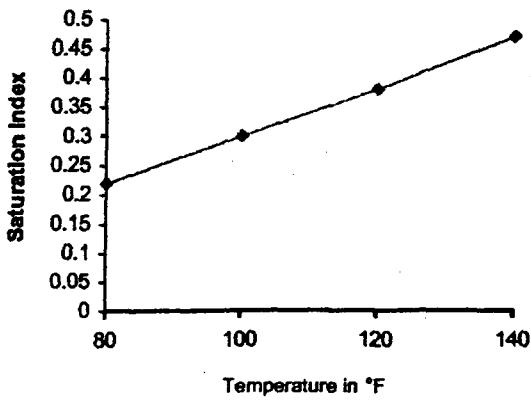
Gypsum - CaSO₄·2H₂O



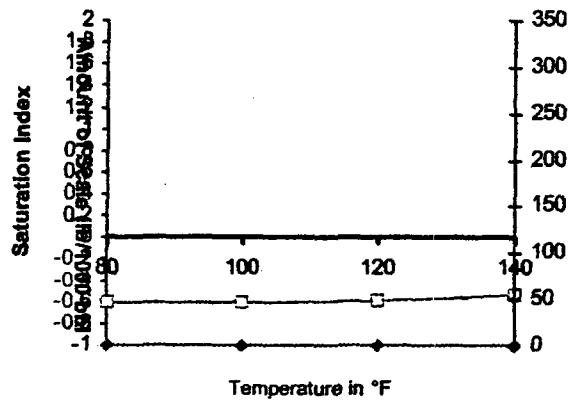
Anhydrite - CaSO₄



Carbon Dioxide Partial Pressure



Celestite - SrSO₄



Map ref #3

North Permian Basin Region
 P.O. Box 740
 Sundown, TX 79372-0740
 (806) 229-8121
 Lab Team Leader - Sheila Hernandez
 (915) 495-7240

Water Analysis Report by Baker Petrolite

Company:	YATES PETROLEUM INC	Sales RDT:	33514
Region:	PERMIAN BASIN	Account Manager:	MIKE HARRISON (505) 910-9392
Area:	ARTESIA, NM	Sample #:	134886
Lease/Platform:	ROSS BY DAGGER DRAW TRANS.	Analysis ID #:	38450
Entity (or well #):	FRESH WATER WELL	Analysis Cost:	\$40.00
Formation:	UNKNOWN		
Sample Point:	WATER TANK		

Summary		Analysis of Sample 134886 @ 75 °F					
		Anions	mg/l	meq/l	Cations	mg/l	meq/l
Sampling Date:	9/26/03	Chloride:	104.0	2.93	Sodium:	125.6	5.46
Analysis Date:	10/3/03	Bicarbonate:	335.0	5.49	Magnesium:	60.0	4.94
Analyst:	ANNA McELANEY	Carbonate:	0.0	0.	Calcium:	188.0	9.38
TDS (mg/l or g/m3):	1452	Sulfate:	597.0	12.43	Strontium:	5.0	0.11
Density (g/cm3, tonne/m3):	1.001	Phosphate:			Barium:	0.1	0.
Anion/Cation Ratio:	0.9999999	Borate:			Iron:	0.3	0.01
		Silicate:			Potassium:	37.0	0.95
Carbon Dioxide:		Hydrogen Sulfide:			Aluminum:		
Oxygen:		pH at time of sampling:			Chromium:		
Comments:		pH at time of analysis:	7.79		Copper:		
		pH used in Calculation:	7.79		Lead:		
					Manganese:		
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄		CO ₂ Press
		°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	
80	0	0.86	21.00	-0.72	0.00	-0.79	0.00	-0.61	0.00	0.82	0.00	0.07
100	0	0.96	25.55	-0.72	0.00	-0.73	0.00	-0.60	0.00	0.67	0.00	0.1
120	0	1.07	30.45	-0.71	0.00	-0.64	0.00	-0.57	0.00	0.56	0.00	0.14
140	0	1.18	36.05	-0.69	0.00	-0.53	0.00	-0.54	0.00	0.46	0.00	0.18

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

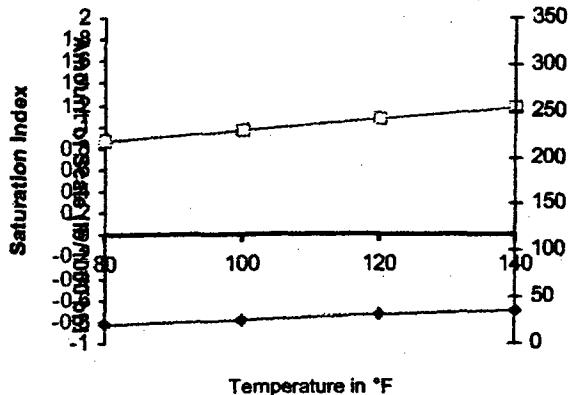
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO₂ pressure is actually the calculated CO₂ fugacity. It is usually nearly the same as the CO₂ partial pressure.

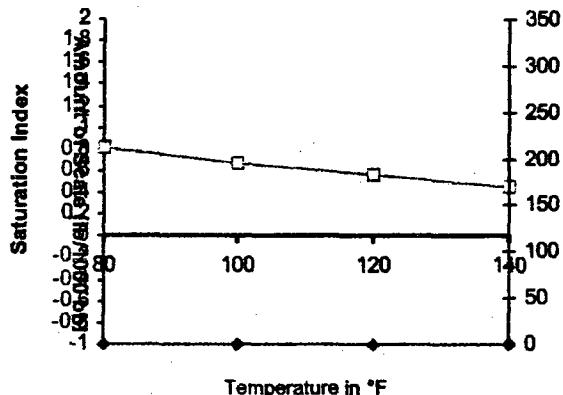
Scale Predictions from Baker Petrolite

Analysis of Sample 134886 @ 75 °F for YATES PETROLEUM INC, 10/3/03

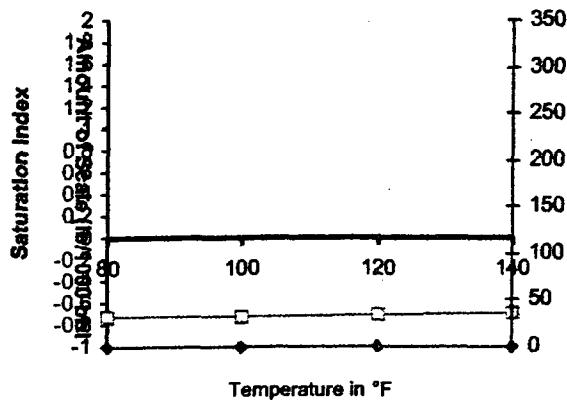
Calcite - CaCO₃



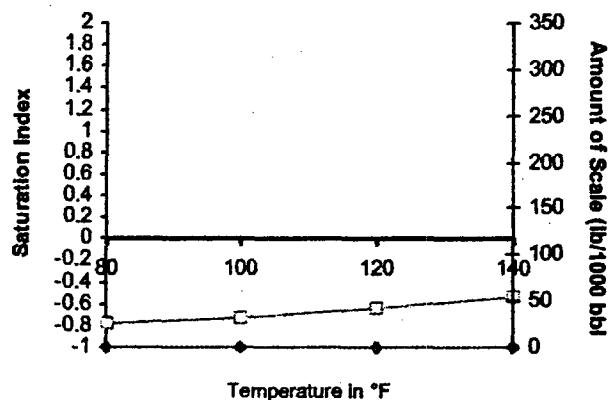
Barite - BaSO₄



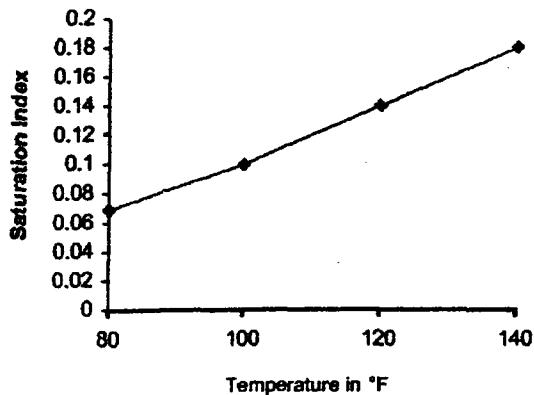
Gypsum - CaSO₄·2H₂O



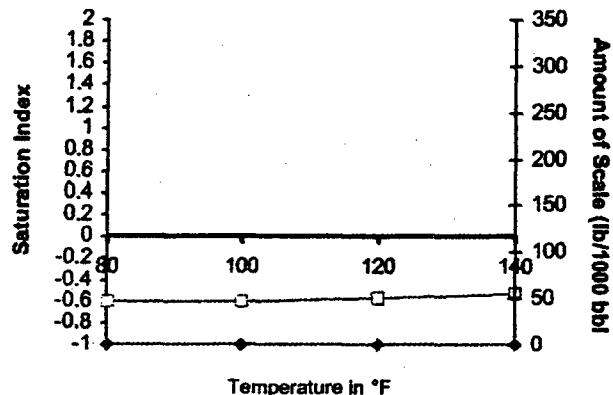
Anhydrite - CaSO₄



Carbon Dioxide Partial Pressure



Celestite - SrSO₄



Attachment D

Map ref #4

North Permian Basin Region
 P.O. Box 740
 Sundown, TX 79372-0740
 (806) 229-8121
 Lab Team Leader - Sheila Hernandez
 (915) 495-7240

Water Analysis Report by Baker Petrolite

Company:	YATES PETROLEUM INC	Sales RDT:	33514
Region:	PERMIAN BASIN	Account Manager:	MIKE HARRISON (505) 910-9392
Area:	ARTESIA, NM	Sample #:	136443
Lease/Platform:	DAGGER DRAW OFFICE	Analysis ID #:	38451
Entity (or well #):	FRESH WATER WELL	Analysis Cost:	\$40.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary		Analysis of Sample 136443 @ 75 °F					
Sampling Date:	9/26/03	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	10/3/03	Chloride:	658.0	18.56	Sodium:	440.5	19.16
Analyst:	ANNA McELANEY	Bicarbonate:	384.0	6.29	Magnesium:	129.0	10.61
TDS (mg/l or g/m3):	3775.1	Carbonate:	0.0	0.	Calcium:	560.0	27.94
Density (g/cm3, tonne/m3):	1.004	Sulfate:	1592.0	33.15	Strontium:	7.0	0.16
Anion/Cation Ratio:	1.0000001	Phosphate:			Barium:	0.1	0.
Carbon Dioxide:		Borate:			Iron:	0.5	0.02
Oxygen:		Silicate:			Potassium:	4.0	0.1
Comments:		Hydrogen Sulfide:			Aluminum:		
		pH at time of sampling:			Chromium:		
		pH at time of analysis:		7.43	Copper:		
		pH used in Calculation:		7.43	Lead:		
					Manganese:		
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄		CO ₂ Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.85	33.87	-0.13	0.00	-0.20	0.00	-0.36	0.00	0.94	0.00	0.18
100	0	0.96	39.81	-0.14	0.00	-0.14	0.00	-0.35	0.00	0.79	0.00	0.24
120	0	1.07	46.44	-0.13	0.00	-0.06	0.00	-0.33	0.00	0.67	0.00	0.31
140	0	1.20	53.08	-0.12	0.00	0.05	57.27	-0.30	0.00	0.57	0.00	0.39

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

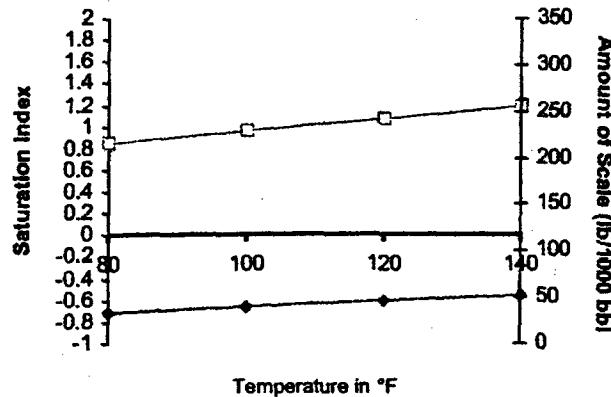
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO₂ pressure is actually the calculated CO₂ fugacity. It is usually nearly the same as the CO₂ partial pressure.

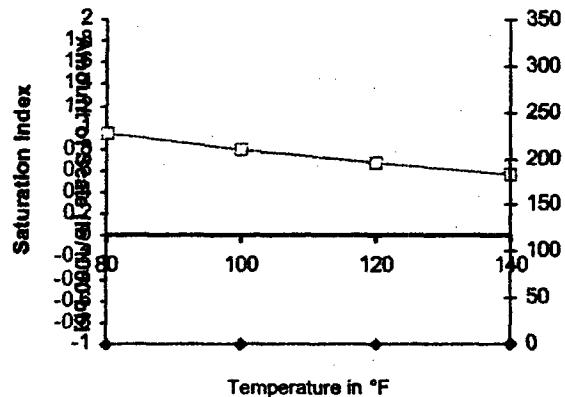
Scale Predictions from Baker Petrolite

Analysis of Sample 136443 @ 75 °F for YATES PETROLEUM INC, 10/3/03

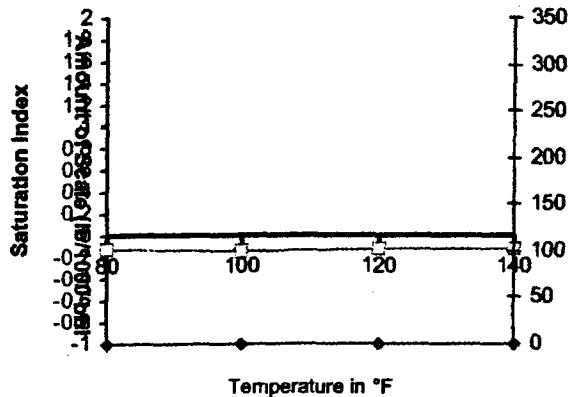
Calcite - CaCO₃



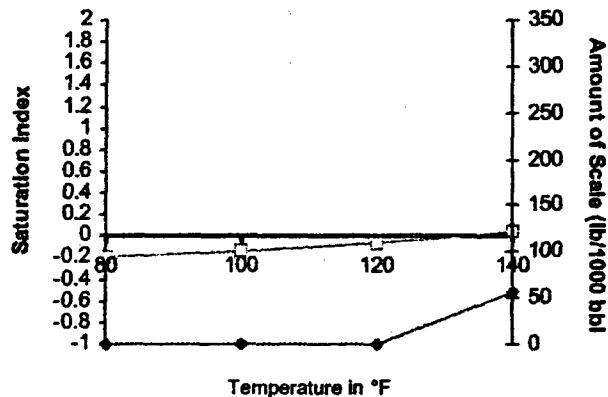
Barite - BaSO₄



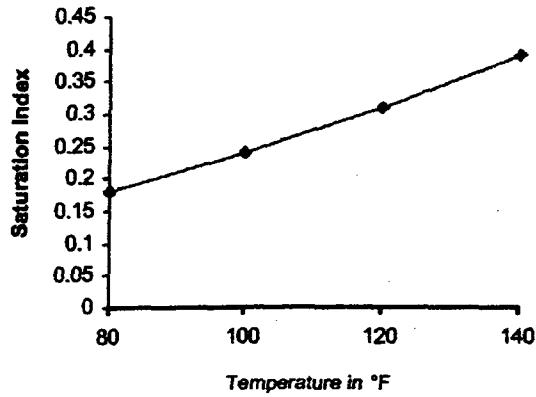
Gypsum - CaSO₄·2H₂O



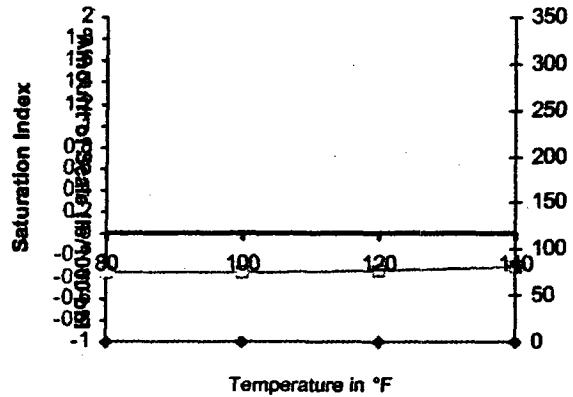
Anhydrite - CaSO₄



Carbon Dioxide Partial Pressure



Celestite - SrSO₄



Attachment E

C-108 Application for Authorization to Inject
Yates Petroleum Corporation

North Dagger Draw Waterflood Proposed Water Injection Wells

Ross EG Federal Com No. 5
Sec. 19-19S-25E, 860' FNL & 860' FEL

Ross EG Federal Com No. 12
Sec. 19-19S-25E, 1980' FNL & 660' FEL

Ross EG Federal Com No. 9
Sec. 19-19S-25E, 1980' FSL & 660' FEL

Dagger Draw 30N Com No. 15
Sec. 30-19S-25E, 660' FNL & 660' FEL

Dagger Draw 30N Com No. 17
Sec. 30-19S-25E, 1665' FNL & 660' FEL

Available engineering and geological data have been examined and no evidence of open faults of hydrologic connection between the injection zone and any underground sources of drinking water has been found.


John Humphrey
Geologist
Yates Petroleum Corporation

10/22/03
Date

Legal Notice

Yates Petroleum Corporation, 105 South Forth Street, Artesia, New Mexico 88210, has filed a form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for five injection wells. The proposed wells are:

Ross EG Federal Com No. 5
Sec. 19-19S-25E, 860' FNL & 860' FEL

Ross EG Federal Com No. 12
Sec. 19-19S-25E, 1980' FNL & 660' FEL

Ross EG Federal Com No. 9
Sec. 19-19S-25E, 1980' FSL & 660' FEL

Dagger Draw 30N Com No. 15
Sec. 30-19S-25E, 660' FNL & 660' FEL

Dagger Draw 30N Com No. 17
Sec. 30-19S-25E, 1665' FNL & 660' FEL

All wells are in Eddy County, New Mexico. They will be used as water injection wells for the purpose of waterflooding the Canyon Dolomite. Water from the Canyon Dolomite will be re-injected into the Canyon Dolomite at a depth between 7620' and 7908' with a maximum pressure of 1520 psi. and a maximum rate of 25000 BWPD (5000 BWPD per well).

All interested parties opposing the aforementioned must file objections or requests for a hearing with the Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505-5472, within 15 days. Additional information can be obtained by contacting Sam Brandon at (505) 748-4281.