



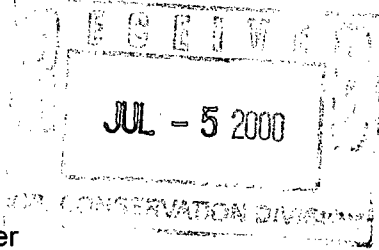
Carbon Energy Corporation
Bonneville Fuels Corporation
CEC Resources Ltd.

Original
NSL 7/25/00

June 27, 2000

State of New Mexico

Oil Conservation Division: Department of Natural Resources
Attn.: Mr. Michael E. Stogner: Chief Hearing Officer/Engineer
2040 South Pacheco
Santa Fe, New Mexico 87505
Phone: (505) 827-8185



Re: Unorthodox Surface Location for Topographic Reasons
Unorthodox Production Interval Bottom-Hole Location
Avalon '1' Federal #4

Dear Mr. Stogner:

Bonneville Fuels Corporation does herewith request the Administrative Approval of the following proposed directionally drilled well:

Avalon '1' Federal #4:

Surface Location (Unorthodox): 2583' FSL & 1643' FEL, Lot 31 (Unit 'O').
Bottom-Hole Location (Unorthodox): 1320' FSL & 2310' FWL, Lot 38 (Unit 'V');
Being 368' from E. Line of Lot 35 (Unit 'S') &
Lot 38 (Unit 'V').

Section 1, T.21S., R.26E., Eddy County, New Mexico
Burton Flat Morrow/Calabazza Draw/Atoka/West Burton Flat Strawn/North Avalon Upper Penn.
Gas Pools: 320 acre spacing w/ in-fill wells on separate 160 ac. tract.

Bonneville Fuels Corporation does herewith request:

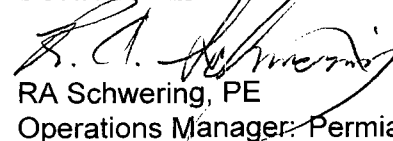
1. Administrative Approval of the proposed Unorthodox Surface Location of the Avalon 1 Federal #4 well at 1320' FSL & 1643' FEL, Lot 31 (Unit 'O'), Section 1, T.21S., R.26E., Eddy County, New Mexico to be used to directionally drill the subject well to a Bottom-Hole Location in Lot 38 (Unit 'S') **for Topographic Reasons.**

2. Administrative Approval that the subject well be allowed to produce at an unrestricted rate from the following Gas Pools (Burton Flat Morrow, Calabazza Draw Atoka, West Burton Flat Strawn, & North Avalon Upper Pennsylvanian) if encountered in paying quantities from that portion of the wellbore which meets the legal north, south, and west 660' setback limits and encroaches to within 10' of the east setback line for the 160 ac. (Lots 35, 36, 37 & 38) spacing unit for the directionally drilled Avalon 1 Federal #4 well. This well is planned to bottom in Lot 38 (10' south of Lot 35 and 368' east of Lot 39). BFC seeks Administrative Approval to produce the subject Gas Pools without restriction from any bottom-hole location in Lots 35, 36, 37 & 38 which is:

- a. A minimum of 660' south of the north line of Lot 35 & 36,
- b. A minimum of 660' north of the south line of Lot 37 & 38,
- c. A minimum of 660' east of the west line of Lots 36 & 37, and
- d. A minimum of 10' west of the east lines of Lots 35 and 38,

All of the foregoing in **the interest of preventing waste and securing the correlative rights of mineral interest holder(s) and the lessee(s).** Further, that production be prohibited in said wellbore from intervals that DO NOT meet the Bottom-Hole Location requirements listed above (without further testimony and hearing) and that no multiple zone completion or commingled production shall be undertaken without appropriate permitting and NMOCD and BLM requisite approvals.

Sincerely Yours,
BONNEVILLE FUELS CORPORATION


RA Schwering, PE
Operations Manager, Permian Area

Attachments: Letter and Exhibits in Support of Unorthodox Location Application



Carbon Energy Corporation
Bonneville Fuels Corporation
CEC Resources Ltd.

June 27, 2000

State of New Mexico
Oil Conservation Division: Department of Natural Resources
Attn.: Mr. Michael E. Stogner: Chief Hearing Officer/Engineer
2040 South Pacheco
Santa Fe, New Mexico 87505
Phone: (505) 827-8185

Re: Unorthodox Surface Location for Topographic Reasons
Unorthodox Production Interval Bottom-Hole Location for Geologic Reasons
Avalon '1' Federal #4

Dear Mr. Stogner:

Bonneville Fuels Corporation does herewith request the Administrative Approval of the following proposed directionally drilled well:

Avalon '1' Federal #4:

Surface Location (Unorthodox): 2853' FSL & 1643' FEL, Lot 31 (Unit 'O').

Target Bottom-Hole Location (Unorthodox): 1320' FSL & 2310' FWL, Lot 38 (Unit 'V'):
TD @ 11,400' TVD (11,745' MD).

Section 1, T.21S., R.26E., Eddy County, New Mexico

Burton Flat Morrow/Calabazza Draw Atoka/West Burton Flat Strawn/North Avalon Upper Penn. Gas Pools: 2nd producing well in a 327.86 acre spacing unit w/ in-fill wells on separate 160+ ac. tracts. BFC proposes to obtain an APD approved by the Bureau of Land Management, Bureau of Reclamation, and NMOCD prior to drilling the subject well.

Prior to application for this APD BFC needs to receive approval for the proposed directional drilling plan for this well from an Unorthodox Surface Location to a proposed Unorthodox Bottom-Hole Location wherein the productive horizons meet the setback requirements requested below. BFC seeks Administrative Approval to potentially produce gas, oil and condensates from the Burton Flat Morrow, Calabazza Draw Atoka, West Burton Flat Strawn, and North Avalon Upper Penn. Gas Pools without restriction from any bottom-hole location in Lots 35, 36, 37 & 38 which is:

- a. A minimum of 660' south of the north line of Lots 35 & 36,
- b. A minimum of 660' north of the south line of Lots 37 & 38,
- c. A minimum of 660' east of the west line of Lots 36 & 37 &
- d. A minimum of 10' west of the east lines of Lots 35 and 38.

The existing producing well is the Federal 1 Avalon #1 @ 830' FSL & 330' FEL in Lot 40 of Section 1. The current acreage dedicated to this well (Lots 33, 34, 35, 36, 37, 38, 39, & 40) will contract from the 327.86 acre original dedication to Lots 33, 34, 39 & 40 (164.66 ac.). **The entire spacing unit (327.86 ac.) has a common 100% mineral ownership (Fed. Lease NM 13624) and BFC is the SOLE OPERATOR to all depths.** The proposed Avalon 1 Fed. #4 Unorthodox Bottom-Hole Location is only 386' west of the east line of Lot 38 and 10' south of the north line of Lot 38. **BFC holds a 100% Working Interest in Lots 33, 34, 39 & 40 and does NOT object to encroachment to within 10' of the quarter or quarter-quarter boundary lines by the proposed well.**

PRESENTATION OF TOPOGRAPHIC EVIDENCE IN SUPPORT OF UNORTHODOX SURFACE APPLICATION:

The surface administrator of the lands above the Bottom-Hole Location is the Bureau of Reclamation. A stipulation of Lease NM 13624, which is proximal to the Avalon Reservoir, is that no permanently occupied surface facility (e.g. a wellbore and production facility) may be located at a surface elevation lower than 3190' MSL (Exhibit 1).

Exhibit 1: Bureau of Reclamation surface use occupancy lease restrictions.

Exhibit 2: A Topographic Map. This map shows the 3190' elevation contour. The proposed pro-ration unit for the well is also identified.

Exhibit 3: A Form C-102. This indicates the proposed Unorthodox Surface Location and the Proposed Unorthodox Bottom-Hole Location within the proposed pro-ration unit (163.20 acres: Lots 35, 36, 37 & 38).

Exhibit 4: A Directional Plan (5 Pages) with plan & section views of the proposed wellbore with requested Unorthodox Bottom-Hole Location target.

The closest surface location which can cause a directionally drilled well to reach the proposed Unorthodox Bottom-Hole Location and meet the Topographic requirements of the Bureau of Reclamation is the staked location at 2583' FSL & 1643' FEL location in Lot 31 (Unit 'O') in Sec. 1-21S.-26E. This location is identified on the Topographic Map (Exhibit 2) and the Form C-102 (Exhibit 3). Exhibit 2 and Exhibit 4 (the directional plan) indicate that the proposed Unorthodox Surface Location is the optimum surface location (closest) from which to directionally drill the subject well. This surface location is the most mechanically sound (least deviation) and economical location from which to access the optimum proposed Unorthodox Bottom-Hole Location in the potential Morrow, Atoka, Strawn & Upper Pennsylvanian (Cisco & Canyon) producing formations.

PRESENTATION OF GEOLOGIC EVIDENCE IN SUPPORT OF UNORTHODOX BOTTOM-HOLE LOCATION APPLICATION:

The principle target of the proposed directionally drilled well are three (3) potentially productive Morrow Gas sands (Morrow C-1c, Morrow C-1d, and Morrow C-2c: See Exhibit 5) which were encountered in the Federal 1 Avalon #1 well. The lowest sand, the Morrow C-2c, was wet. The Morrow C-1c and C-1d sands were initially completed at a very high IP of 11 MMCFD to sales but watered out after only a year of production (0.75 BCFG). The proposed Unorthodox Bottom-Hole Location of the Avalon 1 Federal #4 well is an attempt to encounter maximum gross thickness in all three of these high porosity/high permeability pays in an up-dip position (Exhibit 6) to these 'watered-out' and wet sands encountered in the Federal 1 Avalon #1 well. Exhibit 6 indicates that the proposed Unorthodox Bottom-Hole Location will pull all of these potential pay sands up above the indicated -7,922' MSL elevation water contact below which they would be wet.

Exhibit 5: Electric logs from the Federal 1 Avalon #1 well (4 PAGES).

This log indicates the well developed potentially productive Morrow sands and the postulated water contact @ -7,992' MSL elevation.

Exhibit 6: A Set of Geologic Maps (4 Pages). Three isopach maps indicate the mapped principal Morrow pay sands (C-2c, C-1d & C-1c) expected to be encountered by this proposed well. The structure map indicates the structural advantage of the proposed Unorthodox Bottom-Hole Location.

PRESENTATION OF GEOLOGIC EVIDENCE IN SUPPORT OF UNORTHODOX BOTTOM-HOLE LOCATION APPLICATION: Continued:

The proposed Avalon 1 Federal #4 well **shall prevent waste** of recoverable reserves by entering the prospective Pennsylvanian gas reservoirs at the proposed Unorthodox Bottom-Hole Location in a structurally advantaged location. The maps in Exhibit 6 indicate that this preferred location is needed in order to penetrate the maximum thickness of the Main target Morrow Sands. These sands were encountered in the initially completed Federal 1 Avalon #1 well. The Federal 1 Avalon #1 currently produces from other Morrow sands higher in the Morrow section. The Morrow target sands (C-1c, C-1d, and C-2c) are either watered-out or wet in the existing Federal 1 Avalon #1 wellbore. There is no economic way to recover remaining up-dip gas reserves from these sands in the down-dip Federal 1 Avalon #1 wellbore. The proposed Avalon 1 Federal #4 well **shall prevent waste** by improving recovery from all of these potential reservoirs **AND shall protect the correlative rights** of the mineral interest owners and lessees in Lots 35, 36, 37 & 38 in 1-21S.-26E., Eddy County, New Mexico, the lots proposed to be dedicated to this proposed well (163.2 ac.).

The potential Pennsylvanian deep gas pays and Morrow 'C' gas/water contact will all be encountered in this lower vertical section of the well at the proposed Unorthodox Bottom-Hole Location as follows:

Upper Penn.: Cisco Fm.:	9,528' TVD	9,872.54' MD	-6,320' MSL
Upper Penn.: Canyon Fm.:	9,658' TVD	10,002.54' MD	-6,450' MSL
Strawn Fm.:	9,838' TVD	10,182.54' MD	-6,630' MSL
Atoka Fm.:	10,068' TVD	10,042.54' MD	-6,860' MSL
Morrow Fm.:	10,708' TVD	11,052.54' MD	-7,500' MSL
Morrow 'C' Sands:	11,008' TVD	11,352.54' MD	-7,800' MSL

Identified Morrow Gas-water Contact:

In Fed. 1 Avalon #1: Morrow 'C' Contact:	11,130' TVD	11,474.54' MD	-7,922' MSL
Top Of Mississippian: Barnett Fm.:	11,180' TVD	11,524.54' MD	-7,972' MSL

DIRECTIONAL WELL PLAN:

The well will be drilled as near to vertical as possible to a depth of 2360' MD. A 17-1/2" hole will be drilled to 700' MD & 13-3/8" surface casing will be set. A 12-1/4" hole will be drilled to 2360' MD & 9-5/8" casing will be set.

An 8-3/4" Production Hole will then be drilled to Total Depth. The directional effort will commence at 2400' (Exhibit 4) and the well will build angle at 2°/100' to a maximum 20° inclination on a course of S. 42.768° W. at 3370' TVD (3390' MD). A 20° inclination will be held until 8230' TVD (8555' MD) on a course of S. 42.768° W. The well is planned to cross the requested 10' setback limit (10' west of east line of Lot 35) @ a TVD of 7228' (7490' MD) during this tangent (drill & hold angle of inclination) section of the wellbore. Penetration below this bottom-hole location to Total Depth @ 11,400' TVD (11,745' MD) shall meet all of the setback rules for an Orthodox Producing Bottom-Hole Location in all subsequently encountered prospective gas pays EXCEPTING the east setback limit of Lots 35 & 38. From 8230' TVD (8555' MD) the well will drop angle at 2°/100' to vertical on a course of S. 42.768° W. to vertical at 9200' TVD (9545' MD). The well will then be vertically drilled to a planned Total Depth of 11,400' TVD (11,745' MD) to a planned Unorthodox Bottom-Hole Location @ 1320' FSL & 2310' FWL in Lot 38, Section 1, T.21.S., R.37E., Eddy County, New Mexico.

STATEMENT OF FACT:

1. BFC anticipates that its planned wellbore will have an Unorthodox Bottom-Hole Location from 7228' TVD (7490' MD) to Total Depth at 11,400' TVD (11,745' MD) in the Barnett Fm., being between 10' and 368' (vs. 660' required) west of the east line of Lots 35 & 38. **BFC as 100% WI operator of the Federal 1 Avalon #1 well DOES NOT OBJECT to encroachment along this line to within 10' of the westerly edges of Lots 34 & 39.** All prospective Pennsylvanian gas pays will be drilled in the proposed Unorthodox Bottom-Hole Location being 368' (vs. 660' required) west of the east line of Lots 35 & 38.
2. BFC does only intend to produce gas, condensate and oil from that portion of the wellbore that is more than 10' west of the easterly edges of Lots 35 & 38 (10' west of the westerly edges of Lots 34 & 39). BFC seeks permission to do so in an unrestricted fashion as is allowed for in the Burton Flat Morrow, Calabazza Draw Atoka, West Burton Flat Strawn, and/or North Avalon Upper Pennsylvanian Orthodox Bottom-Hole Location Pool Rules.
3. BFC will have to make separate application, however, to multiply complete and/or commingle (downhole or at the surface) the producing streams of these various pools should more than one of these potentially productive intervals be encountered in the proposed well PRIOR TO commencing any such completion or commingling work. The well will be originally permitted as a Burton Flat Morrow Fm. Test.
4. BFC realizes that ANY effort to produce hydrocarbons from ANY wellbore interval that DOES NOT MEET the approved/permitted setbacks for any potential producing interval shall require a separate hearing and adjudication by the NMOCD.

ADDITIONAL EXHIBIT:

- Exhibit 7: Notification of an Unorthodox location to offset operators, lessees of record, or unleased mineral interest owners **is not necessary** as Bonneville Fuels Corporation, the applicant herein, is the only offset Operator upon which the unorthodox location encroaches. Therefore, an Affidavit of Mailing is not necessary and has not been made. Names and Address of the Offset Owners and a plat showing the spacing unit, the proposed unorthodox location and the adjoining spacing unit are attached.

Page 5

Letter to NMOCD: Unorthodox Location
Avalon 1 Fed. #4: 6/27/2000

Therefore, the Bonneville Fuels Corporation does herewith request:

1. Administrative Approval of the proposed Unorthodox Surface Location of the Avalon 1 Federal #4 well at 2853' FSL & 1643' FEL, Lot 31 (Unit 'O'), Section 1, T.21S., R.26E., Eddy County, New Mexico to be used to directionally drill the subject well to a requested Unorthodox Bottom-Hole Location in Lot 38 (Unit 'V') **for Topographic Reasons.**

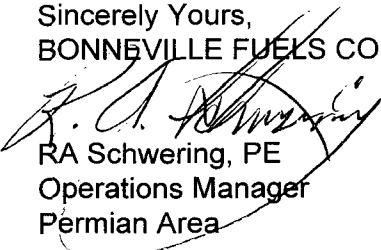
2. Administrative Approval that the subject well be allowed to produce at an unrestricted rate from the Burton Flat Morrow/Calabazza Draw Atoka/West Burton Flat Strawn/North Avalon Upper Penn. Gas Pools IF paying quantities of gas are encountered in any of these pools from that portion of the wellbore which meets the north, west and south setback limits of an Orthodox Bottom-Hole Location and the requested 10' westerly Unorthodox setback for the east lines of Lots 35 & 38. BFC as Operator of all affected Lease Tracts states that the requested approval is in **the interest of preventing waste and securing the correlative rights of mineral interest holder(s) and the lessee(s).** Further, BFC is aware that production is prohibited in said wellbore from intervals that DO NOT meet the requested Unorthodox Producing Bottom-Hole Location requirements of the relevant pool rules without further testimony and hearing. BFC realizes that ANY multiple zone completion or commingling of production (surface or downhole) shall not be commenced or undertaken without requisite Approvals by the NMOCD and BLM.

Thank you for your timely review of this matter.

Call me at (303) 863-1555 ext. 213 if I can be of any further assistance.

Sincerely Yours,

BONNEVILLE FUELS CORPORATION



RA Schwering, PE
Operations Manager
Permian Area

cc: NMOCD @ Artesia
Bureau of Land management @ Roswell & Carlsbad
Bureau of Reclamation @ Albuquerque

NOV-30-99 TUE 10:12 AM

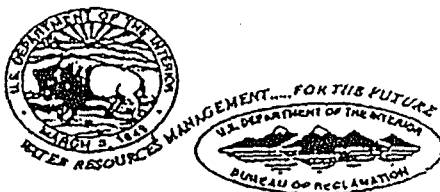
BUREAU OF RECLAMATION 12

FAX NO. 5052485308

P. 01

EXHIBIT '1' Pages:

1/2



United States Bureau of Reclamation
Albuquerque Area Office

505 Marquette, NW - Suite 1313
Albuquerque, New Mexico 87102

FROM: RIK ARNDT - LEAD REALTY SPECIALIST

PHONE : 505.248.5311

FAX: 505.248.5308

TO: Sharon McDonald - Bonneville

Fax: 303.863.1558

Phone: 303.863.1555

SUBJECT: NM13624 Oil and Gas Lease - Stipulations

MESSAGE: Sharon, I have attached the elevations and current stipulations for leases on our project lands - Carlsbad and Tucumcari. The elevations for Avalon should be followed on your existing lease as reference to the contour elevation. I have not been able to locate page 322 of the Water Supply Paper 898, but will fax that to you as soon as I am able to locate that information. If you have any questions please feel free to call me at the above number. Thanks, Rik

Pages including cover sheet : 2

If you do not receive all facsimile pages please call me at 505.248.5311

MINERAL LEASING STIPULATIONS FOR CARLSBAD AND TUCUMCARI PROJECTS

The Bureau of Reclamation is the surface managing agency for approximately 59,800 acres in the Roswell Resource area. Subject lands are located within three reservoirs within the Carlsbad Project and two lakes within the Tucumcari Project and being listed as follows:

1. Carlsbad Project - Brantley Reservoir - 43,500 ac.
2. Carlsbad Project - Avalon Reservoir - 4,000 ac.
3. Carlsbad Project - Sumner Reservoir - 11,500 ac.
4. Tucumcari Project - Hudson Lake - 160 ac.
5. Tucumcari Project - Dry Lake - 640 ac.

With regards to the leasing of the mineral estate(s) beneath said 59,800 ac. the BOR will provide specific leasing stipulations for each prospective lease. The general overall leasing stipulations and requirements for subject BOR lands are as follows:

BRANTLEY RESERVOIR

No surface occupancy will be allowed within one-half mile of the Brantley Dam site, drilling between one-half mile and one mile of the Brantley Dam site shall be reviewed on a case by case basis.
No surface occupancy within the Brantley Lake State Park.
No storage facilities will be allowed below El. 3286.
Surface occupancy below natural El. 3271 shall be reviewed on a case by case basis.

AVALON RESERVOIR

No surface occupancy within one-half mile of the Avalon Dam site.
No surface occupancy below El. 3190.
No storage facilities below El. 3200.

SUMNER RESERVOIR

No surface occupancy within one-half mile of the Sumner Dam site.
No surface occupancy within Sumner Lake State Park.
No surface occupancy below El. 4279.
No storage facilities below El. 4300.

HUDSON LAKE

No surface occupancy within boundaries of Hudson Lake.

DRY LAKE

No surface occupancy below El. 4085.

The BOR proposes that the first paragraph at the top of page 3 of your MANAGEMENT COMMON TO ALL ALTERNATIVES be omitted. Subject paragraph states if lands presently managed by the BOR revert back to the management of the BLH, they would be leased and managed under appropriate Roswell District stipulations or conditions of approval (e.g., stipulations for flood plains).

Hazardous Waste Level I



COMPENSATED
WELL FILE

Densilog
Neutron

COMPANY Inexco Oil Co.
WELL Avalon Federal
FIELD Burton Flat
COUNTY Eddy STATE N.M.
LOCATION: 320' FEL & 803 FSL
SEC 1 TWP 21S RGE 26E

MARKED LOG

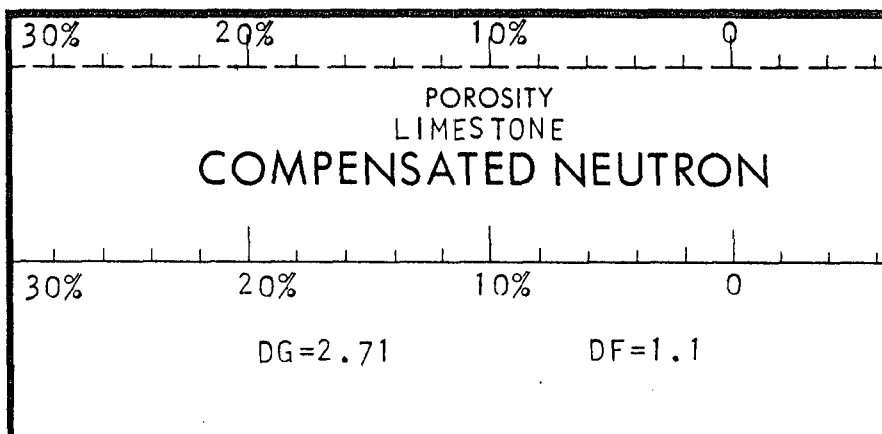
Other Services
DLL

Permanent Datum G.L. Elev. 3212
Log Measured from K.B. 1.6 Ft. Above Permanent Datum
Drilling Measured from K.B.
Elevations:
KB 3228
DF -
GL 3212

Date	6-26-76			
Run No.	one			
Depth—Driller	11450			
Depth—Logger	11436			
Bottom Logged Interval	11434			
Top Logged Interval	Surface			
Casing—Driller	958 @ 2560	@		@
Casing—Logger	2550			
Bit Size	8 3/4			
Type Fluid in Hole	XG-Drispac LCM-Bar			
Density and Viscosity	10.9 38	11.013	11.013	11.013
pH and Fluid Loss	10.5 9.4 cc	Morrow		
Source of Sample	Flowline	Cum	2.093	
Rm @ Meas. Temp.	.064 @ 98 °F	@ FURF	2.129	°F
Rmf @ Meas. Temp.	.052 @ 98 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	.171 @ 96 °F	@ °F	@ °F	@ °F
Source of Rmf and Rmc	M M			
Rm @ BHT	@ 182 °F	@ °F	@ °F	@ °F
Time Since Circ.	6 hrs.			
Temp. Deg. F.	182 °F	°F	°F	°F
Depth and Location	6124 Hobbs			
Recorded By	P.E. Meadows			
Checked By	R. Fuglestad & P. Adams			

FILED
MARKED LOG
PRINT

6	16
HOLE SIZE - INCHES	
0 API	200 API
API UNITS 20 API/CD	



GAMMA RAY & CALIPER	DEPTH	COMPENSATED DENSILOG
------------------------	-------	----------------------

Company	INEXCO OIL COMPANY	Drillers T.D.	11450'
Well	AVALON FEDERAL NO. 1	Log F.R.	11434'
Field	BURTON FLAT	Log T.D.	11436'
County	EDDY	Elevations:	
State	NEW MEXICO	K.B. 3228' D.F.	G.L. 3212'

REPEAT SECTION

Severed
50 yr.
Retainer
 $V \equiv 40$
 $\frac{1}{2}$

-7839

'C'-
C-1a

Q-16. 11.120

9911

Child 17

C-26
IPF
11013MCF
Cum 2008
Eur 2012B
C-26

* *

C-20

11200 TR

Barnett
School

11,242' TM

float
collar 11300
11,279KBM

Water
coming out
of the ports
(1-1-77)
from below
lower ports
Good for 1000000

Prob Wtr

DresserAtlas**Dual Laterolog**

FILE NO.

EXHIBIT 5

Page 3/4

COMPANY INEXCO OIL COMPANY

WELL AVALON FEDERAL NO. 1

FIELD BURTON FLAT

COUNTY EDDY STATE NEW MEXICO

LOCATION:

803'FSL & 320'FEL

Other Services

CDL/CN/GR

SEC 1 TWP 21-S RGE 26-E

Permanent Datum GROUND LEVEL Elev. 3212

Elevations:

KB 3228

Log Measured from K. B. 16 Ft. Above Permanent Datum

DF

Drilling Measured from K. B.

GL 3212

Date	6-26-76				
Run No.	ONE				
Depth—Driller	11450				
Depth—Logger	11438				
Bottom Logged Interval	11424				
Top Logged Interval	2560				
Casing—Driller	958 @ 2560	@	@	@	@
Casing—Logger	2560				
Bit Size	8 3/4"				
Type Fluid in Hole	XC-DRISPAC				
	LCM-BAR				
Density and Viscosity	10.9 38				
pH and Fluid Loss	10.5 9.4 cc	cc	cc	cc	cc
Source of Sample	FLOWLINE				
Rm @ Meas. Temp.	.064 @ 98 °F	@ °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	.052 @ 98 °F	@ °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	.171 @ 96 °F	@ °F	@ °F	@ °F	@ °F
Source of Rmf and Rmc	MEAS. MEAS.				
Rm @ BHT	.034 @ 182 °F	@ °F	@ °F	@ °F	@ °F
Time Since Circ.	15 HOURS				
Max. Rec. Temp. Deg. F.	182 °F	°F	°F	°F	°F
Equip. No. and Location.	6124 HOBBS				
Recorded By	MEADOWS				
Witnessed By	MR. FLUELLEN & MR. ADAMS				

6 16

HOLE SIZE - INCHES

 $R_w = .06$

0%

20%

CONDUCTIVITY

DEPTH

.2 1.0 10 100 1000

 R_{xo}

.2 1.0 10 100 1000

DEEP LATEROLOG

.2 1.0 10 100 1000

SHALLOW LATEROLOG

RESISTIVITY

EXHIBIT C: ISOPACH
Net F₄ ϕ > 8% / Gross F₄.
R. 26E. | R. 27E.

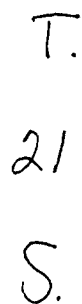
Net Ft. $\geq 8\%$ / Gross Ft.

R. 26E.

R. 27E.

Morrow C-1c 2/4
Sand

Sand



NOE: Not Deep Enough

1100
Cement
Retainer
-7889
Borrow

C-1a

C-1b

C-1c

C-1d

Instr.
Gas
Prod.
Watered
Out in
1999'

11200
RBRW/Plg
C-2c
Wet.

Cement

F.C.

11300

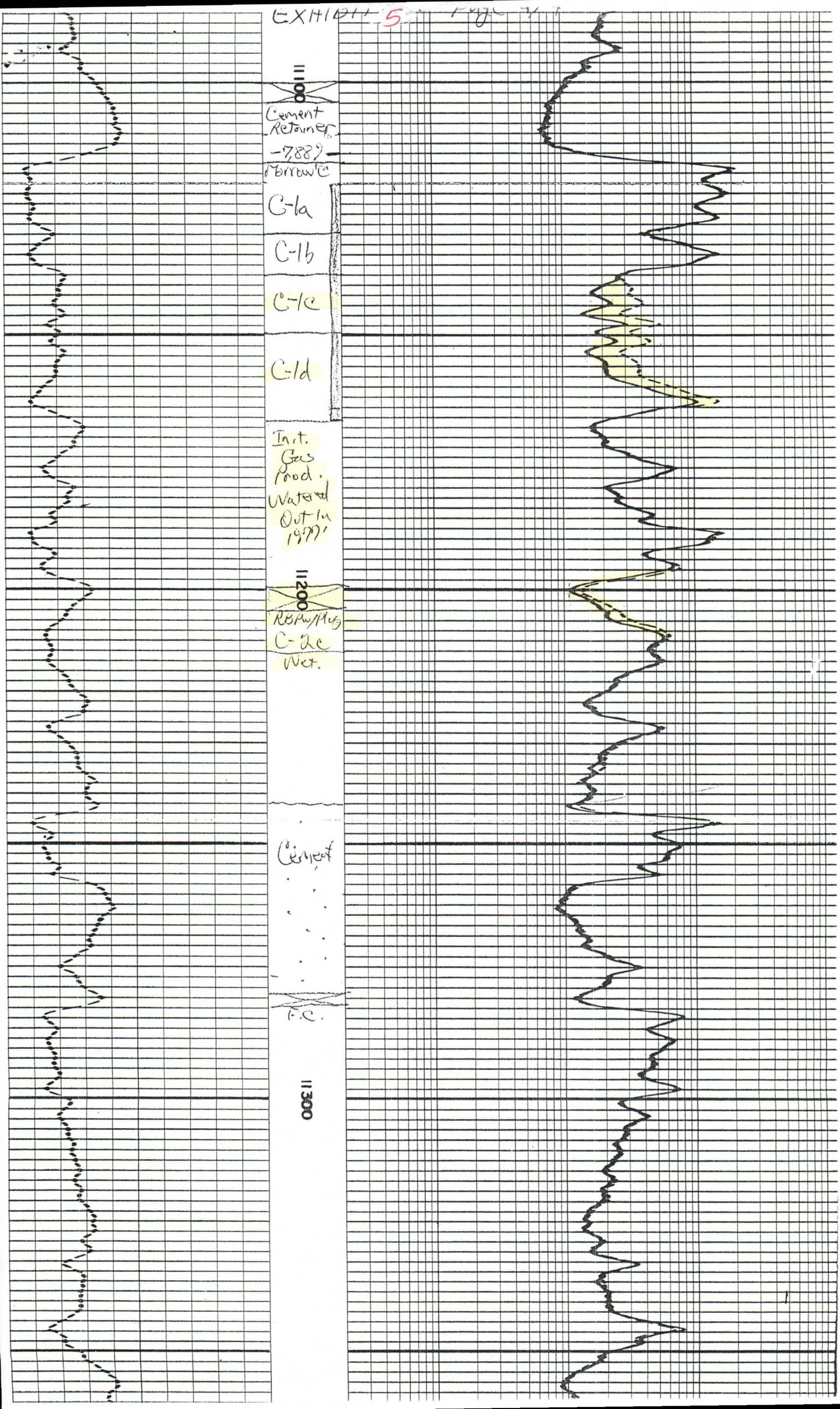


EXHIBIT 4

Bonneville Fuels Corp.

**New Mexico
Eddy County
Sec. 1-T21S-R26E
Avalon 1 Federal #4**

PROPOSAL REPORT

1 July, 2000

sperry-sun
DRILLING SERVICES
A Halliburton Company

Proposal Ref: pro4799

Sperry-Sun Drilling Services

Proposal Report for Avalon 1 Federal #4



Bonneville Fuels Corp.
New Mexico

Eddy County
Sec. 1-T21S-R26E

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	
2400.00	0.000	0.000	2400.00	0.00 N	0.00 E	0.00	0.00
2500.00	2.000	222.768	2499.98	1.28 S	1.19 W	1.75	2.00
2600.00	4.000	222.768	2599.84	5.12 S	4.74 W	6.98	2.00
2700.00	6.000	222.768	2699.45	11.52 S	10.66 W	15.69	2.00
2800.00	8.000	222.768	2798.70	20.47 S	18.93 W	27.88	2.00
2900.00	10.000	222.768	2897.47	31.95 S	29.55 W	43.52	2.00
3000.00	12.000	222.768	2995.62	45.96 S	42.51 W	62.60	2.00
3100.00	14.000	222.768	3093.06	62.47 S	57.78 W	85.10	2.00
3200.00	16.000	222.768	3189.64	81.47 S	75.36 W	110.98	2.00
3300.00	18.000	222.768	3285.27	102.93 S	95.21 W	140.21	2.00
3390.06	19.801	222.768	3370.47	124.35 S	115.02 W	169.38	2.00
4000.00	19.801	222.768	3944.35	276.03 S	255.32 W	376.01	0.00
5000.00	19.801	222.768	4885.22	524.71 S	485.35 W	714.76	0.00
6000.00	19.801	222.768	5826.09	773.40 S	715.38 W	1053.52	0.00
7000.00	19.801	222.768	6766.97	1022.08 S	945.41 W	1392.28	0.00
8000.00	19.801	222.768	7707.84	1270.76 S	1175.44 W	1731.04	0.00
8554.47	19.801	222.768	8229.53	1408.65 S	1302.98 W	1918.87	0.00
8600.00	18.891	222.768	8272.48	1419.72 S	1313.22 W	1933.95	2.00
8700.00	16.891	222.768	8367.64	1442.28 S	1334.08 W	1964.67	2.00
8800.00	14.891	222.768	8463.82	1462.37 S	1352.67 W	1992.05	2.00
8900.00	12.891	222.768	8560.89	1480.00 S	1368.97 W	2016.06	2.00
9000.00	10.891	222.768	8658.74	1495.12 S	1382.96 W	2036.66	2.00
9100.00	8.891	222.768	8757.25	1507.73 S	1394.63 W	2053.84	2.00
9200.00	6.891	222.768	8856.29	1517.81 S	1403.95 W	2067.56	2.00
9300.00	4.891	222.768	8955.76	1525.34 S	1410.92 W	2077.83	2.00
9400.00	2.891	222.768	9055.53	1530.32 S	1415.52 W	2084.61	2.00
9500.00	0.891	222.768	9155.47	1532.75 S	1417.76 W	2087.91	2.00
9544.54	0.000	0.000	9200.00	1533.00 S	1418.00 W	2088.26	2.00
10744.54	0.000	0.000	10400.00	1533.00 S	1418.00 W	2088.26	0.00

All data is in feet unless otherwise stated. Directions and coordinates are relative to True North. Vertical depths are relative to Well. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100 feet.

Vertical Section is from Well and calculated along an Azimuth of 222.768° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 10744.54ft., The Bottom Hole Displacement is 2088.26ft., in the Direction of 222.768° (True).

Continued...

Sperry-Sun Drilling Services

Proposal Report for Avalon 1 Federal #4



Bonneville Fuels Corp.
New Mexico

Eddy County
Sec. 1-T21S-R26E

Comments

Measured Depth (ft)	Station TVD (ft)	Coordinates Northings (ft)	Eastings (ft)	Comment
2400.00	2400.00	0.00 N	0.00 E	Kick-Off at 2400.00ft
2895.03	2892.57	31.32 S	28.97 W	Build Rate = 2.00°/100ft
3390.06	3370.47	124.35 S	115.02 W	End of Build at 3390.06ft
5972.27	5800.00	766.50 S	709.00 W	Hold Angle at 19.801°
7490.26	7228.24	1144.00 S	1058.18 W	10' West of East Line
8554.47	8229.53	1408.65 S	1302.98 W	Drop to Vertical at 8554.47ft
9049.50	8707.43	1501.68 S	1389.03 W	Drop Rate = 2.00°/100ft
9544.54	9200.00	1533.00 S	1418.00 W	End of Drop at 9544.54ft
10144.54	9800.00	1533.00 S	1418.00 W	Hold Angle at 0.000°
10744.54	10400.00	1533.00 S	1418.00 W	Total Depth at 10744.54ft

Formation Tops

Formation Plane (Below Well Origin)			Profile Penetration Point					Formation Name
Sub-Sea (ft)	Dip Deg.	Dip Dir. Deg.	Measured Depth (ft)	Vertical Depth (ft)	Sub-Sea Depth (ft)	Northings (ft)	Eastings (ft)	
3752.00	0.000	0.000	3795.57	3752.00	3752.00	225.19 S	208.30 W	Brushy Canyon
4542.00	0.000	0.052	4635.21	4542.00	4542.00	434.00 S	401.44 W	Bone Springs Ls
8152.00	0.000	0.052	8472.07	8152.00	8152.00	1388.16 S	1284.03 W	3rd Bone Springs
8532.00	0.000	0.052	8870.33	8532.00	8532.00	1475.03 S	1364.38 W	Wolfcamp
8882.00	0.000	0.052	9225.88	8882.00	8882.00	1520.00 S	1405.98 W	Wfcmp Detrital
9528.00	0.000	0.052	9872.54	9528.00	9528.00	1533.00 S	1418.00 W	Cisco

Casing details

From		To		Casing Detail
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	
<Surface>	<Surface>	700.00	700.00	13 3/8" Casing
<Surface>	<Surface>	2360.00	2360.00	9 5/8" Casing

Continued...

Sperry-Sun Drilling Services

Proposal Report for Avalon 1 Federal #4



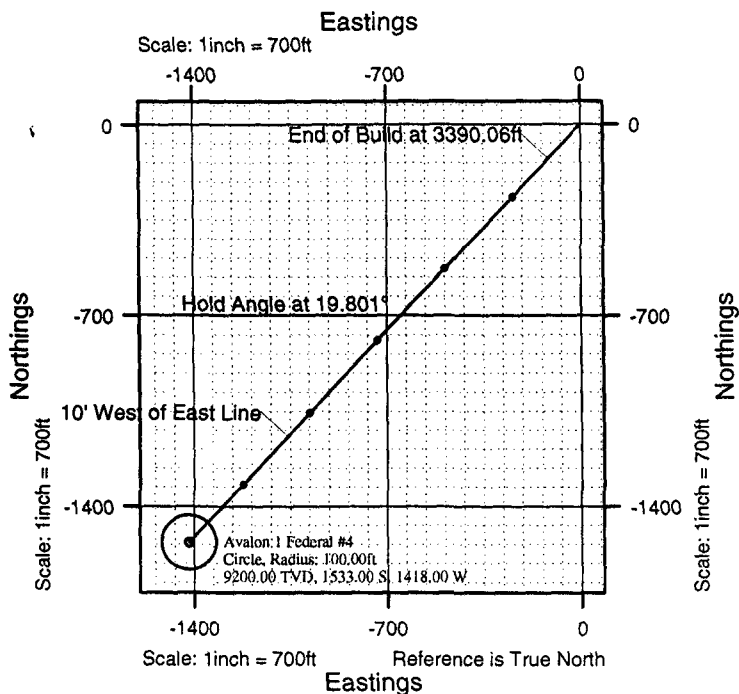
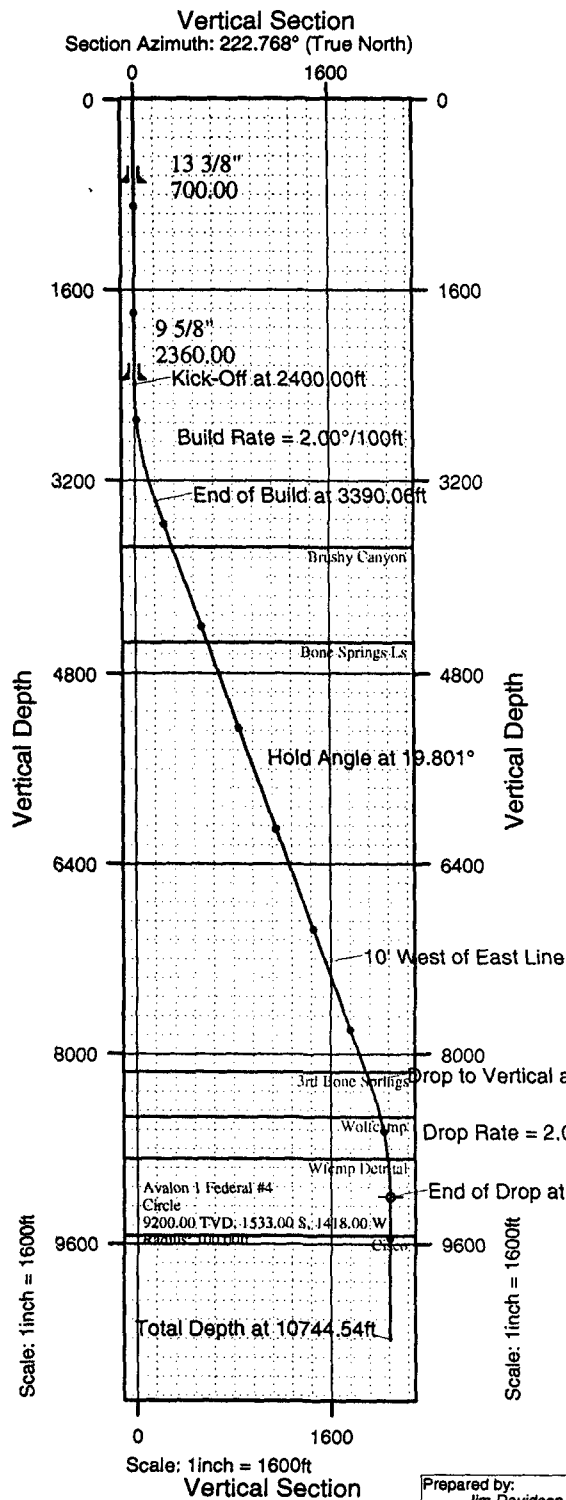
Bonneville Fuels Corp.
New Mexico

Eddy County
Sec. 1-T21S-R26E

Targets associated with this wellpath

Target Name	Target Entry Coordinates			Target Shape	Target Type
	TVD (ft)	Northings (ft)	Eastings (ft)		
Avalon 1 Federal #4	9200.00	1533.00 S	1418.00 W	Circle	Current Target

**New Mexico
Eddy County
Sec. 1-T21S-R26E
Avalon 1 Federal #4**



Proposal Data for Avalon 1 Federal #4							
Vertical Origin:	Well	Well					
Horizontal Origin:	ft	ft					
Measurement Units:	ft	ft					
North Reference:	True North	True North					
Dogleg severity:	Degrees per 100 feet	Degrees per 100 feet					
Vertical Section Azimuth:	222.768°	222.768°					
Vertical Section Description:	Well	Well					
Vertical Section Origin:	0.00 N, 0.00 E	0.00 N, 0.00 E					
Measured Depth	Incl.	Azim.	Vertical Depth	Northings	Eastings	Vertical Section	Dogleg Rate
0.00	0.000	0.052	0.00	0.00 N	0.00 E	0.00	0.00
2400.00	0.000	0.052	2400.00	0.00 N	0.00 E	0.00	0.00
3390.06	19.801	222.768	3390.06	124.35 S	115.02 W	169.38	2.00
8554.47	19.801	222.768	8225.33	1408.65 S	1392.08 W	1918.87	0.00
9544.54	0.000	0.052	9200.00	1533.00 S	1418.00 W	2088.26	2.00
10744.54	0.000	0.052	10400.00	1533.00 S	1418.00 W	2088.26	0.00

*Well Vertical @ BHL
in Perm. Deep Gas Pays*

Prepared by:
Jim Davidson

Date/Time:
1 July, 2000 - 10:47

Checked:

Approved:

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

EXHIBIT 3
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name <i>Burton Flat Morrow</i>
Property Code	Property Name AVALON 1 FEDERAL	Well Number 4
OGRID No. <i>002678</i>	Operator Name BONNEVILLE FUELS CORPORATION	Elevation 3193

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 31	1	21 S	26 E		2853	SOUTH	1643	EAST	EDDY

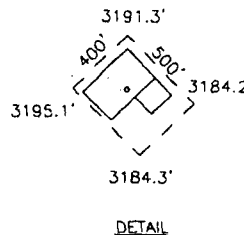
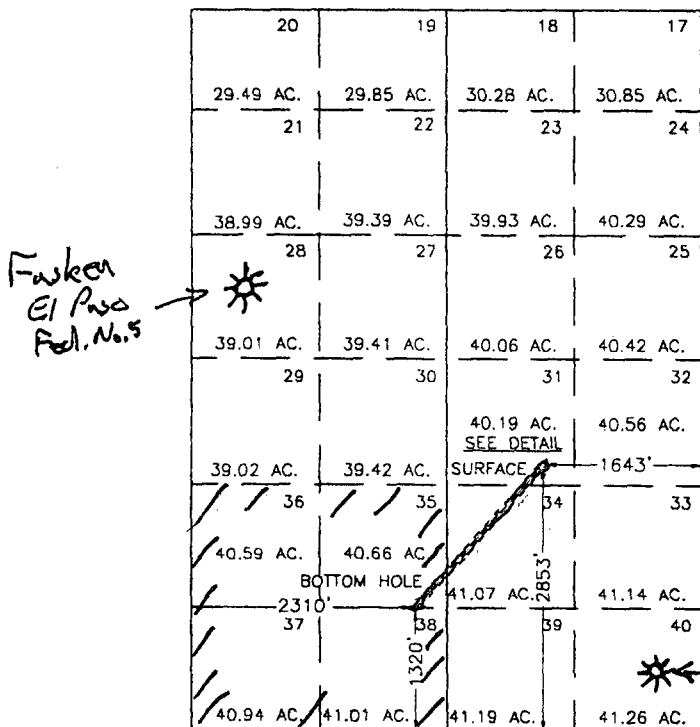
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 38	1	21 S	26 E		1320	SOUTH	2310	WEST	EDDY

Dedicated Acres <i>163.20*</i>	Joint or Infill <i>Infill</i>	Consolidation Code	Order No.
-----------------------------------	----------------------------------	--------------------	-----------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

* Well dedicated Lots 35, 36, 37 & 38 as in-fill in
320 ac. Love Trust



OPERATOR CERTIFICATION

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

R. A. Scherry
Signature
Robert A. Scherry, P.E.
Printed Name
Operations Manager
Title
6/29/2000
Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this 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 belief.

JUNE 15, 2000

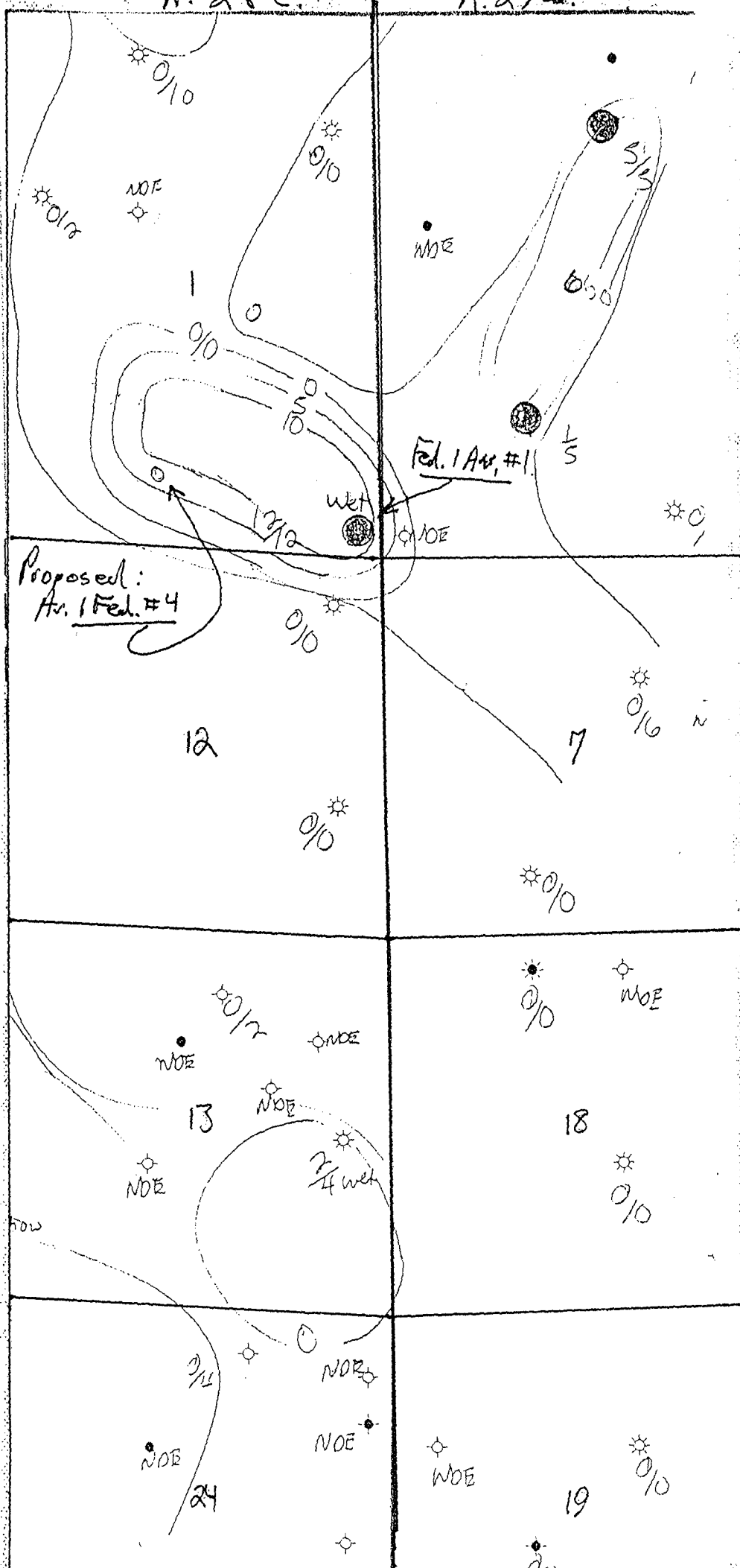
Date Surveyed
Signature & Seal of Professional Surveyor
Ronald J. Eidson
90-11-0747
Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641
MAGON McDONALD 12185

Morrow 3/4
C-1d Sand

T.
21
5.

Proposed:
Ar. 1 Fed. #4

OLE:
Not Deep Enough



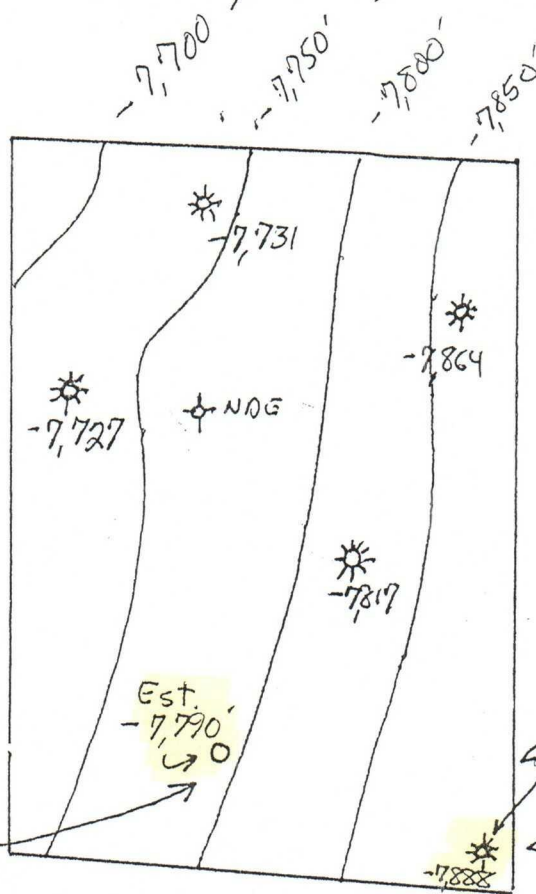
Structure:

Morrow 'C'

Avalon 1 Fed. #4

EXHIBIT 6

Sec. 1, 215., 26C.



Proposed:
Avalon 1
Fed. #4

Existing
Fed. 1 Avalon #1

Actual Pick:
+220' Deeper

Morrow 'C' Structure inferred f/ Morrow 'B' Structure:
+220' Deeper

Water Level Inferred f/ Logs: @ 11,150' @ -7,922'

Base of C-2c: @ 11,210'

Up-Dip Location is +98' above Fed. 1 Avalon #1 well.

Net Column = 11,210' - 11,150' = 60'

Proposed Up-Dip Location. Pulls all of C-1d & C-2c

38' above water level identified on Fed. 1 Avalon #1 logs.

EXHIBIT 2: Topographic Map: Avalon 1 Fed. #4

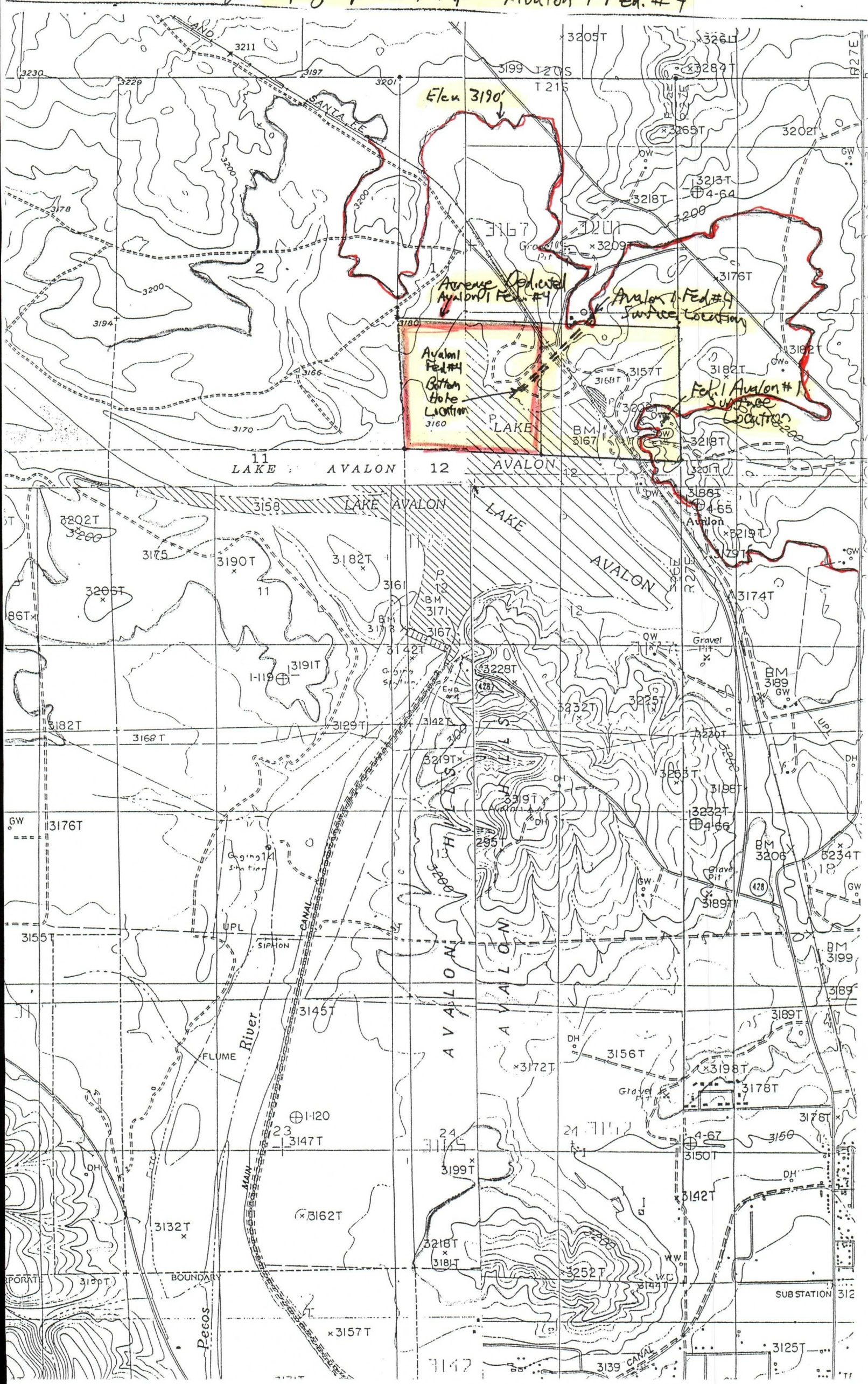


EXHIBIT 2
NAMES AND ADDRESSES OF OFFSET OWNERS

1/2

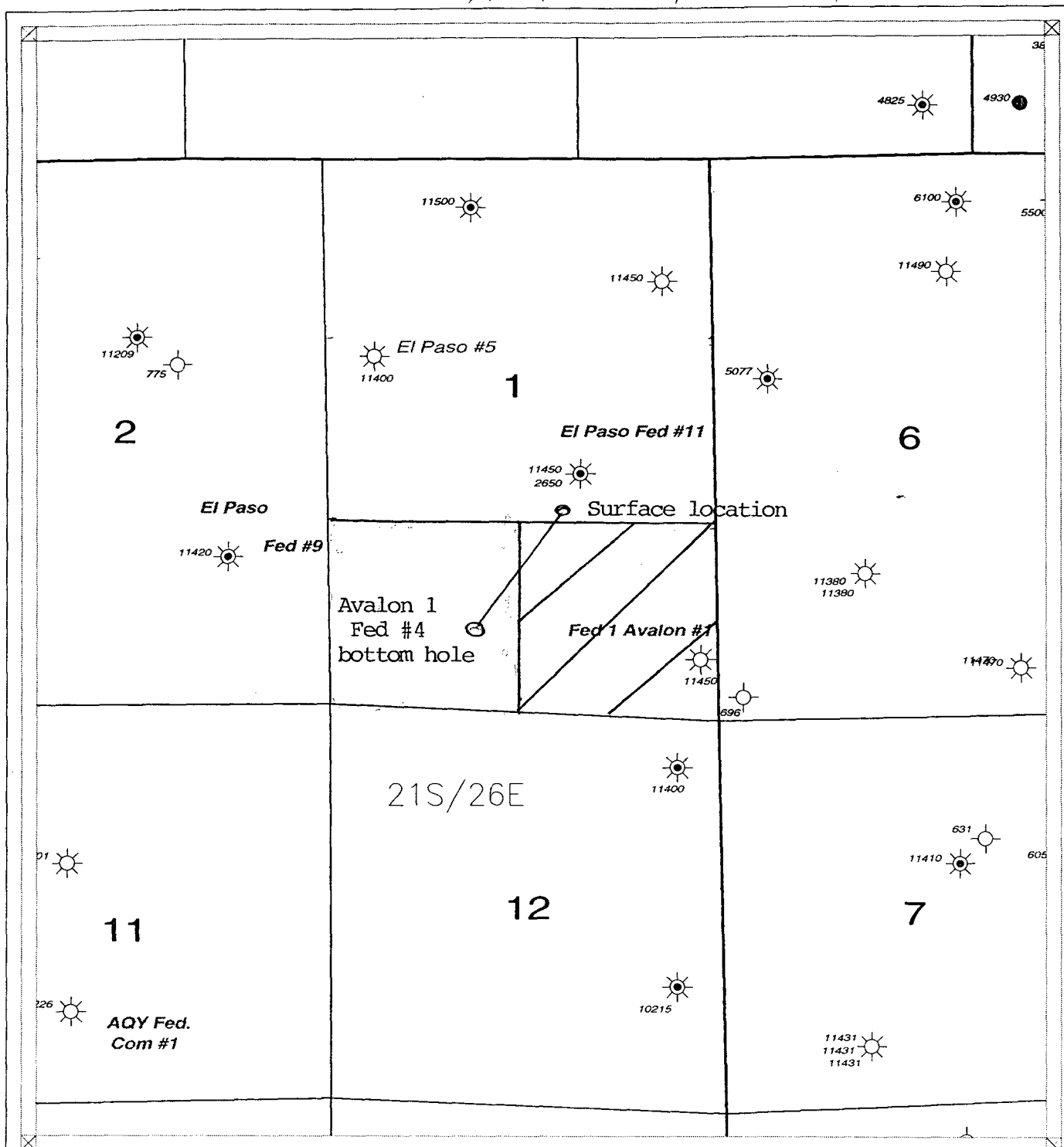
Avalon 1 Federal #4 Well
Application for Unorthodox Location

List of offset owners and operators in the adjoining spacing units towards which the unorthodox location encroaches:

ADJOINING SPACING UNITS - T21S-R26E-Section 1: Lots 33,34,39,40

Bonneville Fuels Corporation
(applicant and operator)

2/2



Spacing Unit



Adjoining Spacing Unit
towards which the
unorthodox location
encroaches

Bonneville Fuels Corporation

NEW MEXICO-SE
AVALON
Eddy County, New Mexico

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 5657
Order No. R-5198

APPLICATION OF INEXCO OIL COMPANY
FOR AN UNORTHODOX GAS WELL LOCATION,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 31, 1976, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 20th day of April, 1976, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Inexco Oil Company, seeks approval of an unorthodox gas well location 803 feet from the South line and 350 feet from the East line of Section 1, Township 21 South, Range 26 East, NMPM, to test the Pennsylvanian formation, Burton Flat Field, Eddy County, New Mexico.
- (3) That the S/2 of said Section 1 is to be dedicated to the well.
- (4) That the proposed unorthodox location is necessitated by reason of topography.
- (5) That no offset operator objected to the proposed unorthodox location.
- (6) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the gas in the subject pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That an unorthodox gas well location for the Pennsylvanian formation is hereby approved for a well to be located at a point 803 feet from the South line and 350 feet from the East line of Section 1, Township 21 South, Range 26 East, NMPM, Burton Flat Field, Eddy County, New Mexico.

(2) That the S/2 of said Section 1 shall be dedicated to the above-described well.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

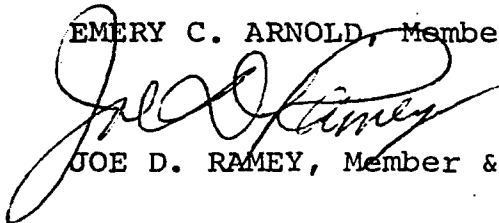
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



PHIL R. LUCERO, Chairman

EMERY C. ARNOLD, Member



JOE D. RAMEY, Member & Secretary

S E A L

dr/

CMD :
OG6IWCM

ONGARD
INQUIRE WELL COMPLETIONS

07/28/00 07:43:31
OGOMES -TPL3

API Well No : 30 15 21814 Eff Date : 01-01-1977 WC Status : A
Pool Idn : 73160 BURTON FLAT;ATOKA (GAS)
OGRID Idn : 2678 BONNEVILLE FUELS CORP
Prop Idn : 2153 AVALON FEDERAL

Well No : 001
GL Elevation: 3212

	U/L	Sec	Township	Range	North/South	East/West	Prop/Act (P/A)
B.H. Locn	: 40	1	21S	26E	FTG 803 F S	FTG 350 F E	A

Lot Identifier:

Dedicated Acre: 327.86

Lease Type : F

Type of consolidation (Comm, Unit, Forced Pooling - C/U/F/O) :

M0025: Enter PF keys to scroll

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06
PF07	PF08	PF09	PF10 NEXT-WC	PF11 HISTORY	PF12 NXTREC

CMD :
OG6IWCM

ONGARD
INQUIRE WELL COMPLETIONS

07/28/00 07:43:35
OGOMES -TPL3

API Well No : 30 15 21814 Eff Date : 05-03-1994 WC Status : A
Pool Idn : 73280 BURTON FLAT;MORROW (PRO GAS)
OGRID Idn : 2678 BONNEVILLE FUELS CORP
Prop Idn : 2153 AVALON FEDERAL

Well No : 001
GL Elevation: 3212

	U/L	Sec	Township	Range	North/South	East/West	Prop/Act (P/A)
B.H. Locn	: 40	1	21S	26E	FTG 803 F S	FTG 350 F E	P

Lot Identifier:

Dedicated Acre: 327.86

Lease Type : F

Type of consolidation (Comm, Unit, Forced Pooling - C/U/F/O) :

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06
PF07	PF08	PF09	PF10 NEXT-WC	PF11 HISTORY	PF12 NXTREC

CMD :
OG5SECT

ONGARD
INQUIRE LAND BY SECTION

07/28/00 07:43:15
OGOMES -TPL3
PAGE NO: 1

Sec : 01 Twp : 21S Rng : 26E Section Type : NORMAL

20 29.49 Federal owned	21 38.99 Federal owned	28 39.01 Federal owned	19 29.85 Federal owned A	22 39.39 Federal owned	27 39.41 Federal owned	18 30.28 Federal owned	23 39.93 Federal owned	26 40.06 Federal owned A A A A	17 30.85 Federal owned A	24 40.29 Federal owned	25 40.42 Federal owned
29 39.02 Federal owned			30 39.42 Federal owned			31 40.19 Federal owned			32 40.56 Federal owned		

PF01 HELP
PF07 BKWD

PF02
PF08 FWD

PF03 EXIT
PF09 PRINT

PF04 GoTo
PF10 SDIV

PF05
PF11

PF06
PF12

CMD :
OG5SECT

ONGARD
INQUIRE LAND BY SECTION

07/28/00 07:43:21
OGOMES -TPL3
PAGE NO: 2

Sec : 01 Twp : 21S Rng : 26E Section Type : NORMAL

36 40.59 Federal owned	35 40.66 Federal owned	34 41.07 Federal owned	33 41.14 Federal owned A
37 40.94 Federal owned	38 41.01 Federal owned	39 41.19 Federal owned	40 41.26 Federal owned A

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06
PF07 BKWD	PF08 FWD	PF09 PRINT	PF10 SDIV	PF11	PF12

327.86

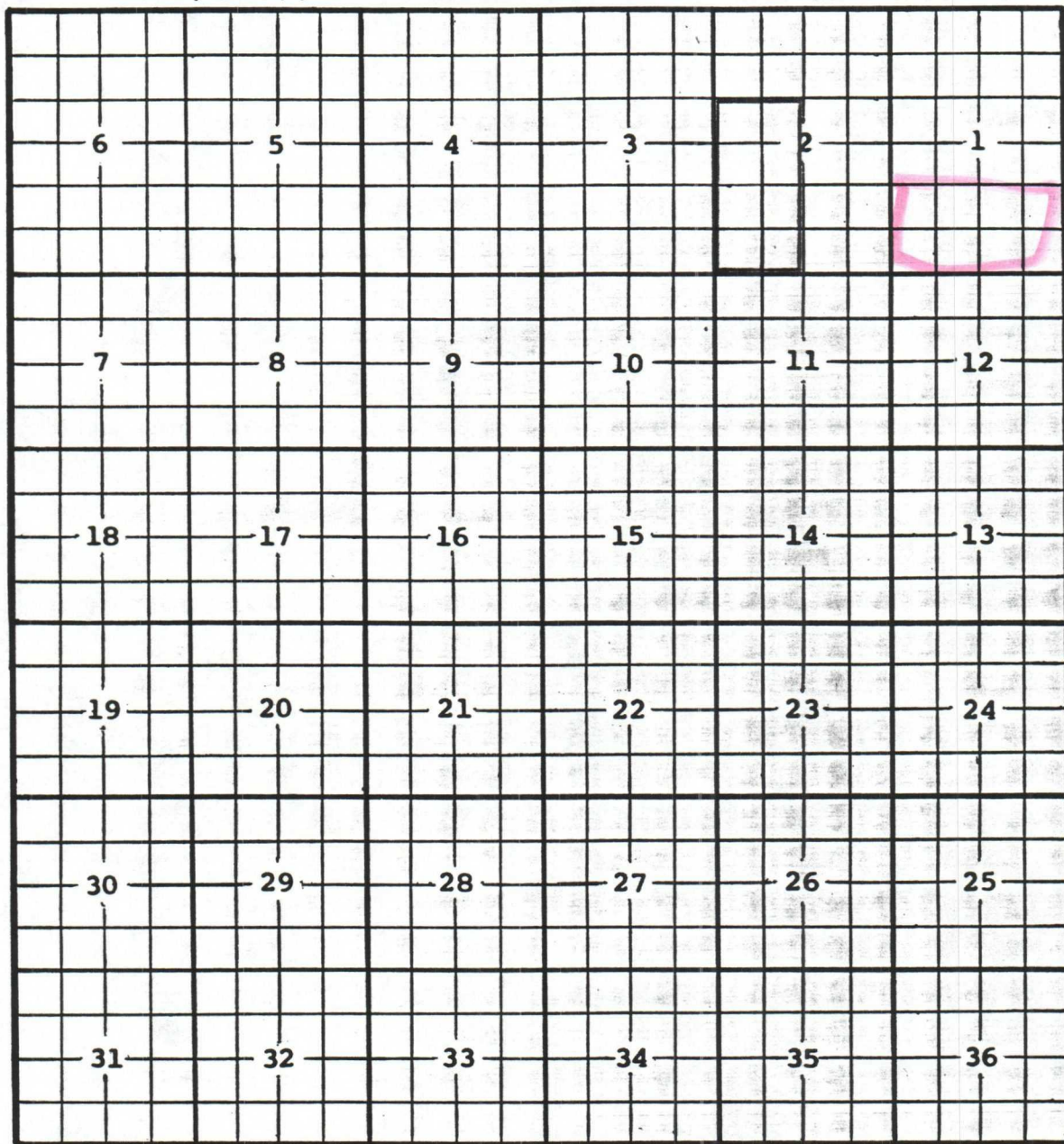
COUNTY Eddy

POOL North Avalon-Upper Pennsylvanian Gas

TOWNSHIP 21 South

RANGE 26 East

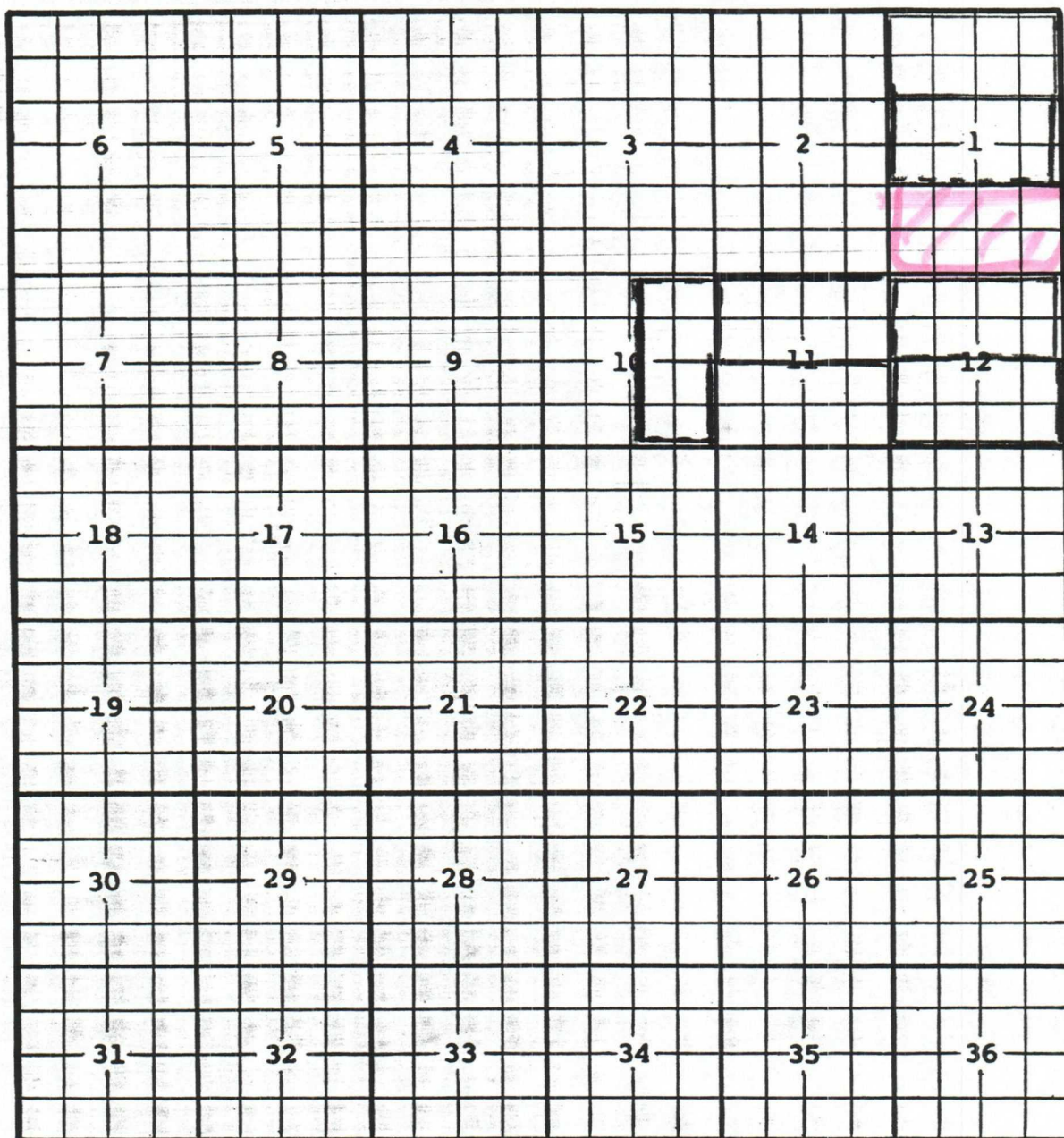
NMPM



Description: Lots 11, 12, 13 & 14 and $\frac{SW}{4}$ Sec 2 (R-5102, 10-1-75)

COUNTY *Eddy*POOL *West Burton Flat-Strawn Gas*TOWNSHIP *21 South*RANGE *26 East*

NMPM



Description: Lots 1 thru 8, Sec 1 (R-5309, 11-1-76)

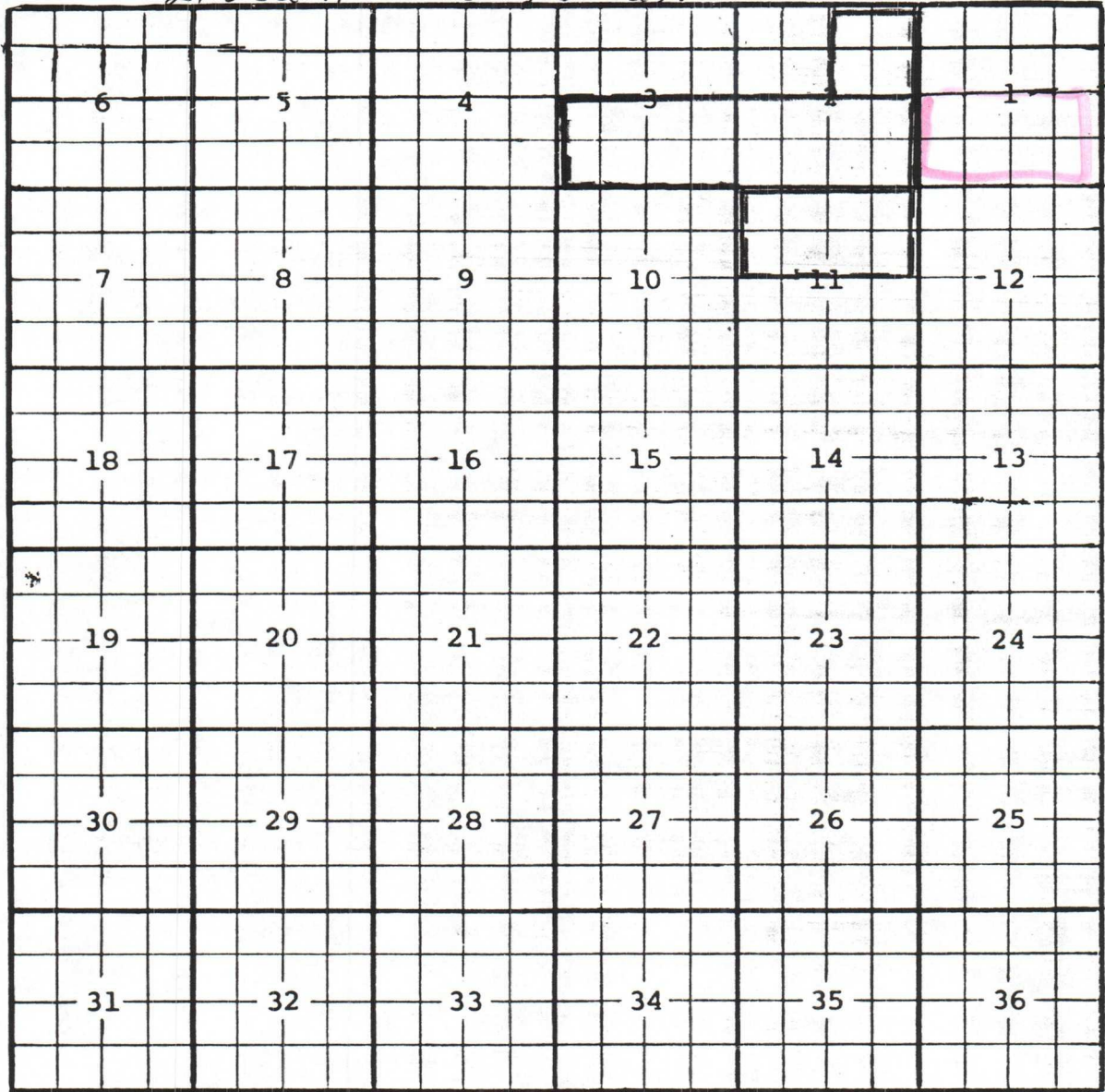
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Ext: $\frac{S}{2}$ Sec. 12 (R-10042, 12-28-93) Ext: $\frac{N}{2}$ Sec. 11 (R-10234, 11-7-94)

Ext: $\frac{E}{2}$ Sec. 10 (R-11013, 7-30-98) Ext: Lots 9 through 16 (R-11160, 4-7-99)

County Eddy Pool Calabaza Draw-Atoka Gas

TOWNSHIP 21 South Range 16 East NMPM



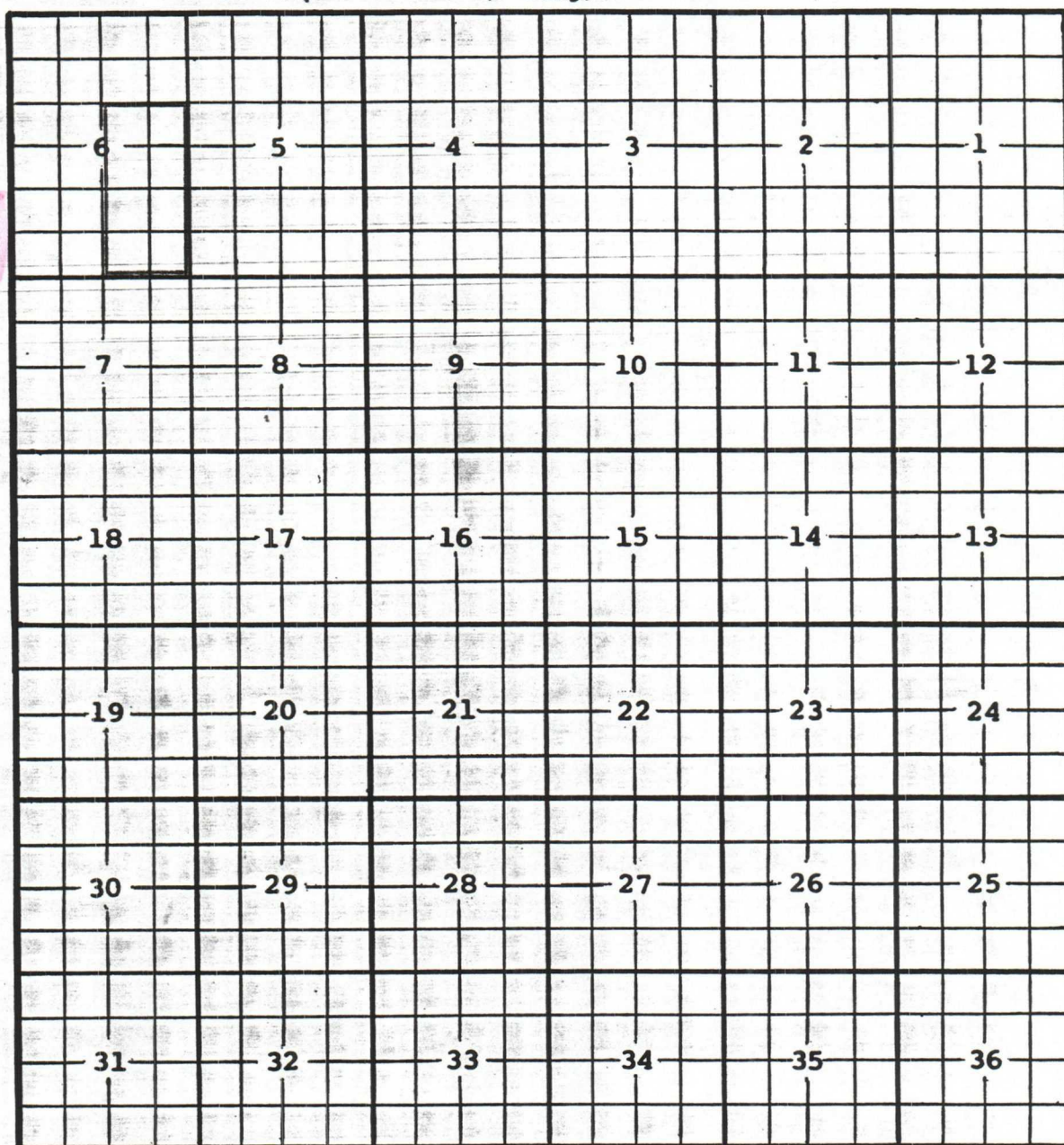
Description: N/2 Sec. 11 (R-9545, 7-1-91)

Ext: S/2 Sec. 2, S/2 Sec. 3 (R-10124, 5-31-94)

Ext: Lots 25, 26, 31, and 32 (R-11220, 7-12-99)

COUNTY *Eddy*POOL *Alacran Hills - Atoka Gas*TOWNSHIP *21 South*RANGE *27 East*

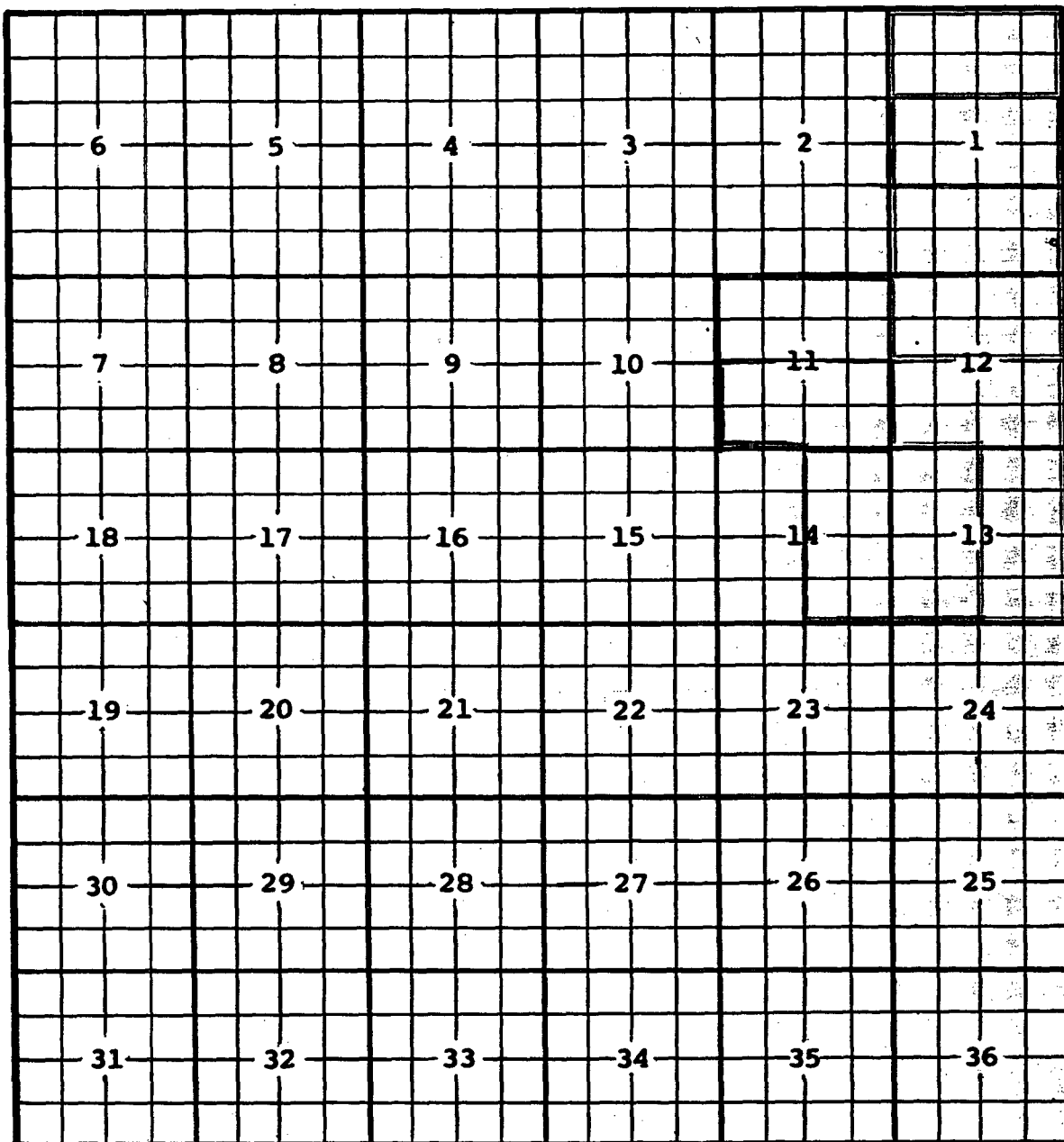
NMPM



Description: Lots 9, 10, 15, 16 & $\frac{SE}{4}$ Sec 6 (R-5667, 4-1-78)

COUNTY EddyPOOL Burton Flat - Morrow GasTOWNSHIP 21 SouthRANGE 26 East

NMFM



Ext: $\frac{N}{2}$ Sec 12 (R-4915, 12-1-74)

Ext: Lots 1 thru 8 Sec 1 (R-4937, 2-1-75)

Ext: $\frac{S}{2}$ Sec 12, $\frac{E}{2}$ Sec 13 (R-5162, 3-1-76)

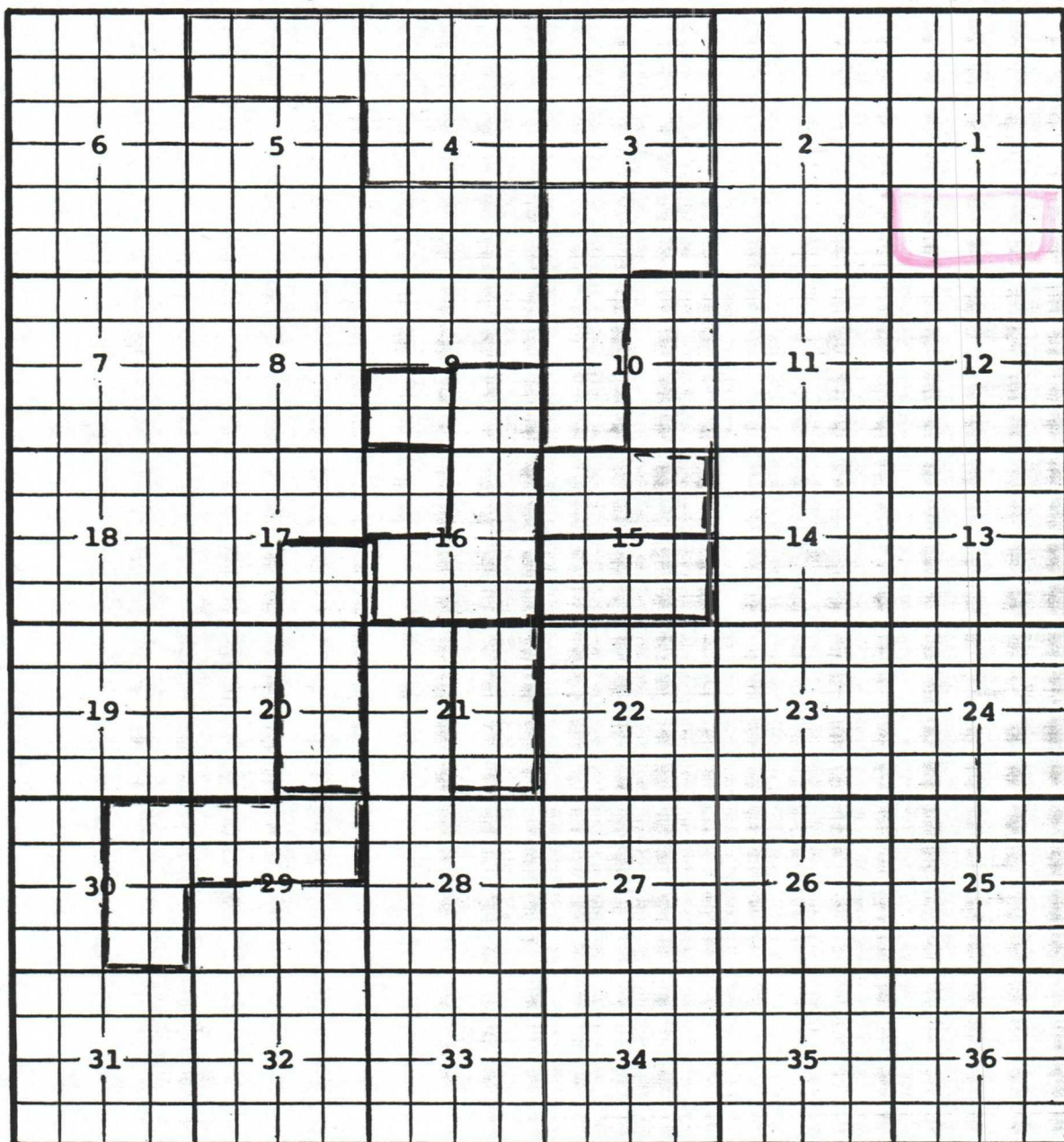
Ext: $\frac{S}{2}$ Sec 1 (R-5309, 11-1-76) Ext: ($\frac{W}{2}$ Sec. 13, $\frac{E}{2}$ Sec. 14) R-6368, 7-1-80

Ext: Lots 9, 10, 11, 12, 13, 14, 15, 16 Sec 1 (A-6576, 2-10-81)

Ext: $\frac{N}{2}$ Sec 11 (A-7419, 12-21-83) Ext: $\frac{S}{2}$ Sec 11 (R-11005, 7-24-98)

COUNTY *Eddy*POOL *Avalon - Strawn Gas*TOWNSHIP *21 South*RANGE *26 East*

NMPM



Description: Lots 1 thru 16 Sec 3 (R-4861, 11-1-74)

Ext: Lots 1 thru 16 Sec 4, Lots 1 thru 8 Sec 5 (R-5063, 7-1-75)

Ext: $\frac{5}{2}$ Sec 3, $\frac{W}{2}$ Sec 10 (R-5781, 9-1-78)

Ext: $\frac{SE}{4}$ Sec. 9, $\frac{5}{2}$ and $\frac{NE}{4}$ Sec. 16 (R-10962, 2-23-98)

Ext: $\frac{SE}{4}$ Sec. 17, $\frac{E}{2}$ Sec. 20 (R-11005, 7-24-98) Ext: $\frac{SW}{4}$ Sec. 9 (R-11013, 7-30-98)

Ext: $\frac{N}{2}$ Sec. 15, $\frac{E}{2}$ Sec. 21 (R-11067, 10-20-98) Ext: $\frac{5}{2}$ Sec. 15 (R-11220, 7-12-99)

Ext: $\frac{N}{2}$ Sec. 29, $\frac{E}{2}$ Sec. 30 (R-11300, 1-4-00)