Form 3160-3
(July 1992)

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

JUN 2000
RECEIVED
OCD ARTESIA

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.
NM13624

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

1a. TYPE OF WORK: DRILL ☒ DEEPEN ☐

7. UNIT AGREEMENT NAME

b. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ OTHER — SINGLE ZONE ☒ MULTIPLE ZONE ☐

8. FARM OR LEASE NAME, WELL NO.
Avalon 1 Federal #3 25726

2. NAME OF OPERATOR
Bonneville Fuels Corporation 2678

9. API WELL NO.
30-015-31122

3. ADDRESS AND TELEPHONE NO.
1700 Broadway Street, Suite 1150, Denver CO 80290 303 863-1555

10. FIELD AND POOL, OR WILDCAT
Foster Draw Delaware Gas

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At Surface
2762 FSL 2075' FEL (Lot 31) UNORTHODOX LOCATION

SUBJECT TO LIKE APPROVAL BY STATE

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 1 T21S R26E NMPM

At proposed prod. zone
1900' FSL 1900' FWL(Lot 35)

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
2.5 miles

12. COUNTY OR PARISH: Eddy
13. STATE: NM

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	16. NO. OF ACRES IN LEASE	17. NO. OF ACRES ASSIGNED TO THIS WELL
Surf. (Unorthodox) 113' Bottom Hole Orthodox 660'	406.3	163

18. DISTANCE FROM PROPOSED LOCATION * TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	19. PROPOSED DEPTH	20. ROTARY OR CABLE TOOLS
Surf. 2887' Orthodox B.H. 2233'	4662' MD/1096 TVD	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
3191 GR 3207 DF

22. APPROX. DATE WORK WILL START*
6/01/2000

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH (MD)	QUANTITY OF CEMENT
17.5"	J-55 13 3/8"	54.5	700 +/- WITNESS	610 sx
12 1/4"	J-55 8 5/8"	32	2644 M WITNESS	950 sx
7 7/8"	J-55 5 1/2"	15.5	4662' MD	590 sx

Attached find 8 pt Drilling Plan and 13 pt Surface Use Plan and their respctive attachements.

8 Pt Drilling Plan		13 Pt Surface Use Plan		
Exhibit #1	BOP Requirements	Exhibit A	Topo & Vicinity Map	Exhibit I H2S Monitor Layout
Exhibit #2	Choke Manifold	Exhibit B	Vicinity Map	Exhibit J Berm & Catchment
Exhibit #3	H2S Safety Plan	Exhibit C-1	Loc Verification Map	Exhibit K Arch. Inspection
Exhibit #3a	H2S Monitoring Layout	Exhibit C-2	C-102 Acreage Dedication Plat	
Exhibit #4	Directional Drill Plan	Exhibit D	Layout of Prod. Facilities	
		Exhibit E	Lease Stips for NM13624	
		Exhibit F	Pipeline ROW pl	
		Exhibit G	Cut & Fill Diagram	
		Exhibit H-1	Pad Layout	
		Exhibit H-2	Rig Equipment	

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

Notify OCD at SPUD & TIME to witness cementing the 8 5/8" casing.

CARLSBAD CONTROLLED WATER BASIN

acc 5/23/2000

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.
SIGNED R. A. Schwering, P. E. TITLE Operations Mgr. SENM DATE 5/10/00

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY (ORIG. SGD.) ARMANDO A. LOPEZ TITLE Acting Assistant Field Manager, Lands And Minerals DATE JUN 19 2000

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

APPROVED FOR 1 YEAR

EXHIBIT C-2

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

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

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

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
		Foster Draw ; Delaware Gas

Property Code	Property Name	Well Number
	AVALON 1 FEDERAL	3

OGRID No.	Operator Name	Elevation
002678	BONNEVILLE FUELS CORPORATON	3193

Surface Location

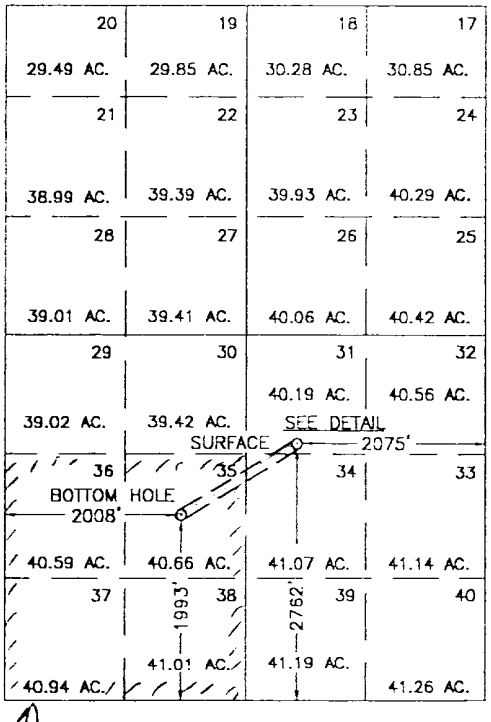
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 31	1	21 S	26 E		2762	SOUTH	2075	EAST	EDDY

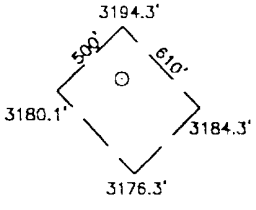
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 35	1	21 S	26 E		1993	SOUTH	2008	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
163.20			

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





DETAIL

Acreage Dedication = 163.20 ac.
Lots 35, 36, 37 & 38.

OPERATOR CERTIFICATION

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

Signature

R.A. Schwering, P.E.
Printed Name

Operations Manager
Title

3/6/2000
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 supervison, and that the same is true and correct to the best of my belief.

DECEMBER 9, 1999
Date Surveyed

LMP

Signature & Seal of Professional Surveyor

Ronald J. Eidson 12-14-99

99-11-1082

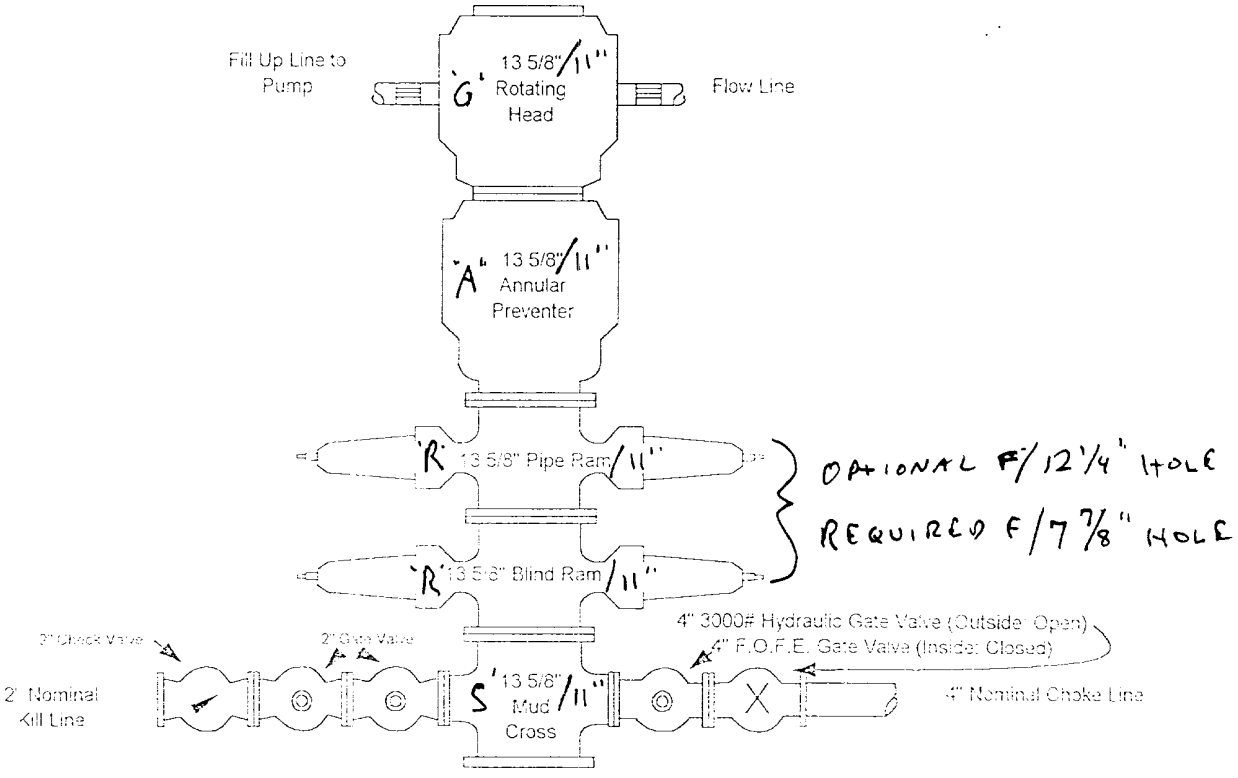
Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641

Exhibit #1

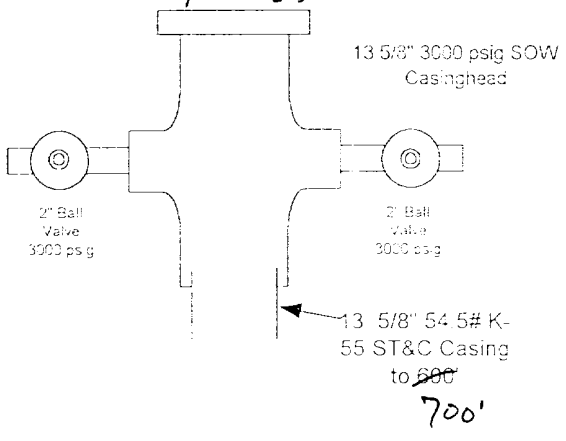
Avalon 1 Federal #3
Minimum Blow-Out Preventer Requirements
All 3000 PSI WP Equipment
(Except Casinghead & Spools as Noted Below)

13 5/8" 3000 PSI PREVENTOR (SAG) REQUIRED F/12¼" HOLE.

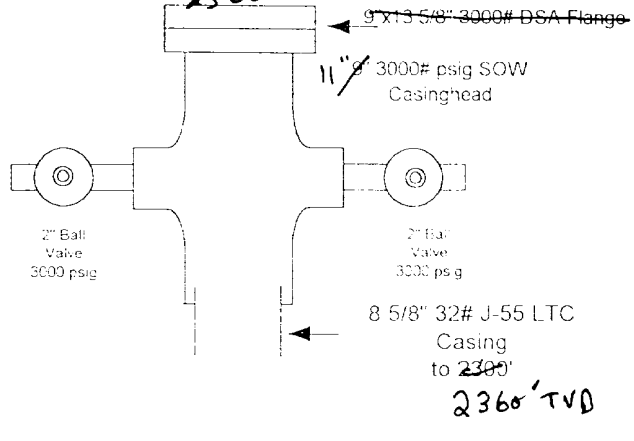
11" 3000 PSI PREVENTER (SRRAG) REQUIRED FOR 7 7/8" HOLE



Wellhead Equipment:
Protective Profile:
~~600'~~-~~2300'~~
700'-2360', TVD

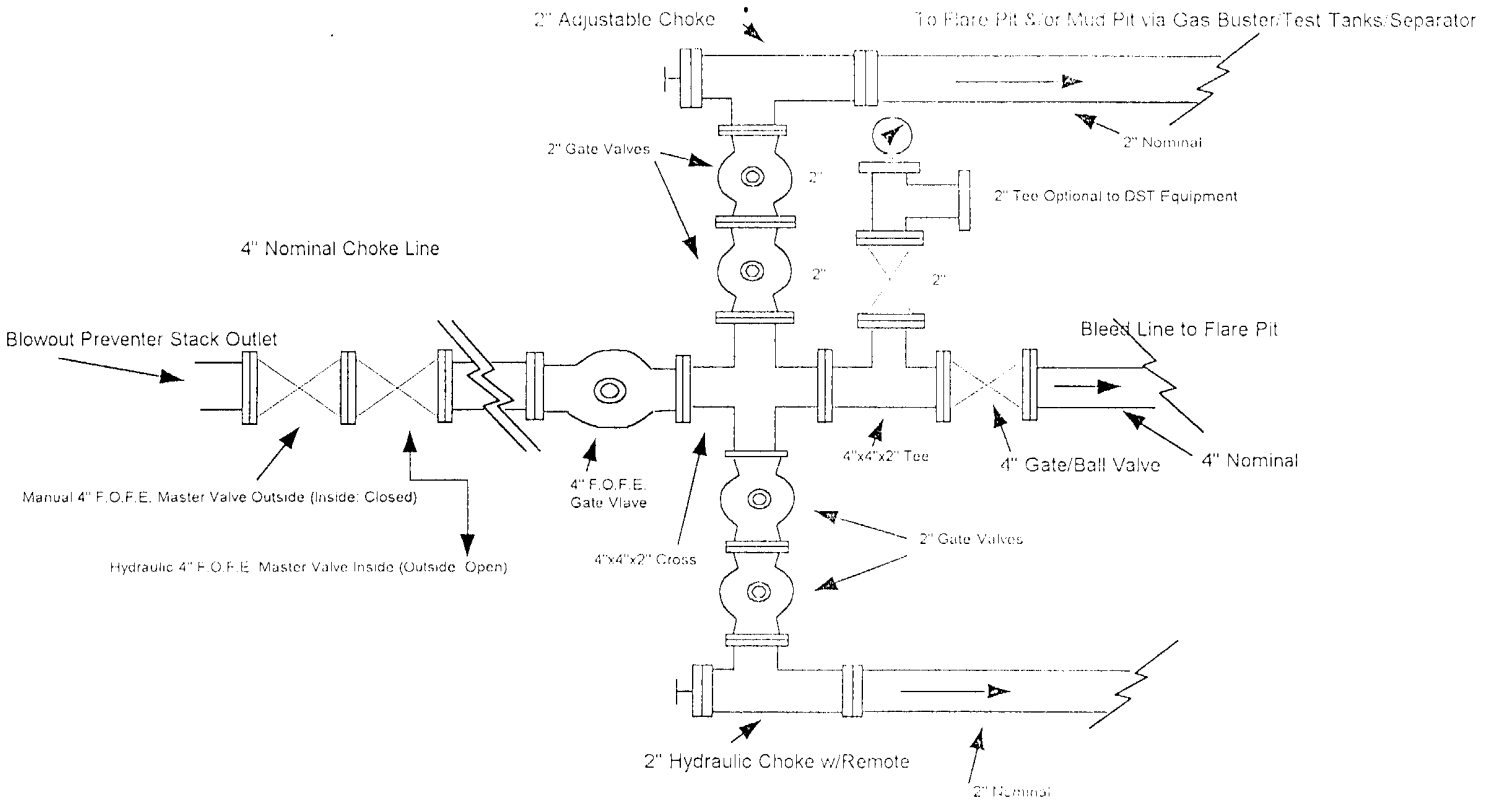


Wellhead Equipment
Production Profile:
~~2300'~~-TD
2360'



Avalon 1 Federal #3
Choke Manifolds
All 3000 PSI WP Equipment

Exhibit #2



EIGHT POINT DRILLING PLAN

Attached to Application For Permit To Drill: Form 3160-3:
Operator: Bonneville Fuels Corporation

Avalon 1 Federal #3
Unorthodox Surface Location: 2762' FSL & 2075' FEL, Lot 31
Orthodox Bottom Hole Location: 1900' FSL & 1900' FWL, Lot 35
Section 1, T.21S., R.26E. N.M.P.M.
Eddy County, New Mexico

1. **ESTIMATED TOPS: IMPORTANT GEOLOGIC MARKERS**
ALL DEPTHS REF. Est. KB @ 17' above GL:

Permian:	True Vertical Depth:	Measured Depth:
Yates Fm.:	Surface	Surface
Seven Rivers:	130'	130'
Capitan Reef Fm.:	740'	740'
Goat Seep Reef Fm.:	2180'	2364'
Delaware Fm.:	2388'	2688'
Cherry Canyon Mbr.:	2388'	2688'
San Andres Dolomite Mbr.:	3093'	3771'
Brushy Canyon Mbr.:	3750'	4576'
T.D. in Brushy Canyon Mbr.:	3830'	4662'

2. **ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS OR MINERALS:**

	Formation OR Sand:	True Vertical Depth:	Measured Depth:
Fresh Water:	Capitan Reef:	130' to 450'	130' to 450'
Oil and Gas Targets:			
	Delaware Fm.:	2388'	2688'
	Cherry Canyon Mbr.:	2388'	2688'
	EPF Sand #1:	3123'	3821'
	EPF Sand #2:	3313'	4073'
	EPF Sand #4:	3650'	4467'
	Brushy Canyon Mbr.:	3750'	4576'

Projected Maximum Total Depth @ 4662' MD (3830' TVD) in the Brushy Canyon Mbr. Of the Delaware Fm.

3. MINIMUM SPECS FOR PRESSURE CONTROL:

a. A diagram of the Surface Blowout Preventer Stack and Wellhead Equipment is presented in Exhibit #1a & 1b. The wellhead equipment for the production hole (12-1/4" @ 2,644' MD: 2360' TVD) is altered only by the replacement of the 13-5/8" 3000 psi WP starting head with an 11" or 9" 3000 psi WP starting head for the drilling of the 7-7/8" production hole. A diagram of the Choke Manifold is presented in Exhibit #2. All BOP & Choke Manifold equipment will be rated to 3000 psi Working Pressure(WP) minimum (min).

b. Surface Casing Wellhead Equipment will consist of:

i. A 13-5/8" slip-on weld-on 3000 psi WP(min) braiden head w/ 2: 2" SE outlets with 2:2" SE XXHVY nipples and 2:2" SE FO 3000 psi WP(min) ball valves. This braiden head will be welded-on & nippled-up after the 700' MD (700' TVD) of 13-3/8" Surface Casing is set and cemented. This starting head will be removed after the 8-5/8" protective casing has been set and successfully cemented to surface.

ii. All wellhead and BOP equipment and the 13-3/8" Surface Casing will be pressure tested to 1000 psi with the rig pumps prior to drilling out.

c. Protective Casing Wellhead Equipment will consist of:

i. A 9" or 11" slip-on weld-on 3000 psi WP(min) braiden head w/ 2: 2" SE outlets with 2: 2" SE XXHVY Nipples and 2: 2" SE FO 3000 psi WP(min) ball valves. This braden head will be welded onto the 8-5/8" Protective Casing as soon as the 13-5/8" Braden head has been cut-off the 13-3/8" surface casing and ONLY after the 8-5/8" protective casing at 2644' MD (2360' TVD)has been set and successfully cemented to surface.

ii. All wellhead and BOP equipment and the 8-5/8" Protective Casing will be pressure tested to 2500 psi prior to drilling-out the 7-7/8" Production Hole.

3. MINIMUM SPECS FOR PRESSURE CONTROL (CONTINUED):

d. The BOP Equipment, nippled-up on the 13-5/8" 3000 psi starting head for the 12-1/4" Intermediate Hole will be as follows:

i. A 13-5/8" Nom. 3000 psi WP(min) mud cross with a 2" 3000 psi WP(min) FO FE kill-side inlet and a 4" 3000 psi WP(min) FO FE choke-side outlet.

ii. A 13-5/8" Nom. 3000 psi WP(min) hydraulic annular preventer.

iii. An 13-5/8" Nom. rotating head with fill-up and flow-line connections. The flow-line will tie-in to a gas buster.

e. The BOP Equipment, nippled-up on the 11" 3000 psi starting head for the 7-7/8" Production Hole will be as follows:

i. An 11" Nom. 3000 psi WP(min) mud cross with a 2" 3000 psi WP(min) FO FE kill-side inlet and a 4" 3000 psi WP(min) FO FE choke-side outlet.

ii. A 11" Nom. 3000 psi WP(min) double gate (or dual equivalent single gate) hydraulic ram-type preventer with Pipe Rams over Blind Rams. Pipe rams are anticipated to be 4-1/2".

iii. An 11" Nom. 3000 psi WP(min) hydraulic annular preventer.

iv. A 13-5/8" Nom. rotating head with fill-up and flow-line connections. The flow-line will tie-in to a gas buster.

3. MINIMUM SPECS FOR PRESSURE CONTROL (CONTINUED):

f. The BOP Choke and Kill Line Equipment nipple-up on the 13-5/8" and 11" 3000 psi. BOP stacks will consist of:

i. A choke manifold consisting of an inside 4" 3000 psi WP(min) FO FE master gate valve run in the CLOSED position (at the wellhead) with an outside mounted 4" 3000 psi WP(min) Hydraulic FO FE Master Valve run in the OPEN position, a 4"(min nom) x 3,000 psi WP(min) FE welded choke line between the master valves and the choke manifold - consisting of a 2 x 4" and 2 x 2" 3000 psi WP[min] FE cross with a 4" 3000 psi WP(min) FO FE gate valve immediately upstream, and a 4" 3000 psi WP(min) ball/gate valve immediately downstream, of the manifold cross. Between the downstream 4" 3000 psi WP(min) FO FE ball/gate valve and the manifold cross will be a 4" x 4" x 2" 3000 psi WP(min) FO FE tee with a 2" 3000 psi WP(min) FO FE ball/gate valve with a 2" 3000 psi WP(min) Gauge Assembly for monitoring pressure at the choke manifold. The choke manifold will have 2: 2" 3000 psi FO FE ball/gate valves between the manifold cross and the 2: 2" FO FE 3000 psi(min) adjustable chokes (a total of 4: 3" 3000 psi ball/gate valves - 2 on each wing). One of these adjustable chokes will be hydraulically operated. Provision will be made to tie in DST surface lines to the choke manifold thru an optional 2" 3000 psi WP(min) FO FE tee above the 2" 3000 psi WP(min) ball/gate valve down stream of the choke manifold cross. The 4" blooey line downstream of the choke manifold will be staked down and targeted in the flare pit. The 2: 2" lines downstream of the chokes will be appropriately staked down to return mud to the mud tanks via a gas buster, fluids to a test tank, and gas to a flare pit.

ii. A gas buster will be installed to de-gas fluid returns during drilling/well control operations and to return de-gassed fluid to the mud pits and to convey gas to a flare pit.

iii. A 3000 psi WP(min) FO safety valve and a 3000 psi WP(min) dart valve, with drill pipe threads and subs to meet other drill string threads, will be kept on the drill floor after the 13-3/8" surface casing is set. A 3000 psi(min) WP Upper Kelly valve and a 3000 psi WP(min) Lower Kelly valve will be kept on the kelly throughout drilling operations. All valves, and the wrenches to operate these valves, will be maintained on the floor in good order throughout drilling operations.

3. **MINIMUM SPECS FOR PRESSURE CONTROL (CONTINUED):**

5. Common Choke and Kill Line Equipment: Continued:

iv. An accumulator with sufficient capacity to operate the BOPE against a 2000 psi well pressure(min) will be used to operate the BOP system. It shall contain the fluid capacity calculated to open and close the Hydraulic inside master valve, pipe rams, and annular preventer 1 time each, and then to close the pipe rams and annular preventer 1 additional time(min) and retain accumulator pressure at 200 psig over the pre-charge pressure **OR THE MINIMUM CAPACITY OF WORKING FLUID REQUIRED BY ON-SHORE ORDER NO. 2** - whichever is the lesser. The accumulator working pressure shall be 1,500 psi(minimum) with a pre-charge pressure between 900 - 1,200 psi(minimum). A Nitrogen bottle system shall provide independent (reserve) power to operate the system in the event rig motors must be shut down.

v. The kill-side manifold will consist of 2:2" 3000 psi WP(min) FO FE master valves with an outside 2" 3000 psi(min) FO FE check valve. The inside valve will be kept in the closed position. The outside 2" master valve will be kept in the open position. The kill line will be connected to the stand-pipe by a 2" 3000 psi WP(min) welded or co-flexip type kill line. THE KILL LINE WILL IN NO CASE BE USED FOR THE FILL-UP LINE.

3. MINIMUM SPECS FOR PRESSURE CONTROL (CONTINUED):

g. BOPE Stack Testing Procedures and Operational Test Frequency:
NOTE: ALL pressure tests and operational/function tests and drills will be recorded/described on the IADC tour sheets.

i. Stack Test for the 12-1/4" Intermediate Hole: Use Rig Pumps: ALL of the pressure side BOP Equipment specified in Part d. above will be nippled-up on the 13-3/8" surface casing. All of the drill collars and a single joint of drill pipe will be run in the hole and each component will be hydraulically tested for ten(10) minutes(min) to 1000 psi and five(5) minutes(min) to 300 psi prior to drilling out cement. After the float collar is drilled out of the surface casing, and prior to drilling out the shoe, the surface casing will again be pressure tested to 1,000 psi for ten(10) minutes(min) against the Annular Preventer.

ii. Operational checks while drilling the 12-1/4" intermediate hole: Pipe rams will be operationally checked each 24 hour period, and the Blind rams operationally checked each time that pipe is pulled from the hole. BOP drills will be run and recorded for each tour at least once every seven(7) days.

iii. Stack Test for the 7-7/8" Production Hole: 3rd Party Test: The 8-5/8" casing, Blind Rams and all choke manifold lines and valves to the chokes and panic line, all kill side valves and the kill line will be nippled-up on the casing spool and each component will be hydraulically tested for ten(10) minutes(min) to 3,000 psi and five(5) minutes(min) to 300 psi. The Upper and Lower Kelly Valves will be hydraulically tested on the kelly for ten(10) minutes(min) each to 3,000 psi and for five(5) minutes(min) to 300 psi. All of the drill collars and at least 1,000' of drill pipe will then be run in the hole and then the Pipe Rams and the 8-5/8" casing will then be tested to 3,000 psi for thirty(30) minutes(min). After the float collar is drilled out of the intermediate casing, and prior to drilling out the shoe, the intermediate casing and the Annular Preventer will again be pressure tested to 1,500 psi for ten(10) minutes(min) prior to drilling out the shoe.

iv. Operational checks while drilling the 7-7/8" Production Hole: Pipe rams will be checked each day. Blind rams will be checked each time that the drill string is pulled from the hole. A packer will be installed and the surface BOP equipment will be pressure tested every 30 operating days after the initial stack pressure test. BOP drills will be run and recorded for each tour at least once every seven(7)days.

3. MINIMUM SPECS FOR PRESSURE CONTROL (CONTINUED):

h. Tripping and production casing procedures for well control:

i. For the 12-1/4" intermediate hole:
A mud weight of 8.4 PPG to 9.5 PPG is anticipated at a depth of 2,644' MD (2,360' TVD). The well will be drilled by a triple-derrick rig (92' avg. length per stand). The well will be monitored each 5 stands to insure that the BHA is not swabbing the well in. The well will be filled after each 20 stands of drill pipe, 3 stands of 7" drill collars, and as each stand of large outside diameter drill collars (8" O.D. or larger) are pulled from the hole. Pits will be monitored in order to insure that the well is taking fluid on trips if the well will stand full of fluid. **In the event that the bit is plugged on a trip the well will be filled after each 7 stands of drill pipe are pulled from the well and as each stand of drill collars are pulled from the well. Swabbing will be checked each 3 stands.** NOTE: If returns are lost completely while drilling this interval (AS IS LIKELY) then 25 Bbl. of mud containing at least 10 PPB of Lost Circulation Material will be pumped in the well each 30 minutes(min) on trips out of the hole.

ii. For the 7-7/8" production hole:
The anticipated maximum bottom-hole formation pressures are 1,500 psig @ 3,821' MD (TOP of EPF Sand #1 in Cherry Canyon Member of Delaware Fm. @ 3,123' TVD). The anticipated mud weight in this Production Hole Interval is 10.0 to 10.2 PPG. A mud weight sufficient to provide a 100 psig overbalance against the pay sands in the Delaware Fm. will be maintained in the well. The well will be drilled by a triple-derrick rig (92' avg. length per stand). The well will be monitored each 2 stands on trips to insure that the BHA is not swabbing the well in. The well will be filled after each 9 stands of drill pipe and as each stand of drill collars are pulled from the hole. Pits will be monitored in order to insure that the well is taking fluid on the trip. **In the event that the bit is plugged on a trip then the well will be filled after each 2 stands of drill pipe are pulled from the well and as each stand of drill collars are pulled from the well. Swabbing will be checked each stand.**

iii. Procedures for running production casing:
Prior to running production casing the hole will be filled. The blind rams will be closed and the well will be monitored for flow while a set 5-1/2" casing rams will be installed in the BOP to replace the pipe rams. Casing will then be run and cemented. The BOPE will remain nippled up UNTIL the well is cemented.

4. CASING AND CEMENTING PROGRAM:

a. The Proposed Casing Program:

i. OPTIONAL Conductor Casing: Pre-Set: Surface to 40' (MD=TVD):
20" O.D. 94# H-40 PE Casing.

ii. Surface Casing: Surface to 700' (MD=TVD).

13-3/8" O.D. 54.5#/ft. J-55 8rd. ST&C.

iii. Intermediate Casing: Surface to 2644' MD (2360' TVD).
8-5/8" O.D. 32#/ft. J-55 8rd. LT&C: 7.875" Special Drift.

iv. Production Casing: Surface to TD @ 4,662' MD (3830' TVD).
5-1/2" O.D. 15.5#/ft. J-55 8rd. LT&C.

b. The Proposed Cementing Program:

i. OPTIONAL Conductor Casing: Grouted:
Est. 70 F. @ 8.34 PPG water to 40':
Grout w/ Redi-Mix to Surface: Est. 4 Yds. of Redi-Mix.

ii. 13-3/8" 54.5# Surface Casing: Single Stage:
Est. 75 F. @ 9.5 PPG mud @ 700'.
Circ. Cement to Surface:
Top Jobs if needed to bring cement to Surface.
Lead Slurry: Est. Surface to 510'.
100 % excess over calculated open-hole volume: Est. @
360 sx. Lite (65% Class 'C' + 35% Pozzalan + 6% Gel)
w/ 5#/sx. Gilsonite + 0.25#/sx. cello-flakes
+ 2% CaCl2:
1.99 cu.ft./sx. @ 12.4 PPG.
Tail Slurry: Est. 510' to 700'.
100 % excess over calculated open-hole volume: Est. @
250 sx. Class 'C' w/ 2% CaCl2 + 0.25#/sx. cello-flakes:
Additives: 1.33 cu.ft./sx. @ 14.8 PPG.

4. CASING AND CEMENTING PROGRAM (Continued):

iii. 8-5/8" 32# Intermediate Casing: Single Stage:
Est. 87 F. @ 8.6 to 12.5 PPG mud @ 2,644' MD (2360' TVD).
Circ. Cement to Surface:
Top jobs if needed to bring cement to Surface.
Lead Slurry: Est. Surface to 2,144'.
100 % excess over calculated open-hole volume: Est. @
610 sx. Interfill 'C' (50% Class 'C'+50% Pozzalan+10% Gel)
w/ 10#/sx. Gilsonite + 0.5#/sx. cello-flakes:
2.47 cu.ft./sx. @ 11.9 PPG.
Tail Slurry: Est. 2,144' to 2,644' MD.
100 % excess over calculated volume: Est. @
340 sx. Class 'C' w/ 2% CaCl2 + 0.25 #/sx. cellophane:
1.33 cu.ft./sx. @ 14.8 PPG.

iv. 5-1/2" Production Casing: Single Stage:
ALL VOLUMES TO BE BASED ON CALIPER LOG VOLUMES.
Est. 105 F. @ 10.0 to 10.2 PPG mud @ 4,662'.
Est. 4,662' to 1000':
30 % excess over calculated open-hole volume: Est. @
590 sx. Super 'C' cement consisting of 70% Class 'C'
+ 17% Pozzalan - 13% Silica Flour
w/ 2#/sx. KCl + Additives.
1.33 cu.ft./sx. @ 14.2 PPG.

5. PROPOSED DRILLING FLUIDS:

The reserve pit will be constructed in two segments & will be fully lined with a minimum 12 mil thickness plastic liner to protect the surface environment and fresh water resources.

a. 26" Conductor Hole: Surface to 40': Auger dry.

b. 17-1/2" Surface Hole: Surface to 700': Fresh Water Spud Mud:
Additives: Gel, Lime & LCM as needed to maintain circulation.
POSSIBLE COMPLETE LOSS OF RETURNS FROM 130' TO TOTAL DEPTH OF SURFACE HOLE WITH DRY DRILLING AND LCM SWEEPS TO KEEP HOLE OPEN. Est. 8.6 to 9.0 PPG @ VIS 40 to 120 sec./qt.

5. PROPOSED DRILLING FLUIDS (Continued):

c. 12-1/4" Intermediate Hole: Circulate fresh water in reserve pit. 700' to 2,644' MD: Native Mud: Fresh Water & Native Solids: Additives: Possible Gel sweeps & LCM as needed to maintain circulation and clean the hole, with field crude oil to reduce shale sloughing/swelling. POSSIBLE COMPLETE LOSS OF RETURNS FROM 1,300' TO TOTAL DEPTH OF INTERMEDIATE HOLE WITH DRY DRILLING AND LCM SWEEPS TO KEEP HOLE OPEN. Est. 8.4 to 10.5 PPG @ VIS 30 to 34 sec./qt.

d. 7-7/8" Production Hole: Brine Mud:
2,644' to T.D.: Brine Mud @ 10.0-10.2 PPG:
Additives: Salt Gel, Starch & Polymers with Salt f/ weight control and LCM as needed to maintain circulation.
Est.10.0-10.2 PPG @ VIS 38-55 sec/qt & 8-10 cc Water Loss.

6. LOGGING, TESTING, AND CORING PROGRAM:

a. The logging program will consist of:

i. DLL/SFL - GR/SP (Induction Logs):
T.D. to Intermediate Casing.
GR to Surface.

ii. LDT/CNL - ML/PE/GR/CAL (Density/Neutron Porosity Logs):
T.D. to Intermediate Casing.

iii. Possible MRIL & Mechanical Rock Properties Logs to assist in frac design.

b. No conventional cores are planned.

c. Drill stem tests are planned for the following formations IF SAMPLE/GAS/OIL shows are sufficient to merit testing:
Cherry Canyon Fm.: 2388'MD to TD.

c. 10' samples (wet) will be analyzed on-site by a geologist from the base of the 8-5/8" Intermediate Casing @ 2,644' MD to est. well T.D. @ 4,662' MD. The on-site geologist will assess oil and gas shows and recommend DST points and Total Depth of the well on the basis of his sample analysis.

7. ABNORMAL CONDITIONS - PRESSURE - TEMPERATURE - POTENTIAL HAZARDS:

a. 17-1/2" Surface Hole to 700':
Normal pressures (fresh water gradient or less) and temperatures (70 F. to 75 F.) are anticipated for this hole segment.
A COMPLETE LOSS OF RETURNS IS POSSIBLE FROM 130' TO T.D.

b. 12-1/4" Intermediate Hole from 700' to 2,644':
Fresh water gradient (8.34 ppg.: 0.433 psi./ft.) to brine gradient (salt water gradient @ 10.0 ppg.: 0.52 psi./ft.) pressures are anticipated.
Normal temperatures (75 F. to 95 F.) are anticipated.
No H2S is anticipated in this hole interval.
A COMPLETE LOSS OF RETURNS IS POSSIBLE FROM 1100' TO T.D.

b. 7-7/8" Production Hole from 2,644'MD (2360' TVD) to 4662' MD TD:

i. Well/Pressure Control Considerations:

FORMATION TARGET:	TVD: Feet:	EST. BHP: PSIG	GRADIENT: PSI/FT	RATING:
Delaware Fm.:				
Cherry Canyon Mbr.:	3113'	1500	0.682	Abnormal
Brushy Canyon Mbr.:	3750'	1580	0.421	Normal

KICKS AND WELL CONTROL HAZARDS ARE COMMON IN THIS AREA:
AN ADEQUATE SUPPLY OF BRINE WATER, SALTS & SALT-WATER GEL, AND/OR BARITE WILL BE MAINTAINED ON LOCATION AT ALL TIMES, THROUGHOUT DRILLING OPERATIONS BELOW THE SURFACE CASING SHOE @ 700', TO RAISE THE MUD WEIGHT OF THE HOLE & STEEL PIT CIRCULATING SYSTEM A MINIMUM OF 2 PPG. A PVT system with a gas buster and rotating head will be installed immediately after the surface casing is set (prior to drilling out the surface casing shoe @ 700'). This equipment will permit the safe handling of minor gas volumes at the surface and the monitoring of well flow and trip volumes while the well is being drilled.

ii. Normal temperatures (95 F. to 105 F.) are anticipated.

iii. H2S (Hydrogen Sulfide) Gas Hazards:
Potential H2S is anticipated in the Delaware Fm. from 2,644' MD to 4662' MD TD. An H2S Safety Plan is prepared as Exhibit #3 and will be posted at the well-site. An H2S monitoring system will be rigged-up and functional after the Surface Casing is set at 700', and PRIOR TO DRILLING OUT OF THE SURFACE CASING SHOE. ALL RIG-SITE AND SUPERVISORY PERSONNEL WILL BE TRAINED AND CERTIFIED TO WORK IN AN H2S ENVIRONMENT PRIOR TO ENTRY ONTO THIS JOB SITE.

8. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

Location construction may be commenced in April after BLM APD and BOR ROW approvals are received for the Avalon 1 Federal #2 well (common pad). After NMOCD approval of the Unorthodox Location request (with NMOCD and BLM APD approval), and as soon as a rig is available to drill this well economically, this well will be spud and drilled to a projected T.D. @ 4,662' MD or +100'. Anticipated spud date is June 15, 2000. Est. 20 drilling days. Est. 10 completion days and 15 days constructing site facilities. Est. 1st production on or after August 1, 2000.

a. The surface location of the proposed site and access road for the Avalon 1 Federal #3 wellsite is owned by the Federal Government of the United States of America. The permitted surface uses of these lands is controlled and administered by the Bureau of Reclamation with the assistance of the Bureau of Land Management.

b. The minerals targeted by this well are oil and gas pays in the Delaware Fm. The planned pro-ration unit for the well is the 164.66 acres encompassed by Lots 35, 36, 37 & 38 in Section 1, T.21S., R.26E., Eddy County, New Mexico (Federal Lease NM 13624). The well is Unorthodox in terms of Surface Location and Bottom-Hole Location by virtue of the Rules of the New Mexico Oil Conservation Division. In conjunction with the Application for a Permit to Drill BFC will be seeking Administrative Approval of its requested directional drilling plan and Unorthodox Surface Location.

A copy of the Request for Administrative Approval of this Unorthodox Location is attached for your information. No actual drilling operations will commence until this Unorthodox Location and Drilling Plan is FULLY approved by the NMOCD.

9. DIRECTIONAL WELL PLAN SCHEMATIC AND PROFILE:

A copy of the proposed directional plan along with a wellbore profile is attached as Exhibit #4 for your information.

CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access routes; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Bonneville Fuels Corporation and its contractors and subcontractors in conformity with this plan and the terms & conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date: 5/10/2000 Signature: _____

Robert A. Schwering, P.E.
Operations Manager: SE New Mexico
Bonneville Fuels Corporation

Exhibit #3
H2S SAFETY PLAN
8-Point Drilling Plan

Avalon 1 Federal #3 Well

WELL-SITE SCHEMATIC:
A well-site schematic (Exhibit #3a) is attached. This schematic indicates:

1. The prevailing winds at this site are out of the NW and SW.

2. Briefing Area #1 (the principle briefing area) is located generally upwind & uphill at the NW edge of location at the permanent access entrance. Briefing Area #1 will have a sign indicating the condition of the site (**Green- OK**: no H2S; **Yellow-Caution**: H2S encountered previously at levels greater than 10 PPM and/or currently at levels less than 10 PPM; **Red- Hazard**: H2S encountered or present on site at levels greater than 10 PPM - Cascade system required for work).

3. Briefing Area #2 (the secondary briefing area) will be uphill at the NE corner of the location.

4. Three (3) windsocks will be placed on location with one at Briefing Area #1, one at Briefing Area #2, and one on the SE corner of the location. This should allow anyone at any position on the location to determine wind direction and move upwind and uphill in the event of an H2S release.

5. A 4-channel alarm system will be installed to detect H2S concentrations greater than 10 PPM with individual monitors at the shaker pit, in the substructure of the rig, on the drilling floor and on the mud tanks.

TRAINING AND EQUIPMENT FAMILIARITY REQUIRED:
All of the rig crew, mud loggers, geologists, company supervisors, and the mud engineer and all other regular on-site personnel will be required to undergo H2S training and pass a certification test. All of these personnel will be aware of H2S release procedures and MUST BE familiar and comfortable with donning 5-minute escape masks/packs and donning 30-minute self-contained rescue units.

All personnel MUST understand the fundamentals of rescue in an H2S environment - **you cannot help anyone UNLESS you have a rescue unit ON.**

The importance of visual contact between on-site personnel (the "buddy" system) will be emphasized. **ALL REGULAR ON-SITE PERSONNEL WILL HAVE AT LEAST ONE "BUDDY".**

LOCATION OF RESCUE AND ESCAPE AIR MASKS/UNITS and Other H2S Equipment:

1. Rescue units will be located as follows on the location:
   - 2: 30-minute rescue units will be kept at Briefing Area #1.
   - 1: 30-minute rescue unit will be kept at Briefing Area #2.

2. 5-minute escape units will be kept at the following locations:
   - 5 at the drill floor or in the dog house.
   - 1 in each trailer on location.
   - 2 at the shale pit.
   - 1 at the base of the gas buster.
   - 1 at the choke manifold.
   - 2 at the pill pit.
   - 1 at the pump shed.
   - 1 at the generator house.
   - 1 at the accumulator.

3. A hand-held portable H2S detector kit and a flare gun will be kept at Briefing Area #1 or in the Site Supervisor's Trailer for emergency use.

PERIOD OF OPERATION UNDER H2S PLAN AT THIS WELL SITE:
All of the H2S equipment identified above will be installed and operational, and all of the site personnel H2S Training and Certification will be completed, PRIOR TO the drilling out of the Surface Casing at 600'. All new site personnel, after this time, will be H2S Trained and Certified PRIOR TO entering location. This H2S plan will be adhered to until this well is either successfully drilled to Total Depth, Cased and Cemented or Plugged and Abandoned.

H2S SAFETY DRILLS REQUIRED:
Each crew will be required to conduct an H2S Release safety drill at least once a week. Each of these drills and the time/quality of each drill will be recorded on the appropriate IADC Tour Sheet. Each of these drills will require all location personnel to pick up their nearest upwind 5-minute escape pack and assemble at either Briefing Area #1 or Briefing Area #2, whichever is upwind. Personnel will then be tallied and a rescue party assembled (with 30-minute rescue packs) to recover any "missing" personnel.

H2S RELEASE DURING WELL CONTROL OPERATIONS:
Personnel will be briefed on the complications that can occur as a result of an H2S Release DURING a well control operation. Some H2S and Well Control Drills will be conducted simultaneously in order to emphasize the proper procedure to follow should an H2S Release occur during a Well Control Operation.

Should an H2S Release occur simultaneous with a kick being detected:

1. Immediately don Up-Wind and Dog House 5-minute escape packs. Keep your buddy in sight.

2. Pick-up the kelly to the slip-set position and set the slips and continue to circulate the well with strokes reduced to the preferred kill rate.

3. Open the Hydraulic Master Valve and the Hydraulic Master Choke. Put choke discharge through the gas buster with fluid returns to the mud pits.

4. Close the Annular Preventer.

5. Move Up-Wind ASAP to the Up-Wind Briefing Area.

6. Tally personnel and assemble a rescue party with 30-minute rescue packs to search for any missing personnel.

7. CALL IMMEDIATELY FOR A CASCADE SAFETY SYSTEM TO WORK UNDER.

Should an H2S release occur during a well control operation after the well control operation is underway:

1. Immediately don Up-Wind and Dog House 5-minute escape packs. Keep your buddy in sight.

2. Put choke discharge through the gas buster with fluid returns to the mud pits. DO NOT CHANGE CHOKE SETTINGS OR CIRCULATION RATE.

3. Move Up-Wind ASAP to the Up-Wind Briefing Area.

4. Tally personnel and assemble a rescue party with 30-minute rescue packs to search for any missing personnel.

5. CALL IMMEDIATELY FOR A CASCADE SAFETY SYSTEM TO WORK UNDER.

IGNITION OF THE WELL:
IN THE CASE OF AN UNCONTROLLED RELEASE OF H2S AT THE DRILL-SITE:
A FLARE PISTOL WILL BE MAINTAINED AT BRIEFING AREA #1 AND/OR IN THE BONNEVILLE FUELS CORPORATION SUPERVISORS TRAILER (ON THE DESK) AT ALL TIMES FOR THE IGNITION OF THE WELL IN THE CASE OF AN UNCONTROLLED RELEASE OF H2S AT THE SITE.

CRITICAL PERSONNEL DEFINED - LOCATION ENTRY PROSCRIBED:
Bonneville Fuels Drilling Supervisors and Rig Contractor Supervisors, Rig Crewmen, the Mud Engineer, and Safety Company Personnel are hereby defined as CRITICAL PERSONNEL. NO personnel other than CRITICAL PERSONNEL will be permitted to enter location should a Red Hazard Sign (ambient greater than 10 PPM H2S) concentration be encountered - until such release is controlled and ended, except for critical material delivery personnel as outlined below.

H2S SCAVENGER REQUIRED ON LOCATION:
An H2S scavenger for water based drilling fluids will be kept on location in sufficient quantity to provide a base concentration in the drilling fluid of 1/2 Pound Per Barrel of drilling fluid in the hole & steel tank mud system. Additional adequate supply will be maintained at the mud vendors nearest storage facility.

PERSONNEL ADMISSION AND SITE REGISTRATION REQUIREMENTS:

If H2S is encountered at the site and the site is functioning under a Yellow Caution Sign (H2S encountered):

1. SITE VISITATION BY NON-CRITICAL PERSONNEL WILL BE DISCOURAGED.

2. ALL ON-SITE PERSONNEL WILL BE REQUIRED TO SIGN-IN AND SIGN-OUT AT BRIEFING AREA ACCESS CONTROL STATION.

3. During Yellow Caution periods Geological and Service Company personnel will be allowed on location ONLY if properly trained and certified for H2S and ONLY to perform work. All such personnel must sign-in and sign-out as above.

If an H2S release with an ambient concentration greater than 10 PPM then the well-site will be operating under the Red Hazard Sign (H2S present):

1. SITE VISITATION BY NON-CRITICAL PERSONNEL IS PROHIBITED. No Geological or Non-Delivery Service Company Personnel will be allowed on location until a Yellow (Caution) condition has been restored to the location.

2. WORK MAY OCCUR ONLY WHEN A CASCADE AIR SYSTEM IS OPERATIONAL, IN PLACE, and IN USE - Except for necessary well control work IF well control operations are already underway. Work to control the H2S release will continue at the site until a Yellow (Caution) Condition is established/achieved.

3. ALL ON-SITE PERSONNEL WILL BE REQUIRED TO SIGN-IN AND SIGN-OUT AT BRIEFING AREA ACCESS CONTROL STATION.

4. REQUIRED MATERIAL DELIVERIES MAY ONLY BE MADE BY H2S TRAINED AND CERTIFIED SERVICE COMPANY PERSONNEL WORKING UNDER A CASCADE SYSTEM WITH THE DIRECT SUPERVISION AND ASSISTANCE OF SAFETY COMPANY PERSONNEL.

H2S PLAN MAY NOT BE REDUCED IN SCOPE:
The aforementioned is an H2S plan which takes into consideration MOST but not ALL of the training, equipment and operational planning issues associated with Potential H2S occurrence at this well-site. No well control or H2S plan can be comprehensive enough to address all possible operational outcomes. This plan may be subsequently modified or improved to fit site, wellbore or drilling equipment constraints with MORE stringent, numerous and comprehensive provision of Safety Equipment, Safety Training, and Safety Personnel requirements. This plan may not be weakened or in any way reduced in the provision of Safety Equipment, Safety Training, or Safety Personnel, however. This plan provides for the MINIMUM required provision of Safety Equipment, Safety Training and Safety Personnel for the drilling of the Avalon 1 Federal #3 well.

R.A. Schwering, P.E.
Operations Manager: SE New Mexico
Bonneville Fuels Corporation

EXHIBIT "I" H_2S Monitoring Equipt, Signs, Winds Socks & Briefing Areas — Avalon I Fed #3

& EXHIBIT 3a

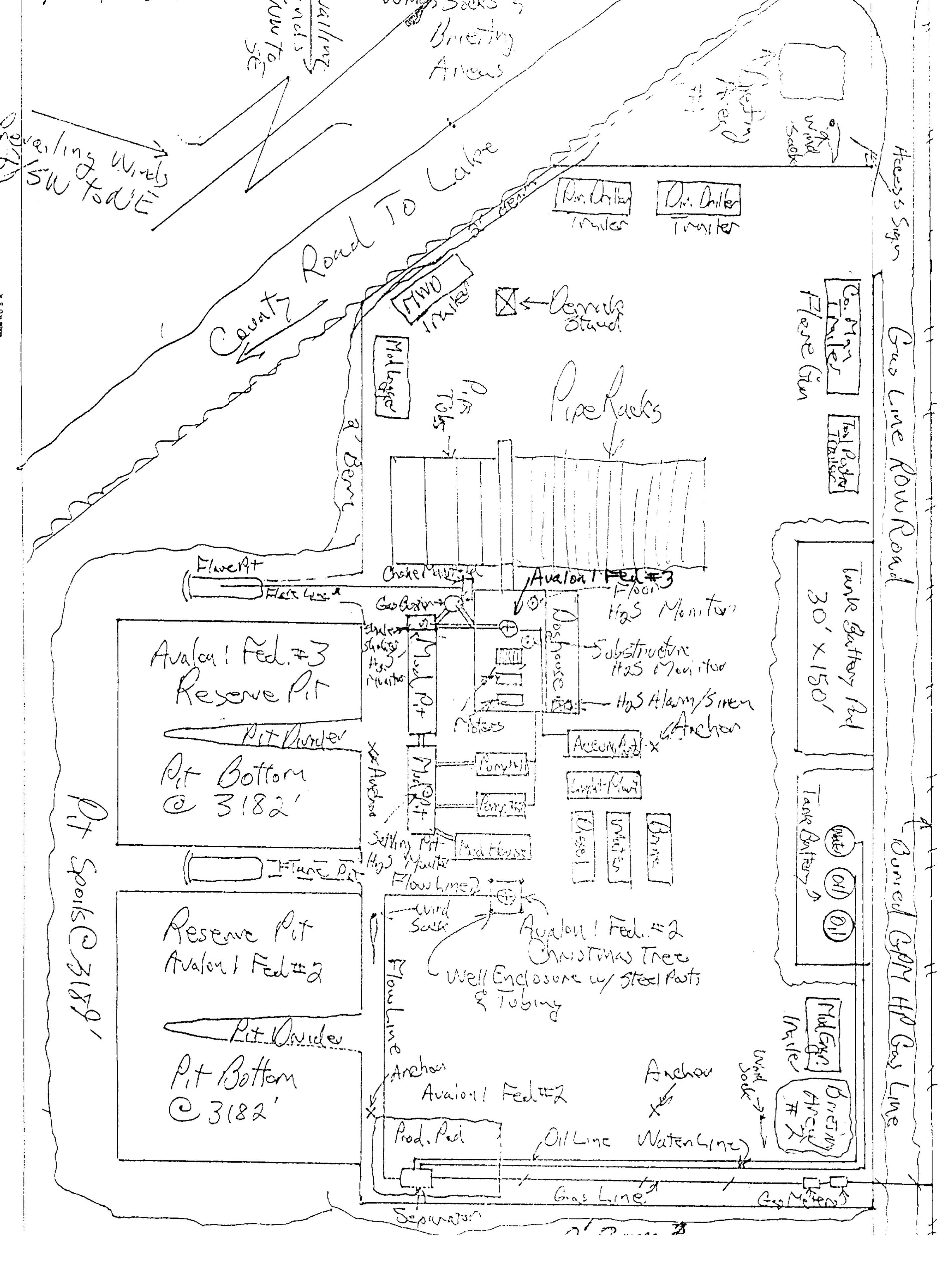


EXHIBIT 4

Bonneville Fuels Corp.

New Mexico
Eddy County
Sec. 1-T21S-R26E
Federal 1 Avalon #3 - Plan 4-4-00
Avalon 1 Federal #3

PROPOSAL REPORT

5 April, 2000

Sperry-Sun
DRILLING SERVICES
A Halliburton Company

Proposal Ref: pro4671

Sperry-Sun Drilling Services

Proposal Report for Federal 1 Avalon #3 - Plan 4-4-00

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		
100.00	0.000	0.000	100.00	0.00 N	0.00 E	0.00	0.00	
200.00	0.000	0.000	200.00	0.00 N	0.00 E	0.00	0.00	
300.00	0.000	0.000	300.00	0.00 N	0.00 E	0.00	0.00	
400.00	0.000	0.000	400.00	0.00 N	0.00 E	0.00	0.00	
500.00	0.000	0.000	500.00	0.00 N	0.00 E	0.00	0.00	
600.00	0.000	0.000	600.00	0.00 N	0.00 E	0.00	0.00	
700.00	0.000	0.000	700.00	0.00 N	0.00 E	0.00	0.00	← Set 13 3/8
800.00	0.000	0.000	800.00	0.00 N	0.00 E	0.00	0.00	
900.00	0.000	0.000	900.00	0.00 N	0.00 E	0.00	0.00	
1000.00	0.000	0.000	1000.00	0.00 N	0.00 E	0.00	0.00	
1100.00	0.000	0.000	1100.00	0.00 N	0.00 E	0.00	0.00	
1200.00	0.000	0.000	1200.00	0.00 N	0.00 E	0.00	0.00	
1300.00	0.000	0.000	1300.00	0.00 N	0.00 E	0.00	0.00	
1400.18	6.011	238.047	1400.00	2.78 S	4.45 W	5.25	6.00	
1501.49	12.090	238.047	1500.00	11.21 S	17.97 W	21.18	6.00	
1605.17	18.310	238.047	1600.00	25.59 S	41.02 W	48.35	6.00	
1712.73	24.764	238.047	1700.00	46.47 S	74.51 W	87.81	6.00	
1826.23	31.574	238.047	1800.00	74.81 S	119.94 W	141.36	6.00	
1948.77	38.926	238.047	1900.00	112.22 S	179.91 W	212.04	6.00	
2085.70	47.142	238.047	2000.00	161.62 S	259.12 W	305.40	6.00	
2133.33	50.000	238.047	2031.52	180.53 S	289.43 W	341.11	6.00	
2239.87	50.000	238.047	2100.00	223.72 S	358.67 W	422.73	0.00	
2395.44	50.000	238.047	2200.00	286.79 S	459.79 W	541.90	0.00	
2528 2551.02	50.000	238.047	2300.00	349.86 S	560.91 W	661.08	0.00	
2614.36			2360	387.20 S	621.58 W	732.58		← Set 8 5/8
2706.59	50.000	238.047	2400.00	412.93 S	662.03 W	780.25	0.00	
2862.16	50.000	238.047	2500.00	476.00 S	763.15 W	899.43	0.00	
3017.73	50.000	238.047	2600.00	539.07 S	864.26 W	1018.60	0.00	
3173.31	50.000	238.047	2700.00	602.14 S	965.38 W	1137.78	0.00	
3328.88	50.000	238.047	2800.00	665.21 S	1066.50 W	1256.95	0.00	
Orthodox @ 3000' 3484.45	50.000	238.047	2900.00	728.28 S	1167.62 W	1376.13	0.00	
3640.02	50.000	238.047	3000.00	791.35 S	1268.74 W	1495.30	0.00	
3788.84	45.535	238.047	3100.00	849.65 S	1362.21 W	1605.46	3.00	
3821.39	44.559	238.047	3123.00	861.85 S	1381.75 W	1628.50	3.00	
3926.66	41.401	238.047	3200.00	899.82 S	1442.63 W	1700.26	3.00	
4056.20	37.515	238.047	3300.00	943.38 S	1512.47 W	1782.57	3.00	
4072.54	37.025	238.047	3313.00	948.62 S	1520.87 W	1792.46	3.00	
4179.31	33.821	238.047	3400.00	981.36 S	1573.37 W	1854.34	3.00	
4297.31	30.281	238.047	3500.00	1014.50 S	1626.49 W	1916.95	3.00	
4411.20	26.865	238.047	3600.00	1043.32 S	1672.70 W	1971.41	3.00	
4466.85	25.195	238.047	3650.00	1056.24 S	1693.42 W	1995.83	3.00	
4521.74	23.549	238.047	3700.00	1068.23 S	1712.64 W	2018.48	3.00	
4575.95	21.922	238.047	3750.00	1079.32 S	1730.42 W	2039.43	3.00	
4629.85	21.922	238.047	3800.00	1089.97 S	1747.49 W	2059.55	0.00	
T.D. 4662.19	21.922	238.047	3830.00	1096.36 S	1757.74 W	2071.63	0.00	

Continued...

Sperry-Sun Drilling Services

Proposal Report for Federal 1 Avalon #3 - Plan 4-4-00

Bonneville Fuels Corp.
New Mexico

Eddy County
Sec. 1-T21S-R26E

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

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Wellhead and calculated along an Azimuth of 238.047° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 4662.19ft.,
The Bottom Hole Displacement is 2071.63ft., in the Direction of 238.047° (True).

Comments

Measured Depth (ft)	Station Coordinates TVD (ft)	Northings (ft)	Eastings (ft)	Comment
1300.00	1300.00	0.00 N	0.00 E	Kick-Off at 1300.00ft
1716.67	1703.57	47.35 S	75.91 W	Build Rate = 6.00°/100ft
2133.33	2031.52	180.53 S	289.43 W	End of Build at 2133.33ft
2264.39	2115.76	233.66 S	374.61 W	Hold Angle at 50.000°
3640.02	3000.00	791.35 S	1268.74 W	Start Drop at 3640.02ft
3730.71	3059.92	827.37 S	1326.48 W	Drop Rate = 3.00°/100ft
3821.39	3123.00	861.85 S	1381.75 W	Start Drop at 3821.39ft
3946.96	3215.30	906.88 S	1453.96 W	Drop Rate = 3.00°/100ft
4072.54	3313.00	948.62 S	1520.87 W	Start Drop at 4072.54ft
4269.69	3476.25	1007.04 S	1614.53 W	Drop Rate = 3.00°/100ft
4466.85	3650.00	1056.24 S	1693.42 W	Start Drop at 4466.85ft
4521.40	3699.69	1068.16 S	1712.53 W	Drop Rate = 3.00°/100ft
4575.95	3750.00	1079.32 S	1730.42 W	End of Drop at 4575.95ft
4619.07	3790.00	1087.84 S	1744.08 W	Hold Angle at 21.922°
4662.19	3830.00	1096.36 S	1757.74 W	Total Depth at 4662.19ft

Casing details

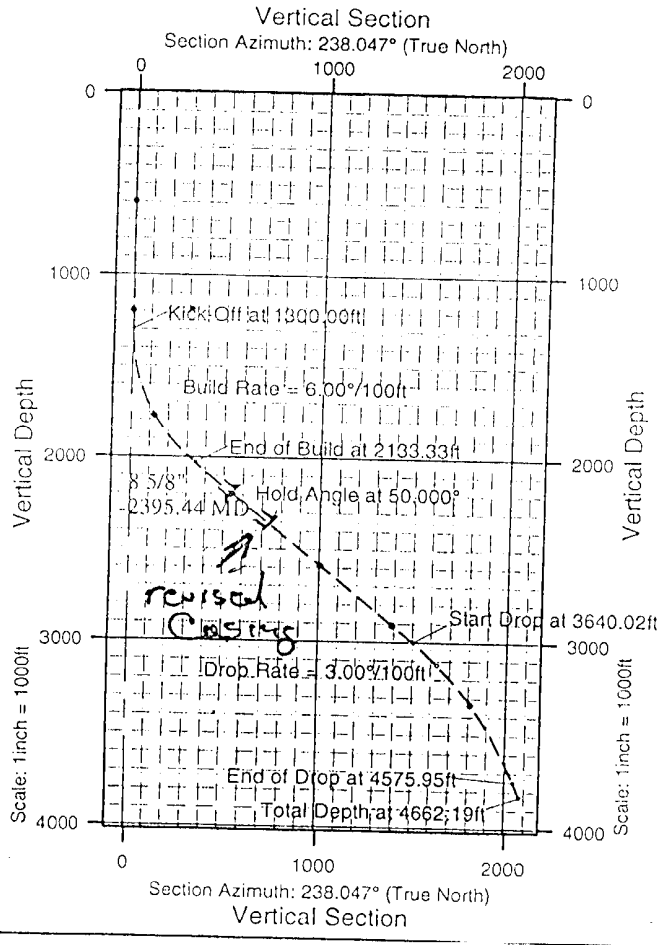
From Measured Depth (ft)	From Vertical Depth (ft)	To Measured Depth (ft)	To Vertical Depth (ft)	Casing Detail
<Surface>	<Surface>	~~2395.41~~ 2644.36	~~2200.00~~ 2360	8 5/8" Casing

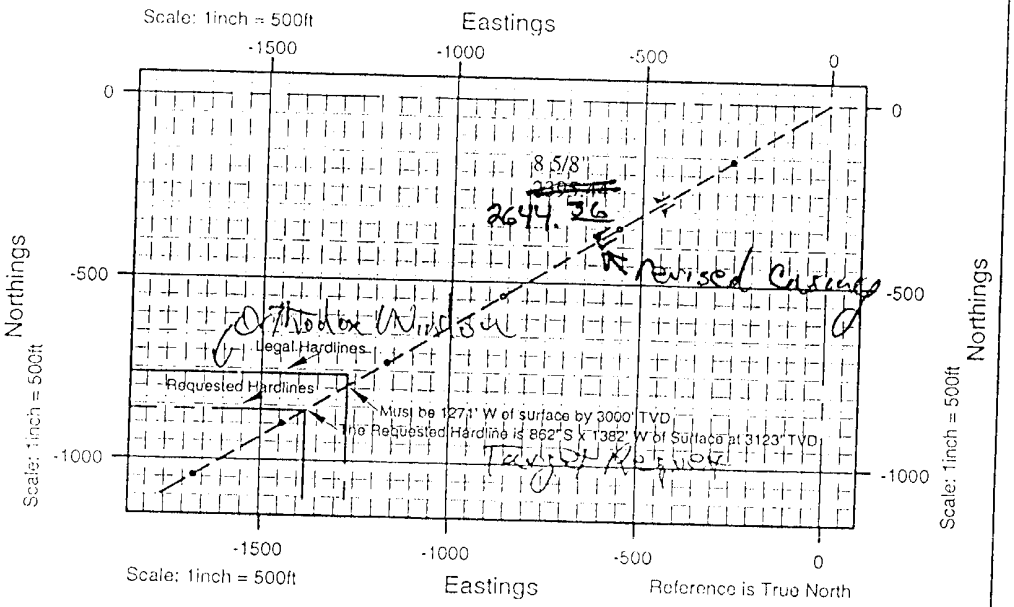
sperry-sun DRILLING SERVICES A Halliburton Company

Bonneville Fuels Corp.

DrillQuest

New Mexico
Eddy County
Sec. 1-T21S-R26E
Federal 1 Avalon #3





Proposal Data for Plan 4-4-00

Vertical Origin :	RKB
Horizontal Origin :	Wellhead
Measurement Units :	ft
North Reference :	True North
Dogleg severity :	Degrees per 100 feet
Vertical Section Azimuth :	238.047°
Vertical Section Description:	Wellhead
Vertical Section Origin :	0.00 N,0.00 E

Measured Depth	Incl.	Azim.	Vertical Depth	Northings	Eastings	Vertical Section	Dogleg Rate
0.00	0.000	0.048	0.00	0.00 N	0.00 E	0.00	
1300.00	0.000	0.048	1300.00	0.00 N	0.00 E	0.00	0.00
2133.33	50.000	238.047	2031.52	180.53 S	289.43 W	341.13	6.00
2395.44	50.000	238.047	2200.00	286.79 S	459.79 W	543.90	0.00
3640.02	50.000	238.047	3000.00	791.35 S	1268.74 W	1495.30	0.00
3821.39	44.559	238.047	3123.00	861.85 S	1381.75 W	1628.50	3.00
4072.54	37.025	238.047	3313.00	948.62 S	1520.87 W	1792.46	3.00
4466.85	25.195	238.047	3650.00	1056.24 S	1693.42 W	1995.83	3.00
4575.95	21.922	238.047	3750.00	1079.32 S	1730.43 W	2039.43	3.00
4662.19	21.922	238.047	3830.00	1096.36 S	1757.74 W	2071.63	0.00

Prepared by:	Date/Time:	Checked:	Approved:
Jim Davidson	5 April, 2000 - 8:17		

13 POINT SURFACE USE PLAN

Attached to Form 3160-3
Bonneville Fuels Corporation
Avalon 1 Federal #3
Unorthodox Surface Location: 2762' FSL & 2075' FEL (Unit 'O')
Sec 1 (an irregular section of land), T.21S., R.26E. NMPM
Eddy County, New Mexico

The proposed well center was staked on 12/8/1999. The proposed location, access road, tank battery pad, and pipeline right-of-way were surveyed and staked by John West Engineering, and surveyed for archaeological impacts by Desert West Archaeology on 12/8-10/1999. An On-Site Surface Inspection was conducted by Mr. Barry Hunt (a Surface Management Specialist with the Carlsbad Area office of the Bureau of Land Management - also representing the Bureau of Reclamation) on 12/9/1999. **No significant topographical, archaeological, faunal or botanical limitations and/or obstacles to the development of this well site were identified or indicated by John West Engineering, Desert West Archaeology, or Mr. Barry Hunt.**

1. EXISTING ROADS:

Exhibit 'A' attached is a Topographic and Vicinity Map created from a splice of four USGS Quadrangle Maps (the Lake MacMillan South Quad, the Angel Draw Quad, the Carlsbad East Quad and the Carlsbad West Quad). The map indicates the existing wells (10 existing gas/oil wells) and existing roads within a 1-Mile Radius around the proposed Avalon 1 Federal #3 well. Also indicated on this map is the proximity of the northern limit of incorporation of the City of Carlsbad (approx. 2.72 miles SSE of the proposed drill-site).

Exhibit 'B' attached is a Vicinity Map prepared by John West Engineering showing the location of the well relative to the entire City of Carlsbad. Both of these maps indicate the proximity of Avalon Lake (approx. 0.25 miles south of drill site) and the Avalon Dam Site (approx. 1.28 miles SW of the proposed drill site).

DIRECTIONS:

a. From the intersection of US 285 and NM 239 in the City of Carlsbad (downtown) proceed approx. 5 miles north on NM 239 (BROWN on Exhibits A, B and 'C-1') to Brantley Dam Road (paved) and turn left. Proceed NW on Brantley Dam Road 0.65 miles (GREEN on Exhibits A, B and 'C-1') to gravel county road and turn left. Proceed SW on gravel county road 0.5 miles (BLUE on Exhibits A, B and 'C-1') to location access road entrance.

b. Turn left and proceed SE approx. 90 feet onto well pad (YELLOW on Exhibits A, B AND 'C-1').

2. PLANNED ACCESS ROAD:

The planned access road is indicated on Exhibit 'A' and Exhibit 'B' with a YELLOW coloration. This road segment is also colored YELLOW and is better seen on Exhibit 'C-1' (attached) a Location Verification Map prepared by John West Engineering.

a. The proposed new access road will be approximately 90 feet long from the existing county road SE onto the well pad and is under construction for the drilling of the Avalon 1 Federal #3 well.

b. The new road will have a 20' traveling surface crowned with 6" of compacted caliche with a 60 foot entrance width for turning vehicles along the existing access road and a 35 foot entrance width along the NE edge of the drill pad. The road will be flat-bladed (to remove creosote black-brush) and crowned with caliche

c. A low-water crossing will be constructed at the county road turn-off and ditched along the NE side to carry sheet-wash run-off from NE of the location and road to the low-water crossing and into the County Road bar ditch.

3. EXISTING AND PROPOSED WELLS WITHIN A 1-MILE RADIUS:

Exhibit 'A' shows wells BFC has been able to identify in the area covered by this map north and east of the Avalon Lake. The 1-mile radius of required investigation is indicated in ORANGE outline. Known gas/oil wells, proposed wells, and dry holes are shown inside the 1-mile radius, and are labeled GW/OW, PW and DH respectively.

Exhibit 'C-2' is a Well Location and Acreage Dedication Survey Plat (New Mexico Form C-102) prepared by John West Engineering (160 Acre spacing required). BFC is directionally drilling the proposed Avalon 1 Federal #3 well from an Unorthodox Surface Location to Delaware productive intervals which BFC expects to encounter in an Orthodox Bottom-Hole Location (ORANGE on Exhibits A, B and 'C-2').

a. There are ten (10) existing producing oil/gas wells within a 1-mile radius of the proposed Avalon 1 Federal #3 well. These wells are colored RED on Exhibit 'A' and are labeled OW or GW.

b. There are two (2) proposed oil/gas wells within a 1-mile radius of the proposed Avalon 1 Federal #3 well that BFC is aware of. These wells are colored GREEN on Exhibit 'A' and are labeled PW.

c. There are two (2) dry holes within a 1-mile radius of the proposed Avalon 1 Federal #3 well. These wells are colored BROWN on Exhibit 'A' and are labeled DH.

d. There are NO KNOWN water wells within a 1-mile radius of the proposed Avalon 1 Federal #3 well.

4. PROPOSED PRODUCTION FACILITIES:

Bonneville Fuels Corporation has NO existing production facilities on this site at this time. Exhibit 'D' shows the location of a proposed tank battery, approx. 115' NE of the proposed well-center stake for the Avalon 1 Federal #3 well.

The Special Lease Stipulations for NM 13624 (5 Pages with appropriate portions highlighted) are attached as Exhibit 'E', pages 1 thru 6. The surface use regulation of the lands on which this proposed wellsite lies has been 'withdrawn' from the BLM to the administration of the Bureau of Reclamation because of the proximity of the Avalon Lake and Dam Sites. There are two basic stipulations in the lease: 1. That all storage tanks be located at or above an elevation of 3200' MSL **(this tank battery will be at a finished grade at or above 3196' MSL w/ 4' Berms at elevation 3200' MSL)** and 2. That all drill pads be above 3190' MSL **(the finished drill pad elevation will be at or above 3190' MSL).**

Exhibit 'D' presents a Proposed Production Facilities Layout diagram.

a. Should the well prove productive then necessary gas handling facilities (a three phase separator, and a meter facility) will be placed on the production pad as shown on Exhibit 'D'. The drill/production pad finished grade will be at 3191'+ MSL. This exceeds current BuRec Guidelines (+3190' MSL) and Special Lease Stipulations.

b. Should the well be productive of oil and/or water then the storage facilities will be placed on an elevated tank pad designed so that the finished tank battery pad elevation will be at 3196'+ MSL. Actual well productivity/safety/environmental considerations will determine the constructed configuration/size of tanks in the proposed tank battery facility. Tank battery firewalls will be a minimum height of 4' above the Tank Battery Pad grade and will encompass sufficient volume to provide storage for ALL tank contents with 1' of free board. The tank battery firewalls will be at 3200'+ MSL finished grade. This meets or exceeds current BuRec Guidelines (+3200' MSL) and Special Lease Stipulations.

c. The Tank Battery Pad and Production Pad facilities will be lined with a 30 mil plastic liner system to prevent ground water pollution.

d. A GPM HP gas pipeline crosses the section just NE of the access road. Other HP gas lines exist to the NE of the proposed well. Should the well prove productive a sales line will be laid to the pipeline most appropriate to handle the produced stream. Exhibit 'F' (a 1-Page Pipeline ROW plat) indicates an alternate pipeline route (proposed ROW) to EPNG. BFC will, however, ultimately pursue the best sales gas tie-in based on gas contract negotiations and well productivity.

5. LOCATION AND TYPE OF WATER SUPPLY:

a. FRESH WATER: BFC plans to obtain fresh water for drilling through a local water hauling service (purchased from a municipal or agricultural seller) AND will permit and drill an on-site water well in accordance with the relevant Federal and State laws.

b. BRINE WATER: BFC plans to obtain brine water for drilling through a local water hauling source by direct purchase.

6. SOURCE OF CONSTRUCTION MATERIALS:

Exhibit 'G' presents the Construction (Cut and Fill) Plan for the site. Required cuts and fills are identified. Top-Soil and Pit Spoils stockpiles from reserve pit construction are also shown.

a. CALICHE ROCK FOR TOPPING: This material will be obtained during cut-and-fill operations at the drill pad and tank battery pad, and also during reserve pit excavation. Additional caliche may need to be hauled in from a commercial pit if necessary.

b. WATER FOR COMPACTION: Hauled in per 5.a. above.

7. METHODS OF HANDLING WASTE DISPOSAL:

a. The reserve pit will be lined with a 12 mil plastic liner to prevent ground water contamination. Drill cuttings and fluids will be disposed of in the reserve pit. The drilling fluids will dry by evaporation until the resulting fill is dry enough to walk on. The liner above the dry mud level will then be removed to a sanitary land fill. The remaining pit volume will be closed with clean dry fill (Pit Spoils and Top Soil - see Exhibit 'G'). The reserve pit will be fenced thruout operations.

b. Human waste will be stored in septic facilities and sewer holes and pumped and hauled to sewage facilities. Sewer holes will be treated with slaked lime and back-filled as soon as the drilling rig moves out.

c. Trash will be stored on-site in a container to prevent wind litter. Trash will then be hauled to a sanitary land fill. Containers subject to MSDS restrictions will be cleaned out and returned to vendors. Rig junk (wire rope, etc.) and metal waste will be removed with the drilling rig.

d. Produced water will be collected in pits/test tanks and hauled to a licensed and regulated produced water disposal facility.

7. METHODS OF HANDLING WASTE DISPOSAL: Continued:

e. Produced oil will be stored on site in test tanks until production facilities are installed and it can be legally sold. Waste oil will be collected and hauled to a waste oil recycler.

8. ANCILLARY FACILITIES:
NOTE: The location and reserve pits are currently under construction for the drilling of the Avalon 1 Federal #2 well.

Exhibit 'H-1' indicates the proposed pad dimensions and finished elevations. Exhibit 'H-2' indicates anticipated rig equipment layout including trailers required to provide 24-hour supervision during the drilling of this well.

a. Exhibit 'H-2' indicates camp/trailer facilities required on-site to provide 24-hour site supervision. These trailers will have sewer hole or other septic facilities. Note that it is presumed that surface facilities will exist at the Avalon 1 Federal #2 well when the Avalon 1 Federal #2 well is drilled.

b. Exhibit 'I' indicates the location of H2S briefing and warning facilities required by the presence of H2S gas in some of the producing strata to be encountered in the drilling of this well. The H2S Safety Plan is presented as Exhibit 3 to the 8-Point Drilling Plan.

9. WELLSITE LAYOUT: Common location with Avalon 1 Federal #2 well.

a. Exhibit 'H-1' presents the proposed layout of the wellsite.

b. Exhibit 'I' indicates the location of H2S briefing and warning facilities required by the presence of H2S gas in some of the producing strata to be encountered in the drilling of this well. The H2S Safety Plan is presented as Exhibit 3 to the 8-Point Drilling Plan.

c. Exhibit 'G' indicates the proposed cut-and-fill limits of the planned facility. **A larger 500' x 610' area was surveyed and cleared (archaeology/flora/fauna) in the event that additional pad space is required by larger than anticipated rig dimensions and site safety requirements. The Avalon 1 Federal #3 well is planned to be permitted and drilled from the same pad IF the Avalon 1 Federal #2 well is entirely successful.** The reserve pit will be lined with a minimum 12-mil plastic liner.

d. Exhibit 'J' indicates a proposed secondary catchment below the wellsite to hold 12,000 Bbl. and prevent any possible Avalon Lake pollution by any pit breach or site problem. No site discharge is planned to enter this catchment and it is a safety precaution only.

10. PLANS FOR THE RESTORATION OF THE SURFACE:

a. The reserve pit will be fenced with 4 strand barbed wire thruout drilling and completion operations. Fencing will only be removed for reclamation operations. The flare pit will be back-filled as soon as completion and testing operations are ended.

b. The drill site will be kept clean and free of trash/pollution thruout drilling, completion, and production operations thruout the life of the well.

c. Sewer holes will be evacuated, limed and filled IMMEDIATELY after drilling operations are completed. A portable toilet will be serviced and kept on-site thruout drilling, completion and production facility construction operations.

d. When the reserve pit is dry the barbed wire fence and posts will be removed and the liner will be cut above the mud-line and hauled to disposal. The pit spoils will then be used to fill the reserve pit and recontour it as nearly as possible to the original topography. The pit surface will then be harrowed parallel to elevation contour and re-seeded with the specified BLM mix parallel to the land contour.

e. When the well has been judged to be non-productive, or no longer productive, but AFTER the reserve pit has dried out and is ready to fill or has already been filled (in the case of a productive well), all surface production equipment and drilling/completion equipment will be removed to a depth sufficient to facilitate effective reclamation. Then the entire site will be recontoured as nearly as possible to the original topography. The entire location surface will then be cross-ripped with the last pass parallel to elevation contour. The new portion of the access road (constructed for this well) will be back-ripped 2 times. Then the access road and the well-site will be re-seeded with the specified BLM mix parallel to the elevation contour of the site.

11. OTHER INFORMATION:

a. TOPOGRAPHY: The land surface at this site is a gently rolling hillside rising gradually to the NE (see Exhibit 'A'). The location is above the Pecos River Flood Plain.

b. SOILS: Sandy aridisols of aeolian origin with shallow soils over caliche rocks.

c. FLORA AND FAUNA: Acacia, Creosote, brush, shrubs and grasses with a variety of Upper Chihuahuan Cacti. Mule deer, White-Tail deer, Mountain Lion, Rabbits, Skunks, Voles and Snakes are found in this area. NO ENDANGERED or THREATENED species are present.

11. OTHER INFORMATION: Continued:

d. ARCHAEOLOGY: An archaeological survey of this site was conducted by Desert West Archaeological Services out of Carlsbad, New Mexico. The report is attached as Exhibit 'K'. NO SIGNIFICANT ARCHAEOLOGICAL RESOURCES WERE FOUND IN THE SURVEYED AREA OF THE PLANNED ACCESS ROAD OR OF THE PROPOSED WELLSITE OR OF THE PROPOSED PIPELINE RIGHT-OF-WAY. A 500' by 610' area incorporating the planned wellsite, a 50' by 100' area incorporating the planned access road, and a 50' x 600' area incorporating a potential pipeline ROW were surveyed on 12/9/1999.

e. DRILLING PLAN: An 8-Point Drilling Plan with three (3) exhibits (including an H2S Safety Plan) is attached with this 13-Point Surface Use Plan to Form 3160-3.

f. INHABITED DWELLINGS: There are NO known inhabited dwellings within a 1-mile radius of this proposed wellsite. The nearest residences are +2.5 miles SE of this proposed drillsite.

12. SURFACE AND MINERAL OWNERSHIP:

a. The surface location of the proposed site and access road for the Avalon 1 Federal #3 wellsite is owned by the Federal Government of the United States of America. The permitted surface uses of these lands is controlled and administered by the Bureau of Reclamation with the assistance of the Bureau of Land Management. In conjunction with the Application for a Permit to Drill BFC has already sought a Right-of-Way for the use of the drill-site, access road, and potential Pipeline Right-of-Way from the Bureau of Reclamation.

A copy of this Right-of-Way request is attached for your information. No site construction activity may commence prior to receiving AND fully executing this grant of Right-of-Way.

b. The minerals targeted by this well are oil and gas pays in the Delaware Fm. The planned pro-ration unit for the well is the 163.22 acres encompassed by Lots 35, 36, 37 & 38 in Section 1, T.21S., R.26E., Eddy County, New Mexico (Federal Lease NM 13624). The well is Unorthodox in terms of Surface Location and Bottom-Hole Location by virtue of the Rules of the New Mexico Oil Conservation Division. In conjunction with the Application for a Permit to Drill BFC will be seeking Administrative Approval of its requested directional drilling plan and Unorthodox Surface Location.

A copy of the Request for Administrative Approval of this Unorthodox Location is attached for your information. No actual drilling operations will commence until this Unorthodox Location and Drilling Plan is FULLY approved by the NMOCD.

13. OPERATOR'S REPRESENTATIVE:

The Operator's Representative responsible for the administration, construction, drilling, completion, testing, production and reclamation of this site is:

Mr. Robert A. Schwering, P.E., C.E.S.
Operations Manager
BONNEVILLE FUELS CORPORATION
1660 Lincoln: Suite 2200
Denver, Colorado 80264
Office: (303) 863-1555 ext. 213; Fax: (303) 863-1558
Cell: (303) 514-6756; Mobile: (505) 370-4527
Home: (303) 278-8020 ON CALL 24 Hours or ON-SITE.

CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access routes; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Bonneville Fuels Corporation and its contractors and subcontractors in conformity with this plan and the terms & conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date: 5/10/2000

Signature: R.A. Schwering, PE
Operations Manager, SE NM

TOPOGRAPHIC + VICINITY MAP EXHIBIT 'A'

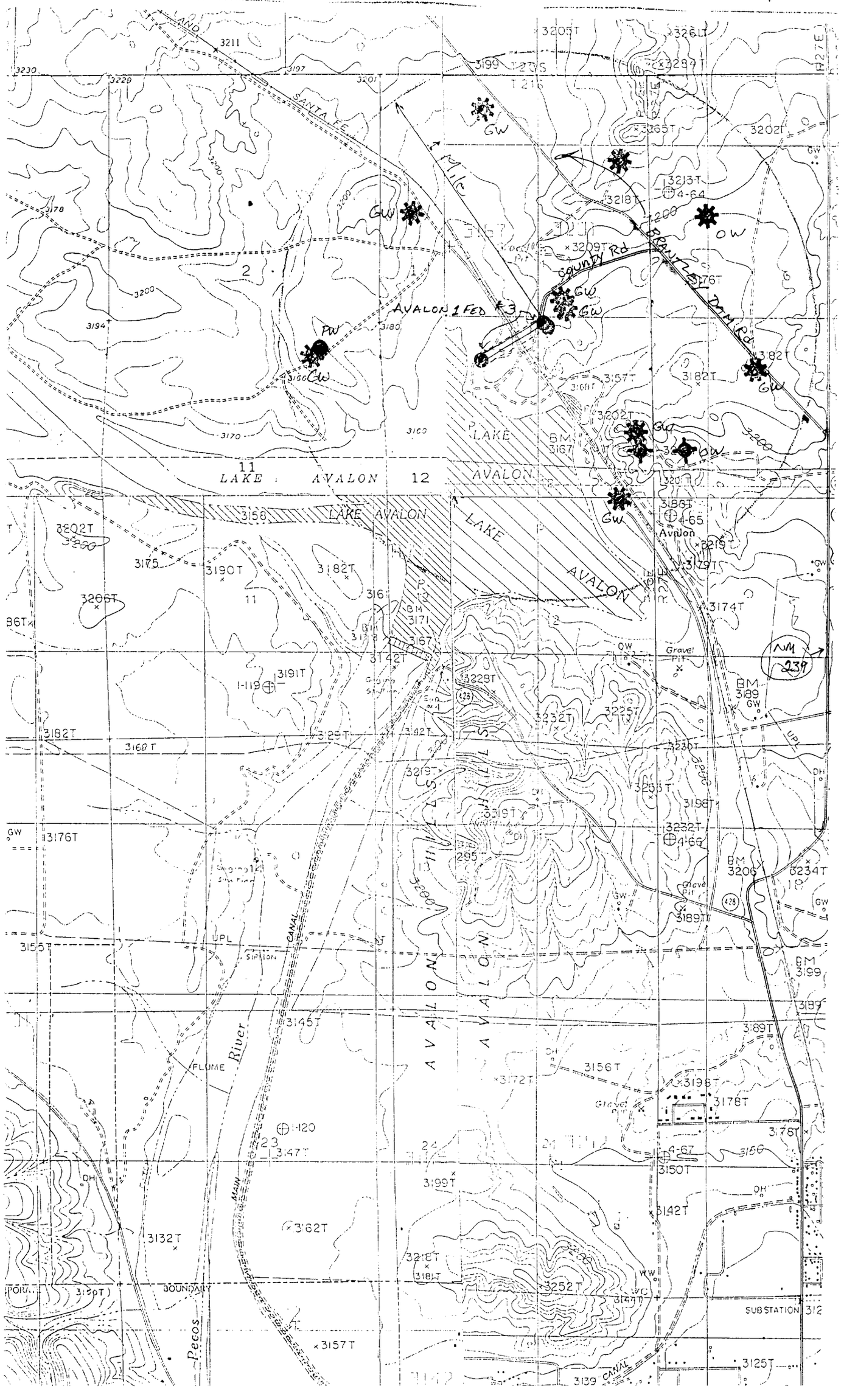
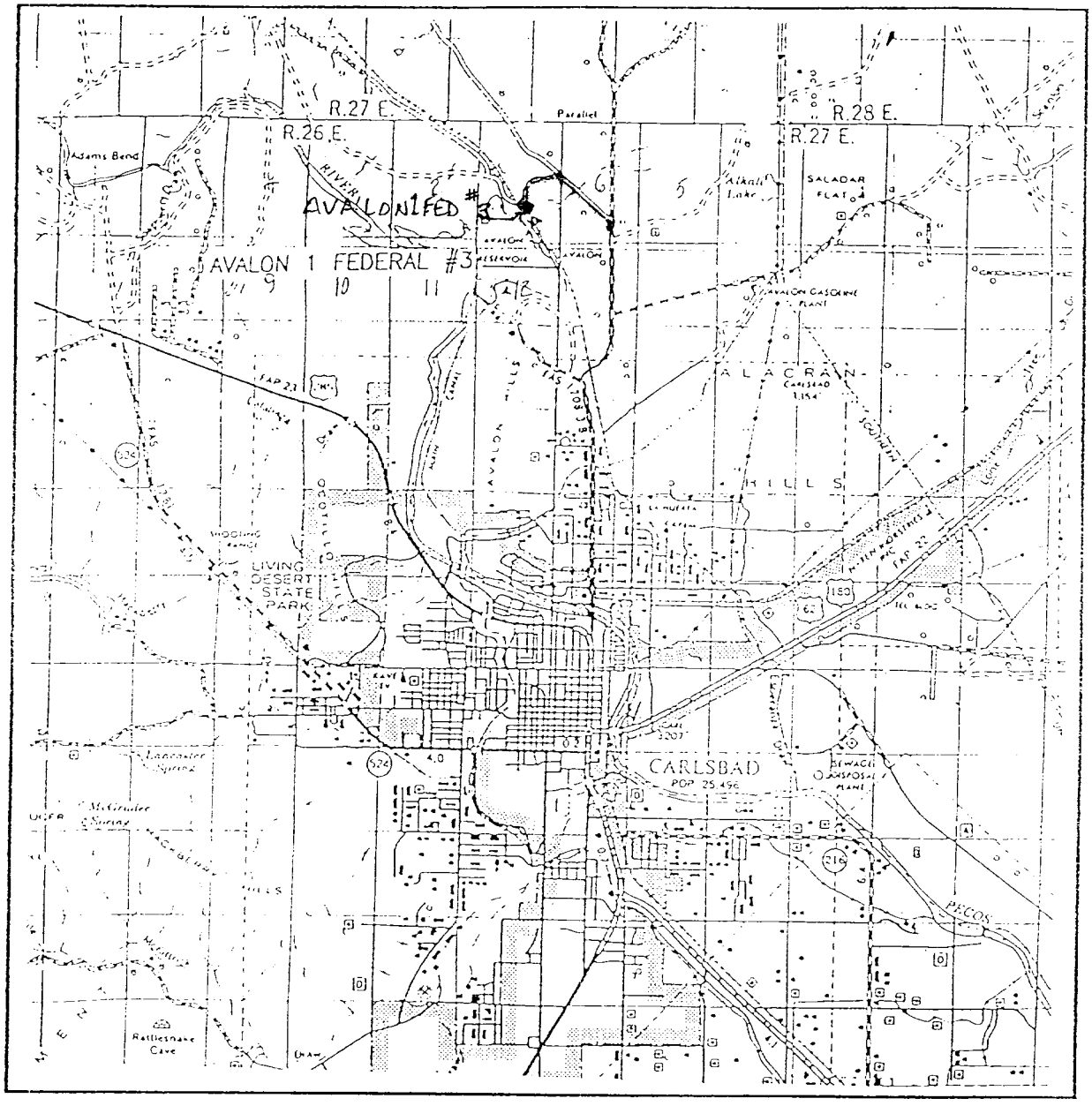


EXHIBIT 'B'

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 1 TWP. 21-S RGE. 26-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 2762' FSL & 2075' FEL

ELEVATION 3193

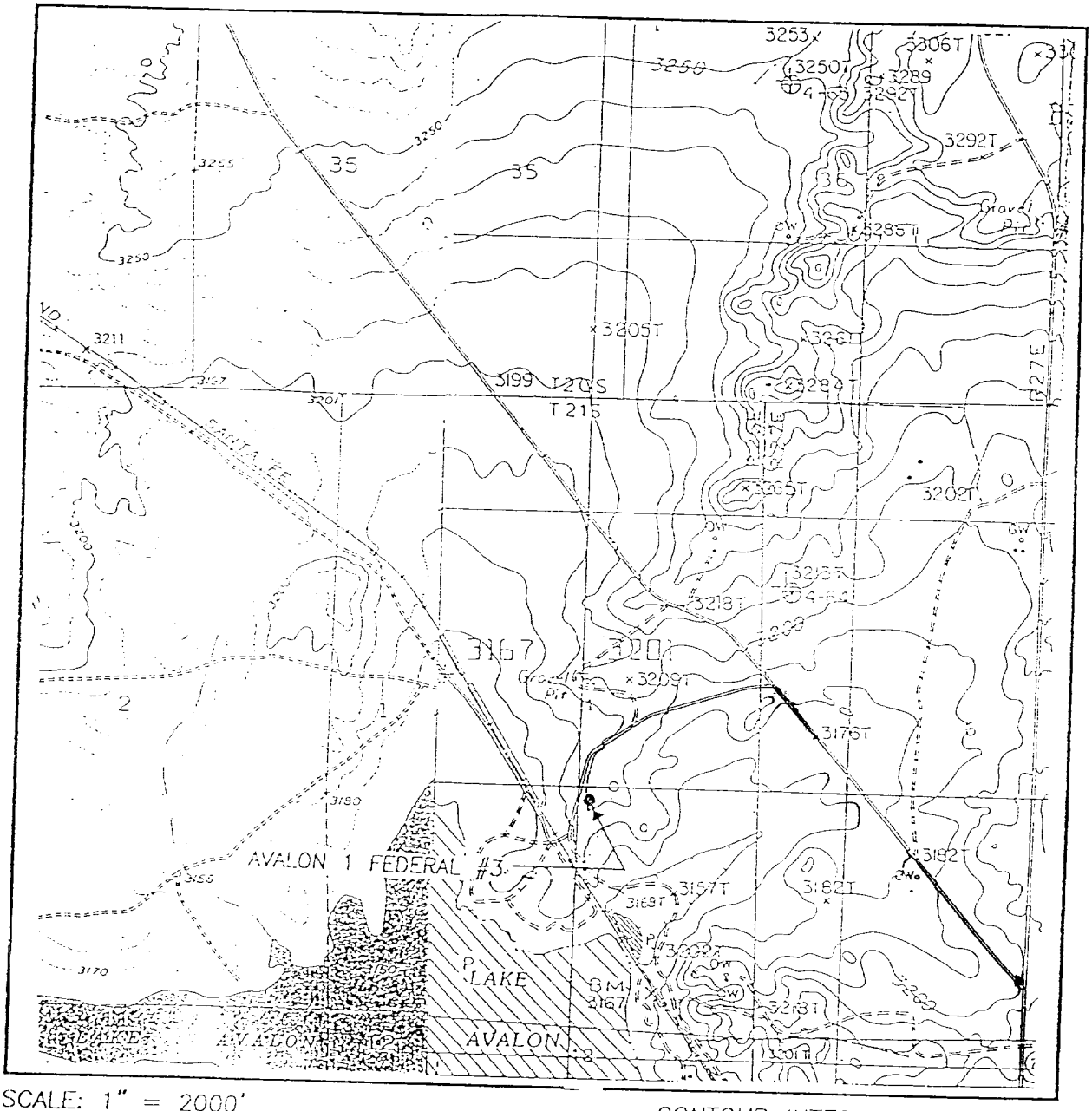
OPERATOR BONNEVILLE FUELS CORPORATION

LEASE AVALON 1 FEDERAL

JOHN WEST ENGINEERING
HOBBS, NEW MEXICO
(505) 393-3117

EXHIBIT C-1

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
LAKE MC MILLAN SOUTH – 10'
ANGELL DRAW – 5'

SEC. 1 TWP. 21-S RGE. 26-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 2762' FSL & 2075 FEL

ELEVATION 3193

OPERATOR BONNEVILLE FUELS CORPORATION

LEASE AVALON 1 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP

JOHN WEST ENGINEERING
HOBBS, NEW MEXICO
(505) 393-3117

Avalon 1 Fed. #2 EXHIBIT 'D'
Avalon 1 Fed #3
Proposed Production Facilities

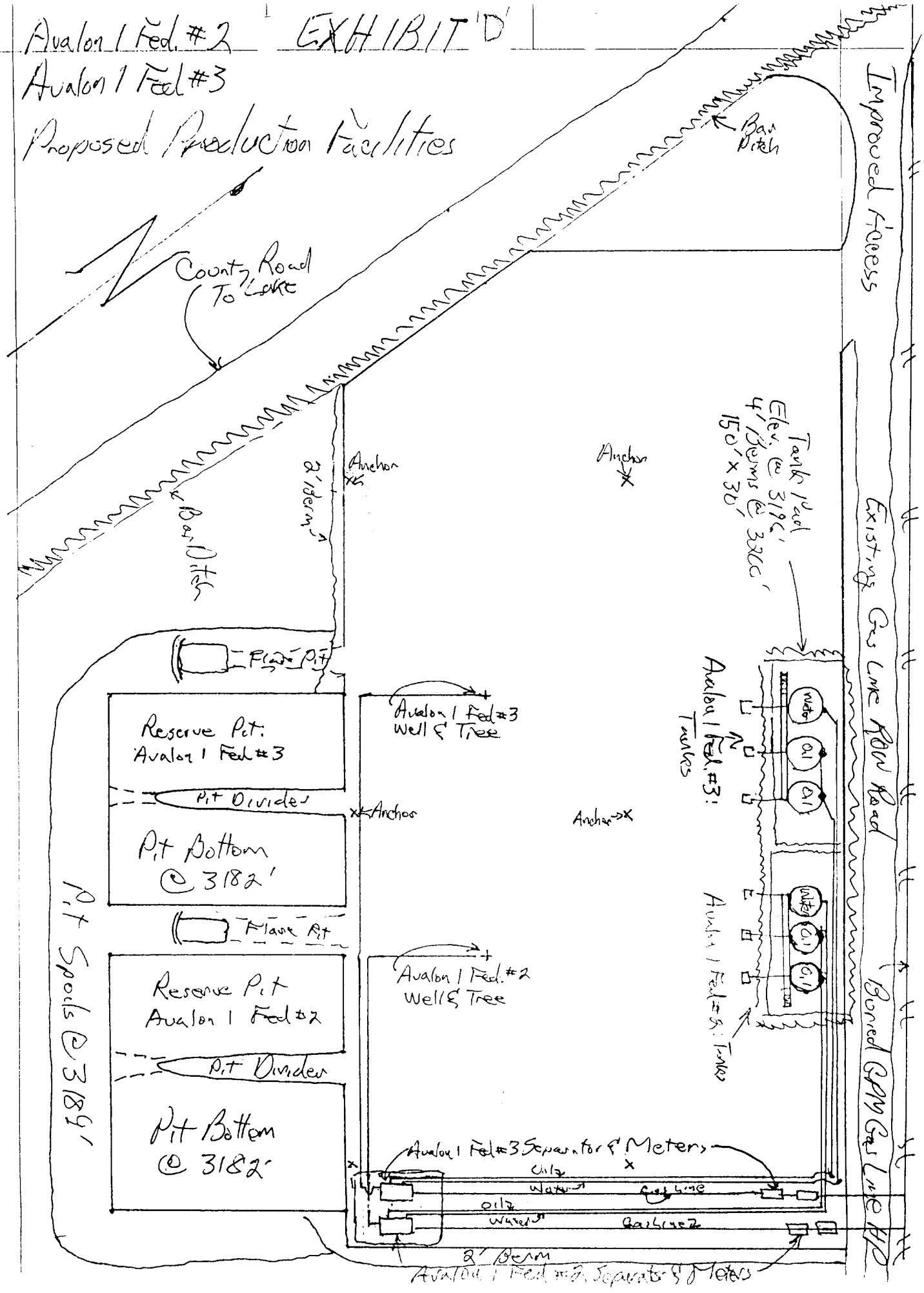


EXHIBIT 'E': 5 Pages:

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 BLM, they would be leased and managed under appropriate Roswell District stipulations or conditions of approval (e.g., stipulations for flood plains).

Private Level I

3/6

Drilling to be prohibited within one half mile of any dam, dike or other major structure, and within 150 ft. of the center line of any canal, lateral or drain connected with the project. Drilling to be prohibited within an area established by a line 300 ft. beyond the high water line of Avalon Reservoir, said high water line being defined as Contour 3180, which Contour is 2.0 ft. above the crest of Spillway No. 1 (See page 322 USGS Water Supply Paper 898).

(Signature of Lessee)

Stipulations agreed to in 1976.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
STATE OFFICE
P. O. Box 1449
Santa Fe, New Mexico 87501

IN REPLY REFER TO

NM 13624
Oil and Gas

943b-4

FEB 11 1976

Certified Mail
Return Receipt Requested

Decision

Inexco Oil Company
1100 Milam Building, Suite 1900
Houston, Texas 77002

Oil and Gas

Stipulation Amended

The Bureau of Reclamation Stipulations which are a part of oil and gas lease NM 13624 are hereby amended to show that the area covered by the lease is within the Avalon Reservoir and not the McMillan Reservoir.

Attached is a copy of the amended Stipulations.

Raul E. Martinez
Chief, Minerals Section

cc: Bureau of Reclamation
USGS, Roswell
Mr. George Womack
1100 Milam Bldg., Suite 1900
Houston, Texas 77002

Form 3103-1
(June 1964)
(formerly 4-467)

NM 13624
Oil and Gas

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

AMENDED STIPULATIONS

LEASE STIPULATIONS
BUREAU OF RECLAMATION

The lessee agrees to maintain, if required by the lessor during the period of this lease, including any extension thereof, an additional bond with qualified sureties in such sum as the lessor, if it considers that the bond required under Section 2(a) is insufficient, may at any time require:

(a) to pay for damages sustained by any reclamation homestead entryman to his crops or improvements caused by drilling or other operations of the lessee, such damages to include the reimbursement of the entryman by the lessee, when he uses or occupies the land of any homestead entryman, for all construction and operation and maintenance charges becoming due during such use or occupation upon any portion of the land so used and occupied;

(b) to pay any damage caused to any reclamation project or water supply thereof by the lessee's failure to comply fully with the requirements of this lease; and

(c) to recompense any nonmineral applicant, entryman, purchaser under the Act of May 16, 1930 (46 Stat. 367), or patentee for all damages to crops or to tangible improvements caused by drilling or other prospecting operations, where any of the lands covered by this lease are embraced in any nonmineral application, entry, or patent under rights initiated prior to the date of this lease, with a reservation of the oil deposits, to the United States pursuant to the Act of July 17, 1914 (38 Stat. 509).

As to any lands covered by this lease within the area of any Government reclamation project, or in proximity thereto, the lessee shall take such precautions as required by the Secretary to prevent any injury to the lands susceptible to irrigation under such project or to the water supply thereof; *provided* that drilling is prohibited on any constructed works or right-of-way of the Bureau of Reclamation, and *provided, further,* that there is reserved to the lessor, its successors and assigns, the superior and prior right at all times to construct, operate, and maintain dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, appurtenant irrigation structures, and reclamation works, in which construction, operation, and maintenance, the lessor, its successors and assigns, shall have the right to use any or all of the lands herein described without making compensation therefor, and shall not be responsible for any damage from the presence of water thereon or on account of ordinary, extraordinary, unexpected, or unprecedented floods. That nothing shall be done under this lease to increase the cost of, or interfere in any manner with, the construction, operation, and maintenance of such works. It is agreed by the lessee that, if the construction of any or all of said dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone or telegraph lines, electric transmission lines, roadways, appurtenant irrigation structures or reclamation works across, over, or upon said lands should be made more expensive by reason of the existence of the improvements and workings of the lessee thereon, said additional expense is to be estimated by the Secretary of the Interior, whose estimate is to be final and binding upon the parties hereto, and that within thirty (30) days after demand is made upon the lessee for payment of any such sums, the lessee will make payment thereof to the United States, or its successors, constructing such dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, appurtenant irrigation structures, or reclamation works, across, over, or upon said lands; *provided, however,* that subject to advance written approval by the United States, the location and course of any improvements or works and appurtenances may be changed by the lessee; *provided, further,* that the reservations, agreements, and conditions contained in the within lease shall be and remain applicable nothwithstanding any change in the location or course of said improvements or works of lessee. The lessee further agrees that the United States, its officers, agents, and employees, and its successors and assigns shall not be held liable for any damage to the improvements or workings of the lessee resulting from the construction, operation, and maintenance of any of the works hereinabove enumerated. Nothing in this paragraph shall be construed as in any manner limiting other reservations in favor of the United States contained in this lease.

THE LESSEE FURTHER AGREES That there is reserved to the lessor, its successors and assigns, the prior right to use any of the lands herein leased, to construct, operate, and maintain dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, or appurtenant irrigation structures, and also the right to remove construction materials therefrom, without any payment made by the lessor or its successors for such right, with the agreement on the part of the lessee that if the construction of any or all of such dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, or appurtenant irrigation structures across, over, or upon said lands or the removal of construction materials therefrom, should be made expensive by reason of the existence of improvements or workings of the lessee thereon, such additional expense is to be estimated by the Secretary of the Interior, whose estimate is to be final and binding upon the parties hereto, and that within thirty (30) days after demand is made upon the lessee for payment of any such sums, the lessee will make payment thereof to the United States or its successors constructing such dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, or appurtenant irrigation structures across, over, or upon said lands or removing construction materials therefrom. The lessee further agrees that the lessor, its officers, agents, and employees and its successors and assigns shall not be held liable for any damage to the improvements or workings of the lessee resulting from the construction, operation, and maintenance of any of the works herein above enumerated. Nothing contained in this paragraph shall be construed as in any manner limiting other reservations in favor of the lessor contained in this lease.

Drilling is prohibited within one-half mile of any dam, dike, or other major structure. Drilling is prohibited within an area established by a line 300 feet beyond the high water line of Avalon Reservoir, said high water line being defined as Contour is 2.0 feet above the crest of Spillway No. 1 (See page 322 U.S.G.S. Water Supply Paper 898).

That elevation is 3180!

(Signature of Lessee)

(over)

To insure against the contamination of the waters of the **Avalon** Reservoir, **Carlsbad** Project, State of **New Mexico**, the lessee agrees that the following further conditions shall apply to all drilling and operations on lands covered by this lease, which lie within the flowage or drainage area of the **Avalon** Reservoir, as such area is defined by the Bureau of Reclamation:

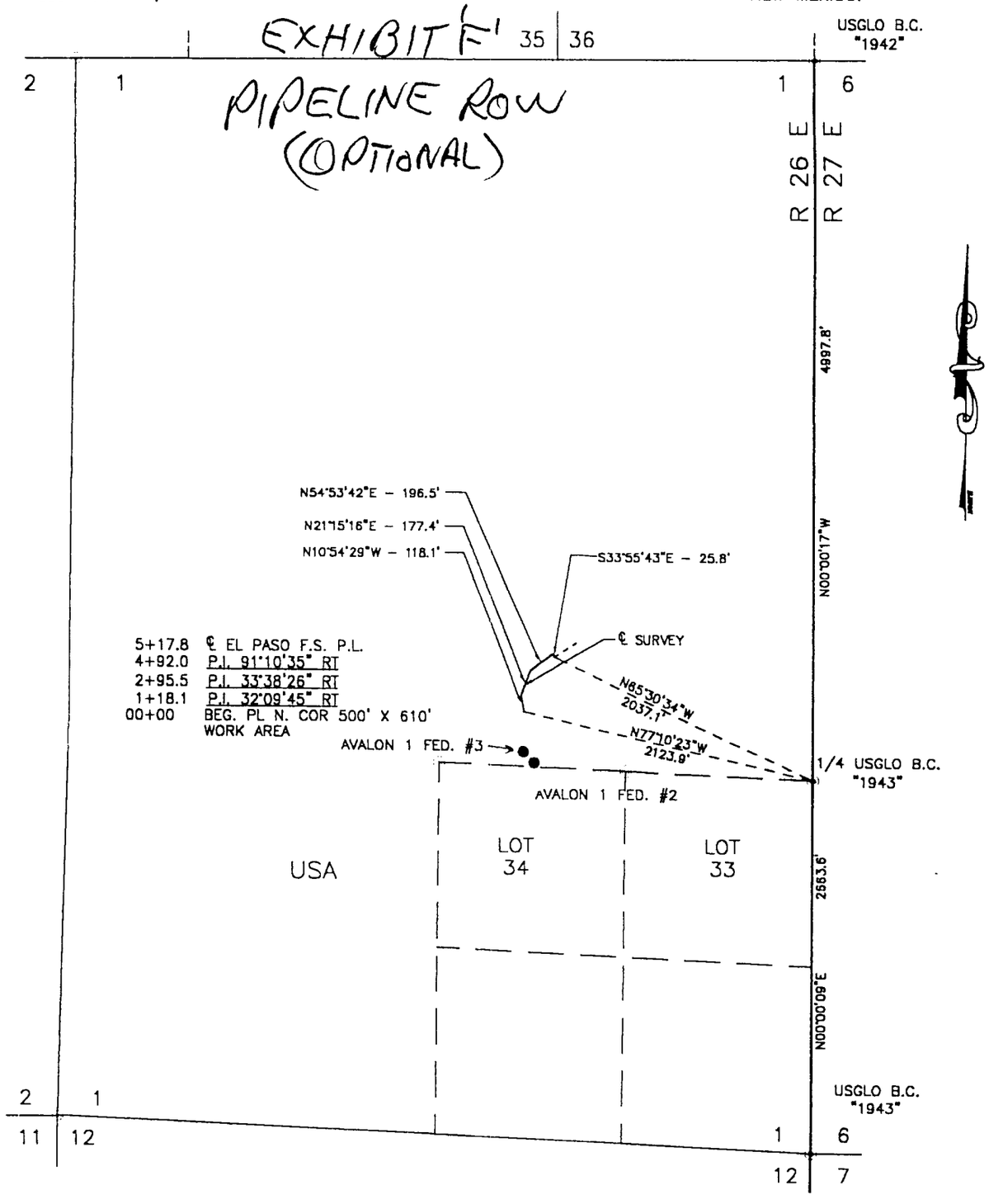
1. The drilling sites for any and all wells shall be approved by the Superintendent, Bureau of Reclamation, **Carlsbad** Project, before drilling begins. Sites for the construction of pipe-line rights-of-way or other authorized facilities shall also be approved by the Superintendent before construction begins.

2. All drilling or operation methods or equipment shall, before their employment, be inspected and approved by the Superintendent of the **Carlsbad** Project, **Avalon Reservoir**, and by the Supervisor of the U. S. Geological Survey having jurisdiction over the area.

SECTION 1, TOWNSHIP 21 SOUTH, RANGE 26 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

EXHIBIT 'F'

PIPELINE ROW
(OPTIONAL)



DESCRIPTION

A STRIP OF LAND 50.0 FEET WIDE 517.8 FEET OR 0.098 MILES IN LENGTH AND BEING 25.0 FEET LEFT AND 25.0 FEET RIGHT OF THE ABOVE CENTERLINE SURVEY.

1. BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM. "MEW MEXICO EAST ZONE", NORTH AMERICAN DATUM OF 1983. DISTANCES ARE SURFACE VALUES.

1000 0 1000 2000 FEET
Scale:1"=1000'

I HEREBY CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

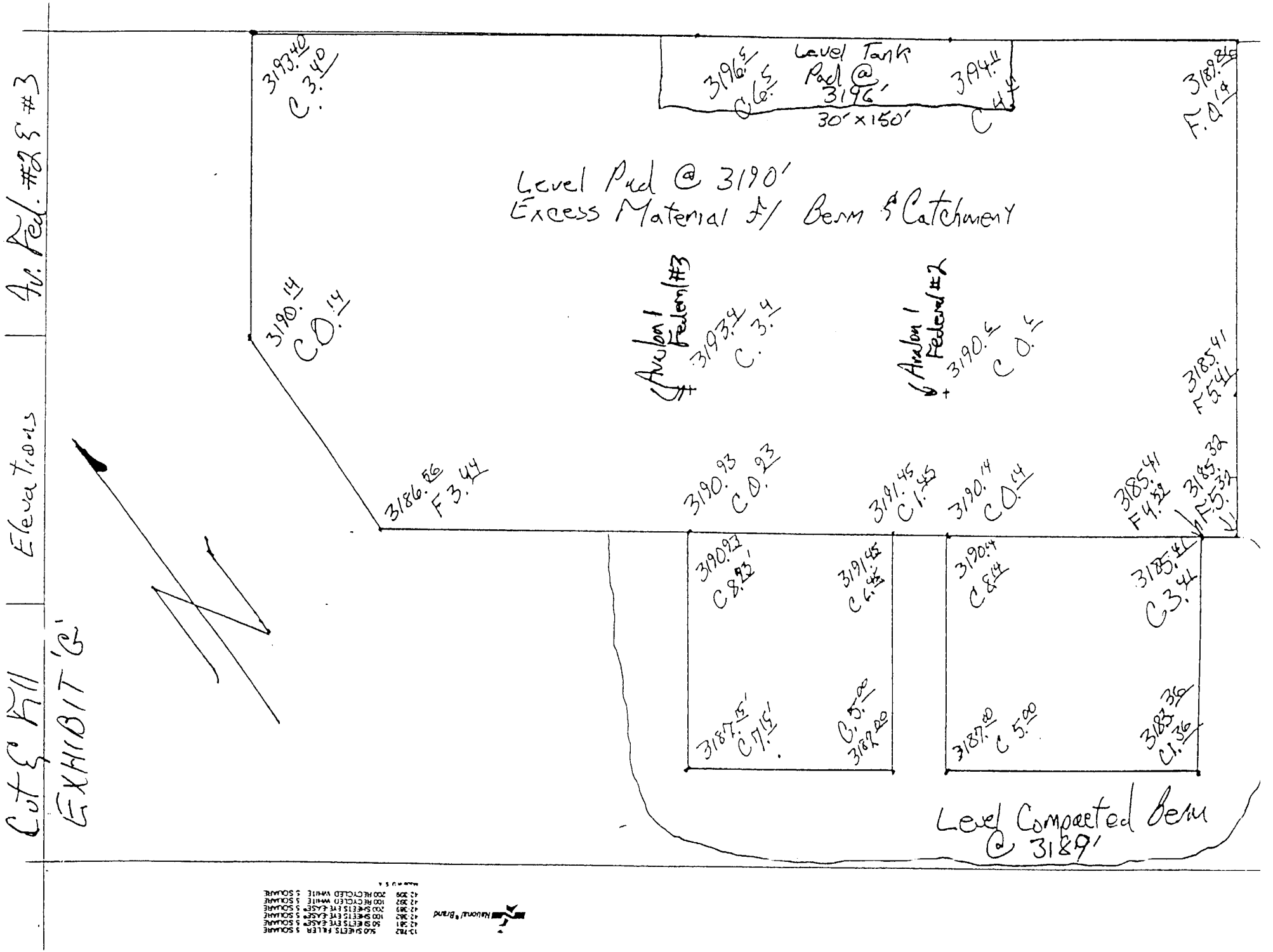
12-14-99

RONALD J. EIDSON, N.M. P.S. No. 3239
GARY G. EIDSON N.M. P.S. No. 12641
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO, HOBBS, NEW MEXICO – 505-393-3117

BONNEVILLE FUELS CORP.

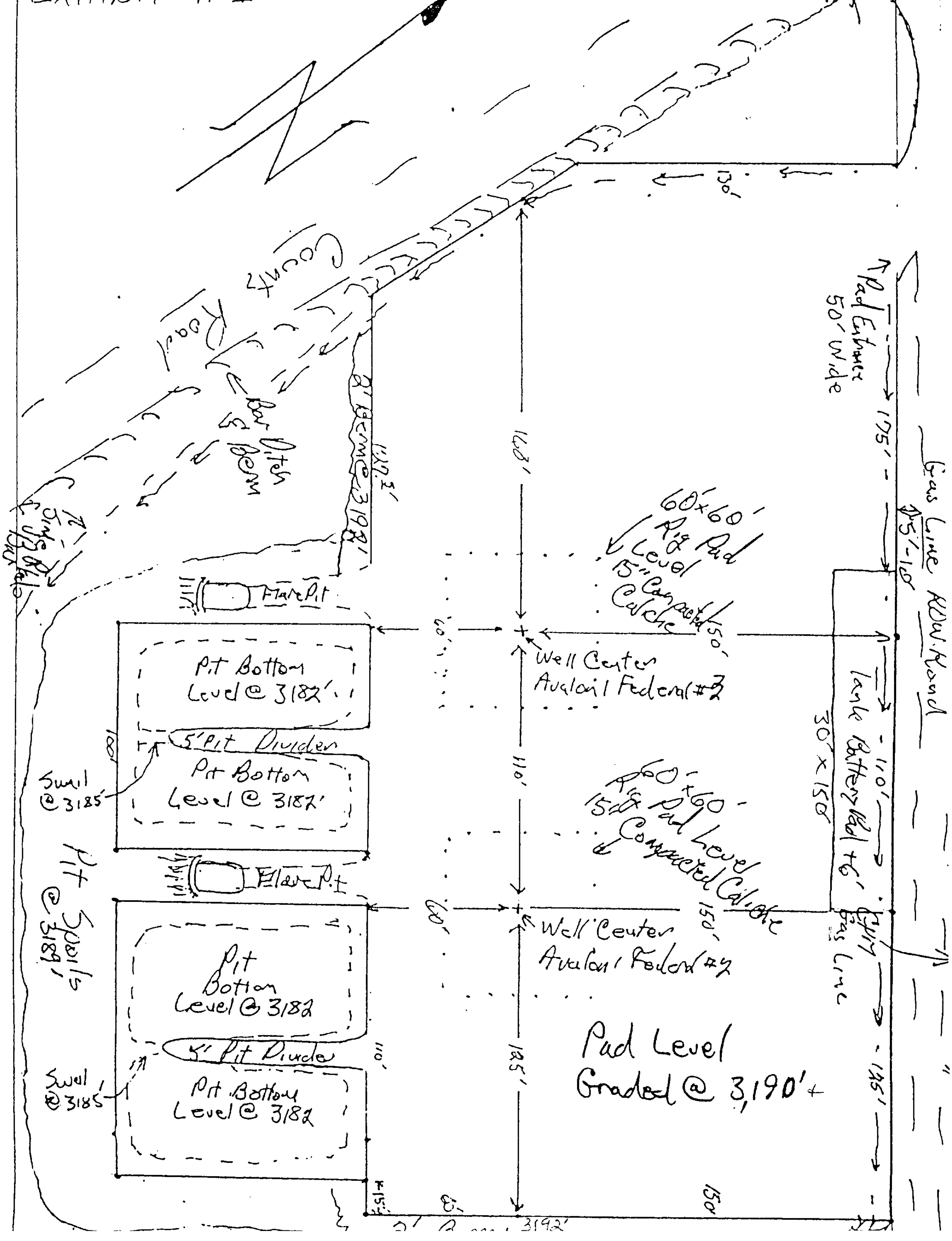
A PIPELINE CROSSING USA
LAND LOCATED IN SECTION 1, TOWNSHIP 21
SOUTH, RANGE 26 EAST, N.M.P.M.,
EDDY COUNTY, MEXICO.

Survey Date: 12/8/99		Sheet 1 of 1 Sheets	
W.O. Number: 99-11-1081		Drawn By: LMP	
Date:12/12/99	DISK: LMP#7	BONN1081B	Scale:1"=1000'


Av. Pad. #2 & #3
Elevations
Cut & Fill
EXHIBIT 'C'
3193.40
C 3.40
3196.5
C 6.5
Level Tank Pad @ 3196'
30' x 150'
3194.11
C 4.11
3189.82
F.C 1.14
Level Pad @ 3190'
Excess Material to Berm & Catchment
3190.14
C 0.14
Avalon Federal #3
3193.54
C. 3.54
Avalon Federal #2
3190.5
C 0.5
3185.41
F 5.41
3186.56
F 3.44
3190.93
C 0.93
3191.45
C 1.45
3190.14
C 0.14
3185.41
F 4.82
3185.32
F 5.32
3190.93
C 8.93'
3191.45
C 4.45
3190.4
C 8.14
3185.41
C 3.41
3187.15'
C 7.15'
C 5.00
3189.80
3187.00
C 5.00
3183.36
C 1.36
Level Compacted Berm @ 3189'

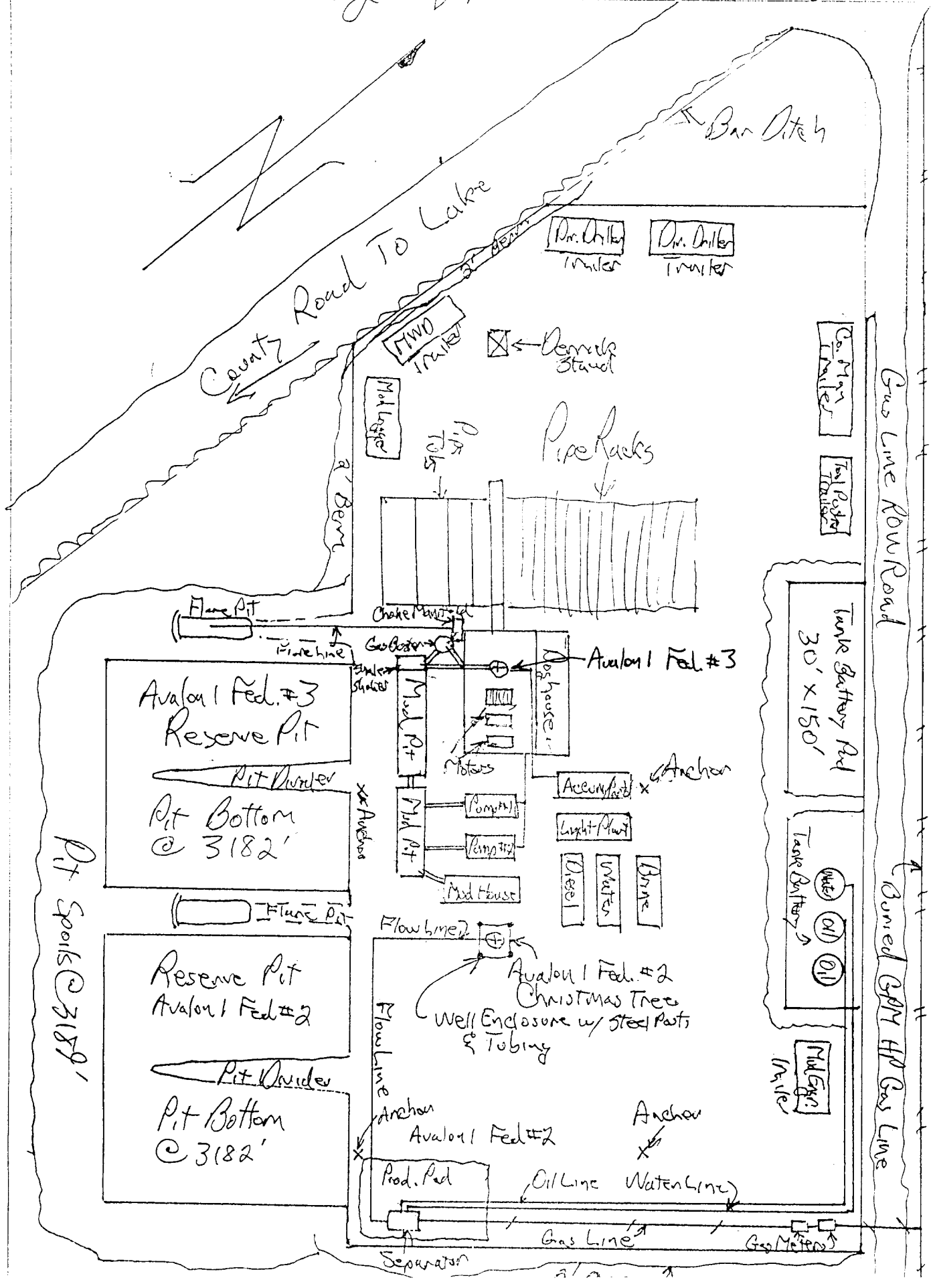
Pad Layout Avalon Fed #2 Avalon Fed #3

EXHIBIT 'H-1'



County Road
Bar Ditch & Berm
2' Berm @ 3192'
Pad Entrance 50' Wide
Gas Line ROW Road
60x60 Rig Pad Level 15" Compacted Caliche
Flare Pit
Pit Bottom Level @ 3182'
5' Pit Divider
Pit Bottom Level @ 3182'
Swal @ 3185'
Well Center Avalon Federal #3
Tank Battery Pad +6' 30' x 150
60x60 Rig Pad Level 15" Compacted Caliche
Flare Pit
Pit Spoils @ 3189'
Well Center Avalon Federal #2
Gas Line
Pit Bottom Level @ 3182
5' Pit Divider
Pit Bottom Level @ 3182
Swal @ 3185'
Pad Level Graded @ 3,190'+
130'
175'
160'
110'
185'
150'
60'
80'

EXHIBIT H: Rig Equipment Avalon 1 Fed #3



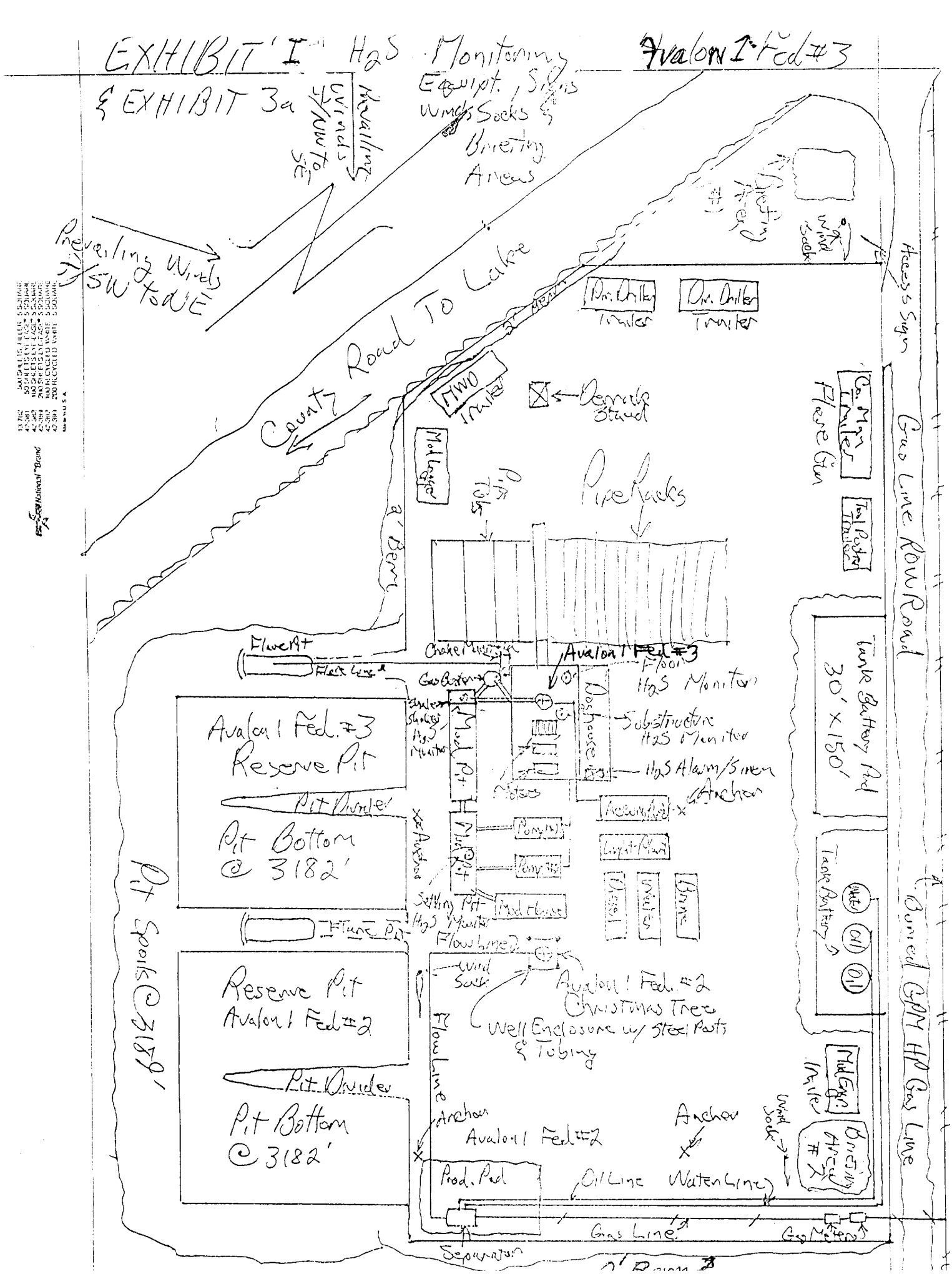


EXHIBIT 'I' H2S Monitoring Equipt. Signs Winds Socks & Briefing Areas
& EXHIBIT 3a
Avalon 1 Fed #3
Prevailing Winds SW to NE
Prevailing Winds to SE
Briefing Area #1
Wind Sock
Briefing Area #2
Wind Sock
County Road To Lake
Gas Line ROW Road
Hazard Sign
Dir. Driller Trailer
Dir. Driller Trailer
Co. Man Trailer
Flare Gun
Toilet
Mud Logger
Derrick Stand
Pipe Racks
Toilet
Tool Pusher Trailer
Tank Battery Pad 30' x 150'
Tank Battery
Flow Pit
Flare Pit
Choke Manifold
Avalon 1 Fed #3
Gas Buster
Flow Line
Mud Pit
Mud Pit
Mud Pit
Dog House
H2S Monitor
Substructure H2S Monitor
H2S Alarm/Siren
Anchor
Accumulator
Pumps
Light Plant
Diesel
Water
Brine
Mud House
Setting Pit H2S Monitor
Flow Line
Avalon 1 Fed #3 Reserve Pit
Pit Dozer
Pit Bottom @ 3182'
Pit Spoils @ 3182'
Reserve Pit Avalon 1 Fed #2
Pit Dozer
Pit Bottom @ 3182'
Wind Sock
Avalon 1 Fed. #2 Christmas Tree Well Enclosure w/ Steel Posts & Tubing
Flow Line
Anchor
Avalon 1 Fed #2
Anchor
Wind Sock
Mud Gas Sep. Trailer
Prod. Pad
Oil Line
Water Line
Gas Line
Gas Meter
Separator
Buried GPM HP Gas Line

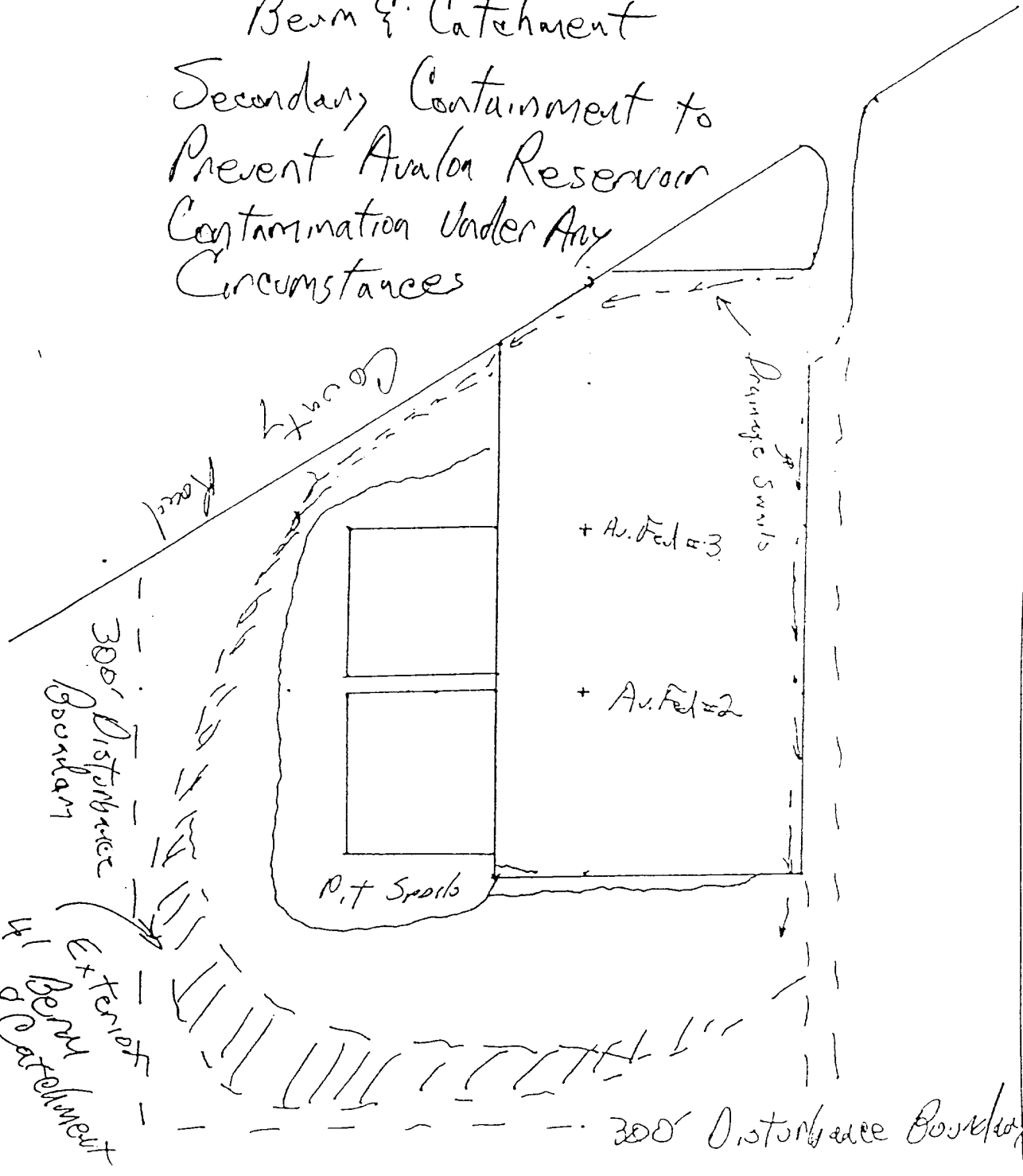
Berm & Catchment | Avalon Fed #3

EXHIBIT "J"

Avalon Fed #3

12,000 Bbl. Capacity

Berm & Catchment
Secondary Containment to
Prevent Avalon Reservoir
Contamination Under Any
Circumstances



Desert West

ARCHAEOLOGICAL SERVICES

EXHIBIT 'K'

December 28, 1999

Mr. R.A. (Bob) Schwering
BONNEVILLE FUELS CORPORATION
1600 Lincoln, Suite 1800
Denver, Co 80264

Dear Mr. Schwering:

Enclosed please find your copy of Desert West Archaeological Services (DWAS) Clearance Report for BONNEVILLE FUELS CORPORATION's proposed Avalon "1" Federal Well No. 2 (2686' FSL; 1999' FEL) and Avalon "1" Federal Well No. 3 (2762' FSL; 2075' FEL), access road and pipeline in Section 1, T21S, R26E, NMPM, Eddy County, New Mexico. Four isolated manifestations (IM) were encountered on the well location. No cultural resources were encountered on the access road or pipeline. Archaeological clearance is recommended for BONNEVILLE FUELS CORPORATION's proposed Avalon "1" Federal Well No. 2 (2686' FSL; 1999' FEL) and Avalon "1" Federal Well No. 3 (2762' FSL; 2075' FEL), access road and pipeline as presently staked. No further archaeological work should be required.

The Bureau of Land Management will review this report and make the final decision on archaeological clearance for your project.

If you have any questions, please call our office.

Sincerely,

Arita Slate

Enclosure

Xc: Bureau of Land Management, Carlsbad Field Office, Carlsbad, NM (2)

RAS & Archaeologist inspected EVERY square foot of construction site

P.O. Box 645 • Carlsbad, NM 88220 • Phone (505) 887-7646 • Fax (505) 887-2264

TITLE PAGE/ABSTRACT/ NEGATIVE SITE REPORT
CARLSBAD FIELD OFFICE

BLM/ RDO 1/95

1. BLM Report No.	2. (ACCEPTED) (REJECTED)	3. NMCRIS No.: 66733
4. Title of Report (Project Title): Archaeological survey of BONNEVILLE FUELS CORPORATION'S proposed well pad location, access road, and pipeline for the Avalon 1 Federal No. 2 (2686' FSL, 1999' FEL) and the Avalon 1 Federal No. 3 (2762' FSL, 2075' FEL) in Section 1, T21S, R26E, NMPM, Eddy County, NM.		5. Project Date(s): 12-09-99 6. Report Date: 12-20-99
7. Consultant Name & Address: Direct Charge: David Wilcox Name: Desert West Archaeological Services Address: P.O. Box 645, Carlsbad, NM 88220 Authors Name: Stephen Smith Field personnel names: Stephen Smith Phone (505) 887-7646		8. Permit No.: BLM: 123-2920-99-U STATE: NM-99-077 9. Consultant Report No. DWAS 99-17 D
10. Sponsor Name and Address: Indiv. Responsible; R.A. (Bob) Schwering Name: BONNEVILLE FUELS CORPORATION Address: 1600 Lincoln, Suite 1800 Denver, Co 80264 Phone (303) 863-1555 (ext. 215)		11. For BLM Use only. 12 ACREAGE: Total No. of acres surveyed: 8.39 Per Surface Ownership: Federal: 8.39 State: 0 Private: 0

13. Location: (Maps Attached if negative survey)
   a. State: NM
   b. County: Eddy
   c. BLM: Carlsbad Field Office
   d. Nearest City or Town: Carlsbad, NM
   e. Location: T21S, R26E; Section 1: Avalon 1 Federal No. 2; [SW ¼, NE ¼][NW ¼, SE ¼]
      Avalon 1 Federal No. 3; [SW ¼, NE ¼] [NW ¼, SE ¼]
      Access Road; [SW ¼, SW ¼, NE ¼]
      Pipeline; [SW ¼, SW ¼, NE ¼] [NW ¼, SW ¼, NE ¼] [NE ¼, SW ¼, NE ¼]
   Well Pad Footages: Avalon 1 Federal No. 2: (2686' FSL, 1999' FEL)
      Avalon 1 Federal No. 3: (2762' FSL, 2075' FEL)
   f. USGS 7.5' Map Name(s) and Code Number(s): ANGEL DRAW, NM (Prov. Ed. 1985) 32104-E2
   g. Area: Block; Impact : 500' X 610'
      Surveyed: 500' X 610'
      Linear: Impact: 50' x 606.8' Access Road: 50' X 89', Pipeline: 50' X 517.8'
      Surveyed: 100' x 606.8'

14. a. Records Search:

Location: BLM and ARMS by Stephen Smith and Arita Slate

Date: 11-18-99

List by LA # all sites within .25 miles of the project:

(Those sites within 500' are to shown on the project map)

b. Description of Undertaking: Class III pedestrian archaeological survey of BONNEVILLE FUELS CORPORATION'S proposed well pad location, access road, and pipeline for the Avalon 1Federal No. 2 and Avalon Federal No. 3 in Section 1, T21S, R26E. Both well head locations are within the surveyed 500' x 610' well pad, and will have off-set locations for the bottom of each well head (directional drilling). This project has been impacted previously by a GPM pipeline and accompanying two-track road, and is intersected along the western boundary of the well pad location by County Road 601. A small hill within the project has been mechanically excavated and caliche piled on the hill.

c. Environmental Setting (NRCS soil designation; vegetative community; etc.):

Topography: Gentle rolling hills leading into the Pecos River flood plain

Vegetation: Acacia, creosote, horsebrush, crucifix bushes, and grasses

NRCS : Simona-Pajarito association: Sandy, deep soils and soils that are shallow to caliche; from wind-worked deposits

d. Field Methods:

Transect Intervals: Straight and zig-zag transects, spaced not greater than 15 meters apart

Crew Size: One archaeologist

Time in Field: 3 Hours

Collections: N/A

(CONTINUE WITH REPORT FORM ONLY IF THERE ARE NO ELIGIBLE CULTURAL PROPERTIES. THE REMAINDER OF THIS FORM THEN BECOMES THE NEGATIVE SURVEY REPORT)

15. Cultural Resource Findings: Four isolated manifestations (IM) were encountered on the well pad. No cultural resources were encountered on the access road or pipeline.

a. Identification and description: (Location shown on Project map)

I.M. No. 1: [NW ¼, NW ¼, SE ¼] Metal coffee can, 5" diameter x 5 ¾" length

I.M. No. 2: [SE ¼, SW ¼, NE ¼] Metal portion of a wheel barrow, 32 ½" diameter x 26 ¼" wide

I.M. No. 3: [NW ¼, NW ¼, SE ¼] Metal can, bayonet opened, 4 ½" length x 3 ¼" diameter

I.M. No. 4: [NW ¼, NW ¼, SE ¼] Solder seal can, crushed

16. Management Summary (Recommendations):

Archaeological clearance for BONNEVILLE FUELS CORPORATION'S proposed well pad location, access road, and pipeline for the Avalon 1 Federal No. 2 and Avalon 1 Federal No. 3 in Section 1, T21S, R26E, is recommended as presently staked. The BLM and DWAS are to be notified immediately if any cultural resources are encountered during construction activity.

I certify that the information provided above is correct and accurate to the best of my knowledge and meets all appreciable BLM standards.

Responsible Archaeologist Stephen Smith 12-20-99

Signature Date

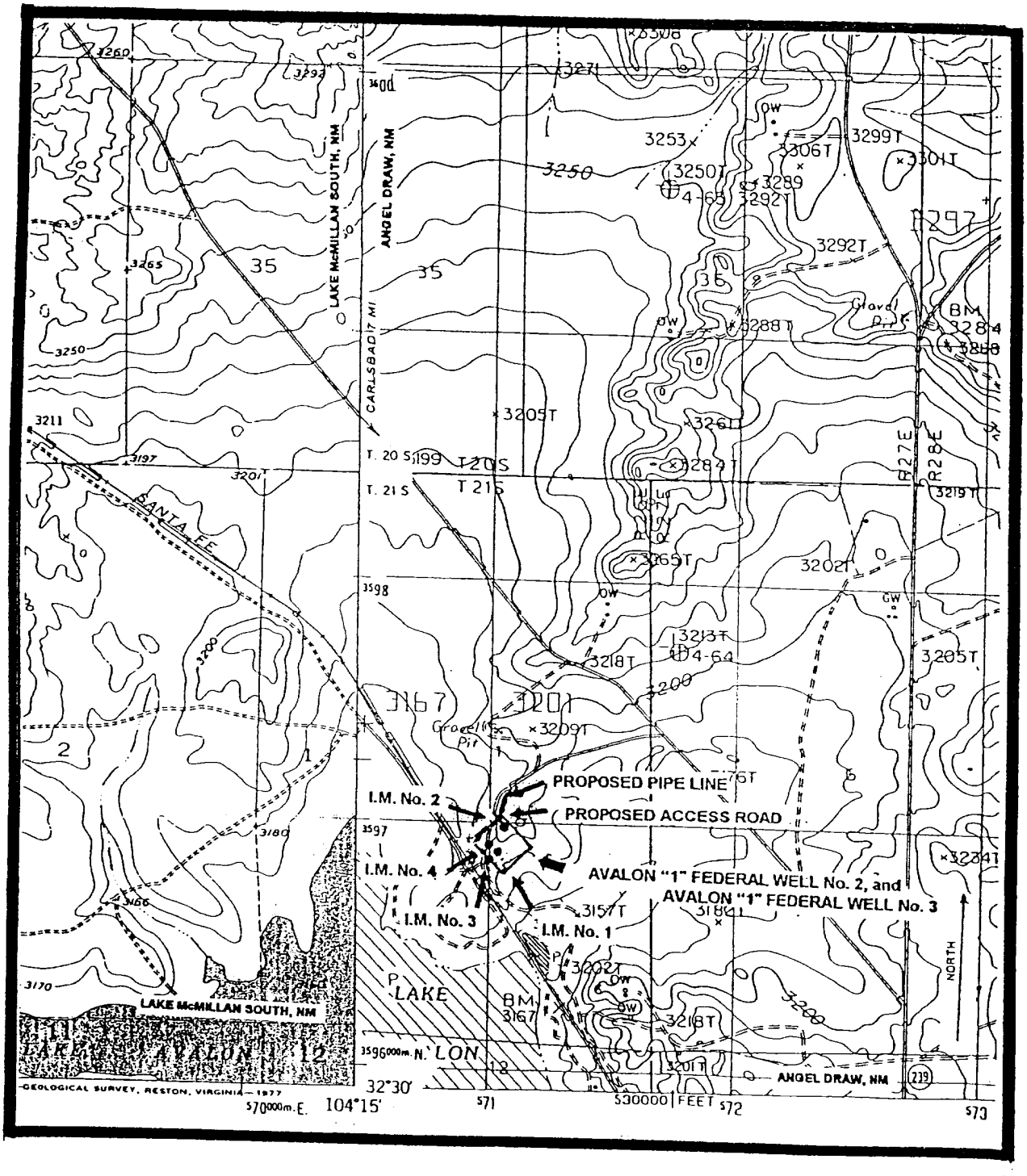


Figure 1. Map showing the location of BONNEVILLE FUELS CORPORATIONS's proposed well pad, access road and pipe line for both the Avalon "1" Federal Well No. 2 (2,686' FSL, 1999' FEL) and the Avalon "1" Federal Well No. 3 (2,762' FSL, 2,075' FEL). This project area is situated in Section 1, T21S, R26E, NMPM, Eddy County, New Mexico. Map references: USGS 7.5' Series: Lake McMillan South, NM (1955), 32104-E3, and Angel Draw, NM (Prov. Ed. 1985), 32104-E2.

Drawn by Roc H. Indermill.