Form 3160-3
(August 1999)

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED
OCD ARTESIA

5. Lease Serial No.: NM3606

6. If Indian, Allottee or Tribe Name:

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.: 27125

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.: Avalon 10 Federal #22

2. Name of Operator: Bonneville Fuels Corporation 2678 Catclaw Draw

9. API Well No.: 30-015-31653

3a. Address: 1700 Broadway, Suite 1150 Denver, CO 80290

3b. Phone No. *(include area code)*: 303 863-1555 ext 204

10. Field and Pool, or Exploratory: ~~Avalon~~ Delaware Oil, East

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: 1980' FNL, 1980' FWL

At proposed prod. zone: Same as at surface Unit F

11. Sec., T., R., M., or Blk. and Survey or Area: Sec 10, T21S, R26E NM PM

14. Distance in miles and direction from nearest town or post office*: Approx. 1 1/3 mi N of City of Carlsbad

12. County or Parish: Eddy County

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of Acres in lease	17. Spacing Unit dedicated to this well
660'	1440	40
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
1320'	4475'	Statewide bond 3104 (943C-3 TF);
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3199' GL	March 2001	19 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer. See Attached Exhibits A-K

25. Signature	Name *(Printed/Typed)*	Date
R. L. Millet	Ronald L. Millet	01/19/2001

Title: Drilling Manager

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ [illegible]		
Title	Office	

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, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

(Instructions on reverse)

NOTIFY OCD SPUD & TIME TO WITNESS
CEMENTING OF INTERMDIATE CASING

APD TABLE OF CONTENTS:

EIGHT POINT DRILLING PLAN

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

Avalon 10 Federal #22
Surface Location: 1980' FNL & 1980' FWL, Unit 'F'
Section 10, T.21S., R.26E. N.M.P.M.
Eddy County, New Mexico

1. **ESTIMATED TOPS: IMPORTANT GEOLOGIC MARKERS**
ALL DEPTHS REF. Est. KB @ 10' above Fin. GL:

Permian:	Depth:
Yates Fm.:	Surface
Capitan Reef Fm.:	390′
Goat Seep Reef Fm.:	2075′
Delaware Fm.:	
Cherry Canyon Mbr.:	2220′
Brushy Canyon Mbr.:	3360′
Bone Springs Fm.:	4265′
T.D. in Bone Springs Fm.:	4475′

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

	Formation OR Sand:	Depth:
Fresh Water:	Yates Fm.:	Surf. To 390′
	Capitan Reef:	390′ to 500′
Oil and Gas Targets:		
	Delaware Fm.:	2220′
	Cherry Canyon Mbr.:	3165′
	Brushy Canyon Mbr.:	3360′
	Bone Springs Fm.:	4265′

Projected Maximum Total Depth @ 4475′ in the Bone Springs Fm.

3. **MINIMUM SPECS FOR PRESSURE CONTROL:**

a. No Surface Blowout Preventer Stack is required to drill the Surface 17-1/2" hole to 600′ or the Intermediate 12-1/4" hole to 1,800′. Both intervals will be drilled with a conductor. The 8-5/8" Intermediate Casing will be set and successfully cemented to surface @ 1800′

3. MINIMUM SPECS FOR PRESSURE CONTROL: Continued:

b. After the 8-5/8" Intermediate Casing has been set and successfully cemented to surface @ 1800' then the Blowout Preventer Stack and Wellhead Equipment presented in Exhibit #1 for the drilling of the 7-7/8" hole from 1800' to TD @ 4475' will be rigged-up. A diagram of the Choke Manifold is presented in Exhibit #2. All BOP and Choke Manifold equipment will be rated to 3000 psi Working Pressure (WP) minimum (min).

i. A 9" 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 after the 8-5/8" protective casing 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.

c. The BOP Stack Equipment, nippled-up on the 9" 3000 psi starting head for the 7-7/8" production hole will be as follows:

i. A 9" Nom. 3000 psi WP(min) mud cross with a 2" 3000 psi WP(min)FO FE kill-side inlet and a 2" 3000 psi WP(min) FO FE choke-side outlet.

ii. A 9" 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 optional 9" Nom. 3000 psi WP(min) hydraulic annular preventer may be rigged-up if deemed prudent by the operator.

iv. An optional 9" Nom. rotating head with fill-up and flow-line connections may be rigged-up if deemed prudent by the operator. The flow-line will tie-in to an optional gas buster if the rotating head is rigged-up.

v. An optional gas buster may be installed, if deemed necessary, in order 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.

3. MINIMUM SPECS FOR PRESSURE CONTROL: Continued:

d. Choke Manifold Equipment, Safety Valves, and Kill Manifold Equipment:

i. A choke manifold consisting of a 2" 3000 psi WP min. Master Valve at the wellhead run in the CLOSED position with a 2"(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 2" 3000 psi WP[min] FE cross with a 2" 3000 psi WP(min) FO FE gate valve immediately upstream of the manifold and a 2" 3000 psi WP(min) ball/gate valve immediately downstream, of the manifold cross. Between the downstream 2" 3000 psi WP(min) FO FE ball/gate valve and the manifold cross will be a 2" 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 a 2" 3000 psi FO FE ball/gate valves between the manifold cross and a 2" FO FE 3000 psi WP(min) adjustable choke on one wing and a 2" x ¾" FO FE 3000 psi WP(min)adjustable choke on the other wing. 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 2" 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, produced fluids to a test tank, and gas to a flare pit.

ii. A 3000 psi WP(min) FO safety valve and a 3000 psi WP(min) dart valve (inside BOP), 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 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.

iii. The kill-side manifold will consist of 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 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:

d. Choke Manifold Equipment, Safety Valves, and Kill Manifold 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 MINIMUM CAPACITY OF WORKING FLUID REQUIRED BY ON-SHORE ORDER NO. 2.** 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.

e. 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.

3rd Party Test:
The 8-5/8" casing, 9" wellhead, Mud Cross, Blind Rams and all choke manifold lines/valves to the chokes/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 2,500 psi and five(5) minutes(min) to 300 psi. The Upper Kelly Valve will be hydraulically tested on the kelly for ten(10) minutes(min) to 2,500 psi and for five(5) minutes(min) to 300 psi. All of the drill collars and at least 500' of drill pipe will then be run in the hole. The Pipe Rams and the 8-5/8" casing will then be tested to 2,500 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 optional Annular Preventer (or the Pipe Rams) will again be pressure tested to 1,500 psi for ten(10) minutes(min) prior to drilling out the shoe.

3. MINIMUM SPECS FOR PRESSURE CONTROL: Continued:

f. Tripping procedures for well control:

For the 7-7/8" production hole:
The anticipated maximum bottom-hole formation pressures are 1,550 psig @ 2,505' MD (TOP of UCC Sand #3 in Cherry Canyon Member of Delaware Fm.). The anticipated mud weight in this Production Hole Interval is 8.6 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 double-derrick rig (62' avg. length per stand). The well will be monitored each 3 stands of drill pipe on trips to insure that the BHA is not swabbing the well in. The well will be filled after each 13 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 3 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.**

g. 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':
20" O.D. 94# H-40 PE Casing.

ii. Surface Casing: Surface to 600':
13-3/8" O.D. 54.5#/ft. J-55 8rd. ST&C.

iii. Intermediate Casing: Surface to 1800' MD:
8-5/8" O.D. 24#/ft. J-55 8rd. LT&C: 7.875" Drift.

iv. Production Casing: Surface to TD @ 4,475' MD:
5-1/2" O.D. 17#/ft. J-55 8rd. LT&C: 4.75" Drift.

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. Surface Casing: Single Stage:
Est. 75 F. @ 9.5 PPG mud @ 600': Cement to Surface Required:
Top Jobs if needed to bring cement to Surface.

Lead Slurry: Est. Surface to 392'.
100 % excess over calculated open-hole volume + conductor annulus volume:
250 sx. Lite (65% Class 'C' + 35% Pozzalan + 6% Gel) w/ 8% Gypsum + 5 #/sx. NaCl + ¼ #/sx. cell-flakes:
2.17 cu.ft./sx. @ 12.5 PPG.

Tail Slurry: Est. 392' to 617'.
100 % excess over calculated volume + shoe volume:
250 sx. Class 'C' w/ 2% CaCl2 + ¼ #/sx. cell-flakes:
1.33 cu.ft./sx. @ 14.8 PPG.

4. CASING AND CEMENTING PROGRAM: Continued:

iii. Intermediate Casing: Single Stage:
Est. 95 F. @ 8.6 to 10.2 PPG mud @ 1800'.
Plan Circ. Cement to Surface:
Temp. Survey & Top Jobs If Cement Does NOT Circ./If Needed.

Lead Slurry: Est. Surface to 1432'.
100 % excess over calculated open-hole volume + surface casing annulus volume:
350 sx. Pozmix (50% Class 'C' + 50% Pozzalan)
w/ 3% Gypsum + 10% Gel + ¼ #/sx. cell-flakes
+ 10 #/sx. Gilsonite
2.52 cu.ft./sx. @ 11.6 PPG.

Tail Slurry: Est. 1432' to 1800'.
100 % excess over calculated volume: Est. @
250 sx. Class 'C' w/ 2% CaCl2 + ¼ #/sx. cell-flakes.
1.34 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. @ 8.6 to 10.2 PPG mud @ 4,450'.
Est. 4,475' to 1000':

Completion Slurry:
30 % excess over calculated open-hole volume
+ intermediate casing annulus volume + shoe volume:
460 sx. Super 'C' cement consisting of 70% Class 'C'
+ 17% Pozzalan + 13% Fumed Silica
w/ 2#/sx. KCl + Additives.
1.65 cu.ft./sx. @ 13.5 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 600': Fresh Water Spud Mud:
Additives: Gel, Lime & LCM as needed to maintain circulation.
POSSIBLE COMPLETE LOSS OF RETURNS FROM 70' 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.

c. 12-1/4" Intermediate Hole: Circulate fresh water in reserve pit.
600' to 1,800': Native Mud: Fresh Water & Native Solids:
Additives: Possible Gel sweeps & LCM as needed to maintain circulation and clean the hole.
POSSIBLE COMPLETE LOSS OF RETURNS FROM 700' TO TOTAL DEPTH OF INTERMEDIATE HOLE WITH DRY DRILLING AND LCM SWEEPS TO KEEP HOLE OPEN. Est. 8.4 to 9.5 PPG @ VIS 27 to 34 sec./qt.

d. 7-7/8" Production Hole: Native Mud: Fresh Water & Native Solids:

1,800' to 2,200': Fresh Water: Circ. Reserve Pit:
Est. 8.3 PPG w/ 27 Vis.
2,200' to T.D.: Barazan D, Pac R, KCL:
Est. 8.6 to 9.5 PPG: VIS 38-55 sec/qt & 8-10 cc Water Loss.
Additives: Fresh Water - Brine, Barazan D, Pac R, KCl, and Barite f/ weight control. LCM as needed to maintain circulation.

6. LOGGING, TESTING, AND CORING PROGRAM:

a. The logging program will consist of:

i. DLL/SFL or DIL- GR/SP: Induction Log Suite Depends on Mud Salinity: Geology Call:
T.D. to Intermediate Casing.
GR to Surface.

ii. LDT/CNL - 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. Rotary side-wall cores may be taken if needed.

c. Drill stem tests are planned for the following formations IF SAMPLE/GAS/OIL shows are sufficient to merit testing:
Cherry Canyon Fm.: 2505' to 3360'.
Brushy Canyon Fm.: 3360' to 4265'.

d. 10' samples (wet) will be analyzed on-site by a geologist from the base of the 8-5/8" Intermediate Casing @ 1,800' to est. well T.D. @ 4,475' 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 600':
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 70' TO T.D.

b. 12-1/4" Intermediate Hole from 600' to 1,800':
Fresh water gradient (8.34 ppg.: 0.433 psi./ft.) or lower 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 700' TO T.D.

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

c. 7-7/8" Production Hole from 1,800' to 4475' TD:

i. Well/Pressure Control Considerations:

FORMATION TARGET:	TVD: Feet:	EST. BHP: PSIG	GRADIENT: PSI/FT	RATING:
Delaware Fm.:				
Cherry Canyon Mbr.:	2505'	1550	0.619	Abnormal
Brushy Canyon Mbr.:	3190'	1550	0.486	Normal
Bone Springs Fm.:	4265'	1750	0.410	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 8-5/8" CASING SHOE @ 1,800', TO RAISE THE MUD WEIGHT OF THE HOLE & STEEL PIT CIRCULATING SYSTEM A MINIMUM OF 2 PPG. An OPTIONAL PVT system with an optional gas buster and optional rotating head may be installed immediately after the 8-5/8" casing is set (prior to drilling out the 8-5/8" casing shoe @ 1,800'). 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 2,220' to 4475' 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 8-5/8" Casing is set at 1,800', and PRIOR TO DRILLING OUT OF THE 8-5/8" CASING SHOE. ALL RIG-SITE AND SUPERVISORY PERSONNEL WILL BE TRAINED/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 Late November after BLM APD and BOR ROW approvals are received. After NMOCD approval, as soon as a rig is available to drill this well economically, this well will be spud and drilled to a projected T.D. @ 4,475'. Anticipated spud date is March 8, 2001. Est. 15 drilling days. Est. 10 completion days and 15 days constructing site facilities. Est. 1st production on or after April 14, 2001.

CERTIFICATION:

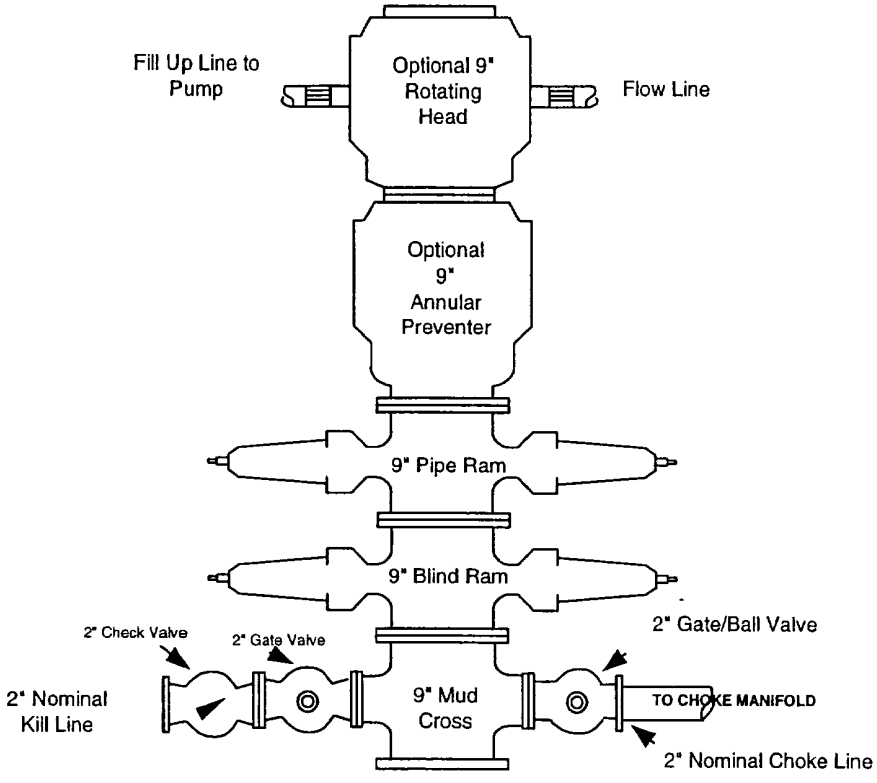
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access routes; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated 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: 1/17/01 Signature: R. L. Millet

Ronald L. Millet
Drilling Manager
Bonneville Fuels Corporation

Exhibit #1

Avalon 10 Federal #23/22 3/42
Minimum Blow-Out Preventer Requirements
All 3000 PSI WP Equipment
(Except Casinghead & Spools as Noted Below)



Wellhead Equipment :
1800'-TD

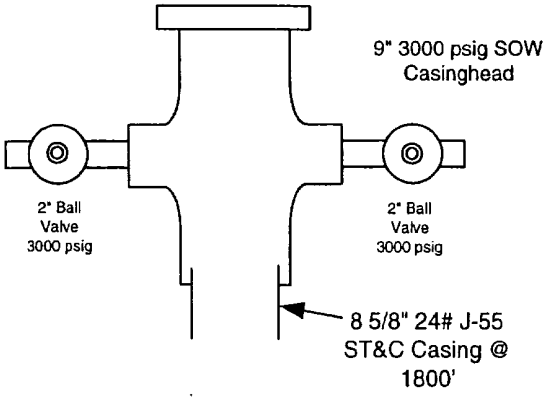


Exhibit #2

Avalon 10 Federal #/22/42
Choke Manifolds
All 3000 PSI WP Equipment

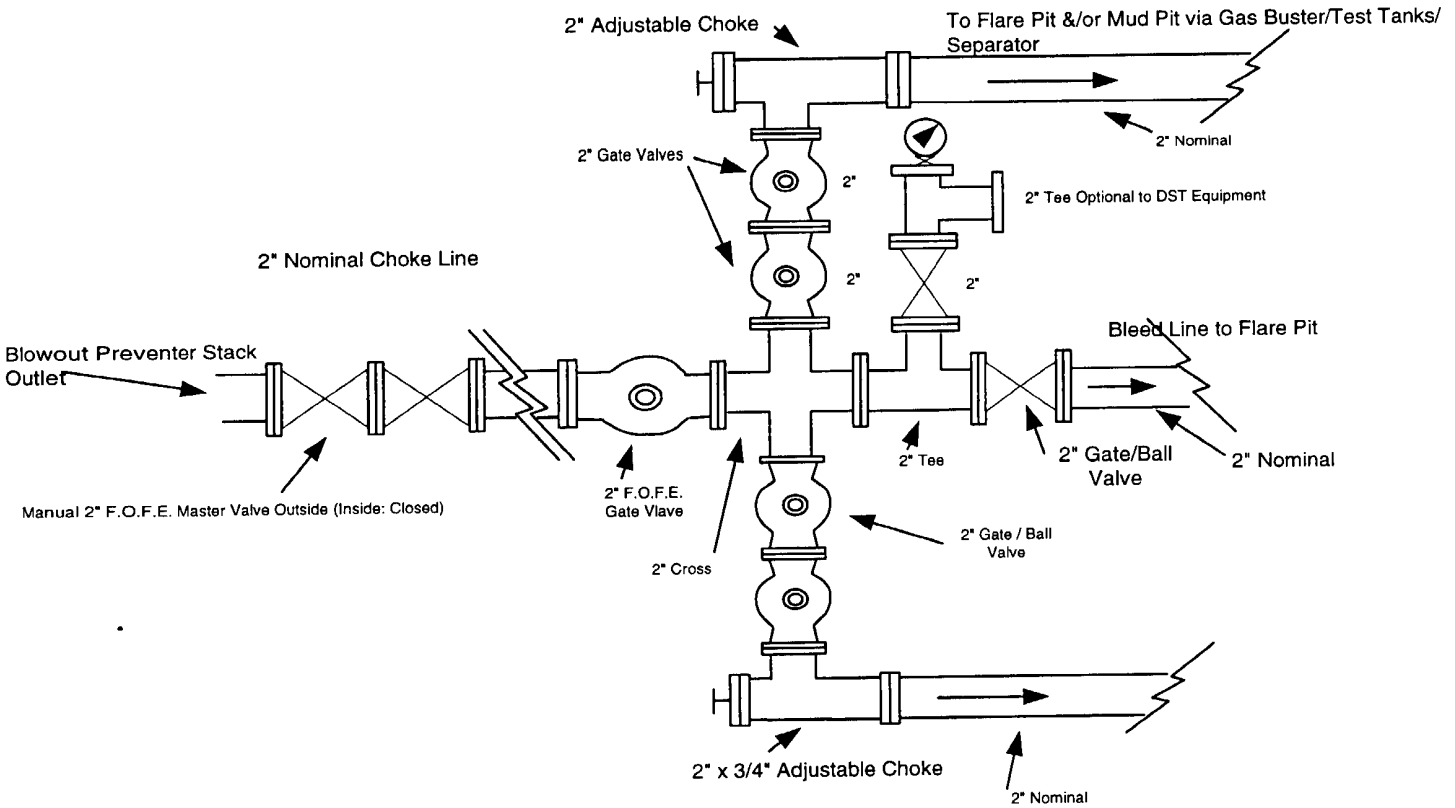


Exhibit #3
H2S SAFETY PLAN
8-Point Drilling Plan

Avalon 10 Federal #22 Well

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

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 SW corner of the reserve pit.

3. Briefing Area #2 (the secondary briefing area) will be located at the SE corner of the location where the access road enters the location. Briefing Area #2 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). An additional sign will be placed at the NE location entrance if necessary.

4. Three (3) windsocks will be placed on location with one at Briefing Area #1, one at Briefing Area #2, and one on the NW 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.

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.