Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

RECEIVED BLM
95 SEP -6 AM 10: 05
070 FARMINGTON, NM

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

5. Lease Designation and Serial No.: SF-077974
6. If Indian, Allottee or Tribe Name:
7. If Unit or CA, Agreement Designation:

1. Type of Well: [ ] Oil Well [X] Gas Well [ ] Other
2. Name of Operator: AMOCO PRODUCTION COMPANY — Attention: Gail M. Jefferson, Rm 1295C
3. Address and Telephone No.: P.O. Box 800, Denver, Colorado 80201
4. Location of Well (Footage, Sec., T., R., M., or Survey Description): 990FSL 990FEL Sec. 18 T 27 R 9W Unit P
8. Well Name and No.: Lodewick #1
9. API Well No.: 3004506463
10. Field and Pool, or Exploratory Area: SAN JUAN
11. County or Parish, State: SAN JUAN NEW MEXICO

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other Sidetrack	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Amoco Production Company requested permission to plug and abandon this well and received BLM approval 11/27/95. Amoco has now decided not to P&A this well and ask that you cancel that authorization. Amoco is now requesting permission to sidetrack, complete and test the PC and Fruitland horizon then downhole commingle the PC and Fruitland per the attached procedures.

If you have any technical questions please contact Steve Webb at (303) 830-4206 or Gail Jefferson for any administrative concerns..

RECEIVED
JAN 2 3 1997
OIL CON. DIV.
DIST. 3

14. I hereby certify that the foregoing is true and correct

Signed Gail M. Jefferson Title Sr. Admin. Staff Asst. Date 09-05-1996

(This space for Federal or State office use)

APPROVED

Approved by _____ Title _____ Date JAN 21 1997
Conditions of approval, if any:

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.

DISTRICT MANAGER
/S/ Duane W. Spencer

* See Instructions on Reverse Side

Need DD order (5)

NMOCD

✓

1. MIRUSU. Record shutin tubing, casing and bradenhead pressures. RU BOP. Pull 1 1/4" tubing.

2. RU wireline. Set CIBP at 2197' (50' above top FT perf).

3. Run freepoint on 3 1/2" casing. Run string shot to back off 3 1/2" casing slightly above free point as long as free point is below 1500' from surface. Note that cement top behind 3 1/2" casing is report at 2244' from temperature survey ran in 12/91. TOOH x LD 3 1/2" casing.

4. Run CBL from top of 3 1/2" to surface casing shoe. Identify cement top to determine if remedial cement squeeze is need to cut window through. If cementing is required, perforate squeeze holes and attempt to circulate cement to surface. If cement top is above ~1600' the KOP may be relocated to prevent this step. The build rate will be calculated to verify that the 50-100' horizontal departure can be achieved. Depths below 1500' as a KOP require excessive build rates to achieve hit the general target. The anticipated KOP is ~1500' as the maximum calculated cement height behind the 5 1/2" casing is 1000'.

5. Set CIBP at KOP. TIH w/ whipstock. Orient whipstock at 315 degree azimuth and set.

6. TIH w/ drill pipe and mill. Cut sidetrack window and mill 10' of formation. TOOH x LD drill pipe and mill.

7. RDMOSU.

8. MIRURT. NU and test BOP's. TIH w/ drill string x 4 3/4" bit. Air/mist drill hole to approximate TVD of 2600'. Pick TD to achieve 100-200' of usable rathole. Calculated build rate based on 1500' KOP and a minimum horizontal departure of 50' at the top FT coal seams is 1.5 degrees per 100'.

9. Short trip. Circulate hole. TOH w/ drill string and BHA.

10. Run 3 1/2" 9.3# J-55 casing. Land casing and cement. Attempt to circulate cement to surface. Must bring cement a minimum of 100' back into the 5 1/2" casing.

11. ND BOP. RDRT.

12. RU x run GR/CCL/TMD log from PBTD to 1800'.

13. Swab hole down.

14. Perforate PC interval based on correlating TMD log to original openhole neutron log.

15. Fracture stimulate PC according to frac schedule A.

16. Flow back PC until stabilized rate and pressure reached. This rate will be used to determine the percent allocation for the commingled FT and PC production.

17. RU wireline x tag for fill. If fill is encountered, clean out with coiled tubing or wireline dump bailer depending upon depth tagged.

18. Set Fasdril BP between top PC and bttm FT perforation.

19. Perforate FT. Perfs will be picked from TMD log correlated with the original open neutron log and offset openhole logs.

20. Fracture stimulate FT according to frac schedule B.

21. Flow back FT until rate and pressure has stabilized. The rate will be used to determine the FT percent allocation in the commingled production stream.

22. MIRUSU. TIH w/ tubing x mill. Drill out Fasdril x clean out to PBTD. TOOH w/ tubing x mill.

23. TIH w/ tubing. Size will be either 1 1/4" or 2 1/16" depending upon observed liquid production during testing. Land tubing at mid-perf depth in PC.

24. Flow test well.

25. ND BOP. NU wellhead. RDMOSU.

26. Turn well over to production pending first delivery approval.

Note: The Lodewick #1 was original drilled and completed as an openhole PC well. In 1971 the PC was cased and fracture stimulated. The PC never performed well and has cumulative production that substantially lower than its direct offsets. In 1991, the PC was abandoned and the well was recompleted to the FT. The FT was stimulated with a large slick water frac (in excess of 8000 bbl of water were pumped). The well has never been able to sustain production since its initial completion. Swabbing efforts have only recovered 450+ bbl of water over 20 total days. A test compressor was installed and again the well would not sustain production. The analysis indicates that the FT was severely damaged or water blocked due to the large volume of slick water that was pumped.

To alleviate the problem, a sidetrack is planned for the well. The well will be sidetracked and completed as a downhole commingled PC/FT well. The sidetrack will be oriented towards the NW at a 315 degree azimuth as the analysis indicates better pay FT in the N/NW direction. The orientation should also minimize the possibility of connecting back to the original FT frac due to the typical fracture orientation in the basin. The desired horizontal departure is only 50-100' as the FT has not experienced any significant drainage and the objective is to simply bypass the original completion damage.

In addition to the FT formation, the plan is to complete and downhole commingle the PC production with the FT. The rationale is that the PC is underproduced as compared to offsets and the incremental cost of adding the PC is justified by the expected rate and reserves.

Based on offset production and log analysis, the estimated initial production for the PC is 70 MCFD at an estimated reservoir pressure of 180-200 psi. The FT is expect to have an initial production of 250 MCFD with an anticipated reservoir pressure of 450-500 psi. Both of these rates are only achievable with a small wellhead compressor.

Lodewick #1
Sidetrack Cost Breakdown

MIRU, Pull 1 1/4" tbg, Set CIBP above PC	$3M
Freepoint, backoff, and pull 3 1/2" csg	$4M
CBL, Perf, and circ cement to surface	$12M
Set and orient whipstock, cut window	$25M
Drill to 2600' TVD	$20M
2600' 3 1/2" csg	$10M
Cement 3 1/2" csg	$10M
Run cased hole TMD log	$5M
Perf, frac, and test PC	$50M
Perf, frac, and test FT	$50M
Clean out, test FT/PC, run tbg	$5M
Wellhead modifications	$5M
95 bbl water pit	$3M
2" meter run	$3M
Separator	$6M
TOTAL	**$226M**

Account Breakdown:

DRA (PxA of original wellbore and cement isolation behind 5 1/2")	$20M
Repair (FT portion of sidetrack)	$125M
Major Cash (PC portion of sidetrack)	$55M
AP&F (tbg plus surface facilities)	$26M

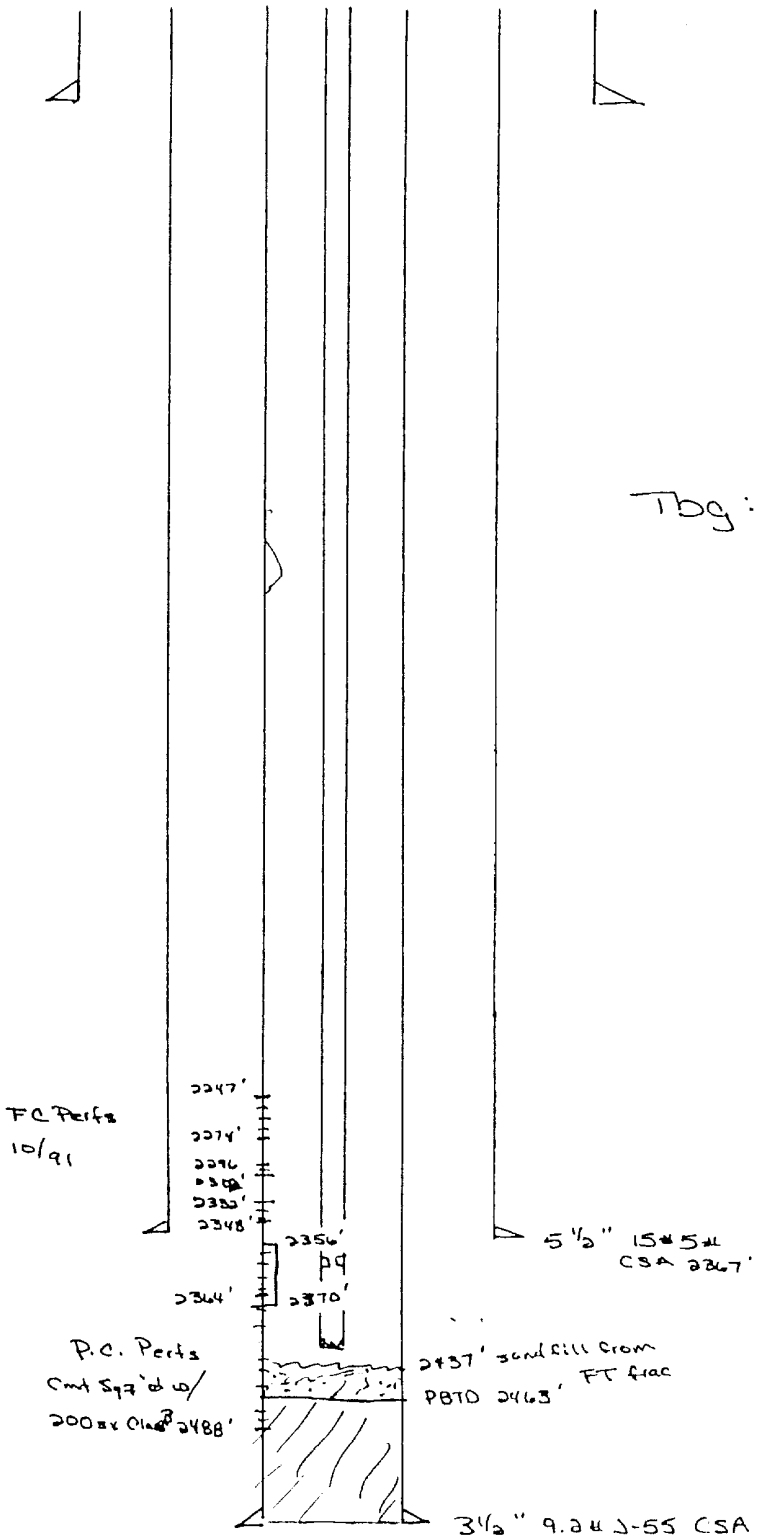
Note: All costs on a gross basis.

Amoco Production Company

ENGINEERING CHART

Sheet No ____ Of ____
File ____
Appn ____
Date 6/13/95
By JLW

SUBJECT Lodewick #1 - FT



FC Perfs 10/91

P.C. Perfs Cmt Sqz'd w/ 200 sx Class B

Tbg: 1 1/4" 2.4# J-55 SA 2400'
btm: mule shoe
1 jt tbg
Seating Nipple

FT Completion:
Perf'd 8 JSPF
Frac'd w/ 987 bbl slick H2O w/ 25780# 20/40 } 1st stage
w/ 2128 bbl slick H2O w/ 70 BPM Air + 190M# 20/40 } 2nd stage
IP = 197 MCFD

Amoco Production Company

ENGINEERING CHART

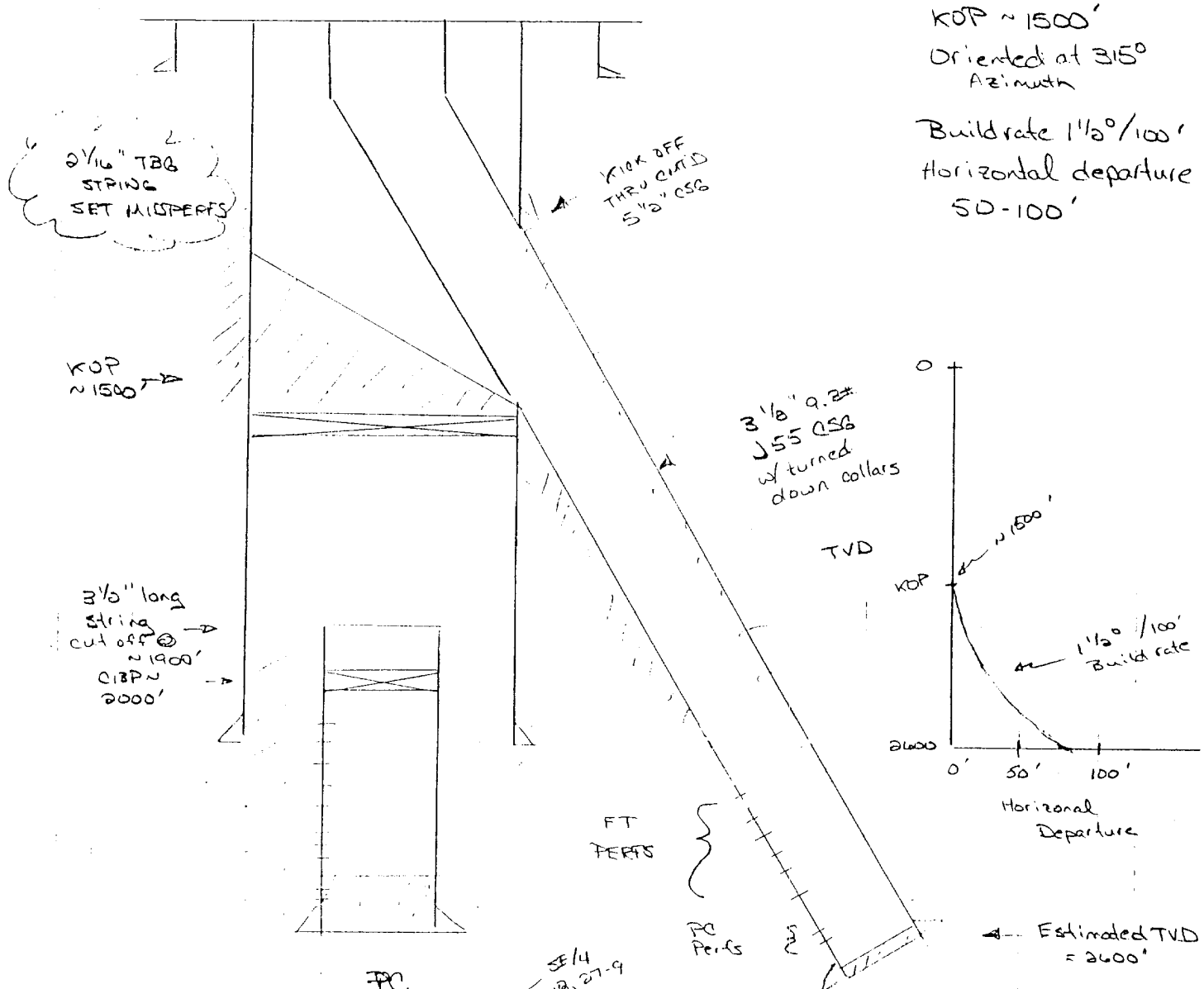
Sheet No ____ Of ____
File ____
Appn ____
Date 8/22/96
By JLW

SUBJECT Ladewick #1 Sidetrack

Proposal 990' FSL x 990' FEL, Sec 18, T27N-R9W

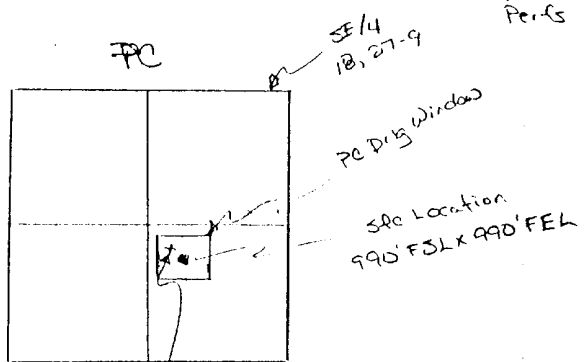
KOP ~ 1500'
Oriented at 315° Azimuth

Build rate 1 1/2°/100'
Horizontal departure 50-100'

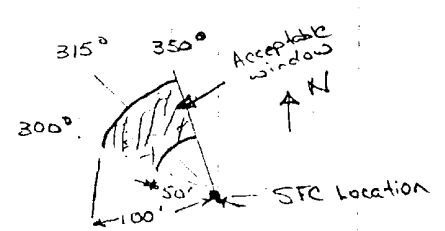


← Estimated TVD = 2600'

Currently, FT is located at a non-standard location which was approved Oct. 1991.



Target BHL hole location
50 - 100' from existing BHL @ 315° Azimuth



Lodewick #1
PC/FT Sidetrack Basis

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Farmington District Office
1235 La Plata Highway
Farmington, New Mexico 87401

IN REPLY REFER TO:

Attachment to Notice of

Intention to Workover

Re: Plug Back, Sidetrack and Recomplete

Well: 1 Lodewick

CONDITIONS OF APPROVAL

1. The Ojo Alamo is from 1373' to 1556'. Back off the 3 1/2" casing below 1600' and cut the sidetrack window at approximately 1600' or deeper. If this can not be accomplished it will be necessary to perforate the 3 1/2" casing at 2147' and place a cement plug from 2147' to 1997' inside and outside the 3 1/2" casing plus 50 linear feet of excess cement. (top of Fruitland @ 2047', top perf @ 2247')

2. **Mike Flaniken** with the Farmington District Office is to be notified at least 24 hours before the workover operations commence (505) 599-8907.