

IMPLEMENTATION COMMUNICATION #6
BRAVO DOME LEG 9 PROJECT
August 10, 1995

PROJECT SUMMARY:

EH&S

To date we have had:

One intervention.
Four near misses.
One Accident.

Additional material on the fourth near miss is provided below.

Plant: No change - Work completed 3 weeks ahead of schedule and \$490,000 (82% savings) under authorized amount. Phase II expansion is under study and should be completed later this month.

Pipeline: The steel portion of the gathering system has been completed except for one road crossing, two tie-ins and overall cleanup. A 17% cost savings from the original cost estimate is projected. First gas production (well # 2134 231G) began 7/31/95 into the 30" section. Well # 2134 021F was added a day later. After completing the pressure test of the 30", sales through the plant began 8/2/95. Please look for the production scorecard in the next update.

Re-Completions: No change. Completed the work 2 weeks ahead of schedule but \$3,000/well higher than projected (\$27,000 total). Average incremental rate gain was 1,450 Mcfd/well (450 Mcfd/well higher than expected) at a 60% higher back pressure.

Drilling: Twelve wells completed. Drilling average/well is just above 4 days and cost/well averages \$136,381 (this doesn't include the P&A well), 5% lower than projected. The west side of Leg 9 continues to challenge the us with lost circulation but we are dealing with it more effectively as we gain experience. We anticipate drilling the replacement well (superwell #2) for 1934 161L about 8/22/95.

New Completion: Started initial completion activity on 7/31 as originally scheduled. The coil tubing unit is proving to be quite successful. We had originally projected 2 days per completion but the present rate is one day per completion and the project average is 1.4 days per completion. Initial test information is interesting but not yet informative. Three wells have an average initial pitot tube test rate of 5.1_MMcf/d at a surface pressure of 35 psig. Please see discussion below for additional information on testing.

Materials: No change. All orders are on schedule. All material required to drill, complete and tie-in to Leg 9 for the additional wells has been ordered and will arrive in time to be included in the work.

Project Cost: See spreadsheet for details. The project team is now projecting the project to cost approximately \$17.6 MM. Several components may affect this cost and are explained below.

Customer Satisfaction: No change.

PROJECT DETAILS:

EH&S

We experienced our fourth near miss last week in our drilling operation while running surface casing. While attempting to pull and lay down a joint of casing the elevators released allowing the joint to drop to the rig floor (2'). The joint of casing bounced off the rig floor and pushed out the V-door towards the pipe racks by the floor hands.

A tailgate safety meeting was immediately held, causes were identified (mental lapse) and corrective measures implemented to prevent similar incidences. The Amoco foreman and rig pushers met afterwards to critique the incidence and each pusher conveyed their learning's to their rig hands and relief crews.

Plant Work Activity:

Phase I of the project is complete. The authorization of the 5 additional wells and plant expansion has put this group back to planning an expansion of the plant from 400 MMcfd to 425 Mmcfd (100% efficiency). The Plant Team is forecasting completion by year end. The Phase II work will center around expanding the dehydration and cooling capabilities.

Pipeline Activity:

Steel Trunk Line Work Activity:

Work began 6/5 and we project a completion of 8/10 for the steel portion. The steel portion installation cost is projected to be 17% under our initial cost estimate. All ROW, ditching welding and pipe laying is completed. Two lateral tie-in point associated with the road boring near Clapham and cleanup is required to complete this part of the pipeline. Funds spent-to-date is approximately \$1.82 MM of our total expected cost of \$2.28 MM.

Fiberglass Lateral Work Activity:

We have ditched 5 laterals and installing fiberglass in Laterals # 1 and 2. These two laterals should be on line by 8/14/95. This timing is being impacted by the days off of the crew which occurs from 8/9 through 8/12.

Re-Completion Team Work Activity:

No change. After completing four of the wells and determining an increase in flowing surface pressure increases between the tubing and perforating flow tests, we eliminated the post tubing flow test to minimize reservoir waste and reduce our costs. On a nine well program, we spent \$3,000 more per well than initially authorized but we also achieved an average rate of 2,500 Mcf at pressures in excess of expected well head pressures, which is 500 Mcf more than anticipated.

The Field Team has installed metering/automation equipment on 7 wells.

Drilling Team Work Activity:

Twelve wells have been completed to-date. Our 4 days/well drilling plan has been hindered by lost circulation on the wells located on the western side of the structure. Lost circulation causes delays but is being minimized. The Skull Mesa well (2234 341G) lost over 200 barrels but did not significantly header drilling progress as initially experienced. A 5% cost optimization has been achieved on the first 12 wells.

We lost our first well due to hole problems. We began losing circulation on 2134 141G about 820', remedied the problem and continued drilling. About 1400', we lost circulation again and determined our best course of action would be a cement squeeze rather than additional LCM. As we were spotting our second cement plug, the drill pipe became differentially stuck. The lost circulation zone, plus cement in the wellbore and concern over sticking wash pipe resulted in our decision to P&A. We are re-permitting this location (moved 50' East) and will redrill. Thus far, we have adjusted our surface casing depth, hydraulics and mud programs, connection procedure and rate of penetration in an attempt to handle the lost circulation problem. We are making progress but no single adjustment is providing significant results.

Completion Team Work Activity:

The coil tubing unit (CTU) is proving more efficient than we had anticipated. We had originally projected a completion rate of 2 days per well but the crews are presently averaging 1 day per well. This sure blows our plan to optimize drilling and completion activity for minimal downtime. The CTU is also generating interest from local ranchers. Several have asked for an up close view and explanation of what we are doing.

The attached spreadsheet shows each wells initial completion data. Our costs are up about 10% and should be characterized as GOOD news. The additional cost is due to the need to perforate more pay than initially projected. The only problem well we have encountered thus far is 2134 241F - this well required 9 days drill time, experienced a lot of fluid loss to the formation and initial completion results were disappointing. A large amount of drilling muds and water were recovered during flow tests and additional clean up is expected after put on line.

Materials:

No major announcements and no open issues other than a continual chase of products versus field needs. The addition of 5 wells has been addressed and this work will be feathered into existing schedules and timelines.

Project Costs:

Please see the attached spreadsheet (8_10cost.xls). Our present projection is to spend \$17.62 MM. This cost projection contains all of the scope change, cost optimization of the pipe line work, additional cost (\$4,000/well) for perforating the wells and contingency funds (\$1.5 MM) to fracture stimulate all the wells. We plan on a full investigation of costs during the next two weeks. (This shouldn't be viewed as an indication of major change - we are merely wanting to be comfortable with our projections now that we have sufficient history.) The last column represents our best estimate of the comparison of final project cost versus original authorized amount.

Team Scorecards:

Please see the attached spreadsheet (8_10sc.xls). The charts represent the Projects overall scorecards, project cost and new completion results.