

APPENDIX 6
INSPECTORS' LOG, SCOTT WELL RE-ENTRY AND PLUGGING
September to December, 1980

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- 9/29/80 Bailey Construction moved large Poclain backhoe up to site to prepare retention pond and to excavate around Marland and Scott wells.
- 9/30/80 No work done on sites.
- 10/1/80 Bailey Construction spent 1½ hours digging out old drain pipe through swimming pool dam in preparation for rebuilding as a retention pond; ½ hour spent excavating around Marland well in preparation for well head construction.
- 10/2/80 Bailey Construction spent 2 hours excavating around Scott well. Gary Staley, Colorado Well Service, arrived on site @ 4:00 pm with steel casing to weld onto Marland well for wellhead.
- 10/3/80 Colorado Well Service welder cut off top 6 feet of old Marland well casing.
- 10/4/80 No work done on sites.
- 10/5/80 No work done on sites.
- 10/6/80-10/12/80 Inspector not on site. All site preparations completed during this interval. Wellheads at both Scott and Marland wells completed by Colorado Well Service. Bailey construction built pads and reserve pits at each well, completed rebuilding of retention pond dam and overflow drain and graded access road. Deadmen anchors set for securing drill rigs at both Marland and Scott wells. Gary Staley (CWS) and Bill Bailey (Bailey Const.) tried to pull dry hole marker from Scott well with backhoe; unable to move it.
- 10/13/80
1200-1500 Colorado Well Service roading rig #15 to Scott well site.
1500-1700 Spot rig on site and begin rigging up and unloading other equipment as it arrives.
- 10/14/80
0700-1500 Continue rigging up and spotting equipment at Scott well. Equipment deliveries sporadic and usually behind schedule.

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10/15/80

0730-1600 Colorado Well Service continuing to rig up at Scott well. Three men hurt unloading equipment, one required overnight stay in Meeker hospital for fractured ankle and lacerations on head.

10/16/80

0800-1200 CWS finished rigging up @ Scott well.

1200-1500 Milled on dry hole marker with 6½" cutrite washover mill shoe, little progress. Entire 150 barrels (bbls) of water in flat tank lost into disturbed shale around cellar. Road was too slick from snow to get additional water to site.

1500-1600 Shutdown and drain up for night.

10/17/80

0800-1600 Standby, road still impassable to water trucks due to their instability. No water on site, no work accomplished.

10/18/80 Shutdown to allow road to dry up. No CWS time charged.

10/19/80 Shutdown to allow road to dry up. No CWS time charged.

10/20/80

0700-1400 Warm up rig; rig circulation equipment.

0800-1400 Milling with mill shoe over dry hole marker. Dry hole marker is cemented off center and angled into 13-3/8" steel casing. Mill penetrated casing, getting circulation water return between casing and 20" conductor pipe.

1400-1600 Shutdown milling and excavated around casing to find hole @ 4½ feet below top of casing, approximately ½ foot above bottom of cellar. Conductor pipe cut away by Tom Lujan, Lujan Drilling (observation well subcontractor). Drain up for night.

10/21/80

0800-1000 Laydown and breakout equipment to change bit from shoe to regular mill.

1000-1700 Strip off blow out preventers (BOP) and pumplines, service rig, and equipment. Welder repairing 13-3/8" casing by welding a patch over hole milled in side.

1700-2030 Unload and spot late arriving equipment.

10/22/80

0800-1000 Warm up rig, rig up circulation equipment, rig up new drill string assembly and well head equipment.



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1000-1700 Mill on dry hole marker with 8" short tooth mill.
Drilling very slow 2 feet of hole made by 1600.

1700-1730 Pull up 5' and drain up for night.

10/23/80

0800-0900 Warm rig up, rig up, and start circulating.

0900-1430 Mill on dry hole marker, very little progress.

1430-1500 Pull drill string, break out short tooth mill,
replace with 8½" flat bottom mill.

1500-1700 Mill on dry hole marker, very slow drilling.

1700-1730 Pull up 5' and drain up for night.

10/24/80

0800-1500 Rig up and mill on dry hole marker. Circulation
water return outside 13-3/8" casing through hole
milled in side of casing about 7 feet below top of
casing, 2 feet below grade.

1500-1530 Shutdown to excavate and inspect hole. Hole is
below grade and cannot be easily reached for
repair.

1530-1600 Pull out of hole, lay down equipment and drain up
for night.

10/25/80 Shutdown for casing repair, no CWS time charged.

10/26/80 Shutdown for casing repair, no CWS time charged.

10/27/80 Minimum rig charge for assembling and rigging up
new well head equipment to accommodate 9-5/8" casing
to be grouted in upper 6 feet of 13-3/8" casing.

10/28/80

0800-0900 Wait on cement.

0900-1100 Set 6 feet of 9-5/8" steel casing with centralizers
in 13-3/8" casing to provide seal where mill had
penetrated 13-3/8" casing and to serve as a cen-
tralizer for further milling. 4 cyds of cement
and sand grout filled 13-3/8", 9-5/8" conductor
pipe and bottom 2 feet of cellar. 8 hour minimum
rig charge.

10/29/80

0800-1030 Make up well head assembly and drill string, begin
circulation.

1030-1330 Mill on dry hole marker with 8½" flat bottom mill.
Bit began torqueing off center and angling for
side as soon as grout inside 9-5/8" was milled
out. Shutdown to confer with Colorado Well
Service on next approach.

1330-1400 Shutdown and drain up for night.

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10/30/80

0800-0900 Warm up rig and pull 9-5/8" casing pup.
0900-1000 Breakout flange and lay down wellhead equipment.
1000-1030 Break out mill and drill string.
1030-1500 Wait on Dotco to deliver 12½" mills and stabilizers.

10/31/80

0700-0800 Warm up rig, rig up circulation equipment.
0800-1000 Change subs and mills on drill string to accommodate 12½" flat bottom mill with stabilizer.
1000-1500 Mill on dry hole marker. Total progress as of 1500, 10/31/80 approximately 6½ feet.

11/1/80

0700-0800 Rig up circulating equipment and make change in subs on drill string.
0800-1430 Mill on dry hole marker, progress very slow, 2½ feet.
1430-1500 Drain up for night.

11/2/80

0800-0900 Change to new mill, rig up circulating equipment.
0900-1645 Mill on dry hole marker.
1645-1700 Drain up for night. Drilling continues very slow. Total drilled footage as of 11/2/80 approximately 8 feet.

11/3/80

0700-0730 Rig up circulation equipment.
0730-1645 Mill on dry hole marker.
1645-1700 Drain up for night. Drilling somewhat faster as stability of drill string improved by guying swivel to deadman (pickup truck) and stabilizer entering casing. Approximately 9½ feet progress since 10/16/80.

11/4/80

0700-0730 Rig up circulation equipment, run in hole.
0730-1300 Mill on dry hole marker. After milling for ½ foot began pushing plug down the hole.
1300-1530 Rigged up sinker bar on sand line and ran in hole. Tagged plug at 42 feet, approximate length of drill string.
1530-1600 Pull out of hole and drain up for night. More equipment necessary to allow adding lengths of drill pipe to continue milling on plug.

11/5/80

1000-1200 Rig down swivel and drill string.
1200-1630 Rig up tongs, slips and change drilling line (cable) on rig in preparation for deep milling.
1630-1700 Drain up for night, 8 hour minimum.



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11/6/80

0700-0830 Rig up circulation equipment, continue rigging up for deep milling.
0830-0930 Unload shipment of 2-7/8" drill pipe, rig up slips and go in hole, tag plug @ 42 feet.
0930-1030 Finish rigging up for deep rotation and circulation.
1030-1600 Drill and push plug to 145 feet.
1600-1630 Pull drill string out of hole to put new mill on in anticipation of pushing the plug all the way to 800 feet where the 9-5/8" casing begins. Drain up for the night.

11/7/80

0700-0730 Rig up circulation equipment.
0730-0900 Continue pushing and milling plug, begin getting old drilling mud in returns. Plug @ 350 feet.
0900-1100 Rig up stripping head and line pipe. Circulating old mud out of hole.
1100-1630 Push and mill plug down hole to 665 feet. Continue circulating old mud, wood and rope out of hole.
1630-1700 Drain up for night.

11/8/80

0700-0730 Rig up circulation equipment.
0730-1000 Mill and push plug to 790 feet.
1000-1100 Mill on plug. Progress very slow, probably milling on 9-5/8" casing.
1100-1230 Breakout stripping head. Circulate old mud out of hole, losing water.
1330-1430 Wait on water.
1430-1700 Circulate out old drilling mud, pull out of hole.
1700-1730 Drain up for night.

11/9/80

0800-1200 Breakout bottom hole assembly, rig down swivel, rig up spool and slips.
1200-1600 Run in hole with drill pipe, circulate out old mud.
1600-1700 Circulate and push drill pipe down hole, tag lower plug @ 1940 feet.
1700-1730 Drain up for night.

11/10/80

0700-0730 Rig up circulation equipment and swivel.
0730-1300 Circulate mud out of hole, wait on water.
1300-1600 Pull drill pipe out of hole.
1600-1630 Rig up Welex for logging and drain up for night.
1630-2130 Welex runs bond and gamma ray logs from 1940' to surface.

11/11/80 Standby, 8 hour minimum while Halliburton contacted for plugging.



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11/12/80

0700-1000 Rig up tongs, swivel, spool, and slips.
1000-1300 Run in hole with drill pipe, tag and pull 1 joint.
Spot 500 bbl, Frac. Master water tank.
1300-1500 Wait on Halliburton, 8 hour minimum.

11/13/80

0700-1100 Wait on Halliburton trucks to be pulled to site by
D6 caterpillar because of slick road.
1100-1130 Rig up Halliburton.
1130-1200 Pump 189 sacks (39 bbls) type G cement from 1940' to
1420' (calculated) inside 9-5/8 casing.
1200-1500 Halliburton cleanup. Clutches on rig frozen or
very stiff. Rig unable to pull drill pipe out of
cement. Got rig operating at last possible moment
before cement had set.
1500-1700 Pull drill pipe out of hole and wash out.
1700-1730 Change over tongs and drain up for night.

11/14/80

0700-0730 Rig up circulation equipment, unfreeze tongs and
clutches, etc.
0730-0930 Run in hole with 9-5/8" scrapper to clean walls in
preparation for setting packer. Tag cement @
1520 feet.
0930-1100 Pull scrapper out of hole, break out subs and
change over for pumping cement.
1100-1300 Oil Well Perforators run in hole with perforator
gun. Perforate at 1410, 1255, 1160 and 1100 feet.
OWP sets retainer @ 1085 feet.
1300-1430 Run in hole with stinger, sting into retainer,
begin injection of water. Formation broke down @
1200 psi. Inflow rate 3 bbls/min. @ 600 psi.
1430-1530 Pump cement, 200 sacks (40 bbls) type G pumped @
600 to 800 psi. Pressure held @ 400 psi.
1530-1600 Pull 15 joints tubing and wash out.
1600-1630 Drain up for night.

11/15/80

0700-0830 Pull remainder drill pipe out of hole and lay down
stringer and spool.
0830-1100 Oil Well Perforators run in hole. Tagged cement @
1076 feet. Perforate @ 1065, 1012, and 930.
Retainer set @ 865 feet.
1100-1300 Run in hole with drill pipe, sting into retainer,
rig up Halliburton.
1300-1500 Inject water into formation. Formation broke down
@ 800 psi.
1500-1545 Pump cement, 200 sacks (40 bbls) type G pumped @
700 psi. Pressure held @ 800 psi.
1545-1630 Pull 10 joints of drill pipe, wash out and drain
up for night.



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1530-1630 Pulled drill pipe out of hole and layed down stinger. Drain up for night.

11/20/80

0700-0730 Warm up rig and rig up Welex.
0730-1100 Welex runs bond and temperature log in attempt to find cement pumped yesterday, results inconclusive; no evidence found.
1100-1200 Run in hole with drill pipe to circulate mud out.
1200-1230 Rig up circulation equipment.
1230-1330 Circulate hole clean, much mud washed out but returns cleared up.
1330-1430 Pull out of hole with drill pipe.
1430-1500 Drain up for night and service rig.
1500-2300 Consulted with CWS and numerous other experienced oil field service companies. Decided to pull upper 500 feet of 13-3/8" casing. Much difficulty locating equipment, especially a casing cutter that would work in 13-3/8" casing. Casing jacks located in Craig, Rippy Construction Co.

11/21/80

0700-0800 Travelled to Craig with Jeff Clark, CWS pusher, to arrange jack rental and delivery. Rippy Construction will cut casing. Rig crew on site @ 0700.
0800-1000 Jacks loaded on truck in Craig.
1000-1300 Equipment at site moved to make room for casing pulling. Jacks unloaded @ 1230. Welder cut flange off well head.
1300-1500 Rig up jacks and drain up for night, 8 hour minimum.

11/22/80

0700-0900 Wait on welder to add extension to 13-3/8" casing for pulling.
0900-1400 Welder welding extension on casing.
1400-1600 Finish rigging up jacks and hydraulics.
1600-1730 Applied pull of over 200,000 pounds on casing to establish stretch and free point before cutting. Casing would not budge at all, upper 20 feet well anchored by cuttings between conductor pipe and casing and grout poured 10/28/80. Pressure was applied and released several times to break loose, unsuccessful. Jacks pressured up to 200,000 pounds lift and left overnight.
1730-2000 Discussed options with Bill Rippy and Jeff Clark.

11/23/80

Shutdown, no CWS time charged. Jeff Clark on site to inspect jacks. Jacks bled down overnight, repressured again.

11/24/80

0700-0800 Jacks bled down overnight, repressurized several times again. No movement. Pulling casing abandoned.



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0800-1000 Rig down jacks and move out of the way.
1000-1200 Crew rigging up rig hydraulics in preparation for continued work down hole.
1200-1300 Extra drill pipe moved up to Marland well site.
1300-1800 Consultation with service companies. 13-3/8" retrievable packer needed to test casing.

11/25/80 Trying to locate 13-3/8" retrievable packer. One found in Southern California, available after Thanksgiving. Rig shutdown until 12/1/80.

11/26/80 Standby, CWS, 8 hour minimum.

11/27/80 Standby, CWS, 8 hour minimum.

11/28/80 Shutdown, no CWS time charged.

11/29/80 Shutdown, no CWS time charged.

11/30/80 Shutdown, no CWS time charged.

12/1/80

0700-0800 Warm up rig and rig circulation equipment.

0800-0830 New flange and BOPs arrived site.

0830-0900 Unload and makeup 13-3/8" retrievable packer. (Baker Tools, Grand Junction, Ken Heidel operator.)

0900-1200 Run in hole with packer, nipple up flange and BOPs.

1200-1430 Pressure test casing with packer.

Set 1: Packer set @ 60' pumped water down casing. Casing took water freely @ 200 psi with no returns up tubing.

Set 2: Packer set @ 120', pumped through drill pipe, pressured up casing below packer to 1000 psi. No water taken. Casing is sound below 120 feet.

1430-1500 Drain up for night.

1500-1900 Options discussed with Baker Tool hand, Jeff Clark, and Halliburton engineers.

12/2/80

0700-0800 Warm up rig and rig circulation equipment.

0800-0900 Packer set @ 90 feet and water pumped down tubing. Returns of clear water up casing indicate perforations @ 100 feet are in communication with holes in 13-3/8" casing above 100 feet.

0900-1030 Pull packer out of hole, strip off BOPs and spool.

1030-1200 Wait on Oil Well Perforators. I went across White River to well being drilled by Black Eagle Petroleum. Talked with engineer from American Mud Company about detergents or mud strippers for use in cleaning old drilling mud out of annulus.

1200-1500 Oil Well Perforators rig up and perforate 13-3/8" casing from 450 to 440 feet.

1500-1630 Run in hole with packer. Set packer @ 420 feet. Pumped water @ 500 to 1000 psi through perforations.

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Established returns up annulus. Formation taking about $\frac{1}{2}$ pumping rate. Ran out of water.
1630-1700 Shutdown pumping, got flowing water back which turned muddy and warm, then turned cool and ceased.
1700-1730 Drain up for night.

12/3/80

0700-0830 Warm up rig, clean flat tank, lay line from frac tank and fill flat tank.
0830-1030 "Mud Flush" delivered from American Mud Company. Packer still set @ 420 feet. Tried to establish circulation again. Formation takes all water and flows back when pumping stopped. No return at surface, use of mud flush not possible.
1030-1130 Pumped out holes in casing above packer and down annulus. Could not establish circulation down annulus-up tubing. Reestablish flow back from below tubing, getting increasingly warm and muddy.
1130-1500 Rig line for flow back to flow into reserve pit. Drain up for night.
1500-1700 Discuss next day operation with Halliburton engineers.

12/4/80

0700-0800 I traveled to Grand Junction for meeting with DOI WPRS. Back flow checked before leaving. Flow approximately 40 gpm, temperature 35°C, E.C. 23,000 @ 25°C. Shut in pressure, 29 psi.
0800-1000 No activity at site.
1000-1200 Warm up rig and rig circulation equipment. Rig up Halliburton.
1200-1430 Rig idle waiting for my return. I returned @ 1430.
1430-1730 Pump water to establish inflow rate. Pumped 100 sacks of 12 percent cal seal, 3 percent CaCl cement, through packer set @ 420 feet and out perforations from 450 to 440 feet. Staged pumping last 5 bbls. No pressure rise. Cement over displaced to clear casing perforations. Let set 20 minutes, then moved packer, flushed cement, and reset packer @ 390'.
1730-1800 Drain up for night.

12/5/80

0700-0800 Warm up rig, rig up circulation equipment. Rig up Halliburton.
0800-0830 Opened tubing valve, no back flow up tubing. Pumped water through tubing to establish inflow rate, 2 to 3 bbls/min. @ 100 psi.
0830-0915 Pump 90 sacks of 12 percent cal seal, 3 percent CaCl cement through tubing. Pressure rose gradually to 300 psi. Displaced lines with water and staggered pumping.

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0915-1000 Pressured up to test plug. Pressure rose and held, good squeeze.
1000-1100 Pulled packer up and flushed. Reset packer and let cement set.
1100-1300 Set packer @ 30, 15, and 10 feet to test upper zones. Packer would not seat, casing is full of holes and out of round from earlier milling of dry hole marker.
1300-1430 Rig down Halliburton and break out flange. Pull packer out of hole.
1430-1500 Drain up for night.

12/6/80

0700-0800 Halliburton on site with necessary flange for bradenhead to casing. SWL Scott well @ 95.5', which is 10 feet above lower perforations @ 105.
0800-1000 Warm up rig and rig up circulation equipment. Rig up flange for bradenhead.
1000-1200 Pumped 250 sacks of 12 percent cal seal, 3 percent CaCl type H cement with 10 lbs. gilsonite per sack. Cement pumped from surface out holes in casing above 105 feet. No increase in pressure, no vacuum. Staged displacement, got gradual rise in pressure to 100 psi. Pressure bled off after pumping, displacement may be below holes in casing @ 10 feet allowing pressure to bleed off into upper foundations.
1200-1300 Rig down Halliburton and strip off flanges, break out pumping lines. Make up drill string.
1300-1400 Drill down 10 feet.
1400-1500 Pull drill string out of hole and tie back. Drain up for night.

12/7/80

0700-0800 Warm up rig and rig circulation equipment. Halliburton on site.
0800-0900 Try to pump into well, no take @ 200 psi, no cementing today. Halliburton rigged down and released.
0900-1030 Drill down 40 feet with 12¼" tricone rock bit.
1030-1200 Strip on spool and drilling head for reverse circulation drilling.
1200-1630 At 42 feet casing would not hold 150 psi. Continue to drill cement, drilling very slow.
1630-1700 Drain up for night.

12/8/80

0700-0800 Warm up rig and rig circulation equipment.
0800-1700 Continue drilling cement, Welex on site @ 1200. Generator problems forced truck to return to Vernal. No charge for this trip. Drilling very slow. 70 feet @ 1230, 80 feet @ 1700.

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1700-1730 Drain up for night.

12/9/80

0700-0800 Warm up rig, rig circulation equipment.

0800-1300 Drilling cement, very slow, 90 feet @ 1300. Lost circulation @ 1300 @ 90'. Colorado Well Service rig #30 arrives Marland well site.

1300-1400 Stripped off drilling head, pulled bit. Bit parts clogged with cement.

1400-1500 Tried to free cones on bit. Bit is shot, bearings gone in cones.

1500-1700 Pick up collars, break out bit and subs to reassemble drill string with collars for increased weight.

1700-1730 Drain up for night. New bit ordered.

12/10/80

0700-0800 Warm up rig and rig circulation equipment.

0800-1000 Continue breaking down drill sting to reassemble with collars. Wait on drill bit. CWS rig 30 continues rigging up at Marland well site.

1000-1100 Unload drill bit and change out. Strip on drilling head and spool, hook up lines, run in hole and tag cement @ 90 feet.

1100-1530 Drill cement. Drilling much faster with new bit and collars. Broke through cement @ 145 feet @ 1530.

1530-1700 Make connections to bottom, tag cement @ 410 feet, circulate hole clean.

1700-1730 Drain up for night.

12/11/80

0700-0800 Warm up rig and rig circulation equipment.

0800-1000 Drill cement to 435 feet. Begin loosing circulation.

1000-1100 Shutdown to make connections and check circulation equipment. Rigging up CWS rig #30 Marland well continues.

1100-1200 Continue drilling, no circulation, lost all water in flat tank. Frozen kelly line.

1200-1500 Wait on water. Frac tank being filled for cementing. Drilling of last 25 feet of cement abandoned.

1500-1600 Lay down swivel, break off lines, strip off drilling head and spool.

1600-1630 Pull bit out of hole.

1630-1700 Assemble bradenhead.

1700-1730 Drain up for the night.

1730-1830 Discussed cementing with Halliburton. Ordered 300 sacks type G cement with 16 percent bentonite, 5 percent NaCl and 150 sacks plain type G for standby.



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12/12/80

- 0700-0730 Warm up rig, rig circulation equipment.
0730-0800 Lay down collars and bit string, break out subs.
0800-0830 Rig up Welex, Halliburton on site, ordered additional 300 sacks type G for standby.
0830-1200 Welex runs bond log, no cement from previous cementing jobs evident. Casing perforated @ 415, 380, 350, 320, 290, 260, 230, 200, 180, 140 feet. Well begins to flow at less than 1 gpm after perforation.
- 1200-1300 Run in hole with drill pipe, strip on bradenhead assembly.
1300-1315 Mix cement and fill casing with cement from 435 to surface with 70 bbls. bentonite mix cement.
1315-1345 Pull drill pipe out of hole and wash out, replumb Halliburton to Bradenhead.
1345-1530 Bradenhead squeeze. Pumped remainder of bentonite mix and pumped 65 sacks of plain type G cement. Pressure rise very gradual. Pressure rise to 200 psi, then bleed off, staging last pumping. Slight observation well response.
1530-1730 Displacing lines and staging squeeze. Pressure buildup rapidly to 250 psi (max. cut off) then gradual bleed down. Final holding pressure 150 psi.
1730-1800 Rig down Halliburton and drain up for night. Scott well plugging complete. Dry hole marker will reerected at later date.

12/13/80

- 0930-1300 Rig down CWS rig #15, clean up site. Strip off wellhead equipment. CWS rig #30 completes rigging up. Flat tank, frac tank, drill pipe and other misc. equipment skidded up to Marland well site.
1300-1700 Road rig #15 to Grand Junction. Scott well site clear except for minor clean up.

1/13/81 Dry hole marker erected.

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