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IMMEDIATELY

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ARCO WORKING TO CONTROL PROBLEM

WELL IN SWANSON RIVER FIELD

ANCHORAGE, Ak., December 17 -- ARCO Alaska, Inc. has taken steps to handle a problem well in the Swanson River oil field on the Kenai Peninsula.

Well control specialists and equipment have been assembled in an isolated part of the field where a problem well is leaking natural gas, according to Ben Odom, ARCO Alaska senior vice president for operations.

The gas is leaking at a low rate and dissipating into the atmosphere, according to Odom.

It was discovered Friday during routine inspection, and appears to have begun subsiding yesterday.

Odom said tomorrow ARCO will begin to inject fluid down the well's tubing to shut off the flow of gas.

ARCO has temporarily suspended oil and gas production in the field pending control of the leak.

Approximately five to 20 barrels of oil initially came to the surface but was contained on the well pad. As a precaution, additional emergency berms have been built around the well site, according to Odom.

The Cook Inlet Response Organization is on standby and has oil cleanup equipment in place at the site.

-more-

FLUID MINERALS OPERATIONS
RECEIVED

DEC 18 1986

Bureau of Land Management
Anchorage, Alaska

Natural gas seeps have been found in a number of locations near the well pad, according to ARCO officials. No oil has been associated with the seeps.

An area roughly one-quarter to one-half mile radius around the site is being constantly patrolled on foot and monitored to detect any natural gas seeps. No new seeps were found today.

No liquid hydrocarbons have been detected in the Swanson River, or shallow water aquifers surrounding the well site.

There is a safety concern associated with the gas in the immediate area, but the leak does not pose a health or environmental problem, according to ARCO officials.

Representatives from the Bureau of Land Management and the U.S. Fish and Wildlife Service are on location and have been working with ARCO to deal with the situation. The Alaska Oil and Gas Conservation Commission, the U.S. Environmental Protection Agency, and the Alaska Department of Environmental Conservation have been notified.

ARCO assumed operatorship of the Swanson River field two months ago from Chevron USA.

The problem well has been shut in since 1984 because of low oil rates and has not been operated since that time.

Oil has been produced from the Swanson River field for nearly 30 years. It was one of the first fields developed in Alaska.

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EVENTS
Blowout of SCU 11-16 (A-028997)

Friday, December 12

9:00 a.m. (STATUS)

Gas reaching surface around SCU 44A-8 wellhead (high GOR SI well) NO OIL!!
Pad was under water - water bubbling 4' - 6' high, 1' pile of sand
cumulated, throwing rocks 15' from wellhead.
Wellhead sheared off of flowline.
More than 1,000 psi shown on production casing.

(ACTION)

Notified all government agencies and unit partners.
Called Boots and Coats well control specialists.
Shut-in tank setting 3-9.
Called Rowan and Brinkeroff to mobilize rig should a relief well be needed.
Secured three vac trucks to remove water off the pad.
Moved a bulldozer into the area to build a dike if needed.
All SRF oil spill equipment moved to 3-9 pad.

4:00 p.m. (STATUS)

Bubbling increasing - 4' high with spurts up to 10' high.
Boots and Coats representative to arrive Saturday afternoon.
Joe Russell is on his way to the site.

*Educated guess at this time is we have a shallow gas problem.

Saturday, December 13

7:00 a.m. (STATUS)

No change - still no oil (estimated volume venting, approximately 2-3
MMCF/day).

Water has been removed from pad.

Wellhead (44A-8) is twisted and rocking 6° to 10°.

Still attempting to locate source of gas:

Reviewing well files and logs of surrounding wells.

Attempting to locate Chevron personnel.

Will attempt to get sample of gas for analysis (shallow gas is
99 percent methane, Hemlock gas is approximately 91 percent
methane).

One week needed to mobilize rig.

Sunday, December 14

7:00 a.m. (STATUS)

SCU 44A-8 is unchanged.

Shallow water well (located on 3-9 pad) is flowing water several feet
in the air (aquifer is charged).

Noticeable noise at wellhead of SCU 11-16 (S.I.); gauges show all pressures
normal.

(ACTION)

Flowed SCU-11-16; produced black oil for two hours - no change on SCU 44A-8 status. Noise still present after flow test.

*Educated guess: Gas source is SCU 11-16, Hemlock Formation.

Snubbing unit is mobilized from Prudhoe (should arrive Tuesday to kill SCU 11-16.

Shut-in only active gas injector in this fault block.

Monday, December 15

8:00 a.m. (STATUS)

Unchanged - SCU 11-16 is very noisy, wellhead is holding.

(ACTION)

Gas analysis indicates Hemlock gas.

Killed SCU well Nos. 13-9 and 14A-9, located on pad 3-9.

Otis crew on location preparing for snubbing unit.

Brinkeroff rig can be spudded within five days of go-ahead.

Snubbing unit should be set up by Wednesday (12/17/86).

Building of relief pad is presently on hold.

*Educated guess: Problem is SCU-11-16 - double failure on production and surfacing casing at a depth of 20-250'(?).

Gas migrating through aquifer and glacial till to SCU 44A-8.

ARCO was cleaning out SCU 11-16 on Thursday, December 11 (tubing was plugged with sand and paraffin) Injected lease crude into well after completing the operation..

Currently, the pressure gauges are showing 120-150 psig on the production and surface casing.

Entertaining thoughts of placing diverter on SCU 11-16 and opening it up before snubbing unit arrives.

Will P&A SCU 11-16 and SCU 44A-8 when they are killed.

1:30 p.m. (STATUS)

Crude oil has reached surface (small amount) less than 1/2 bbl/day around SCU 44A-8. No problem at this time (FWS and ADEC notified).

(ACTION)

Working with FWS to obtain approval for relief pad. Will begin to haul gravel when approval is granted.

Preparing to kill SCU 13-9 and SCU 14A-9 by loading with kill fluid (heavy brine).

Connecting snubbing unit to SCU 11-16 (should be ready by Wednesday).

May have located hole in tubing of SCU 11-16 at 282'. Believe there is a hole in the 7" casing which allowed production into the 10 3/4" - 7" annulus which is not cemented. Gas apparently migrated around 10 3/4" casing shoe, into surface formation, and is escaping around the SCU 44A-8 casing and wellhead.

If theory is correct, blowout should cease when SCU 11-16 is killed; if it doesn't, a relief well will be spudded.

Joe Russell is returning to Anchorage.

7:45 p.m. (STATUS)

Gas and water is being released to the atmosphere at the south bank of Swanson River, located more than 90' north of 3-9 pad.

(ACTION)

Notified Cook Inlet Response Organization (CIRO) in case oil started to seep into the river.

Will monitor the bank throughout the night.

Tuesday, December 16

9:30 a.m. (STATUS)

No major changes - flow rates are about the same.

Progress has been made on connecting snubbing unit to SCU 11-16.

Approval has been granted by FWS for relief pad.

Will be located near 323-9 pad, over 1,600' northeast of 3-9 pad. CIRO has mobilized river boom to contain any possible oil pollution in Swanson River. (Barry Eldridge - CIRO)

(ACTION)

Will begin killing SCU well Nos. 13-9 and 14A-9 within an hour or two.

Are rigging up diverter flowlines to SCU 11-16.

Helicopter is onsite for air-to-surface observation of the area.

Explosion-proof light plants are being moved to 3-9 pad in anticipation of attempting to kill SCU 11-16 tonight.

Planning on shutting down Compressor Plant and all electrical lines near 3-9 pad.

*Educated guess: SCU 11-16 has produced up to 150 bbl/day with a GOR of 55,000. Has potential to flow 20 MMCFD.

Believe there is some type of obstruction in tubing or casing which is only allowing 1 MMCFD to reach the surface.

9:45 a.m.

Called Bob Richey (FWS).

Pad is approved near surface location of 323-9 and construction has begun. Brinkeroff rig No. 54 is on stand-by.

Reserve pit will be located on the north side of the pad.

The proposed pad is in the area of the 1969 forest fire.

Joe Russell and Aden Seidlitz will drive back to Swanson River Field this afternoon to witness kill attempt on SCU 11-16. Should kill attempt fail to control blowout, Aden will work with ARCO engineers on-site to initiate APD for relief well.

6:30 p.m. (STATUS)

No changes, are having some trouble rigging Halburton up on SCU 13-9. Hope to safe SCU 13-9, but will plug it if the calcium chloride pill and brine does not kill it.

Have shut-in the entire Soldotna Creek Unit.

More gas has surfaced between the 3-9 pad and Swanson River.

Joe Russell and Aden Seidlitz arrived at the field around 7:00 p.m.

Killing operations on SCU 13-9 will be postponed until daylight, 12/17.

Snubbing unit is on location and ready to go.

Wednesday, December 17

9:00 a.m. (STATUS)

John Catlin dispatched to field.

Flow decreasing around SCU 44A-8; tubing pressure dropping (gas volume is increasing at Swanson River).

No more oil observed on pad.

Ready to go on kill operation for SCU 13-9.

Relief pad is about ready. Harry Engle (263-4882) is handling APD.

Other wells in SCU are showing low tubing pressure and high casing pressure

(ACTION)

Will attempt to kill SCU 13-9.

Field is well organized and ARCO is being very safety conscious. All operations will be performed during the daylight hours (total daylight is approximately six hours). Several engineers have been sent to SRF to brainstorm the situation. Bob Richey (FWS) is very concerned about seeing oil at the vents near Swanson River. We assured him the chances were slim, but to be prepared for the worst.

Kill attempt on 13-9 was successful.

Aden Seidlitz and John Catlin returned to Anchorage approximately 9:00 p.m.

Thursday, December 18

9:30 a.m. (STATUS)

SCU 13-9 pressured up a number of times after kill operation, but was bled off. Believe we are seeing some gas bubbles $\frac{f}{10,000'}$.

No pressure on casing - believed to be good kill job.

Tried to surge SCU 14A-9, but failed. Obviously has a strong sand plug in the tubing. Will leave as is for now (believe plug will hold the pressure $\frac{f}{\text{surface}}$).

Boots and Coats are recommending they kill SCU 44A-8 before attempting to kill SCU 11-16 (ARCO not convinced).

Underground gas relief is around SCU 44A-8 and the Swanson River embankment mainly, but smaller bubbles are being seen on and around the pad.

Approximately 12 hours before they will be ready to go on SCU 11-16.

Joe Russell called to say they were attempting to pump the water out of SCU 44A-8 cellar. Also mentioned that more hose had to be ordered out of Houston $\frac{f}{\text{snubbing unit}}$.

ARCO is also placing booms in Swanson River, just in case.

1:45 p.m.

Joe called and they are still pumping the cellar on SCU 44A-8. Embankment area is getting more active; water wells 3-9 and 21B-16 are decreasing in activity.

Snubbing unit is being assembled on SCU-11-16.

4:00 p.m. (STATUS)

Unchanged.

(ACTION)

Still pumping the cellar of SCU 44A-8.

Snubbing unit is assembled on SCU 11-16.

Will attempt to hook-up and kill SCU 44A-8 in the morning, followed by use of the snubbing unit on SCU 11-16 (will be a slow and careful process).

Expect a quiet night!

8:10 p.m.

Joe checked in and said they had bent the crane trying to lift a stack of tubing. A new one will be leaving for the field about 10:00 a.m. tomorrow.

They are connected and ready to attempt to kill 44A-8.

Need crane to finish connecting snubbing unit to 11-16.

Friday, December 19

9:00 a.m. (STATUS)

Water well ceased flowing at 21B-16 location.

Have pumped enough water off 44A-8 to see surface casing.

(ACTION)

Placed kill fluid on top of plug in 14A-9.
 Bled 13-9 down again and added additional fluid.
 Will hook up 44A-8 and kill it.
 Ran probe and stethoscope on wellhead of 11-16. Possible leak may be at the tubing hanger. Plan to bring Schlumberger in with wireline to check it out. Rig up to rig down - six hours.

1:20 p.m. (STATUS)

Unchanged.

(ACTION)

Continuing to hook up 44A-8 for attempted kill.
 Crane is on the way.
 Pumped more brine in 13-9 and in the production casing/tubing annulus of 14A-9.
 APD for relief well is approved.

Saturday, December 20

9:00 a.m. (STATUS)

SCU 44A-8

Killed tubing with brine. Pumped into PC annulus.
 S.I. pressures: tubing = 0 pounds; PC = 1,500 pounds.

SCU 13-9

Pumped additional 20 1/2 barrels of brine into tubing. Still bleeding gas.

SCU 14A-9

Pumped 128 barrels of brine down PC annulus. Unable to pump into tubing. S.I. pressures: tubing = 3,850 pounds; PC = 500 pounds.

SCU 11-16

Schlumberger spinner and temperature survey across tubing hanger was inconclusive, but it does not appear there is any flow at the hangar.
 Snubbing unit is over hole with basket installed. Waiting on hydraulics.

Relief pad is graded level and ready for cellar and conductor installation.

(ACTION)

Continue rigging up snubbing unit
 Drive conductor and dig cellar at relief pad.

Sunday, December 21

9:00 a.m. (STATUS)

Tubing and casing strings on 14A-9, 44A-8, and 13-9 appear dead with essentially zero pressure.

Conductor and cellar finished on relief pad.

No sign of any oil at vents near river. Booms are in place and ice-free.

(ACTION)

Will pressure and function test snubbing unit.

Hauling in fresh water in anticipation of pumping several thousand barrels into 11-16 today (daylight hours). Will see if returns come up tubing and effect flow. If effected, will switch to water-barite system, followed by pumping cement into the annulus while flowing the tubing.

Monday, December 22

9:00 a.m. (STATUS)

No bubbles on 3-9 pad or around 44A-8. Vents near river are diminishing.

Pumped water down production casing of 11-16, saw no back pressure, pumped 550 bbls at rates up to 20 BPM. Noted water returns around 44A-8 plus gas bubbles.

Pumped brine down tubing (85 bbls). Low pumping wellhead pressure (approximately 100 psi) indicating large shallow hole in tubing or parted tubing.

(ACTION)

Preparing to snub into 11-16 at first light. Will attempt to reach a depth of 5,000' to circulate a heavy brine or mud.

4:15 (STATUS)

Snubbed into 11-16 and hit firm tag at 245'.

Rigged up wireline on 14A-9 and shot 4' at 4 JSPF in tubing just above packer - pumped + 380 sacks of cement.

(ACTION)

Set plug on 13-9.

Perforated tubing on 44A-8 and pumped cement.

Snub into 11-16 with RTTS to perform diagnostic surveys.

Tuesday, December 23

9:30 a.m. (STATUS)

Flow began again around 44A-8 (approximately 1.0 MMCFD with some water).

(ACTION)

Set packer in 11-16.

Set wireline plug-nipple above packer in 13-9 (will also place a mechanical plug above tubing for safety).

6:00 p.m. (STATUS)

Still working on snubbing unit.

Much reduced flow heard at wellhead of 11-16.

SCU 44A-8 returned to life around noon, died at 3:00 p.m.

Killed tubing with brine on 11-16.

Plug was set in 13-9. Anticipating no more problems with 13-9, 14A-9, or 44A-8

Wednesday, December 24

11:00 a.m. (STATUS)

Problems with work string (leaks) on snubbing unit. Operations have temporarily ceased. New string being flown up from Houston.

Thursday, December 25

Noon (STATUS)

Pipe arrive at 5:30 a.m.

Pulled out of hole with old string, presently running in hole with new pipe.

No decrease in activity by river. At 2:00 p.m. yeaterday, bubbling intensified in 44A-8 cellar with a corresponding increase in audible flow around 11-16. Flow could be heard approximately 30' away.

Friday, December 26

9:00 a.m. (STATUS)

Circulated 331 bbls brine in 11-16. Shot fluid levels. Circulated down tubing at 1 BPM for 72 bbls without returns. Well is dead!

Currently running noise log.

Saturday, December 27

1:00 p.m. (STATUS)

Presently pumping cement into 11-16.

Bubbling by river has ceased.

Blowout is contained.

NOTES:

Joe Russell - BLM; Petroleum Engineering Technician, Inspector

Aden Seidlitz - BLM; Petroleum Engineer

John Catlin - BLM; Environmental Scientist

Harry Engle - ARCO; Engineer

Bob Richey - FWS; Oil/Gas Coordinator Kenai NWR.

BLOWOUT SUMMARY

Soldotna Creek Unit Well No. 11-16 Blowout

Date of Occurrence: Friday, December 12, 1986.

Date Reported to BLM: Friday, December 12, 1986.

Operator: ARCO Alaska, Inc.

State/Borough: Alaska/Kenai.

Location of Blowout: Swanson River Field
Soldotna Creek Unit
Pad No. 3-9
SW SW Sec. 9, T. 7 N., R. 9 W., Seward Meridian
Lease No. A-028977.

Cause of Blowout: Tubing and casing failure.

Environmental Damage: Minimal.

Surface Ownership: Federal (Fish and Wildlife Service).

Volume Lost: Approximately 15,000 MCF.

Volume Recovered: None (all vented to atmosphere).

Corrective Action Taken: Plugged well on December 27, 1986.

Date of Inspections: December 13, 1986 - December 27, 1986.

Agencies Notified: BLM, FWS, ADEC, AOGCC, and CIRO.

N

Swanson

River

Gas relief points
12/17/86

3-9 TANK SETTING

Killed
12/17/86

13-9

44A-9

44A-9

11-16

Artesian Water Well
95 cF
12/13/86

Flare Stack

190'

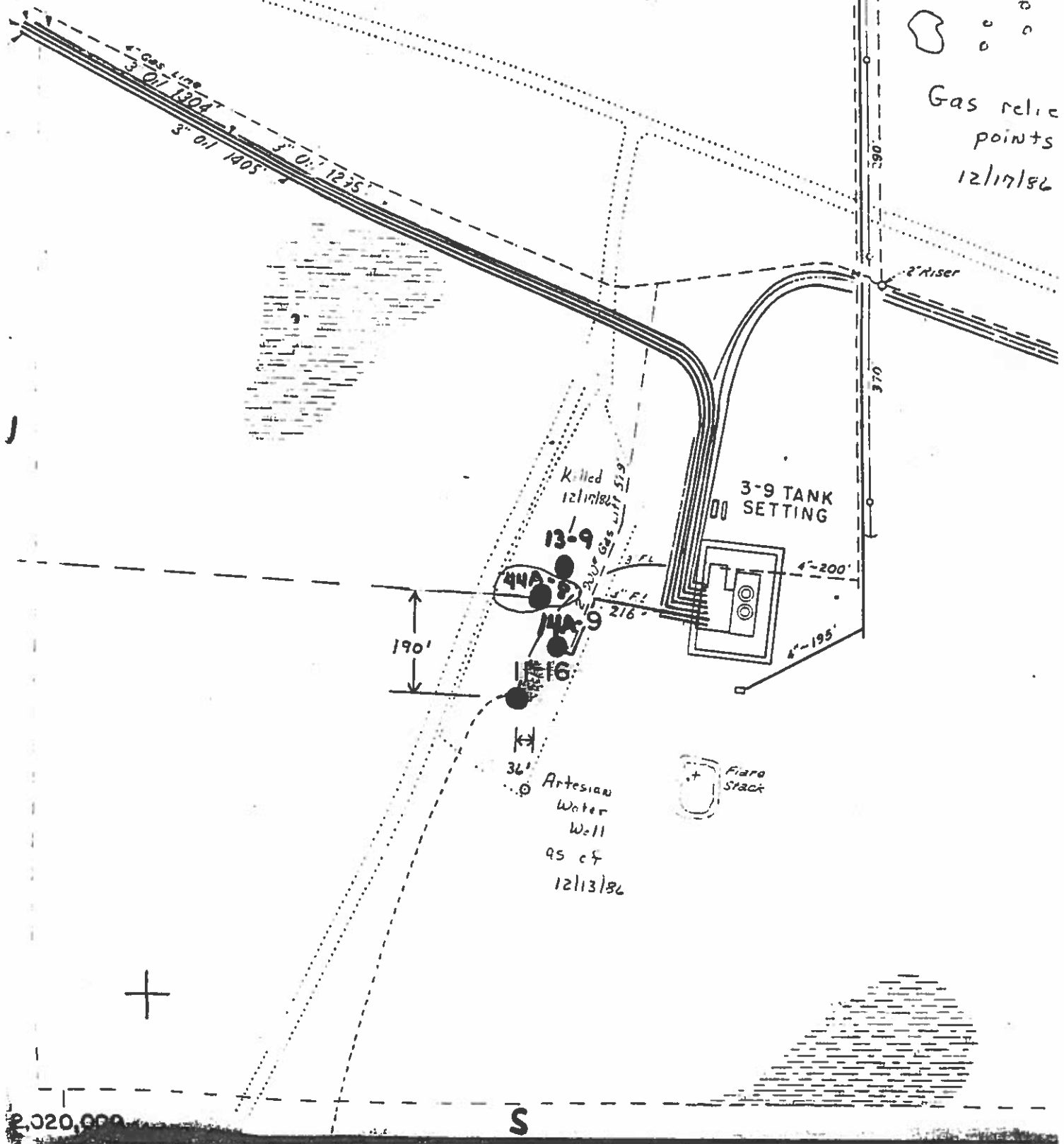
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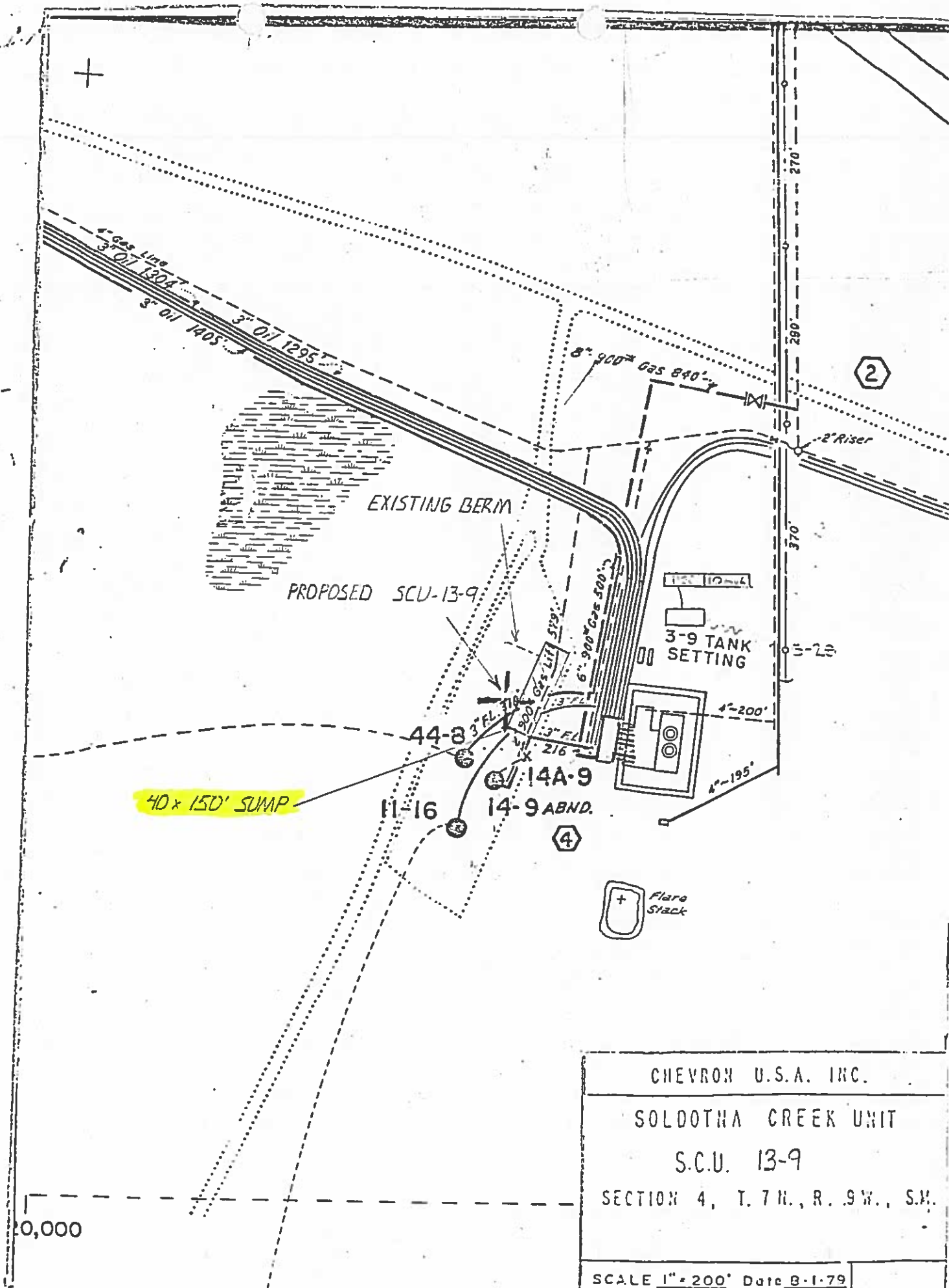
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CHEVRON U.S.A. INC.

SOLDOTHA CREEK UNIT

S.C.U. 13-9

SECTION 4, T. 7 N., R. 9 W., S.M.

SCALE 1" = 200' Date 8-1-79