



November 12, 1984

TO: Ed DiMatteo

FROM: Dennis Bicknell

SUBJECT: Observations from the field and well head pressures.

1. Operators are concerned about the well head pressure problems. Most have kept pressure records. Operators have a lot of other information filed away. There are a lot of noise logs, temp logs, etc, being run, plus some other studies. Many wells are open to the atmosphere. Some wells may have been "fixed". There is an understandable preference to keep the problem low key. Their cooperation is essential.

2. A surprising number of wells have fresh water flow from the annulus. Most of these are very close to rivers or ponds, i.e. you can see the water. Amoco and Cf&C are examples.

3. A number of wells with pressure in excess of 100 psi are high in elevation. Examples are wells in Sec 1 T4N R65W or R.G. Martin Gas Unit in Sec 34 T4N R66W.

4. Read about the Loveland well. What formation is this? Maybe the 1100' or 2500' sands?

5. Many, many reports exist of gas shows in small quantities 200' to 300' before the top of the Niobrara. How does Niobrara gas analyze in comparison to Codell gas?

6. There is an opportunity for several staff members to participate in this work. How do they get involved?

7. Where are reports (model study) from State Engineer, and Geological Survey? Not to mention COGCC? Is there such a thing? How much information is all ready gathered by any of the above groups? Is a joint meeting indicated?

8. What happens when Greeley asks for information?

9. Attached are suggestions.

OUTLINE OF SUGGESTED  
SURFACE CASING - PRODUCTION CASING  
ANNULUS PRESSURE PROGRAM  
NOVEMBER 1984

## OBJECTIVES

THE FIRST OBJECTIVE IS TO HAVE EXISTING WELLS WITH MINIMAL LONG TERM PRESSURE, AND NO FLUID FLOW FROM ANNULUS.

THE SECOND OBJECTIVE IS TO PREVENT PRESSURE BUILDUP IN NEW WELLS.

## I. Steps to accomplish Objective I.

- A. Continue field pressure readings in TWP 5N RGE 65W and 66W.
- B. Should other areas be monitored? South or west? Note that TWP 4N RGE 65W and 66W have been monitored.
- C. Make rough plat of TWP with only pressured wells. Pay attention to surface features-lakes, rivers, roads. Post information to plat and work from them.
- D. Contact operator:
  - 1. By Phone. Why hasn't operator equipped well for reading? Setup contact for COGCC field engineer.
  - 2. Office visit or phone. Will well blow down and not flow? If yes, leave open. End of that well.  
  
If no, what comes out? Gas, condensate, H<sub>2</sub>O, combination?  
  
What is operator's opinion and ideas of his well's problem?  
  
What has operator done to investigate problem?
- E. Look at individual well information and get it onto one sheet.
  - 1. Elevation
  - 2. Amount of surface casing actually run and cement volume.
  - 3. Check resistivity log for:
    - a. Sands directly under surface casing.
    - b. Does surface casing depth agree with E2?
    - c. Look for 1100' and 2500' "sands".
    - d. Look for Sussex-Shannon development.
  - 4. Find cementing record of production string. Where is actual cement top? Any DV tools or sliding sleeves?
  - 5. Other logs available?
  - 6. Geologist's report?
  - 7. Evaluate CBL if run? Get CBL logs into well file folder.
  - 8. Find mud or gas logs run in upper intervals.
- F. Evaluation of Individual well.
  - 1. Is it surface water flow? Maybe insufficient surface casing? Check elevations, length.  
  
Is it drilling mud? Flow until it cleans up, shut in and recheck.  
  
What if formation broke down at casing shoe? Water flow thru surface from ponds or rivers?
  - 2. If gas or condensate, where is cement top? Are upper formations present on resistivity log?

#### G. Remedial Actions.

1. If only water flows, is any action necessary?

Would Braden head squeeze possibly breakdown formation under casing shoe, and problems become larger?

2. If gas or condensate flows with no water sands apparent, is any action besides monitoring necessary? Distance to habitable areas?

If only gas, consider squeeze to get cement 500' above Niobrara top, or 100' above highest upper sand.

3. Consult with operator for his input.
4. Make decision, set deadline.
5. If squeeze is performed, suggest CBL after.

## II. Steps to accomplish Objective II.

- A. Learn from I.
- B. Consider increasing cement height to about 500' above top of Niobrara.
- C. Set slightly longer surface casing string in certain areas- look at plats for water flow problems.
- D. Outline "productive" intervals of 1100' and/or 2500' sands, require cement across them.
- E. Have operator furnish annulus pressure readings prior to frac, bleed down after frac if necessary, then another pressure reading after 24 hour buildup. Report on completion report with red ink. If pressure persists go thru I.
- F. Get mud log information and porosity logs on selected new wells. Use plats to pick areas in conjunction with IID.  
Get started at permit time.
- G. In areas where shallow sands are present, put cement across them rather than isolate them.
- H. Have operator furnish name of contact to work on problem wells.

writing about the old Namaqua  
was the first one built in District  
as the first one built in Larimer

es I find that Ed Grubb had the  
was in 1908. Some time later he  
any years operated a brick yard  
now. That yard was discontin-  
I believe that many of the brick  
k from Derby Hill.

near Loveland was by the plant  
e a grand manufacturing plant  
me. Now the Carl Gooch home.  
tion could be made into beauti-  
finest made. However, thru lit-

manufacturing industry is needed

The plant north of Loveland  
ut of way and about half way to

in Loveland, Colorado

## FIGHT

to 1911 the big fall festival in  
AST" Days. Usually held in the  
ation that to this day has never  
More worms were roasted alive  
ed since." Here is a little rhyme  
he "Corn Roast." We greet the  
e hope you'll enjoy our "Corn  
ain as sure as you're born, And  
ne Corn!" This celebration was  
ore says the first "Corn Roast"  
e traveled around the region in  
advertising it, in 1899, the first

f the fair. It got to be the thing  
t than anything else. In fact it  
." There were Bull Fights and  
veland the big thing was the

ciation building location was a  
House where the hose cart was

kept was right about where Pecks and Ferguson's Hardware are now.  
So the lot was back of the Fire House. Around this lot was board  
fence about ten feet high. Inside this enclosure was where the fight  
was to be held. Over on the lawn on the west side of the old Loveland  
House, and perhaps to the north some distance was chained Dan Ap-  
gar's fierce looking bull dog. For weeks before the fight this dog was  
chained out there and in a little house nearby locked up tight was  
supposed to be the badger.

This fight got so much publicity all over the country, that finally  
the State Humane Society sent representatives here to put a stop to it.  
Thomas H. Johnson, the Cowboy Senator from Colorado, in later  
years, was the big promoter of the Badger Fight. When the humane  
society ordered him to stop the fight he told them that a Badger Fight  
was going to be held. Finally the head of the State Humane Society  
and Nelly Bly, the great writer for the Denver Post, came up from  
Denver in a fancy rig, fly nets on the horses and all the white dusters  
and gauntleted gloves, to stop the fight.

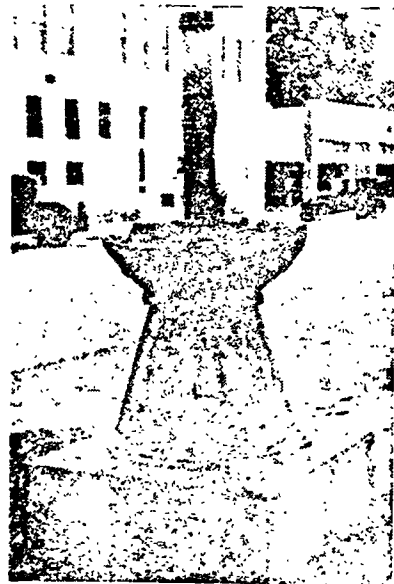
They arrived just before the fight was to take place. They drove up  
along the high board fence and stood up in the seat of the buggy trying  
to see over the fence where the fight was to take place. The fierce bull  
dog was led growling, and bristling from his chained abode, and Tom  
Johnson prepared to pull the ferocious badger from the heavy box  
where he was kept. Miss Nelly Bly and the Humane officer were still  
standing up in the seat of the buggy when this happened. Tom  
pulled out a long rope and on the end was a very fancy bed chamber  
filled with cider and doughnuts.

Miss Bly and the humane officer slunk down in the seat of the buggy  
and got out of town as fast as the horse could go.

## LOVELAND ARTESIAN WELL

The artesian well at the corner of Fourth and Cleveland Avenue, in  
Loveland, was drilled in 1885 by the Swan Brothers, in quest of water  
to supply the city. It is 2742 feet deep and cost the city the sum of  
\$14,000.00. There was not sufficient flow of water to supply the orig-  
inal inhabitants, even; then it was found not to be fit for general use.  
The city had to sell bonds in order to build a wood pipe line to the  
mountains to get water. The water flows intermittently along with a  
gas that will burn when it is ignited. Shortly after the well was com-  
pleted the owners of the Opera House, then up over the W & T Drug  
Store, conceived the idea of piping the gas to light the show house.  
This they did, and the first show was Uncle Toms Cabin. It worked all  
right for about half the show then the gas ran out. The water is all  
right to drink although one has to get used to it. The water has

335  
*From Over Hill & Dale, Wm Deering,*  
1956

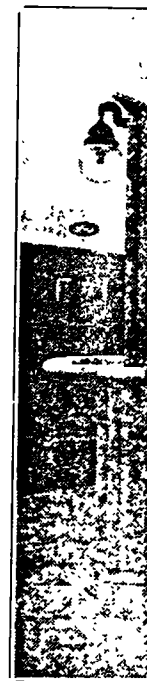


The old Water and Gas fountain on Fourth and Cleveland in Loveland since 1885.

certain amounts of iron, sulphur and Epson Salts in it . . . People have been drinking it since 1885 and many say it is very beneficial as a health drink. Loveland is passing up a good thing by not advertising it as a drink of medicinal value. Folks take barrels of medicine that tastes ten times worse than this water does.

In November 1932 the old fountain was removed and a new Terra Cotta one was erected. Provision was made for both gas and electric lights on the fountain. The gas light was over the mineral water side and the electric light over the city water side. The gas idea didn't work so well; it would burn a while and then go out, just as it did for Uncle Toms Cabin. Inside the fountain is a tank for the storage of the gas; but the tank isn't large enough or else there just isn't enough gas coming from the well. Old timers say the well has never stopped giving forth water and gas even through the dryest years.

Several times during the past few years the well has sent forth great quantities of crude oil. I remember seeing the gutter full of old black oil not so many years ago. The water tasted terrible a long time after that. Geologists argue that a great body of oil lies under the city from this fact that black oil comes from somewhere down along that 2742 feet of pipe. They claim that the old pipe could have rusted out and allowed the oil to enter anywhere along the line. I say Loveland



Water and C

should drill for oil right in the old town up anyway. Come v the well continues to run he; if a match is put under the s

In November 1932 I secu memory of David Barnes on this plate I attached on the r persons have just about ruin city should have a new one b of us and it would not crum has. This well is one of th Bronze plaques should be plac that it is 2742-feet deep and th and the interesting contents o Ripley featured it in his "Bel Many articles have been w romantic nature. The best I t



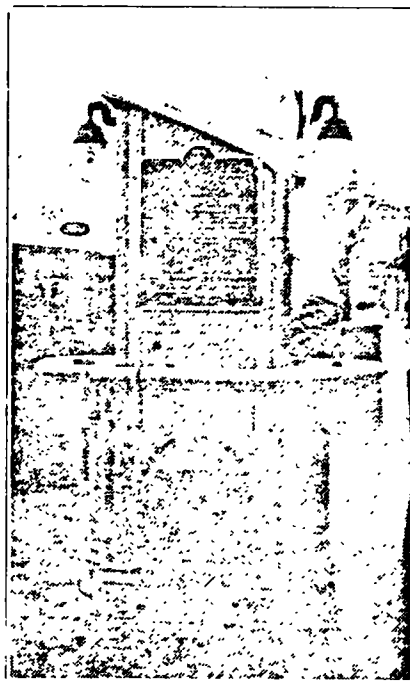


Fountain  
in Love-

Salts in it . . . People have  
it is very beneficial as a  
d thing by not advertising  
e barrels of medicine that

removed and a new Terra  
for both gas and electric  
ver the mineral water side  
side. The gas idea didn't  
n go out, just as it did for  
a tank for the storage of  
lse there just isn't enough  
he well has never stopped  
dryest years.

e well has sent forth great  
he gutter full of old black  
terrible a long time after  
il lies under the city from  
ere down along that 2742  
ould have rusted out and  
he line. I say Loveland



Water and Gas Fountain in Loveland.

should drill for oil right in the middle of the street. It would wake the old town up anyway. Come what may and come what has, in the past, the well continues to run health-giving water, and gas that will burn if a match is put under the spout.

In November 1932 I secured a bronze plaque for the D.A.R. in memory of David Barnes on whose land Loveland was founded, and this plate I attached on the north side of the fountain. Inconsiderate persons have just about ruined the west side of the fountain. The city should have a new one built of granite from the mountains west of us and it would not crumble to pieces like the imitation-rock one has. This well is one of the most unusual to be found anywhere. Bronze plaques should be placed on it selling it to the public. The fact that it is 2742 feet deep and the fact that it has been running since 1885 and the interesting contents of the water is enough to make it famous. Ripley featured it in his "Believe it or Not" column in January 1941. Many articles have been written about it and even rhymes of a romantic nature. The best I have seen is by the late Ira D. Payne.

### THE OLD ARTESIAN WELL

In dear old Loveland Town, that nestles near the hills,  
Where mountain breezes often blow, and the heart gets many thrills:  
There is an old artesian well, that flows both night and day,  
To quench the thirst of every man, and help him on his way.

" 'Tis very deep," old timers say, "two thousand feet and more,"  
Down into Earth's old crusty shell, into precious ore;  
Of sodium much it does contain, it tastes so much like salt.  
And human ailments it will cure, the blind and even halt.

Much sulphur too, the water holds, and tourists in delight  
Watch it burn in lurid flames, so flickering and bright;  
The gurgling water comes in spurts, that are so regular,  
They must by Nature be controlled, they are so singular.

The old well is the meetingplace, of townsfolk young and old,  
Here youth and maiden plight their troth, the sweetest story told:  
Here sages wise discuss the plans, of governmental sway,  
Each one can guide the Ship of State in his own secret way.

Here also village gossip reigns, without an intermission,  
To cast upon the innocent, the mantle of suspicion.  
It cares not 'bout the truth at all, "They say," is all it knows,  
And hearts are crushed, and tears are shed, as on its way it goes.  
And oftimes in the evening cool, street vendors gather there,  
To shout the merits of their wares, in voices loud and clear;  
They say their dope will cure all ills, from bow-legs to bald head,  
And some will buy the measley pills; the fools are not all dead.

Here, too, the tired farmer comes, at close of toilsome day,  
To look for help among the crowd, that loiters 'long the way:  
And thus it's like a labor bureau, this well of ripe old age,  
It hears many a heated argument about the daily wage.

And children, too, come skipping up, with pitchers shining white.  
To take the cooling water home for tired home-folks at night:  
It is the meeting place of all, the feeble and the well,  
We often hear the cheery call, "I'll meet you at the well."

The horse drawn rigs of long ago, this well has seen go by,  
Where now the twin six motor car glides swiftly by on high;  
And the little Ford now rambles on, it seems so very odd,  
Where years ago it could be said, that horses feared to trod.

