BEFORE THE

Oil Conservation Commission

SANTA FE, NEW MEXICO

April 20, 1955

IN THE MATTER OF:

CASE NO. 469 - Regular Hearing

TRANSCRIPT OF PROCEEDINGS

ADA DEARNLEY AND ASSOCIATES
COURT REPORTERS
605 SIMMS BUILDING
TELEPHONE 3-6691
ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 20, 1955

IN THE MATTER OF:

Application of the Atlantic Refining Company for permission to drill its proposed Denton Gasoline Plant SWD Well No. 1 located 200' FWL and 1150' FNL of Section 11, Township 15 South, Range 37 East, for disposal of salt water produced from liquified petroleum gas storage cavities operated by applicant.

Case No.869

BEFORE:

Mr. E. S. (Johnny) Walker
Mr. William B. Macey

TRANSCRIPT OF HEARING

MR. MACEY: The next case on the docket is Case 869.

MR. HINKLE: Clarence Hinkle, representing Atlantic Refining Company. This is the application of the Atlantic Refining Company for permission to drill a salt water disposal well in connection with some storage facilities which it proposes to erect in connection with the Denton Gasoline Plant.

In connection with the application that was filed, we wish to make two corrections, amendments, by interlineation, in the application which was dated March 15, 1955. In the first paragraph it is stated that the object is to obtain permission to inject water into the Atlantic Refining Company Denton SWD No. 1 at approximate interval of 1,300 feet to 2,100 feet. That should be 1,800 feet instead of 1,300 feet. Make it read, 1,800 feet to 2,100 feet.

The other correction is in Paragraph 4 and it shows there that

the four and a half inch casing was to be set at approximately 1,300 feet. That should be 1,795 feet.

R. J. ALDRICH, JR.,

By MR. HINKLE:

Q State your name, please.

A R. J. Aldrich, Jr.

Q By whom employed?

A Atlantic Refining Company.

Q In what capacity?

A Reservoir Engineer.

Q Are you a graduate engineer?

A Yes, sir, I am.

Q What school? A Oklahoma University.

Q What year? A 1950.

Q Have you been engaged in engineering practice since that time? A Yes, sir.

Q With the Atlantic?

A I have been employed by Atlantic for approximately the last four years.

Q In what capacity have you been employed by them?

A As a reservoir engineer for the last two years. Prior to that time I was in the Production Engineering Department.

Q Are you familiar with Atlantic's operations in the Denton area?

A Yes, I am.

Q And with the operation of their gasoline plant and facilities in connection with it?

A Yes, sir.

Q Who is the plant owned by, the gasoline plant in the Denton area?

A The Denton Gasoline Plant is owned by 30 individuals and companies. The Atlantic Refining Company is the operator of the plant.

Q What is the purpose of the gasoline plant?

A Well, the purpose of the plant is to extract gasoline and liquefied petroleum products from the casinghead gas that is produced from the Denton Field.

Q What are some of the products that are extracted from the gasoline?

A Propane and butane.

Q Has Atlantic made any preparations preparatory to creating storage facilities for butane and propane?

A Yes, we have obtained orders by the Commission, No. LPG No. 7 and LPG No. 8 which authorizes the Atlantic Refining Company to complete the Denton Gasoline Plant, LPG No. 1 and Denton Gasoline Plant LPG No. 2 Wells for storage of liquefied petroleum gasses.

Q How will the wells be used for the storage of butane and propane?

A Well, the product will merely be injected into the well for storage.

Q How will you create the storage facility or reservoir?

A The cavern will be created by washing the salt section with fresh water. The purpose here is to, of this application is to obtain permission to dispose of this water that we get back from the LPG wells, by injecting it into the Santa Rosa Formation at approximately 1,795 to 2,100 feet.

Q Will this, in your opinion, be in the interest of conservation and prevention of waste in any way to create these reservoirs?

A Yes, sir, it will.

Q In what way?

A Well, the need for storage is created, we need the storage in order to offset the seasonal demand of liquefied petroleum products. The market conditions are such that the products can not be marketed always at the time that they are produced. This additional storage will reduce the necessity of flaring the products to a minimum and will be in the interest of conservation and prevention of waste.

(Marked Atlantic's Exhibit No. 1 for identification.)

Q I hand you Atlantic's Exhibit No. 1 and ask you to state to the Commission what that shows.

A This plat shows a portion of the Denton field, including the north half of Section 11 that is located in Sections 2, 3, 10 and 11, Township 15 South, Range 37 East, Lea County, New Mexico.

The plat shows the Denton Gasoline Plant site, the location of the Denton Gasoline Plant LPG No. 1 and the location of the Denton Gasoline Plant LPG No. 2 Well. It also shows the proposed location of the Denton Gasoline Plant SWD No. 1 Well. This well is to be located 1,150 feet from the north line and 200 feet from the west line of Section 11, Township 15 South, Range 37 East.

This plat also shows all of the offset oil or gas wells. All of the wells that may be drilling and all the dry holes within a one half mile radius of this proposed location.

Q From what formations are the oil wells shown on the plat producing?

A The oil wells are producing from the Wolfcamp Formation between nine and ten thousand feet depth, and the Devonian Formation, which is approximately eleven to twelve thousand foot depth.

Q Has LPG No. 1 and LPG No. 2 been drilled?

A Yes, sir, they have.

Q What depth are they?

A Around 2,900 feet, as I recall.

Q Do you know the character of the land upon which this proposed well is to be located, that is, whether it is fee land?

A It is fee land.

Q Do you know whether the Atlantic has obtained the consent of the surface owner and of the oil and gas lease for the drilling of this well?

A Yes, sir, we have.

Q Who owns the oil and gas lease?

A Phillips Petroleum Company.

Q Why was the Santa Rosa formation chosen as one that would probably be suitable to inject the salt water?

A Well, it is based on our belief that the formation would take fluids at rates equal to, or in excess of the desired injection rate and the belief that the proposed interval of injection did not contain portable water.

Q Did you make any tests to find this out?

A About the injectivity of it?

Q Yes.

A Yes, a test was conducted on the Denton Gasoline Plant LPG No. 1 Well in the interval of 2,032 feet to 2,107 feet. The average injection rate for 13 hours was 145 gallons per minute with an

injection pressure of 2,250 PSI, the injection rate during the last seven hours of the test was 151 gallons per minute at 2,250 PSI. This is approximately the injection rate that is desired. The interval of this test represents about only 68 feet of the 305 feet that is proposed for injection. The additional section, in all probability will result in a more favorable pressure at the desired injection rate.

Q Did you make any test to determine whether the Santa Rosa Formation at this interval was carrying any water?

A Yes, a drillstem test was conducted in the Denton Gasoline LPG No. 2 Well. The test covered the interval of 1,717 feet to 2,000 feet. The formation did carry water. However, this drillstem test did not indicate the water to be in appreciable quantities.

Q Did you have an analysis made of the water in this formation?

A Yes, sir, the water was analyzed. This is an analysis of the water. This was obtained, as I stated, from the Denton Gasoline Plant, LPG No. 2 Well in the interval of 1,717 feet to 2,000 feet. Total solids were 4,319 parts per million; sodium1,352 parts per million; calcium 40 parts per million; magnesium 8 parts per million; iron 0 parts per million; chlorides 456 parts per million; bicarbonate 246 parts per million; sulphates 2,205 parts per million; carbonates 12 parts per million; hydrogen sulphide o parts per million. PH value of 8.6.

Q From the analysis if the character of water such that it can be used commercially or for irrigation, or for any other purpose?

A Oh, it isn't in my opinion, it isn't potable water.

Q What rate do you propose to inject into the well, how many barrels a day?

A We anticipate that 5,000 barrels of water per day will be

the maximum rate that we will need to inject.

Q Drilling this well, how do you propose to protect the Santa Rosa and other formations down to the Santa Rosa?

A The surface pipe will be set at approximately 325 feet and cemented to the surface. The four and a half inch casing string will be set at approximately 1,795 and also will have cement circulated to the surface.

Q Will that effectively prevent the water from entering any other formation except the interval that you have testified to?

A In my opinion it will.

MR. HINKLE: I would like to offer Atlantic Exhibit No. 1 in evidence.

MR. MACEY: Without objection it will be received in evidence.

Q Mr. Aldrich, do you have an electrical log of either of the LPG No. 1 or LPG No. 2?

A Yes, I have an electric log of LPG No. 1 Well.

MR. HINKLE: Would you have the reporter mark that, please?

(Marked Atlantic's Exhibit No. 2, for identification.)

Q Referring now to Exhibit No. 2, what does the electrical log show?

A This is an electric log of the Denton Gasoline Plant LPG No. 1 Well. It shows the proposed four and a half inch casing will be set at approximately 1,795 feet and that the proposed total depth of the well is 2,100 feet. The interval between is the approximate interval for injection.

Q Do you know whether or not the Santa Rosa Formation is productive of oil and gas in this particular area, or any other area

in Lea County?

A To my knowledge it is not.

MR. HINKLE: I believe that is all.

MR. MACEY: Any questions of the witness? Mr. Rhodes?

CROSS EXAMINATION

By MR. RHODES:

Q You do not intend then to use this well, possibly for the storage of anything of a brine solution for the displacement of liquefied products from your storage well, do you?

A The present plan is that we will not, we will use high pressure gas to displace the product from the cavern.

Q You will not use brine?

A No, that is our present plan.

MR. MACEY: Anyone else? Mr. Reider?

MR. REIDER: I would like to know if there is a representative here of the State Engineer's office. With regards to this well I was contacted by the Atlantic Refining Company and given the results of this drillstem test and the analysis of the water. I contacted the State Engineer's Office and gave them the results of this analysis and asked for their opinion on the water. They returned the opinion that this water was not potable and they had no objection to the use by the Atlantic for the injection of salt water in this particular case.

The casing requirements which Atlantic proposes meets with the State Engineer's Office.

MR. MACEY: Anyone else? If not the witness may be excused.

(Witness excused.)

MR. MACEY: Do you have anything further?

MR. HINKLE: That is all. I would like to introduce Exhibit No. 2.

MR. MACEY: Without objection it will be received. We will take the case under advisement.

STATE OF NEW MEXICO)
: SS.
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 2nd day of May, 1955.

Ada Dearnley
Notary Public, Court Reporter

My Commission Expires:
June 19, 1955