Case 2302

J. M. HERVEY 1874-1953

HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE H. HUNKER, JR.
HOWARD C. BRATTON
S. B. CHRISTY IV
LEWIS C. COX, JR.
PAUL W. EATON, JR.

CONRAD E. COFFIELD

LAW OFFICES
HERVEY, DOW & HINKLE
HINKLE BUILDING
ROSWELL, NEW MEXICO

TELEPHONE MAIN 2-6510
POST OFFICE BOX 10

May 16, 1961

Mr. A. L. Porter, Jr.
Secretary-Director
N. M. Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Mr. Porter:

Enclosed herewith please find, in triplicate, the Application of Atlantic Refining Company for a triple completion in the Justis-Paddock, Justis-Blinebry and Justis-Tubb/Drinkard Pools in Atlantic's Federal Carlson A No. 1 Well, Lea County, New Mexico. Please set this application down for hearing at the first available Examiner hearing, which we understand to be on June 7, 1961.

If there are any questions about this application, please call Mr. Tomlinson in Atlantic's office as we are anxious to have it heard on the June 7 docket.

Thanking you for your attention to this matter, we are,

Very truly yours,

HERVEY, DOW & HINKLE

By Howard C. Bratton

HCB:bc
Enc.

5/26/61

Case 2302

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO 7-3-58

APPLICATION FOR TRIPLE COMPLETION

Field Name		County	Date
Justis Paddock (Undesignated), Justis Blinebry, & Justis Tubb/Drinkard		Lea	May 17, 1961
Operator	**Lease**		**Well No.**
The Atlantic Refining Company	Carlson Federal "A"		1

Location of Well	Unit	Section	Township	Range
	I	23	25 South	37 East

1. Has the New Mexico Oil Conservation Commission heretofore authorized the triple completion of a well in these same pools or in the same zones within one mile of the subject well? YES _____ NO X

2. If answer is yes, identify one such instance: Order No. _____ ; Operator, Lease, and Well No.:

3. The following facts are submitted:	Upper Zone	Middle Zone	Lower Zone
a. Name of reservoir	Justis Paddock (Undesignated)	Justis Blinebry	Justis Tubb/Drinkard
b. Top and Bottom of Pay Section (Perforations)	4940-4976' (Approx.)	5336-5466' (Approx.)	5770-5919' (Approx.)
c. Type of production (Oil or Gas)	oil	oil	oil
d. Method of Production (Flowing or Artificial Lift)	flowing	flowing	flowing

4. The following are attached. (Please mark YES or NO)

Yes a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.

Yes b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.

No c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*

No d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Texas Pacific Coal & Oil Co, Box 1688, Hobbs, New Mexico

Amerada Petroleum Corporation, Drawer D, Monument, New Mexico

Western Natural Gas Company, Box 1060, Jal, New Mexico

Union Texas Natural Gas Corporation, A-P Division, Box 196, Midland, Texas

El Paso Natural Gas Company, Box 1384, Jal, New Mexico

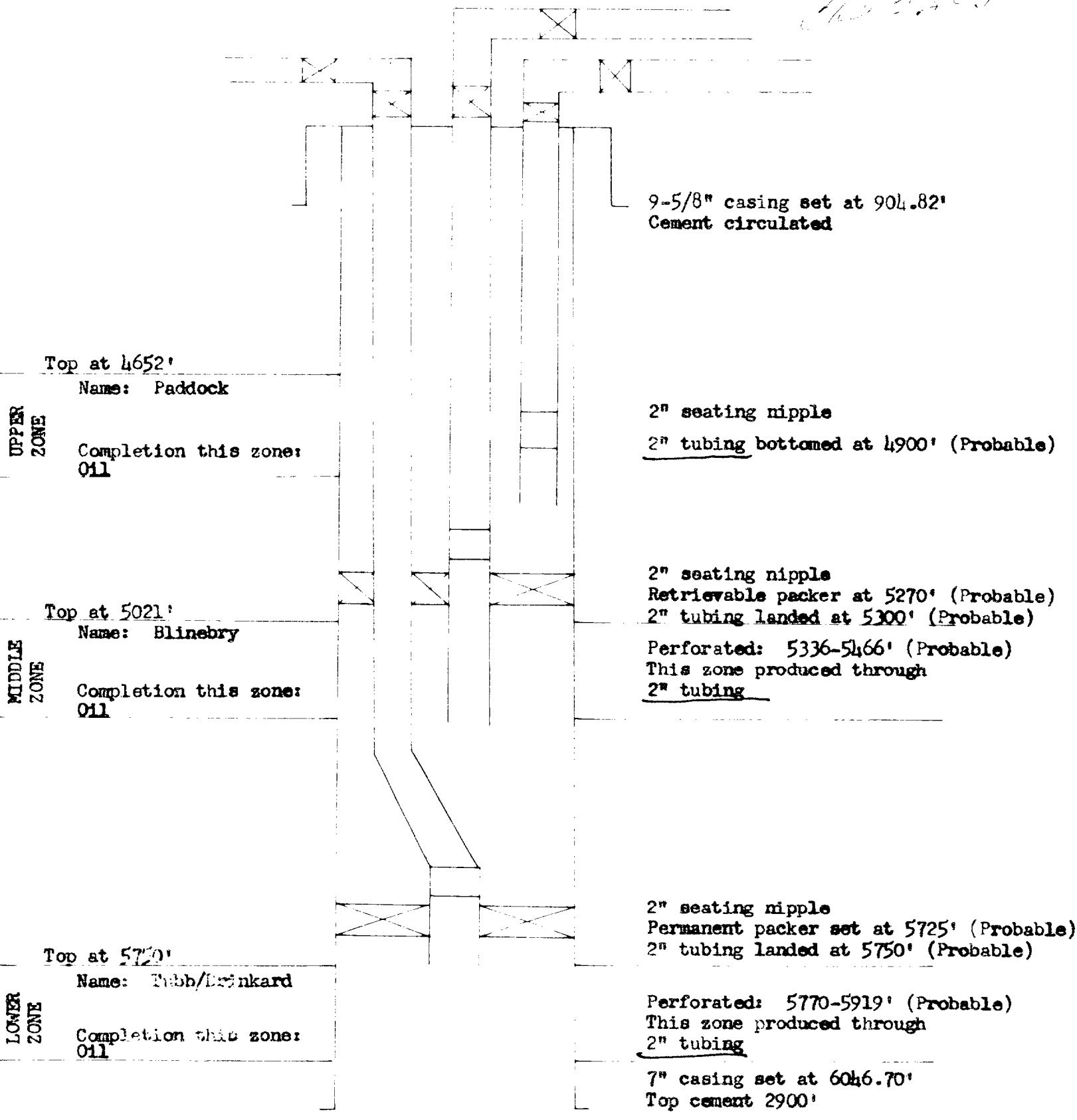
6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO ____. If answer is yes, give date of such notification May 17, 1961.

CERTIFICATE: I, the undersigned, state that I am the District Reservoir Engineer of the Atlantic Refining Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

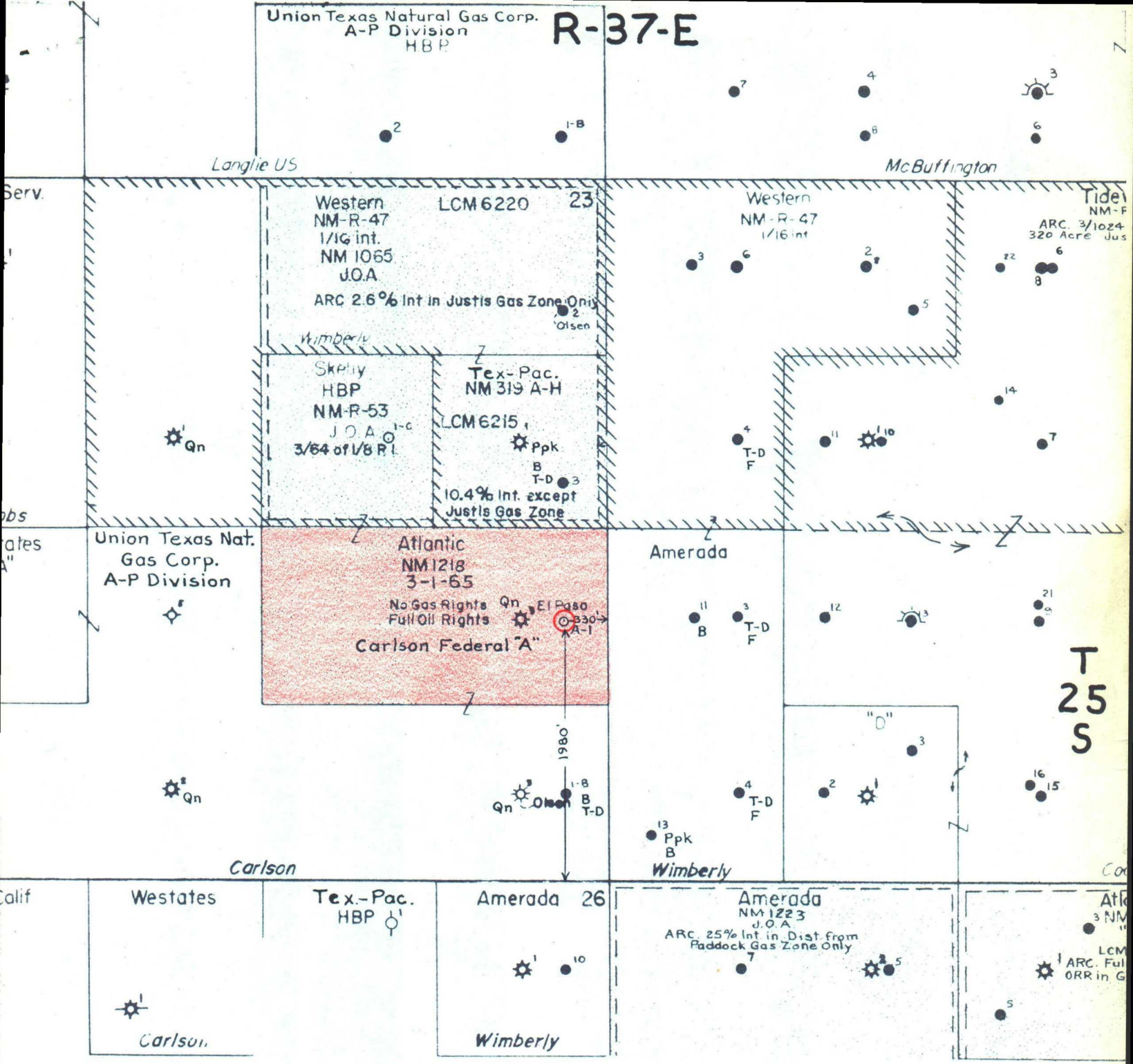
W. P. Tomlinson
W. P. Tomlinson Signature

* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.



COMPANY: THE ATLANTIC REFINING COMPANY
LEASE : Carlson Federal "A" No. 1
FIELD : Justis (Paddock Undesignated), Justis (Blinebry) and Justis (Tubb/Drinkard)
DATE : May 17, 1961



THE ATLANTIC REFINING COMPANY
WEST TEXAS-NEW MEXICO REGION

JUSTIS PADDOCK (UNDESIGNATED), JUSTIS BLINEBRY AND JUSTIS TUBB/DRINKARD POOLS

SCALE: 1"=1000'

LEGEND:
- **Qn - Queen**
- **P_{pk} - Paddock**
- **B - Blinebry**
- **T-D - Tubb/Drinkard**
- **F - Fusselman**

TO ACCOMPANY APPLICATION FOR OIL/OIL/OIL TRIPLE COMPLETION OF ATLANTIC CARLSON FEDERAL "A" NO. 1

ATLANTIC EXHIBIT
CASE NO.

Case 2302

D-3

June 25, 1957

To: H. T. FROST
MIDLAND

Subject: EVALUATION OF TEXAS IRON WORKS
DUAL STRING RETRIEVABLE PACKERS -
"HOOKWALL PIN" SERIES

Our Company is in need of a wider selection of dual string packers, both upper and lower, in both the retrievable and non-retrievable types. To this end, we have been working with a number of manufacturers to encourage the development of these tools to fit our needs.

The first set of successful shop tests, as part of this overall program, has been completed on the Texas Iron Works "Hookwall Pin" dual packers. The results of this testing, drawings, and descriptions of this series of packers are covered in the attached memorandum prepared by Mr. W. V. Braddick of the Production Engineering Group.

The four versions of the "Hookwall Pin" series of retrievable packers offered by T.I.W. with our recommendations for their application are as follows:

1. Type "DS" - A normal duty upper packer for service where low pressure differentials across the packer are likely to be encountered and where it would not be detrimental to have the tubing in compression.

2. Type "HDS" - A normal duty upper packer with hold-down for service where a minimum amount of compression is required in the tubing, and where low bottom-hole temperatures and pressures are expected.

3. Type "HDSL" - A heavy duty hold-down type upper packer suitable for use in all wells where a minimum amount of compression in the tubing strings is required and where pressure differentials in excess of 5000 psi pressure and bottom-hole temperatures in excess of 250°F are anticipated.

4. Type "HDSR" - A heavy duty hold-down type upper packer for installations where it would be advantageous to remove either tubing string without rotation and where bottom-hole temperatures in excess of 250°F and pressure differentials of 5000 psi are expected.

Due to successful shop tests, this "Hookwall Pin" series of T.I.W. packers is recommended for field trial use in accordance with the trial equipment procedures described under Item IV-B, page 7, of the "Regional Operating Procedures - Production Engineering."

We would appreciate any comments or questions concerning these packers. If we can be of help in the application or placement selection of these packers, please call on us.

Harry N. Stansbury

/at
Attach.

sent to: Regional Operations & Drilling Managers
Regional Petroleum Engineers
All Production Engineers
All Drilling Supervisors & Engineers
District Superintendents

cc: Messrs. T. C. Frick
V. E. Stepp
R. O. Childers

June 12, 1957

TO: Mr. Harry N. Stansbury - 732

SUBJECT: Evaluation of TIW's Dual String Hookwall Pin Packer with Lead Seal Rings and Holddown

Texas Iron Works has developed a dual string hookwall pin packer that appeared to fill our requirements for such a packer. This packer was tested in their plant at Houston, Texas, April 12-19, 1957, with successful results. The test was performed using our Standard 72-hour Test Procedure at 300° F. temperature and 6000 psi pressure differential. As a result of these tests, we recommend the TIW Dual String Hookwall Pin Packer and its component assemblies for trial field installation in accordance with our trial equipment procedures. If the field trials prove the packer to be satisfactory, it should be considered for addition to our Approved Standards Lists.

The Texas Iron Works is presently manufacturing only one basic dual string hookwall pin packer. However, with a variety of interchangeable parts, various types of packers can be assembled that will fulfill many dual string well conditions. The following types of packers can be fabricated from the basic dual string packer: (1) Type DS, Dual String Hookwall Pin Packer; (2) Type HDS, Dual String Hookwall Pin Packer with Holddown; (3) Type HDSL, Dual String Hookwall Pin Packer with Lead Seal Rings and Holddown; and (4) Type HDSR, Dual String Hookwall Pin Packer with Lead Seal Rings, Holddown and Seal Receptacle Head for Two Retrievable Tubing Strings.

Evaluation tests were performed on a TIW Type HDSL, Dual String Hookwall Pin Packer. However, due to the similarity of the four accepted versions of this packer, the test was considered adequate to determine the ability of any of the types to perform in a satisfactory manner. A brief description of the four types of dual string hookwall pin packers with recommendations for their application follows. Packer recommendations are based on Standard Production Packer Selection and Application definitions, where pressure differentials below 5000 psig and bottom-hole temperatures below 240° F. are defined as normal duty packers; and heavy duty packers are those applicable to service above 240° F. temperature and pressure differentials above 5000 psig. A heavy duty packer is also acceptable for normal duty classification.

1. Type DS, Dual String Hookwall Pin Packer: This is the basic design from which the other three types of dual string hookwall pin packers were derived. This packer is a retrievable hookwall pin packer and is designed to be run and set with the long tubing string. The short tubing string, which is run and set independently of the long string, is set in a seal nipple receptacle in top of the packer (see drawing No. WE-89). This packer is equipped with a shear pin and liner packer type slips which are designed so that they are set by the application of tubing weight on top of the packer and released by picking up on the tubing. The features of this packer are that it can be set or released without rotation and that it has slips which contact the casing wall so that the total load required to set the packer need not be transmitted to the tubing below the packer. When the pin holding the slips in their running in position is sheared with a 5000-pound tubing load, the packer slips contact the casing and

additional loading on the packer is imposed on the packer slips rather than the tubing. This feature allows wire line tools to be run to the bottom zone with less difficulty due to the minimum bending of the tubing between the packers. The packing elements consist of three packer rubbers separated by metal spacer rings. The long string or female-threaded side of the packer is full opening, which will allow wire line tools to be used on the lower zone, while the short string or seal nipple receptacle side of the packer has a restricted opening. The restricted opening on the short side of the packer is not considered too objectionable. This type packer was subjected to the 6000-pound mechanical strength test and performed satisfactorily. At the completion of the 6000-pound mechanical strength test, a pump-up test was performed on the packer to determine the amount of pressure differential necessary to unseat the packer. During this part of the test the packer was unseated with a 1000 psi pressure differential from below. The packer was reset and the 6000-pound mechanical load applied before pulling. No difficulties were encountered in unseating and pulling the packer.

The Type DS Packer is recommended as the upper packer on normal duty dual string installations where the differential pressure from below is limited to 1000 psi, where fracturing, acidizing, etc. is not anticipated, and where compression in the tubing would not be detrimental to the installation.

2. Type HDS, Dual String Hookwall Pin Packer with Hydraulic Holddown: This packer is also similar to the basic design or Type DS packer. It has a female-threaded outlet for the long tubing string, a seal nipple receptacle for the short string and three rubber packoff elements. However, a hydraulic holddown has been added to make the packer applicable for a wider variety of installations (see drawing No. WE-90). The hydraulic holddown is built into the top section of the packer and is similar in design and operation to the TIW Type H Hydraulic Holddown. This dual string holddown has four hydraulically operated piston type slips which oppose each other in pairs. The long string side of the packer is full opening while the short string side has a restricted opening. This packer, a derivative of the basic design, is capable of holding differential pressures from above and below due to the addition of the holddown.

The Type HDS Packer is recommended as the upper packer on normal duty dual string installations, where differential pressures from above or below might be encountered, such as fracturing, acidizing, etc., and where a minimum amount of tubing weight on the packer is required.

3. Type HDSL, Dual String Hookwall Pin Packer with Lead Seal Rings and Holddown: This packer, a derivative of the basic design, incorporates the use of the lead seal rings in conjunction with rubber packoff elements and has a hydraulic holddown built into the top section of the packer. The lead seal rings are placed above and below the packoff rubbers to confine the rubbers and thereby prevent rubber flow (see drawing No. WE-91). The addition of the lead seal rings improves its sealing capacity while the hydraulic holddown permits the packer to hold pressure from above and below with a minimum amount of tubing weight set on the packer. A packer of this type was tested according to our Standard 72-hour Test Procedures and successfully withstood differential pressures of 6000 psi from above and below at a temperature of 300° F. The lead seal rings did not affect the unseating and pulling of this packer. At the end of the test the packer was unseated and pulled without difficulty.

The Type HDSL Packer is recommended as the upper packer on heavy duty dual string installations where pressure differentials in excess of 5000 psi are expected from above and below, where bottom-hole temperatures in excess of 240° F are expected, and where a minumum amount of compression in the tubing would be advantageous.

4. Type HDSR, Dual String Hookwall Pin Packer with Lead Seal Rings, Hydraulic Holddown and Seal Nipple Receptacle Head: This packer also stems from the basic design. The addition of lead seal rings, hydraulic holddown and seal nipple receptacle head on this packer constitute the changes from the basic design (see drawing No. WE-92). The hydraulic holddown and lead seal rings are the same on this packer as those of the Type HDSL Packer. This dual string seal nipple receptacle head is not shown on the other packers, but can be installed on them if desired. It is installed on packers to make the packer applicable for installations where it is advantageous to remove either tubing string independently of the other without rotation. The long string on this packer is full opening while the short string has a reduced opening. The operational features of this packer are the same as those of the other three recommended types, except that the long tubing string is attached to the packer with a shear pin instead of a threaded connection. With this type of connection, the packer would have to be removed from the well by the use of a spear, should it become necessary to pull the packer after the pin had been sheared. Although pulling tests were not performed on a packer with a dual seal nipple receptacle head, it is doubtful if any difficulty would be encountered, since the other types tested pulled satisfactorily.

The Type HDSR Packer is recommended as the upper packer on heavy duty dual string installations where pressure differentials in excess of 5000 psi are expected from above and below, where bottom-hole temperatures in excess of 240° F. are expected, where compression in the tubing would not be detrimental to the operation and where either tubing string above the packer could be run or pulled independently of the other without rotation.

TEST PROCEDURE AND RESULTS:

Two tests were performed on TIW's dual string hookwall pin packers. The first test was performed on a TIW Type DS, Dual String Hookwall Pin Packer. This test was conducted according to our Standard Mechanical Strength Test with a 6000 psi pressure differential. The packer withstood this test successfully and at the end of the test was unseated with a 16000-pound pulling force and removed from the test chamber with a drag too small to measure. At the completion of the 6000 psi mechanical strength test, a pump-up test was performed on the packer to determine what differential pressure would unseat the packer. On this test the packer was unseated with a 1000 psi pressure differential from below. Inspection of the packer, upon removal from the test chamber, showed the packer to be in like new condition. However, since this packer was not subjected to the high differential pressures from above and below, nor was it tested at 300° F. temperature, the packer should normally be in good condition.

The second test was performed on a TIW Type HDSL, Dual String Hookwall Pin Packer. This test was conducted according to our Standard 72-hour High Temperature Special Packer Test with a 6000 psi pressure differential above the packer and a 5000 psi pressure differential below the packer, and with a 300° F. temperature. After obtaining 300° F. temperature and 6000 psi pressure above and below the packer, the pin holding the slips in their running in position was sheared with a 4000-pound load, the amount prescribed by the manufacturer and the test conducted according to Parallel String Packer Test Procedures developed in February, 1957.

With the packer set, alternate 12-hr pressure differentials of 6000 psi pressure above and 5000 psi pressure below the packer at 300° F. temperature were maintained throughout the 72-hour test period. During the 72-hr test period, the packer performed satisfactorily, and at the end of the test, was unseated with a 15000-pound load and removed from the test chamber with an 800-pound drag. Examination of the packer upon removal from the test chamber revealed the following:

Rubber Packer Elements	In good condition
Lead Seal Rings	In good condition
Seal Nipple Chevron Packing	In good condition
Slip Cones	No visible damage
Slips	No visible damage
Holddown Slips (piston type)	No visible damage
Inside of Casing	No visible damage

The Type HDSL, Dual String Hookwall Pin Packer, is the first retrievable dual string packer to be tested according to our Standard Packer Test Procedures, and the first of this type to be recommended for trial field installation. Prior to the testing of this packer, we were informed that the Type DS Packer had been installed in a number of wells by other operators, and at the present time are operating satisfactorily. However, before this test was performed there had not been any installations of this type packer employing the hydraulic holddown and lead seal rings.

In view of the successful employment of this tool by other companies, and its performance throughout our Mechanical Strength Test and 72-hour Special Packer Test, it is recommended that all four types of TIW's Dual String Hookwall Pin Packer be installed in Atlantic's wells on a trial basis to evaluate them under actual field conditions. If the packers perform satisfactorily in the trial field wells, it is recommended that they be considered for addition to our Company Standards Lists.

W. V. Braddick

W. V. Braddick

WVB:tcs
Attach.

THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

June 28, 1965

NORTH AMERICAN PRODUCING DEPARTMENT
NEW MEXICO - ARIZONA DISTRICT
S. L. SMITH, DISTRICT MANAGER
JACK BIARD, DISTRICT LANDMAN
E. R. DOUGLAS, DISTRICT GEOLOGIST
A. D. KLOXIN, DISTRICT DRLG. & PROD. SUP'T.
M. D. ROBERTS, DISTRICT GEOPHYSICIST
W. P. TOMLINSON, DISTRICT ENGINEER
B. R. WARE, DISTRICT ADMINISTRATIVE SUP'V.

SECURITY NATIONAL BANK BLDG.
MAILING ADDRESS
P. O. BOX 1978
ROSWELL, NEW MEXICO

Case # 2302

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

Attention: Mr. A. L. Porter

Re: Carlson Federal "A" No. 1
Justis (Blinebry-UT) Field
Justis (Tubb/Drinkard-LT) Field
Lea County, New Mexico

Gentlemen:

This well was originally triple completed. We submitted and received approval to complete as a triple completion well on June 22, 1961, Case 2302, Order No. R-2006. We have recently plugged and abandoned the Paddock Zone and have recompleted this well as a dual completion. The dual completion still consists of the original Blinebry zone and Drinkard zone. We are submitting the Packer-Setting Affidavit since we have reset a Baker 415-D above the old packer. We are also submitting a diagramatic sketch of the equipment that is in the well.

If further information is required, please advise.

Yours very truly,

V. R. Cammack

for W. P. Tomlinson

ICH:jcb

cc: Mr. Joe Ramey
New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico

U. S. G. S.
P. O. Box 1838
Hobbs, New Mexico

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

6-1-56

PACKER-SETTING AFFIDAVIT
(Dual Completions)

STATE OF New Mexico)
)ss
County of Lea)

T. E. Sheets, being first duly sworn according to law, upon his oath deposes and says:

That he is of lawful age and has full knowledge of the facts herein below set out.

That he is employed by The Atlantic Refining Company in the capacity of Drilling Engineer and as such is its authorized agent.

That on April 18, 19 65, he personally supervised the setting of a Baker Model 415-D (Make and Type of Packer) in The Atlantic Refining Company (Operator)'s Carlson Federal "A" (lease) Well No. 1, located in Unit Letter I, Section 23, Township 25-S, Range 37-E, NMPM, Lea County, New Mexico.

That said packer was set at a subsurface depth of 5731 feet, said depth measurement having been furnished by Wire line.

That the purpose of setting this packer was to effect a seal in the annular space between the two strings of pipe where the packer was set so as to prevent the commingling, within the well-bore, of fluids produced from a stratum below the packer with fluids produced from a stratum above the packer. That this packer was properly set and that it did, when set, effectively and absolutely seal off the annular space between the two strings of pipe where it was set in such manner as that it prevented any movement of fluids across the packer.

The Atlantic Refining Company
(Company)

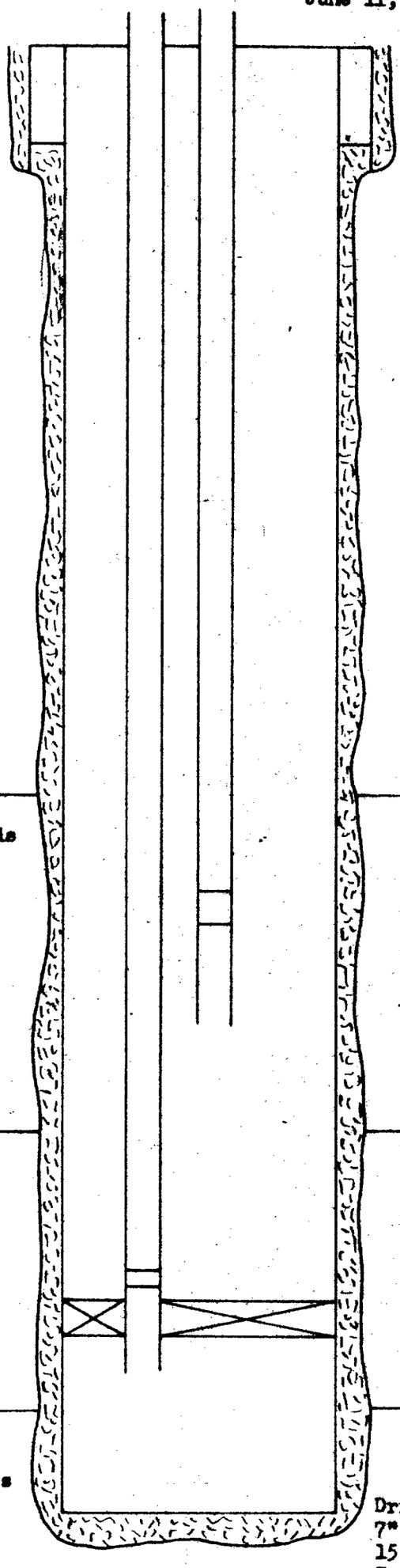
T E Sheets
(its Agent)

Subscribed and sworn to before me this the 22 day of June, AD, 1965.

E. Paul Green
Notary Public in and for the County of Lea.

My Commission Expires 2-14-69.

The Atlantic Refining Company
Carlson Federal A-1
Justis Blinebry & Justis Tubb-Drinkard
June 11, 1965



Drilled 12-1/4" hole to 905
9-5/8" casing set @ 905.82
Centrallizers @ 551, 650, 740, 839 & 900
Cement circulated
Tested to 1300# - O.K.

Blinebry zone
Completion this zone - Oil

Perforations: 5336 - 5466

Tubing string: 2-3/8" O.D. J-55 buttress with Kobe seating shoe. tubing bottomed @ 5331.79

Baker 415 D Production Packer set @ 5731

Perforations 5770 - 5914
Tubing string: 2-3/8" O.D. J-55 Buttress with Kobe seating shoe. tubing bottomed @ 5740.10

Tubb-Drinkard zone
Completion this zone - Oil

Drilled 8-3/4" hole to 6050
7" casing set @ 6047.70 (top 3 jts 7-5/8)
15 Centrallizers from 4497 - 6042
Top cement 2900'
Tested to 1500# - O.K.