El Paso Natural Gas Company

El Paso, Texas

April 1, 1958

DIRECT REPLY TO:
P. O. BOX 997
FARMINGTON, NEW MEXICO

Mr. A. L. Porter
Secretary and Director
Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Dear Sir:

This is a request for administrative approval for a well dually completed in the Blanco Mesa Verde Pool and in the Aztec Pictured Cliffs Pool Extension. The El Paso Natural Gas Company Sunray No. 1-J (PM) is located 1090 feet from the South line and 990 feet from the West line of Section 7, Township 30 North, Range 10 West, N.M.P.M., San Juan County, New Mexico.

This well has been completed in the Point Lookout section of the Mesa Verde formation and in the Pictured Cliffs formation. Completion has been accomplished in the following manner:

1. 10 3/4" surface casing set at 172 feet with 150 sacks of cement circulated to the surface.
2. 7 5/8" intermediate casing set at 4545 feet and cemented with a two stage cementing procedure; 150 sacks at the base of the casing and 150 sacks across the Pictured Cliffs formation.
3. 5 1/2" liner set from 4488 feet to 5213 feet with 150 sacks of cement.
4. The casing and liner were tested for leaks before perforating.
5. The Point Lookout section was perforated in eight intervals and fractured with water and sand.
6. The Pictured Cliffs formation was perforated in two intervals and fractured with water and sand.
7. All perforations were cleaned out after treatment and completion was accomplished by setting a Baker Model "EGJ" production packer on 2" EUE tubing at 4503 feet with tubing perforations set opposite the Point Lookout perforations. 1 1/4" EUE tubing siphon string was run with tubing perforations set opposite the Pictured Cliffs perforations. The Point Lookout gas will be produced through the 2" tubing and the Pictured Cliffs gas through the casing.
8. Initial potential tests have been run and commercial production has been found in both zones. A packer leakage test has been run and witnessed by a member of the Aztec office of the Oil Conservation Commission. This test shows no communication in the well bore between the two producing formations.

COPY

Administrative approval is requested for the dual completion to allow production from both known producing formations, eliminating the high initial cost of drilling two separate wells.

The offset operators to the drilling unit have been notified of El Paso Natural Gas Company's intentions to dually complete this well. Two of the offset operators have given their approval of this dual completion. However, the remaining offset operators have neither consented nor objected to a dual completion, although it has been well over 30 days since said intentions were mailed to them from this office. I am sending copies of the letters of approval received up to this time from offset operators. Also enclosed are:

(a) Two copies of the schematic diagram of the mechanical installations.
(b) Two copies of the affidavit from the packer setting company stating that the packer used was set at the depth shown.
(c) Two copies of the packer leakage test as observed by a member of the Oil Conservation Commission.
(d) Two copies of the initial potential test showing commercial production from the two formations.

It is intended to dedicate the S/2 of Section 7, Township 30 North, Range 10 West to the Mesa Verde formation and the SW/4 of Section 7, Township 30 North, Range 10 West to the Pictured Cliffs formations.

Any further information required will be furnished upon your request. Thank you for your consideration in this matter.

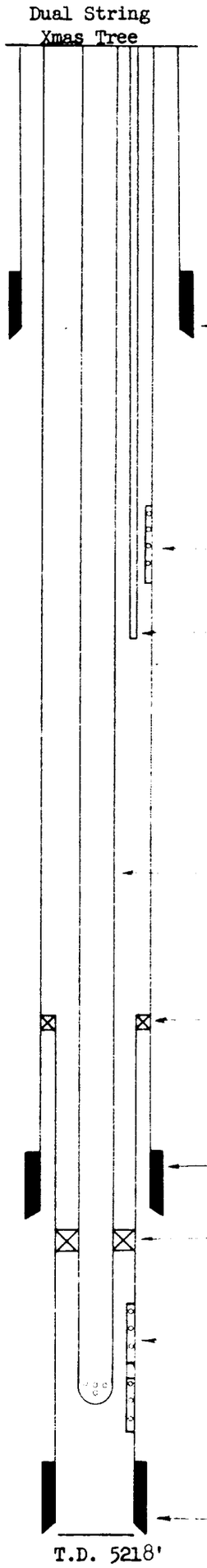
Yours very truly,

ORIGINAL SIGNED E. S. OBERLY

E. S. Oberly
Division Petroleum Engineer

ESO:dgb
Encl.
cc: NMOCC (Emery Arnold)
Sam Smith
USGS (Phil McGrath)

SCHEMATIC DIAGRAM OF DUAL COMPLETION
EL PASO NATURAL GAS CO. SUNRAY NO. 1-J (PM)
(SW Section 7, T-30-N, R-10-W)



Zero reference point 10.0' above top flange of tubing hanger

10 3/4", 32.75# S. W. casing set at 172' with 150 sacks cement.

Pictured Cliffs perforations 2682-2700; 2718-2740 (2 SPF) fractured with water and sand.

1 1/4", 2.4# Grade "A" line pipe landed at 2743' as siphon.

2" EUE, 4.7# J-55 tubing landed at 5146' with tubing perforations at 5122-5125'.

Burns liner hanger set at 4488'.

7 5/8", 26.4# J-55 casing set at 4545' with two stage cementing tool set at 2835'. Cemented with 150 sacks cement on each stage.

Baker "EGJ" packer set at 4503'.

Point Lookout perforations 4962-4970; 4978-4984; 5000-5006; 5010-5014; 5020-5028; 5040-5048; 5058-5066; 5086-5094 (2 SPF) fractured with water and sand.

5 1/2", 15.50# J-55 liner set from 4488 to 5213' with 150 sacks.

STATE OF NEW MEXICO)
)
COUNTY OF SAN JUAN)

I, Mack M. Mahaffey, being first duly sworn upon my oath depose and say as follows:

I am an employee of Baker Oil Tools, Inc., and that on February 8, 1958, I was called to the location of the El Paso Natural Gas Company Sunray No. 1-J (PM) Well located in the SW/4 SW/4 of Section 7, Township 30 North, Range 10 West, N.M.P.M., for advisory service in connection with installation of a production packer. In my presence, a Baker Model "EGJ" Production Packer was set in this well at 4503 feet in accordance with the usual practices and customs of the industry.

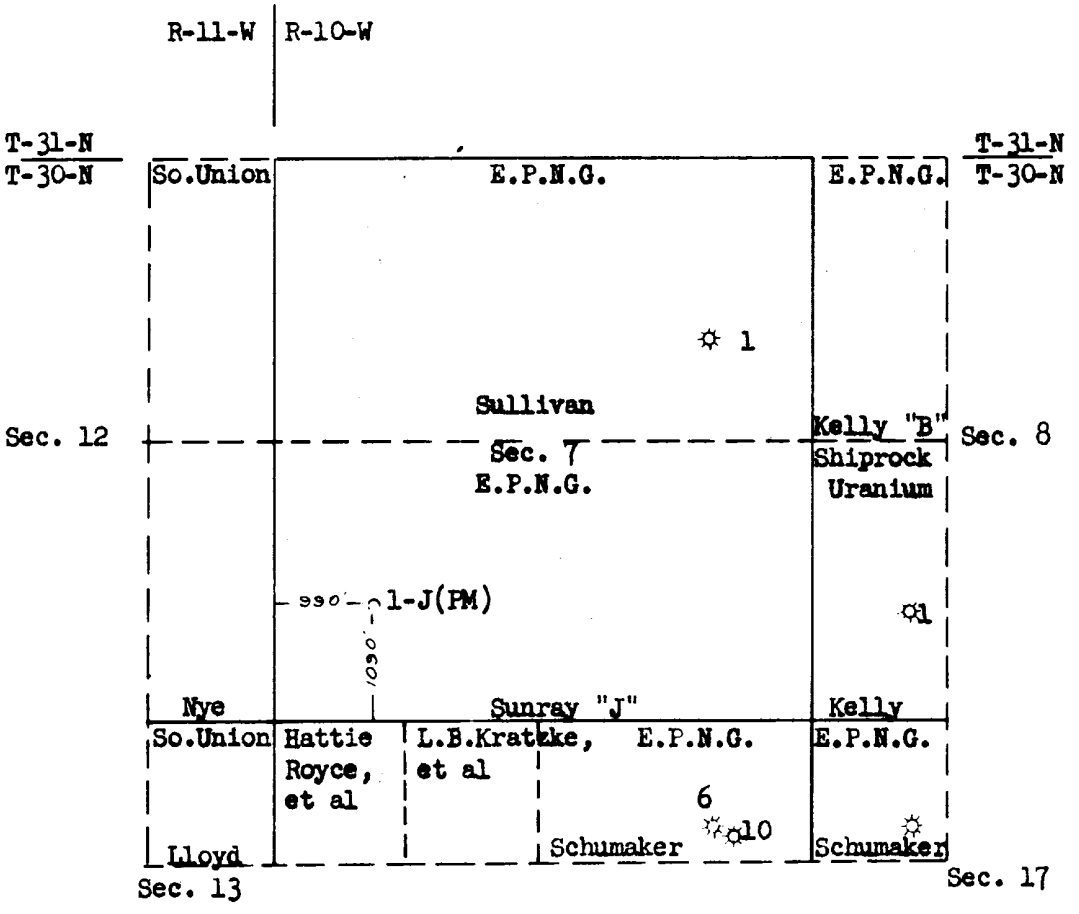
Mack M. Mahaffey

Subscribed and sworn to before me, a Notary Public in and for San Juan County, New Mexico, the 27 day of MARCH, 1958.

Notary Public in and for San Juan County, New Mexico

My commission expires February 24, 1960.

PLAT SHOWING LOCATION OF DUALLY COMPLETED
El Paso Natural Gas Co. Sunray No. 1-J (PM)
and Offset Acreage



EL PASO NATURAL GAS COMPANY
EL PASO, TEXAS

SCALE	DATE	No.
DRAWN BY	CHECKED BY	

FORM 7-132 (10-56)

EL PASO NATURAL GAS COMPANY

P. O. Box 997
Farmington, New Mexico

March 7, 1958

Mr. E. C. Arnold
Oil Conservation Commission
1000 Rio Brazos Road
Aztec, New Mexico

Re: Packer Leakage Test on the El Paso Natural Gas Company Well, Sunray No. 1-J(M), 1090S, 990W; 7-30-10, San Juan County, New Mexico.

Dear Mr. Arnold:

The subject well was dually completed in the Pictured Cliffs and Mesa Verde zones and a packer was set at 4503 feet. The Pictured Cliffs zone was tested through a 3/4" choke for three hours February 25, 1958 with the following data obtained:

Pictured Cliffs	SIPC	682 psig;	shut-in 16 days
Mesa Verde	SIPT	916 psig;	shut-in 16 days

Time Minutes	PC Flowing Pressure Tubing Psig	MV SIPT Psig	PC Working Pressure, Psig	Temp. ° F
0	-	916		-
15	364	917		56
30	260	918		56
45	213	918		56
60	201	918		56
180	103	918	Tbg. 108	56

The choke volume for the Pictured Cliffs was 1396 MCF/D with an AOF of 1432 MCF/D.

The Mesa Verde zone was tested March 6, 1958 with a 3/4" choke for 3 hours with the following data obtained:

Pictured Cliffs	SIPC	682 psig;	shut-in 9 days
Mesa Verde	SIPT	932 psig;	shut-in 25 days

Time Minutes	MV Flowing Pressure Tubing Psig	PC SIPC Psig	MV Working Pressure, Psig	Temp. ° F
0	-	682		-
15	424	685		64
30	413	685		67
45	403	685		68
60	394	685		68
180	354	685	Calc 704	70

The choke volume for the Mesa Verde test was 4399 MCF/D with an AOF of 8358 MCF/D.

The results of the above tests indicate there is no packer leakage.

Very truly yours,

S. V. Roberts

SVR/nb

cc: W. M. Rodgers
E. S. Oberly (6)
File

Form 23-24 (Rev. 5-56)

EL PASO NATURAL GAS COMPANY
GAS WELL TEST

To: Mr. Ed E. Alsup

From: Gas Engineering Department

Date: March 6, 1958

Place: Farmington, New Mexico

DUAL COMPLETION

Subject: El Paso Natural Gas Company Well SUNRAY NO. 1-J (M), San Juan County, New Mexico

Tested By: S. V. Roberts

Location ..... Sec. 7 T. 30N R. 10W , 1090S, 990W

Shut-In Pressure ..... (PC) SIPC 682 psig ; (Shut-in 9 days)
(PC) SIPT 682 psig
(MV) SIPT 932 PSIG (Shut-In 25 days)

0.750" Choke Volume ..... 4399 MCF/D @ 14.7 psia and 60° F. for 0.6 gravity gas. Flow through tubing for 3 hours.

Calculated 3 Hour Absolute Open Flow ..... 8358 MCF/D

Working Pressure On (calc) ..... = 704 Psig

Producing Formation ..... Mesa Verde

Stimulation Method ..... Sand Water Frac

Total Depth 5218

Field ..... Blanco

H_2S ..... Sweet to lead acetate.

Final SIPC (PC) 685 PSIG

Lewis D. Galloway

L. D. Galloway

cc: D. H. Tucker
[redacted]
[redacted]
[redacted]
W. M. Rodgers
Wayne Cheek
Drilling Department
B. D. Adams
[redacted]
Jack Purvis
[redacted]
C. C. Kennedy
E. J. Coel, Jr.
A. J. Dudenhoeffer
File

Bill Parrish
Dean Rittmann
E. S. Oberly (6)
Samuel Smith
D. N. Canfield

FORM 28-75 6-57

EL PASO NATURAL GAS COMPANY

OPEN FLOW TEST DATA

DUAL COMPLETION DATE March 6, 1958

Operator: El Paso Natural Gas Company		Lease: Sunray No. 1-J (M)	
Location: 1090S, 990W; 7-30-10		County: San Juan	State: New Mexico
Formation: Mesa Verde		Pool:	
Casing: Diameter: 7-5/8	Set At: Feet: 4534	Tubing: Diameter: 2"	Set At: Feet: 5136
Pay Zone: From: 4962	To: 5094	Total Depth: 5218	Shut-In 2-9-58
Stimulation Method: Sand Water Frac		Flow Through Casing:	Flow Through Tubing: X

Choke Size, Inches: 0.750	Choke Constant: C: 12.365	5-1/2 Liner 4492-5213	
Shut-In Pressure, Casing, PSIG: (PC) 682	+ 12 = PSIA: 694	Days Shut-In: 25(MV)	Shut-In Pressure, Tubing PSIG: (MV) 932 + 12 = PSIA: 944
Flowing Pressure: P PSIG: (MV) 354	+ 12 = PSIA: 366		Working Pressure: P_w PSIG: (Calc) + 12 = PSIA: 716
Temperature: T F: 70	n = 0.75	Fpv (From Tables): 1.038	Gravity: 0.674

Initial SIPC (PC) 682 PSIG
Final SIPC (PC) 685 PSIG

1-1/4" at 2732 Pkr. at 4503

CHOKE VOLUME = $Q = C \times P_t \times F_t \times F_g \times F_{pv}$

$Q = (12.365)\ (366)\ (.9905)\ (.9463)\ (1.038) = 4403$ MCF/D

OPEN FLOW - $Aof = Q \left(\frac{P_c^2}{P_c^2 - P_w^2} \right)^n$

$Aof \left(\frac{891136}{378480} \right)^n = (2.3545)^{.75}\ (4399) = (1.9000)\ (4403)$

Aof 8366 MCF/D

TESTED BY S. V. Roberts

WITNESSED BY

Lewis D. Galloway

L. D. Galloway

Form 23-24 (Rev. 5-56)

EL PASO NATURAL GAS COMPANY
GAS WELL TEST

To: Mr. Ed E. Alsup

From: Gas Engineering Department

Date: February 25, 1958

Place: Farmington, New Mexico

DUAL COMPLETION

Subject: Test data on El Paso Natural Gas Company Well SUNRAY NO; 1-J (P), San Juan County, New Mexico.

Tested By: S. V. Roberts

Location ..... Sec. 7 T. 30N R. 10W , 1090S,990W

Shut-In Pressure ..... (PC) SIPC 682 psig ; (Shut-in 16 days)
(PC) SIPT 682 psig
(MV) SIPT 916 PSIG (Shut-In 16 Days)

0.750" Choke Volume ..... 1396 MCF/D @ 14.7 psia and 60° F. for 0.6 gravity gas. Flow through casing for 3 hours.

Calculated 3 Hour Absolute Open Flow ..... 1432 MCF/D

Working Pressure On tubing ..... = 108 Psig

Producing Formation ..... Pictured Cliffs

Stimulation Method ..... Sand-Water Frac

Total Depth 5218

Field ..... Aztec

H_2S ..... Sweet to lead acetate.

Final SIPT (MV) 918 PSIG

Lewis D. Galloway

L. D. Galloway

cc: D. H. Tucker
[redacted]
[redacted]
[redacted]
W. M. Rodgers
Wayne Cheek
Drilling Department
B. D. Adams
[redacted]
Jack Purvis
[redacted]
C. C. Kennedy
E. J. Coel, Jr.
A. J. Dudenhoeffer
File

Bill Parrish
Dean Rittmann
E. S. Oberly (6)
Samuel Smith
D. N. Canfield

FORM 23-75 6-56

EL PASO NATURAL GAS COMPANY

OPEN FLOW TEST DATA DUAL COMPLETION

DATE February 25, 1958

Operator: El Paso Natural Gas Company		Lease: Sunray No. 1-J (P)	
Location: 1090S, 990W; 7-30-10		County: San Juan	State: New Mexico
Formation: Pictured Cliffs		Pool: Aztec	
Casing: Diameter: 7-5/8"	Set At: Feet: 4534	Tubing: Diameter: 1-1/4"	Set At: Feet: 2732
Pay Zone: From: 2682	To: 2742	Total Depth: 5218	
Stimulation Method: Sand-Water Frac.		Flow Through Casing: X	Flow Through Tubing:

Choke Size, Inches: .750		Choke Constant: C: 12.365		5-1/2" liner 4492-5213	
Shut-In Pressure, Casing, PSIG: (PC) 682	- 12 = PSIA: 694	Days Shut-In: 16	Shut-In Pressure, Tubing PSIG: (PC) 682	- 12 = PSIA: 694	
Flowing Pressure: P PSIG: (PC) 103	- 12 = PSIA: 115		Working Pressure: P_w PSIG: (PC) 108	- 12 = PSIA: 120	
Temperature: T °F: 56	n = .85		Fpv (From Tables): 1.010	Gravity: .640	

Initial SIPT (MV) 916 PSIG PKR. at 4503
Final SIPT (MV) 918 PSIG

CHOKE VOLUME = $Q = C \times P_t \times F_t \times F_g \times F_{pv}$

$Q = (12.365)(115)(1.0039)(.9682)(1.010) = 1,396$ MCF/D

OPEN FLOW $Aof = Q \left(\frac{P_c^2}{P_c^2 - P_w^2} \right)^n$

$Aof = \left(\frac{481636}{467236} \right)^n = (1.0308).85\ (1396) = (1.0261)(1396)$

Aof = 1,432 MCF/D

RECEIVED
APR 9 1958
OIL CON. COM.
DIST. 3

TESTED BY S. V. Roberts

WITNESSED BY

CC: E. S. Oberly (6)

L. D. Galloway

L. D. Galloway

THE APPLICATION OF EL PASO NATURAL GAS COMPANY FOR PERMISSION TO EFFECT DUAL COMPLETION OF ITS SUNRAY WELL NO. 1-J (PM) LOCATED 1090 FEET FROM THE SOUTH LINE AND 990 FEET FROM THE WEST LINE OF SECTION 7, TOWNSHIP 30 NORTH, RANGE 10 WEST, NMPM, SAN JUAN COUNTY, NEW MEXICO, IN SUCH A MANNER AS TO PERMIT THE PRODUCTION OF GAS FROM THE AZTEC PICTURED CLIFFS POOL EXTENSION AND TO PERMIT THE PRODUCTION OF GAS FROM THE BLANCO-MESAVERDE POOL.

ORDER NO. DC-590

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION COMMISSION

Under the provisions of Rule 112-A (c) El Paso Natural Gas Company made application to the New Mexico Oil Conservation Commission on April 10, 1958, for permission to dually complete its Sunray Well No. 1-J (PM) located 1090 feet from the South line and 990 feet from the West line of Section 7, Township 30 North, Range 10 West, NMPM, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Aztec Pictured Cliffs Pool Extension and to permit the production of gas from the Blanco-Mesaverde Pool.

Now, on this 21st day of April, 1958, the Secretary-Director finds:

(1) That application has been duly filed under the provisions of Sub-section 'c' of Rule 112-A of the Commission's Rules and Regulations;

(2) That satisfactory information has been provided that all operators of offset acreage have been duly notified; and

(3) That no objections have been received within the waiting period as prescribed by said rule.

(4) That the proposed dual completion will not cause waste nor impair correlative rights.

(5) That the mechanics of the proposed dual completion are feasible and consonant with good conservation practices.

IT IS THEREFORE ORDERED:

That the applicant herein, El Paso Natural Gas Company, be and the same is hereby authorized to dually complete its Sunray Well No. 1-J (PM) located 1090 feet from the South line and 990 feet from the West line of Section 7, Township 30 North, Range 10 West, NMPM, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Aztec Pictured Cliffs Pool Extension and to permit the production of gas from the Blanco-Mesaverde Pool, through the casing-tubing annulus and the tubing respectively.

PROVIDED HOWEVER, That subject well shall be completed and thereafter produced in such a manner that there will be no commingling within the well-bore, either within or outside the casing, of gas, oil and gas, or oil produced from either or both of the separate strata,

PROVIDED HOWEVER, That prior to the actual dual completion the operator shall make pressure tests of the casing to prove that no casing leaks exist. In the event a casing leak is apparent the operator shall take appropriate steps to adequately repair the leak. The results of these tests shall be reported to the Commission on Form C-103.

PROVIDED FURTHER, That upon the actual dual completion of such subject well applicant shall submit to the appropriate District Office of the Commission copies of Oil Conservation Commission Form C-103, Form C-104, Form C-110, and Form C-122, outlining the information required on those forms by existing Rules and Regulations, and two copies of the electric log of the well.

PROVIDED FURTHER, That said subject well for dual completion and production shall be equipped in such a way that reservoir pressures may be determined separately for each of the two specified strata, and further, be equipped with all necessary connections required to permit recording meters to be installed and used at any time as may be required by the Commission or its representatives, in order that natural gas, oil, or oil and gas from each separate stratum may be accurately measured and the gas-oil or gas-liquid ratio thereof determined, and

PROVIDED FURTHER, That the operator shall make any and all tests, including segregation and packer-leakage tests upon completion and annually thereafter during the Annual Deliverability Test Period for the Blanco Mesaverde Pool, commencing in the year 1959, and whenever the packer is disturbed, but not excluding any other tests and/or determinations as deemed necessary by the Commission; the original and all subsequent tests shall be witnessed by representatives of offset operators if any there be at their election, and the results of each test, properly attested to by the applicant herein and all witnesses, shall be filed with the Commission within fifteen (15) days after the completion of such tests, and further, that applicant shall file with the Commission in duplicate a packer-setting affidavit, which affidavit shall be due within fifteen (15) days of the dual completion or whenever the packer is disturbed, and

PROVIDED FURTHER, That upon the actual dual completion of such subject well, applicant shall submit to the Commission a diagrammatic sketch of the mechanical installation which was actually used to complete and produce the seal between the strata, and a special report of production, gas-oil or gas-liquid ratio, and reservoir pressure determination for each producing zone or stratum immediately following completion.

IT IS FURTHER ORDERED, That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after proper notice and hearing the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production in the interests of conservation.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

A. L. PORTER, Jr.,
Secretary-Director

SEAL

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