

dugan production corp.

November 17, 2000

Mr. Frank Chavez
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

Re: Exception to well spacing requirements
WAW Fruitland Sand-Pictured Cliffs gas pool

Dear Mr. Chavez,

I'm writing to follow up our phone conversation regarding the feasibility of establishing an administrative procedure which will allow the production from more than one well within a common spacing unit in the WAW Fruitland Sand-Pictured Cliffs gas pool.

Dugan Production has recently completed two wells (our Irish No. 4 and Bengal C No. 6) in the subject pool, both of which are the second wellbores within an existing spacing unit (Dugan's Irish No. 1J and Bengal C No. 5, respectively). The NMOCD conditioned production from both of the new wells as being subject to permanent abandonment of the initial wells (i.e. hold the C-104 on new wells pending P&A of existing wells). Both of the existing wells are producing fairly low volumes (1.3 to 4.1 MCFD) and each is completed within the vertical limits of the pool but in an interval that is different from the interval completed in the newly drilled second wellbore. The WAW Fruitland Sand-Pictured Cliffs gas pool is operated under statewide rules which only allow one well in each 160 acre spacing unit. OCD Rule 104.D.(3) does allow the Division Director to authorize an exemption to the number of wells allowed in a spacing unit, but only after notice and opportunity for hearing. Neither of the existing wells produce sufficient volumes to justify the costs associated with a hearing, however both wells do produce sufficient volumes to justify continued production if allowed. In addition, since both of the initial wells are completed in different intervals than are the new wells and if plugged, the gas remaining to be produced in the initial wells will not be recovered from the new wells, which will produce an economic waste of currently recoverable gas reserves.

Attachment No. 1 is a copy of the C-102's for Dugan's Bengal C No. 5 and 6 wells. Both wells are in the SE/4 of Section 36, T-27N, R-13W and share a common spacing unit within the WAW Fruitland Sand-Pictured Cliffs gas pool. The Bengal C No. 5 was completed on 8-13-77 in two Fruitland Sands at 1079'-1092' and 1125'-1130'. As of 10-1-00, a total of 11,557 MCF of gas had been produced and production during the last 2½ years has averaged 1.3 to 3.1 MCFD. The production history for the Bengal C No. 5 is presented on Attachment No. 2. The Bengal C No. 6 well was completed on 9-20-00 in the Pictured Cliffs Sand at 1176'-1190' and has tested 20 MCFD.

Attachment No. 3 presents copies of the logs recorded in each well and it can be seen that the same interval is not completed in each well.

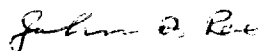
Attachment No. 4 presents the C-102's for Dugan's Irish No. 1J and No. 4 wells which share a common spacing unit comprising the SE/4 of Section 12, T-26N, R-13W. The Irish No. 1J was completed on 12-28-79 from perforations 874'-889' in a Fruitland Sand. As of 10-1-00, a total of 46,628 MCF of gas had been produced and production during the last 2½ years has averaged 4.1 to 4.7 MCFD. The production history for the Irish No. 1J is presented on Attachment No. 5. The Irish No. 4 was completed on 9-18-00 from perforations 1182'-1188' in the Pictured Cliffs Sand and has tested 30 MCFD.. Attachment No. 6 presents copies of the logs from each well and again it can be seen that each well is completed in different intervals.

Attachment No 7 presents an order granting a waiver to the well spacing requirements and allowing two wells to produce from a common spacing unit in the WAW Fruitland Sand-PC gas pool. The issues presented in this 5/79 hearing for two wells in the NE/4 of Section 8, T-26N, R-12W is very similar to the issues for our Irish and Bengal C wells. We have not attempted to review all OCD records, however we do know it is common for multiple wellbores, within a common spacing unit, to exhibit productive potential in different vertical intervals within the WAW Fruitland Sand-PC gas pool.

In summary, Dugan Production has recently completed two wells, both of which are the second well in an existing spacing unit, within the WAW Fruitland Sand-Pictured Cliffs gas pool. The spacing rules require the initial well in each spacing unit to be plugged. In each spacing unit, the initial wellbore is completed in an interval that is different from the interval completed in the second wellbore and abandonment of either well will result in a permanent loss of natural gas reserves. Both wellbores are necessary to effectively and efficiently drain gas reserves within the spacing unit. The initial wellbores in each spacing unit currently produce at volumes (1.3 to 4.1 MCFD) that are not sufficient to justify the costs associated with conducting a formal hearing to secure the necessary waivers allowing production to occur from two wells within a common spacing unit. We request your assistance in establishing an administrative procedure that will allow the production of multiple wells within a common spacing unit within the WAW Fruitland Sand Pictured Cliffs gas pool.

After you've had time to review this matter, please let me know if you need additional information or what we should do next to pursue this matter.

Sincerely,



John D. Roe
Engineering Manager

JDR/tmf

attachments

N MEXICO OIL CONSERVATION COMMISS
WELL LOCATION AND ACREAGE DEDICATION PLAT

Attachment
No. 1
Pg 1 of 2

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

Operator Dugan Production Corp.		Lease Bengal		Well No. C #5	
Unit Letter 0	Section 36	Township 27 North	Range 13 West	County San Juan	
Actual Footage Location of Well: 790' feet from the South line and 2000 feet from the East line					
Ground Level Elev. 5957	Producing Formation FR Sand PC		Pool WAW Fruitland Sand PC		Dedicated Acreage: 160 Acres

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

Pool Change per Order R-8769

CERTIFICATION

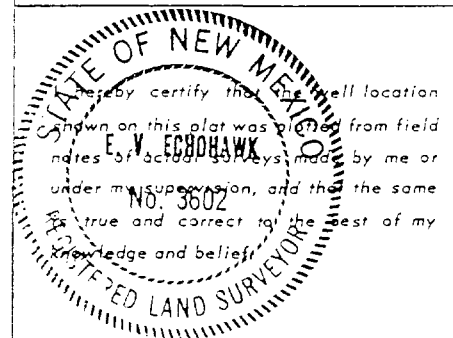
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name
Thomas A. Dugan

Position
President

Company
Dugan Production Corp.

Date
6/23/92



Date Surveyed
June 11, 1977

Registered Professional Engineer and/or Land Surveyor

E.V. Echohawk
Certificate No. **3602**
E.V. Echohawk LS

330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Attachment
No. 1
Pg 2 of 2

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

* API Number 30 045 29830		* Pool Code 87190	* Pool Name WAW Fruitland Sand PC
* Property Code 003586	* Property Name Bengal C		* Well Number 6
* OGRID No. 006515	* Operator Name Dugan Production Corporation		* Elevation 5930' Estimated

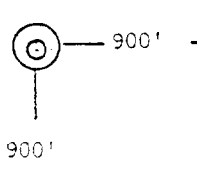
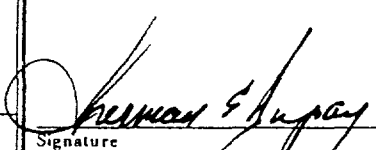
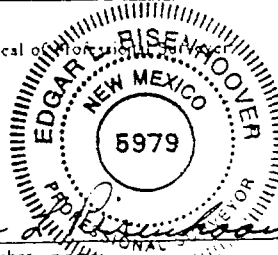
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	36	27N	13W	P	900	South	900	East	San Juan

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code		¹⁵ Order No.					

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16						¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief  Signature Sherman E. Dugan Printed Name Vice-President Title 8/28/98 Date
						¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. March 2, 1998 Date of Survey Signature and Seal of Professional Surveyor  Edgar Risenhoover Certificate Number 5979

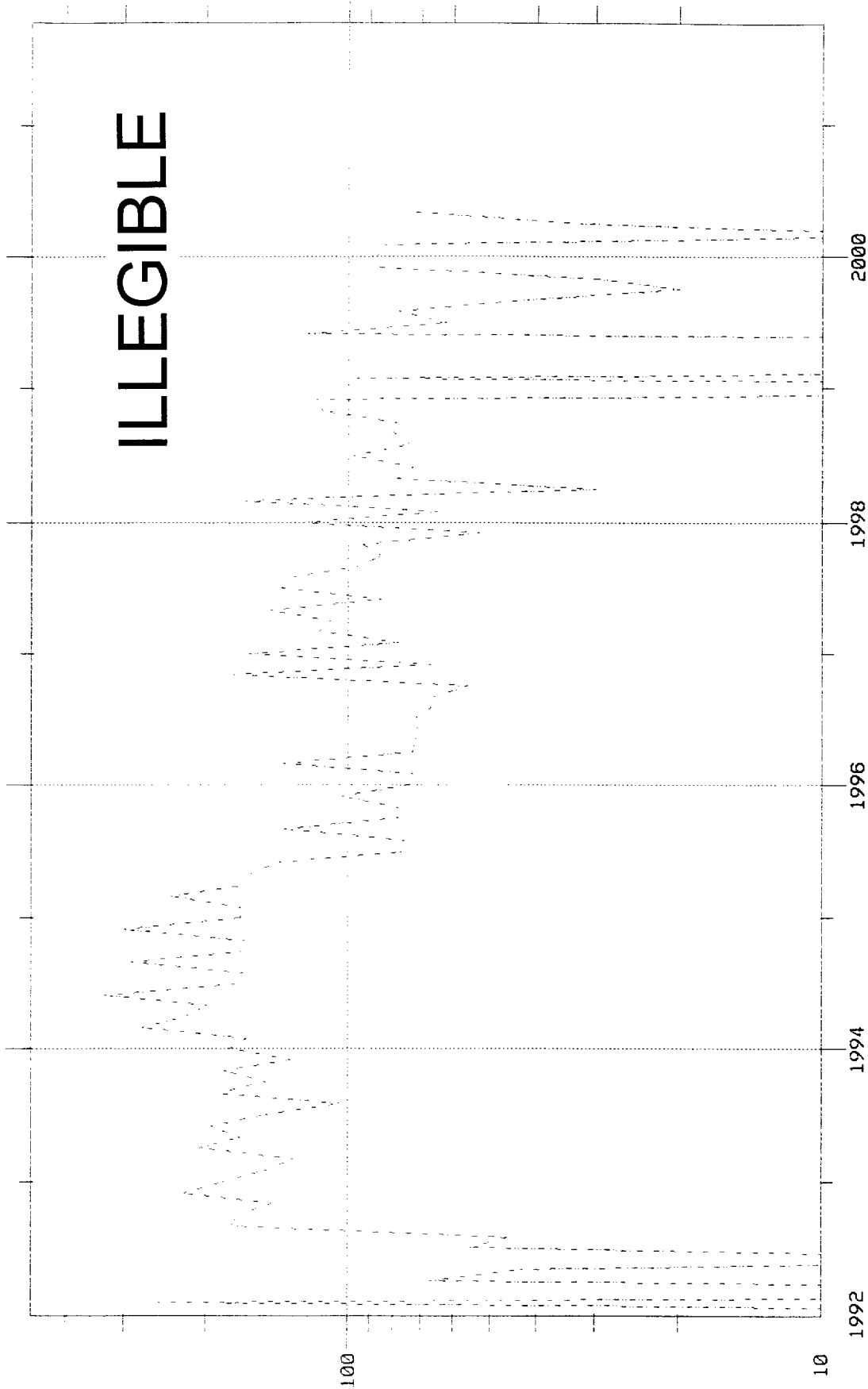
Calculated
Oil
Gas
Water

DUGAN PRODUCTION CORP
Gas Production Rate vs Time
Mcf/Mo vs Months
BENGAL C NO. 5 (0-36-27N-13W)
WAW FRUITLAND SAND PICTURED CLIFFS

Production
Oil
Gas
Water

Attachment
No. 2
Pg 1 of 2

production thru 9/00



Attachment

No. 2

pg 2 of 2

PRODUCTION DATA REPORT
Reported Monthly Production Totals
BENGAL C #5

Year: 1998 Cumulative Liquid: 0

Gas: 9642

Water: 7

Month	Liquid (Bbls)	Gas (Mcf)	Water (Bbls)	Primary Allowable	Num. Wells	Days On	Loss Factor
Jan	0	125	1	0	1	31	
Feb	0	65	1	0	1	28	
Mar	0	166	1	0	1	31	
Apr	0	30	1	0	1	30	
May	0	79	1	0	1	31	
Jun	0	73	1	0	1	30	
Jul	0	98	1	0	1	30	
Aug	0	74	1	0	1	23	
Sep	0	80	1	0	1	30	
Oct	0	79	4	0	1	31	
Nov	0	113	4	0	1	26	
Dec	0	117	0	0	1	31	
TOTAL	0	1099	17			<u>352</u>	

Annual
Avg
NPF
↓
3.12 NPF

Year: 1999 Cumulative Liquid: 0

Gas: 10741

Water: 24

Jan	0	0	0	0	0	0	
Feb	0	96	7	0	1	28	
Mar	0	0	5	0	1	31	
Apr	0	0	4	0	1	30	
May	0	0	1	0	1	31	
Jun	0	122	1	0	1	30	
Jul	0	62	1	0	1	25	
Aug	0	78	1	0	1	31	
Sep	0	42	1	0	1	30	
Oct	0	20	1	0	1	9	
Nov	0	30	1	0	1	30	
Dec	0	86	1	0	1	31	
TOTAL	0	536	24			<u>306</u>	

1.75 NPF

Year: 2000 Cumulative Liquid: 0

Gas: 11277

Water: 48

Jan	0	87	1	0	1	31	
Feb	0	84	1	0	1	29	
Mar	0	5	1	0	1	24	
Apr	0	32	1	0	1	30	
May	0	72	1	0	1	31	
Jun	0	0	1	0	1	30	
Jul	0	0	0	0	1	26	
Aug	0	0	0	0	1	16	
Sep - 5H	0	0	0	0	0	0	
Oct	0	0	0	0	0	0	
Nov	0	0	0	0	0	0	
Dec	0	0	0	0	0	0	
TOTAL	0	280	6			<u>217</u>	

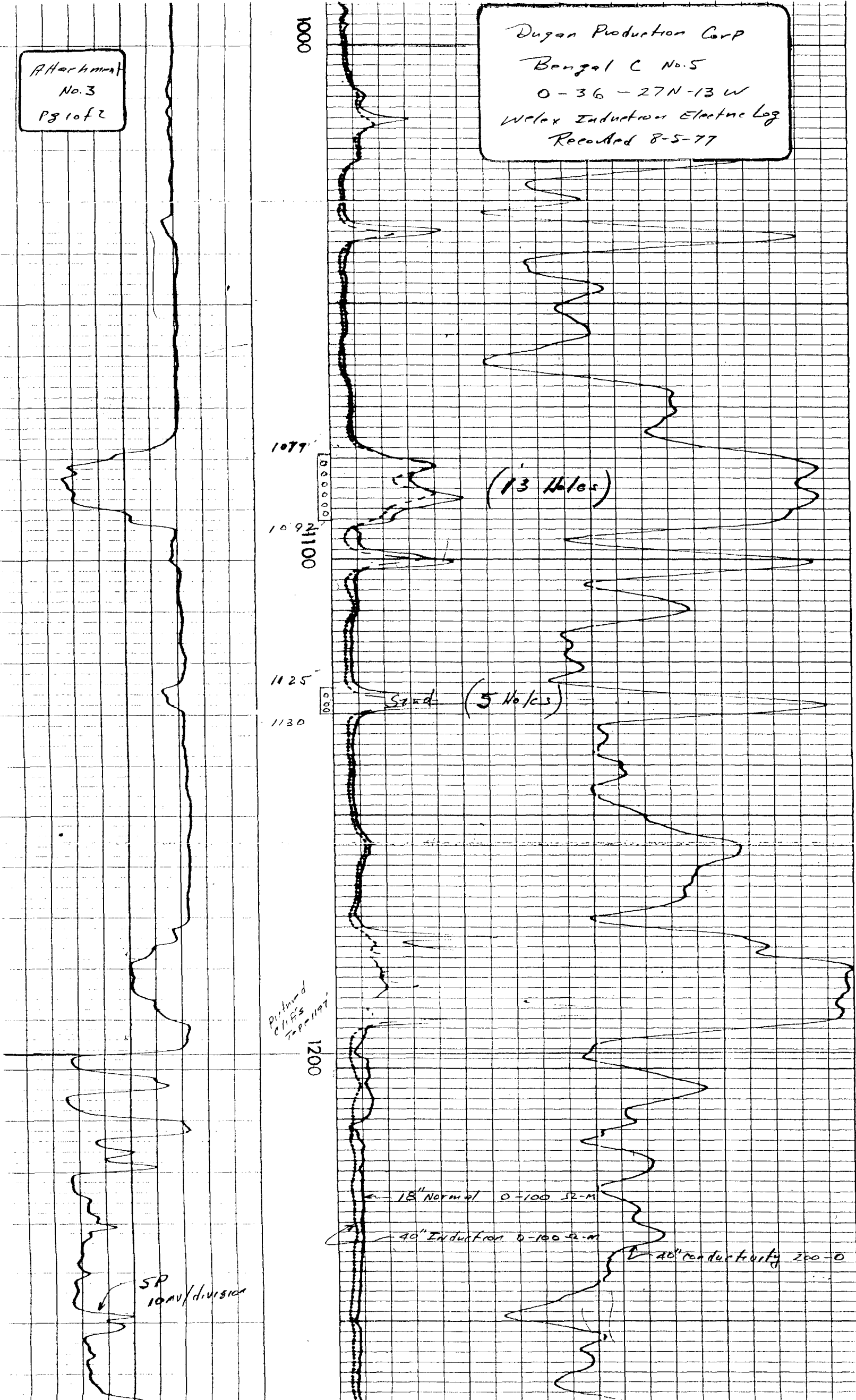
1.29 NPF

WAW FRUITLAND SAND PC - BENGAL C#5 *

Cum prod 10-1-00 = 11,557 MCF

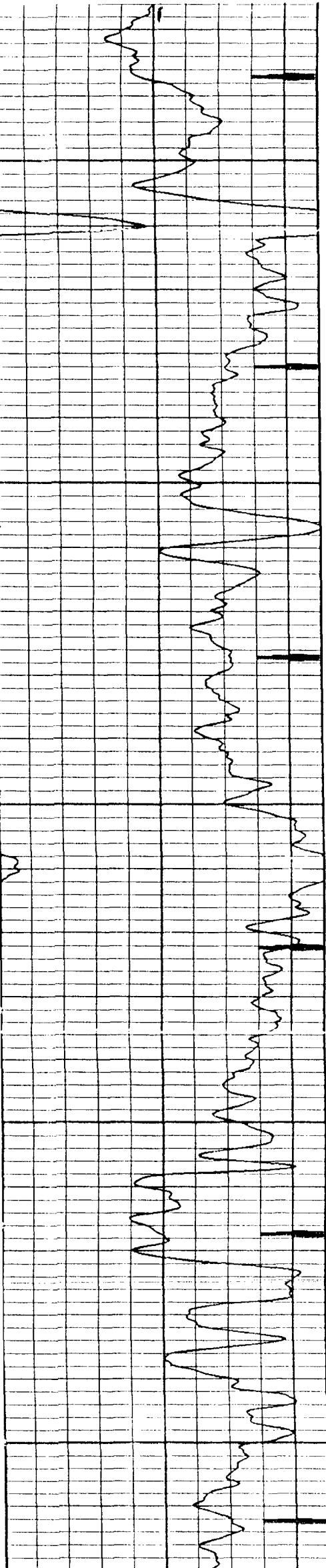
Attachment
No. 3
Pg 1 of 2

Dugan Production Corp
Bengal C No. 5
0-36-27N-13W
Wetox Induction Electric Log
Recorded 8-5-77



Attachment
No 3
Pg 2 of 2

Dugan Production Corp.
Bengal C No. 6
P-36-27N-13W
Basin well Log - GR-CCL-CNL
Recorded 9-7-00

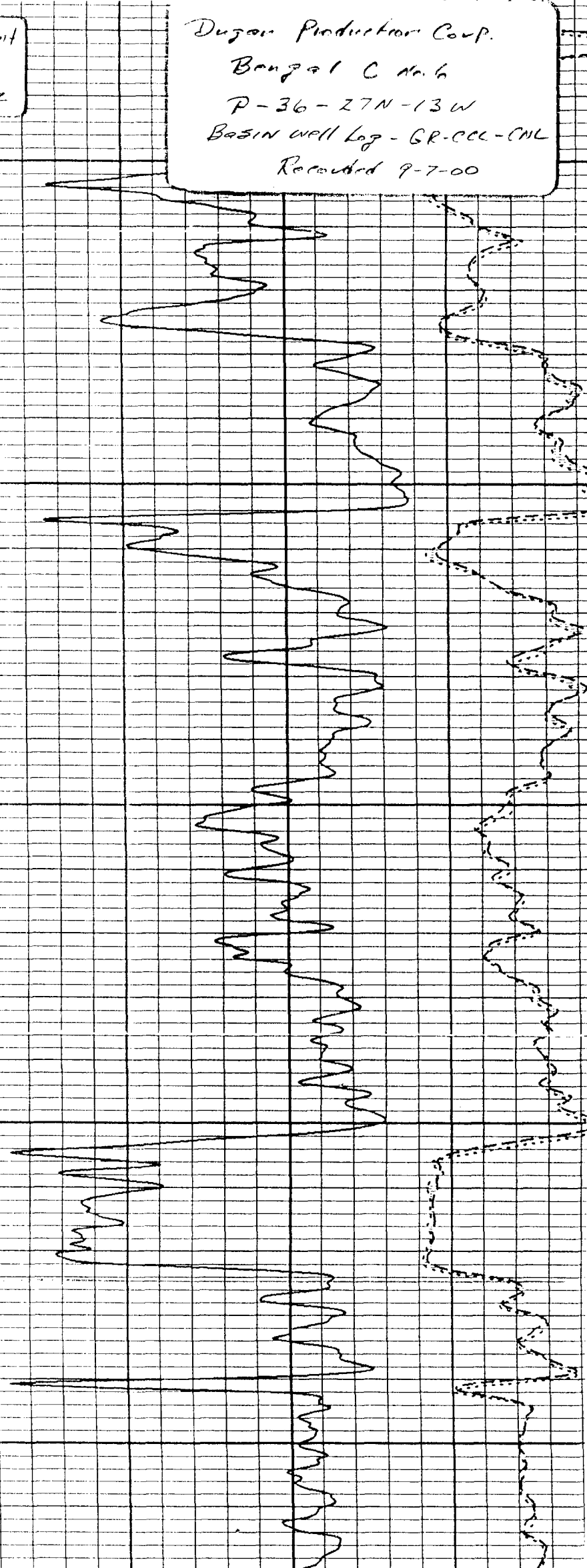


1000

1100

1200

Produced Oil
1175'
72
87
84
70



GAMMA RAY
API 0 150
CCL 2700 300

NEUTRON LONG SPACE
300 1200 CPS
NEUTRON SHORT SPACE
25 1380 CPS

NEUTRON PROSITY
0.60 SANDSTONE 0.00

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Attachment
No 4
Pg 1 of 2

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

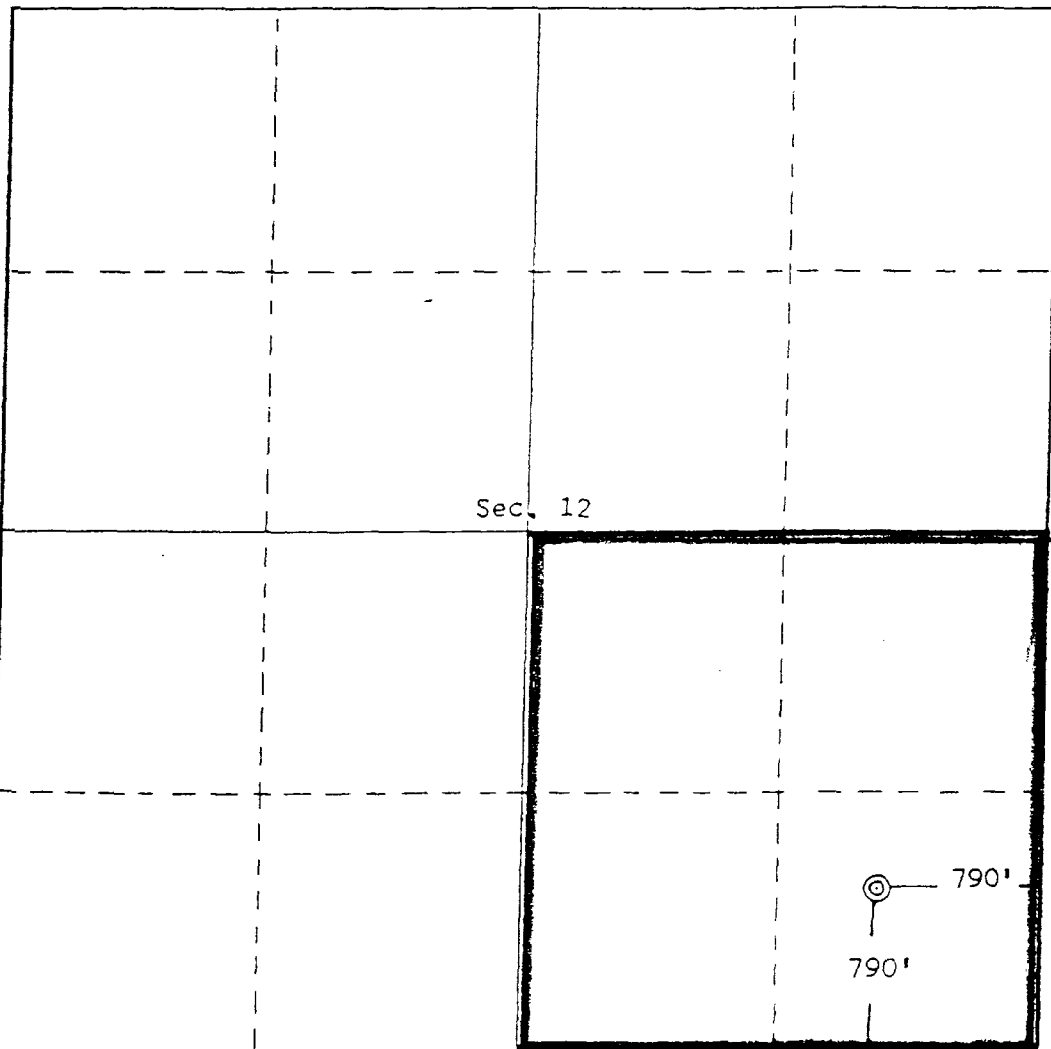
Operator Dugan Production Corporation			Lease Irish		Well No. 1J
Unit Letter P	Section 12	Township 26 North	Range 13 West	County San Juan	
Actual Footage Location of Well: 790' feet from the South line and 790' feet from the East line					
Ground Level Elev. 6018	Producing Formation Fruitland Sand PC	Pool WAW Fruitland Sand PC	Dedicated Acreage: 160 Acres		

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Thomas A. Dugan
Name

Thomas A. Dugan

Position

Petroleum Engineer

Company

Dugan Production Corp.

Date

November 12, 1990

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.



Date Surveyed

October 7, 1979

Registered Professional Engineer and/or Land Surveyor

Edgar L. Risenhoover
Certificate No. 5979

Edgar L. Risenhoover, L.S.

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Attachment
No. 4
Page 2 of 2

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

APN Number 30 045 29833		Pool Code 87190	Pool Name WAW Fruitland Sand/PC
Property Code 003713	Property Name Irish		Well Number 4
OGRID No. 006515	Operator Name Dugan Production Corporation		Elevation 6022' Estimated

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	12	26N	13W	I	1850	South	790	East	San Juan

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 160		Joint or Infill		Consolidation Code		Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16				Section 12	Dugan Prod. NM 10757		17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief <i>Sherman E. Dugan</i> Signature Sherman E. Dugan Printed Name Vice-President Title 8/31/98 Date
							18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. March 2, 1998 Date of Survey Signature and Seal of Professional Surveyor Edgar L. Hoover Certificate Number 5979

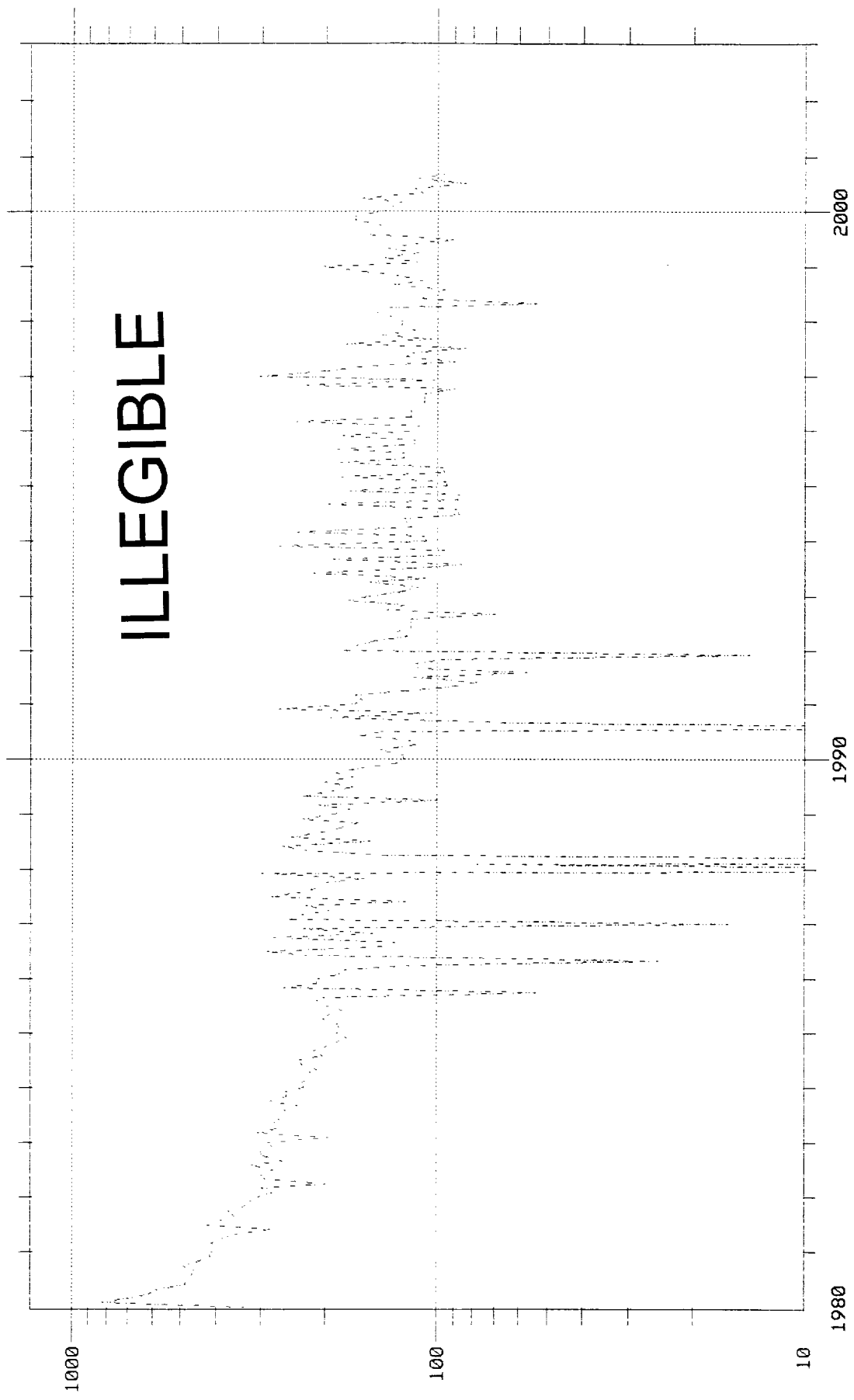
Calculated
Oil
Gas
Water

DUGAN PRODUCTION CORP.
Gas Production Rate vs Time
Mcf/Mo vs Months
IRISH NO. 1J (P-12-26N-13W)
WAW FRUITLAND SAND-PC GAS POOL

Production
Oil
Gas
Water

Attachment
No. 5
Pg 1 of 2

data thru 9/00



PRODUCTION DATA REPORT
Reported Monthly Production Totals
IRISH No. 1J

Attachment
No. 5
Page 2

Year: 1998 Cumulative Liquid: 0 Gas: 43417 Water: 0

Month	Liquid (Bbls)	Gas (Mcf)	Water (Bbls)	Primary Allowable	Num. Wells	Days On	Loss Factor
Jan	0	124	0	0	1	31	
Feb	0	134	0	0	1	28	
Mar	0	146	0	0	1	31	
Apr	0	135	0	0	1	30	
May	0	54	0	0	1	31	
Jun	0	111	0	0	1	30	
Jul	0	105	0	0	1	29	
Aug	0	96	0	0	1	24	
Sep	0	131	0	0	1	29	
Oct	0	110	1	0	1	31	
Nov	0	128	1	0	1	26	
Dec	0	160	1	0	1	31	
TOTAL	0	1434	3			351	

Annual
Aug
mcf D
↓
4.1 mcf D

Year: 1999 Cumulative Liquid: 0 Gas: 44851 Water: 3

Jan	0	204	1	0	1	31	
Feb	0	110	1	0	1	28	
Mar	0	140	1	0	1	31	
Apr	0	113	1	0	1	30	
May	0	136	1	0	1	31	
Jun	0	115	1	0	1	30	
Jul	0	91	1	0	1	25	
Aug	0	161	0	0	1	31	
Sep	0	148	1	0	1	30	
Oct	0	143	1	0	1	31	
Nov	0	167	1	0	1	30	
Dec	0	168	1	0	1	31	
TOTAL	0	1696	11			359	4.7 mcf D

Year: 2000 Cumulative Liquid: 0 Gas: 46547 Water: 14

Jan	0	142	1	0	1	31	
Feb	0	134	1	0	1	29	
Mar	0	126	1	0	1	31	
Apr	0	160	1	0	1	30	
May	0	110	1	0	1	31	
Jun	0	116	1	0	1	30	
Jul	0	84	1	0	1	26	
Aug	0	113	1	0	1	25	
Sep	0	96	1	0	1	30	
Oct	0	0	0	0	0	0	
Nov	0	0	0	0	0	0	
Dec	0	0	0	0	0	0	
TOTAL	0	1081	9			263	4.1

WAW FRUITLAND SAND PC - IRISH 1J

Cum prod 10-1-00 = 47,628 mcf

Attachment
No. 6
151 of 2

Log
Reduced
to
70%

Dugan Production Corp.
Irish No. 1 J
P-12-26N-13W
Water-Induction Electric Log
Revised 12-5-79

Formation
Top 87'

8000

900

1000

1100

Pinched
Cliffs
1174'

1200

40" Induction
0-100 32M

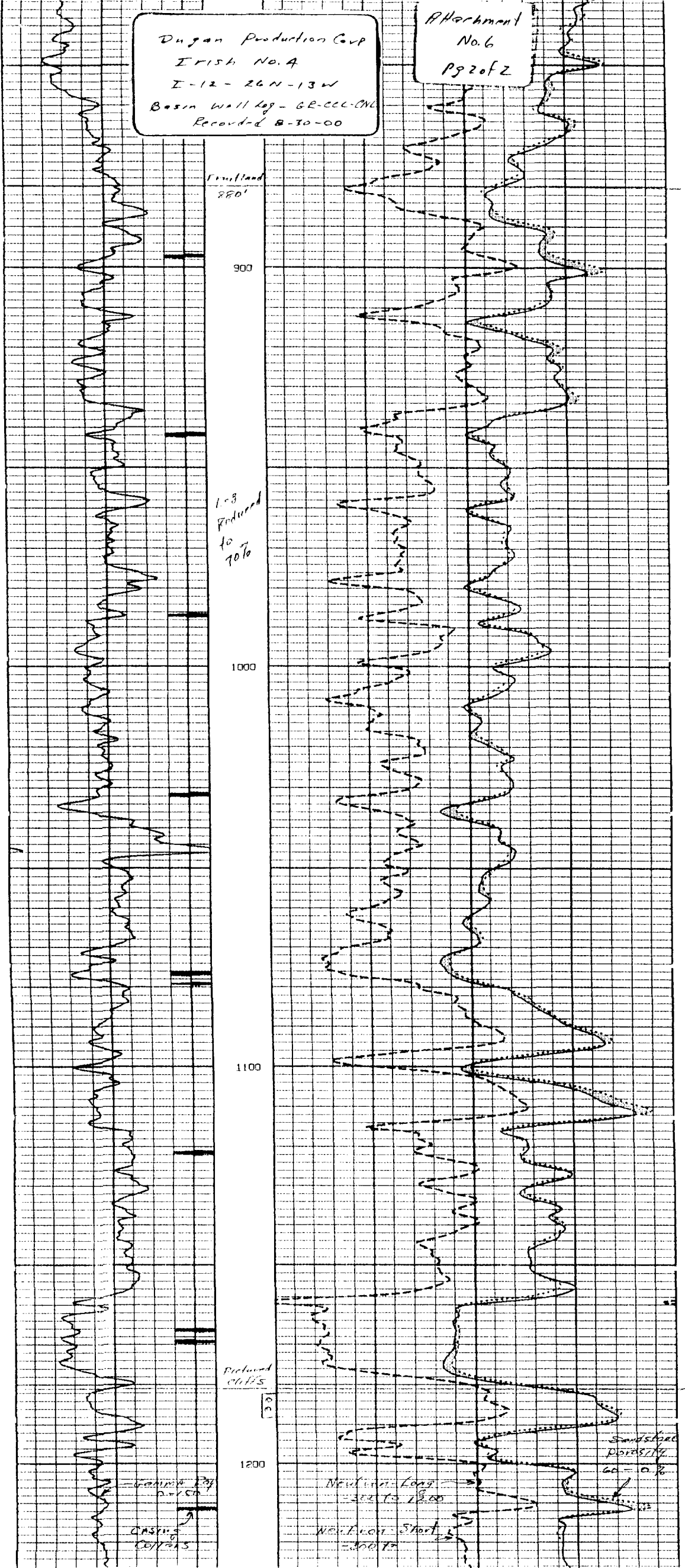
16" Induction
0-100 32M

conductivity
100-0

SP
16 mv/dio.

Dugan Production Corp
 Irish No. 4
 I-12-26N-13W
 Basin Well Log - GR-CLL-ONE
 Recorded 8-30-00

Attachment
 No. 6
 Pg 2 of 2



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 6538
Order No. R-6027

APPLICATION OF BEDFORD, INC. FOR
APPROVAL OF INFILL DRILLING,
SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on May 9, 1979,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 12th day of June, 1979, the Division
Director, having considered the testimony, the record, and the
recommendations of the Examiner, and being fully advised in the
premises,

FINDS:

(1) That due public notice having been given as required
by law, the Division has jurisdiction of this cause and the
subject matter thereof.

(2) That the applicant, Bedford, Inc., seeks a waiver of
existing well spacing requirements and a finding that the drill-
ling of its Ram Well No. 1-A located in Unit G of Section 8,
Township 26 North, Range 12 West, WAW Fruitland-Pictured Cliffs
Pool, San Juan County, New Mexico, is necessary to effectively
and efficiently drain that portion of the proration unit which
cannot be so drained by the existing well.

(3) That the standard spacing unit in the WAW Fruitland-
Pictured Cliffs Pool is 160 acres.

(4) That Bedford, Inc. is the operator of a standard 160-
acre proration unit consisting of the NE/4 of said Section 8
in the WAW Fruitland-Pictured Cliffs Pool.

(5) That said 160-acre proration unit is dedicated to
applicant's Ram Well No. 1 located in Unit A of said Section 8.

-2-

Case No. 6538
Order No. R-6027

(6) That said Ram Well No. 1 is productive from the
Fruitland zone of the WAW Fruitland-Pictured Cliffs Pool but
is non-productive from the Pictured Cliffs zone of said pool.

(7) That the applicant proposes to complete its Ram Well
No. 1-A in the Pictured Cliffs zone of the WAW Fruitland-
Pictured Cliffs Pool.

(8) That the evidence indicates that if the drilling
and completion of applicant's said Ram Well No. 1-A in the
Pictured Cliffs zone of said pool is successful, said Ram Well
No. 1-A should recover additional gas from applicant's acreage
which would not otherwise be recovered from the proration unit.

(9) That such additional recovery from the non-standard
proration unit will result in such unit being more efficiently
and economically drained.

(10) That said Ram Well No. 1-A is to be drilled as an
"infill" well on the existing 160-acre proration unit.

(11) That in order to permit the drainage of a portion
of the reservoir covered by said 160-acre proration unit which
cannot be effectively and efficiently drained by the existing
well thereon, the subject application for infill drilling
should be approved as an exception to the standard well spacing
requirements for said WAW Fruitland-Pictured Cliffs Pool.

IT IS THEREFORE ORDERED:

(1) That the applicant, Bedford, Inc., is hereby authorized
to drill its Ram Well No. 1-A to be located in Unit G of Section
8, Township 26 North, Range 12 West, as an infill well on an
existing 160-acre proration unit being the NE/4 of said Section
8, WAW Fruitland-Pictured Cliffs Pool, San Juan County, New
Mexico. The authorization for infill drilling granted by this
order is an exception to applicable well spacing requirements
and is necessary to permit the drainage of a portion of the
reservoir covered by the existing 160-acre proration unit which
cannot efficiently and economically be drained by any existing
well thereon.

(2) That jurisdiction of this cause is retained for the
entry of such further orders as the Division may deem necessary.

Attachment
No. 7
PS1061