

DATE _____

OPERATOR Nassau Resources, Inc.
40 Jerome P. MelHugh & Associates
P.O. Box 809
Farmington, NM 87499-0809
ATTENTION: Gary J. Johnson

ADMINISTRATIVE ORDER DD- 35

Under the provisions of General Rule 111 (c), (d) and (e),
Nassau Resources, Inc. made application to the New Mexico
Oil Conservation Division on April 2, 1990, for
authorization to directionally drill its proposed
Carracas Unit Well No. 16, Rio Arriba County,
New Mexico. 15-A

The Division Director Finds That:

- (1) The application has been duly filed under the provisions of Rule 111 (d) and (e) of the Division General Rules and Regulations;
- (2) Satisfactory information has been provided that all offset operators have been duly notified;
- (3) The applicant has presented satisfactory evidence that all requirements prescribed in General Rule 111 will be met; and
- (4) No objections have been received within the waiting period prescribed by said rule.

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IT IS THEREFORE ORDERED THAT:

(1) The applicant, Nassau Resources Inc., is hereby authorized to directionally drill its Carracas Unit 15-A Well No. 16, the surface location of which shall be 200 feet from the South line and 500 feet from the East line (Unit P) of Section 15, Township 32 North, Range 6 West, NMPM, Rio Arriba County, New Mexico, by kicking off from the vertical at a depth of approximately 590 feet, and drilling in such a manner as to bottom it in the

_____ (pool)(formation) at a standard location within the _____ of said Section _____ forming a standard _____-acre _____ spacing and proration unit for said pool.

Basin Fruitland Coal Gas Pool formation within 100 feet of a point 1320 feet from the South line and East feet from the _____ lines of Section 15, being a standard _____ well location for said formation.

PROVIDED HOWEVER THAT: prior to directional drilling, the operator shall determine the subsurface location of the kick-off point; and

PROVIDED FURTHER THAT: subsequent to the above-described directional drilling, should said well be a producer, a ~~continuous multi-shot~~ directional survey shall be made of the wellbore from total depth to the kick-off point ~~with shot points not more than 100 feet apart~~; the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe ^{both} Office ~~of the~~ Division, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, ~~and the~~ operator shall ^{also} notify the Division's Albuquerque District Office of the date and time said survey is to be commenced.

(2) Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths.

at a previously
approved
unorthodox
coal gas
well location
(Division
Order No.
A-8844

and to
the Santa
Fe District
Office
of the
Division



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

OIL CONSERVATION DIVISION
RECEIVED
REY CARRUTHERS
GOVERNOR
'90 APR 11 AM 8 58

11000 HAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-0170

Date: 4-9-90

ATTN: ME STOGNER

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

Re: Proposed MC _____
Proposed DHC _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen: DD X

I have examined the application dated 4-2-90

for the NASDAQ RESOURCES, INC. CARRIZAS Unit 15A #16
Operator Lease & Well No.

P. 15-32N-5W and my recommendations are as follows:
Unit, S-T-R

Approved

Yours truly,

Ernie Bush

March 30, 1990

New Mexico Oil Conservation Division

Attn: Michael Stogner

P O Box 2088

Santa Fe, New Mexico 87504

RE: Application for Administrative Approval of
Directional Drilling
Nassau Resources, Inc., Carracas Unit 15 A #16
Section 15, T32N, R5W, NMPM
Rio Arriba County, New Mexico

Dear Mr. Stogner:

Nassau Resources, Inc., hereby requests administrative approval to directionally drill the subject well as follows:

Proposed Surface Location:	200' FSL and 500' FEL
Proposed Bottom Hole Location:	1320' FSL and 1320' FEL (within a 100' radius)
True Vertical Depth:	Approx. 4000'
Measured Depth:	Approx. 4308'

The well is at a previously approved unorthodox location, (OCD Order *R-8844), approximately 880' west of the NRI Carracas Unit 14 A #13. Due to archeological and topographic considerations the well cannot be located at a location more to the north and west, which will be a more desirable target, geologically.

This well is in Nassau's Carracas Unit. The E/2 of Section 16, T32N, R5W, is unleased federal minerals. Kindermac Partners and Jerome P. McHugh are operating affiliates with Nassau Resources, Inc. Amoco Production Co., a party to the unit, has also been notified.

Also attached are copies of the C-102 plat, a topographic map (showing both the surface and bottom hole locations) and a schematic of the well bore.

Please withdraw Nassau's pending application for horizontal drilling. Please contact me immediately if anything further is required to complete this application.

Thank you,


Gary J. Johnson

xc: Ernie Busch, NMOCD
Amoco Production Co.
Jerome P. McHugh and
Kindermac Partners

Attachments

Main Office
Jerome P. McHugh & Associates
Operating Affiliate: Nassau Resources, Inc.
650 South Cherry, Suite 1225
Denver, Colorado 80222
(303) 321-2111

Distances must be from the outer boundaries of the lease.

Operator Nassau Resources, Inc.			Lease Carracas Unit 15 A		Well No. 16
Well Letter P	Section 15	Township 32 North	Range 5 West	County Rio Arriba	
Actual Footage Location of Well 200 feet from the South line and 500 feet from the East line					
Ground Level Elev. 7220-7222	Producing Formation Fruitland		Pool Basin Fruitland Coal		Dedicated Acreages 320 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 Carracas Unit - Unitization

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 Division.

Nassau Resources, Inc. Carracas Unit 15 A #16 Application for Directional Drilling	
SECTION 15	
NH 29341 Moco Production Co.	NH 30351 Kindermac Partners

CERTIFICATION

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

Fran Perrin

Name

Fran Perrin

Position

Admin. Asst.

Company

Nassau Resources, Inc.

Date

12/8/88

I hereby certify that the information shown on this plat is true and complete to the best of my knowledge and belief, and that the same is true and correct to the best of my knowledge.

Date Surveyed

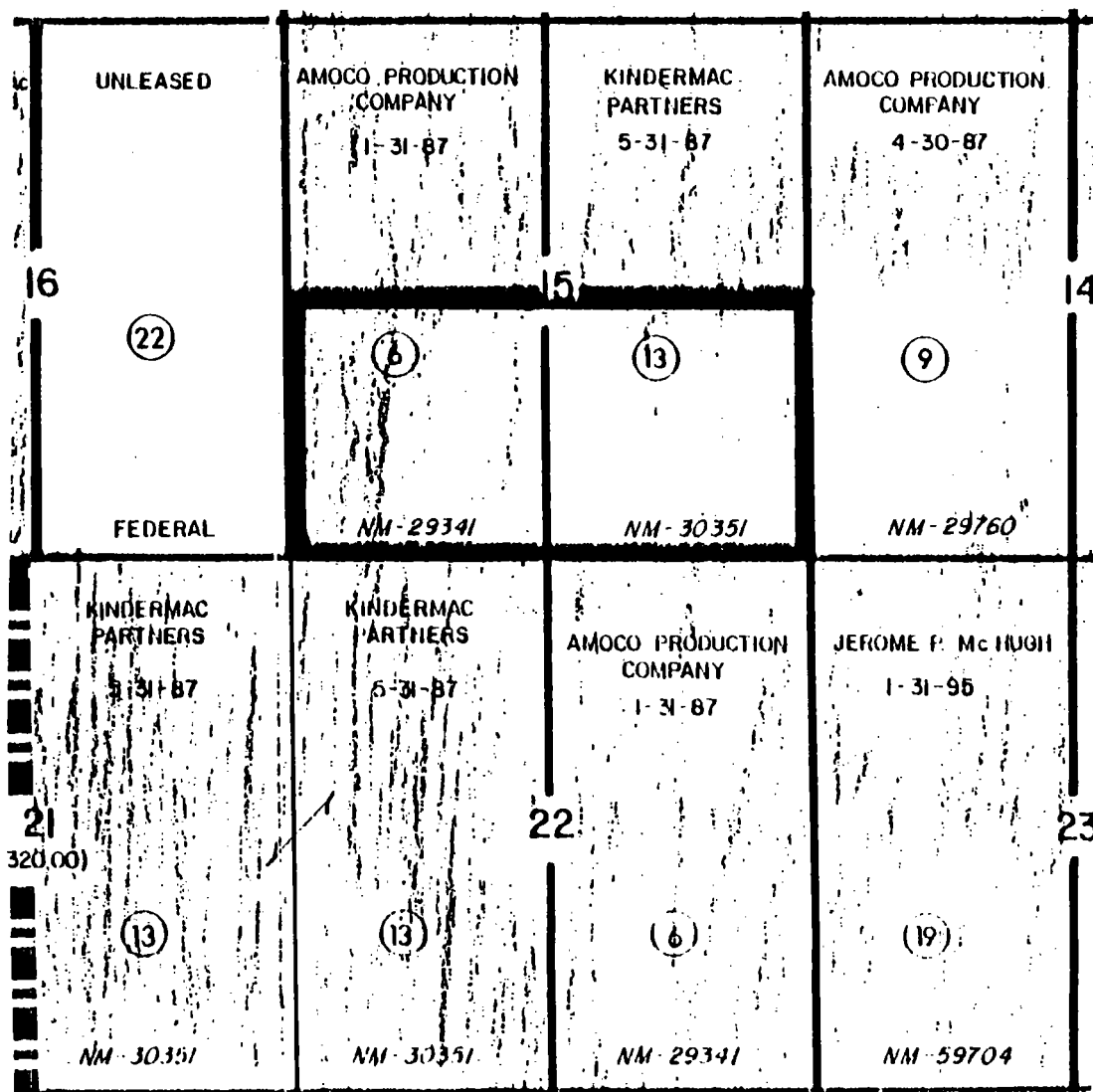
August 25, 1988

Registered Professional Engineer
and/or Land Surveyor

Edgar L. Resnick
Certificate No. 5979

LEASE PLAT

Township 32 North, Range 5 West, NMPM, Rio Arriba County, New Mexico



PARTY TO THE UNIT:
Amoco Production Co.

OPERATING AFFILIATES:
Jerome P. McHugh
Kindermac Partners

UNLEASED FEDERAL MINERALS:
T32N, R5W
Section 16: E/2

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

0
500
588
1000
1500
1889
2000
TVD
2500
3000
3500
4000
4500

V. SECTION PLANE

PROPOSAL: P00261.1N2

W: 1320
N: 1320

MD: 588. 0° 0' 494.97 SEC.

804

MD: 1938. 27° 0'

1867

TARGET
MD: 4308. 27° 0'

W: 684
N: 452

W: 58200
N: 200

SCALE 1" = 200FT.

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

NASSAU RESOURCES

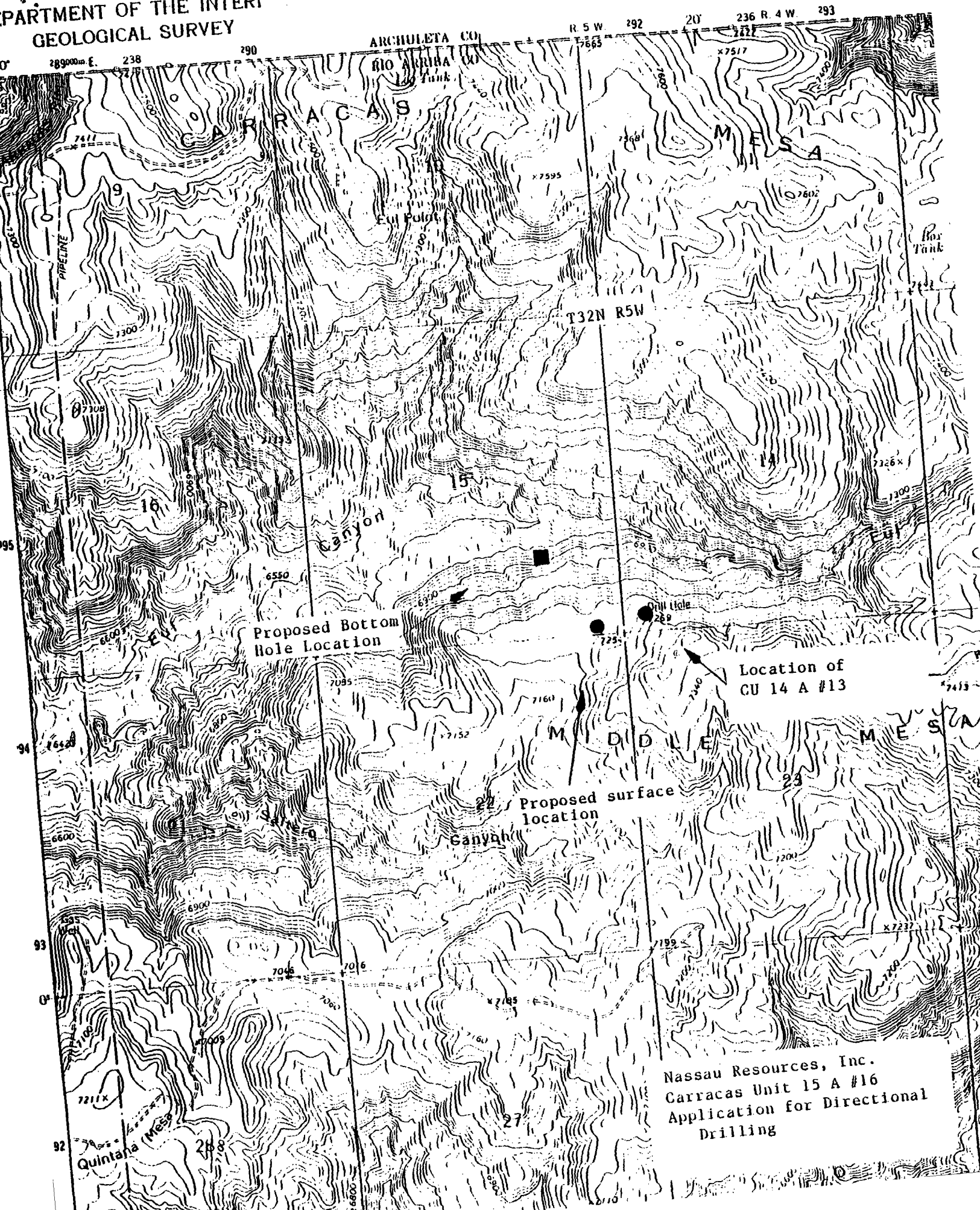
WELL: 15A - 16

RIO ARRIBA

SLOT: 4

SCALE 1" = 500FT.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

March 30, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Amoco Production Co.
Attn: J W Hawkins - Land Department, Proration Group
P O 800
Denver, CO 80201

RE: Application for Administrative Approval of
Directional Drilling
Nassau Resources, Inc., Carracas Unit 15 A #16
Section 15, T32N, R5W, NMPM
Rio Arriba County, New Mexico

Dear Mr. Hawkins:

Enclosed is a copy of the subject Application for Directional Drilling.

Although Amoco Production Co., is a party to the Nassau Resources, Inc., Carracas Unit, if Amoco has no objection to this application, we request that you notify the Oil Conservation Division as soon as possible. Please send a waiver to the attention of Michael Stogner, New Mexico Oil Conservation Division, P O Box 2088, Santa Fe, New Mexico, 87504.

An application for this same well was previously submitted, then withdrawn. Nassau is also withdrawing its application for horizontal drilling.

Please feel free to call if you have any questions.

Thank you,


Gary J. Johnson

Enclosure

xc: NMOCD, Santa Fe, NM

March 30, 1990

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Attn: Michael Stogner
P O Box 2088
Santa Fe, New Mexico 87504

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Section 15, T32N, R5W, NMPM
Rio Arriba County, New Mexico

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Also attached are copies of the C-102 plat, a topographic map (showing both the surface and bottom hole locations) and a schematic of the well bore.

Please withdraw Nassau's pending application for horizontal drilling. Please contact me immediately if anything further is required to complete this application.

Thank you,


Gary J. Johnson

xc: Ernie Busch, NMOCD
Amoco Production Co.
Jerome P. McHugh and
Kindermac Partners

Attachments

Main Office
Jerome P. McHugh & Associates
Operating Affiliate: Nassau Resources, Inc.
650 South Cherry, Suite 1225
Denver, Colorado 80222
(303) 321-2111

Distances must be from the outer boundaries of the lease.

Operator Nassau Resources, Inc.		Lease Carracas Unit 15 A		Well No. 16
Unit Letter P	Section 15	Township 32 North	Range 5 West	County Rio Arriba
Actual Footage Location of Well: 200 feet from the South line and 500 feet from the East line				
Ground Level Elev. 7220-7222	Producing Formation Fruitland	Pool Basin Fruitland Coal	Dedicated Acres 320 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).
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Nassau Resources, Inc. Carracas Unit 15 A #16 Application for Directional Drilling	
SECTION 15	
NM 29341 Moco Production Co.	NH 30351 Kindermac Partners

CERTIFICATION

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

Fran Perrin

Name

Fran Perrin

Position

Admin. Asst.

Company

Nassau Resources, Inc.

Date

12/8/88

I hereby certify that the information shown on this plat is true and correct to the best of my knowledge and belief, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

August 25, 1988

Registered Professional Engineer
and/or Land Surveyor

Edgar L. Risen
Certificate No. 5979

LEASE PLAT

Township 32 North, Range 5 West, NMPM, Rio Arriba County, New Mexico

16	UNLEASED (22) FEDERAL	AMOCO PRODUCTION COMPANY 1-31-87 (6) NM-29341	KINDERMAC PARTNERS 5-31-87 (13) NM-30351	AMOCO PRODUCTION COMPANY 4-30-87 (9) NM-29760	14
21 320.00)	KINDERMAC PARTNERS 5-31-87 (13) NM-30351	KINDERMAC PARTNERS 5-31-87 (13) NM-30351	AMOCO PRODUCTION COMPANY 1-31-87 (6) NM-29341	JEROME P. Mc HUGH 1-31-95 (19) NM-59704	23
		22			

PARTY TO THE UNIT:
Amoco Production Co.

OPERATING AFFILIATES:
Jerome P. McHugh
Kindermac Partners

UNLEASED FEDERAL MINERALS:
T32N, R5W
Section 16: E/2

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

0
500
1000
1500
1889
2000
TVD
2500
3000
3500
4000
4500

V. SECTION PLANE

PROPOSAL P00261.1NZ

W:1320
N:1320

MD:588. 0°0' 494.97 SEC.

804
MD:1938. 27°0'

1867
TARGET
MD:4308. 27°0'

W:684
N:452

W:58200
N:200

SCALE 1"=200FT.

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

NASSAU RESOURCES

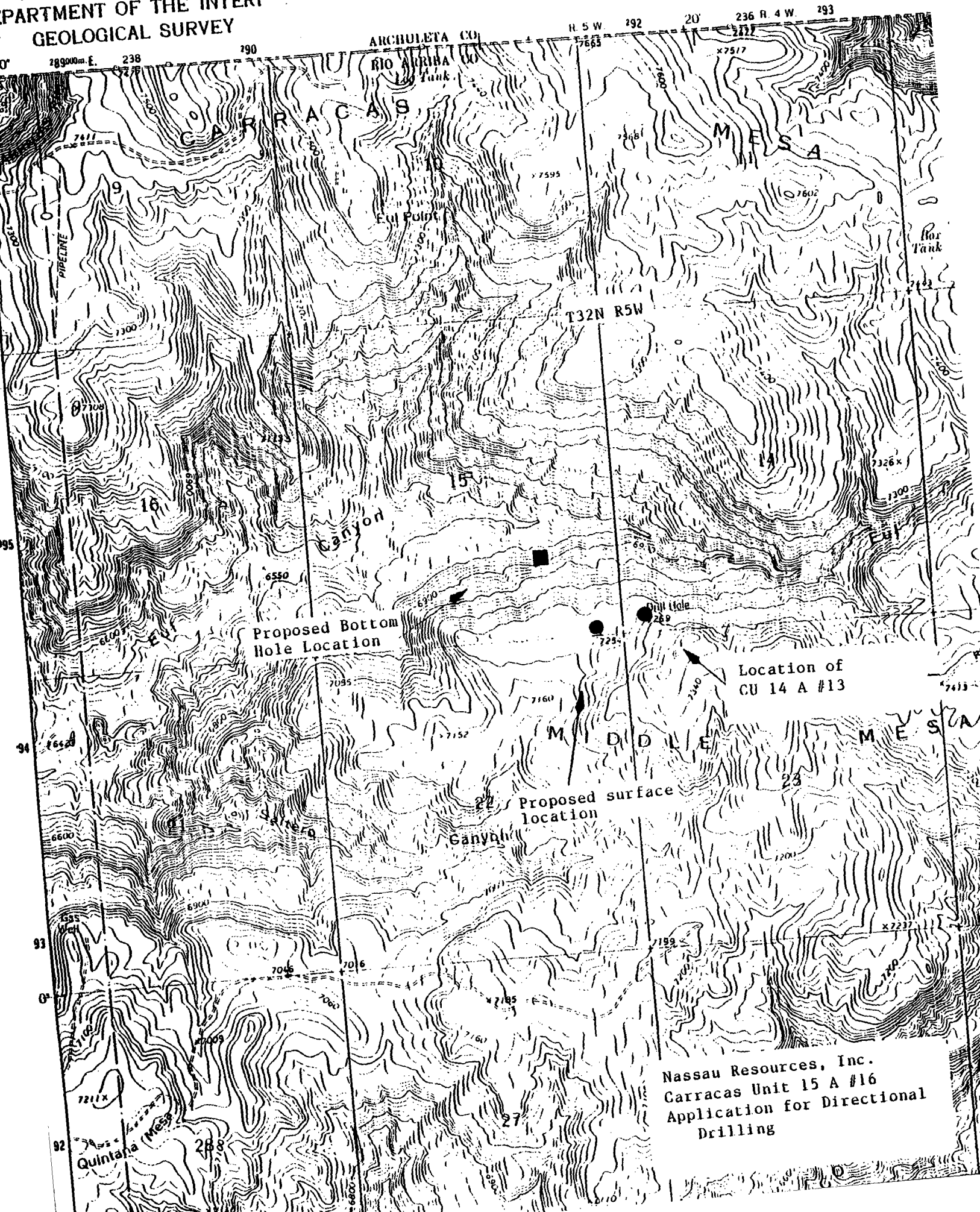
WELL: 15A - 16

RIO ARRIBA

SLOT: 4

SCALE 1"=500FT.

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



March 30, 1990

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Amoco Production Co.
Attn: J W Hawkins - Land Department, Proration Group
P O 800
Denver, CO 80201

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Directional Drilling
Nassau Resources, Inc., Carracas Unit 15 A #16
Section 15, T32N, R5W, NMPM
Rio Arriba County, New Mexico

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Gary J. Johnson

Enclosure

xc: NMOCD, Santa Fe, NM

March 30, 1990

90 APR 2 AM 9 56

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Attn: Michael Stogner
P O Box 2088
Santa Fe, New Mexico 87504

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Nassau Resources, Inc., Carracas Unit 15 A #16
Section 15, T32N, R5W, NMPM
Rio Arriba County, New Mexico

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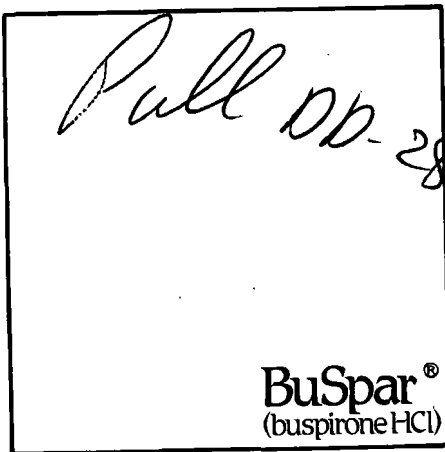
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14 A #13. Due to geologic considerations
the well cannot be drilled to the north and
west, which will be geologically.

This well is in Nas
T32N, R5W, is unlea
Jerome P. McHugh an
Inc. Amoco Product
notified.

Also attached are
(showing both the
schematic of the well

Please withdraw Na
drilling. Please c
required to complete this application.



E/2 of Section 16,
Kermac Partners and
Nassau Resources,
Unit, has also been

a topographic map
(locations) and a

on for horizontal
anything further is

Thank you,

Gary J. Johnson
Gary J. Johnson

xc: Ernie Busch, NMOCD
Amoco Production Co.
Jerome P. McHugh and
Kindermac Partners

Attachments

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Jerome P. McHugh & Associates
Operating Affiliate: Nassau Resources, Inc.
650 South Cherry, Suite 1225
Denver, Colorado 80222
(303) 321-2111

Distances must be from the outer boundaries of the well.

Operator Nassau Resources, Inc.		Lease Carracas Unit 15 A		Well No. 16
Well Letter P	Section 15	Township 32 North	Range 5 West	County Rio Arriba
Actual Footage Location of Well				
200	feet from the	South	line and	500
feet from the	East	line		
Ground Level Elev. 7220-7222	Producing Formation Fruitland	Pool Basin Fruitland Coal	Dedicated Acres 320	Acres

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☒ Yes ☐ No If answer is "yes," type of consolidation Carracas Unit - Unitization

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

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Nassau Resources, Inc. Carracas Unit 15 A #16 Application for Directional Drilling	
SECTION 15	
NH 29341 Moco Production Co.	NH 30351 Kindermac Partners

CERTIFICATION

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

Fran Perrin

Name	Fran Perrin
Position	Admin. Asst.
Company	Nassau Resources, Inc.
Date	12/8/88

I hereby certify that the information shown on this plat is true and complete to the best of my knowledge and belief.

Edgar L. Risen

Date Surveyed	August 25, 1988
Registered Professional Engineer and/or Land Surveyor	<i>Edgar L. Risen</i>
Certificate No.	5979

LEASE PLAT

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PARTY TO THE UNIT:
Amoco Production Co.

OPERATING AFFILIATES:
Jerome P. McHugh
Kindermac Partners

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T32N, R5W
Section 16: E/2

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

0
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1889
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N:1320

MD:588. 0°0' 494.97 SEC.

804

MD:1938. 27°0'

1867

TARGET
MD:4308. 27°0'

V:681
N:452

V:58200
N:200

SCALE 1"=200FT.

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

NASSAU RESOURCES

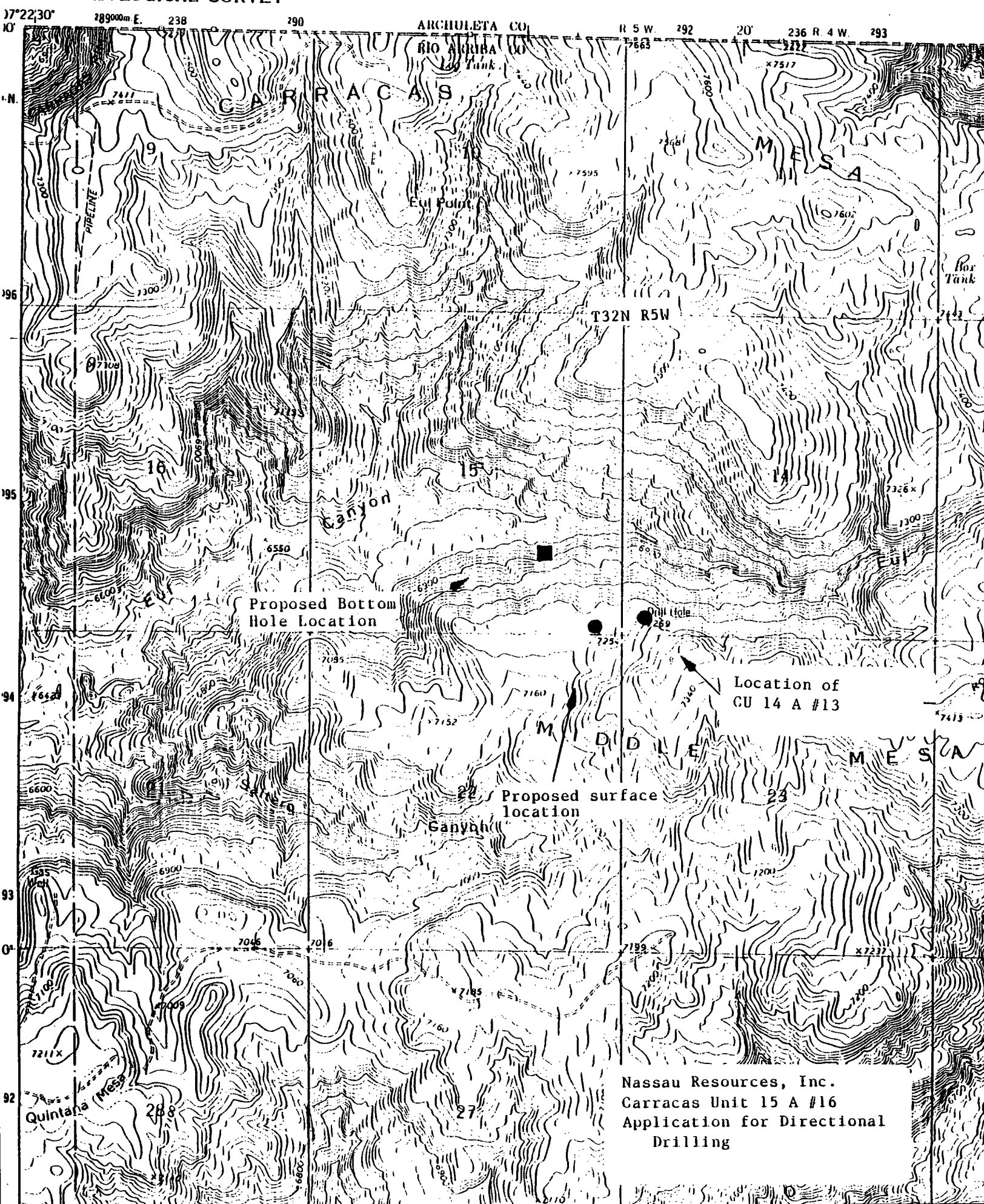
WELL: 15A - 16

RIO ARRIBA

SLOT: 4

SCALE 1"=500FT.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

March 30, 1990

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Enclosure

xc: NMOCD, Santa Fe, NM

July 25, 1989

RECEIVED

New Mexico Oil Conservation Division
Attn: Michael Stogner
P O Box 2088
Santa Fe, New Mexico 87504

JUL 26 1989

**OIL CONSERVATION DIV.
SANTA FE**

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Section 15, T32N, R5W, NMPM
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AND MINERALS DEPARTMENT

SANTA FE, NEW MEXICO 87501

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

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500
200

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Fran Perrin

Name

Fran Perrin

Position

Admin. Asst.

Company

Nassau Resources, Inc.

Date

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Date Surveyed

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Registered Professional Engineer
and/or Land Surveyor

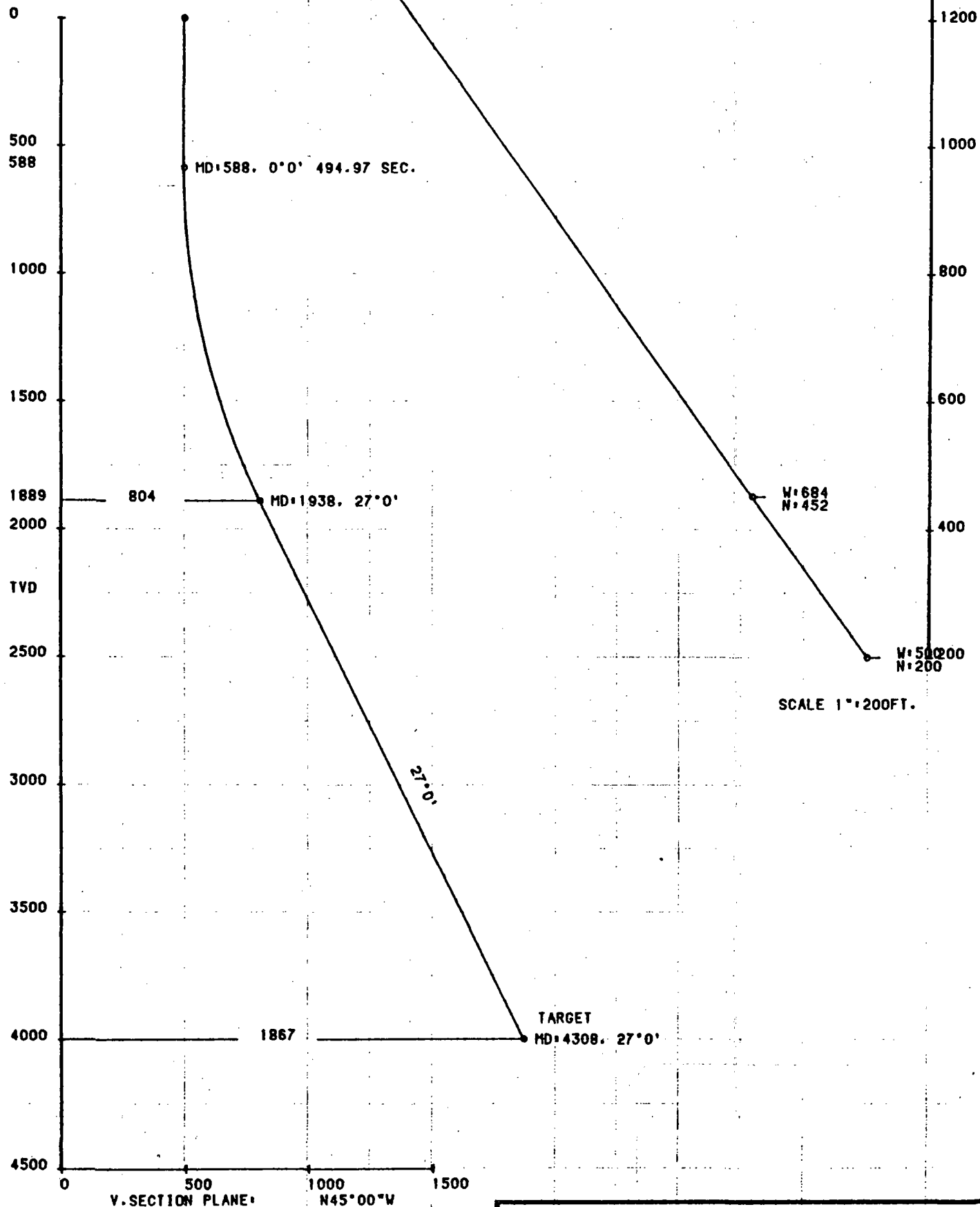
Edgar L. Risenhoover
Certificate No. 5979

Edgar L. Risenhoover, P.E.

Topographic map of Carracas Unit 15 A #16. The map shows contour lines, a grid, and various geographical features. Key labels include:

- Proposed Bottom Hole Location**: Indicated by a black square on a contour line.
- Proposed surface location**: Indicated by a black dot on a contour line.
- Proposed location of CU 14 A #13**: Indicated by a black dot on a contour line.
- Geographical Features**: Carracas, Middle Mesa, Quintana Mesa, Rio Arriba, Eul Point, Eul Canyon, Middle Canyon, Quintana Canyon, and various peaks and valleys.
- Grid**: T32N R5W, T33N R5W, T34N R5W, T35N R5W, T36N R5W, T37N R5W, T38N R5W, T39N R5W, T40N R5W, T41N R5W, T42N R5W, T43N R5W, T44N R5W, T45N R5W, T46N R5W, T47N R5W, T48N R5W, T49N R5W, T50N R5W, T51N R5W, T52N R5W, T53N R5W, T54N R5W, T55N R5W, T56N R5W, T57N R5W, T58N R5W, T59N R5W, T60N R5W, T61N R5W, T62N R5W, T63N R5W, T64N R5W, T65N R5W, T66N R5W, T67N R5W, T68N R5W, T69N R5W, T70N R5W, T71N R5W, T72N R5W, T73N R5W, T74N R5W, T75N R5W, T76N R5W, T77N R5W, T78N R5W, T79N R5W, T80N R5W, T81N R5W, T82N R5W, T83N R5W, T84N R5W, T85N R5W, T86N R5W, T87N R5W, T88N R5W, T89N R5W, T90N R5W, T91N R5W, T92N R5W, T93N R5W, T94N R5W, T95N R5W, T96N R5W, T97N R5W, T98N R5W, T99N R5W, T100N R5W, T101N R5W, T102N R5W, T103N R5W, T104N R5W, T105N R5W, T106N R5W, T107N R5W, T108N R5W, T109N R5W, T110N R5W, T111N R5W, T112N R5W, T113N R5W, T114N R5W, T115N R5W, T116N R5W, T117N R5W, T118N R5W, T119N R5W, T120N R5W, T121N R5W, T122N R5W, T123N R5W, T124N R5W, T125N R5W, T126N R5W, T127N R5W, T128N R5W, T129N R5W, T130N R5W, T131N R5W, T132N R5W, T133N R5W, T134N R5W, T135N R5W, T136N R5W, T137N R5W, T138N R5W, T139N R5W, T140N R5W, T141N R5W, T142N R5W, T143N R5W, T144N R5W, T145N R5W, T146N R5W, T147N R5W, T148N R5W, T149N R5W, T150N R5W, T151N R5W, T152N R5W, T153N R5W, T154N R5W, T155N R5W, T156N R5W, T157N R5W, T158N R5W, T159N R5W, T160N R5W, T161N R5W, T162N R5W, T163N R5W, T164N R5W, T165N R5W, T166N R5W, T167N R5W, T168N R5W, T169N R5W, T170N R5W, T171N R5W, T172N R5W, T173N R5W, T174N R5W, T175N R5W, T176N R5W, T177N R5W, T178N R5W, T179N R5W, T180N R5W, T181N R5W, T182N R5W, T183N R5W, T184N R5W, T185N R5W, T186N R5W, T187N R5W, T188N R5W, T189N R5W, T190N R5W, T191N R5W, T192N R5W, T193N R5W, T194N R5W, T195N R5W, T196N R5W, T197N R5W, T198N R5W, T199N R5W, T200N R5W, T201N R5W, T202N R5W, T203N R5W, T204N R5W, T205N R5W, T206N R5W, T207N R5W, T208N R5W, T209N R5W, T210N R5W, T211N R5W, T212N R5W, T213N R5W, T214N R5W, T215N R5W, T216N R5W, T217N R5W, T218N R5W, T219N R5W, T220N R5W, T221N R5W, T222N R5W, T223N R5W, T224N R5W, T225N R5W, T226N R5W, T227N R5W, T228N R5W, T229N R5W, T230N R5W, T231N R5W, T232N R5W, T233N R5W, T234N R5W, T235N R5W, T236N R5W, T237N R5W, T238N R5W, T239N R5W, T240N R5W, T241N R5W, T242N R5W, T243N R5W, T244N R5W, T245N R5W, T246N R5W, T247N R5W, T248N R5W, T249N R5W, T250N R5W, T251N R5W, T252N R5W, T253N R5W, T254N R5W, T255N R5W, T256N R5W, T257N R5W, T258N R5W, T259N R5W, T260N R5W, T261N R5W, T262N R5W, T263N R5W, T264N R5W, T265N R5W, T266N R5W, T267N R5W, T268N R5W, T269N R5W, T270N R5W, T271N R5W, T272N R5W, T273N R5W, T274N R5W, T275N R5W, T276N R5W, T277N R5W, T278N R5W, T279N R5W, T280N R5W, T281N R5W, T282N R5W, T283N R5W, T284N R5W, T285N R5W, T286N R5W, T287N R5W, T288N R5W, T289N R5W, T290N R5W, T291N R5W, T292N R5W, T293N R5W, T294N R5W, T295N R5W, T296N R5W, T297N R5W, T298N R5W, T299N R5W, T300N R5W, T301N R5W, T302N R5W, T303N R5W, T304N R5W, T305N R5W, T306N R5W, T307N R5W, T308N R5W, T309N R5W, T310N R5W, T311N R5W, T312N R5W, T313N R5W, T314N R5W, T315N R5W, T316N R5W, T317N R5W, T318N R5W, T319N R5W, T320N R5W, T321N R5W, T322N R5W, T323N R5W, T324N R5W, T325N R5W, T326N R5W, T327N R5W, T328N R5W, T329N R5W, T330N R5W, T331N R5W, T332N R5W, T333N R5W, T334N R5W, T335N R5W, T336N R5W, T337N R5W, T338N R5W, T339N R5W, T340N R5W, T341N R5W, T342N R5W, T343N R5W, T344N R5W, T345N R5W, T346N R5W, T347N R5W, T348N R5W, T349N R5W, T350N R5W, T351N R5W, T352N R5W, T353N R5W, T354N R5W, T355N R5W, T356N R5W, T357N R5W, T358N R5W, T359N R5W, T360N R5W, T361N R5W, T362N R5W, T363N R5W, T364N R5W, T365N R5W, T366N R5W, T367N R5W, T368N R5W, T369N R5W, T370N R5W, T371N R5W, T372N R5W, T373N R5W, T374N R5W, T375N R5W, T376N R5W, T377N R5W, T378N R5W, T379N R5W, T380N R5W, T381N R5W, T382N R5W, T383N R5W, T384N R5W, T385N R5W, T386N R5W, T387N R5W, T388N R5W, T389N R5W, T390N R5W, T391N R5W, T392N R5W, T393N R5W, T394N R5W, T395N R5W, T396N R5W, T397N R5W, T398N R5W, T399N R5W, T400N R5W, T401N R5W, T402N R5W, T403N R5W, T404N R5W, T405N R5W, T406N R5W, T407N R5W, T408N R5W, T409N R5W, T410N R5W, T411N R5W, T412N R5W, T413N R5W, T414N R5W, T415N R5W, T416N R5W, T417N R5W, T418N R5W, T419N R5W, T420N R5W, T421N R5W, T422N R5W, T423N R5W, T424N R5W, T425N R5W, T426N R5W, T427N R5W, T428N R5W, T429N R5W, T430N R5W, T431N R5W, T432N R5W, T433N R5W, T434N R5W, T435N R5W, T436N R5W, T437N R5W, T438N R5W, T439N R5W, T440N R5W, T441N R5W, T442N R5W, T443N R5W, T444N R5W, T445N R5W, T446N R5W, T447N R5W, T448N R5W, T449N R5W, T450N R5W, T451N R5W, T452N R5W, T453N R5W, T454N R5W, T455N R5W, T456N R5W, T457N R5W, T458N R5W, T459N R5W, T460N R5W, T461N R5W, T462N R5W, T463N

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling



PROPOSAL P00261.1N2

NASSAU RESOURCES

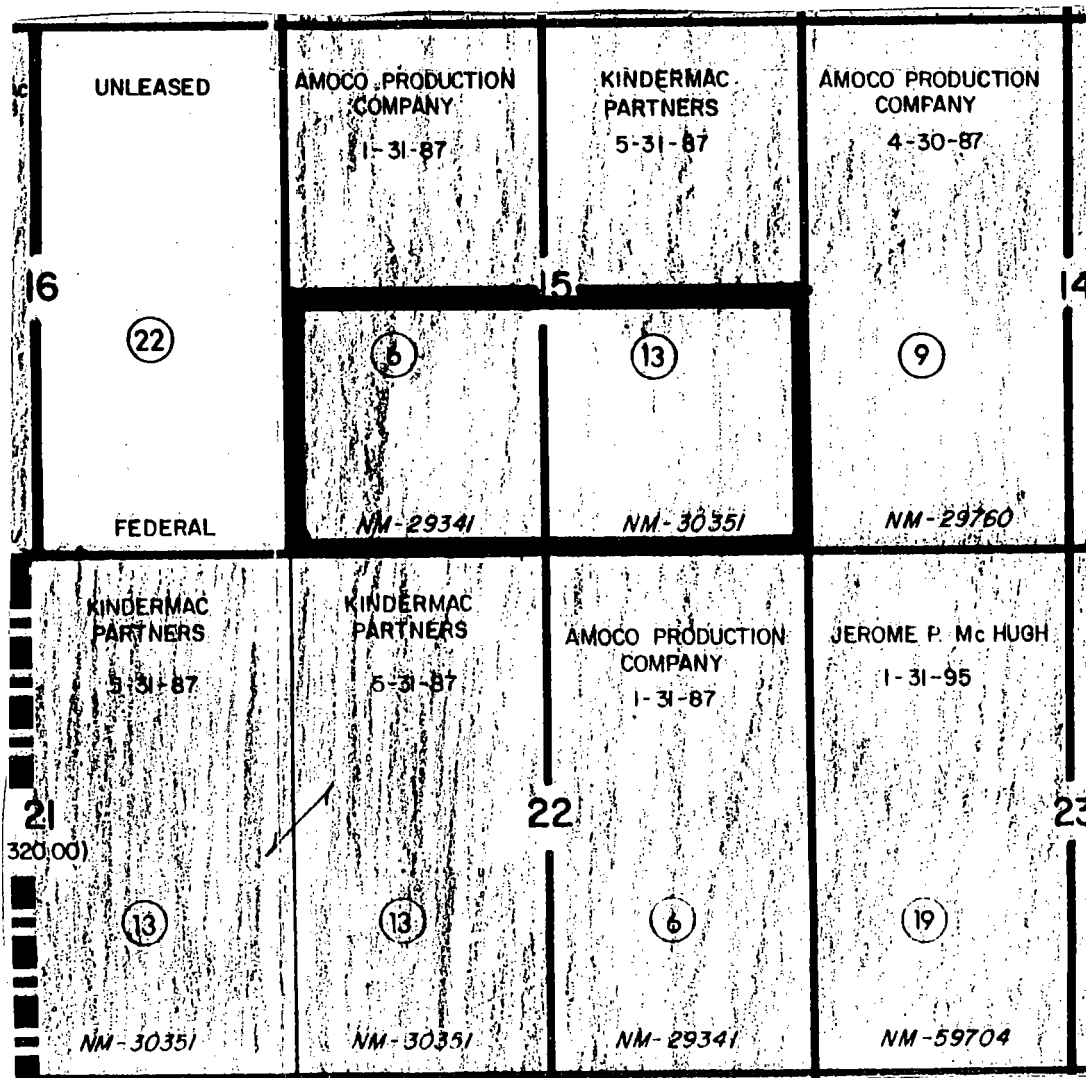
WELL 15A - 16

RIO ARRIBA

SLOT 4

LEASE PLAT

Township 32 North, Range 5 West, NMPM, Rio Arriba County, New Mexico



PARTY TO THE UNIT:
Amoco Production Co.

OPERATING AFFILIATES:
Jerome P. McHugh
Kindermac Partners

UNLEASED FEDERAL MINERALS:
T32N, R5W
Section 16: E/2

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

July 25, 1989

New Mexico Oil Conservation Division
Attn: Michael Stogner
P O Box 2088
Santa Fe, New Mexico 87504

RE: Application for Administrative Approval of
Directional Drilling
Nassau Resources, Inc., Carracas Unit 15 A #16
Section 15, T32N, R5W, NMPM
Rio Arriba County, New Mexico

Dear Mr. Stogner:

Nassau Resources, Inc., hereby requests administrative approval to directionally drill the subject well as follows:

Proposed Surface Location:	200' FSL and 500' FEL
Proposed Bottom Hole Location:	1320' FSL and 1320' FEL (within a 50' radius)
True Vertical Depth:	Approx. 4000'
Measured Depth:	Approx. 4308'

The well is at a previously approved unorthodox location, (OCD Order R-8844), approximately 880' west of the NRI Carracas Unit 14 A #13. Due to archeological and topographic considerations the well cannot be located at a location more to the north and west, which will be a more desirable target, geologically.

This well is in Nassau's Carracas Unit. The E/2 of Section 16, T32N, R5W, is unleased federal minerals. Kindermac Partners and Jerome P. McHugh are operating affiliates with Nassau Resources, Inc. Although Amoco Production Co. is a party to the unit, they have also been notified.

Also attached are copies of the C-102 plat, a topographic map (showing both the surface and bottom hole locations) and a schematic of the well bore.

Please contact me immediately if anything further is required to complete this application.

Thank you,

Fran Perrin
Fran Perrin

xc: Ernie Busch, NMOCD
Amoco Production Co.
Jerome P. McHugh and
Kindermac Partners

Attachments

Main Office
Jerome P. McHugh & Associates
Operating Affiliate: Nassau Resources, Inc.
650 South Cherry, Suite 1225
Denver, Colorado 80222
(303) 321-2111

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

Operator Nassau Resources, Inc.		Lease Carracas Unit 15 A		Well No. 16
Unit Letter P	Section 15	Township 32 North	Range 5 West	County Rio Arriba
Actual Footage Location of Well: 200 feet from the South line and 500 feet from the East line				
Ground Level Elev. 7220	Producing Formation Fruitland	Pool Basin Fruitland Coal	Dedicated Acreage 320 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plot 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 communalization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes," type of consolidation Carracas Unit - Unitization

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 communalization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Division.

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

SECTION 15

NM 29341
Anoco Production Co.

NM 30351
Kindermac Partners

500
200

CERTIFICATION

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

Fran Perrin

Name

Fran Perrin

Position

Admin. Asst.

Company

Nassau Resources, Inc.

Date

12/8/88

I hereby certify that the information shown on this map is true and complete to the best of my knowledge and belief, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

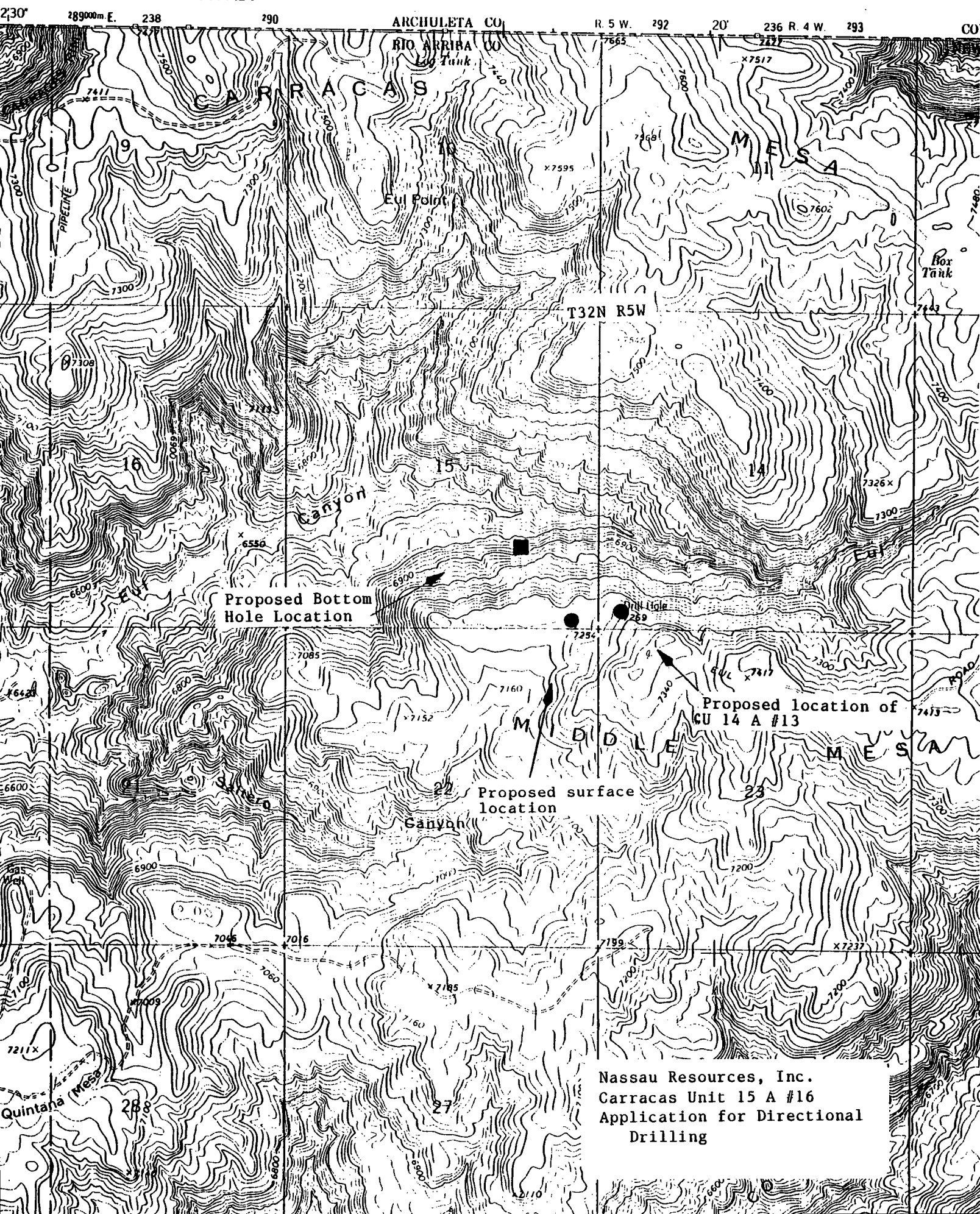
August 25, 1988

Registered Professional Engineer
and/or Land Surveyor

Edgar L. Risen

Certificate No. 5979

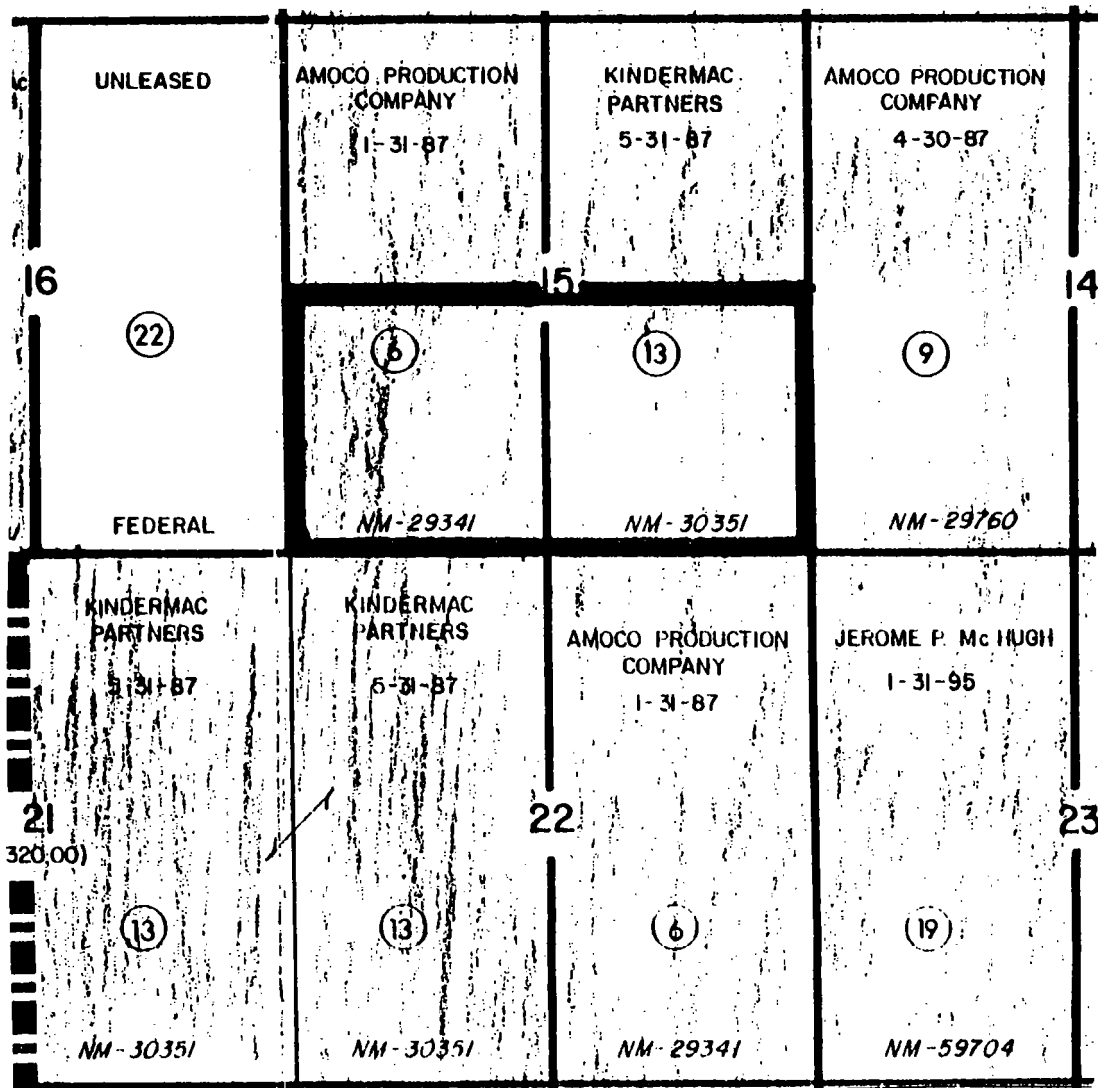
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

LEASE PLAT

Township 32 North, Range 5 West, NMPM, Rio Arriba County, New Mexico

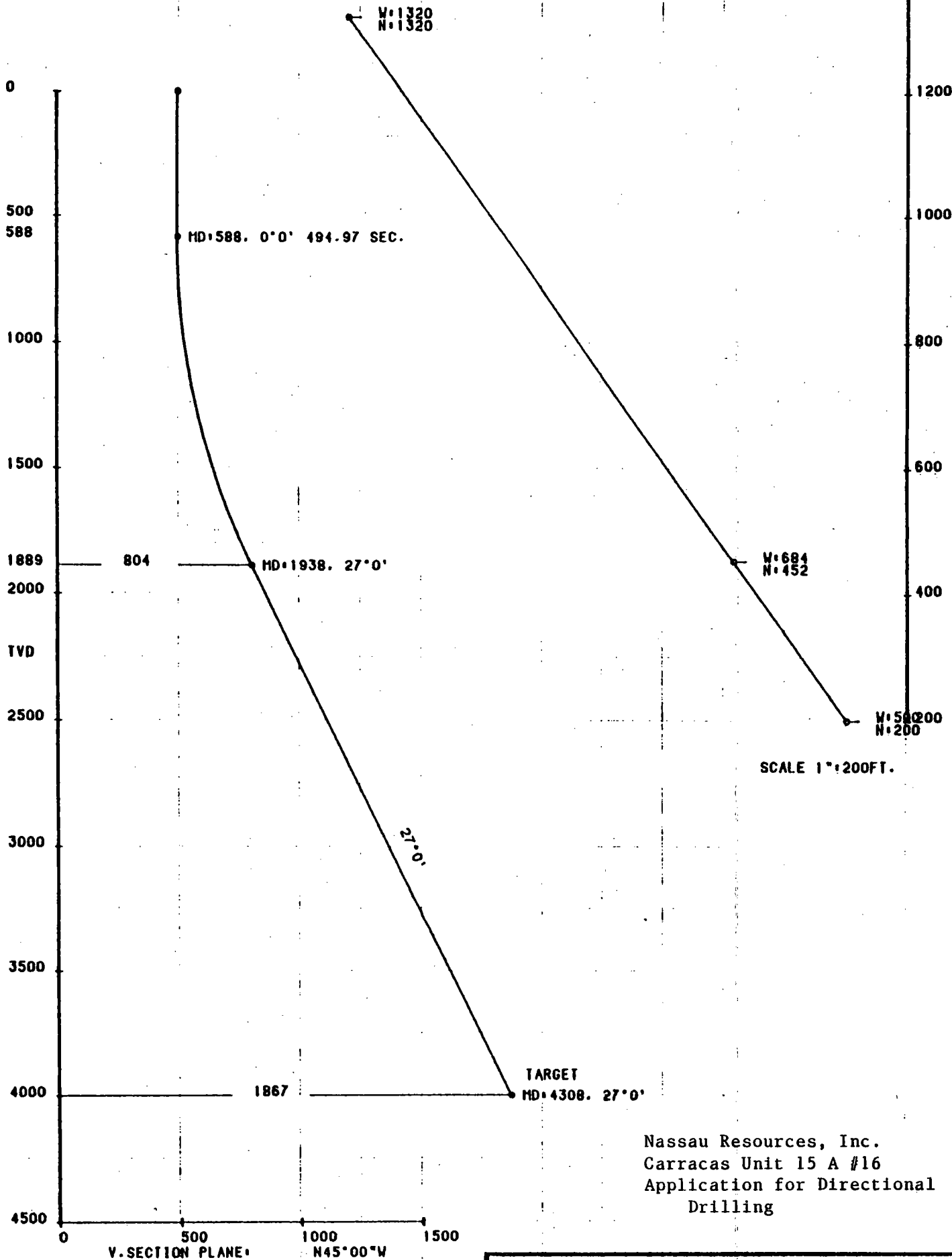


PARTY TO THE UNIT:
Amoco Production Co.

OPERATING AFFILIATES:
Jerome P. McHugh
Kindermac Partners

UNLEASED FEDERAL MINERALS:
T32N, R5W
Section 16: E/2

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling



Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

NASSAU RESOURCES		
RIO ARRIBA		
WELL: 15A - 16		SLOT: 4

SCALE 1"=500FT.

July 25, 1989

New Mexico Oil Conservation Division
Attn: Michael Stogner
P O Box 2088
Santa Fe, New Mexico 87504

RE: Application for Administrative Approval of
Directional Drilling
Nassau Resources, Inc., Carracas Unit 15 A #16
Section 15, T32N, R5W, NMPM
Rio Arriba County, New Mexico

Dear Mr. Stogner:

Nassau Resources, Inc., hereby requests administrative approval to directionally drill the subject well as follows:

Proposed Surface Location:	200' FSL and 500' FEL
Proposed Bottom Hole Location:	1320' FSL and 1320' FEL (within a 50' radius)
True Vertical Depth:	Approx. 4000'
Measured Depth:	Approx. 4308'

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This well is in Nassau's Carracas Unit. The E/2 of Section 16, T32N, R5W, is unleased federal minerals. Kindermac Partners and Jerome P. McHugh are operating affiliates with Nassau Resources, Inc. Although Amoco Production Co. is a party to the unit, they have also been notified.

Also attached are copies of the C-102 plat, a topographic map (showing both the surface and bottom hole locations) and a schematic of the well bore.

Please contact me immediately if anything further is required to complete this application.

Thank you,

Fran Perrin
Fran Perrin

xc: Ernie Busch, NMOCD
Amoco Production Co.
Jerome P. McHugh and
Kindermac Partners

Attachments

Main Office
Jerome P. McHugh & Associates
Operating Affiliate: Nassau Resources, Inc.
650 South Cherry, Suite 1225
Denver, Colorado 80222
(303) 321-2111

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

Operator Nassau Resources, Inc.		Lease Carracas Unit 15 A		Well No. 16
Well Letter P	Section 15	Township 32 North	Range 5 West	County Rio Arriba
Actual Footage Location of Well: 200 feet from the South line and 500 feet from the East line				
Ground Level Elev. 7220	Producing Formation Fruitland	Pool Basin Fruitland Coal	Dedicated Acreage 320 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plot 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 Carracas Unit - Unitization

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 Division.

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

SECTION 15

NM 29341
Moco Production Co.

NM 30351
Kindermac Partners

500
2001

CERTIFICATION

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

Fran Perrin

Name

Fran Perrin

Position

Admin. Asst.

Company

Nassau Resources, Inc.

Date

12/8/88

I hereby certify that the information given
shown on this map is true and complete to the
best of my knowledge and belief, and that the same
is true and correct to the best of my
knowledge and belief.

Date Surveyed

August 25, 1988

Registered Professional Engineer
and/or Land Surveyor

Edwin L. Risenhoover

Certificate No. 5979

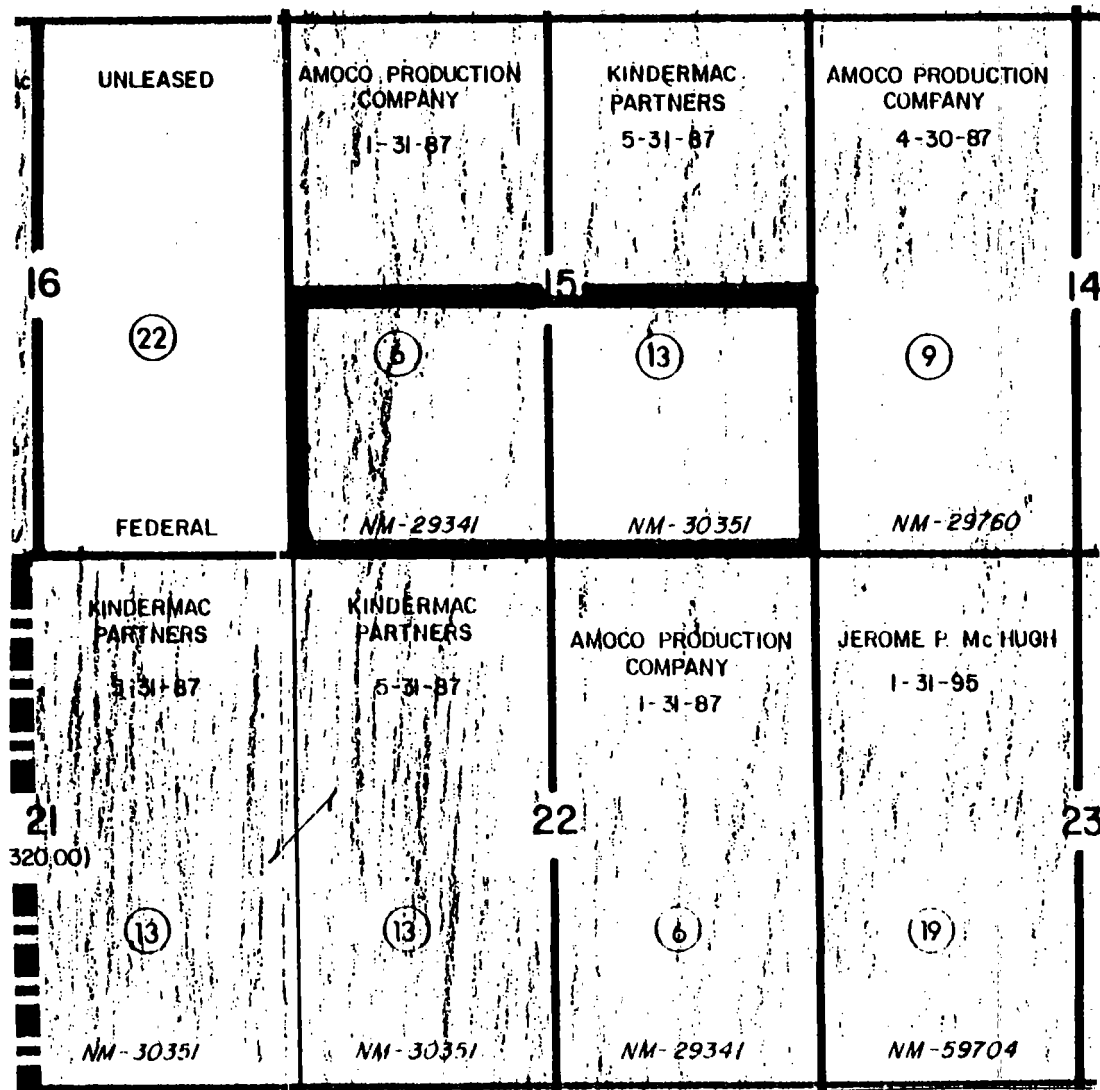
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

LEASE PLAT

Township 32 North, Range 5 West, NMPM, Rio Arriba County, New Mexico

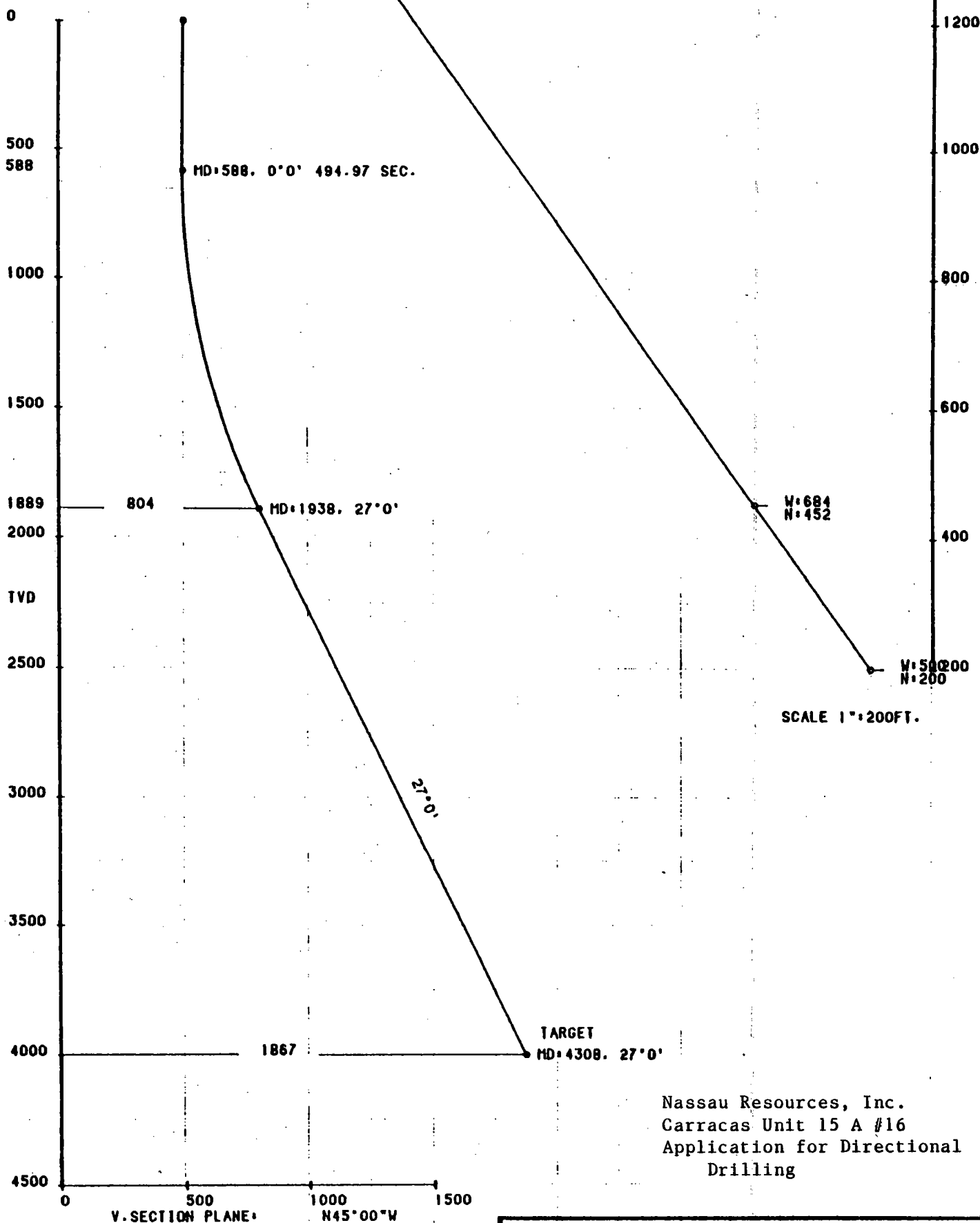


PARTY TO THE UNIT:
Amoco Production Co.

OPERATING AFFILIATES:
Jerome P. McHugh
Kindermac Partners

UNLEASED FEDERAL MINERALS:
T32N, R5W
Section 16: E/2

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling



SCALE 1"=200FT.

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Directional
Drilling

NASSAU RESOURCES		
RIO ARRIBA		
WELL: 15A - 16		SLOT: 4

July 24, 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Amoco Production Co.
Attn: J W Hawkins - Land Department, Proration Group
P O 800
Denver, CO 80201

RE: Application for Administrative Approval of
Directional Drilling
Nassau Resources, Inc., Carracas Unit 15 A #16
Section 15, T32N, R5W, NMPM
Rio Arriba County, New Mexico

Dear Mr. Hawkins:

Enclosed is a copy of the subject Application for Directional Drilling.

Although Amoco Production Co. is a party to the Nassau Resources, Inc., Carracas Unit, if Amoco has no objection to this application, we request that you notify the Oil Conservation Division as soon as possible. Please send a waiver to the attention of Michael Stogner, New Mexico Oil Conservation Division, P O Box 2088, Santa Fe, New Mexico, 87504.

Please feel free to call if you have any questions.

Thank you,

Fran Perrin
Fran Perrin

Enclosure

xc: NMOCD, Santa Fe, NM

Facsimile Transmission

Addressee's Teletypewriter Phone

(505) 827-5741

Date

7/28

Page

1 of 2

To: Michael Stogner	Company: NMOC D	Location: Santa Fe NM	Mail Code/Room
From: Bill Hawkins	Company: Amoco Prod. Co	Location: Denver CO	Mail Code/Room: 980
Initiated By	Approved By	<input type="checkbox"/> Call _____ for pickup. <input type="checkbox"/> Return to _____	

Route to Michael Stogner



Amoco Production Company

Denver Region
1670 Broadway
P.O. Box 800
Denver, Colorado 80201
303 300 8040

July 15, 1989

Minister of Energy
New Orleans, LA Conservation Division
PO Box 100
Spring Lake, LA 70584

Phone: 504-886-5111

Waiver of Objection to Western Petroleum, Inc. Application to
discriminatorily drill Carracas Unit 15 "A" Well No. 16

State of Louisiana

State of Louisiana, New Orleans

Amoco Production Company has on or before the date above
referred application to the State of Louisiana to
discriminatorily drill the Carracas Unit 15 "A" Well No. 16 as
proposed.

Sincerely,

cc: Mr. J. L. Spittler

James D. McFarlane, Jr. Associate
20 Box 412
Birmingham, NM 87499

J. L. Spittler - Bu:AGM





Amoco Production Company

Denver Region
1670 Broadway
P.O. Box 800
Denver, Colorado 80201
303-830-4040

RECEIVED

July 28, 1989

AUG 3 1989

Michael Stogner
New Mexico Oil Conservation Division
PO Box 2088
Santa Fe, NM 87504

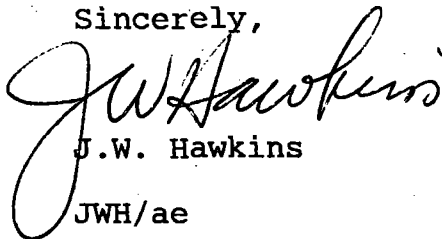
OIL CONSERVATION DIV.
SANTA FE

File: NWA-594-986.511

Waiver of Objection to Nassau Resources, Inc. application to
directionally drill Carracas Unit 15 "A" Well No. 16
Section 15-T32N-R5W
Rio Arriba County, New Mexico

Amoco Production Company has no objection to the above
referenced application by Nassau Resources, Inc. to
directionally drill the Carracas Unit 15 "A" Well No. 16 as
proposed.

Sincerely,


J.W. Hawkins
JWH/ae

cc: Fran Perrin
Jerome P. McHugh and Associates
PO Box 809
Farmington, NM 87499

J.L. Spitler - Building



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

GARREY CARRUTHERS
GOVERNOR

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-8178

Date: 8-1-89

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

RECEIVED

Re: Proposed MC _____
Proposed DHC _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

AUG 4 1989
OIL CONSERVATION DIV.
SANTA FE

Gentlemen:

I have examined the application dated 7-26-89
for the Nissan Resources, Inc. Carracas Unit 15A#16
Operator Lease & Well No.

R-15-32N-5W and my recommendations are as follows:
Unit, S-T-R

Approve

Yours truly,

E. Bush



OIL CONSERVATION DIVISION
RECEIVED

'89 OCT 12 AM 8 30

Amoco Production Company

Denver Region
1670 Broadway
P.O. Box 800
Denver, Colorado 80201
303-830-4040

October 5, 1989

Michael Stogner
New Mexico Oil Conservation Division
PO Box 2088
Santa Fe, NM 87504

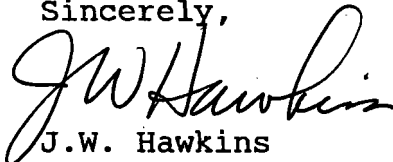
File: NWA-692-986.511

Dear Mr. Stogner:

Waiver of Objection to Nassau Resources, Inc.
Application for Horizontal Drilling
Carracas Unit 15A No. 16
Section 15-T32N-R5W
Rio Arriba County, New Mexico

Amoco Production Company has no objection to the above referenced application by Nassau Resources, Inc. for the Carracas Unit 15A No. 16 well as proposed.

Sincerely,


J.W. Hawkins

JWH/ae

cc: F. Perrin
Jerome P. McHugh and Associates
PO Box 809
Farmington, NM 87499

J.L. Spitler - Building



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

GARREY CARRUTHERS
GOVERNOR

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

OIL CONSERVATION DIVISION
RECEIVED
89 OCT 18 AM 8 28

Date: 10-17-89

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

Re: Proposed MC _____
Proposed DHC _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

DD K

I have examined the application dated _____

for the TERRELL P. McHUGH CARRACIAS UNIT 15A #16
Operator Lease & Well No.

P-15-32N-SW and my recommendations are as follows:
Unit, S-T-R

Approve

Yours truly,

E. R. Baul

RECEIVED

SEP 11 1989

OIL CONSERVATION DIV.
SANTA FE

(James Hazen) is submitting
additional
and amend
info.
Jerome P. McHugh & Associates
Operating Affiliate: Nassau Resources, Inc.
650 South Cherry, Suite 1225
Denver, Colorado 80222
(303) 321-2111 FAX (303) 321-1563

7 September 1989

New Mexico Oil Conservation Division
Attn: Mr. Michael Stogner
P. O. Box 2088
Santa Fe, New Mexico 87504

Re: Application for Administrative Approval of
Horizontal Drilling
Nassau Resources, Inc., Carracas Unit 15A-16
Section 15, T32N, R05W, NMPM
Rio Arriba County, New Mexico

Dear Mr. Stogner:

Nassau Resources, Inc., hereby requests administrative approval to horizontally drill the subject well as follows:

Proposed surface location: 200' FSL, 500' FEL
Proposed bottomhole location: 1850' FSL, 2510' FEL
(see attached well plan)
True vertical depth: Approximately 4000'
Measured depth: Approximately 6191'
Completed interval will be within drilling window
as required by setback requirements of Rule 7.
(see attached well plan)

The surface location for Well 15A-16 is at a previously approved unorthodox and off pattern location per OCD Order R-8844. Due to archeological and topographic considerations, the well cannot be moved to a more geologically desirable surface location to the north and west.

Well 15A-16 will offset Nassau Resources, Inc. well 14A-13 by approximately 800' to the west. To increase well spacing, Nassau desires to complete the 15A-16 at a subsurface location northwest of the surface location. To evaluate the merit of a horizontal completion in the Fruitland Coal, Nassau requests approval to complete the 15A-16 as a horizontal well. The completed interval will be entirely within the drilling window allowed by normal spacing regulations, within the southeast quarter of Section 15. The well will be completed using slotted casing below an external casing packer which will allow the completion to be confined to the drilling window prescribed. The attached well schematic illustrates the proposed completion. The well will be drilled such that the horizontal section will be entirely within the drilling window.

Well 15A-16 is in Nassau's Carracas Unit. The south half of Section 16 is the well's spacing unit. The attached lease plat illustrates offset lease owners. All offset lease owners have been notified of this application. Kindermac Partners and Jerome P. McHugh are operating affiliates of Nassau Resources, Inc. Amoco Production Co. is a party to the Carracas Unit and have been notified of this application.

Copies of the C-120 Plat, a topographic map showing surface and subsurface locations and the required well plan and schematic are attached.

Please contact me immediately if any further data is necessary to complete this application.

Yours very truly,

A handwritten signature in cursive script, reading "Gary J. Johnson". The signature is written in dark ink and is positioned above the printed name and title.

Gary J. Johnson
Petroleum Engineer

xc w/ attachments:
Ernie Busch, NMOC, Aztec
Amoco Production Co., Denver
Jerome P. McHugh
Kindermac Partners

MCHUGH

Jerome P. McHugh & Associates
Operating Affiliate: Nassau Resources, Inc.
650 South Cherry, Suite 1225
Denver, Colorado 80222
(303) 321-2111 FAX (303) 321-1563

7 September 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Amoco Production Co.
P. O. Box 800
Denver, Colorado 80201

Attn: Mr. J. W. Hawkins - Land Dept., Proration Group

Re: Application for Administrative Approval of
Horizontal Drilling
Nassau Resources, Inc., Carracas Unit 15A-16
Section 15, T32N, R05W, NMPM
Rio Arriba County, New Mexico

Dear Mr. Hawkins:

Per the attached Application, Nassau Resources, Inc. is requesting permission to drill and complete a horizontal well in Section 15, T32N, R05W, Rio Arriba County, New Mexico.

Amoco is a leaseholder of record in the area affected by this application. Amoco is also a party to the Carracas Unit.

If Amoco has no objection to this horizontal well, Nassau requests that Amoco notify the New Mexico Oil Conservation Division as soon as possible. Please send the waiver to the attention of Mr. Michael Stogner, New Mexico Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87504.

If you have any questions concerning this proposal, please contact this office.

Yours very truly,



Gary J. Johnson
Petroleum Engineer

Enclosure

xc: NMOCD, Santa Fe, NM
NMOCD, Aztec, NM

SMITH INTERNATIONAL

Division of Smith International, Inc.

Suite 1100-N
600 17th Street
Denver, Colorado 80202
Phone: (303) 623-8195 Rapicom: (303) 629-0909

August 8, 1989

NASSAU RESOURCES, INC.
650 South Cherry Street, Suite 1225
Denver, Colorado 80222

Attn: Gary Johnson

SMITH INTERNATIONAL appreciates the opportunity to present the following horizontal drilling proposal for your consideration. Included in this PRELIMINARY proposal is a well plan and plot, Bottom Hole Assembly recommendations, a torque/drag analysis, a hydraulic analysis, and a detailed cost estimate.

As indicated by the well plot, if a straight line is drawn from the surface to the northwest corner of the target that represents a total displacement of 2600 feet. However, only the last 1645 feet are within the legal target, or lease lines. For this reason we have gone from what would have been a medium radius well to what is now a long radius well. We recommend the well be kicked off at 3,045' TVD. Angle will be built at approximately 6 degs/100 feet to 90 degrees. The 1645 feet of horizontal extension is then carried to Total Measured Depth. By going with a long radius well design we have eliminated the need for a tangent section(s), and have eliminated a minimum of two trips.

Bottom Hole Assembly recommendations are outlined in Section II. A steerable assembly designed to get a minimum of 6 degs/100 feet in the sliding mode has been designed for the build section. Because of the inherent advantages of a steerable system which can be rotated, versus a medium-radius build motor which cannot, it is not necessary to design a tangent section into the well plan. A needed safety factor which allows for less than predicted build rates and unforeseen hole conditions is designed into the assembly, not the well plan. Also included is a steerable motor assembly designed to hold angle in the 90 degree horizontal section. These assemblies have been optimized by the DRILCO BHAP computer program. This computer model allows us to evaluate an assemblies response to changing: hole angle, dip angle, dip direction, hole gauge, weight-on-bit, stabilizer placement, stabilizer gauge, tool dimensions, etc... This flexibility translates into increased on-bottom drilling time with maximized penetration rates and fewer trips for BHA changes.

SMITH INTERNATIONAL, INC.

NASSAU RESOURCES, INC.

August 8, 1989

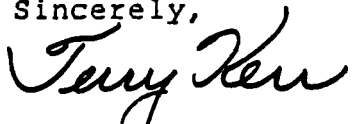
Page 2.

Section III contains a worst case torque/drag analysis of the well at TD. Because of the shallow kickoff point, it will be necessary to run some drill collars in the vertical section of the hole. Slightly higher than expected coefficients of friction have been used for a safety margin. Our calculations do not include overpull at the bit. Your desired overpull should be added to the Maximum Pick-up Loads before examining the outputs. Torsional and Tensile Data Tables from the API RP7G Publication, "Recommended Practice for Drill Stem Design and Operating Limits" have been enclosed for your reference.

A hydraulics analysis is included in Section IV. We have selected the optimum volume parameters for our 6 1/2" motor. However, certain drilling conditions may be changed depending on your rig selection and its capacity. This hydraulic analysis, along with the torque/drag analysis, should assist you in selecting a rig capable of drilling your horizontal well.

SMITH INTERNATIONAL has the tools, experience, and engineering support required to drill your horizontal well as planned. Should you have any questions or need additional assistance, please contact us. We are looking forward to working with you on this project.

Sincerely,



Terry Kerr
Technical Sales Representative

TMK/tk

Enclosures

DATADRIL

NASSAU RESOURCES
WELL: 15A-15
SAN JUAN BASIN
HORIZONTAL PROSPECT

FILE NAME: NASSAUHOR1

***** RECORD OF PROPOSAL *****

RADIUS OF CURVATURE METHOD
PROPOSAL COMPUTED BY THE DATADRIL C.A.D.D.S. SYSTEM
VERTICAL SECTION PLANE: N 50.62 W

MEASURED DEPTH (FT)	COURSE LENGTH (FT)	INCL. ANGLE (DEG)	D R I F T DIRECTION (DEG)	TRUE VERTICAL DEPTH	T O T A L RECT COORDINATES (FT) (FT)	VERTICAL SECTION (FT)	DOGLEG SEVERITY (DEG/100')
0.00	0.00	0.00	N 50.62 W	0.00	0.00 N 0.00 E	0.00	0.00
START OF BUILD #1							
3045.07	3045.07	0.00	N 50.62 W	3045.07	0.00 N 0.00 E	0.00	0.00
3145.07	100.00	6.00	N 50.62 W	3144.89	3.32 N 4.04 W	5.23	6.00
3245.07	100.00	12.00	N 50.62 W	3243.61	13.24 N 16.13 W	20.87	6.00
3345.07	100.00	18.00	N 50.62 W	3340.16	29.65 N 36.12 W	46.74	6.00
3445.07	100.00	24.00	N 50.62 W	3433.47	52.38 N 63.81 W	82.56	6.00
3545.07	100.00	30.00	N 50.62 W	3522.53	81.17 N 98.89 W	127.94	6.00
3645.07	100.00	36.00	N 50.62 W	3606.36	115.72 N 140.96 W	182.38	6.00
3745.07	100.00	42.00	N 50.62 W	3684.04	155.63 N 189.58 W	245.28	6.00
3845.07	100.00	48.00	N 50.62 W	3754.72	200.47 N 244.21 W	315.96	6.00
3945.07	100.00	54.00	N 50.62 W	3817.62	249.76 N 304.25 W	393.64	6.00
4045.07	100.00	60.00	N 50.62 W	3872.06	302.95 N 369.05 W	477.46	6.00
4145.07	100.00	66.00	N 50.62 W	3917.44	359.46 N 437.88 W	566.52	6.00
4245.07	100.00	72.00	N 50.62 W	3953.26	418.66 N 510.01 W	659.84	6.00
4345.07	100.00	78.00	N 50.62 W	3979.13	479.92 N 584.63 W	756.39	6.00
4445.07	100.00	84.00	N 50.62 W	3994.77	542.56 N 660.94 W	855.11	6.00

END OF BUILD #1...START OF HOLD SECTION

4545.07	100.00	90.00	N 50.62 W	4000.00	605.90 N 738.09 W	954.93	6.00
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TARGET LOCATION: 4000 TVD

6190.64	1645.57	90.00	N 50.62 W	4000.00	1650.00 N 2010.00 W	2600.50	0.00
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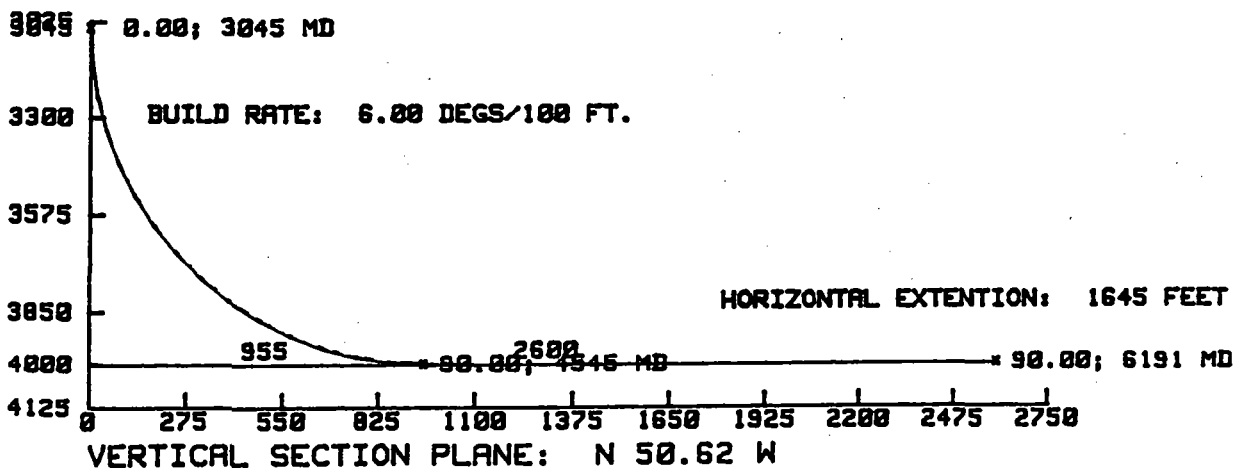
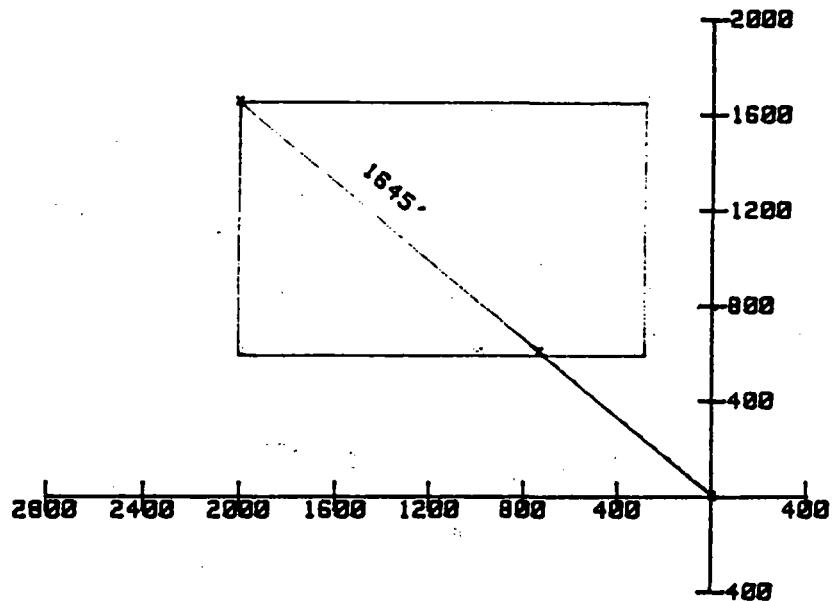
7 AUG 1989 @ 0:15

NASSAU RESOURCES
WELL: 15A-16
SAN JUAN BASIN
HORIZONTAL PROSPECT

DATA DRILL

VERTICAL PLAN
SCALE: 275 FEET/DIVISION

HORIZONTAL PLAN
SCALE: 400 FEET/DIVISION



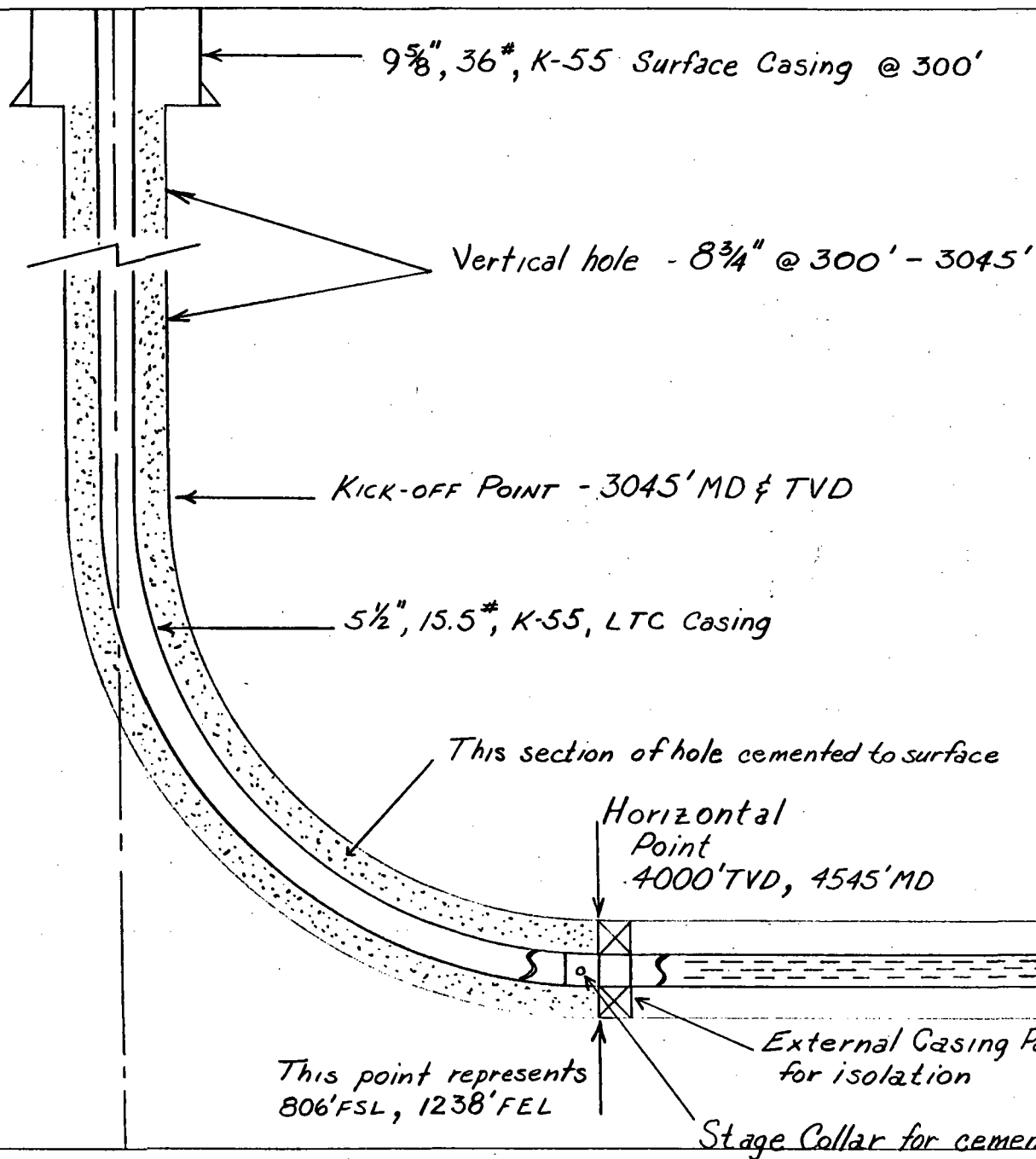
NASSAU RESOURCES, INC.

C.C.U. 15A-16

Horizontal Well Plan
Schematic

— NOT TO SCALE —

NOTE: Tubing deleted from drawing for clarity. Well to be gas lifted from approximately 3900' in curve section of well.



1 DE
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

1 file
SUBMIT IN TRIPLICATE
(Other instruction
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. NM 30351	
2. NAME OF OPERATOR NASSAU RESOURCES, INC.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
3. ADDRESS OF OPERATOR P.O. Box 809, Farmington, N.M. 87499		7. UNIT AGREEMENT NAME Carracas Unit	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 200' FSL - 500' FEL		8. FARM OR LEASE NAME Carracas Unit 15 A	
14. PERMIT NO.		9. WELL NO. #16	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 7220' GL		10. FIELD AND POOL, OR WILDCAT Basin Fruitland Coal	
		11. SEC., T., S., M., OR BLK. AND SURVEY OR AREA Sec. 15, T32N, R5W	
		12. COUNTY OR PARISH Rio Arriba	13. STATE NM

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐

FRACTURE TREAT ☐

SHOOT OR ACIDIZE ☐

REPAIR WELL ☐

(Other) Change dedicated acreage ☒

PCLL OR ALTER CASING ☐

MULTIPLE COMPLETE ☐

ABANDON* ☐

CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐

FRACTURE TREATMENT ☐

SHOOTING OR ACIDIZING ☐

(Other) ☐

REPAIRING WELL ☐

ALTERING CASING ☐

ABANDONMENT* ☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Per NMOC Order #R-8768, the S/2 of Sec. 15, T32N, R5W, is hereby dedicated to this well.

A C-102 plat for the Fruitland Coal formation is attached.

18. I hereby certify that the foregoing is true and correct

SIGNED

Fran Perrin

TITLE

Admin. Asst.

DATE

12/8/88

Fran Perrin
(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

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

Operator Nassau Resources, Inc.			Lease Carracas Unit 15 A		Well No. 16
Unit Letter P	Section 15	Township 32 North	Range 5 West	County Rio Arriba	
Actual Footage Location of Well: 200 feet from the South line and 500 feet from the East line					
Ground Level Elev. 7220	Producing Formation Fruitland		Pool Basin Fruitland Coal		Dedicated Acreage 320 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 Carracas Unit - Unitization

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 Division.

SECTION 15		NM 29341 Amoco Production Co.		NM 30351 Kindermac Partners	

500
200'

CERTIFICATION

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

Fran Perrin

Name

Fran Perrin

Position

Admin. Asst.

Company

Nassau Resources, Inc.

Date

12/8/88

I hereby certify that the well location shown on this plat is true and correct to the best of my knowledge and belief, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

August 25, 1988

Registered Professional Engineer and/or Land Surveyor

Edgar L. Risenhoover

Certificate No. 5979

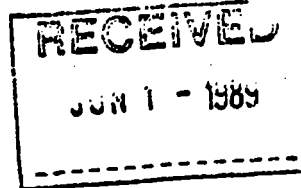
Edgar L. Risenhoover, L.S.



GARREY CARRUTHERS
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178



M-E-M-O-R-A-N-D-U-M (3-88-11)

TO: OPERATORS DRILLING FOR OIL AND GAS IN THE SAN
JUAN BASIN OF NEW MEXICO

FROM: Frank T. Chavez, Supervisor District III

SUBJECT: Drill Cuttings Samples

DATE: May 26, 1988

The attached Application for Permit to Drill has been approved by this office.

As a condition of approval, you are required to submit 4 4" x 6" sample bags of drill cuttings from the Fruitland Coal formation and from the Menefee Coal interval if it is encountered and if drilling conditions permit. If a geograph is used, a copy of that recording from 50 feet above to 50 feet below the coal intervals will be submitted. Include the following information:

- Operator name
- Well name and number
- Footage location, Section, Township and Range
- Date taken
- The name and address of the person in your company who is to receive a copy of the analysis.

Submit samples, information, and geolograph to the following address:

Mr. James Fassett
U.S. Geological Survey
P.O. Box 25046, MS 939 DFC
Lakewood, CO 80225

Coal analyses gathered in the San Juan Basin will be added to a data base available from the USGS in periodic reports.

This information will be used to evaluate coals and coal gas potentials in the San Juan Basin.

dj *Jerome P. McHugh*
Farmington, N.M.

MAY 30 1989

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

88 SEP 21 AM 8:49
PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☐

GAS
WELL ☒

OTHER

2. NAME OF OPERATOR

NASSAU RESOURCES, INC.

3. ADDRESS OF OPERATOR

P.O. Box 809, Farmington, N.M. 87499

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface

200' FSL - 500' FEL

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

± 33 miles N. of Gobernador, N.M.

15. DISTANCE FROM PROPOSED*
LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drig. unit line, if any)

200'

16. NO. OF ACRES IN LEASE

1,280.0

17. NO. OF ACRES ASSIGNED
TO THIS WELL

5/320 160.0

18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

850'

19. PROPOSED DEPTH

3990'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

7220' GL; 7232' KB

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED

22. APPROX. DATE WORK WILL START*

10/15/88

23. "GENERAL REQUIREMENTS"
PROPOSED CASING AND CEMENTING PROGRAM
This casing and cementing program is subject to approval and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4.

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	
12-1/4"	9-5/8"	36#	250'	150 cu.ft. circ. to surface.
7-7/8"	5-1/2"	15.5#	3990'	869 cu.ft. circ. to surface.

Plan to drill with spud mud to set 250' of surface casing. Will then drill with water and gel-chem. mud to test the Fruitland coal zone at ± 3990'. Will run DIL-GR-SP and FDC-CNL-GR Caliper logs. If well appears productive, will set 5-1/2" casing at TD, cement in 1 stage, selectively perforate, frac, clean out after frac and complete with 2-7/8" tubing.

RECEIVED

MAY 22 1989

OIL CON. DIV
DIST. 3

GAS IS NOT DEDICATED.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

TITLE

Field Supt.

DATE

9/20/88

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

DATE

AS AMENDED

MAY 18 1989

AREA MANAGER

NMOCC

*See Instructions On Reverse Side



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

November 7, 1988

Nassau Resources, Inc.
c/o Jerome P. McHugh & Associates
P.O. Box 809
Farmington, NM 87499-0809

Attention: James S. Hazen,

Administrative Order NSL-2598

Dear Mr. Hazen:

Reference is made to your application of October 11, 1988 for a non-standard gas well location for your Carracas Unit 15-A Well No. 16 to be located 200 feet from the South line and 500 feet from the East line (Unit P) of Section 15, Township 32 North, Range 5 West, NMPM, to test the Fruitland (Sand) formation, Rio Arriba County, New Mexico. The SE/4 of said Section 15 shall be dedicated to the well forming a standard 160-acre gas spacing and proration unit.

By the authority granted me under the provisions of General Rule 104 F(I), the above-described unorthodox gas well location is hereby approved.

Sincerely,

William J. LeMay
Director

WJL/MES/ag

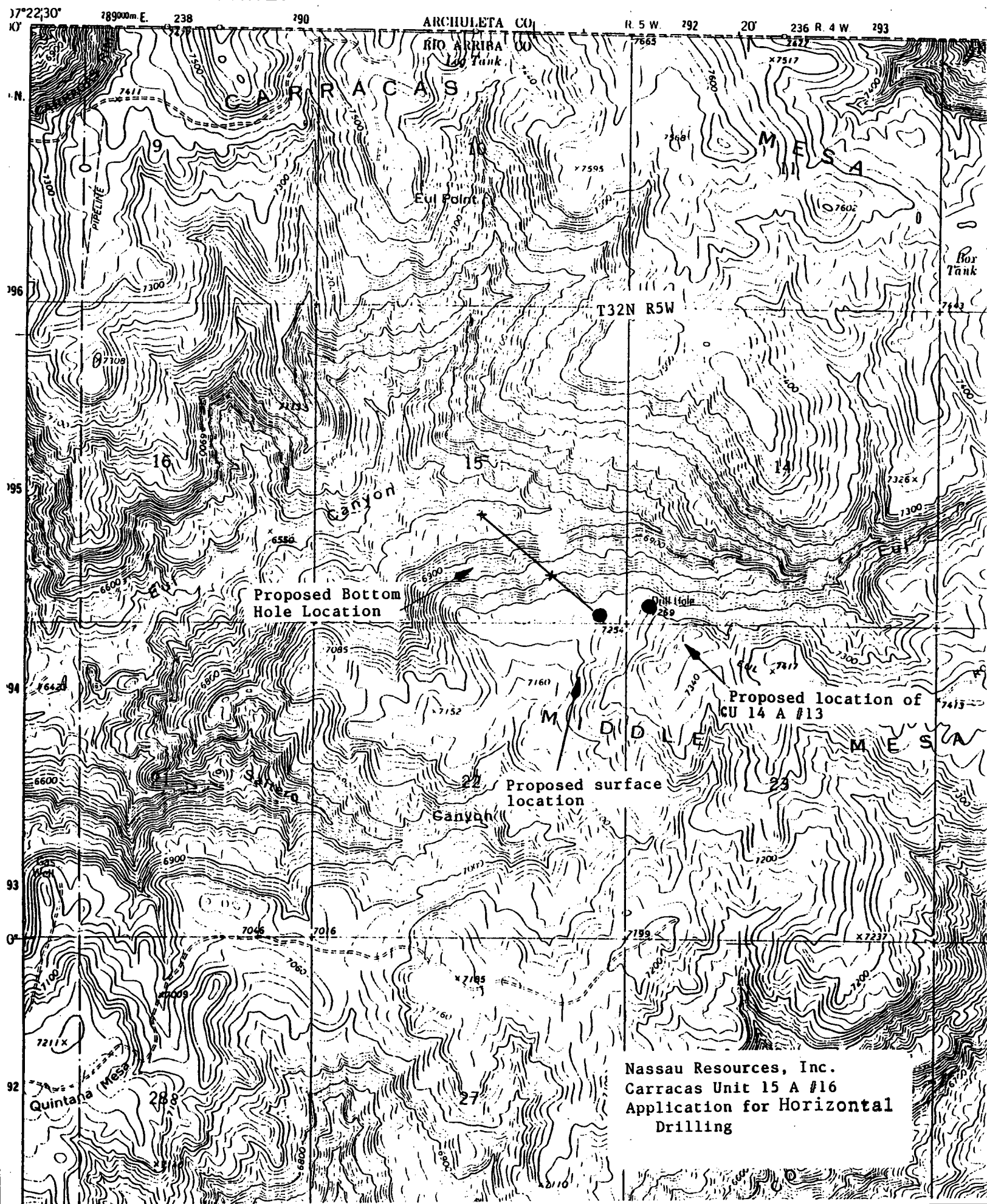
cc: Oil Conservation Division - Aztec
New Mexico Oil & Gas Engineering Committee - Hobbs
US Bureau of Land Management - Farmington

Jerome P. McHugh
Farmington, N.M.

NOV 13 1988

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Township 32 North, Range 5 West, NMPM, Rio Arriba County, New Mexico

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Horizontal
Drilling

MCHUGH

Jerome P. McHugh & Associates
Operating Affiliate: Nassau Resources, Inc.
650 South Cherry, Suite 1225
Denver, Colorado 80222
(303) 321-2111 FAX (303) 321-1563

COPY

7 September 1989

New Mexico Oil Conservation Division
Attn: Mr. Michael Stogner
P. O. Box 2088
Santa Fe, New Mexico 87504

Re: Application for Administrative Approval of
Horizontal Drilling
Nassau Resources, Inc., Carracas Unit 15A-16
Section 15, T32N, R05W, NMPM
Rio Arriba County, New Mexico

Dear Mr. Stogner:

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Proposed bottomhole location: 1850' FSL, 2510' FEL
(see attached well plan)
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Measured depth: Approximately 6191'
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as required by setback requirements of Rule 7.
(see attached well plan)

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Copies of the C-120 Plat, a topographic map showing surface and subsurface locations and the required well plan and schematic are attached.

Please contact me immediately if any further data is necessary to complete this application.

Yours very truly,

A handwritten signature in dark ink, appearing to read "Gary J. Johnson", with a long horizontal flourish extending to the right.

Gary J. Johnson
Petroleum Engineer

xc w/ attachments:
Ernie Busch, NMOC, Aztec
Amoco Production Co., Denver
Jerome P. McHugh
Kindermac Partners

McHUGH

Jerome P. McHugh & Associates
Operating Affiliate: Nassau Resources, Inc.
650 South Cherry, Suite 1225
Denver, Colorado 80222
(303) 321-2111 FAX (303) 321-1563

7 September 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Amoco Production Co.
P. O. Box 800
Denver, Colorado 80201

Attn: Mr. J. W. Hawkins - Land Dept., Proration Group

Re: Application for Administrative Approval of
Horizontal Drilling
Nassau Resources, Inc., Carracas Unit 15A-16
Section 15, T32N, R05W, NMPM
Rio Arriba County, New Mexico

Dear Mr. Hawkins:

Per the attached Application, Nassau Resources, Inc. is requesting permission to drill and complete a horizontal well in Section 15, T32N, R05W, Rio Arriba County, New Mexico.

Amoco is a leaseholder of record in the area affected by this application. Amoco is also a party to the Carracas Unit.

If Amoco has no objection to this horizontal well, Nassau requests that Amoco notify the New Mexico Oil Conservation Division as soon as possible. Please send the waiver to the attention of Mr. Michael Stogner, New Mexico Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87504.

If you have any questions concerning this proposal, please contact this office.

Yours very truly,



Gary J. Johnson
Petroleum Engineer

Enclosure

xc: NMOCD, Santa Fe, NM
NMOCD, Aztec, NM

SMITH INTERNATIONAL

Division of Smith International, Inc.

Suite 1100-N
600 17th Street
Denver, Colorado 80202
Phone: (303) 623-8195 Rapicom: (303) 629-0909

August 8, 1989

NASSAU RESOURCES, INC.
650 South Cherry Street, Suite 1225
Denver, Colorado 80222

Attn: Gary Johnson

SMITH INTERNATIONAL appreciates the opportunity to present the following horizontal drilling proposal for your consideration. Included in this PRELIMINARY proposal is a well plan and plot, Bottom Hole Assembly recommendations, a torque/drag analysis, a hydraulic analysis, and a detailed cost estimate.

As indicated by the well plot, if a straight line is drawn from the surface to the northwest corner of the target that represents a total displacement of 2600 feet. However, only the last 1645 feet are within the legal target, or lease lines. For this reason we have gone from what would have been a medium radius well to what is now a long radius well. We recommend the well be kicked off at 3,045' TVD. Angle will be built at approximately 6 degs/100 feet to 90 degrees. The 1645 feet of horizontal extension is then carried to Total Measured Depth. By going with a long radius well design we have eliminated the need for a tangent section(s), and have eliminated a minimum of two trips.

Bottom Hole Assembly recommendations are outlined in Section II. A steerable assembly designed to get a minimum of 6 degs/100 feet in the sliding mode has been designed for the build section. Because of the inherent advantages of a steerable system which can be rotated, versus a medium-radius build motor which cannot, it is not necessary to design a tangent section into the well plan. A needed safety factor which allows for less than predicted build rates and unforeseen hole conditions is designed into the assembly, not the well plan. Also included is a steerable motor assembly designed to hold angle in the 90 degree horizontal section. These assemblies have been optimized by the DRILCO BHAP computer program. This computer model allows us to evaluate an assemblies response to changing: hole angle, dip angle, dip direction, hole gauge, weight-on-bit, stabilizer placement, stabilizer gauge, tool dimensions, etc... This flexibility translates into increased on-bottom drilling time with maximized penetration rates and fewer trips for BHA changes.

SMITH INTERNATIONAL, INC.

NASSAU RESOURCES, INC.

August 8, 1989

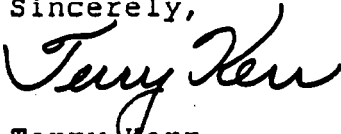
Page 2.

Section III contains a worst case torque/drag analysis of the well at TD. Because of the shallow kickoff point, it will be necessary to run some drill collars in the vertical section of the hole. Slightly higher than expected coefficients of friction have been used for a safety margin. Our calculations do not include overpull at the bit. Your desired overpull should be added to the Maximum Pick-up Loads before examining the outputs. Torsional and Tensile Data Tables from the API RP7G Publication, "Recommended Practice for Drill Stem Design and Operating Limits" have been enclosed for your reference.

A hydraulics analysis is included in Section IV. We have selected the optimum volume parameters for our 6 1/2" motor. However, certain drilling conditions may be changed depending on your rig selection and its capacity. This hydraulic analysis, along with the torque/drag analysis, should assist you in selecting a rig capable of drilling your horizontal well.

SMITH INTERNATIONAL has the tools, experience, and engineering support required to drill your horizontal well as planned. Should you have any questions or need additional assistance, please contact us. We are looking forward to working with you on this project.

Sincerely,



Terry Kerr
Technical Sales Representative

TMK/tk

Enclosures

DATADRIL

NASSAU RESOURCES
WELL: 15A-16
SAN JUAN BASIN
HORIZONTAL PROSPECT

FILE NAME: NASSAUHOR1

***** RECORD OF PROPOSAL *****

RADIUS OF CURVATURE METHOD
PROPOSAL COMPUTED BY THE DATADRIL C.A.D.D.S. SYSTEM
VERTICAL SECTION PLANE: N 50.62 W

MEASURED DEPTH (FT)	COURSE LENGTH (FT)	INCL. ANGLE (DEG)	D R I F T DIRECTION (DEG)	TRUE VERTICAL DEPTH	T O T A L RECT COORDINATES (FT) (FT)		VERTICAL SECTION (FT)	DOGLES SEVERITY (DEG/100')
0.00	0.00	0.00	N 50.62 W	0.00	0.00 N	0.00 E	0.00	0.00
START OF BUILD #1								
3045.07	3045.07	0.00	N 50.62 W	3045.07	0.00 N	0.00 E	0.00	0.00
3145.07	100.00	6.00	N 50.62 W	3144.89	3.32 N	4.04 W	5.23	6.00
3245.07	100.00	12.00	N 50.62 W	3243.61	13.24 N	16.13 W	20.87	6.00
3345.07	100.00	18.00	N 50.62 W	3340.16	29.65 N	36.12 W	46.74	6.00
3445.07	100.00	24.00	N 50.62 W	3433.47	52.38 N	63.81 W	82.56	6.00
3545.07	100.00	30.00	N 50.62 W	3522.53	81.17 N	98.89 W	127.94	6.00
3645.07	100.00	36.00	N 50.62 W	3606.36	115.72 N	140.96 W	182.38	6.00
3745.07	100.00	42.00	N 50.62 W	3684.04	155.63 N	189.58 W	245.28	6.00
3845.07	100.00	48.00	N 50.62 W	3754.72	200.47 N	244.21 W	315.96	6.00
3945.07	100.00	54.00	N 50.62 W	3817.62	249.76 N	304.25 W	393.64	6.00
4045.07	100.00	60.00	N 50.62 W	3872.06	302.95 N	369.05 W	477.46	6.00
4145.07	100.00	66.00	N 50.62 W	3917.44	359.46 N	437.88 W	566.52	6.00
4245.07	100.00	72.00	N 50.62 W	3953.26	418.66 N	510.01 W	659.84	6.00
4345.07	100.00	78.00	N 50.62 W	3979.13	479.92 N	584.63 W	756.39	6.00
4445.07	100.00	84.00	N 50.62 W	3994.77	542.56 N	660.94 W	855.11	6.00
END OF BUILD #1...START OF HOLD SECTION								
4545.07	100.00	90.00	N 50.62 W	4000.00	605.90 N	738.09 W	954.93	6.00
TARGET LOCATION: 4000 TVD								
6190.64	1645.57	90.00	N 50.62 W	4000.00	1650.00 N	2010.00 W	2600.50	0.00

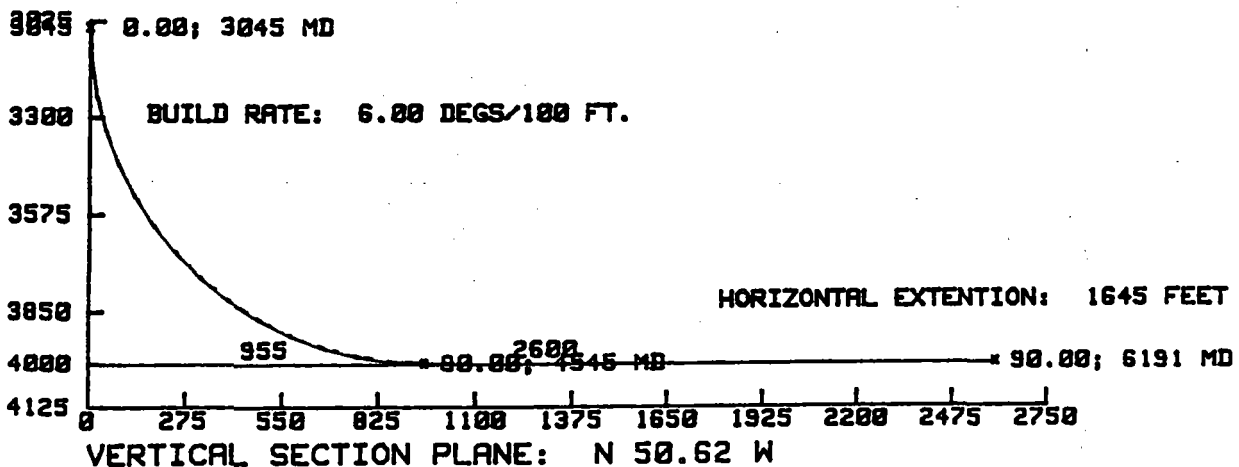
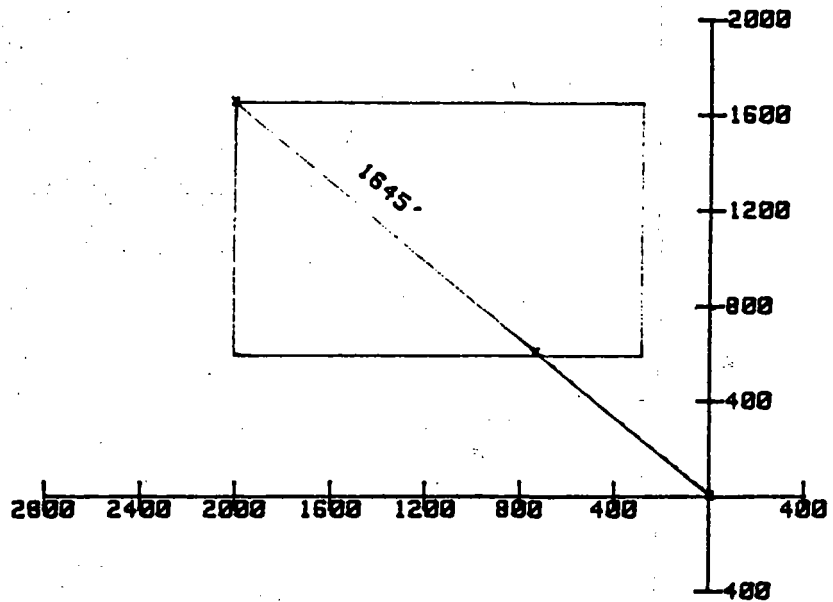
7 AUG 1989 @ 8:15

NASSAU RESOURCES
WELL: 15A-16
SAN JUAN BASIN
HORIZONTAL PROSPECT

DATA DRILL

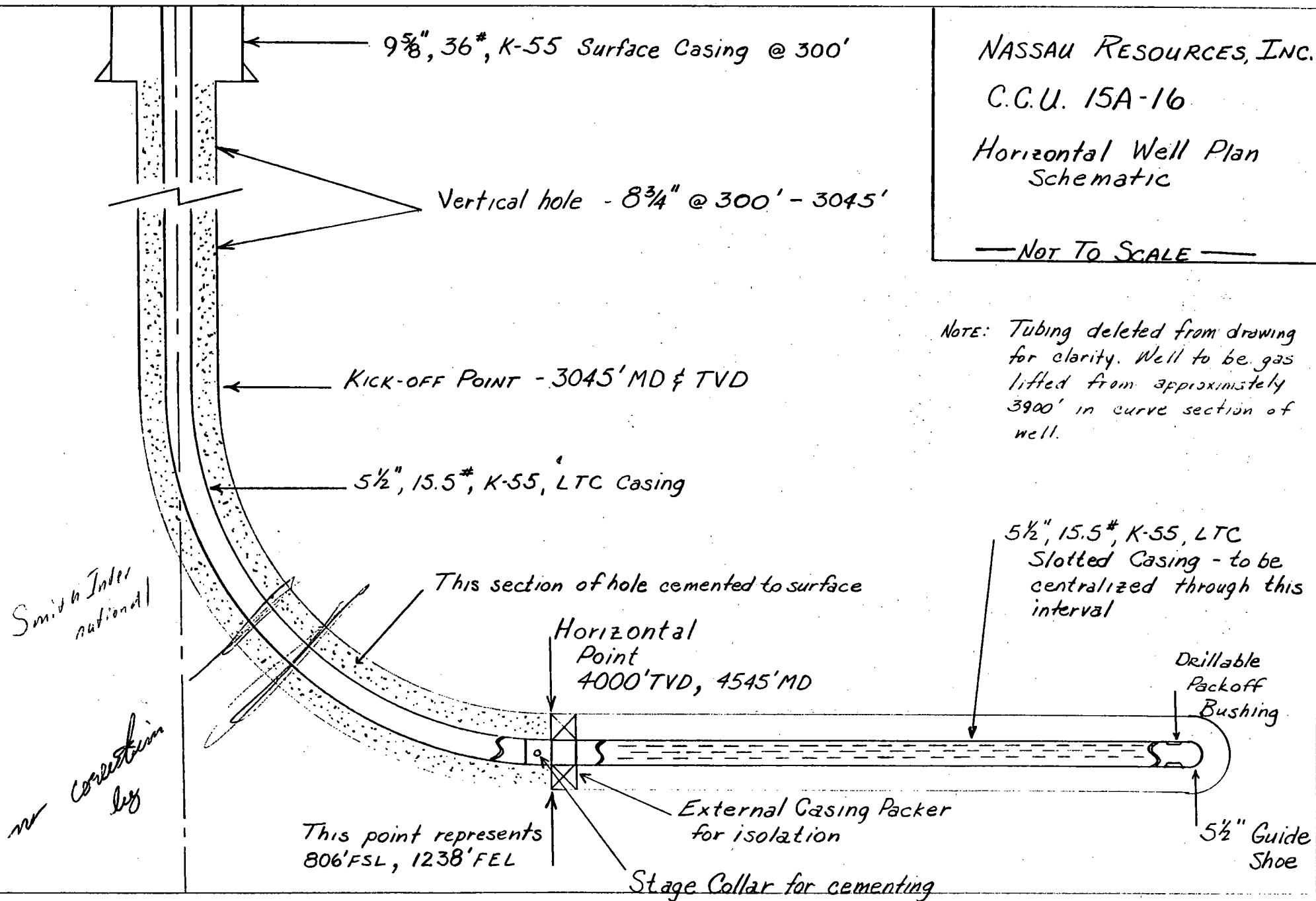
VERTICAL PLAN
SCALE: 275 FEET/DIVISION

HORIZONTAL PLAN
SCALE: 400 FEET/DIVISION





42.381 50 SHEETS 5 SQUARE
42.382 100 SHEETS 5 SQUARE
42.389 200 SHEETS 5 SQUARE



NASSAU RESOURCES, INC.

C.C.U. 15A-16

Horizontal Well Plan
Schematic

— NOT TO SCALE —

NOTE: Tubing deleted from drawing for clarity. Well to be gas lifted from approximately 3900' in curve section of well.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

1 file
SUBMIT IN TRIPLICATE*
(Other instructions
reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO. NM 30351
2. NAME OF OPERATOR NASSAU RESOURCES, INC.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR P.O. Box 809, Farmington, N.M. 87499		7. UNIT AGREEMENT NAME Carracas Unit
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 200' FSL - 500' FEL		8. FARM OR LEASE NAME Carracas Unit 15 A
14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.) 7220' GL	9. WELL NO. #16
		10. FIELD AND POOL, OR WILDCAT Basin Fruitland Coal
		11. SEC., T., R., M., OR BLE. AND SURVEY OR AREA Sec. 15, T32N, R5W
		12. COUNTY OR PARISH Rio Arriba
		13. STATE NM

18. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PCLL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	(Other) <input type="checkbox"/>
(Other) Change dedicated acreage <input checked="" type="checkbox"/>		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Per NMOCD Order #R-8768, the S/2 of Sec. 15, T32N, R5W, is hereby dedicated to this well.

A C-102 plat for the Fruitland Coal formation is attached.

18. I hereby certify that the foregoing is true and correct

SIGNED Fran Perrin TITLE Admin. Asst. DATE 12/8/88

Fran Perrin
(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

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

Operator Nassau Resources, Inc.		Lease Carracas Unit 15 A		Well No. 16
Unit Letter P	Section 15	Township 32 North	Range 5 West	County Rio Arriba
Actual Footage Location of Well: 200 feet from the South line and 500 feet from the East line				
Ground Level Elev. 7220	Producing Formation Fruitland	Pool Basin Fruitland Coal	Dedicated Acres 320 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 Carracas Unit - Unitization

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 Division.

SECTION 15	
NM 29341 Amoco Production Co.	NM 30351 Kindermac Partners

500
200'

CERTIFICATION

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

Fran Perrin

Name

Fran Perrin

Position

Admin. Asst.

Company

Nassau Resources, Inc.

Date

12/8/88

I hereby certify that the location shown on this plat was plotted from field notes of actual survey 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

August 25, 1988

Registered Professional Engineer and/or Land Surveyor

Edgar L. Risenhoover

Certificate No. 5979

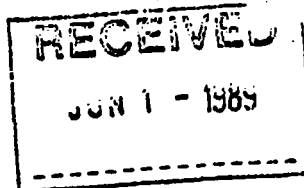
Edgar L. Risenhoover, P.E.



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

GARREY CARRUTHERS
GOVERNOR

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178



M-E-M-O-R-A-N-D-U-M (3-88-11)

TO: OPERATORS DRILLING FOR OIL AND GAS IN THE SAN
JUAN BASIN OF NEW MEXICO

FROM: Frank T. Chavez, Supervisor District III

SUBJECT: Drill Cuttings Samples

DATE: May 26, 1988

The attached Application for Permit to Drill has been approved by this office.

As a condition of approval, you are required to submit 4 4" x 6" sample bags of drill cuttings from the Fruitland Coal formation and from the Menefee Coal interval if it is encountered and if drilling conditions permit. If a geologist is used, a copy of that recording from 50 feet above to 50 feet below the coal intervals will be submitted. Include the following information:

Operator name
Well name and number
Footage location, Section, Township and Range
Date taken
The name and address of the person in your company who is to receive a copy of the analysis.

Submit samples, information, and geologist to the following address:

Mr. James Fassett
U.S. Geological Survey
P.O. Box 25046, MS 939 DFC
Lakewood, CO 80225

Coal analyses gathered in the San Juan Basin will be added to a data base available from the USGS in periodic reports.

This information will be used to evaluate coals and coal gas potentials in the San Juan Basin.

dj *Jerome P. McHugh*
Farmington, N.M.

MAY 30 1989

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN; OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

88 SEP PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☐

GAS
WELL ☒

OTHER

2. NAME OF OPERATOR

NASSAU RESOURCES, INC.

3. ADDRESS OF OPERATOR

P.O. Box 809, Farmington, N.M. 87499

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface

200' FSL - 500' FEL

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE

± 33 miles N. of Gobernador, N.M.

15. DISTANCE FROM PROPOSED

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drig. unit line, if any)

200'

16. NO. OF ACRES IN LEASE

1,280.0

17. NO. OF ACRES ASSIGNED
TO THIS WELL

S/320 160.0

18. DISTANCE FROM PROPOSED LOCATION

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

850'

19. PROPOSED DEPTH

3990'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

7220' GL; 7232' KB

DRILLING OPERATIONS AUTHORIZED ARE

SUBJECT TO COMPLIANCE WITH ATTACHED

22. APPROX. DATE WORK WILL START

10/15/88

23. "GENERAL REQUIREMENTS"
PROPOSED CASING AND CEMENTING PROGRAM

Procedural review pursuant to 43 CFR 3165.3
and appeal pursuant to 43 CFR 3165.4.

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	
12-1/4"	9-5/8"	36#	250'	150 cu.ft. circ. to surface.
7-7/8"	5-1/2"	15.5#	3990'	869 cu.ft. circ. to surface.

Plan to drill with spud mud to set 250' of surface casing. Will then drill with water and gel-chem. mud to test the Fruitland coal zone at ± 3990'. Will run DIL-GR-SP and FDC-CNL-GR Caliper logs. If well appears productive, will set 5-1/2" casing at TD, cement in 1 stage, selectively perforate, frac, clean out after frac and complete with 2-7/8" tubing.

RECEIVED

MAY 22 1989

OIL CON. DIV
DIST. 3

GAS IS NOT DEDICATED.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

James A. Hoken

TITLE

Field Supt.

DATE

9/20/88

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED

AS AMENDED

APPROVED BY

TITLE

DATE

MAY 18 1989

CONDITIONS OF APPROVAL, IF ANY:

R-8844 (25 L)

NMOCC

*See Instructions On Reverse Side

AREA MANAGER



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

November 7, 1988

Nassau Resources, Inc.
c/o Jerome P. McHugh & Associates
P.O. Box 809
Farmington, NM 87499-0809

Attention: James S. Hazen,

Administrative Order NSL-2598

Dear Mr. Hazen:

Reference is made to your application of October 11, 1988 for a non-standard gas well location for your Carracas Unit 15-A Well No. 16 to be located 200 feet from the South line and 500 feet from the East line (Unit P) of Section 15, Township 32 North, Range 5 West, NMPM, to test the Fruitland (Sand) formation, Rio Arriba County, New Mexico. The SE/4 of said Section 15 shall be dedicated to the well forming a standard 160-acre gas spacing and proration unit.

By the authority granted me under the provisions of General Rule 104 F(I), the above-described unorthodox gas well location is hereby approved.

Sincerely,

William J. LeMay
Director

WJL/MES/ag

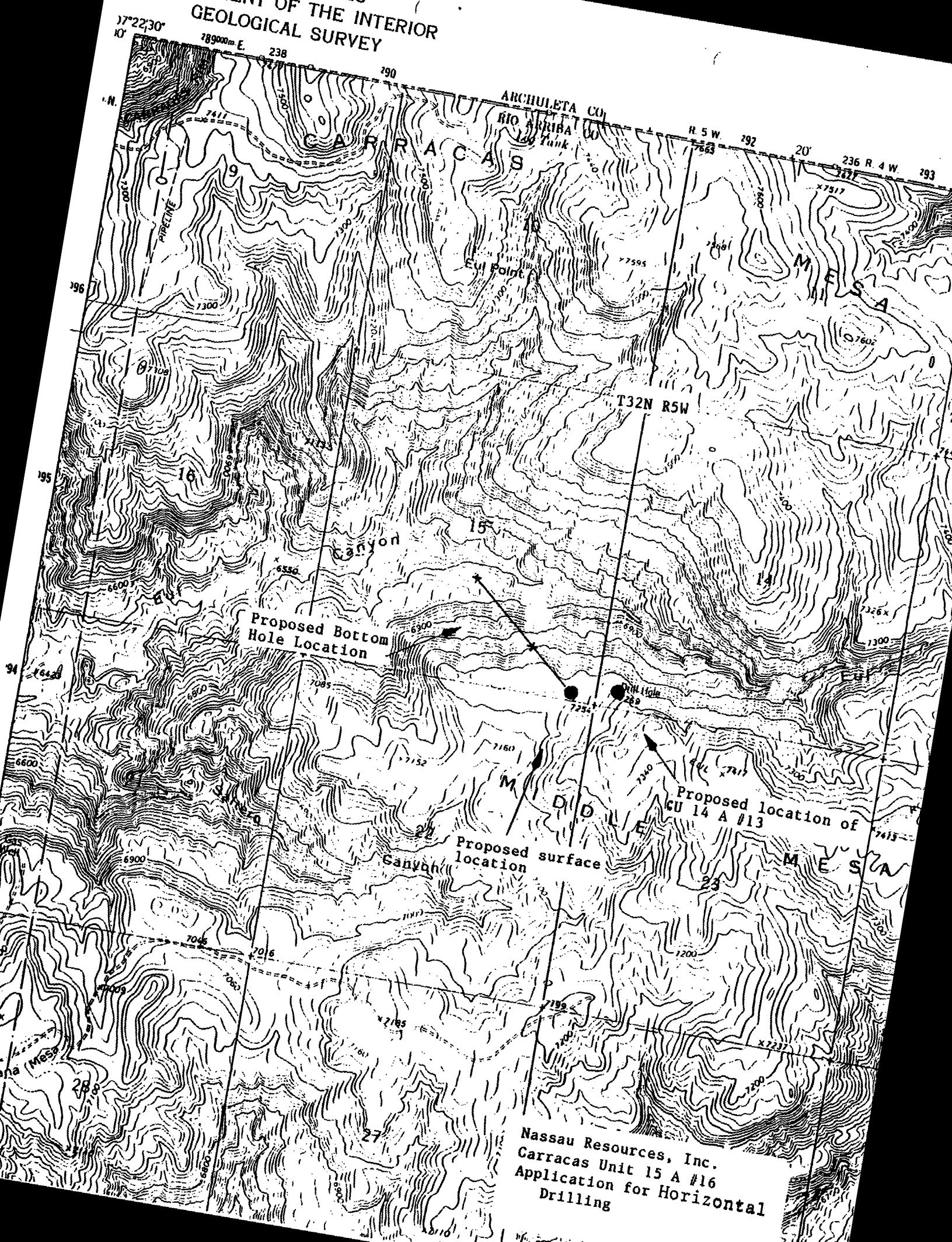
cc: Oil Conservation Division - Aztec
New Mexico Oil & Gas Engineering Committee - Hobbs
US Bureau of Land Management - Farmington

Jerome P. McHugh
Farmington, N.M.

NOV 13 1988

RECEIVED

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Horizontal
Drilling

Township 32 North, Range 5 West, NMPM, Rio Arriba County, New Mexico

Nassau Resources, Inc.
Carracas Unit 15 A #16
Application for Horizontal
Drilling

MCHUGHTELECOPY TRANSMITTALDATE: 10-3-89THE FOLLOWING 3 PAGE(S) ARE FOR MICHAEL STOGNERFIRM NAME NEW MEXICO OCDCITY, STATE Santa Fe, NMTELECOPY NO. 1-505-827-5741FROM GARY JohnsonJEROME P. MCHUGH AND ASSOCIATES/NASSAU RESOURCES, INC.
FAX NUMBER (303) 321-1563

Main Office
Jerome P. McHugh & Associates
Operating Affiliate: Nassau Resources, Inc.
650 South Cherry, Suite 1225
Denver, Colorado 80222
(303) 321-2111

OCT 3, 1989 8:55 AM

OPERATOR: NASSAU RESOURCES, INC.

LSE WELLNO: CARRACAS UNIT HORIZONTAL WELL

FIELD: CARRACAS UNIT

COUNTY: RIO ARRIBA

STATE: NM

NASSAU RESOURCES, INC.

HORIZ COAL 100%

BFIT 20 COLUMN REPORT

CARRACAS UNIT COAL GAS PROJECT 1989

Report Date: OCT 1989

Discount Date: OCT 1989

Evaluation Date: OCT 1989

SEC TWP RD: VARIES

LOCATION: VARIES

FORMATION: FRUITLAND COAL

RES CLASS: PROBABLE

PARTNERSHP: N/A

PAGE 1

----- REPORT COMMENTARY -----

ECONOMICS OF SINGLE WELL

HORIZONTAL COMPLETION

----- DIVISION OF INTEREST -----

INITIAL W.I. 100.000000 %

INITIAL N.R.I. 75.000000 %

FINAL W.I. 100.000000 %

FINAL N.R.I. 75.000000 %

----- PROFIT AND PRODUCTION INDICATORS -----

LIFE OF THE PROJECT 4 years 0 months

PAYOUT TERM 2 years 4 months

ROI - DISCOUNTED 181.02 %

ROI - UNDISCOUNTED 227.06 %

INTERP. IRR 38.99 %

END OF PERIOD (MO/YR)	GROSS PRODUCTION		NET PRODUCTION		EFFECTIVE PRICES		NET REVENUE			
	OIL & CND (MMBL)	GAS & CGS (MMCF)	OIL & CND (MMBL)	GAS & CGS (MMCF)	OIL & CND (\$/BBL)	GAS & CGS (\$/MCF)	OIL & CND (M\$)	GAS & CGS (M\$)	OTHER (M\$)	TOTAL (M\$)
12/89	0.000	28.389	0.000	21.292	N/A	1.50	0.000	31.938	0.000	31.938
12/90	0.000	340.667	0.000	255.500	N/A	1.50	0.000	383.250	0.000	383.250
12/91	0.000	628.611	0.000	471.458	N/A	1.50	0.000	707.188	0.000	707.188
12/92	0.000	727.542	0.000	545.656	N/A	1.50	0.000	818.484	0.000	818.484
12/93	0.000	474.853	0.000	356.140	N/A	1.50	0.000	534.209	0.000	534.209
SUB TOTAL	0.000	2200.062	0.000	1650.046			0.000	2475.069	0.000	2475.069
REMAINDER	0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000
TOTAL	0.000	2200.062	0.000	1650.046			0.000	2475.069	0.000	2475.069

END OF PERIOD (MO/YR)	NET EXPENSES (M\$)	NET PROD. TAXES (M\$)	NET W.P.T. (M\$)	TOTAL EXP+TAXES (M\$)	NET CASH OPER. INC. (M\$)	NET INVESTMENT (M\$)	NET RESALE (M\$)	NET OPERATING INCOME BFIT		
								UNDISC (M\$)	DISC @ 10.00% (M\$)	CUM DISC (M\$)
12/89	12.000	1.394	0.000	13.394	18.543	1000.000	0.000	-981.457	-973.631	-973.631
12/90	42.408	16.733	0.000	59.141	324.109	0.000	0.000	324.109	297.056	-676.575
12/91	14.784	30.876	0.000	45.660	661.528	0.000	0.000	661.528	551.647	-124.928
12/92	15.360	35.735	0.000	51.095	767.389	0.000	0.000	767.389	581.464	456.536
12/93	11.898	23.324	0.000	35.222	498.988	0.000	0.000	498.988	347.003	803.539
SUB TOTAL	96.450	108.062	0.000	204.512	2270.557	1000.000	0.000	1270.557	803.539	
REMAINDER	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
TOTAL	96.450	108.062	0.000	204.512	2270.557	1000.000	0.000	1270.557	803.539	

----- PRESENT WORTH PROFILE -----

1 - 10.00 %	803.540 M\$	3 - 22.50 %	378.212 M\$	5 - 27.50 %	245.098 M\$	7 - 35.00 %	76.182 M\$
2 - 20.00 %	451.897 M\$	4 - 25.00 %	309.394 M\$	6 - 30.00 %	184.994 M\$		

OCT 3, 1989 8:54 AM
 OPERATOR: NASSAU RESOURCES, INC.
 LSE WELLNO: CARRACAS UNIT AVERAGE WELL
 FIELD: CARRACAS UNIT
 COUNTY: RIO ARRIBA
 STATE: NM

NASSAU RESOURCES, INC.
 COAL ECON 100%

PAGE 1

BFIT 20 COLUMN REPORT
 CARRACAS UNIT COAL GAS PROJECT 1989
 Report Date: OCT 1989
 Discount Date: OCT 1989
 Evaluation Date: OCT 1989

SEC TWP R6: VARIES
 LOCATION: VARIES
 FORMATION: FRUITLAND COAL
 RES CLASS: PROBABLE
 PARTNERSHP: N/A

***** REPORT COMMENTARY *****
 ECONOMICS OF SINGLE WELL

***** DIVISION OF INTEREST *****
 INITIAL W.I. 100.000000 %
 INITIAL N.R.I. 75.000000 %
 FINAL W.I. 100.000000 %
 FINAL N.R.I. 75.000000 %

***** PROFIT AND PRODUCTION INDICATORS *****
 LIFE OF THE PROJECT 27 years 2 months
 PAYOUT TERM 3 years 9 months
 ROI - DISCOUNTED 182.56 %
 ROI - UNDISCOUNTED 329.17 %
 INTERP. IRR 24.19 %

END OF PERIOD (MO/YR)	GROSS PRODUCTION		NET PRODUCTION		EFFECTIVE PRICES		NET REVENUE			TOTAL
	OIL & CND	GAS & CGS	OIL & CND	GAS & CGS	OIL & CND	GAS & CGS	OIL & CND	GAS & CGS	OTHER	
	--(MGBL)--	---(MMCF)---	--(MGBL)--	---(MMCF)---	--(\$/BBL)--	---(\$/MCF)---	---(M\$)---	---(M\$)---	---(M\$)---	---(M\$)---
12/89	0.000	7.097	0.000	5.323	N/A	1.50	0.000	7.984	0.000	7.984
12/90	0.000	85.167	0.000	63.875	N/A	1.50	0.000	95.813	0.000	95.813
12/91	0.000	157.153	0.000	117.865	N/A	1.50	0.000	176.797	0.000	176.797
12/92	0.000	182.500	0.000	136.875	N/A	1.50	0.000	205.313	0.000	205.313
12/93	0.000	181.885	0.000	136.414	N/A	1.50	0.000	204.621	0.000	204.621
12/94	0.000	157.056	0.000	117.792	N/A	1.50	0.000	176.688	0.000	176.688
12/95	0.000	129.025	0.000	96.768	N/A	1.50	0.000	145.153	0.000	145.153
12/96	0.000	109.349	0.000	82.012	N/A	1.50	0.000	123.017	0.000	123.017
12/97	0.000	94.790	0.000	71.092	N/A	1.50	0.000	106.639	0.000	106.639
12/98	0.000	83.590	0.000	62.692	N/A	1.50	0.000	94.038	0.000	94.038
SUB TOTAL	0.000	1187.612	0.000	890.708			0.000	1336.063	0.000	1336.063
REMAINDER	0.000	768.739	0.000	576.554			0.000	864.831	0.000	864.831
TOTAL	0.000	1956.351	0.000	1467.262			0.000	2200.894	0.000	2200.894

END OF PERIOD (MO/YR)	NET EXPENSES	NET PROD. TAXES	NET W.P.T.	TOTAL EXP+TAXES	NET CASH OPER. INC.	NET INVESTMENT	NET RESALE	NET OPERATING INCOME BFIT		CUM DISC
	---(M\$)---	---(M\$)---	---(M\$)---	---(M\$)---	---(M\$)---	---(M\$)---	---(M\$)---	UNDISC	DISC @ 10.00%	---(M\$)---
12/89	12.000	0.349	0.000	12.349	-4.364	450.000	0.000	-454.364	-450.607	-450.607
12/90	42.408	4.183	0.000	46.591	49.221	0.000	0.000	49.221	44.698	-405.909
12/91	14.784	7.719	0.000	22.503	154.294	0.000	0.000	154.294	128.635	-277.274
12/92	15.360	8.964	0.000	24.324	180.989	0.000	0.000	180.989	137.121	-140.153
12/93	15.936	8.934	0.000	24.870	179.751	0.000	0.000	179.751	123.294	-16.859
12/94	16.512	7.714	0.000	24.226	152.461	0.000	0.000	152.461	94.835	77.976
12/95	17.088	6.337	0.000	23.425	121.727	0.000	0.000	121.727	68.521	146.497
12/96	17.664	5.371	0.000	23.035	99.982	0.000	0.000	99.982	50.936	197.433
12/97	18.240	4.656	0.000	22.896	83.743	0.000	0.000	83.743	38.614	236.047
12/98	18.816	4.106	0.000	22.922	71.117	0.000	0.000	71.117	29.681	265.728
SUB TOTAL	188.808	58.333	0.000	247.141	1088.921	450.000	0.000	638.921	265.728	
REMAINDER	434.730	37.759	0.000	472.489	392.343	0.000	0.000	392.343	102.723	
TOTAL	623.538	96.092	0.000	719.630	1481.264	450.000	0.000	1031.264	368.451	

***** PRESENT WORTH PROFILE *****
 1 - 10.00 % 368.452 M\$ 3 - 22.50 % 26.988 M\$ 5 - 27.50 % -50.573 M\$ 7 - 35.00 % -134.844 M\$
 2 - 20.00 % 74.911 M\$ 4 - 25.00 % -14.465 M\$ 6 - 30.00 % -82.225 M\$

