

**NADEL AND GUSSMAN PERMIAN, L.L.C.**

601 N. Marienfeld, Suite #508  
Midland, Texas 79701  
(915) 682-4429  
Fax (915) 682-4325

Mr. Bryan Arrant  
NMOCD  
District II  
1301 West Grand Avenue  
Artesia, New Mexico 88210

**RECEIVED**

OCT 07 2004

OCD-ARTESIA

Dear Bryan,

30-D15-33304

Attached is the updated C-102 that you requested for the Big Apple Federal #1. We have already submitted an amended C-104. I have also enclosed a copy of the topographical map for section 5, T 24S, R 24E. As shown on the topographic map the south section line dips south from east to west. This is also brought out when examining the planned surface hole and bottom hole locations. The surface location is 685' from the South line and the planned bottom hole location was 660' from the South line. According to the directional company the planned bottom hole location was 96.5' south of the surface hole location. This distance was determined using US State Plane System based on the NAD 27 NME grid. These measurements confirm that the South lease line dips from East to West. Since the surface location is 15' from the 660' lease line limit the only way for the bottom hole location to be both 96.5' south of the surface location and 660' from the south line is for the south line to dip from east to west.

The Big Apple surface location is 685' FSL and 2140' FEL. The surface hole State Plane X coordinate is 506158.7' and the Y coordinate is 451435.9'. The proposed bottom hole location was 660 FSL and 1600 FWL with an X of 504646.9' and a Y of 451339.4'. To determine the distance from the surface location to the bottom hole location subtract the x and y coordinates. If we subtract the planned bottom hole location from the surface location with the sign convention that south and west are negative and east and north are positive we get the following:

X displacement  $504646.9' - 506158.7' = -1511.8'$  west of the SHL

Y displacement  $451339.4' - 451435.9' = -96.5'$  south of the SHL

To determine how much the lease line dips to the west I normalized both the surface and bottom hole location so that they were both 660' from the south line. I did this by subtracting 15' from the SHL Y coordinate and then calculated the east to west dip of the south lease line.

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Normalize surface hole location to 660' FSL.  $451435.9' - 15' = 451420.9'$

South line dip calculation:

$451339.4' - 451420.9' = 81.5'$  south

1511.8' west

$(81.5' / 1511.8') * 100' = 5.39'$  per 100'

The above calculation shows that the south lease line dips 5.39' for every 100' from east to west.

**ACTUAL BOTTOM HOLE LOCATION.**

The last survey point from Ryan the directional company at 12279' MD and 11959.5 TVD showed an azimuth of 358 deg, an inclination of .9 degrees and a location of 80.17' south and 1525.61' west of the surface location. The Big Apple's TD is 12,338' MD. Using the last measured point the projected BHL is 78.71' south and 1525.56' west of the surface location.

The planned BHL was 660' FSL and 96.5' south of the surface location. Since the actual BHL is only 78.01' south of the surface location it is more than 660' from the south line as shown below.

$$\text{Distance FSL} = 660' + (96.5' - 78.71') = 677.79' \text{ FSL}$$

The correction for the south lease line dip is:

$$(1525.65 - 1511.8) / 100' * 5.39'' = .747' \approx .7'$$

$$\text{Total distance from the south line} = 677.79' + .7' = 678.490 \approx \mathbf{678' \text{ FSL}}$$

Distance from west line.

Planned BHL was 1600' FWL and 1511.8'  $\approx$  1512' west of the surface location.

Actual location 1525.56'  $\approx$  1525.5' west of the surface location

Actual Distance from west line

$$1600 - (1525.5 - 1512) = 1586.5 \approx \mathbf{1587' \text{ FWL}}$$

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**MORROW BASE LOCATION**

Morrow Base Location

Morrow Base 12,220' MD  
81' South of SHL  
1526' West of SHL

Distance from south lease line

$96.5 - 81.21 = 15.19'$  north of planned BHL

Lease line dip correction

$1526 - 1511.8 = 14.2' \approx 14'$  west of planned BHL  
 $14' / 100 * 5.39 = .75'$  of dip

Morrow Base Location

$660 + 15.19 + .75 = 675.94' \approx \mathbf{676' FSL}$   
 $1600' - (1526' - 1511.8) = 1585.8' \approx \mathbf{1586' FWL}$

**PERFORATION LOCATION.**

Morrow perfs 111,614' - 11,618' MD

11,614' MD = 1535.187' W of SHL (based on directional survey)  
97.68' S of SHL (based on directional survey)

Perforation distance from south line

$97.68' - 96.5' = 1.18'$  south of the planned location @  
1600' FWL

Lease line correction for dip

$1535.187' - 1511.8' = 23.387'$  further west than planned  
 $23.387' / 100 * 5.39 = 1.23'$  of dip

**FSL** =  $660' - 1.18' + 1.23' = 660.05' \approx 660'$  FSL at the perforations

**FWL** =  $1600' - 23' = 1577'$

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**MORROW TOP LOCATION**

Top of Morrow @ 11,456' MD

From Directional Survey:

11,456' = 100.69' south of surface location

1538.13' west of surface location

FSL = 660' - (100.69 - 96.5') = 655.81' FSL if well was 1600' from west line

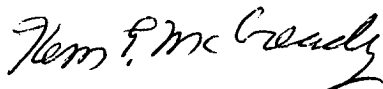
Dip correction      (1538.13 - 1511.8) = 26.33' west of planned SHL  
26.33 / 100 \* 5.39 = 1.42' of dip

FSL =      655.81' + 1.42' = 657.23'  $\approx$  **657' FSL**

FWL = 1600' - (1538.13' - 1511.8') = 1573.7  $\approx$  **1574' FWL**

As calculated the Big Apple bottom hole location and perforations are no closer than 660' from the south lease line. The Morrow top in the Big Apple is 657' from the south lease line. In reviewing the NMOCD rules on directional well we believe that rule 111.C. (4) applies in that the actual perforations are 660' FSL and 1577' FWL which is orthodox and is within 50' of the approved BHL (660' FSL and 1600' FWL)

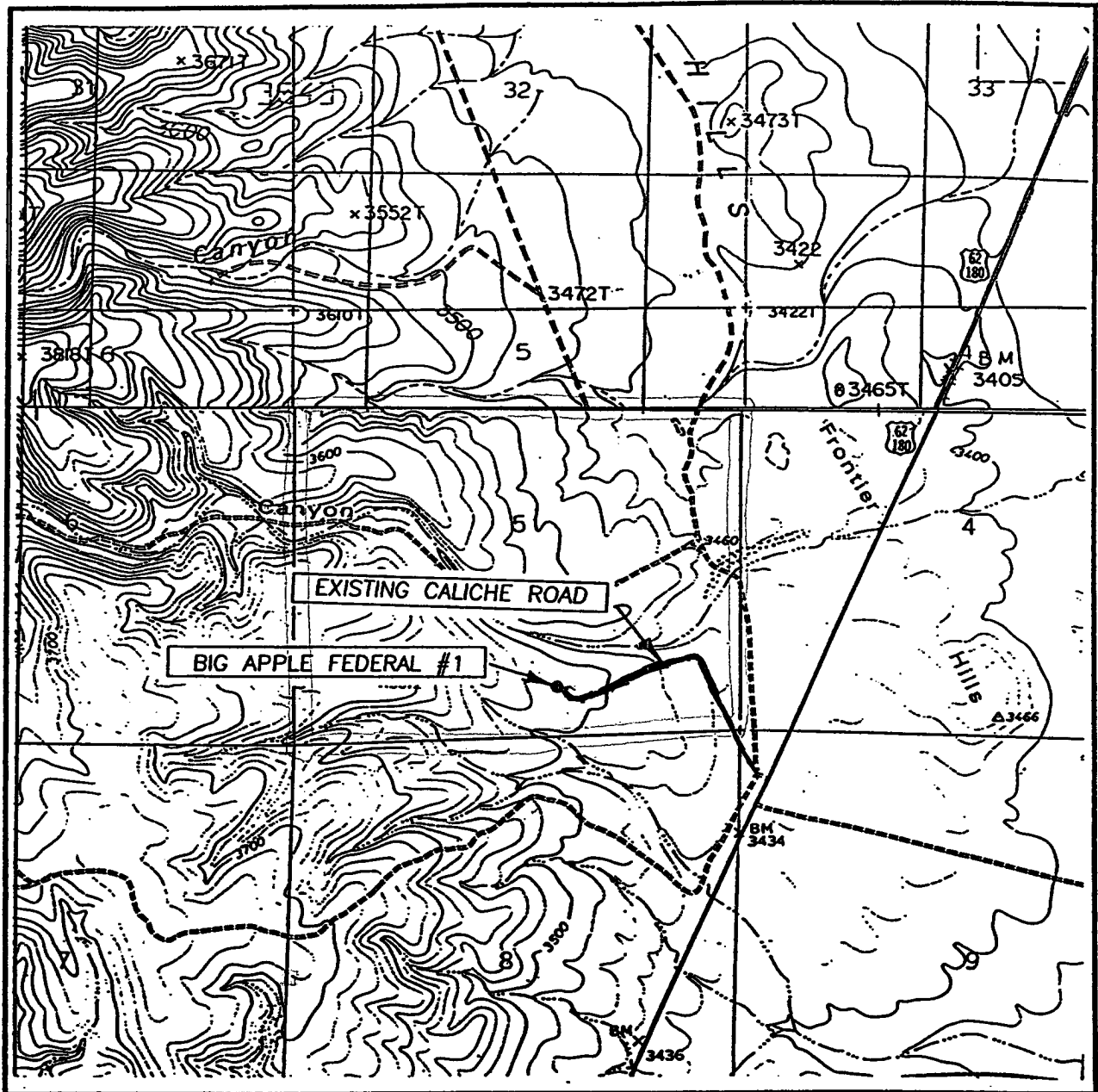
Yours truly,



Kem E. McCready  
Operations Engineer  
Nadel and Gussman Permian  
432-682-4429 office  
432-425-6347 cell

# LOCATION VERIFICATION MAP

EXHIBIT #5



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'  
BLACK RIVER VILLAGE, N.M.

SEC. 5 TWP. 24-S RGE. 26-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 685' FSL & 2140' FEL

ELEVATION 3505'

OPERATOR NADEL & GUSSMAN

LEASE BIG APPLE FEDERAL

U.S.G.S. TOPOGRAPHIC MAP  
BLACK RIVER VILLAGE, N.M.

JOHN WEST SURVEYING  
HOBBS, NEW MEXICO  
(505) 393-3117

<div data-bbox="90 966 120 987">16</div> <div data-bbox="166 1297 287 1356"><p>Producing Area</p></div> <div data-bbox="657 1297 748 1356"><p>Project Area</p></div> <div data-bbox="332 1533 490 1621"><p>Morrow Base 676 FSL 1586 FWL</p></div> <div data-bbox="581 1533 754 1621"><p>Morrow Top 657 FSL 1574 FWL</p></div> <div data-bbox="332 1680 460 1743"><p>Big Apple BHL</p></div> <div data-bbox="581 1680 710 1743"><p>Big Apple SHL</p></div> <div data-bbox="830 1680 1027 1743"><p>Manzano Grande #1</p></div> <div data-bbox="67 1434 1072 1915"></div>	<div data-bbox="1087 966 1118 987">17</div> <div data-bbox="1118 966 1541 1005"><p><b>OPERATOR CERTIFICATION</b></p></div> <div data-bbox="1080 1005 1547 1068"><p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p></div> <div data-bbox="1080 1079 1471 1146"><p><i>K. E. McCready</i> Signature</p></div> <div data-bbox="1080 1146 1471 1215"><p><i>K. E. McCready</i> Printed Name</p></div> <div data-bbox="1080 1215 1547 1304"><p><i>Operations Engineer</i> Title and E-mail Address</p></div> <div data-bbox="1080 1304 1382 1371"><p><i>10/6/04</i> Date</p></div>
	<div data-bbox="1087 1444 1118 1463">18</div> <div data-bbox="1118 1444 1541 1484"><p><b>SURVEYOR CERTIFICATION</b></p></div> <div data-bbox="1080 1484 1547 1621"><p>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.</p></div> <div data-bbox="1080 1669 1201 1694"><p>Date of Survey</p></div> <div data-bbox="1080 1698 1397 1728"><p>Signature and Seal of Professional Surveyor:</p></div> <div data-bbox="1080 1875 1224 1898"><p>Certificate Number</p></div>

## EXHIBIT #1

## DISTRICT I

P.O. Box 1888, Hobbs, NM 88241-1888

## State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-182

Revised February 18, 1994

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 5 Copies

## DISTRICT II

P.O. Box 1888, Hobbs, NM 88241-1888

## OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

## DISTRICT III

1000 Rio Grande Rd., Arco, NM 87410

## DISTRICT IV

P.O. Box 1888, SANTA FE, N.M. 87504-1888

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name <b>BIG APPLE FEDERAL</b>	Well Number <b>1</b>
OCRD No.	Operator Name <b>NADEL &amp; GUSSMAN</b>	Elevation <b>3505'</b>

## Surface Location

UL or Lot No.	Section	Township	Range	Lot No.	Feet from the	North/South Line	Feet from the	East/West Line	County
7	5	24-S	26-E		685	SOUTH	2140	EAST	EDDY

## Bottom Hole Location if Different From Surface

UL or Lot No.	Section	Township	Range	Lot No.	Feet from the	North/South Line	Feet from the	East/West Line	County
N	5	24-S	26-E		660	SOUTH	1600	WEST	EDDY

Dedicated Area	Acres - BH	Consolidation Code	Order No.
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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

LOT 4	LOT 3	LOT 2	LOT 1
<p><b>GEODEIC COORDINATES</b> NAD 27 NME BH LOC. Y = 451339.4 N X = 504645.9 E</p>			
<p><b>SURFACE LOC.</b> Y = 451435.9 N X = 506158.7 E LAT. 32°14'28.01"N LONG. 104°18'48.29"W</p>			
<p>38.55 AC. LOT 7</p>		<p>38.13 AC. LOT 8</p>	
<p>3506.9'</p>		<p>3484.4'</p>	
<p>3515.1'</p>		<p>3496.8'</p>	
<p>38.40 AC.</p>		<p>37.98 AC.</p>	

**OPERATOR CERTIFICATION**

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

*[Signature]*  
\_\_\_\_\_  
Josh Fernau  
Printed Name  
Staff Engineer  
Title  
02/06/04  
Date

**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.

JANUARY 20, 2004

Date Surveyed: \_\_\_\_\_ REV: 2/06/04  
Signature: *[Signature]*  
Professional Surveyor  
NEW MEXICO  
04.11.00426  
Certified by: GARY E. EDDY  
19841