



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

Called Mike 2/26/91  
but he did not call back  
713-955-1140  
Mike Newport

GARREY CARRUTHERS  
GOVERNOR

12-17-90

POST OFFICE BOX 1980  
HOBBS, NEW MEXICO 88241-1980  
(505) 393-6161

OIL CONSERVATION DIVISION  
P. O. BOX 2088  
SANTA FE, NEW MEXICO 87501

JD-58 NSBL

RE: Proposed:

MC \_\_\_\_\_  
DHC \_\_\_\_\_  
NSL X & directionally drill  
NSP \_\_\_\_\_  
SWD \_\_\_\_\_  
WFX \_\_\_\_\_  
PMX \_\_\_\_\_

Gentlemen:

I have examined the application for the:

Greenhill Pet. Corp., Lovington Paddock Unit #87-B 36-16-36  
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yours very truly,

Jerry Sexton  
Jerry Sexton  
Supervisor, District 1

/ed



# GREENHILL PETROLEUM CORPORATION

12777 JONES ROAD, SUITE 375  
HOUSTON, TEXAS 77070  
TELEPHONE (713) 955-1146  
FAX (713) 955-5105

Incorporated in Delaware, U.S.A.

December 13, 1990

Oil Conservation Division  
State of New Mexico  
Energy, Minerals and Natural Resources Dept.  
P.O. Box 2088  
Santa Fe, NM 87504-2088

Attn: Mike Stogner

Re: Unorthodox Location and Drilling Permit  
Proposed Well No. 87  
Lovington Paddock  
Lea County, New Mexico

Greenhill Petroleum Corporation respectfully requests the State of New Mexico Oil Conservation Division grant approval of the proposed unorthodox location and the attached permit to drill Well Number 87 in the Lovington Paddock Unit, located in Lea County, New Mexico.

The Lovington Paddock Unit is presently developed and being water-flooded utilizing a 40-acre well density. It is believed that infill development using a 20-acre well density will improve waterflood sweep efficiency and will increase secondary oil recovery. The proposed location for Well No. 87 is located in the interior of the unit and is not competitive with offset wells outside the unit. Information gathered as a result of drilling this infill well will be utilized in evaluating additional infill development potential in the unit and ultimately may be used to evaluate the feasibility of tertiary recovery.

Greenhill Petroleum Corporation wishes to commence drilling operations of the proposed well as soon as possible and would appreciate a response to this request at your earliest convenience.

Respectfully yours,

GREENHILL PETROLEUM CORPORATION

Michael J. Newport  
Landman

MJN:JB  
Enclosures

# GREENHILL PETROLEUM

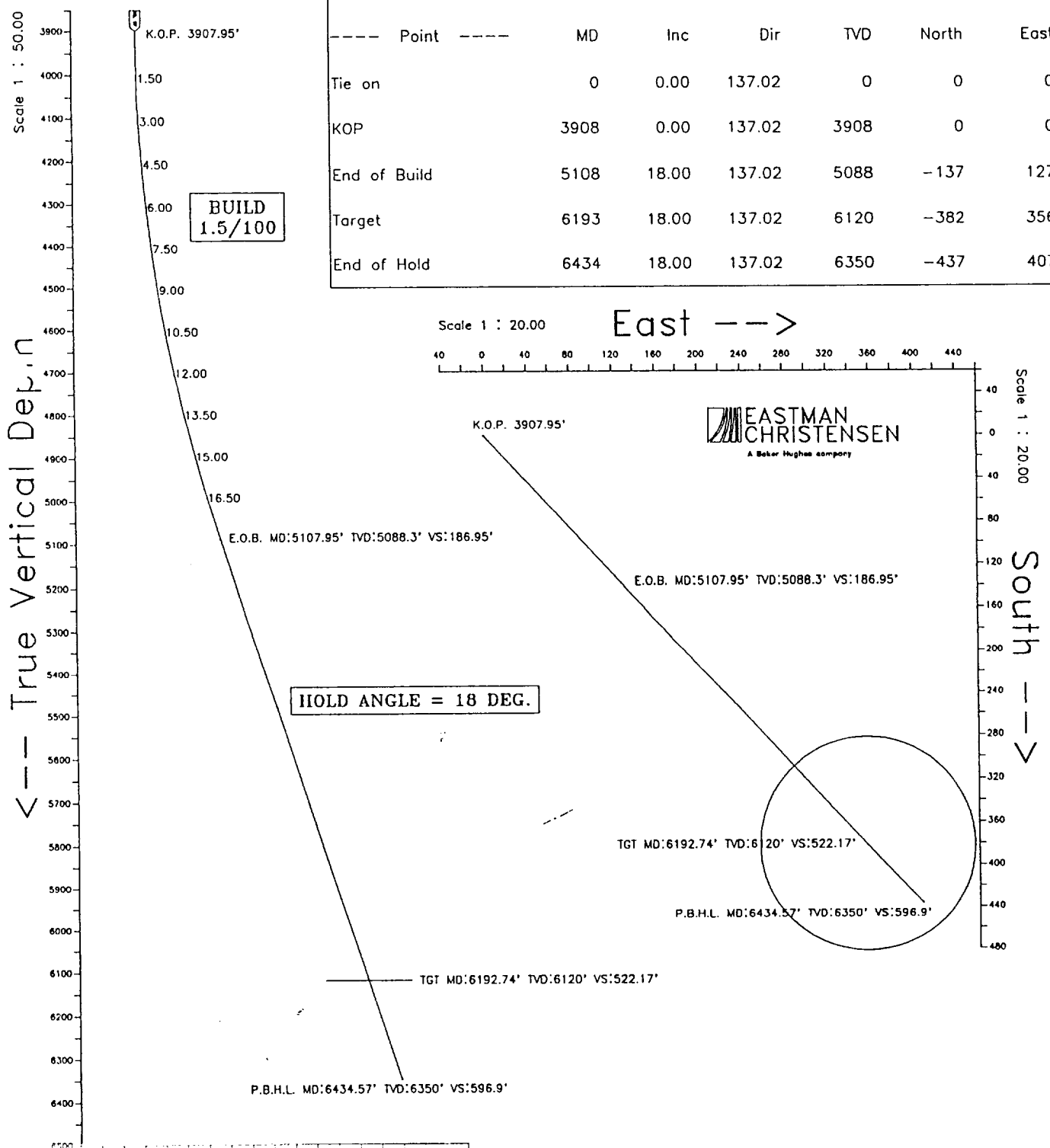
Structure : LOVINGTON PADDOCK UNIT

Well : NO. 87

Field : NEW MEXICO

Location : LEA COUNTY

| WELL PROFILE DATA |      |       |        |      |       |      |  |
|-------------------|------|-------|--------|------|-------|------|--|
| Point             | MD   | Inc   | Dir    | TVD  | North | East |  |
| Tie on            | 0    | 0.00  | 137.02 | 0    | 0     | 0    |  |
| KOP               | 3908 | 0.00  | 137.02 | 3908 | 0     | 0    |  |
| End of Build      | 5108 | 18.00 | 137.02 | 5088 | -137  | 127  |  |
| Target            | 6193 | 18.00 | 137.02 | 6120 | -382  | 356  |  |
| End of Hold       | 6434 | 18.00 | 137.02 | 6350 | -437  | 407  |  |



GREENHILL PETROLEUM  
LOVINGTON PADDOCK UNIT  
slot #1  
NEW MEXICO  
LEA COUNTY

P R O P O S A L L I S T I N G

Your ref : PR01  
Our ref : prop30  
Other ref :

Date printed : 3-Dec-90  
Date created : 29-Nov-90  
Last revised : 3-Dec-90

Field is centred on 0.000,0.000,0.00000,+  
Structure is centred on 0.000,0.000,0.00000,+

GREENHILL PETROLEUM  
LOVINGTON PADDOCK UNIT, NO. 87  
NEW MEXICO, LEA COUNTY

PROPOSAL LISTING Page 1  
Your ref : PRO1  
Last revised : 3-Dec-90

| Measured<br>Depth | Inclin.<br>Degrees | Azimuth<br>Degrees | True Vert.<br>Depth | R E C T A N G U L A R<br>C O O R D I N A T E S |          |      | Dogleg<br>Deg/100ft | Vert<br>Sect                      |
|-------------------|--------------------|--------------------|---------------------|------------------------------------------------|----------|------|---------------------|-----------------------------------|
| 0.00              | 0.00               | 137.02             | 0.00                | 0.00 N                                         | 0.00 E   | 0.00 | 0.00                |                                   |
| 500.00            | 0.00               | 137.02             | 500.00              | 0.00 N                                         | 0.00 E   | 0.00 | 0.00                |                                   |
| 1000.00           | 0.00               | 137.02             | 1000.00             | 0.00 N                                         | 0.00 E   | 0.00 | 0.00                |                                   |
| 1500.00           | 0.00               | 137.02             | 1500.00             | 0.00 N                                         | 0.00 E   | 0.00 | 0.00                |                                   |
| 2000.00           | 0.00               | 137.02             | 2000.00             | 0.00 N                                         | 0.00 E   | 0.00 | 0.00                |                                   |
| 2500.00           | 0.00               | 137.02             | 2500.00             | 0.00 N                                         | 0.00 E   | 0.00 | 0.00                |                                   |
| 3000.00           | 0.00               | 137.02             | 3000.00             | 0.00 N                                         | 0.00 E   | 0.00 | 0.00                |                                   |
| 3500.00           | 0.00               | 137.02             | 3500.00             | 0.00 N                                         | 0.00 E   | 0.00 | 0.00                |                                   |
| 3907.95           | 0.00               | 137.02             | 3907.95             | 0.00 N                                         | 0.00 E   | 0.00 | 0.00                | K.O.P. 3907.95'                   |
| 4007.95           | 1.50               | 137.02             | 4007.94             | 0.96 S                                         | 0.89 E   | 1.50 | 1.31                |                                   |
| 4107.95           | 3.00               | 137.02             | 4107.86             | 3.83 S                                         | 3.57 E   | 1.50 | 5.23                |                                   |
| 4207.95           | 4.50               | 137.02             | 4207.64             | 8.61 S                                         | 8.03 E   | 1.50 | 11.77               |                                   |
| 4307.95           | 6.00               | 137.02             | 4307.22             | 15.31 S                                        | 14.26 E  | 1.50 | 20.92               |                                   |
| 4407.95           | 7.50               | 137.02             | 4406.52             | 23.91 S                                        | 22.28 E  | 1.50 | 32.68               |                                   |
| 4507.95           | 9.00               | 137.02             | 4505.48             | 34.40 S                                        | 32.06 E  | 1.50 | 47.03               |                                   |
| 4607.95           | 10.50              | 137.02             | 4604.03             | 46.79 S                                        | 43.61 E  | 1.50 | 63.96               |                                   |
| 4707.95           | 12.00              | 137.02             | 4702.11             | 61.06 S                                        | 56.91 E  | 1.50 | 83.47               |                                   |
| 4807.95           | 13.50              | 137.02             | 4799.64             | 77.21 S                                        | 71.95 E  | 1.50 | 105.54              |                                   |
| 4907.95           | 15.00              | 137.02             | 4896.56             | 95.22 S                                        | 88.74 E  | 1.50 | 130.15              |                                   |
| 5007.95           | 16.50              | 137.02             | 4992.80             | 115.07 S                                       | 107.24 E | 1.50 | 157.30              |                                   |
| 5107.95           | 18.00              | 137.02             | 5088.30             | 136.77 S                                       | 127.46 E | 1.50 | 186.95              | E.O.B. MD:5107.95' TVD:5088.3' VS |
| 5500.00           | 18.00              | 137.02             | 5461.17             | 225.40 S                                       | 210.06 E | 0.00 | 308.10              |                                   |
| 6000.00           | 18.00              | 137.02             | 5936.70             | 338.43 S                                       | 315.39 E | 0.00 | 462.61              |                                   |
| 6192.74           | 18.00              | 137.02             | 6120.00             | 382.00 S                                       | 356.00 E | 0.00 | 522.17              | TGT MD:6192.74' TVD:6120' VS:522. |
| 6434.57           | 18.00              | 137.02             | 6350.00             | 436.67 S                                       | 406.95 E | 0.00 | 596.90              | P.B.H.L. MD:6434.57' TVD:6350' VS |

All data is in feet unless otherwise stated  
Coordinates are from slot #1 and TVDs are from wellhead.  
Vertical section is from wellhead on azimuth 137.02 degrees.  
Calculation uses the minimum curvature method.

GREENHILL PETROLEUM  
LOVINGTON PADDOCK UNIT, NO. 87  
NEW MEXICO, LEA COUNTY

PROPOSAL LISTING Page 2  
Your ref : PRO1  
Last revised : 3-Dec-90

Comments in wellpath  
=====

| MD      | TVD     | Rectangular Coords. |          | Comment                                   |
|---------|---------|---------------------|----------|-------------------------------------------|
| 3907.95 | 3907.95 | 0.00 N              | 0.00 E   | K.O.P. 3907.95'                           |
| 5107.95 | 5088.30 | 136.77 S            | 127.46 E | E.O.B. MD:5107.95' TVD:5088.3' VS:186.95' |
| 6192.74 | 6120.00 | 382.00 S            | 356.00 E | TGT MD:6192.74' TVD:6120' VS:522.17'      |
| 6434.57 | 6350.00 | 436.67 S            | 406.95 E | P.B.H.L. MD:6434.57' TVD:6350' VS:596.9'  |

Casing positions in string 'A'  
=====

| Top MD | Top TVD | Rectangular Coords. |       | Bot MD  | Bot TVD | Rectangular Coords. |       | Casing |
|--------|---------|---------------------|-------|---------|---------|---------------------|-------|--------|
| 0.00   | 0.00    | 0.00N               | 0.00E | 3100.00 | 3100.00 | 0.00N               | 0.00E | CSG    |

Targets associated with this wellpath  
=====

| Target name | Position      | T.V.D. Local rectangular coords. |         |         | Date revised |
|-------------|---------------|----------------------------------|---------|---------|--------------|
|             | not specified | 6120.00                          | 382.00S | 356.00E | 3-Dec-90     |

All data is in feet unless otherwise stated  
Coordinates are from slot #1 and TVDs are from wellhead.  
Vertical section is from wellhead on azimuth 137.02 degrees.  
Calculation uses the minimum curvature method.