

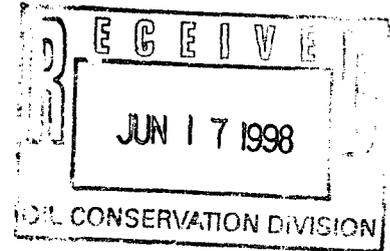
DHC 7/7/98  
FAX (915) 686-0302

**COLLINS & WARE, INC.**

508 WEST WALL AVENUE, SUITE 1200  
MIDLAND, TEXAS 79701-5076

(915) 687-3435

June 12, 1998



Mr. Ben Stone  
State of New Mexico Energy, Minerals  
and Natural Resources Department  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87504-2088

Re: Application for Downhole Commingling  
Form C-107-A  
Pearl No. 1  
Lea County, NM

Dear Mr. Stone,

Collins & Ware, Inc. wishes to make application to downhole commingle production from the Blinebry and Abo formations in the Pearl No. 1 as specified on the attached Form C-107-A and its associated attachments.

Completion Operations in the Pearl No. 1 began in February, 1998, with testing of the Abo and subsequent completion in the South House Blinebry Pool in March. Because of this, production curves for each zone for a period of at least one year are not available as requested in Item No. 16 of the Form C-107-A. In the alternative, a daily well history with all swab and production tests done on this well since completion operations commenced is attached for supporting data used to generate a Fixed Percentage Allocation Formula in Item No. 8 of the Form.

The proposed Fixed Percentage Allocation Formula is based on the most recent test available for each zone. For the Abo, the latest test is based swab recovery of 24 barrels of fluid with average cut of 12.5%, which calculates to 3 BOPD + 21 BWPD with gas TSTM on the last day the zone was swabbed before being plugged back on March 1, 1998. A complete production history of the Blinebry formation is included and the latest test of 12 BOPD + 26 BWPD + 28 MCFPD on May, 12, 1998 was used in the proposed Allocation Formula before the zones were tested together beginning May 18, 1998.

If you have any questions or need any additional information regarding this application, please contact me at (915) 687-3435 or at the letterhead address. Your assistance in this matter is greatly appreciated.

Sincerely,

A handwritten signature in cursive script that reads "Brent L. Lowery". The signature is written in black ink and is slanted slightly to the right.

Brent Lowery

Operations Engineer

**EXHIBIT "B" - CASE NO. 11353, ORDER NO. R-10470-A**

**DISTRICT I**  
P.O. Box 1980, Hobbs, NM 88240

**DISTRICT II**  
811 South First St., Artesia, NM 88210

**DISTRICT III**  
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico  
Energy, Minerals and Natural Resources Department

**OIL CONSERVATION DIVISION**

2040 S. Pacheco  
Santa Fe, New Mexico 87505-6429

Form C-107-A  
New 3-12-96

APPROVAL PROCESS:  
 Administrative  Hearing

EXISTING WELLBORE  
 YES  NO

**APPLICATION FOR DOWNHOLE COMMINGLING**

Collins & Ware, Inc. 508 West Wall, Suite 1200, Midland, Texas 79701

Operator Pearl Address Unit J, Sec. 13, T20S, R38E County Lea

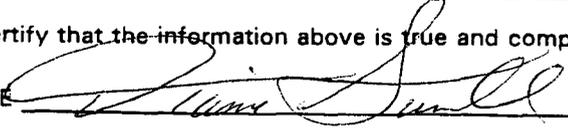
Lease 001 Well No. 004874 Unit Ltr. - Sec - Twp - Rge 30-025-34275

OGRID NO. 004874 Property Code 22325 API NO. 30-025-34275 Federal  State  (and/or) Fee

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zones	Lower Zone
1. Pool Name and Pool Code	House; Blinebry, South 33225		Wildcat ABO
2. Top and Bottom of Pay Section (Perforations)	6018 - 6165		7353 - 7480
3. Type of production (Oil or Gas)	oil		oil
4. Method of Production (Flowing or Artificial Lift)	RHBC Pump		RHBC Pump
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a. (Current) 2530	a.	a. 1933
	b. (Original)	b.	b.
6. Oil Gravity (° API) or Gas BTU Content	36.5 API 1271 MMBTU		36.5 API Gas - TSTM
7. Producing or Shut-In?	Producing		Producing
Production Marginal? (yes or no)	Yes		Yes
* If Shut-In, give date and oil/gas/water rates of last production  Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data  * If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: Rates:
	Date: 5/12/98 Rates: 12 BOPD 28 MCFPD 26 BWPD	Date: Rates:	Date: 2/28/98- swab Rates: 3 BOPD 21 BWPD Gas- TSTM
8. Fixed Percentage Allocation Formula - % for each zone	Oil: 80 % Gas: 100 %	Oil: % Gas: %	Oil: 20 % Gas: 0 %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.
10. Are all working, overriding, and royalty interests identical in all commingled zones?  Yes  No  
If not, have all working, overriding, and royalty interests been notified by certified mail?  Yes  No  
Have all offset operators been given written notice of the proposed downhole commingling?  Yes  No
11. Will cross-flow occur?  Yes  No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable.  Yes  No (If No, attach explanation)
12. Are all produced fluids from all commingled zones compatible with each other?  Yes  No
13. Will the value of production be decreased by commingling?  Yes  No (If Yes, attach explanation)
14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application.  Yes  No
15. NMOCD Reference Cases for Rule 303(C) Exceptions: ORDER NO(S). \_\_\_\_\_
16. ATTACHMENTS:  
\* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.  
\* Production curve for each zone for at least one year. (If not available, attach explanation.)  
\* For zones with no production history, estimated production rates and supporting data.  
\* Data to support allocation method or formula.  
\* Notification list of all offset operators.  
\* Notification list of working, overriding, and royalty interests for uncommon interest cases.  
\* Any additional statements, data, or documents required to support commingling.

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

SIGNATURE  TITLE Production Admin. DATE 6/12/98

TYPE OR PRINT NAME Dianne Sumrall TELEPHONE NO. ( 915 ) 687-3435

**OFFSET OPERATORS TO  
COLLINS & WARE, INC.  
PEARL #1**

Leonard Resource Investment Corporation  
415 W. Wall Street  
Midland, Texas 79701

M W Petroleum Corporation  
2000 Post Oak Blvd.  
Suite 100  
Houston, Texas 77056

Xeric Oil & Gas Corporation  
200 N. Loraine  
Suite 1000  
Midland, Texas 79702



District I  
PO Box 1980, Hobbs, NM 88241-1980

District II  
PO Drawer DD, Artesia, NM 88211-0719

District III  
1000 Rio Brasos Rd., Aztec, NM 87410

District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised February 10, 1994  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

PO Box 2088  
Santa Fe, NM 87504-2088

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1	API Number 30-025-34275	2	Pool Code	3	Pool Name Wildcat ABQ
4	Property Code 22325	5	Property Name Pearl	6	Well Number 1
7	OGRID No. 004874	8	Operator Name Collins & Ware, Inc.	9	Elevation 3553

<sup>10</sup>Surface Location

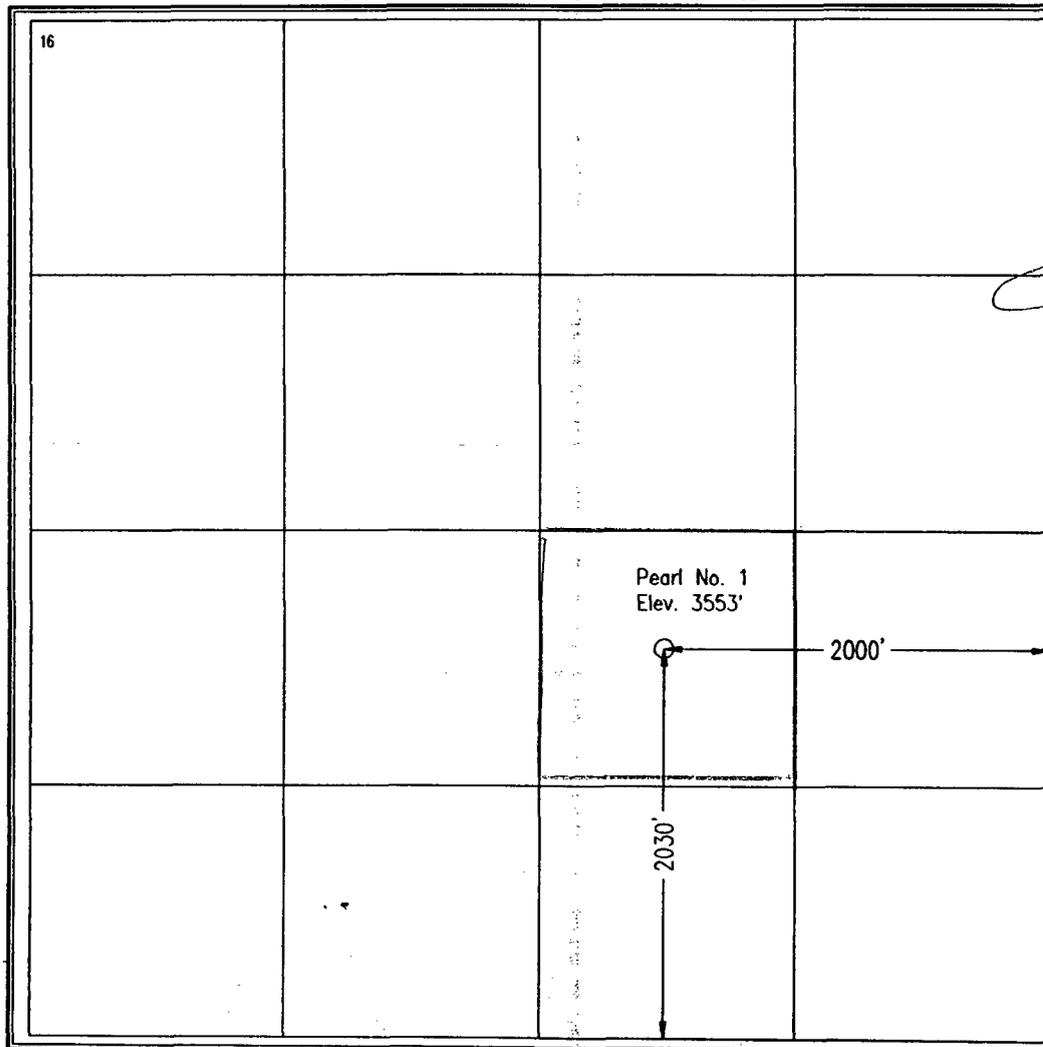
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	13	20 S	38 E		2030	South	2000	East	Lea

<sup>11</sup>Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

12	Dedicated Acres 40	13	Joint or Infill	14	Consolidation Code	15	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



<sup>17</sup> OPERATOR CERTIFICATION

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

*[Signature]*  
Signature  
Dianne Sumrall  
Printed Name  
Production Administrator  
Title  
6/12/98  
Date

<sup>18</sup> 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 15, 1998  
Date of Survey  
Signature and Seal of Professional Surveyor.

*[Seal]*  
MICHAEL L. STANFORD  
NEW MEXICO  
REGISTERED PROFESSIONAL LAND SURVEYOR  
10324  
Certificate Number 10324

District I  
PO Box 1980, Hobbs, NM 88241-1980

District II  
PO Drawer DD, Artesia, NM 88211-0719

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1000 Rio Brasos Rd., Aztec, NM 87410

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State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised February 10, 1994  
Submit to Appropriate District Office  
State Lease - 4 Copies  
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OIL CONSERVATION DIVISION

PO Box 2088  
Santa Fe, NM 87504-2088

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1	API Number 30-025-34275	2	Pool Code 33225	3	Pool Name House; Blinebry, South
4	Property Code 22325	5	Property Name Pearl	6	Well Number 1
7	OGRID No. 004874	8	Operator Name Collins & Ware, Inc.	9	Elevation 3553

<sup>10</sup>Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	13	20 S	38 E		2030	South	2000	East	Lea

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<sup>12</sup> Dedicated Acres 40	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNITL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>16</p>	<p>17 OPERATOR CERTIFICATION</p> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i></p> <p><i>[Signature]</i></p> <p>Signature Dianne Sumrall Printed Name Production Administrator Title 6/12/98 Date</p>
	<p>18 SURVEYOR CERTIFICATION</p> <p><i>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.</i></p> <p>January 15, 1998 Date of Survey</p> <p>Signature and Seal of Professional Surveyor.</p> <p><i>[Signature]</i></p> <p>MICHAEL L. STANFORD NEW MEXICO REGISTERED PROFESSIONAL LAND SURVEYOR 10324</p> <p>Certificate Number 10324</p>

11 Miles North of Eunice, New Mexico.

File No. A-1195A

**COLLINS & WARE, INC.**  
**OPERATED DAILY DRILLING REPORTS**  
**PEARL #1**  
**LEA CO., NM**  
**2030' FSL & 2000' FEL, SEC 13, T20S, R38E**  
**SOUTH HOUSE BLINEBRY/DRINKARD**

**2/19/98 Day 1**

MIRU well svrc unit. Unload & rack 250 jts of 2 7/8" 6.5# N-80 tbg. PU standard 2 7/8" SN. GIH w/246 jts, tag PBTB @ 7780'. POH to 7480' w/tbg, circ & pickle tbg w/500 gals 15% Ferchek acid. Pmp down tbg @ 3/4 BPM to btm of tbg. Then incrd rate to 2 BPM. Circ acid OOH. Displace w/2% KCl. Spot 150 gals Ferchek 15% acid from 7480' back to 7330'. POH w/2 7/8" tbg. RU WL truck & GIH w/logging tools. Pull GR/CCL from PBTB, 7780' back to 3500'. RD WL & SDFN.

**2/20/98 Day 2**

GIH w/select fire 4" guns & perf Abo as follows: 7353', 57', 58', 59', 60', 61', 63', 73', 74', 76', 83', 84', 7406', 07', 15', 16', 17', 25', 26', 27', 35', 36', 44', 45', 49', 52', 53', 61', 62', 63', 71', 72', 79', 80', 34 holes, 1 shot/ft. PU Howco PPI tool w/6' spacing, GIH & press test pkr below perfs, ok. Spot 2500 gals 15% Ferchek acid to PPI tool. Began breaking down perfs from btm up. Break down 1<sup>st</sup> 6' of zone @ 5900#, 2 bbls acid in & perfs communicated up, POH setting, PPI tool every 6' & press to 6500#. All perfs communicated, some taking up to 2 bbls of acid before communicating. Press ranged from 1200#- 4600# on break downs. Pmpd all acid that was left out of tbg & POH w/15 stds of 2 7/8" tbg. SIFN.

**2/21/98 Day 3**

This a.m. GIH & retrieve flu control vlv & stdg vlv. Re-run 15 stds of tbg. Rvs acid back into tbg. Reset pkr @ 7300'. Press up on csg to 1000#, displace acid left in tbg @ 5436#, 1 BPM. Open by-pass & spot 2000 gals 15% Ferchek acid w/75 - 1.3 BS's to top of pkr @ 7300'. Acidize Abo perfs as follows: Press csg to 1200#, acid on fm pmpg into fm @ 2.5 BPM, 5818#. Ball on fm, press incrd to 5882#, incrd rate to 2.7 BPM, at 6011#. FNSH job w/acid & balls, press incrd to 6160# @ 2.7 BPM w/ball action to end of flush. ISIP was 5797#, 15 min - 5444#. Tot acid & flush ld including PPI was 146 bbls. Open tbg & flo back 18.5 bbls of ld. Open bypass on pkr & rvs/O 114 bbls of 2% KCl, gas & show of oil while reversing, 1<sup>st</sup> btms up. RD Howco & began SWB. IFL @ SURF. S/6 hrs & REC'd 68 BLW. Good gas shows after 1<sup>st</sup> 45 bbls (tbg capacity) S/, oil cut incrd to 25% @ end of day. FL worked down to 6800' by end of day. Total REC'd 68 bbls, BLTR 59.5. SD until Monday.

**2/22/98 Day 4**

36 hr SITP 320#. Blew down in 15 min & began SWB. IFL @ 3400'. 1<sup>st</sup> SR was 100% oil, 2<sup>nd</sup> run 50% & 3<sup>rd</sup> run 5% oil. Continue SWB for day, FL dropped to SN after 5 hrs. Making 1 SR/hr, flu entry is 400' - 500'/hr. REC'd 3 bbls/hr last 4 hrs SWB, oil cut last 2 hrs 50% & above. Gas was steady blo during SR's. REC'd 40 bbls total for day. BLTR 19.5.

**2/23/98 Day 5**

12 hr SITP 250#. Blew down & began SWB. IFL @ 5400', S/4 hrs & REC'd 13 bbls. FL S/down hole to SN. Oil cut ranged from 15% to 60%. Gas still good between & after runs. Rls pkr & POH w/2 7/8" tbg & RTTS pkr. PU 5 1/2" x 2 7/8" PLS pkr w/65,000# shear. GIH w/2 7/8" SN & x-o from 2 7/8" 8rd to 3 1/2" CS-Hydril. GIH w/97 jts C&W CS-Hydril, cross over to 3 1/2" 8rd tbg. FNSH in hole w/139 jts of rental 3 1/2" N-80 EUE 8rd tbg. Set pkr @ 7280'. SDFN. Will frac @ 10:00 a.m. BLTR 6.5.

**2/24/98 Day 6**

This a.m. kill truck, ld & press csg to 2000#. RU Howco pmp 2000 gals 15% Ferchek acid @ 11 BPM, 6500#. Start w/Delta Frac pre-pad, pmp 20,000 gals @ 24 BPM, 8900#, drop 1#/gal sd test slug w/flu loss additives in 2<sup>nd</sup> stage. Pmp 3<sup>rd</sup> stage 4000 gals w/1#/gal 20/40 Ottawa sd, press incrd to 9200# @ 25 BPM, start 4<sup>th</sup> stage of 17,000 gals & ramp sd from 1#/gal to 2.75#/gal. FNSH frac w/2.75#/gal sd, press incrd to 10,200# @ 21 BPM. Went to flush w/2600 gals gel, dropped rate to 10 BPM @ 10,000#. ISIP 9380#. Total job 47,405 gals, pmp 421 sxs 20/40 Ottawa sd into fm w/sd wedge included on all sd. Start flo back @ 2 BPM, incrd to 5 BPM @ closure. Flo back est 200 bbls ld w/small sd slug w/btms up. RD Howco & began flo back thru test manifold, open up well on 24/64" chk, 5000#. Flwd 163 bbls back the 1<sup>st</sup> hr, 65 bbls 2<sup>nd</sup> hr, then dropped to 26 bbls 3<sup>rd</sup> hr. TP dropped to 90# on open chk, left flwg to tk on 24/64" chk, 90#. BLTR 456.

**2/25/98 Day 7**

This a.m. flwg on 24/64" chk. TP 10 - 15#. Flwd 72 bbls last 12 hrs. RU swab & began SWB. IFL @ SURF. 1<sup>st</sup> SR oil cut 1%, slight gas during & after each SR. S/10 hrs & REC'd 150 bbls ld, oil cut up to 5%. FL dropped down hole every hr. FFL @ 6800'. Pulling each run off of SN @ 7280'. Tot REC for last 24 hrs SWB & flo is 222 bbls. BLTR 422. SIFN.

**2/26/98 Day 8**

This a.m. TP 0#. RU swab & began SWB. IFL @ 4500'. 1<sup>st</sup> run 3% oil, S/10 hrs & REC'd 79 bbls ld. Best oil cut for the day was 5%. FFL @ 7300', SN. REC'd 3 bbls/hr @ end of day. BLTR 343.

**COLLINS & WARE, INC.**  
**OPERATED DAILY DRILLING REPORTS**  
**PEARL #1**

**2/27/98 Day 9**

12 hr SITP 40#. Blew down. RU swab & began SWB. IFL @ 5000'. 1<sup>st</sup> SR top of run was 100% oil, middle of run was 30%, btm of run was 5%. S/10 hrs & REC'd 53 bbls tot flu. FL down to SN after 3 hrs of SWB. REC'd 2.5 BF/hr last 5 hrs, oil cut 5% w/sli gas during & after SR's. BLTR 290. SDFN.

**2/28/98 Day 10**

12 hr SITP 55#. RU swab. IFL @ 5500'. Top of 1<sup>st</sup> run was 40% oil cut, btm of run 5%. S/9 hrs & REC'd 39 BF. Oil cut @ end of day between 5% & 10%. BLTR 251. SDFN.

**3/1/98 Day 11**

14 hr SITP 60#. Blew down & began SWB. IFL @ 5500'. 1<sup>st</sup> SR 40% on front of run & 15% on back. Made 5 addl runs and dried flu up to SN, oil cut 10% - 15% on SR's. REC'd 24 bbls for day. BLTR 227. RD SWB equip. PU & shear PLS pkr, POH & LD all 3 1/2" tbg. LD pkr. RU WL & GIH w/CIBP to 7300', set CIBP. FL @ 4160'. RU kill truck & ld csg w/100 bbls 2% KCl, press to 500#, w/no leak off. GIH & perf Blinebry w/1 JSPF 4" guns as follows: 6018'-24', 6047'-66', 6146'-65', total of 46 holes. RD WL truck & SDFN.

**3/2/98 Day 12**

12 hr SICP 0#. PU 5 1/2" Howco RBP & 5 1/2" RTTS. PU 2 7/8" SSN, then GIH w/200 jts of 2 7/8" 6.5# N-80 EUE 8rd tbg. Set RBP @ 6185'. POH to 6170', spot 150 gals 15% Ferchek acid from 6170' back to 6015'. POH & set pkr @ 6082', break down perfs from 6146'-65' @ 2487#, incrd rate to 2.4 BPM, pmp 1000 gals acid w/no break, balls on perfs, incrd press to 2760# w/flush in. ISIP 2327#, 15 min - 2259#. Blo down tbg, rls pkr & move RBP to 6082'. Reset pkr @ 5960'. Acidize upper perfs w/2000 gals 15% Ferchek acid & 40 - 1.3 BS's. Break down 2400#, incrd rate to 4.2 BPM, w/acid on perfs, balls on perfs press incrd to 3000#, then broke to 2800#. Press incrd to 3400#, then broke to 3000#. Flush w/2% KCl, ISIP 2367#, 15 min - 2284#. BLTR 199. Flo back 10 bbls flush wtr, move RBP to 6185', reset pkr @ 5960'. Began SWB, IFL @ SURF. S/2 1/2 hrs & REC'd 59 bbls. FL @ 2300' FS & holding. SDFN. BLTR 130.

**3/3/98 Day 13**

12 hr SITP 467#. Blew down w/no flo. RU swab & GIH. IFL @ 1400', 1<sup>st</sup> run 100% oil on top of run & 70% middle, 30% btm. Made 8 SR's & REC'd 56 bbls of ld, w/avg oil cut of 30%. Good gas during runs. FFL @ SN. Rls pkr & GIH to RBP. Rls RBP & move down hole to 6140'. Reset & POH w/tbg & pkr. ND BOP & NU frac vlv. RU Howco & frac Blinebry perfs from 6118' - 6165' w/Delta frac as follows: Pmp 18,000 gals 25# gel w/30 sxs 20/40 white sd slug #2/gal. Press 3100# @ 20 BPM. Pmp 2<sup>nd</sup> stage of 27,000 gals gel w/1# - 6# 20/40 white sd ramp, press decrd to 2600# @ 25 BPM. Pmp 3<sup>rd</sup> stage of 11,000 gals gel w/ 6.5# 20/40 sd. Press incrd to 3100# w/6.5# sd on fm. Flush w/6005 gals of gel, total 62,005 gals (1476 bbls). ISIP 2850#, avg rate 25 BPM, avg press 2800#. Open well up on chk & start flo back @ 2 BPM for closure. Incrd rate to 4 BPM @ 2000#, then incrd to 6 BPM @ 1900#, flo back 71 bbls of ld, then RD Howco equip. Flwg to frac tk on 14/64" chk @ 2000#. Flwd for 3 hrs, REC'd 622 bbls of ld. Press dropped to 0#, but still flwg approx 1/4 BPM. No oil or gas shows. BLTR 854. Left open to frac tk for night. Note: Total sd in fm 162,000#.

**3/4/98 Day 14**

This a.m. well dead. Flwd 50 bbls of ld wtr overnight. PJ retrieving head for RBP & GIH w/2 7/8" tbg to top of sd @ 6200', RBP @ 6240'. Wash sd down to top of RBP, circ hole w/120 bbls of 2% KCl. Trace of oil during circ, slight shows of gas during circ rls RBP & POOH w/tbg & RBP. PU 5 1/2" PLS pkr (C&W's). GIH w/SSN & 188 jts of 2 7/8" N-80 6.5# EUE 8rd tbg. Set pkr @ 5965.73'. ND BOP & NU WH. RU swab & began SWB. IFL was SURF, SWB for 2 hrs & REC 47 BLW. Slight show of gas. FFL 800'. RD well srvc unit, will RU SWB unit in a.m. & continue SWB. TLR after frac 719 bbls, TLR is 757 bbls. SI till a.m.

**3/5-6/98 Day 15**

This a.m. tbg had slight blo. MIRU SWB unit. IFL @ 200'. Sli oil show on top of 1<sup>st</sup> run. S/9 hrs. REC'd 236 bbls, FL worked down to 2900' by end of day. Last 3 hrs FL staying @ 2900'. Gas cut in flu getting stronger by the end of the day. No oil cut. BLTR 521. SDFN.

**3/7/98 Day 16**

This a.m. TP 60#. Blew down & began SWB. IFL @ 1750'. 1<sup>st</sup> SR oil cut 70% top, 30% middle & 2% on tail end. S/5 1/2 hrs & REC'd 126 bbls. Gas cut increasing in runs, sli blo after each SR, oil cut 3% - 4%. 395 bbls of frac ld to REC. SDF 50 MPH wind. Will cont in a.m., FFL @ 2900'.

**3/8/98 Day 17**

This a.m. TP 70#. Blew down & began SWB. IFL @ 1800'. 1<sup>st</sup> SR oil cut 80% front & 30% on tail. S/9 hrs & REC'd 219 BF. 176 bbls of frac flu LTR. Oil cut incrd to 40% - 50% after 4 hrs of SWB. Gas cut increasing also. FL S/down to 2900', then came back up to 2600', staying between 2600' & 2900'. Oil cut holding 40% & above. SIFN.

**3/9/98 Day 18**

13 hr SITP 100#. Blew down & began SWB. IFL @ 2200'. 1<sup>st</sup> SR cut 80% oil on front, 20% on tail. Cont SWB, REC'd 185 bbls total for day, in 10 hrs SWB, 9 bbls over frac ld needed to REC. FL cont to drop for day to 3400'. Flu scatt to

**COLLINS & WARE, INC.**  
**OPERATED DAILY DRILLING REPORTS**  
**PEARL #1**

SN, gas cut heavy during SR's, but just sli blo after oil cut staying between 15 & 20% during last ½ of day. Wtr seems to be fm wtr. SIFN.

**3/10/98 Day 19**

12 hr SITP 150#. Blew down & began SWB. IFL @ 2800'. S/8 hrs & REC'd 124 bbls. 1<sup>st</sup> SR 90% oil on top on run & 40% on tail. Cont SWB, FL dropped down hole to 3600'. Flu scatt from 3600' to SN. Pulling every run off of SN @ 5965'. Heavy gas cut in flu & sli blo after runs. Oil cut dropped to 10% during last 4 hrs of SWB. Tot REC over ld is 133 bbls, wtr sample off of last run to Howco to get analyzed. RD swab unit & SI, waiting to rod up & set pmpg unit.

**3/11/98 Day 20**

SI, waiting to rod up & set pmpg unit.

**3/12/98 Day 21**

MIRU well srv unit. ND tree & NU BOP. Rls pkr & POH w/188 jts of 2 7/8" 6.5# N-80 EUE 8rd tbg. PU 1 jt of 2 7/8" same tbg BP as MA. PU 2 7/8" by 4' perf sub, 5 ½"x 2 7/8" Baker style TA catcher 40,000 shear, 2 7/8" SSN, FNSH in hole w/187 jts of 2 7/8" same tbg. ND BOP & set anchor w/12,000# tension. Set WH. PU 1"x 12' GA, 2 ½"x 2"x 24' RHBC pmp, brass Nicarb bbl, 6' Spray metal plunger, single vlv (from Hamilton 2-Y). GIH w/10 (250') 1" HS rods, GIH w/102 (2550') ¾" HS rods. GIH w/101 (2525') 7/8" HS rods. FNSH in hole w/19 (475') HS rods, PU 1 ½"x 26' PR w/1 ¾"x 14' PRL. Space well to lightly tag btm. RD well srv unit & move to Diamond back #1. Btm of tbg @ 5891' w/14' KB, SN @ 5859' w/14' KB.

**3/13-16/98 Day 22**

PO: Pmpg, no test.

3/16/98 Made 10 BO, 0 MCF & 80 BW in 24 hrs.  
3/17/98 Made 28 BO, 0 MCF & 98 BW in 24 hrs.  
3/18/98 Made 15 BO, 0 MCF & 110 BW in 24 hrs.  
3/19/98 Made 11 BO, 0 MCF & 95 BW in 24 hrs.  
3/20/98 Made 4 BO, 0 MCF & 80 BW in 24 hrs. Well not pmpg @ report time. Tag well return to pmpg.  
3/21/98 Made 2 BO, 0 MCF & 80 BW in 24 hrs. Pull wtr off test tks. Prod going into perm equip.  
3/22/98 Made 8 BO, 0 MCF & 86 BW in 24 hrs.  
3/23/98 Made 17 BO, 0 MCF & 88 BW in 24 hrs.  
3/24/98 Made 16 BO, 0 MCF & 58 BW in 24 hrs.  
3/25/98 Made 16 BO, 0 MCF & 64 BW in 24 hrs.  
3/26/98 Made 16 BO, 0 MCF & 51 BW in 24 hrs.  
3/27/98 Made 17 BO, 0 MCF & 66 BW in 24 hrs.  
3/28/98 Made 13 BO, 0 MCF & 62 BW in 24 hrs.  
3/29/98 Made 14 BO, 0 MCF & 51 BW in 24 hrs.  
3/30/98 Made 17 BO, 0 MCF & 42 BW in 24 hrs. Tested 47 MCF/day rate.  
3/31/98 Made 17 BO, 0 MCF & 77 BW in 24 hrs.  
4/1/98 Made 13 BO, 0 MCF & 36 BW in 24 hrs.  
4/2/98 Made 13 BO, 0 MCF & 57 BW in 24 hrs.  
4/3/98 Made 20 BO, 0 MCF & 50 BW in 24 hrs.  
4/4/98 Made 0 BO, 0 MCF & 0 BW in 24 hrs.  
4/5/98 Made 22 BO, 0 MCF & 58 BW in 24 hrs.  
4/6/98 Made 8 BO, 0 MCF & 55 BW in 24 hrs.  
4/7/98 Made 11 BO, 0 MCF & 48 BW in 24 hrs.  
4/8/98 Made 8 BO, 0 MCF & 49 BW in 24 hrs.  
4/9/98 Made 14 BO, 0 MCF & 44 BW in 24 hrs.  
4/10/98 Made 18 BO, 0 MCF & 28 BW in 24 hrs.  
4/11/98 Made 6 BO, 0 MCF & 30 BW in 24 hrs.  
4/12/98 Made 12 BO, 0 MCF & 39 BW in 24 hrs.  
4/13/98 Made 13 BO, 0 MCF & 35 BW in 24 hrs.  
4/14/98 Made 12 BO, 0 MCF & 38 BW in 24 hrs.  
4/15/98 Made 11 BO, 0 MCF & 38 BW in 24 hrs.  
4/16/98 Made 11 BO, 0 MCF & 39 BW in 24 hrs.  
4/17/98 Made 11 BO, 0 MCF & 21 BW in 24 hrs.  
4/18/98 Made 8 BO, 0 MCF & 30 BW in 24 hrs.  
4/19/98 Made 11 BO, 0 MCF & 33 BW in 24 hrs.  
4/20/98 Made 11 BO, 0 MCF & 29 BW in 24 hrs.  
4/21/98 Made 11 BO, 0 MCF & 36 BW in 24 hrs.  
4/22/98 Made 5 BO, 0 MCF & 41 BW in 24 hrs.  
4/23/98 Made 14 BO, 0 MCF & 31 BW in 24 hrs.  
4/24/98 Made 18 BO, 0 MCF & 30 BW in 24 hrs.  
4/25/98 Made 4 BO, 0 MCF & 31 BW in 24 hrs.  
4/26/98 Made 14 BO, 0 MCF & 34 BW in 24 hrs.  
4/27/98 Made 11 BO, 10 MCF & 22 BW in 24 hrs.  
4/28/98 Made 9 BO, 28 MCF & 28 BW in 24 hrs.  
4/29/98 Made 11 BO, 28 MCF & 34 BW in 24 hrs.

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**PEARL #1**

4/30/98 Made 11 BO, 28 MCF & 30 BW in 24 hrs.  
 5/1/98 Made 10 BO, 27 MCF & 32 BW in 24 hrs.  
 5/2/98 Made 6 BO, 28 MCF & 30 BW in 24 hrs.  
 5/3/98 Made 8 BO, 28 MCF & 33 BW in 24 hrs.  
 5/4/98 Made 11 BO, 29 MCF & 25 BW in 24 hrs.  
 5/5/98 Made 14 BO, 28 MCF & 25 BW in 24 hrs.  
 5/6/98 Made 7 BO, 28 MCF & 25 BW in 24 hrs.  
 5/7/98 Made 8 BO, 29 MCF & 28 BW in 24 hrs.  
 5/8/98 Made 11 BO, 29 MCF & 25 BW in 24 hrs.  
 5/9/98 Made 8 BO, 29 MCF & 30 BW in 24 hrs.  
 5/10/98 Made 6 BO, 28 MCF & 28 BW in 24 hrs.  
 5/11/98 Made 9 BO, 28 MCF & 28 BW in 24 hrs.  
 5/12/98 Made 12 BO, 28 MCF & 26 BW in 24 hrs.  
 5/13/98 Made 8 BO, 28 MCF & 28 BW in 24 hrs.

**5/13/98 cont. Day 1**

MIRU well service unit, jar on stuck pump for 1 hr, could not unseat. Made blind BO on rods. POOH with 19 - 1" rods, 101 - 7/8" rods, & 9 - 3/4" rods. Rls anchor and POOH to fluid, swab down tbg, (heavy paraffin in tbg, took 1 hr to make 1" swab run with 1/2 of a cup). Made 6 additional BO to get to pump. Finish out of hole with tbg, found 6" of sand in btm of mud anchor. Shut in till am. Total 102 - 3/4" rods, 10 - 1" rods as sinker bar.

**5/14/98 Day 2**

This a.m. GIH w/sd line drill bailer. Tag sd @ 7285'. Drill & bail for 3 1/2 hrs. REC sd off of CIBP, also REC'd BS's. Cont to drill on CIBP @ 7300' for 5 hrs. Move CIBP down hole 5' - 7'. FL came up hole 500', to 4500'. Cont to drill on CIBP, plug seems to be moving up hole. Dumping bailer every 45 min of drlg. Last 2 runs had pieces off the top of CIBP. SDFN. Will let equalize. Then cont to drill in a.m.

**5/15/98 Day 3**

This a.m. CP 125#, blew down in 45 min. GIH w/sd line drill bailer. Found FL @ 3000'. Drill for 1 hr & POH w/bailer. Found rope socket damaged. Pour new rope socket & change out swivel. GIH & drill on CIBP for 3 1/2 hrs. Could not break up CIBP. Dump bailer 4 times. Had pieces of top ring & very fine sd. POH & LD bailer. PU 4 3/4" bit, bit sub, 2 check vlvs. GIH w/1 jt of 2 7/8" tbg. PU 4 - 3 1/2" DC's. PU drill bailer. FNSH in hole w/2 7/8" tbg to top of CIBP @ 7300'. Set 20,000# on plug could not move. SDFN. Will drill CIBP.

**5/16/98 Day 4**

This a.m. TP sli blo, csg had 25#, opened to btry. RU power swivel & began drlg. Drill for 1 hr, fell thru plug. Chase plug to PBTD @ 7777'. POH & LD DC's & drill bailer. PU 1 jt of 2 7/8" 6.5# N-80 tbg. BP'd as MA. GIH w/2 7/8"x 4' perf sub. PU 2 7/8" SN. GIH w/52 jts of 2 7/8" same tbg. PU 5 1/2"x 2 7/8" TA w/40,000# shear. FNSH in hole w/186 jts of 2 7/8" 6.5# N-80 8rd tbg. ND BOP. Set TAC w/12 pts tension. NU WH. Btm of tbg @ 7532.42', SN @ 7497.42', anchor @ 5827.38'. Total tbg in hole 239 jts. PU 1 1/4"x 16' GA. GIH w/2 1/2"x 1 1/2"x 24' RHBC pmp. FNSH in hole w/10 - 1" HS rods for sinker bar. GIH w/103 - 3/4" HS rods. GIH w/108 - 7/8" HS rods. FNSH in hole w/77 - 1" HS rods, PU 1"x 8' HS sub. PU 1 1/2"x 26' PR w/1 3/4"x 14' PRL. Space out 18" off of btm. RU kill truck & ld tbg w/23 bbls 2% KCl. Press up to 500# w/no leak off. Stroke pmp & set back press vlv to 250#. Pmpg good. Left well pmpg. Will RD on Monday.

#	TUBING TALLY	LENGTH
1	2 7/8" N-80 8rd (used)	31.00'
1	2 7/8" J-55 8rd perf sub	4.00'
1	2 7/8" N-80 8rd SSN	1.12'
52	2 7/8" N-80 8rd (used)	1629.16'
1	2 7/8" TAC 8rd (repaired)	2.70'
186	2 7/8" N-80 8rd (used)	5852.44'
	KB corr	12.00'
	SN @	7498.00'
	TAC @	5827.00'
	Total	7532.42'

#	ROD DATA	LENGTH
1	2 1/2"x 1 1/2" RHBC pmp (repaired)	24.00'
10	1" HS full sinker	250.00'
103	3/4" HS full B	2575.00'
108	7/8" HS full B	2700.00'
77	1" HS full B	1925.00'
1	1 1/2" PR	26.00'
1	1 3/4" PRL	14.00'
	Total	7498.00'

5/18/98 Made 0 BO, 6 MCF & 0 BW in 24 hrs. Well not pmpg @ rpt time, long stroke pmp & return to pmpg.  
 5/19/98 Made 0 BO, 14 MCF & 0 BW in 24 hrs. Well not pmpg @ rpt time, long stroke pmp & return to pmpg.  
 5/20/98 Made 49 BO, 52 MCF & 180 BW in 24 hrs.  
 5/21/98 Made 39 BO, 48 MCF & 82 BW in 24 hrs.  
 5/22/98 Made 14 BO, 38 MCF & 30 BW in 24 hrs.  
 5/23/98 Made 20 BO, 35 MCF & 25 BW in 24 hrs.

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**PEARL #1**

5/24/98 Made 7 BO, 25 MCF & 14 BW in 24 hrs.  
5/25/98 Made 9 BO, 29 MCF & 38 BW in 24 hrs.  
5/26/98 Made 14 BO, 34 MCF & 30 BW in 24 hrs.  
5/27/98 Made 14 BO, 34 MCF & 32 BW in 24 hrs.  
5/28/98 Made 11 BO, 34 MCF & 30 BW in 24 hrs.  
5/29/98 Made 17 BO, 34 MCF & 30 BW in 24 hrs.  
5/30/98 Made 11 BO, 33 MCF & 30 BW in 24 hrs.  
5/31/98 Made 14 BO, 32 MCF & 34 BW in 24 hrs.  
6/01/98 Made 14 BO, 34 MCF & 33 BW in 24 hrs.  
6/02/98 Made 20 BO, 32 MCF & 77 BW in 24 hrs. Pump 45 BW down csg 6-1-98.  
6/03/98 Made 14 BO, 38 MCF & 33 BW in 24 hrs.  
6/04/98 Made 14 BO, 35 MCF & 33 BW in 24 hrs.  
6/05/98 Made 11 BO, 36 MCF & 19 BW in 24 hrs.  
6/06/98 Made 11 BO, 35 MCF & 45 BW in 24 hrs.  
6/07/98 Made 11 BO, 33 MCF & 37 BW in 24 hrs.  
6/08/98 Made 14 BO, 32 MCF & 30 BW in 24 hrs.  
6/09/98 Made 11 BO, 34 MCF & 30 BW in 24 hrs.  
6/10/98 Made 12 BO, 34 MCF & 29 BW in 24 hrs.