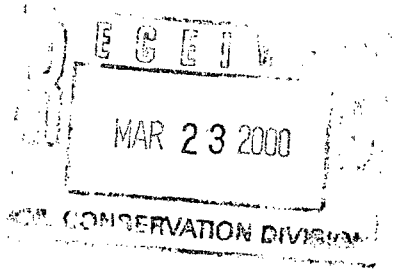
DHC 4/12/00

PRIMERO
OPERATING, INC.

POST OFFICE BOX 1433
ROSWELL, NEW MEXICO 88202
(505) 622-1001 FAX (505) 625-0227

March 20, 2000



David R. Catanach
NMOCD District IV
2040 Pacheco Street
Santa Fe, NM 87505

Re: Application for Downhole Comingling
Tilley #1, Unit N, Sec. 16, T16S, R35E
Lea County, NM

2707

Dear Mr. Catanach:

Please find the enclosed items pertaining to the subject Application for Downhole Comingling:

Form C-107-AApplication for Downhole Comingling

2 C-102 forms, one for each zone to be downhole commingled

Production curve showing monthly production for the Atoka gas zone while it was produced by itself

Production curve showing daily production for the well as it produces today

This well originally produced from the Devonian formation but was plugged by the previous operator. Primero Operating, Inc. re-entered the well in May of 1998 in order to test the Atoka formation. After the plugs were drilled out and the Atoka formation was perforated from 11,430' to 11,448' and we swabbed the well to test for natural entry of gas from the Atoka formation. While swabbing the well, we started swabbing un-cured cement then oil. A RA-Tracer/Temperature survey was run which indicated that the oil being swabbed was from the Devonian open hole section from 12,508' to 12,558', the original producing zone.

We set a retrievable bridge plug over the Devonian formation and subsequently tested the Atoka formation. Treating pressures on the Atoka formation were very high (> 10,000 psi). Production from the Atoka formation was very disappointing, initially the well produced 100 mcfd and over the next 16 months, production fell to below 10 mcfd. Several attempts to swab the well but it did not help production. The original SIBHP for the Atoka was 4694 psi (.41 psi/ft), after 16 months of production, the SIBHP was 3584 psi (.313 psi/ft).

In January 2000, Primero pulled the production packer and retrievable bridge plug from the well and ran a packer, tubing and rods in order to rod pump the well. The seating nipple is set at 9314', above both the Atoka perforations and the Devonian open hole. We did not know if the Devonian production would stay at a commercial rate or if it would water out as it did originally, and by pumping from a higher position in the well we figured that we had less chance of watering out the zone and also kept the costs lower by being able to use a smaller pumping unit and less tubing and rods. Since we did not know how long the Devonian production would last or if it even last more than a few days, we did not squeeze off the Atoka perforations. It is also possible that by keeping the fluid pumped off the Atoka, that it may give up some gas. According to the Roswell Geological Society Oil and Gas Field Symposium, the original SIBHP in the East Shoebar Devonian field was 5017 psi. Based on static fluid readings, the current SIBHP for the Devonian formation is 4377 psi (.349 psi/ft).

Luckily, the well seems to be holding steady and it appears that it will have a long life. I submitted the appropriate paperwork to the NMOCD in Hobbs but they said that I need to apply for downhole comingling since the Atoka perforations are still open.

Since we are not able to get a production rate for the Devonian formation only the production shown in the "Lower Zone" section of the Application for Downhole Comingling form is the total the total current production from both zones. For the "Fixed Percentage Allocation Formula", I used the last full monthly production from the Atoka by itself, September 1999 (14.2 mcfd) and assumed that this is the gas production from the Atoka formation. I divided the 14.2 mcfd from the Atoka into the total current gas production (19.34 mcfd) to get a factor of 73% of the gas allocated to the Atoka Formation leaving 27% of the total gas to the Devonian formation.

We hereby request administrative approval to downhole commingle production in this well based on the following:

(i) Commingling is necessary in order to allow the recovery of gas reserves from a marginally producing formation (Atoka)

(ii) The bottom-hole pressure of the highest pressured commingled zone does not exceed the original reservoir pressure of any other commingled zone in the wellbore adjusted to a common datum. (Current Devonian pressure gradient is .349 psi/ft while the original Atoka formation gradient was .41 psi/ft)

(iii) The commingling will not result in the permanent loss of reserves due to cross flow in the wellbore (Based on bottom hole pressures for both the Atoka and Devonian formations and the extremely high pump in pressure required for the Atoka formation, cross flow will not occur)

(iv) That based on the high pump in pressures witnessed on the Atoka formation, fluids from the Devonian formation will not be able to enter the Atoka and cause any more damage than may already be present.

(v) The fluids from the two zones are compatible and comingling the fluids will not result in the formation of precipitates which might damage any of the reservoirs. (As evidenced by the steady production trends witnessed since the well was put on pump)

The ownership of the two zones is the same and all owners are anxious to see the well produce in the most economic fashion. If you have any questions regarding this request, please do not hesitate to call me.

Thank you,

Phelps White
President

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
811 South First St., Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410
DISTRICT IV
2040 S. Pacheco, Santa Fe, NM 87505

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
Revised August 1999

APPROVAL PROCESS:
___ Administrative ___ Hearing

EXISTING WELLBORE
X YES ___ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Operator	Address		
Primero Operating Inc	PO Box 1433, Roswell, NM 88202		
Lease	**Well No.**	**Unit Ltr. - Sec - Twp - Rge**	**County**
Tilley	1	N-16-16S-35E	Lea

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 018100 Property Code 22180 API NO. 30-025 27891 Federal ___, State ___, (and/or) Fee X

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Shoebar, Atoka		North ~~East~~ Shoebar, Devonian
2. Top and Bottom of Pay Section (Perforations)	11,430 - 11,488		Open Hole 12,508 - 12,558
3. Type of production (Oil or Gas)	Gas		Oil
4. Method of Production (Flowing or Artificial Lift)	Flowing until 11/99		Pumping
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	a. (Current) 3584 9/99	a.	a. 4377 6/98
	b. (Original) 4694 7/98	b.	b. 5017 9/68
6. Oil Gravity (°API) or Gas BTU Content	1,253 BTU		60.8 api
7. Producing or Shut-In?	Producing		Producing
Production Marginal? (yes or no)	Yes		No
* 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	Date: 9/99 Rates: 0 bopd 14.2 mcfd	Date: Rates:	Date: Rates:
* If Producing, give date andoil/gas/ water rates of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: 3-1 to 3-15-2000 Rates: 29 bopd 19.34 mcfgd
8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)	Oil: 0 % Gas: 73 %	Oil: % Gas: %	Oil: 100 % Gas: 27 %

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? X Yes ___ No
If not, have all working, overriding, and royalty interests been notified by certified mail? ___ Yes ___ No

11. Will cross-flow occur? ___ Yes X 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? X Yes ___ No

13. Will the value of production be decreased by commingling? ___ Yes X 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(D) 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 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 President DATE 3-20-00

TYPE OR PRINT NAME Phelps White TELEPHONE NO. (505) 622-1001

PO Drawer DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

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

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
30-025-27891	85280	ShoeBar, Atoka

⁴ Property Code	⁵ Property Name	⁶ Well Number
22180	Tilley	1

⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
~~08100~~ 18100	Primero Operating, Inc.	3965.2

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	26	16S	35E		330	South	1815	West	Lea

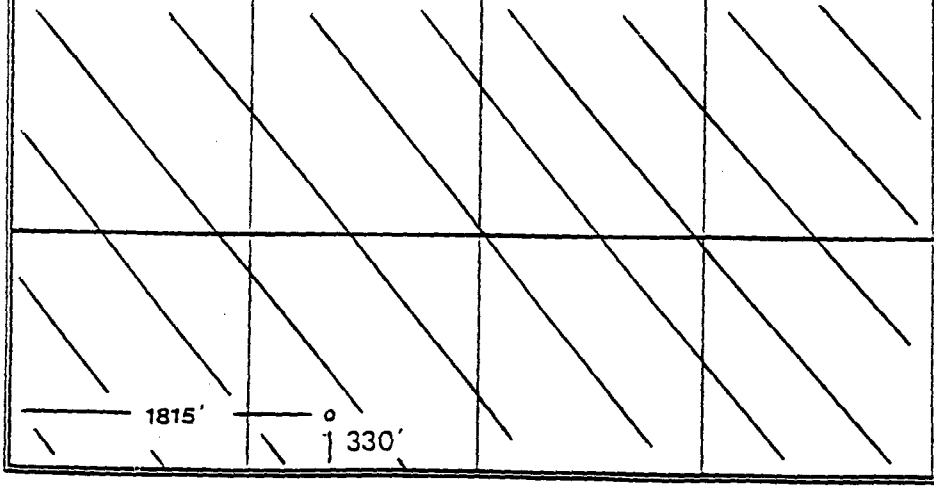
¹¹ Bottom Hole Location If Different From Surface

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

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320	N	C/F	

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

16



¹⁷ OPERATOR CERTIFICATION

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

Signature

Phelps White

Printed Name

President

Title

12/4/97

Date

¹⁸ SURVEYOR CERTIFICATION

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

6-14-82

Date of Survey

Signature and Seal of Professional Surveyer:

Surveyed by
John West 676
Patrick Romero 6663
Ronald Eidson 3239

Certificate Number

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

State of New Mexico
Energy, Minerals & Natural Resources Department

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
		East Shoebar, Devonian

[4] Property Code	[5] Property Name	[6] Well Number
	Tilley	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
018100	Primero Operating, Inc.	3965 GL

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	16	16S	35E		330	South	1815	West	Lea

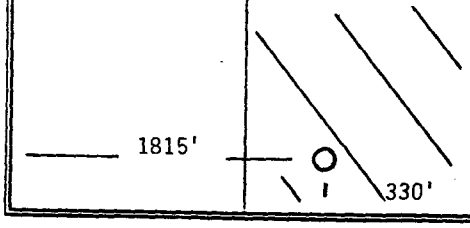
[11] Bottom Hole Location If Different From Surface

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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
40	N	C/F	

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

16



[17] OPERATOR CERTIFICATION

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

Signature

Phelps White
Printed Name

President
Title

3-20-2000
Date

[18] SURVEYOR CERTIFICATION

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

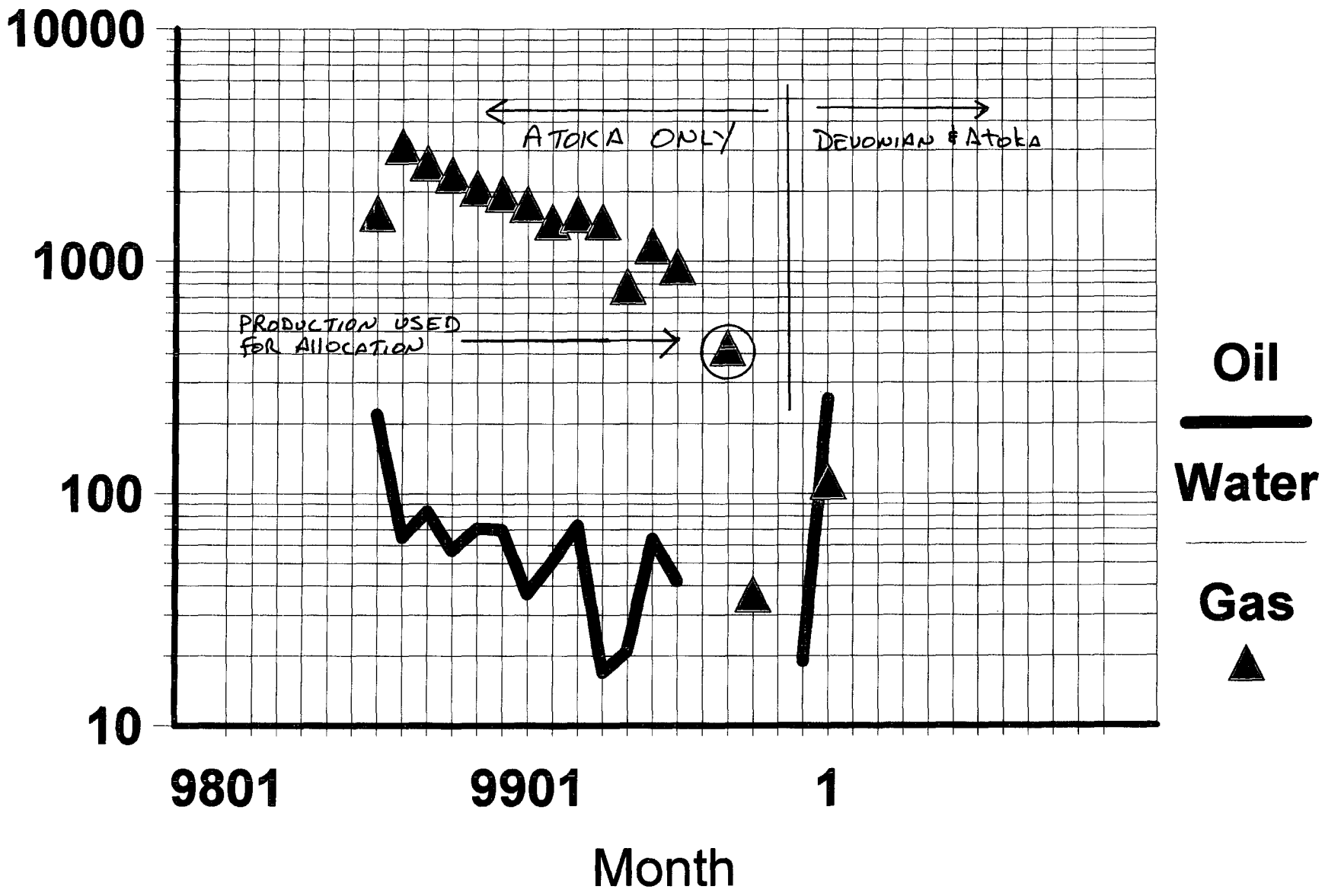
6-14-82
Date of Survey

Signature and Seal of Professional Surveyer:

Surveyed by:
John West 676
Patrick Romero 6663
Ronald Elason 3239

Certificate Number

Tilley #1


10000
1000
100
10
ATOKA ONLY
DEVONIAN & ATOKA
PRODUCTION USED FOR ALLOCATION
9801
9901
1
Month
Oil
Water
Gas

Tilley #1
Section 26, T16S, R35E
Lea County, NM

Daily Production FROM Devonian & Atoka

19-Jan-00	1	16.16	61	1.39	77.16	20.9%	86	
20-Jan-00	2	28.3	135	13.7	163.3	17.3%	484	
21-Jan-00	3	16.5	118	2.1	134.5	12.3%	127	
22-Jan-00	4	0	145	1.3	145	0.0%	ERR	
23-Jan-00	5	5.5	124	0.2	129.5	4.2%	36	
24-Jan-00	6	8.25	101	0.2	109.25	7.6%	24	
25-Jan-00	7	16.5	120	0	136.5	12.1%	0	50% timer
26-Jan-00	8	35.75	93	8.5	128.75	27.8%	238	
27-Jan-00	9	46.75	85	12	131.75	35.5%	257	
28-Jan-00	10	49.5	71	11	120.5	41.1%	222	
29-Jan-00	11	28.5	85	12	113.5	25.1%	421	
30-Jan-00	12	41.2	82	13	123.2	33.4%	316	
31-Jan-00	13	33	55	13	88	37.5%	394	
01-Feb-00	14	33	85	14	118	28.0%	424	
02-Feb-00	15	33	63	12.8	96	34.4%	388	
03-Feb-00	16	8.25	8	6.9	16.25	50.8%	836	electric failure well
04-Feb-00	17	8.25	55	1.1	63.25	13.0%	133	down 12 hrs
05-Feb-00	18	5.5	132	0	137.5	4.0%	0	
06-Feb-00	19	11	74	1	85	12.9%	91	
07-Feb-00	20	8.25	55	1.2	63.25	13.0%	145	
08-Feb-00	21	22	33	1.7	55	40.0%	77	
09-Feb-00	22	16.5	69	2.1	85.5	19.3%	127	
10-Feb-00	23	49.5	66	8.8	115.5	42.9%	178	increase timer to 75%
11-Feb-00	24	41.25	38	17.3	79.25	52.1%	419	
12-Feb-00	25	31	66	8.9	97	32.0%	287	
13-Feb-00	26	42	88	13.6	130	32.3%	324	
14-Feb-00	27	33	63	14.3	96	34.4%	433	100%
15-Feb-00	28	38.5	69	15.6	107.5	35.8%	405	
16-Feb-00	29	43	69	22	112	38.4%	512	
17-Feb-00	30	43	63	20.7	106	40.6%	481	
18-Feb-00	31	44	82	20.4	126	34.9%	464	
19-Feb-00	32	35.75	46	20	81.75	43.7%	559	
20-Feb-00	33	35.75	64	19.8	99.75	35.8%	554	
21-Feb-00	34	38.5	76	19.7	114.5	33.6%	512	
22-Feb-00	35	33	66	20.3	99	33.3%	615	
23-Feb-00	36	19.25	63	22.9	82.25	23.4%	1190	
24-Feb-00	37	24.75	81	17.3	105.75	23.4%	699	80%
25-Feb-00	38	11	74	12.3	85	12.9%	1118	
26-Feb-00	39	41.2	121	21.9	162.2	25.4%	532	
27-Feb-00	40	38.5	71	23	109.5	35.2%	597	
28-Feb-00	41	33	58	26.7	91	36.3%	809	
29-Feb-00	42	38.5	90	26.7	128.5	30.0%	694	
01-Mar-00	43	30	77	27.3	107	28.0%	910	
02-Mar-00	44	36	71	27.4	107	33.6%	761	
03-Mar-00	45	33	91	27.9	124	26.6%	845	
04-Mar-00	46	36	91	27.6	127	28.3%	767	
05-Mar-00	47	22	84	28.3	106	20.8%	1286	
06-Mar-00	48	33	91	28.9	124	26.6%	876	
07-Mar-00	49	22	105	29.3	127	17.3%	1332	
08-Mar-00	50	16.75	0	18.6	16.75	100.0%	1110	down for belt guard
09-Mar-00	51	13.75	115	0.8	128.75	10.7%	58	
10-Mar-00	52	35.75	83	1.4	118.75	30.1%	39	
11-Mar-00	53	27.5	131	6.2	158.5	17.4%	225	
12-Mar-00	54	38.2	79	9.3	117.2	32.6%	243	
13-Mar-00	55	27.5	68	11.4	95.5	28.8%	415	
14-Mar-00	56	24.75	80	16.6	104.75	23.6%	671	
15-Mar-00	57	38.5	80	29.1	118.5	32.5%	756	
16-Mar-00	58	38.5	80	29.1	118.5	32.5%	756	
17-Mar-00	59	35.75	80	31.1	115.75	30.9%	870	
18-Mar-00	60	33	85	21.3	118	28.0%	645	
19-Mar-00	61	35.75	96	22	131.75	27.1%	615	
20-Mar-00	62	19.25	71	17.3	90.25	21.3%	899	
21-Mar-00	63				0	ERR	ERR	
22-Mar-00	64				0	ERR	ERR	
23-Mar-00	65				0	ERR	ERR	
24-Mar-00	66				0	ERR	ERR	
25-Mar-00	67				0	ERR	ERR	
26-Mar-00	68				0	ERR	ERR	
27-Mar-00	69				0	ERR	ERR	
28-Mar-00	70				0	ERR	ERR	
29-Mar-00	71				0	ERR	ERR	
30-Mar-00	72				0	ERR	ERR	
31-Mar-00	73				0	ERR	ERR	

PRIMERO OPERATING, INC.

505-622-1001