

**YATES DRILLING COMPANY
PROPOSED CACTUS QUEEN UNIT
CHAVES COUNTY, NEW MEXICO**

PRODUCTION & DECLINE CURVES

BEFORE EXAMINER SLOGNER
OIL CONSERVATION DIVISION

YATES EXHIBIT NO. 16

CASE NO. 9809, 9810, 9823

NUMBER: 10000005
 NAME: APACHE 27 STATE No. 01
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME:D:\PET4DATA\

RESERVOIR:
 FIELD: CHAVES ON GAS SE (ASC.)
 OPERATOR: YATES DRILLING CO.
 ID NUMBER:12S31E27N00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs	REMARKS						
01/1985	0	0	0	0	0	0	0	0	0	0
02/1985	0	0	0	0	0	0	0	0	0	0
03/1985	0	0	0	0	0	0	0	0	0	0
04/1985	0	0	0	0	0	0	0	0	0	0
05/1985	0	0	0	0	0	0	0	0	0	0
06/1985	438	145	0	0	0	0	0	0	0	0
07/1985	2480	160	92	0	0	0	0	0	0	0
08/1985	2609	120	132	0	0	0	0	0	0	0
09/1985	2247	116	62	0	0	0	0	0	0	0
10/1985	1581	115	67	0	0	0	0	0	0	0
11/1985	1198	112	31	0	0	0	0	0	0	0
12/1985	1000	116	31	0	0	0	0	0	0	0
1985/YTD	11553	884	415	0	0	0	0	0	0	0
1985/CUM	11553	884	415	0	0	0	0	0	0	0
01/1986	915	115	31	0	0	0	0	0	0	0
02/1986	682	104	62	0	0	0	0	0	0	0
03/1986	661	115	54	0	0	0	0	0	0	0
04/1986	608	109	149	0	0	0	0	0	0	0
05/1986	280	116	138	0	0	0	0	0	0	0
06/1986	443	100	97	0	0	0	0	0	0	0
07/1986	421	90	117	0	0	0	0	0	0	0
08/1986	132	90	33	0	0	0	0	0	0	0
09/1986	271	101	286	0	0	0	0	0	0	0
10/1986	262	121	47	0	0	0	0	0	0	0
11/1986	198	94	44	0	0	0	0	0	0	0
12/1986	276	121	43	0	0	0	0	0	0	0
1986/YTD	5149	1276	1101	0	0	0	0	0	0	0
1986/CUM	16702	2160	1516	0	0	0	0	0	0	0
01/1987	225	121	20	0	0	0	0	0	0	0
02/1987	179	109	45	0	0	0	0	0	0	0
03/1987	196	121	40	0	0	0	0	0	0	0
04/1987	154	117	3	0	0	0	0	0	0	0
05/1987	156	121	37	0	0	0	0	0	0	0
06/1987	160	117	36	0	0	0	0	0	0	0
07/1987	137	121	43	0	0	0	0	0	0	0
08/1987	130	121	26	0	0	0	0	0	0	0
09/1987	123	117	42	0	0	0	0	0	0	0
10/1987	123	121	31	0	0	0	0	0	0	0
11/1987	103	117	38	0	0	0	0	0	0	0
12/1987	110	121	29	0	0	0	0	0	0	0
1987/YTD	1796	1424	390	0	0	0	0	0	0	0
1987/CUM	18498	3584	1906	0	0	0	0	0	0	0

NUMBER: 10000005
 NAME: APACHE 27 STATE No. 01
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME: D:\PET4DATA\

RESERVOIR:
 FIELD: CHAVES QN GAS SE (ASC.)
 OPERATOR: YATES DRILLING CO.
 ID NUMBER: 12S31E27N00QW

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs							REMARKS
01/1988	124	121	41	0	0	0	0	0	0	
02/1988	76	113	35	0	0	0	0	0	0	
03/1988	40	70	20	0	0	0	0	0	0	
04/1988	87	117	18	0	0	0	0	0	0	
05/1988	79	121	20	0	0	0	0	0	0	
06/1988	76	117	48	0	0	0	0	0	0	
07/1988	71	121	30	0	0	0	0	0	0	
08/1988	51	117	10	0	0	0	0	0	0	
09/1988	61	117	23	0	0	0	0	0	0	
10/1988	57	121	30	0	0	0	0	0	0	
11/1988	40	117	27	0	0	0	0	0	0	
12/1988	83	121	19	0	0	0	0	0	0	
1988/YTD	845	1373	321	0	0	0	0	0	0	
1988/CUM	19343	4957	2227	0	0	0	0	0	0	
01/1989	73	0	23	0	0	0	0	0	0	
02/1989	19	0	15	0	0	0	0	0	0	
03/1989	45	0	12	0	0	0	0	0	0	
04/1989	44	82	3	0	0	0	0	0	0	
05/1989	40	40	9	0	0	0	0	0	0	
06/1989	34	63	3	0	0	0	0	0	0	
07/1989	20	37	7	0	0	0	0	0	0	
1989/YTD	275	222	72	0	0	0	0	0	0	
1989/CUM	19618	5179	2299	0	0	0	0	0	0	

OIL

Cum: 19618.

Del: 45.7% n: .46

(ACTUAL)

(PROJECTED)

Operator

YATES DRILLING CO.

Lease - Well

APACHE 27 STATE NO. 01

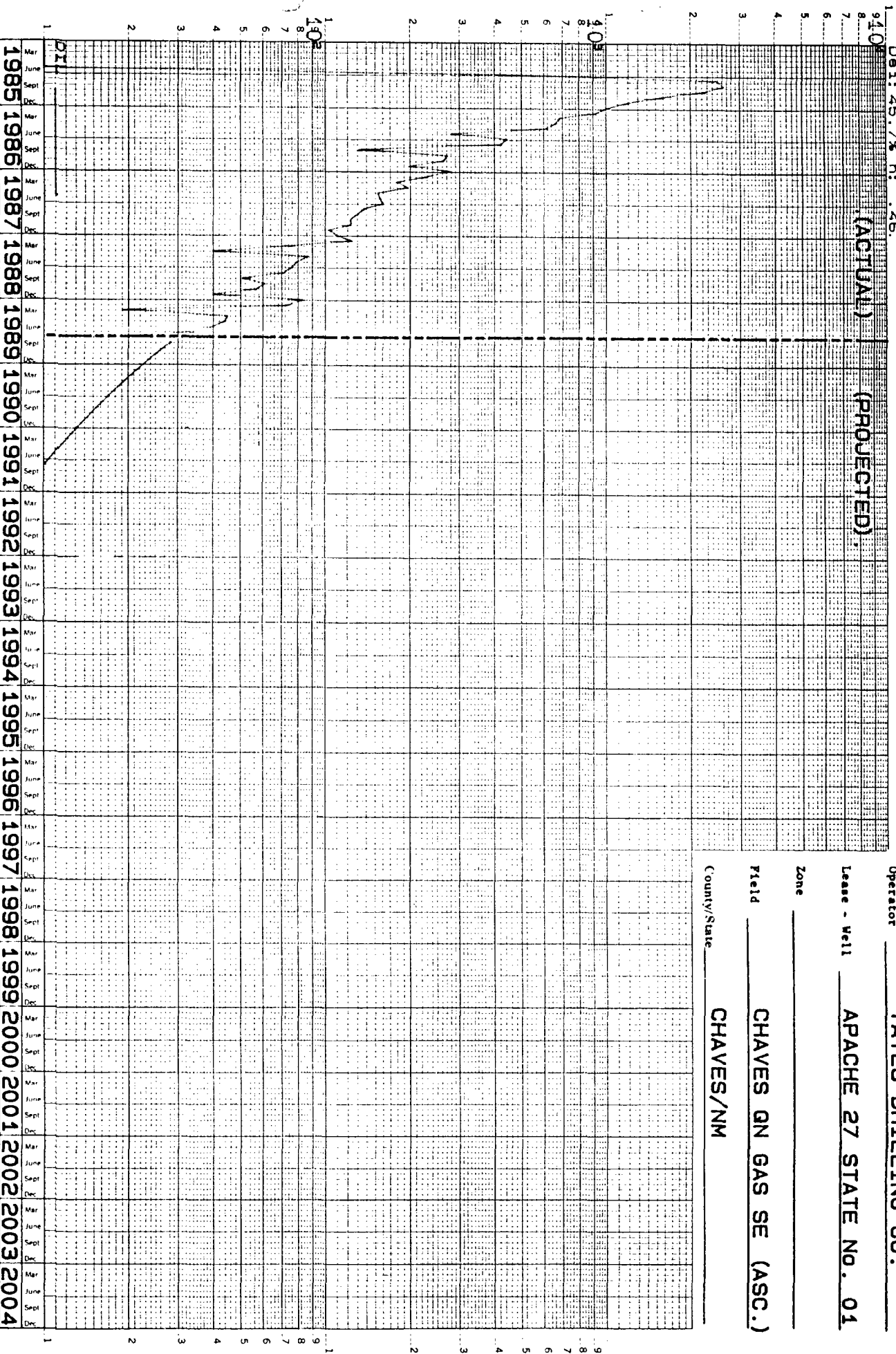
Zone

Field

CHAVES GN GAS SE (ASC.)

County/State

CHAVES/NM



CACTUS QUEEN UNIT

10/09/89

** GROSS VALUES **

PAGE:

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NUMBER: 10000004
 NAME: APACHE 27 STATE No. 02
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME:D:\PET4DATA\

RESERVOIR:QUEEN
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) ON
 OPERATOR: Yates Drilling Company
 ID NUMBER:12531E27K00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs								REMARKS
01/1985	0	0	0	0	0	0	0	0	0	0	
02/1985	0	0	0	0	0	0	0	0	0	0	
03/1985	0	0	0	0	0	0	0	0	0	0	
04/1985	0	0	0	0	0	0	0	0	0	0	
05/1985	0	0	0	0	0	0	0	0	0	0	
06/1985	0	0	0	0	0	0	0	0	0	0	
07/1985	0	0	0	0	0	0	0	0	0	0	
08/1985	815	700	0	0	0	0	0	0	0	0	
09/1985	734	30	44	0	0	0	0	0	0	0	
10/1985	517	32	155	0	0	0	0	0	0	0	
11/1985	392	31	67	0	0	0	0	0	0	0	
12/1985	326	31	31	0	0	0	0	0	0	0	
1985/YTD	2784	824	297	0	0	0	0	0	0	0	
1985/CUM	2784	824	297	0	0	0	0	0	0	0	
01/1986	298	30	30	0	0	0	0	0	0	0	
02/1986	223	27	62	0	0	0	0	0	0	0	
03/1986	216	30	55	0	0	0	0	0	0	0	
04/1986	198	27	0	0	0	0	0	0	0	0	
05/1986	174	32	0	0	0	0	0	0	0	0	
06/1986	145	20	38	0	0	0	0	0	0	0	
07/1986	138	25	39	0	0	0	0	0	0	0	
08/1986	395	30	50	0	0	0	0	0	0	0	
09/1986	189	101	286	0	0	0	0	0	0	0	
10/1986	173	121	21	0	0	0	0	0	0	0	
11/1986	141	113	56	0	0	0	0	0	0	0	
12/1986	117	121	50	0	0	0	0	0	0	0	
1986/YTD	2407	677	687	0	0	0	0	0	0	0	
1986/CUM	5191	1501	984	0	0	0	0	0	0	0	
01/1987	107	121	23	0	0	0	0	0	0	0	
02/1987	94	109	38	0	0	0	0	0	0	0	
03/1987	113	121	57	0	0	0	0	0	0	0	
04/1987	109	117	6	0	0	0	0	0	0	0	
05/1987	93	121	39	0	0	0	0	0	0	0	
06/1987	70	117	34	0	0	0	0	0	0	0	
07/1987	67	121	45	0	0	0	0	0	0	0	
08/1987	63	121	24	0	0	0	0	0	0	0	
09/1987	65	117	38	0	0	0	0	0	0	0	
10/1987	65	121	28	0	0	0	0	0	0	0	
11/1987	51	117	36	0	0	0	0	0	0	0	
12/1987	43	121	28	0	0	0	0	0	0	0	
1987/YTD	940	1424	396	0	0	0	0	0	0	0	
1987/CUM	6131	2925	1380	0	0	0	0	0	0	0	

NUMBER: 10000004
 NAME: APACHE 27 STATE No. 02
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME:D:\PET4DATA\

RESERVOIR:QUEEN
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) QN
 OPERATOR: Yates Drilling Company
 ID NUMBER:12S31E27K00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs	REMARKS						
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01/1988	56	121	37	0	0	0	0	0	0	0
02/1988	36	113	37	0	0	0	0	0	0	0
03/1988	59	121	8	0	0	0	0	0	0	0
04/1988	41	117	21	0	0	0	0	0	0	0
05/1988	39	121	23	0	0	0	0	0	0	0
06/1988	34	117	25	0	0	0	0	0	0	0
07/1988	35	121	26	0	0	0	0	0	0	0
08/1988	29	117	12	0	0	0	0	0	0	0
09/1988	30	117	14	0	0	0	0	0	0	0
10/1988	31	121	45	0	0	0	0	0	0	0
11/1988	26	117	26	0	0	0	0	0	0	0
12/1988	49	121	1	0	0	0	0	0	0	0

1988/YTD	465	1424	275	0	0	0	0	0	0	0
1988/CUM	6596	4349	1655	0	0	0	0	0	0	0

01/1989	40	0	12	0	0	0	0	0	0	0
02/1989	11	0	8	0	0	0	0	0	0	0
03/1989	26	0	7	0	0	0	0	0	0	0
04/1989	26	117	0	0	0	0	0	0	0	0
05/1989	24	108	9	0	0	0	0	0	0	0
06/1989	20	90	3	0	0	0	0	0	0	0
07/1989	12	54	7	0	0	0	0	0	0	0

1989/YTD	159	369	46	0	0	0	0	0	0	0
1989/CUM	6755	4718	1701	0	0	0	0	0	0	0

Cum: 6755.

De1: 37.8% n: .46.

(PROJECTED)

YATES DRILLING COMPANY.

APACHE 27 STATE No. 02

QUEEN

CHAVES QUEEN GAS AREA SE

CHAVES/NM



NUMBER: 10000010

RESERVOIR:QUEEN

NAME: BURKITT FEDERAL No. 03

FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) ON

COUNTY/STATE: CHAVES/NM

OPERATOR: YATES DRLG CO

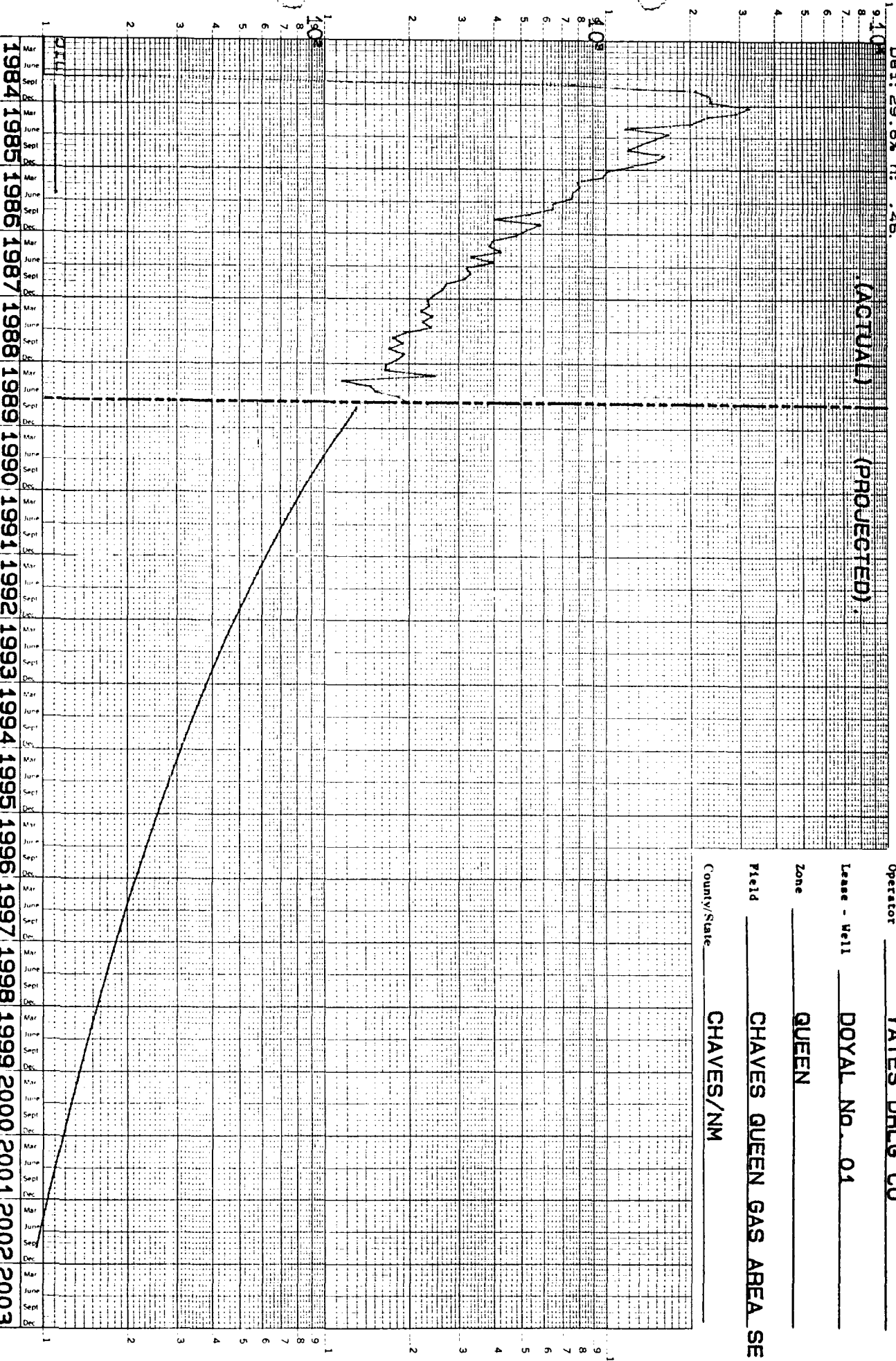
DATABASE NAME:D:\PET4DATA\

ID NUMBER:12531E34C00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs								REMARKS
01/1985	0	0	0	0	0	0	0	0	0	0	
02/1985	0	0	0	0	0	0	0	0	0	0	
03/1985	0	0	0	0	0	0	0	0	0	0	
04/1985	0	0	0	0	0	0	0	0	0	0	
05/1985	0	0	0	0	0	0	0	0	0	0	
06/1985	0	0	0	0	0	0	0	0	0	0	
07/1985	0	0	0	0	0	0	0	0	0	0	
08/1985	481	0	0	0	0	0	0	0	0	0	
09/1985	862	349	0	0	0	0	0	0	0	0	
10/1985	611	244	0	0	0	0	0	0	0	0	
11/1985	433	173	90	0	0	0	0	0	0	0	
12/1985	356	142	93	0	0	0	0	0	0	0	
1985/YTD	2743	908	183	0	0	0	0	0	0	0	
1985/CUM	2743	908	183	0	0	0	0	0	0	0	
01/1986	294	118	93	0	0	0	0	0	0	0	
02/1986	209	84	84	0	0	0	0	0	0	0	
03/1986	201	80	93	0	0	0	0	0	0	0	
04/1986	182	73	90	0	0	0	0	0	0	0	
05/1986	181	126	93	0	0	0	0	0	0	0	
06/1986	135	94	90	0	0	0	0	0	0	0	
07/1986	134	93	93	0	0	0	0	0	0	0	
08/1986	130	90	93	0	0	0	0	0	0	0	
09/1986	75	52	90	0	0	0	0	0	0	0	
10/1986	118	82	93	0	0	0	0	0	0	0	
11/1986	94	65	90	0	0	0	0	0	0	0	
12/1986	31	22	93	0	0	0	0	0	0	0	
1986/YTD	1784	979	1095	0	0	0	0	0	0	0	
1986/CUM	4527	1887	1278	0	0	0	0	0	0	0	
01/1987	132	92	93	0	0	0	0	0	0	0	
02/1987	101	70	84	0	0	0	0	0	0	0	
03/1987	90	62	93	0	0	0	0	0	0	0	
04/1987	84	58	90	0	0	0	0	0	0	0	
05/1987	92	64	93	0	0	0	0	0	0	0	
06/1987	43	30	90	0	0	0	0	0	0	0	
07/1987	59	41	93	0	0	0	0	0	0	0	
08/1987	49	34	93	0	0	0	0	0	0	0	
09/1987	68	47	90	0	0	0	0	0	0	0	
10/1987	62	43	93	0	0	0	0	0	0	0	
11/1987	64	44	90	0	0	0	0	0	0	0	
12/1987	49	34	93	0	0	0	0	0	0	0	
1987/YTD	893	619	1095	0	0	0	0	0	0	0	
1987/CUM	5420	2506	2373	0	0	0	0	0	0	0	

OIL

Cum: 45211.
De: 29.6% n: .46.



Operator YATES DRILG CO
Lease - Well DOYAL NO. 01
Zone QUEEN
Field CHAVES QUEEN GAS AREA SE
County/State CHAVES/NM

CACTUS QUEEN UNIT

NUMBER: 10000010
 NAME: BURKITT FEDERAL No. 03
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME:D:\PET4DATA\

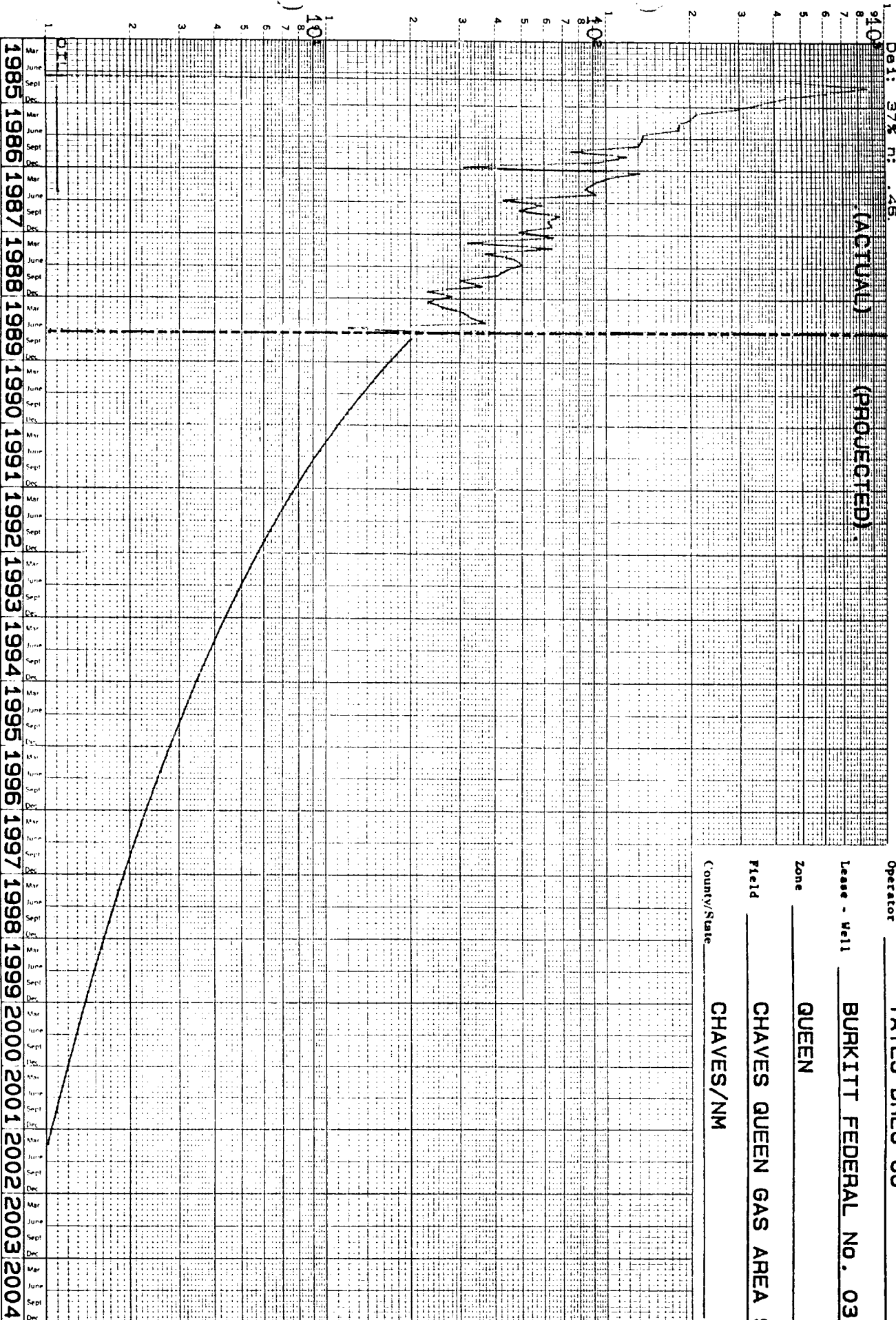
RESERVOIR:QUEEN
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) QN
 OPERATOR: YATES DRLG CO
 ID NUMBER:12S31E34C00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs								REMARKS
01/1988	65	45	93	0	0	0	0	0	0	0	
02/1988	32	22	61	0	0	0	0	0	0	0	
03/1988	64	44	28	0	0	0	0	0	0	0	
04/1988	37	26	19	0	0	0	0	0	0	0	
05/1988	47	32	54	0	0	0	0	0	0	0	
06/1988	50	111	72	0	0	0	0	0	0	0	
07/1988	44	97	51	0	0	0	0	0	0	0	
08/1988	41	91	61	0	0	0	0	0	0	0	
09/1988	30	66	39	0	0	0	0	0	0	0	
10/1988	36	80	74	0	0	0	0	0	0	0	
11/1988	23	51	50	0	0	0	0	0	0	0	
12/1988	28	62	20	0	0	0	0	0	0	0	
1988/YTD	497	727	622	0	0	0	0	0	0	0	
1988/CUM	5917	3233	2995	0	0	0	0	0	0	0	
01/1989	23	51	39	0	0	0	0	0	0	0	
02/1989	26	57	32	0	0	0	0	0	0	0	
03/1989	31	69	30	0	0	0	0	0	0	0	
04/1989	33	0	62	0	0	0	0	0	0	0	
05/1989	37	0	26	0	0	0	0	0	0	0	
06/1989	12	0	41	0	0	0	0	0	0	0	
07/1989	26	0	37	0	0	0	0	0	0	0	
1989/YTD	188	177	267	0	0	0	0	0	0	0	
1989/CUM	6105	3410	3262	0	0	0	0	0	0	0	

OIL

Cum: 6105.

Debt: 37% n: .45.



Operator YATES DRLG CO

Lease - well BURKITT FEDERAL No. 03

Zone QUEEN

Field CHAVES QUEEN GAS AREA SE

County/State CHAVES/NM

CACTUS QUEEN UNIT

NUMBER: 10000009
 NAME: DELUNA FEDERAL No. 03
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME:D:\PET4DATA\

RESERVOIR:QUEEN
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) QN
 OPERATOR: YATES DRLG CO
 ID NUMBER:12S31E34B00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs								REMARKS
01/1985	0	0	0	0	0	0	0	0	0	0	
02/1985	0	0	0	0	0	0	0	0	0	0	
03/1985	1436	836	465	0	0	0	0	0	0	0	
04/1985	1186	611	450	0	0	0	0	0	0	0	
05/1985	1346	693	465	0	0	0	0	0	0	0	
06/1985	1015	523	450	0	0	0	0	0	0	0	
07/1985	764	393	465	0	0	0	0	0	0	0	
08/1985	656	338	465	0	0	0	0	0	0	0	
09/1985	536	276	450	0	0	0	0	0	0	0	
10/1985	512	264	465	0	0	0	0	0	0	0	
11/1985	429	221	150	0	0	0	0	0	0	0	
12/1985	395	203	155	0	0	0	0	0	0	0	
1985/YTD	3275	4358	3980	0	0	0	0	0	0	0	
1985/CUM	3275	4358	3980	0	0	0	0	0	0	0	
01/1986	357	184	155	0	0	0	0	0	0	0	
02/1986	103	53	140	0	0	0	0	0	0	0	
03/1986	466	240	155	0	0	0	0	0	0	0	
04/1986	237	122	150	0	0	0	0	0	0	0	
05/1986	240	163	155	0	0	0	0	0	0	0	
06/1986	172	117	150	0	0	0	0	0	0	0	
07/1986	208	141	155	0	0	0	0	0	0	0	
08/1986	182	124	155	0	0	0	0	0	0	0	
09/1986	138	94	150	0	0	0	0	0	0	0	
10/1986	172	117	155	0	0	0	0	0	0	0	
11/1986	157	107	150	0	0	0	0	0	0	0	
12/1986	127	86	155	0	0	0	0	0	0	0	
1986/YTD	2559	1548	1825	0	0	0	0	0	0	0	
1986/CUM	10834	5906	5805	0	0	0	0	0	0	0	
01/1987	110	75	155	0	0	0	0	0	0	0	
02/1987	96	65	140	0	0	0	0	0	0	0	
03/1987	108	73	155	0	0	0	0	0	0	0	
04/1987	95	65	150	0	0	0	0	0	0	0	
05/1987	119	82	155	0	0	0	0	0	0	0	
06/1987	89	61	150	0	0	0	0	0	0	0	
07/1987	87	60	155	0	0	0	0	0	0	0	
08/1987	88	60	155	0	0	0	0	0	0	0	
09/1987	76	52	150	0	0	0	0	0	0	0	
10/1987	79	54	155	0	0	0	0	0	0	0	
11/1987	85	58	150	0	0	0	0	0	0	0	
12/1987	85	58	155	0	0	0	0	0	0	0	
1987/YTD	1117	763	1825	0	0	0	0	0	0	0	
1987/CUM	11951	6669	7630	0	0	0	0	0	0	0	

NUMBER: 10000009
 NAME: DELUNA FEDERAL No. 03
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME:D:\PET4DATA\

RESERVOIR:QUEEN
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) QN
 OPERATOR: YATES DRLG CO
 ID NUMBER:12S31E34B00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs	REMARKS						
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01/1988	68	47	155	0	0	0	0	0	0	0
02/1988	71	49	77	0	0	0	0	0	0	0
03/1988	73	50	28	0	0	0	0	0	0	0
04/1988	64	44	28	0	0	0	0	0	0	0
05/1988	65	46	47	0	0	0	0	0	0	0
06/1988	44	100	70	0	0	0	0	0	0	0
07/1988	48	110	41	0	0	0	0	0	0	0
08/1988	49	112	69	0	0	0	0	0	0	0
09/1988	35	80	72	0	0	0	0	0	0	0
10/1988	45	103	77	0	0	0	0	0	0	0
11/1988	22	50	76	0	0	0	0	0	0	0
12/1988	36	82	69	0	0	0	0	0	0	0
1988/YTD	620	873	809	0	0	0	0	0	0	0
1988/CUM	12571	7542	8439	0	0	0	0	0	0	0
01/1989	37	84	32	0	0	0	0	0	0	0
02/1989	36	82	34	0	0	0	0	0	0	0
03/1989	36	82	35	0	0	0	0	0	0	0
04/1989	23	0	72	0	0	0	0	0	0	0
05/1989	48	0	26	0	0	0	0	0	0	0
06/1989	18	0	48	0	0	0	0	0	0	0
07/1989	36	0	32	0	0	0	0	0	0	0
1989/YTD	234	248	279	0	0	0	0	0	0	0
1989/CUM	12805	7790	8718	0	0	0	0	0	0	0

OIL

Cum: 12805.

De: 33.7% N: .46

(ACTUAL)

(PROJECTED)

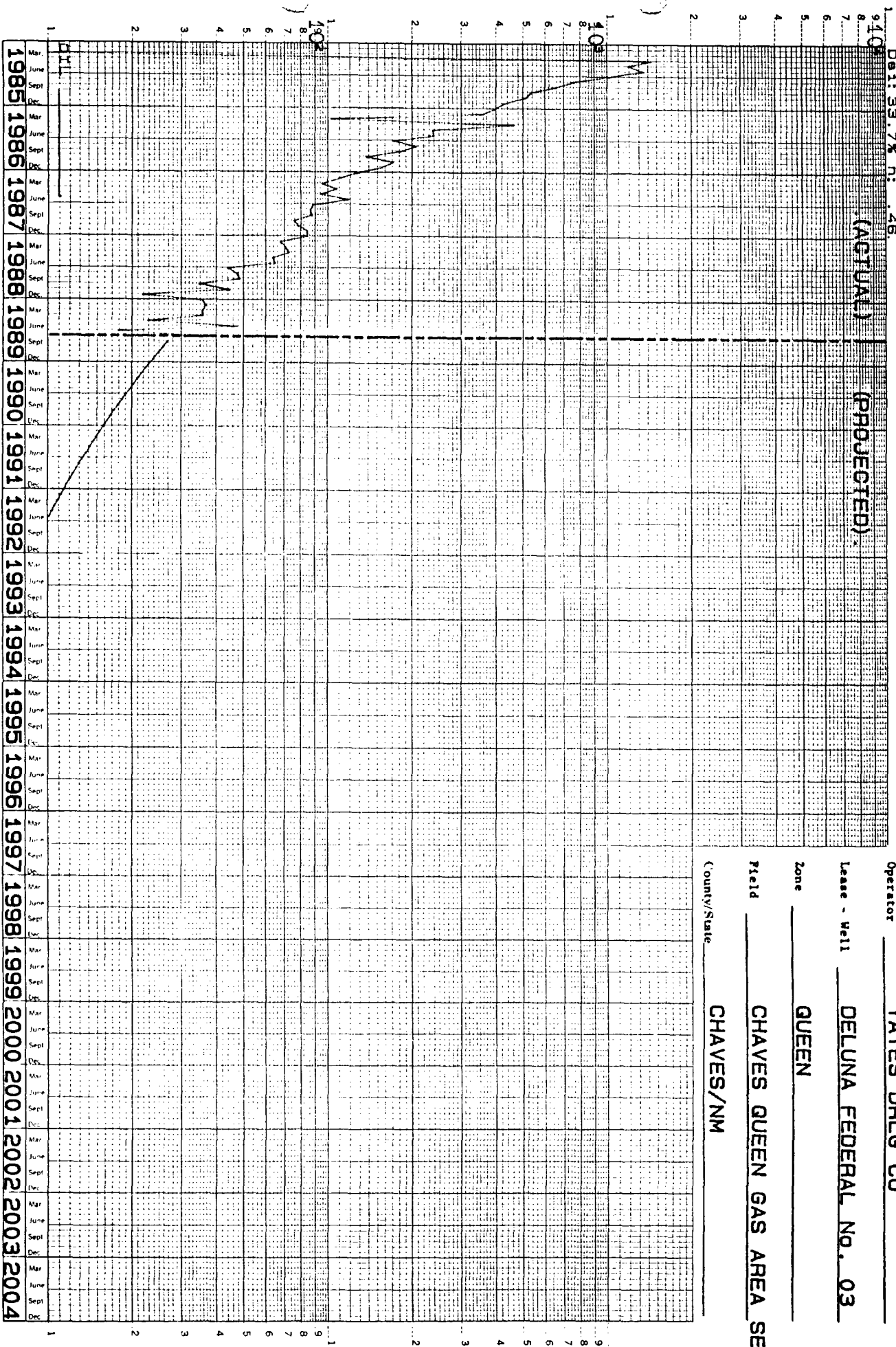
Operator YATES DRLG CO

Lease - Well DELUNA FEDERAL No. 03

Zone QUEEN

Field CHAVES QUEEN GAS AREA SE

County/State CHAVES/NM



CACTUS QUEEN UNIT

NUMBER: 10000008
 NAME: DOYAL No. 01
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME: D:\PET4DATA\

RESERVOIR: QUEEN
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) QN
 OPERATOR: YATES DRLG CO
 ID NUMBER: 12S31E34A00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs	REMARKS						
-------------------	-------------	------------	---------------	---------	--	--	--	--	--	--

01/1984	0	0	0	0	0	0	0	0	0	0
02/1984	0	0	0	0	0	0	0	0	0	0
03/1984	0	0	0	0	0	0	0	0	0	0
04/1984	0	0	0	0	0	0	0	0	0	0
05/1984	0	0	0	0	0	0	0	0	0	0
06/1984	0	0	0	0	0	0	0	0	0	0
07/1984	0	0	0	0	0	0	0	0	0	0
08/1984	741	0	0	0	0	0	0	0	0	0
09/1984	2069	0	300	0	0	0	0	0	0	0
10/1984	2320	1106	310	0	0	0	0	0	0	0
11/1984	2320	0	300	0	0	0	0	0	0	0
12/1984	3204	1522	310	0	0	0	0	0	0	0

1984/YTD	10654	2628	1220	0	0	0	0	0	0	0
1984/CUM	10654	2628	1220	0	0	0	0	0	0	0

01/1985	2871	1364	310	0	0	0	0	0	0	0
02/1985	2207	1048	280	0	0	0	0	0	0	0
03/1985	2001	950	310	0	0	0	0	0	0	0
04/1985	1157	550	300	0	0	0	0	0	0	0
05/1985	1655	786	310	0	0	0	0	0	0	0
06/1985	1475	701	300	0	0	0	0	0	0	0
07/1985	1316	625	310	0	0	0	0	0	0	0
08/1985	1180	561	310	0	0	0	0	0	0	0
09/1985	1600	760	300	0	0	0	0	0	0	0
10/1985	1493	709	310	0	0	0	0	0	0	0
11/1985	1224	581	375	0	0	0	0	0	0	0
12/1985	995	473	388	0	0	0	0	0	0	0

1985/YTD	19174	9108	3803	0	0	0	0	0	0	0
1985/CUM	29828	11736	5023	0	0	0	0	0	0	0

01/1986	966	459	388	0	0	0	0	0	0	0
02/1986	780	371	350	0	0	0	0	0	0	0
03/1986	799	380	388	0	0	0	0	0	0	0
04/1986	753	358	375	0	0	0	0	0	0	0
05/1986	748	337	387	0	0	0	0	0	0	0
06/1986	642	289	375	0	0	0	0	0	0	0
07/1986	644	290	387	0	0	0	0	0	0	0
08/1986	530	239	387	0	0	0	0	0	0	0
09/1986	399	180	375	0	0	0	0	0	0	0
10/1986	585	263	387	0	0	0	0	0	0	0
11/1986	523	235	375	0	0	0	0	0	0	0
12/1986	478	215	387	0	0	0	0	0	0	0

1986/YTD	7847	3616	4561	0	0	0	0	0	0	0
1986/CUM	37675	15352	9584	0	0	0	0	0	0	0

NUMBER: 10000008
 NAME: DOYAL No. 01
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME:D:\PET4DATA\

RESERVOIR:QUEEN
 FIELD: CHAVES QUEEN GAS AREA SE (ASSD.) QN
 OPERATOR: YATES DR LG CO
 ID NUMBER:12S31E34A00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs								REMARKS
01/1987	396	178	387	0	0	0	0	0	0	0	
02/1987	383	172	350	0	0	0	0	0	0	0	
03/1987	423	190	349	0	0	0	0	0	0	0	
04/1987	330	149	338	0	0	0	0	0	0	0	
05/1987	397	176	350	0	0	0	0	0	0	0	
06/1987	318	141	338	0	0	0	0	0	0	0	
07/1987	329	146	350	0	0	0	0	0	0	0	
08/1987	313	139	350	0	0	0	0	0	0	0	
09/1987	269	119	338	0	0	0	0	0	0	0	
10/1987	262	116	350	0	0	0	0	0	0	0	
11/1987	244	108	339	0	0	0	0	0	0	0	
12/1987	232	103	313	0	0	0	0	0	0	0	
1987/YTD	3896	1737	4152	0	0	0	0	0	0	0	
1987/CUM	41571	17089	13736	0	0	0	0	0	0	0	
01/1988	235	104	313	0	0	0	0	0	0	0	
02/1988	219	97	148	0	0	0	0	0	0	0	
03/1988	241	107	72	0	0	0	0	0	0	0	
04/1988	222	98	118	0	0	0	0	0	0	0	
05/1988	239	106	131	0	0	0	0	0	0	0	
06/1988	194	334	102	0	0	0	0	0	0	0	
07/1988	175	301	130	0	0	0	0	0	0	0	
08/1988	190	327	102	0	0	0	0	0	0	0	
09/1988	170	292	113	0	0	0	0	0	0	0	
10/1988	193	332	156	0	0	0	0	0	0	0	
11/1988	182	313	112	0	0	0	0	0	0	0	
12/1988	166	117	98	0	0	0	0	0	0	0	
1988/YTD	2426	2528	1595	0	0	0	0	0	0	0	
1988/CUM	43997	19617	15331	0	0	0	0	0	0	0	
01/1989	165	284	43	0	0	0	0	0	0	0	
02/1989	248	427	58	0	0	0	0	0	0	0	
03/1989	116	200	130	0	0	0	0	0	0	0	
04/1989	147	118	111	0	0	0	0	0	0	0	
05/1989	153	123	58	0	0	0	0	0	0	0	
06/1989	184	148	97	0	0	0	0	0	0	0	
07/1989	201	161	70	0	0	0	0	0	0	0	
1989/YTD	1214	1461	567	0	0	0	0	0	0	0	
1989/CUM	45211	21078	15898	0	0	0	0	0	0	0	

NUMBER: 10000007
 NAME: DOYAL No. 02
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME: D:\PET4DATA\

RESERVOIR:
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) QN
 OPERATOR: YATES DRLG CO
 ID NUMBER: 12S31E27P00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs							REMARKS
01/1984	0	0	0	0	0	0	0	0	0	
02/1984	0	0	0	0	0	0	0	0	0	
03/1984	0	0	0	0	0	0	0	0	0	
04/1984	0	0	0	0	0	0	0	0	0	
05/1984	0	0	0	0	0	0	0	0	0	
06/1984	0	0	0	0	0	0	0	0	0	
07/1984	0	0	0	0	0	0	0	0	0	
08/1984	0	0	0	0	0	0	0	0	0	
09/1984	605	0	0	0	0	0	0	0	0	
10/1984	1862	1024	0	0	0	0	0	0	0	
11/1984	1863	942	0	0	0	0	0	0	0	
12/1984	2572	1132	0	0	0	0	0	0	0	
1984/YTD	6902	3098	0	0	0	0	0	0	0	
1984/CUM	6902	3098	0	0	0	0	0	0	0	
01/1985	2304	1014	0	0	0	0	0	0	0	
02/1985	1771	779	0	0	0	0	0	0	0	
03/1985	1640	722	0	0	0	0	0	0	0	
04/1985	919	404	0	0	0	0	0	0	0	
05/1985	1263	556	0	0	0	0	0	0	0	
06/1985	1126	493	0	0	0	0	0	0	0	
07/1985	1004	440	0	0	0	0	0	0	0	
08/1985	901	395	0	0	0	0	0	0	0	
09/1985	1221	535	0	0	0	0	0	0	0	
10/1985	1140	499	0	0	0	0	0	0	0	
11/1985	934	409	375	0	0	0	0	0	0	
12/1985	759	332	388	0	0	0	0	0	0	
1985/YTD	14982	6578	763	0	0	0	0	0	0	
1985/CUM	21884	9676	763	0	0	0	0	0	0	
01/1986	738	323	388	0	0	0	0	0	0	
02/1986	596	261	350	0	0	0	0	0	0	
03/1986	610	267	388	0	0	0	0	0	0	
04/1986	574	251	375	0	0	0	0	0	0	
05/1986	570	237	387	0	0	0	0	0	0	
06/1986	489	203	375	0	0	0	0	0	0	
07/1986	491	204	387	0	0	0	0	0	0	
08/1986	404	168	387	0	0	0	0	0	0	
09/1986	304	126	375	0	0	0	0	0	0	
10/1986	446	185	387	0	0	0	0	0	0	
11/1986	399	166	375	0	0	0	0	0	0	
12/1986	365	152	388	0	0	0	0	0	0	
1986/YTD	5986	2543	4562	0	0	0	0	0	0	
1986/CUM	27870	12219	5325	0	0	0	0	0	0	

NUMBER: 10000007
 NAME: DOYAL No. 02
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME:D:\PET4DATA\

RESERVOIR:
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) QN
 OPERATOR: YATES DRLG CO
 ID NUMBER:12S31E27P00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs								REMARKS
01/1987	302	125	388	0	0	0	0	0	0	0	
02/1987	292	121	350	0	0	0	0	0	0	0	
03/1987	322	134	349	0	0	0	0	0	0	0	
04/1987	251	104	338	0	0	0	0	0	0	0	
05/1987	302	130	350	0	0	0	0	0	0	0	
06/1987	242	105	338	0	0	0	0	0	0	0	
07/1987	250	108	350	0	0	0	0	0	0	0	
08/1987	238	103	350	0	0	0	0	0	0	0	
09/1987	205	89	338	0	0	0	0	0	0	0	
10/1987	200	86	350	0	0	0	0	0	0	0	
11/1987	187	81	339	0	0	0	0	0	0	0	
12/1987	178	77	312	0	0	0	0	0	0	0	
1987/YTD	2969	1263	4152	0	0	0	0	0	0	0	
1987/CUM	30839	13482	9477	0	0	0	0	0	0	0	
01/1988	181	78	312	0	0	0	0	0	0	0	
02/1988	167	72	148	0	0	0	0	0	0	0	
03/1988	184	79	72	0	0	0	0	0	0	0	
04/1988	170	73	118	0	0	0	0	0	0	0	
05/1988	183	79	131	0	0	0	0	0	0	0	
06/1988	148	263	102	0	0	0	0	0	0	0	
07/1988	133	237	130	0	0	0	0	0	0	0	
08/1988	145	258	102	0	0	0	0	0	0	0	
09/1988	130	231	113	0	0	0	0	0	0	0	
10/1988	148	263	156	0	0	0	0	0	0	0	
11/1988	139	247	111	0	0	0	0	0	0	0	
12/1988	126	93	96	0	0	0	0	0	0	0	
1988/YTD	1854	1973	1591	0	0	0	0	0	0	0	
1988/CUM	32693	15455	11068	0	0	0	0	0	0	0	
01/1989	125	223	43	0	0	0	0	0	0	0	
02/1989	188	335	58	0	0	0	0	0	0	0	
03/1989	88	157	130	0	0	0	0	0	0	0	
04/1989	112	0	111	0	0	0	0	0	0	0	
05/1989	116	0	58	0	0	0	0	0	0	0	
06/1989	139	0	97	0	0	0	0	0	0	0	
07/1989	152	0	70	0	0	0	0	0	0	0	
1989/YTD	920	715	567	0	0	0	0	0	0	0	
1989/CUM	33613	16170	11635	0	0	0	0	0	0	0	

OIL

Cum: 33613.

Del: 25.9% N: .46

(ACTUAL)

(PROJECTED)

Operator

YATES DRLG CO

Lease - Well

DOYAL No. 02

Zone

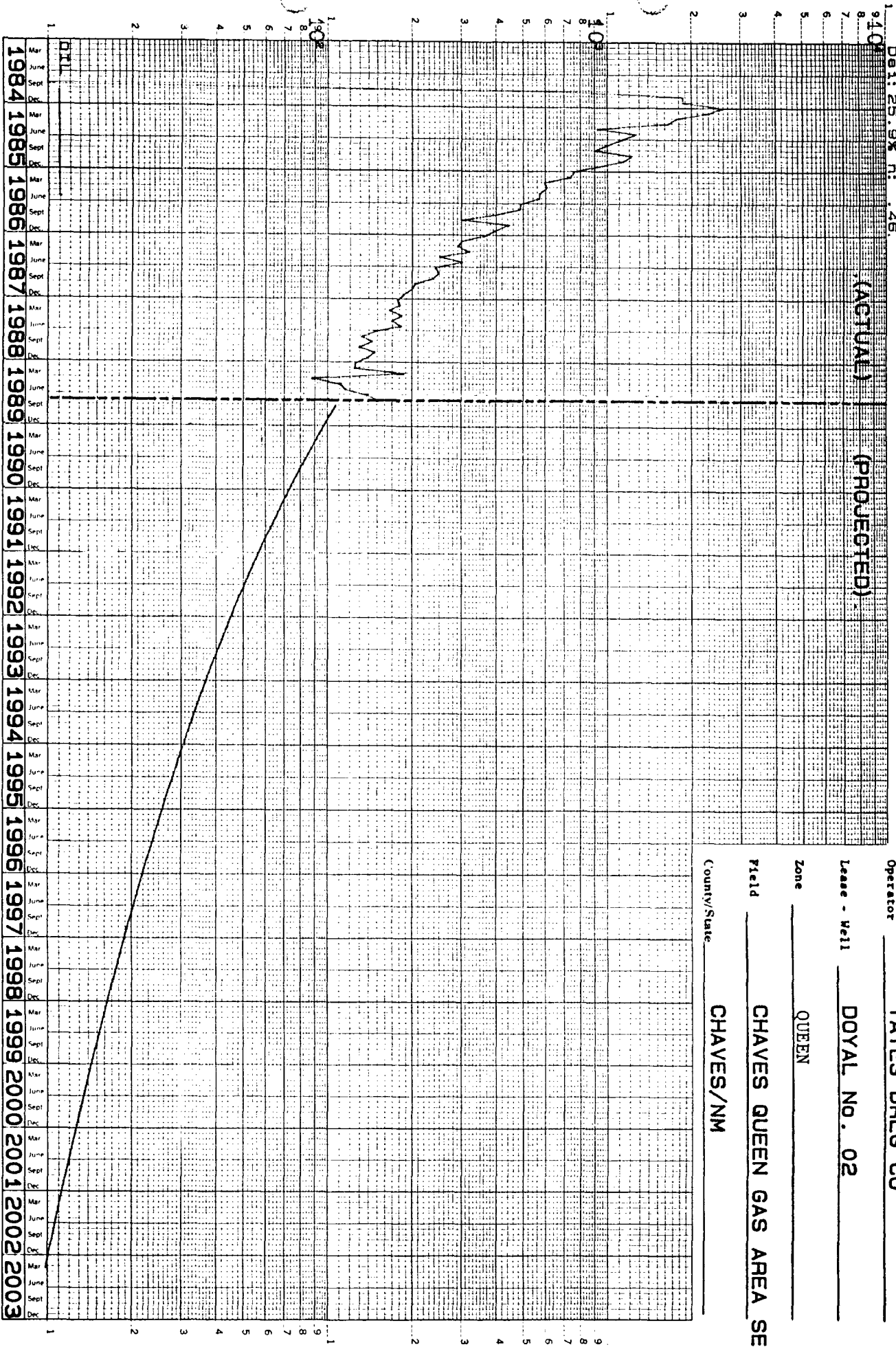
QUEEN

Field

CHAVES QUEEN GAS AREA SE

County/State

CHAVES/NM



CACTUS QUEEN UNIT

NUMBER: 10000002
 NAME: DOYAL No. 04
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME: D:\PET4DATA\

RESERVOIR:
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) QN
 OPERATOR: YATES DRUG CO
 ID NUMBER: 12531E26M00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs							REMARKS
01/1984	0	0	0	0	0	0	0	0	0	
02/1984	0	0	0	0	0	0	0	0	0	
03/1984	0	0	0	0	0	0	0	0	0	
04/1984	0	0	0	0	0	0	0	0	0	
05/1984	0	0	0	0	0	0	0	0	0	
06/1984	0	0	0	0	0	0	0	0	0	
07/1984	0	0	0	0	0	0	0	0	0	
08/1984	0	0	0	0	0	0	0	0	0	
09/1984	0	0	0	0	0	0	0	0	0	
10/1984	0	0	0	0	0	0	0	0	0	
11/1984	0	0	0	0	0	0	0	0	0	
12/1984	383	0	0	0	0	0	0	0	0	
1984/YTD	383	0	0	0	0	0	0	0	0	
1984/CUM	383	0	0	0	0	0	0	0	0	
01/1985	240	240	1550	0	0	0	0	0	0	
02/1985	312	312	1400	0	0	0	0	0	0	
03/1985	249	249	1550	0	0	0	0	0	0	
04/1985	336	336	1500	0	0	0	0	0	0	
05/1985	234	234	1550	0	0	0	0	0	0	
06/1985	255	223	1500	0	0	0	0	0	0	
07/1985	326	285	1550	0	0	0	0	0	0	
08/1985	433	379	1550	0	0	0	0	0	0	
09/1985	316	277	1500	0	0	0	0	0	0	
10/1985	196	172	1550	0	0	0	0	0	0	
11/1985	413	361	1500	0	0	0	0	0	0	
12/1985	199	174	1550	0	0	0	0	0	0	
1985/YTD	3509	3242	18250	0	0	0	0	0	0	
1985/CUM	3892	3242	18250	0	0	0	0	0	0	
01/1986	186	163	1550	0	0	0	0	0	0	
02/1986	235	206	1400	0	0	0	0	0	0	
03/1986	180	158	1550	0	0	0	0	0	0	
04/1986	46	40	1500	0	0	0	0	0	0	
05/1986	46	0	1550	0	0	0	0	0	0	
06/1986	39	0	1500	0	0	0	0	0	0	
07/1986	39	0	1550	0	0	0	0	0	0	
08/1986	32	0	1550	0	0	0	0	0	0	
09/1986	25	0	1500	0	0	0	0	0	0	
10/1986	36	0	1550	0	0	0	0	0	0	
11/1986	32	0	1500	0	0	0	0	0	0	
12/1986	29	0	1550	0	0	0	0	0	0	
1986/YTD	925	567	18250	0	0	0	0	0	0	
1986/CUM	4817	3809	36500	0	0	0	0	0	0	

NUMBER: 10000002
 NAME: DOYAL No. 04
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME:D:\PET4DATA\

RESERVOIR:
 FIELD: CHAVES QUEEN GAS AREA SE (ASSD.) QN
 OPERATOR: YATES DRLG CO
 ID NUMBER:12531E26M00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs	REMARKS						
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01/1987	24	0	1550	0	0	0	0	0	0	0
02/1987	23	0	1400	0	0	0	0	0	0	0
03/1987	25	0	1627	0	0	0	0	0	0	0
04/1987	20	0	1574	0	0	0	0	0	0	0
05/1987	24	0	1598	0	0	0	0	0	0	0
06/1987	19	0	1546	0	0	0	0	0	0	0
07/1987	20	0	1596	0	0	0	0	0	0	0
08/1987	19	0	1596	0	0	0	0	0	0	0
09/1987	16	0	1546	0	0	0	0	0	0	0
10/1987	16	0	1598	0	0	0	0	0	0	0
11/1987	15	0	1546	0	0	0	0	0	0	0
12/1987	14	0	1425	0	0	0	0	0	0	0

1987/YTD	235	0	18602	0	0	0	0	0	0	0
1987/CUM	5052	3809	55102	0	0	0	0	0	0	0

01/1988	14	0	1425	0	0	0	0	0	0	0
02/1988	14	0	689	0	0	0	0	0	0	0
03/1988	16	0	337	0	0	0	0	0	0	0
04/1988	15	0	550	0	0	0	0	0	0	0
05/1988	17	0	609	0	0	0	0	0	0	0
06/1988	14	0	473	0	0	0	0	0	0	0
07/1988	13	0	603	0	0	0	0	0	0	0
08/1988	14	0	476	0	0	0	0	0	0	0
09/1988	12	0	529	0	0	0	0	0	0	0
10/1988	13	0	730	0	0	0	0	0	0	0
11/1988	12	0	520	0	0	0	0	0	0	0
12/1988	11	0	455	0	0	0	0	0	0	0

1988/YTD	165	0	7396	0	0	0	0	0	0	0
1988/CUM	5217	3809	62498	0	0	0	0	0	0	0

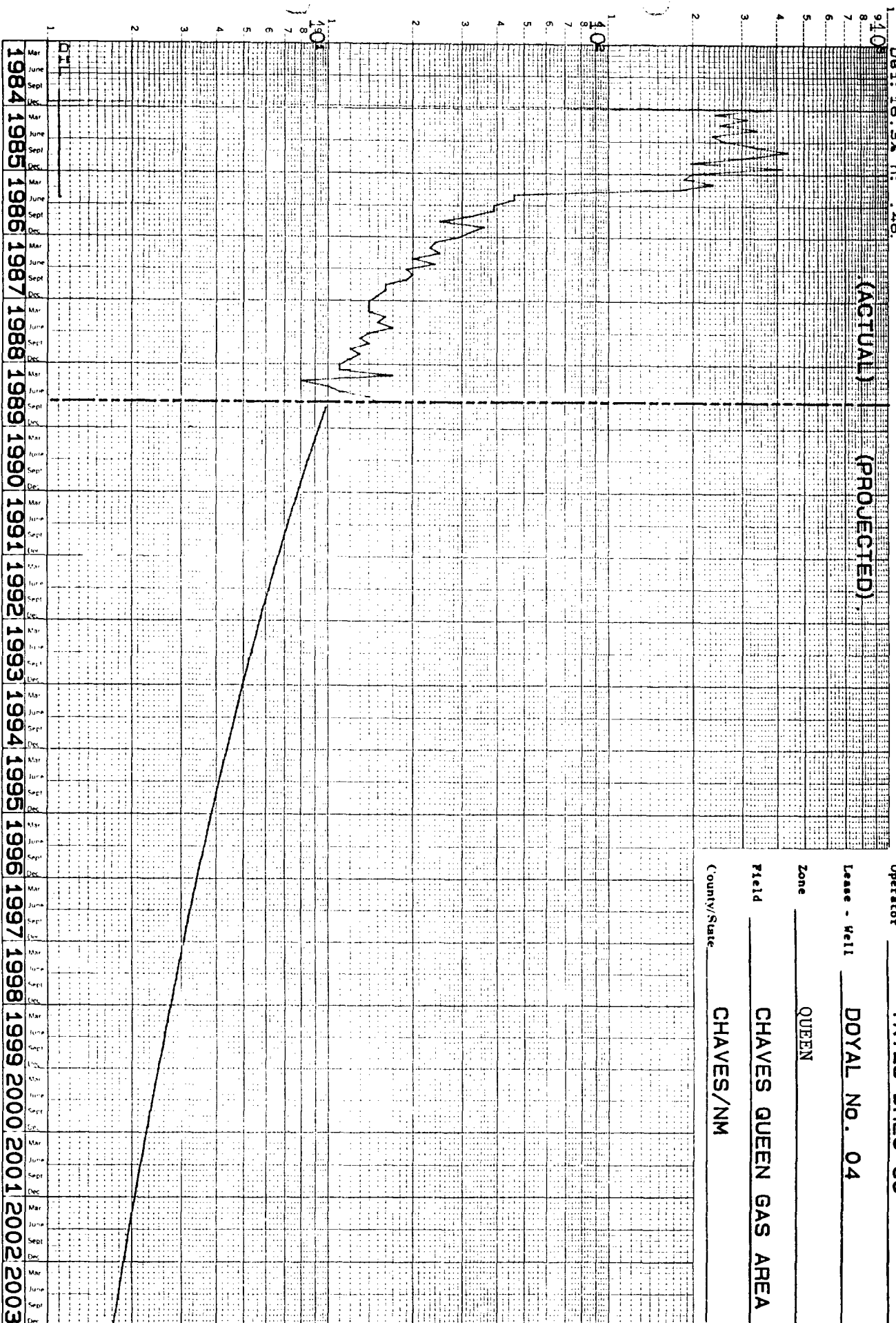
01/1989	11	0	204	0	0	0	0	0	0	0
02/1989	17	0	271	0	0	0	0	0	0	0
03/1989	8	0	612	0	0	0	0	0	0	0
04/1989	10	0	519	0	0	0	0	0	0	0
05/1989	11	0	270	0	0	0	0	0	0	0
06/1989	14	0	454	0	0	0	0	0	0	0
07/1989	15	0	324	0	0	0	0	0	0	0

1989/YTD	86	0	2654	0	0	0	0	0	0	0
1989/CUM	5303	3809	65152	0	0	0	0	0	0	0

OIL

Cum: 6303.

Del: 16.3% N: .46.



Operator

YATES DRLG CO

Lease - Well

DOYAL No. 04

Zone

QUEEN

Field

CHAVES QUEEN GAS AREA SE

County/State

CHAVES/NM

CACTUS QUEEN UNIT

NUMBER: 10000020
 NAME: GALLAGHER STATE No. 01
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME:D:\PET4DATA\

RESERVOIR:QUEEN
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) QN
 OPERATOR: YATES DRLG CO
 ID NUMBER:12531E35D00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs								REMARKS
01/1984	0	0	0	0	0	0	0	0	0	0	
02/1984	0	0	0	0	0	0	0	0	0	0	
03/1984	0	0	0	0	0	0	0	0	0	0	
04/1984	0	0	0	0	0	0	0	0	0	0	
05/1984	0	0	0	0	0	0	0	0	0	0	
06/1984	0	0	0	0	0	0	0	0	0	0	
07/1984	0	0	0	0	0	0	0	0	0	0	
08/1984	0	0	0	0	0	0	0	0	0	0	
09/1984	0	0	0	0	0	0	0	0	0	0	
10/1984	0	0	0	0	0	0	0	0	0	0	
11/1984	781	947	750	0	0	0	0	0	0	0	
12/1984	1115	1351	775	0	0	0	0	0	0	0	
1984/YTD	1896	2298	1525	0	0	0	0	0	0	0	
1984/CUM	1896	2298	1525	0	0	0	0	0	0	0	
01/1985	914	1108	775	0	0	0	0	0	0	0	
02/1985	1080	1309	700	0	0	0	0	0	0	0	
03/1985	737	893	775	0	0	0	0	0	0	0	
04/1985	940	1139	750	0	0	0	0	0	0	0	
05/1985	1119	1356	775	0	0	0	0	0	0	0	
06/1985	1055	978	750	0	0	0	0	0	0	0	
07/1985	1100	1020	775	0	0	0	0	0	0	0	
08/1985	972	901	775	0	0	0	0	0	0	0	
09/1985	797	739	750	0	0	0	0	0	0	0	
10/1985	653	605	775	0	0	0	0	0	0	0	
11/1985	541	502	750	0	0	0	0	0	0	0	
12/1985	549	509	775	0	0	0	0	0	0	0	
1985/YTD	10457	11059	9125	0	0	0	0	0	0	0	
1985/CUM	12353	13357	10650	0	0	0	0	0	0	0	
01/1986	409	379	775	0	0	0	0	0	0	0	
02/1986	349	324	700	0	0	0	0	0	0	0	
03/1986	343	318	775	0	0	0	0	0	0	0	
04/1986	318	295	750	0	0	0	0	0	0	0	
05/1986	347	327	775	0	0	0	0	0	0	0	
06/1986	247	232	750	0	0	0	0	0	0	0	
07/1986	271	255	775	0	0	0	0	0	0	0	
08/1986	234	220	775	0	0	0	0	0	0	0	
09/1986	244	230	750	0	0	0	0	0	0	0	
10/1986	244	230	775	0	0	0	0	0	0	0	
11/1986	213	200	750	0	0	0	0	0	0	0	
12/1986	236	222	775	0	0	0	0	0	0	0	
1986/YTD	3455	3232	9125	0	0	0	0	0	0	0	
1986/CUM	15808	16589	19775	0	0	0	0	0	0	0	

OIL

Cum: 19546.

Del: 30.3% N: .46

(ACTUAL)

(PROJECTED)

Operator

YATES DRLG CO

Lease - Well

GALLAGHER STATE NO. 01

Zone

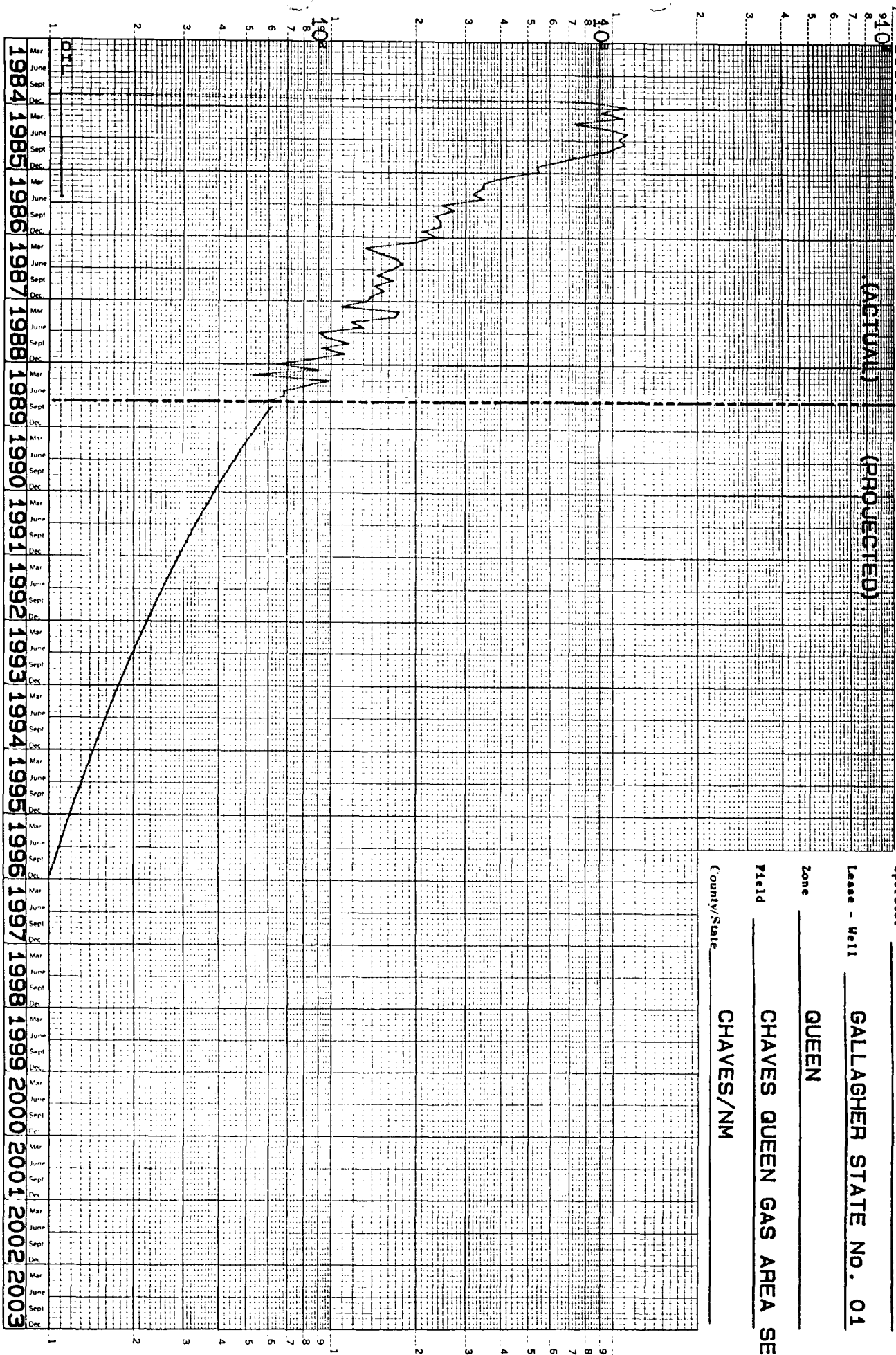
QUEEN

Field

CHAVES QUEEN GAS AREA SE

County/State

CHAVES/NM



CACTUS QUEEN UNIT

NUMBER: 10000006
 NAME: GARNER FEDERAL No. 07
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME:D:\PET4\DATA\

RESERVOIR:QUEEN
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) QN
 OPERATOR: YATES DRLG CO
 ID NUMBER:12531E27000QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs								REMARKS
01/1984	0	0	0	0	0	0	0	0	0	0	
02/1984	0	0	0	0	0	0	0	0	0	0	
03/1984	0	0	0	0	0	0	0	0	0	0	
04/1984	0	0	0	0	0	0	0	0	0	0	
05/1984	0	0	0	0	0	0	0	0	0	0	
06/1984	0	0	0	0	0	0	0	0	0	0	
07/1984	0	0	0	0	0	0	0	0	0	0	
08/1984	0	0	0	0	0	0	0	0	0	0	
09/1984	0	0	0	0	0	0	0	0	0	0	
10/1984	0	0	0	0	0	0	0	0	0	0	
11/1984	2400	0	300	0	0	0	0	0	0	0	
12/1984	2558	0	300	0	0	0	0	0	0	0	
1984/YTD	4958	0	600	0	0	0	0	0	0	0	
1984/CUM	4958	0	600	0	0	0	0	0	0	0	
01/1985	1950	0	300	0	0	0	0	0	0	0	
02/1985	1307	0	271	0	0	0	0	0	0	0	
03/1985	1197	0	300	0	0	0	0	0	0	0	
04/1985	1046	0	290	0	0	0	0	0	0	0	
05/1985	932	0	300	0	0	0	0	0	0	0	
06/1985	942	0	290	0	0	0	0	0	0	0	
07/1985	982	0	300	0	0	0	0	0	0	0	
08/1985	706	0	300	0	0	0	0	0	0	0	
09/1985	803	0	290	0	0	0	0	0	0	0	
10/1985	731	0	300	0	0	0	0	0	0	0	
11/1985	581	0	90	0	0	0	0	0	0	0	
12/1985	563	0	93	0	0	0	0	0	0	0	
1985/YTD	11740	0	3124	0	0	0	0	0	0	0	
1985/CUM	16698	0	3724	0	0	0	0	0	0	0	
01/1986	456	0	93	0	0	0	0	0	0	0	
02/1986	379	0	84	0	0	0	0	0	0	0	
03/1986	393	0	93	0	0	0	0	0	0	0	
04/1986	340	0	90	0	0	0	0	0	0	0	
05/1986	320	127	93	0	0	0	0	0	0	0	
06/1986	277	110	90	0	0	0	0	0	0	0	
07/1986	279	111	93	0	0	0	0	0	0	0	
08/1986	257	102	93	0	0	0	0	0	0	0	
09/1986	259	103	90	0	0	0	0	0	0	0	
10/1986	202	80	93	0	0	0	0	0	0	0	
11/1986	241	96	90	0	0	0	0	0	0	0	
12/1986	228	91	93	0	0	0	0	0	0	0	
1986/YTD	3631	820	1095	0	0	0	0	0	0	0	
1986/CUM	20329	820	4819	0	0	0	0	0	0	0	

NUMBER: 10000006
 NAME: GARNER FEDERAL No. 07
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME: D:\PET4DATA\

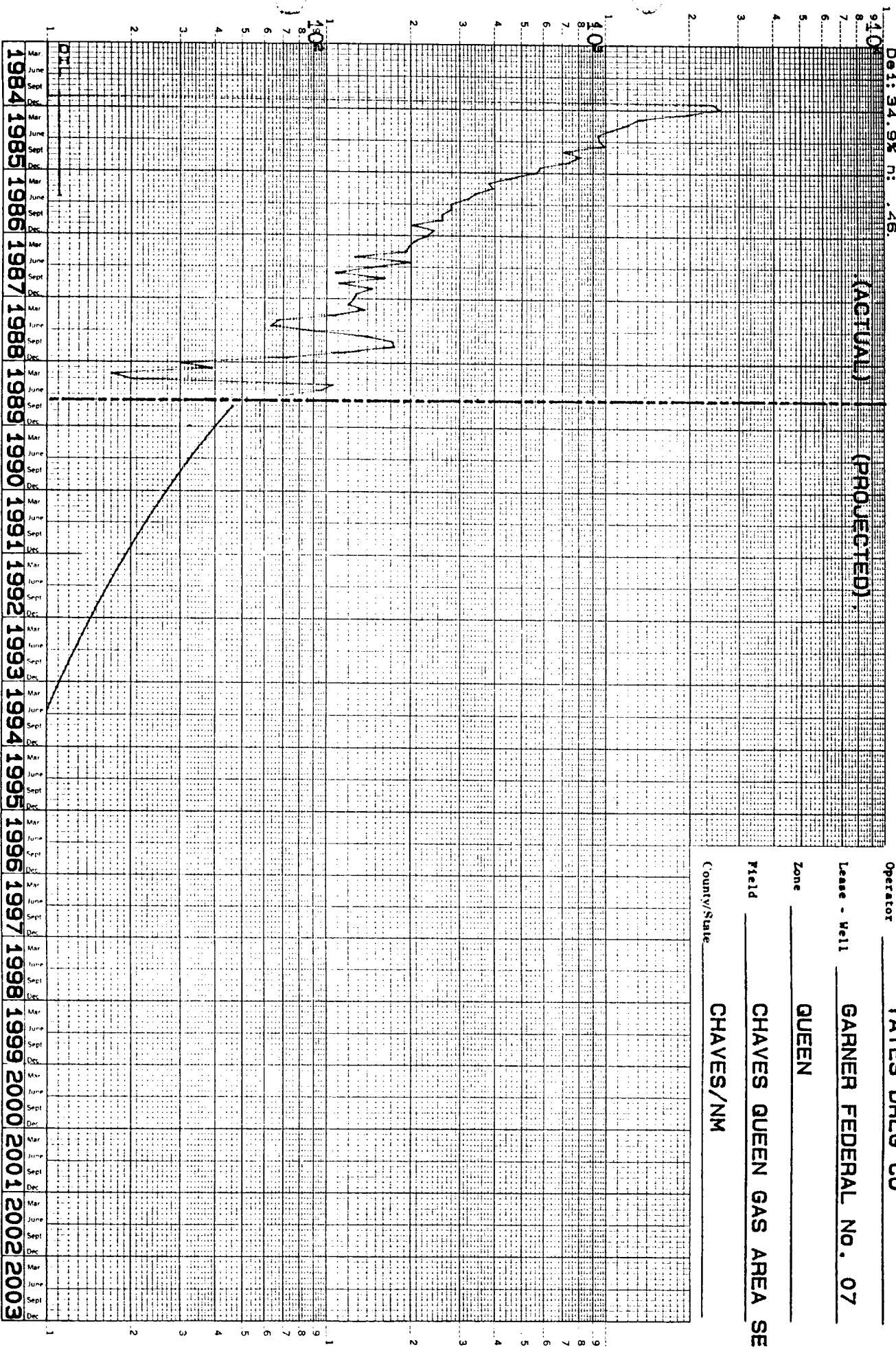
RESERVOIR: QUEEN
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) QN
 OPERATOR: YATES DRLG CO
 ID NUMBER: 12S31E27000QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs								REMARKS
01/1987	205	81	93	0	0	0	0	0	0	0	
02/1987	196	79	84	0	0	0	0	0	0	0	
03/1987	191	76	93	0	0	0	0	0	0	0	
04/1987	126	50	90	0	0	0	0	0	0	0	
05/1987	200	70	93	0	0	0	0	0	0	0	
06/1987	144	50	90	0	0	0	0	0	0	0	
07/1987	107	37	93	0	0	0	0	0	0	0	
08/1987	161	56	93	0	0	0	0	0	0	0	
09/1987	111	39	90	0	0	0	0	0	0	0	
10/1987	145	51	93	0	0	0	0	0	0	0	
11/1987	127	44	90	0	0	0	0	0	0	0	
12/1987	124	43	93	0	0	0	0	0	0	0	
1987/YTD	1837	676	1095	0	0	0	0	0	0	0	
1987/CUM	22166	1496	5914	0	0	0	0	0	0	0	
01/1988	119	42	93	0	0	0	0	0	0	0	
02/1988	136	48	68	0	0	0	0	0	0	0	
03/1988	107	37	69	0	0	0	0	0	0	0	
04/1988	67	23	56	0	0	0	0	0	0	0	
05/1988	63	22	61	0	0	0	0	0	0	0	
06/1988	91	188	70	0	0	0	0	0	0	0	
07/1988	137	284	71	0	0	0	0	0	0	0	
08/1988	172	356	60	0	0	0	0	0	0	0	
09/1988	174	360	94	0	0	0	0	0	0	0	
10/1988	116	240	42	0	0	0	0	0	0	0	
11/1988	72	149	50	0	0	0	0	0	0	0	
12/1988	30	62	51	0	0	0	0	0	0	0	
1988/YTD	1284	1811	785	0	0	0	0	0	0	0	
1988/CUM	23450	3307	6699	0	0	0	0	0	0	0	
01/1989	39	81	63	0	0	0	0	0	0	0	
02/1989	17	35	50	0	0	0	0	0	0	0	
03/1989	20	41	78	0	0	0	0	0	0	0	
04/1989	105	87	43	0	0	0	0	0	0	0	
05/1989	96	79	39	0	0	0	0	0	0	0	
06/1989	72	60	93	0	0	0	0	0	0	0	
07/1989	30	25	44	0	0	0	0	0	0	0	
1989/YTD	379	408	410	0	0	0	0	0	0	0	
1989/CUM	23829	3715	7109	0	0	0	0	0	0	0	

OIL

Cum: 23829.

Det: 34.9% N: .46



Operator

YATES ORLG CO

Lease - Well

GARNER FEDERAL No. 07

Zone

QUEEN

Field

CHAVES QUEEN GAS AREA SE

County/State

CHAVES/NM

CACTUS QUEEN UNIT

NUMBER: 10000003
 NAME: GARNER FEDERAL No. 09
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME: D:\PET4DATA\

RESERVOIR: QUEEN
 FIELD: CHAVES QUEEN GAS AREA SE (ASSO.) QN
 OPERATOR: YATES DRLG CO
 ID NUMBER: 12531E27J00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs								REMARKS
01/1984	0	0	0	0	0	0	0	0	0	0	
02/1984	0	0	0	0	0	0	0	0	0	0	
03/1984	0	0	0	0	0	0	0	0	0	0	
04/1984	0	0	0	0	0	0	0	0	0	0	
05/1984	0	0	0	0	0	0	0	0	0	0	
06/1984	0	0	0	0	0	0	0	0	0	0	
07/1984	0	0	0	0	0	0	0	0	0	0	
08/1984	0	0	0	0	0	0	0	0	0	0	
09/1984	0	0	0	0	0	0	0	0	0	0	
10/1984	0	0	0	0	0	0	0	0	0	0	
11/1984	0	0	0	0	0	0	0	0	0	0	
12/1984	2559	0	320	0	0	0	0	0	0	0	
1984/YTD	2559	0	320	0	0	0	0	0	0	0	
1984/CUM	2559	0	320	0	0	0	0	0	0	0	
01/1985	1950	0	320	0	0	0	0	0	0	0	
02/1985	1308	0	289	0	0	0	0	0	0	0	
03/1985	1198	0	320	0	0	0	0	0	0	0	
04/1985	1047	0	310	0	0	0	0	0	0	0	
05/1985	932	0	320	0	0	0	0	0	0	0	
06/1985	942	0	310	0	0	0	0	0	0	0	
07/1985	982	0	320	0	0	0	0	0	0	0	
08/1985	705	0	320	0	0	0	0	0	0	0	
09/1985	803	0	310	0	0	0	0	0	0	0	
10/1985	730	0	320	0	0	0	0	0	0	0	
11/1985	580	0	90	0	0	0	0	0	0	0	
12/1985	563	0	93	0	0	0	0	0	0	0	
1985/YTD	11740	0	3322	0	0	0	0	0	0	0	
1985/CUM	14299	0	3642	0	0	0	0	0	0	0	
01/1986	455	0	93	0	0	0	0	0	0	0	
02/1986	379	0	84	0	0	0	0	0	0	0	
03/1986	393	0	93	0	0	0	0	0	0	0	
04/1986	339	0	90	0	0	0	0	0	0	0	
05/1986	320	127	93	0	0	0	0	0	0	0	
06/1986	277	110	90	0	0	0	0	0	0	0	
07/1986	278	110	93	0	0	0	0	0	0	0	
08/1986	256	102	93	0	0	0	0	0	0	0	
09/1986	259	103	90	0	0	0	0	0	0	0	
10/1986	203	81	93	0	0	0	0	0	0	0	
11/1986	242	96	90	0	0	0	0	0	0	0	
12/1986	229	91	93	0	0	0	0	0	0	0	
1986/YTD	3630	820	1095	0	0	0	0	0	0	0	
1986/CUM	17929	820	4737	0	0	0	0	0	0	0	

NUMBER: 10000003
 NAME: GARNER FEDERAL No. 09
 COUNTY/STATE: CHAVES/NM
 DATABASE NAME:D:\PET4DATA\

RESERVOIR:QUEEN
 FIELD: CHAVES QUEEN GAS AREA SE (ASSD.) QN
 OPERATOR: YATES DRLG CO
 ID NUMBER:12531E27J00QN

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs								REMARKS
01/1987	206	82	93	0	0	0	0	0	0	0	
02/1987	197	78	84	0	0	0	0	0	0	0	
03/1987	192	76	93	0	0	0	0	0	0	0	
04/1987	125	50	90	0	0	0	0	0	0	0	
05/1987	200	70	93	0	0	0	0	0	0	0	
06/1987	145	51	90	0	0	0	0	0	0	0	
07/1987	107	37	93	0	0	0	0	0	0	0	
08/1987	161	56	93	0	0	0	0	0	0	0	
09/1987	111	39	90	0	0	0	0	0	0	0	
10/1987	145	51	93	0	0	0	0	0	0	0	
11/1987	127	44	90	0	0	0	0	0	0	0	
12/1987	123	43	93	0	0	0	0	0	0	0	
1987/YTD	1839	677	1095	0	0	0	0	0	0	0	
1987/CUM	19768	1497	5832	0	0	0	0	0	0	0	
01/1988	119	42	93	0	0	0	0	0	0	0	
02/1988	136	48	67	0	0	0	0	0	0	0	
03/1988	106	37	69	0	0	0	0	0	0	0	
04/1988	66	23	56	0	0	0	0	0	0	0	
05/1988	63	22	61	0	0	0	0	0	0	0	
06/1988	90	186	70	0	0	0	0	0	0	0	
07/1988	137	284	71	0	0	0	0	0	0	0	
08/1988	171	354	60	0	0	0	0	0	0	0	
09/1988	74	153	94	0	0	0	0	0	0	0	
10/1988	50	104	42	0	0	0	0	0	0	0	
11/1988	32	66	50	0	0	0	0	0	0	0	
12/1988	14	29	51	0	0	0	0	0	0	0	
1988/YTD	1058	1348	784	0	0	0	0	0	0	0	
1988/CUM	20826	2845	6616	0	0	0	0	0	0	0	
01/1989	18	37	62	0	0	0	0	0	0	0	
02/1989	9	19	50	0	0	0	0	0	0	0	
03/1989	11	23	77	0	0	0	0	0	0	0	
04/1989	59	0	43	0	0	0	0	0	0	0	
05/1989	55	0	39	0	0	0	0	0	0	0	
06/1989	42	0	93	0	0	0	0	0	0	0	
07/1989	19	0	44	0	0	0	0	0	0	0	
1989/YTD	213	79	408	0	0	0	0	0	0	0	
1989/CUM	21039	2924	7024	0	0	0	0	0	0	0	

OIL

Cum: 21039.

Est: 30% n: .46.

(ACTUAL)

(PROJECTED)

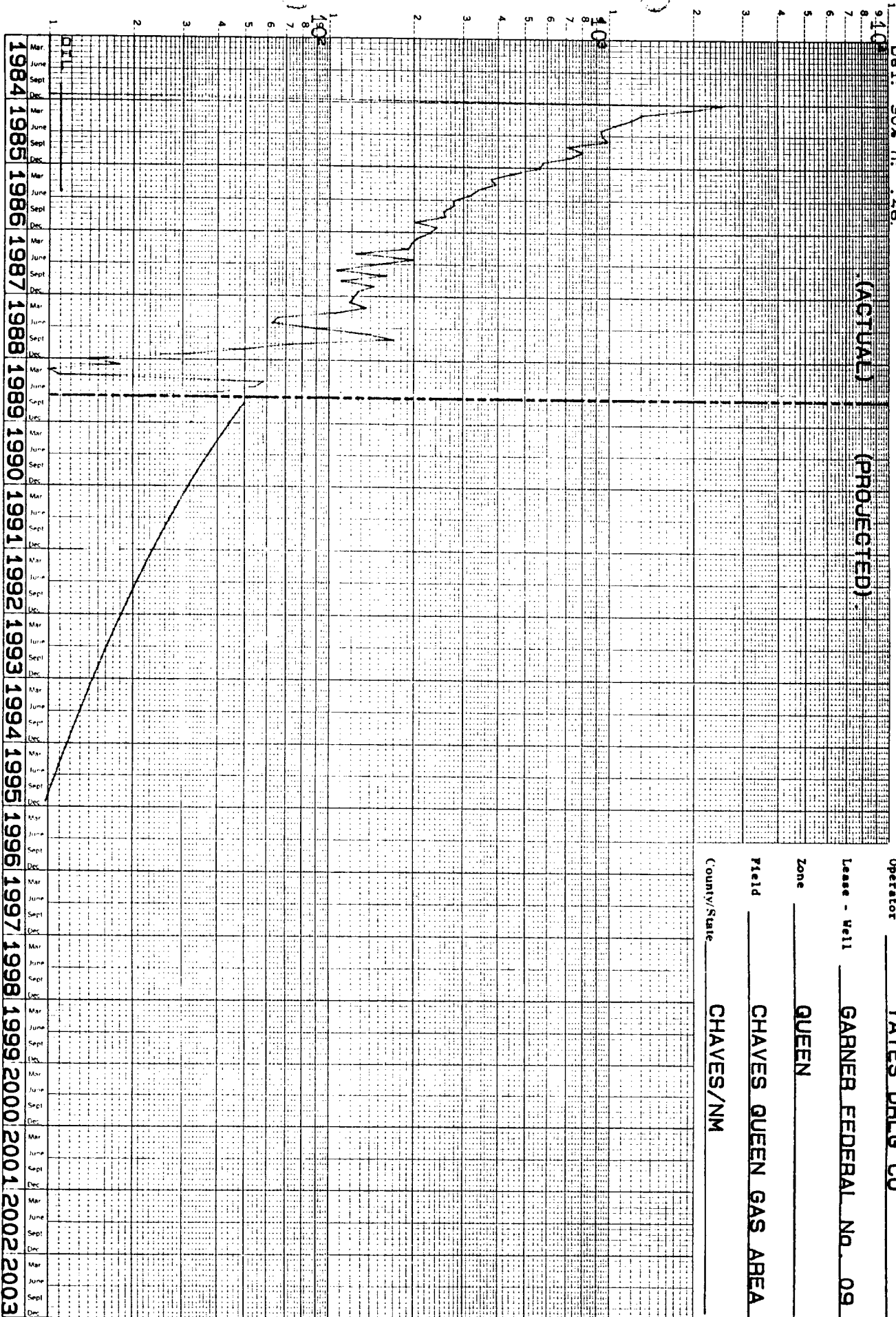
Operator YATES DRILLING CO

Lease - Well GARNER FEDERAL No. 09

Zone QUEEN

Field CHAVES QUEEN GAS AREA SE

County/State CHAVES/NM



CACTUS QUEEN UNIT

NUMBER: 10000082
 NAME: CACTUS QUEEN UNIT
 COUNTY/STATE: /
 DATABASE NAME:D:\PET4DATA\

RESERVOIR:
 FIELD:
 OPERATOR:
 ID NUMBER:

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs	REMARKS						
01/1984	0	0	0	0	0	0	0	0	0	0
02/1984	0	0	0	0	0	0	0	0	0	0
03/1984	0	0	0	0	0	0	0	0	0	0
04/1984	0	0	0	0	0	0	0	0	0	0
05/1984	0	0	0	0	0	0	0	0	0	0
06/1984	0	0	0	0	0	0	0	0	0	0
07/1984	0	0	0	0	0	0	0	0	0	0
08/1984	741	0	0	0	0	0	0	0	0	0
09/1984	2674	0	300	0	0	0	0	0	0	0
10/1984	4182	2130	310	0	0	0	0	0	0	0
11/1984	7364	1889	1350	0	0	0	0	0	0	0
12/1984	12391	4005	1705	0	0	0	0	0	0	0
1984/YTD	27352	8024	3665	0	0	0	0	0	0	0
1984/CUM	27352	8024	3665	0	0	0	0	0	0	0
01/1985	10229	3726	3255	0	0	0	0	0	0	0
02/1985	7985	3448	2940	0	0	0	0	0	0	0
03/1985	8458	3650	3720	0	0	0	0	0	0	0
04/1985	6631	3040	3600	0	0	0	0	0	0	0
05/1985	7481	3625	3720	0	0	0	0	0	0	0
06/1985	7248	3063	3600	0	0	0	0	0	0	0
07/1985	8954	2923	3812	0	0	0	0	0	0	0
08/1985	9458	3394	3852	0	0	0	0	0	0	0
09/1985	9919	3082	3706	0	0	0	0	0	0	0
10/1985	8164	2640	3942	0	0	0	0	0	0	0
11/1985	6725	2390	3518	0	0	0	0	0	0	0
12/1985	5705	1980	3597	0	0	0	0	0	0	0
1985/YTD	96957	36961	43262	0	0	0	0	0	0	0
1985/CUM	124309	44985	46927	0	0	0	0	0	0	0
01/1986	5074	1771	3596	0	0	0	0	0	0	0
02/1986	3935	1430	3316	0	0	0	0	0	0	0
03/1986	4262	1588	3644	0	0	0	0	0	0	0
04/1986	3595	1275	3569	0	0	0	0	0	0	0
05/1986	3226	1592	3671	0	0	0	0	0	0	0
06/1986	2866	1275	3555	0	0	0	0	0	0	0
07/1986	2903	1319	3689	0	0	0	0	0	0	0
08/1986	2552	1165	3616	0	0	0	0	0	0	0
09/1986	2163	1090	3992	0	0	0	0	0	0	0
10/1986	2441	1280	3601	0	0	0	0	0	0	0
11/1986	2240	1172	3520	0	0	0	0	0	0	0
12/1986	2116	1121	3627	0	0	0	0	0	0	0
1986/YTD	37373	16078	43396	0	0	0	0	0	0	0
1986/CUM	161682	61063	90323	0	0	0	0	0	0	0

NUMBER: 10000082
 NAME: CACTUS QUEEN UNIT
 COUNTY/STATE: /
 DATABASE NAME:D:\PET4DATA\

RESERVOIR:
 FIELD:
 OPERATOR:
 ID NUMBER:

PERIOD MO/YEAR	OIL BBLs	GAS MCF	WATER BBLs								REMARKS
01/1987	1903	1059	3577	0	0	0	0	0	0	0	
02/1987	1694	928	3275	0	0	0	0	0	0	0	
03/1987	1809	993	3631	0	0	0	0	0	0	0	
04/1987	1464	870	3429	0	0	0	0	0	0	0	
05/1987	1762	999	3583	0	0	0	0	0	0	0	
06/1987	1393	822	3462	0	0	0	0	0	0	0	
07/1987	1309	806	3593	0	0	0	0	0	0	0	
08/1987	1387	842	3555	0	0	0	0	0	0	0	
09/1987	1187	751	3472	0	0	0	0	0	0	0	
10/1987	1250	784	3566	0	0	0	0	0	0	0	
11/1987	1141	740	3468	0	0	0	0	0	0	0	
12/1987	1091	723	3316	0	0	0	0	0	0	0	
1987/YTD	17390	10317	41927	0	0	0	0	0	0	0	
1987/CUM	179072	71380	132250	0	0	0	0	0	0	0	
01/1988	1090	700	3337	0	0	0	0	0	0	0	
02/1988	1061	722	1727	0	0	0	0	0	0	0	
03/1988	1058	700	845	0	0	0	0	0	0	0	
04/1988	887	630	1278	0	0	0	0	0	0	0	
05/1988	925	669	1480	0	0	0	0	0	0	0	
06/1988	832	1416	1297	0	0	0	0	0	0	0	
07/1988	889	1555	1464	0	0	0	0	0	0	0	
08/1988	977	1732	1352	0	0	0	0	0	0	0	
09/1988	809	1416	1343	0	0	0	0	0	0	0	
10/1988	800	1364	1819	0	0	0	0	0	0	0	
11/1988	634	1110	1350	0	0	0	0	0	0	0	
12/1988	607	687	1100	0	0	0	0	0	0	0	
1988/YTD	10569	12701	18392	0	0	0	0	0	0	0	
1988/CUM	189641	84081	150642	0	0	0	0	0	0	0	
01/1989	621	760	851	0	0	0	0	0	0	0	
02/1989	624	955	793	0	0	0	0	0	0	0	
03/1989	479	572	1416	0	0	0	0	0	0	0	
04/1989	639	404	1234	0	0	0	0	0	0	0	
05/1989	648	350	684	0	0	0	0	0	0	0	
06/1989	603	361	1186	0	0	0	0	0	0	0	
07/1989	569	277	847	0	0	0	0	0	0	0	
1989/YTD	4183	3679	7011	0	0	0	0	0	0	0	
1989/CUM	193824	87760	157653	0	0	0	0	0	0	0	

OIL

Cum: 199824.

De: 29.8% N: .46.

(ACTUAL)

(PROJECTED)

Operator

Lease - Well

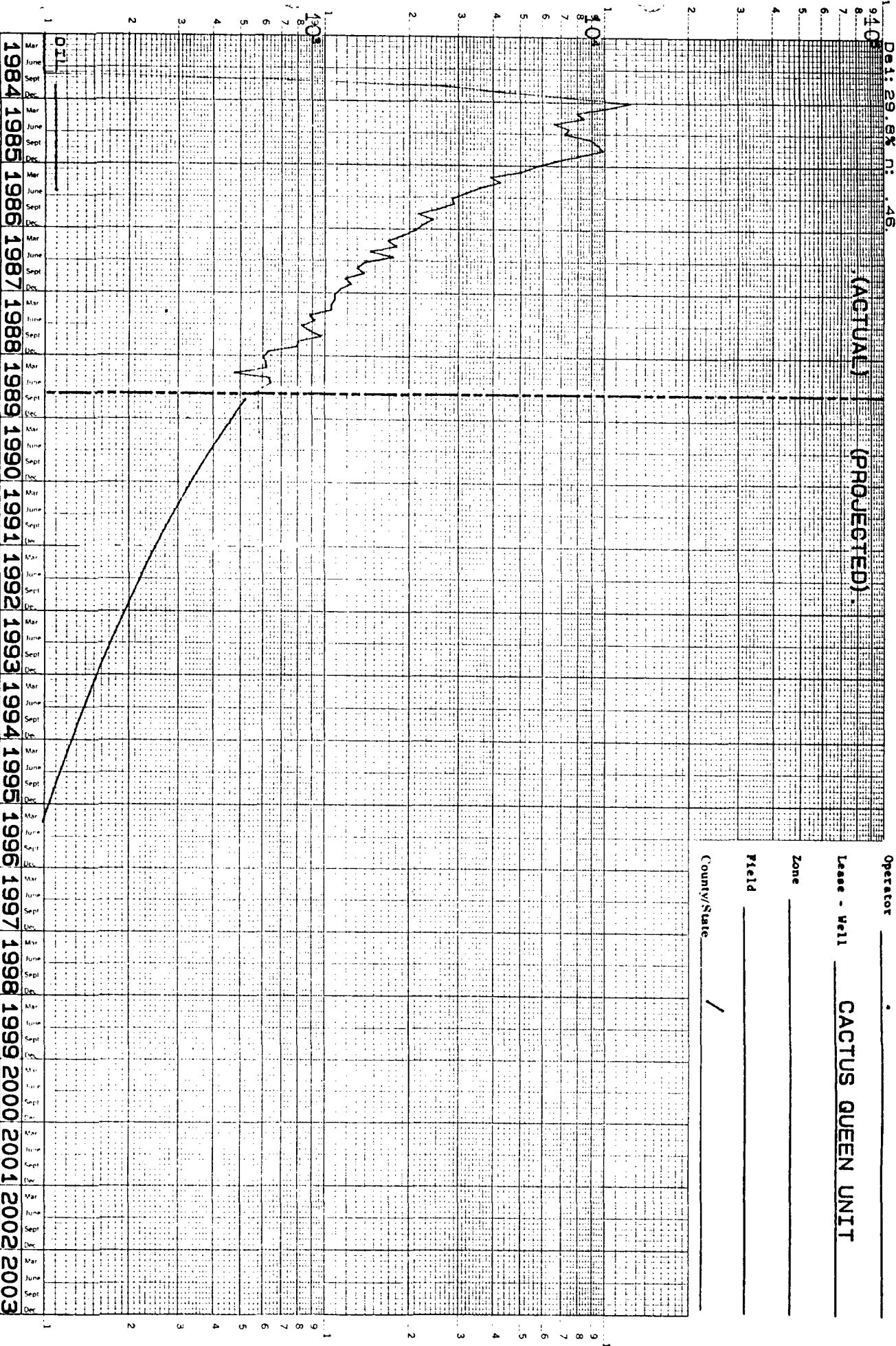
CACTUS QUEEN UNIT

Zone

Field

County/State

/



CACTUS QUEEN UNIT

**YATES DRILLING COMPANY
PROPOSED CACTUS QUEEN VOLUNTARY UNIT
CHAVES COUNTY, NEW MEXICO**

NMOCD FORM C-108

**BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION**

YATES EXHIBIT NO. **17**

CASE NO. **9809, 9810, 9823**

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APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☒ no
- II. Operator: Yates Drilling Company
Address: 105 South 4th Street, Artesia, New Mexico 88210
Contact party: Tobin L. Rhodes Phone: (505) 748-1471
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification
- I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- Name: Tobin L. Rhodes Title Petroleum Engineer
Signature: Tobin L. Rhodes Date: 10-13-89
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2000, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

OIL CONSERVATION DIVISION
FORM C-108 (Supplement)

Application of Yates Drilling Company
For a Secondary Recovery Project
(Proposed Cactus Queen Unit)
Voluntary Unit
Chaves County, New Mexico

I. Purpose:

Application is made for authorization to inject water into the Queen formation underlying the boundaries of the proposed Voluntary Cactus Queen Unit. The proposed unit consists of 320 acres, more or less, of Federal, State, and Fee lands in Units J, K, M, N, O, (W/2 SE/4, E/2 SW/4, SW/4 SW/4) of Section 27, and Units B, C, D, (N/2 NW/4, NW/4 NE/4) of Section 34, Township 12 South, Range 31 East, Chaves County New Mexico. This project would be classified as a secondary recovery project with the objective of recovering hydrocarbons that will not and can not be recovered by primary means.

Many wells in the proposed unit area are primary depleted or are very near primary depletion. Our studies show that the injection of water into selected wells will result in the recovery of oil in economic quantities not otherwise recoverable. This project should provide economic benefits to all parties holding any type of interest in the unit acreage.

II. Operator:

Yates Drilling Company
105 South Fourth Street
Artesia, New Mexico 88210

Phone Number: (505) 748-1471

III. Injection Well Data:

A well data sheet is attached for each of the three wells proposed for water injection. Each injection well data sheet includes a downhole schematic of how each individual well will be configured if this application is approved.

IV. Existing Project:

The proposed project is not an expansion of an existing project and will be a totally new project.

V. Ownership:

A lease ownership map is attached which identifies all wells and lease ownership within two miles of any of the six proposed injection wells. A map is also attached on which the area of review has been identified by drawing a one-half mile circle around each injection well.

VI. Well Data:

There are presently sixteen wells including proposed injection wells that fall within the boundaries of the proposed unit or within the area of review. One of these wells has been plugged and abandoned, one well is temporarily abandoned, and the remaining fourteen wells are active pumping oil wells producing from the Queen formation. Available data for each of the wells is included in the attached well data sheets. Additionally a downhole schematic has been drawn depicting the one plugged and abandoned well.

VII. Project Data:

1. The proposed daily average water injection rate is approximately 200 barrels per day for each of the three proposed water injection wells. Total water injection for the unit would be 600 barrels per day. The maximum injection rate for any individual well will be based on fracture pressure as determined by step-rate pressure tests to be conducted on each injection well.

2. Produced water will be stored in covered steel storage tank(s) and in open top fiberglass tanks making the produced water system an open system. Any fresh water will be stored in a covered steel tank. Produced oil will immediately be separated from produced water. The oil will be stored in a steel covered production tank until sold.

3. Initially the injection wells may take water on a vacuum, but as the reservoir fills a positive surface injection pressure will be required to inject water. The maximum injection pressure will also be determined by proposed step-rate pressure tests. At no time prior to the step-rate tests will the injection pressure exceed a pressure limitation of 0.2 PSIG per foot of depth to the top of the injection interval.

4. The source of injection fluid will be produced water from the producing wells within the unit and fresh water from the Ogollala aquifer in the area. No commitment has been made but commercial sources of fresh water are available in the area.

5. No water compatibility problems are expected as Ogollala water has been successfully injected into the Queen formation, throughout the Caprock Queen Field, without excessive problems. Compatibility tests have been run commingling the produced water and fresh water and no adverse problems were observed.

VIII. Geologic Data:

The Proposed Cactus Queen Unit produces from the upper sandstone member of the Queen formation, upper Guadalupian series, Permian system. The average producing depth in the field is approximately 2989 feet. The existing producing formation will be the interval into which water will be injected.

The productive/injection interval, as indicated from a whole core analysis on the DeLuna Federal #3 (330' FNL & 1980' FEL, 34-12s-31e) and sidewall core data from numerous wells, is fine grained, friable, gray, quartz sandstone. The grains are sub-angular to sub-rounded and well sorted. The cementing material is variously from anhydrite and dolomite. The exact depositional environment is unknown. Porosity and permeability are intergranular in nature. The sandstone is not naturally fractured.

The Cactus Queen Field is a stratigraphic trap. Cementation of the sandstone results in the loss of porosity and permeability, creating a barrier on all sides with the exception of the east. A tilted oil-water contact limits the production in that direction. The oil/water contact has been established at (+1440) in the southeast end of the field and (+1446) at the northeast edge.

The primary underground source of fresh water in this area is the Ogollala formation of Tertiary age, the base of which is estimated to be 300 feet below the surface. This aquifer is protected behind the surface pipe and cement of all existing wells in the unit area. The Chinlee formation is also a fresh water aquifer which immediately underlies the Ogollala formation. The Base of the Chinlee is estimated to be approximately 500 feet below the surface in the unit area. The Chinlee is behind the production casing in all existing wells in the unit area.

IX. Stimulation Program:

Each of the currently producing wells has previously received a fracture treatment. The details of these treatments are outlined in the data sheet for each individual well. There are no plans to stimulate any of the existing wells which will be producing wells in this project.

The wells which will be injection wells may require a small clean-up acid treatment prior to injection. We plan to treat each of the proposed injection wells with 1000 to 2000 gallons of 15% hydrochloric acid. This treatment should insure that existing perforations are open and that each well will accept water or gas at the lowest possible pressure.

X. Well Logs:

Well logs for each of the existing wells in the proposed unit have previously been submitted to the Hobbs office of the NMOC. Attached for zone identification purposes is a cross section containing portions of the logs from wells in the reservoir.

XI. Fresh Water:

The Office of the State Engineer in Roswell has a record of six wells within one mile of the proposed unit. The total depths of two of the wells are unknown, however all six wells are assumed to be producing from the Ogollala formation. Analysis reports for water taken from three of the wells are attached.

XII. Injection Zone Isolation:

Available engineering and geologic data has been examined and no evidence of open faulting or any other hydrologic connection between the injection zone and any underground source of drinking water has been found.

XIII. Proof of Notice:

A listing of off-set leasehold operators within 1/2 mile of any injection wells and the surface owners that have received a copy of this application by certified mail is attached.

XIV. Certification:

I hereby certify that the information submitted with this application is true and correct to best of my knowledge and belief.

Tobin L. Rhodes

Tobin L. Rhodes

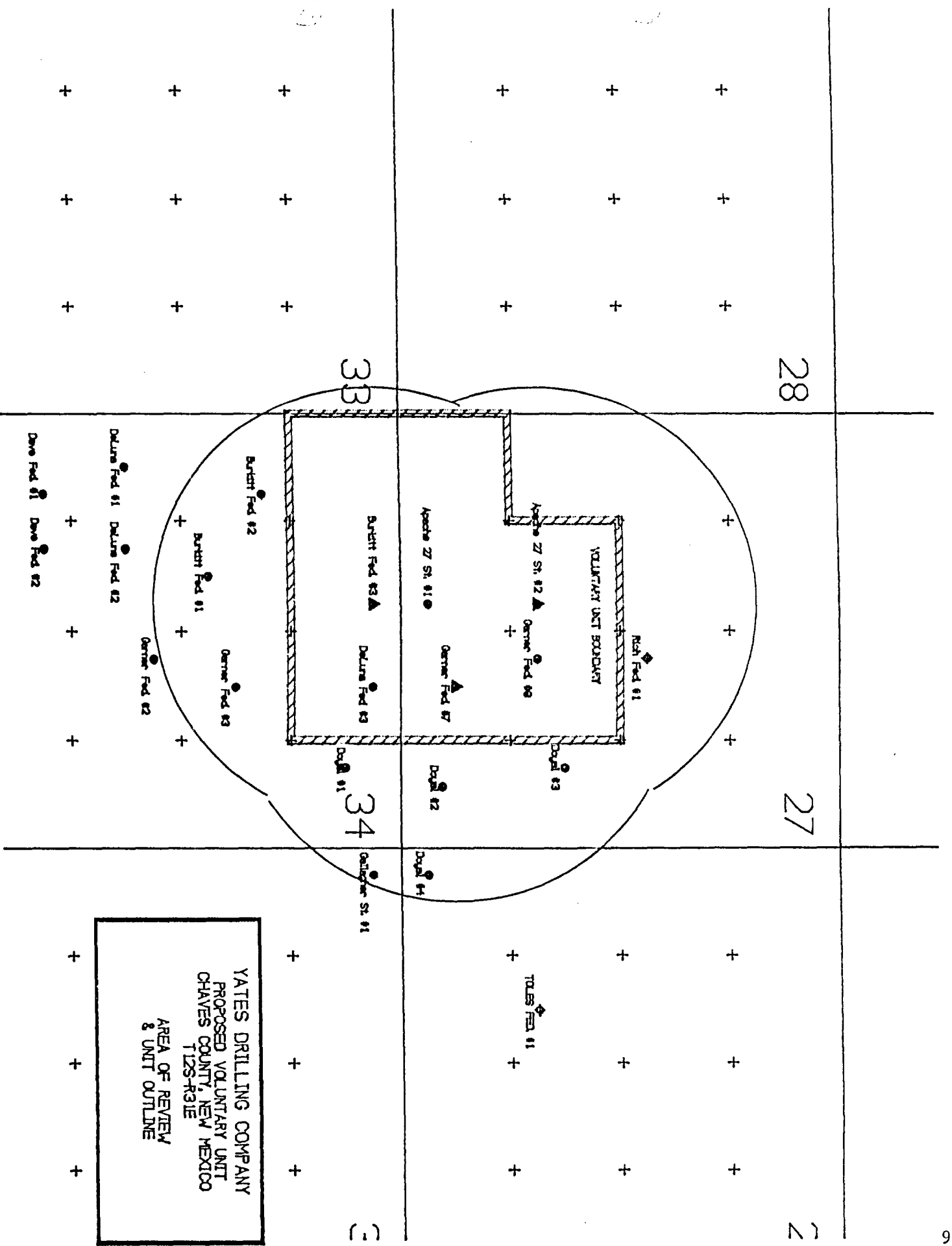
Petroleum Engineer

October 13, 1989

TOWNSHIP 13 S TOWNSHIP 12 S

RANCE 32 E

CHAVES AND LEA COUNTIES
NEW MEXICO



INJECTION WELL DATA SHEET

OPERATOR: Yates Drilling Company LEASE: Apache "27" State

WELL NO.: 2 FOOTAGE: 1650' FSL-2310' FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: _____ SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 454

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
TOC: _____ FEET DETERMINED BY: _____
HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 4-1/2" CEMENTED WITH: _____ SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 7-7/8" SETTING DEPTH: 3150'
TOTAL DEPTH: 3150'

INJECTION INTERVAL

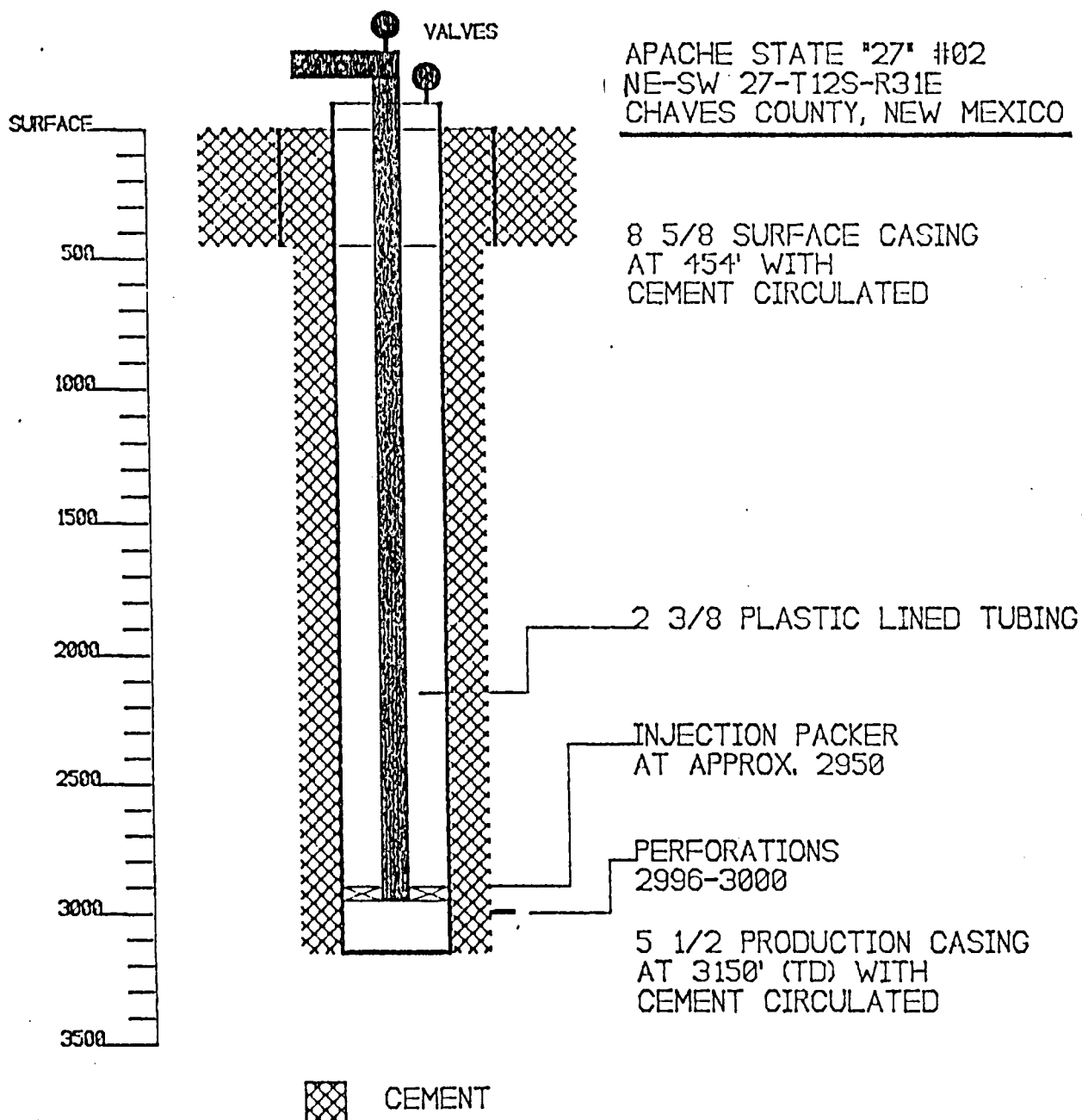
2996' FEET TO 3000' FEET - PERFORATED

TUBING

TUBING SIZE: 2-3/8" LINED WITH: Plastic SET IN A
Baker OD-1 PACKER AT: 2946' FEET

OTHER DATA

1. NAME OF INJECTION FORMATION: Queen
2. NAME OF FIELD OR POOL (IF APPLICABLE): SE Chaves Queen
3. IS THIS A NEW WELL DRILLED FOR INJECTION? No
IF NO, FOR WHAT PURPOSE WAS THE WELL ORIGINALLY DRILLED?
This well was drilled as a Queen producing well.
4. HAS WELL EVER BEEN PERFORATED IN ANY OTHER ZONE(S)? No
LIST ALL SUCH PERFORATED INTERVALS AND GIVE PLUGGING
DETAILS (SACKS OF CEMENT OR BRIDGE PLUG(S) USED): _____
5. GIVE DEPTH TO AND NAME OF ANY OVERLYING AND/OR
UNDERLYING OIL OR GAS ZONES (POOLS) IN THIS AREA: _____
None known.



INJECTION WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Burkitt Federal
WELL NO.: 3 FOOTAGE: 330' FNL-2310' FWL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 6-5/8" 24# CEMENTED WITH: 270 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 424

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
TOC: _____ FEET DETERMINED BY: _____
HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 260 SX.
TOC: 1640' FEET DETERMINED BY: Temp. Survey
HOLE SIZE: 7-7/8" SETTING DEPTH: 3083'
TOTAL DEPTH: 3100'

INJECTION INTERVAL

2988' FEET TO 2992' FEET - PERFORATED

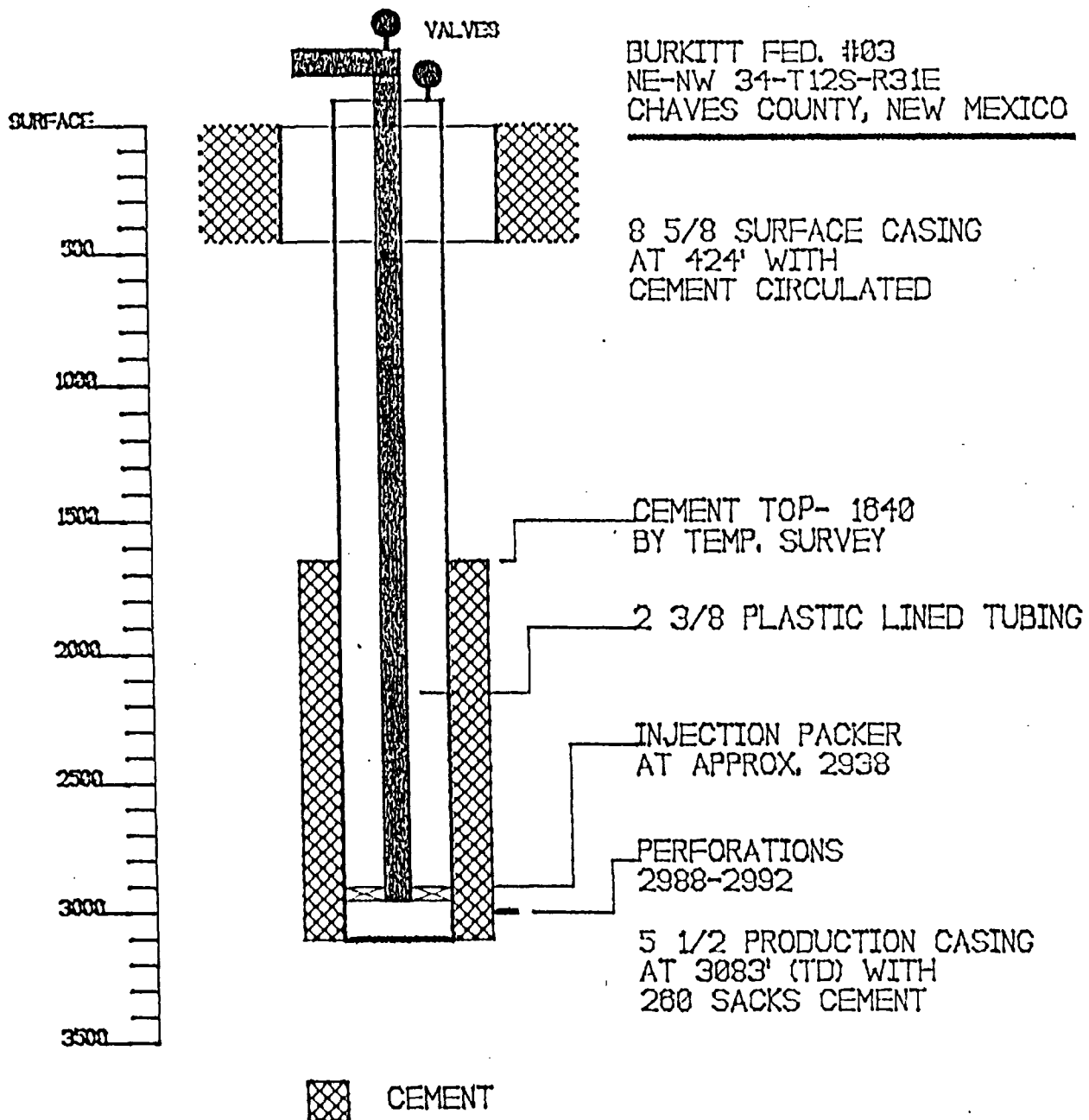
TUBING

TUBING SIZE: 2-3/8" LINED WITH: Plastic SET IN A
Baker AD-1 PACKER AT: 2938' FEET

OTHER DATA

1. NAME OF INJECTION FORMATION: Queen
2. NAME OF FIELD OR POOL (IF APPLICABLE): SE Chaves Queen
3. IS THIS A NEW WELL DRILLED FOR INJECTION? No
IF NO, FOR WHAT PURPOSE WAS THE WELL ORIGINALLY DRILLED?
This well was drilled as a Queen producing well.
4. HAS WELL EVER BEEN PERFORATED IN ANY OTHER ZONE(S)? No
LIST ALL SUCH PERFORATED INTERVALS AND GIVE PLUGGING
DETAILS (SACKS OF CEMENT OR BRIDGE PLUG(S) USED): _____

5. GIVE DEPTH TO AND NAME OF ANY OVERLYING AND/OR
UNDERLYING OIL OR GAS ZONES (POOLS) IN THIS AREA: _____
None known.



INJECTION WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Garner Federal
 WELL NO.: 7 FOOTAGE: 660'ESL-1980'FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 424

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
 TOC: FEET DETERMINED BY:
 HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 270 SX.
 TOC: 1900' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3098.54'
 TOTAL DEPTH: 3100'

INJECTION INTERVAL

2987' FEET TO 2993' FEET - PERFORATED

TUBING

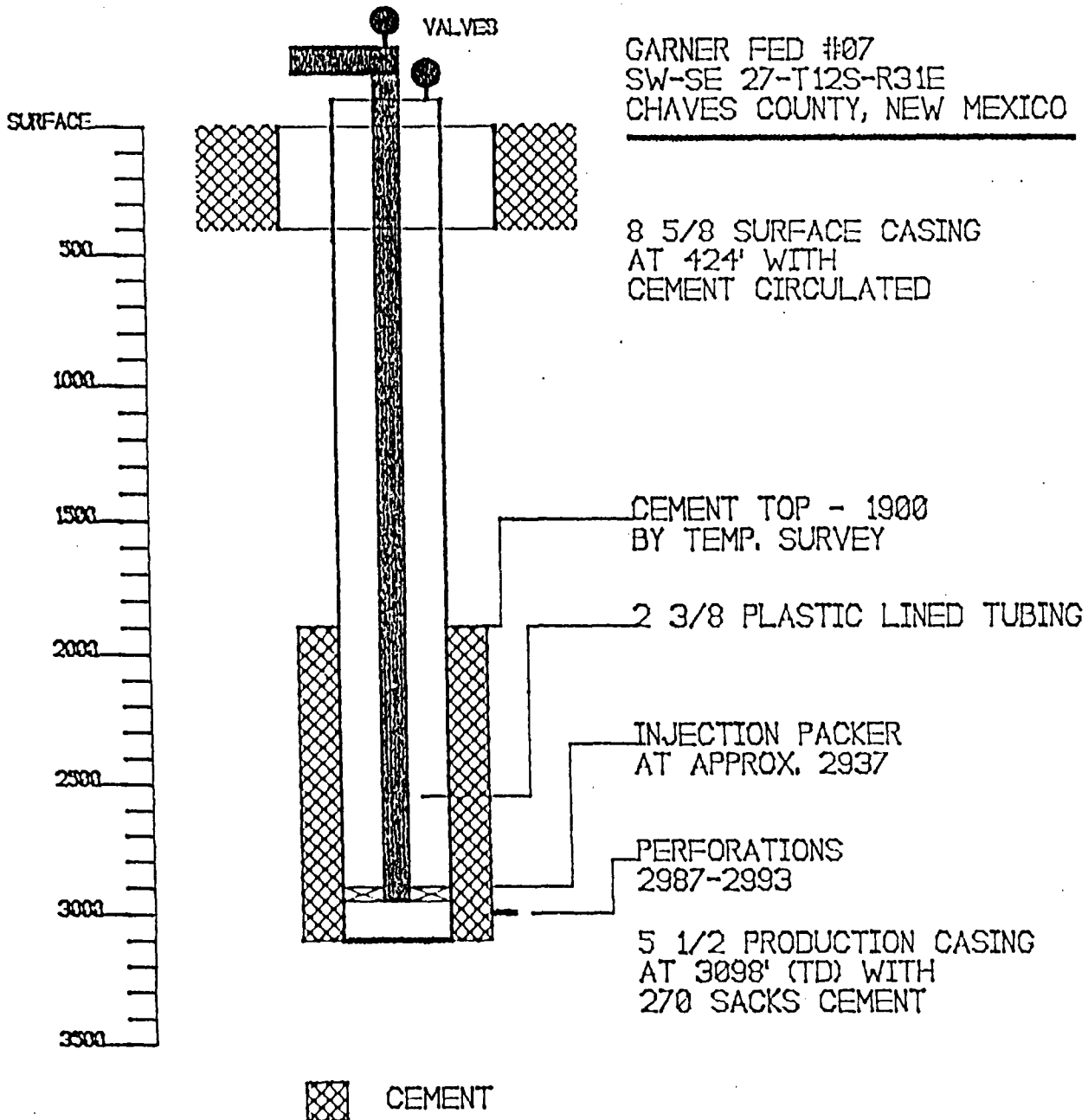
TUBING SIZE: 2-3/8" LINED WITH: Plastic SET IN A
Baker AD-1 PACKER AT: 2937' FEET

OTHER DATA

1. NAME OF INJECTION FORMATION: Queen
2. NAME OF FIELD OR POOL (IF APPLICABLE): SE Chaves Queen
3. IS THIS A NEW WELL DRILLED FOR INJECTION? No
 IF NO, FOR WHAT PURPOSE WAS THE WELL ORIGINALLY DRILLED?
This well was drilled as a Queen producing well.
4. HAS WELL EVER BEEN PERFORATED IN ANY OTHER ZONE(S)? No
 LIST ALL SUCH PERFORATED INTERVALS AND GIVE PLUGGING
 DETAILS (SACKS OF CEMENT OR BRIDGE PLUG(S) USED):
5. GIVE DEPTH TO AND NAME OF ANY OVERLYING AND/OR
 UNDERLYING OIL OR GAS ZONES (POOLS) IN THIS AREA:
None known.

WELL SCHEMATIC ATTACHED

GARNER FED #07
SW-SE 27-T12S-R31E
CHAVES COUNTY, NEW MEXICO



WELL DATA SHEET

OPERATOR: Yates Drilling Company LEASE: Apache "27" State
 WELL NO.: 1 FOOTAGE: 330'ESL-2310'FWL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" CEMENTED WITH: SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 422'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
 TOC: FEET DETERMINED BY:
 HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 4-1/2" CEMENTED WITH: SX.
 TOC: 210' FEET DETERMINED BY:
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3150'
 TOTAL DEPTH: 3150'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 5-9-85 COMPLETION DATE: 6-27-85
 PERFORATED: 2984 FEET TO 2991 FEET

STIMULATION: 100 gals. 15% HCl acid, 12000 gals. gel water
4000 gals. CO2, 10500# 20/40 sand, 10000# 12/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS:

WELL DATA SHEET

OPERATOR: Yates Drilling Company LEASE: Apache "27" State
 WELL NO.: 2 FOOTAGE: 1650' FSL-2310' FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" CEMENTED WITH: SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 454'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
 TOC: FEET DETERMINED BY:
 HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 4-1/2" CEMENTED WITH: SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3150'
 TOTAL DEPTH: 3150'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 7-27-85 COMPLETION DATE: 8-23-85
 PERFORATED: 2996 FEET TO 3000 FEET

STIMULATION: 850 gals. 15% HCl acid, 16000 gals. gel water
25% CO2, 10500# 20/40 sand, 10000# 12/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS:

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Burkitt Federal
WELL NO.: 1 FOOTAGE: 2310' ENL-1980' FEL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 300 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 450'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
TOC: _____ FEET DETERMINED BY: _____
HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 360 SX.
TOC: 1650' FEET DETERMINED BY: Temp. Survey
HOLE SIZE: 7-7/8" SETTING DEPTH: 3080'
TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
SPUD DATE: 3-23-84 COMPLETION DATE: 4-7-84
PERFORATED: 2874 FEET TO 2882 FEET

STIMULATION: 750 gals. 15% HCl acid, 20000 gals. 30# gel,
25% CO2, 16500# 20/40 sand, 6000# 12/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Burkitt Federal
 WELL NO.: 2 FOOTAGE: 1650' FNL - 990' FWL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 375 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 370'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 250 SX.
 TOC: 1678' FEET DETERMINED BY: Cement Bond Log
 HOLE SIZE: 7-7/8" SETTING DEPTH: 2845'
 TOTAL DEPTH: 2850'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 5-5-84 COMPLETION DATE: 7-10-84
 PERFORATED: 2754 FEET TO 2760 FEET

STIMULATION: 750 gals. 15% HCl acid, 15000 gals. 30# gel,
5000 gals CO2, 14500# 20/40 sand, 2500# 12/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Burkitt Federal
 WELL NO.: 3 FOOTAGE: 330' ENL-2310' FWL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 270 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 424'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 260 SX.
 TOC: 1640' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3083'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 8-9-85 COMPLETION DATE: 10-1-85
 PERFORATED: 2988 FEET TO 2992 FEET

STIMULATION: 750 gals. 15% HCl acid, 15000 gals. gel water
24 tons CO2, 12000# 20/40 sand, 7000# 12/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: DeLuna Federal

WELL NO.: 3 FOOTAGE: 330' FNL-1980' FEL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 300 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 483'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
TOC: FEET DETERMINED BY:
HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 410 SX.
TOC: 1900' FEET DETERMINED BY: Cement Bond Log
HOLE SIZE: 7-7/8" SETTING DEPTH: 3094'
TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
SPUD DATE: 2-11-85 COMPLETION DATE: 3-20-85
PERFORATED: 2987-1/2 FEET TO 2993 FEET

STIMULATION: 750 gals. 15% hcl. 15000 gals. 30# gel. 23-1/2
tons CO2. 13000# 20/40 sand. 10000# 10/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS:

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Doyal
 WELL NO.: 1 FOOTAGE: 660' FNL - 990' FEL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 409.46'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
 TOC: FEET DETERMINED BY:
 HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 5-1/2" CEMENTED WITH: 250 SX.
 TOC: 2200' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3098'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 7-31-84 COMPLETION DATE: 8-25-84
 PERFORATED: 2982' FEET TO 2989' FEET

STIMULATION: 750 gallons of 15 % HCl, 15000 gallons 30# gel
5000 SCF N2 per barrel, 10900# 20/40 sand, and 4200# 10/20
sand.

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well.

IF P&A, LIST PLUGGING DETAILS:

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Doyal
WELL NO.: 2 FOOTAGE: 500'ESL- 760'FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 275 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 411'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
TOC: _____ FEET DETERMINED BY: _____
HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" CEMENTED WITH: 250 SX.
TOC: 2200' FEET DETERMINED BY: Temp. Survey
HOLE SIZE: 7-7/8" SETTING DEPTH: 3098'
TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
SPUD DATE: 9-7-84 COMPLETION DATE: 9-20-84
PERFORATED: 2981' FEET TO 2987' FEET

STIMULATION: 750 gallons of 15% HCl, 15000 gallons 30# gel
, 25% CO2 12000# 20/40 sand, 10000# 10/20 sand.

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well.

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Doyal
 WELL NO.: 3 FOOTAGE: 1980' FSL - 990' FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 260 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 409'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
 TOC: FEET DETERMINED BY:
 HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 650 SX.
 TOC: 630' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3099'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 9-20-84 COMPLETION DATE: NONE
 PERFORATED: 2991' FEET TO 2997' FEET

STIMULATION: 750 gallons of 15 % HCl, 15000 gallons 30# gel
, 25% CO2 20000# 20/40 sand, 10000# 10/20 sand.

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Temp. Abandoned

IF P&A, LIST PLUGGING DETAILS:

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Doyal
 WELL NO.: 4 FOOTAGE: 330' FSL- 330' FWL SEC: 26-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 400'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 975 SX.
 TOC: 310' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3088'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 11-18-84 COMPLETION DATE: 1-24-87
 PERFORATED: 2982' FEET TO 2985' FEET

STIMULATION: 750 gallons of 15 % HCl, 15000 gallons 30# gel
, 22 tons CO2, 12000# 20/40 sand, 8500 # 12/20 sand.

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Gallagher State

WELL NO.: 1 FOOTAGE: 330'FNL- 330'FWL SEC: 35-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 433'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
TOC: FEET DETERMINED BY:
HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 900 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 7-7/8" SETTING DEPTH: 3084'
TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
SPUD DATE: 10-28-84 COMPLETION DATE: 11-9-84
PERFORATED: 2982' FEET TO 2987' FEET

STIMULATION: 650 gallons of 15 % HCl, 15000 gallons 30# gel
, 22 tons CO2, 12000# 20/40 sand, 10750# 10/20 sand.

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS:

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Garner Federal
 WELL NO.: 2 FOOTAGE: 2310' FSL-2310' FEL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 410'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 550 SX.
 TOC: 1992' FEET DETERMINED BY: Cement Bond Log
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3098'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 4-29-84 COMPLETION DATE: 6-1-84
 PERFORATED: 2982 FEET TO 2990 FEET

STIMULATION: 750 gals. 15% HCl acid, 20000 gals. 30# gel,
25% CO2, 16500# 20/40 sand, 1700# 12/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Garner Federal
WELL NO.: 3 FOOTAGE: 1980' ENL-1980' FEL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 225 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 400'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
TOC: _____ FEET DETERMINED BY: _____
HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 250 SX.
TOC: 1810' FEET DETERMINED BY: Temp. Survey
HOLE SIZE: 7-7/8" SETTING DEPTH: 3100'
TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
SPUD DATE: 7-2-84 COMPLETION DATE: 8-12-84
PERFORATED: 2981 FEET TO 2986 FEET

STIMULATION: 750 gals. 15% HCl acid, 13000 gals. 30# gel,
5000 SCE N2 per barre, 1500# 20/40 sand, 1700# 12/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Garner Federal
 WELL NO.: 7 FOOTAGE: 660' FSL-1980' FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 424'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 270 SX.
 TOC: 1900' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3098.54'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 10-14-84 COMPLETION DATE: 10-30-84
 PERFORATED: 2987' FEET TO 2993' FEET

STIMULATION: 750 gallons of 15% HCl, 15000 gallons 30# gel
1 1000 SCF/BBL CO2 13000# 20/40 sand, 9000# 10/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS:

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Garner Federal
WELL NO.: 9 FOOTAGE: 1650' FSL-2310' FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 420'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
TOC: _____ FEET DETERMINED BY: _____
HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 320 SX.
TOC: 1820' FEET DETERMINED BY: Temp. Survey
HOLE SIZE: 7-7/8" SETTING DEPTH: 3098'
TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
SPUD DATE: 11-11-84 COMPLETION DATE: 11-30-84
PERFORATED: 2985' FEET TO 2995' FEET

STIMULATION: 750 gallons of 15 % HCl, 15000 gallons 30# gel
, 16 tons of CO2, 18000# 20/40 sand, 12500# 10/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Rich Federal
WELL NO.: 1 FOOTAGE: 2310'FNL-2310'FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 412'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
TOC: FEET DETERMINED BY:
HOLE SIZE: SETTING DEPTH:

LONG_STRING

SIZE: None CEMENTED WITH: SX.
TOC: FEET DETERMINED BY:
HOLE SIZE: 7-7/8" SETTING DEPTH:
TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: None POOL OR FIELD: SE Chaves Queen
SPUD DATE: 11-30-84 COMPLETION DATE: None
PERFORATED: _____ FEET TO _____ FEET

STIMULATION: None

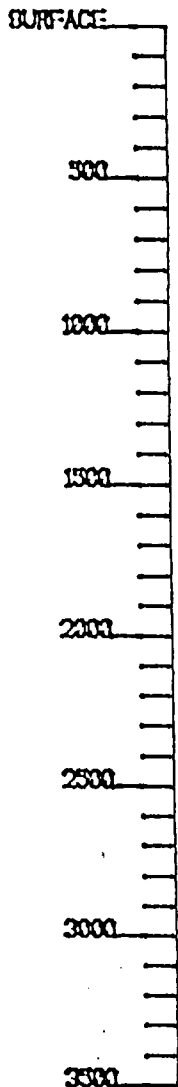
OTHER PERFORATED ZONES: None-----

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Plugged and Abandoned

IF P&A, LIST PLUGGING DETAILS: P&A 12-12-84
 Plug 3040-2940' 35 sx Class "C" neat, Plug 2100-2000' 75 sx
 Class "C" w/2% CaCl2, plug 1500-1400' 35 sx Class "C" neat,
 Plug 462-362' 30 sx Class "C" w/2% CaCl2, Plug 50-Sur. 20sx
 Class "C" neat

RICH FED. #101
SW-NE 27-T12S-R31E
CHAVES COUNTY, NEW MEXICO



20 SACK SURFACE PLUG



8 5/8 SURFACE CASING
AT 412' WITH
CEMENT CIRCULATED

50 SACK PLUG
362-462

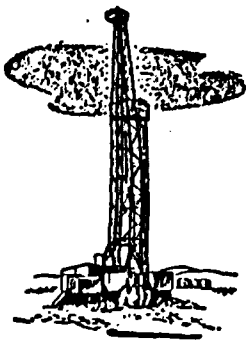
35 SACK PLUG
1400-1500

75 SACK PLUG
2000-2100

35 SACK PLUG
2940-3040



CEMENT



YATES DRILLING COMPANY

105 SOUTH FOURTH STREET — (505) 746-9889

FAX (505) 746-6480

TELEX 508891 (YPCART)

ARTESIA, NEW MEXICO 88210

May 31, 1989

PEYTON YATES
PRESIDENT

S. P. YATES
VICE PRESIDENT

RANDY G. PATTERSON
SECRETARY

DENNIS G. KINSEY
TREASURER

New Mexico State Engineer
District 2 Office
P.O. Box 1717
Roswell, New Mexico 88202

Attention: Glen Brim, District Supervisor 

Gentlemen:

Yates Drilling Company is proposing to waterflood the Queen formation underlying portions of Township 12 South, Range 31 East and Township 13 South, Range 31 East, Chaves County, New Mexico.

To insure the protection of fresh water aquifers in this area we would like to obtain the location, depth and geological name of the producing formation for any water wells located in either described township. Additionally, the identification of any commercial water wells in the area would be helpful.

Any information that your office can provide concerning this matter will be greatly appreciated.

Sincerely yours,

YATES DRILLING COMPANY



Tobin L. Rhodes
Petroleum Engineer

'89 JUN 1 PM 8 35
STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

JUN 12 1989

June 9, 1989

Yates Drilling Company

ATTN: Tobin L. Rhodes, Petroleum Engineer

Enclosed are well locations and some information pertaining to these wells. They were drilled and finished in the Ogallala Formation (TO). Record of other wells finished deeper on other water formations were found north of Township 12 South in Township 11 South, Range 31 East. These wells are finished in the Triassic Formation (TRC), depth of wells are between $\pm$ 200 feet to 300 feet.

 Johnny R. Hernandez

Basin Supervisor

Section 24

Township 12 South

Range 31 East

-4993

NE $\frac{1}{4}$ SW $\frac{1}{4}$

Dom.

T.D. 146

5 $\frac{1}{2}$ " casing - Shallow

L-6649

SE $\frac{1}{4}$ SE $\frac{1}{4}$

Dom & Stk

T.D. 160'

4 $\frac{1}{2}$ " casing - Shallow

Section 26

Township 12 South

Range 31 East

L-2117

NW $\frac{1}{4}$ SW $\frac{1}{4}$

Irr.

L-6746

SW $\frac{1}{4}$ NW $\frac{1}{4}$

Dom. & Stk

T.D. 166'

Not cased - Shallow

L-6749

SW $\frac{1}{4}$ SE $\frac{1}{4}$

Comm. & DOM & STK

T.D. 198'

6" casing - Shallow

*L-9566

SW $\frac{1}{4}$ SE $\frac{1}{4}$

COM, Oil & Gas

Same

*Well L-9566 is stock well L-6749**

Comm.

Section 27

Township 12 S

Range 31 E.

L-6650

SE $\frac{1}{4}$ NE $\frac{1}{4}$

Dom & Stk

T.D. 160'

4 $\frac{1}{2}$ " casing - Shallow

Section 35

Township 12 South

Range 31 East

L-2932

SE $\frac{1}{4}$

OWD

L-4170

NW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$

Dom.

T.D. 55'

Casing 8" Shallow

L-4296

NW $\frac{1}{4}$ NW $\frac{1}{4}$

WF -

Cancelled

L-4296-X

SW $\frac{1}{4}$ SW $\frac{1}{4}$

WF -

Cancelled

L-4296-X-2

NE $\frac{1}{4}$ NE $\frac{1}{4}$

WF -

Cancelled

L-4296-X-3

SE $\frac{1}{4}$ SE $\frac{1}{4}$

WF -

Cancelled

NO Wells

Section 23

Township 13 South Range 31 East

L-3914-X-10	SE $\frac{1}{4}$ SE $\frac{1}{4}$	Ind.
L-3914-X-11	SE $\frac{1}{4}$ NW $\frac{1}{4}$	Ind.
L-3914-X-12	NE $\frac{1}{4}$ NE $\frac{1}{4}$	Ind.
L-3914-X-13	SE $\frac{1}{4}$ SW $\frac{1}{4}$	Ind.
L-3914-X-14	NW $\frac{1}{4}$ SE $\frac{1}{4}$	Ind.

↑
WELLS NOT DRILLED
↓

Section 24

Township 13 South Range 31 East

L-3914	NE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$	Ind.
L-3914-X	NE $\frac{1}{4}$ SW $\frac{1}{4}$	Ind.
L-3914-X-2	NE $\frac{1}{4}$ NW $\frac{1}{4}$	Ind.
L-3914-X-3	SW $\frac{1}{4}$ SE $\frac{1}{4}$	Ind.
L-3914-X-4	SE $\frac{1}{4}$ NE $\frac{1}{4}$	Ind.
L-3914-X-5	NE $\frac{1}{4}$ SE $\frac{1}{4}$	Ind.
L-3914-X-6	NW $\frac{1}{4}$ NE $\frac{1}{4}$	Ind.
L-3914-X-7	NE $\frac{1}{4}$ NE $\frac{1}{4}$	Ind.
L-3914-X-8	SW $\frac{1}{4}$ NW $\frac{1}{4}$	Ind.
L-3914-X-9	SE $\frac{1}{4}$ NW $\frac{1}{4}$	Ind.

T.D. 196' 8 $\frac{5}{8}$ " casing - Shallow

↑
WELLS NOT DRILLED
↓

Section 35

Township 13 South Range 31 East

L-2849	SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$	Dom.
--------	--	------

No well record info.

ction 1

Township 13 South Range 31 East

3460
3461
3837
3837-X

SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$
SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$
SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$
SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$

WF

WF

Com. & Stock

Com. & Stock

— T.D. 19' 8 $\frac{5}{8}$ " casing - Shallow
— T.D. 220' 8 $\frac{5}{8}$ " casing - Shallow
— Rptd TD 165' 6" casing - Shallow
— Rptd TD. 190' 7" casing - Shallow

tion 2

Township 13 South Range 31 East

806
833
834
835
295

SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$
NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$
SW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$
SW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$
SE $\frac{1}{4}$ NE $\frac{1}{4}$

Stock

Com.

Dec.

Dec.

WF

NO well record info.

With drawn. NO well

— Rptd — T.D. 165' 6 $\frac{3}{4}$ " casing - Shallow
— Rptd — T.D. 165' 6 $\frac{3}{4}$ " casing - Shallow

3914

NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$

SRO — T.D. 196' 8 $\frac{5}{8}$ " casing - Shallow

2745

NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$

SRO — T.D. 216' 6 $\frac{3}{4}$ " casing - Shallow

ection 12

Township 13 South Range 31 East

2934

NE $\frac{1}{4}$

OWD

NO well record info.

-3460

NE $\frac{1}{4}$ NE $\frac{1}{4}$

SRO — T.D. 217' — 8 $\frac{5}{8}$ " casing - Shallow

ection 13

Township 13 South Range 31 East

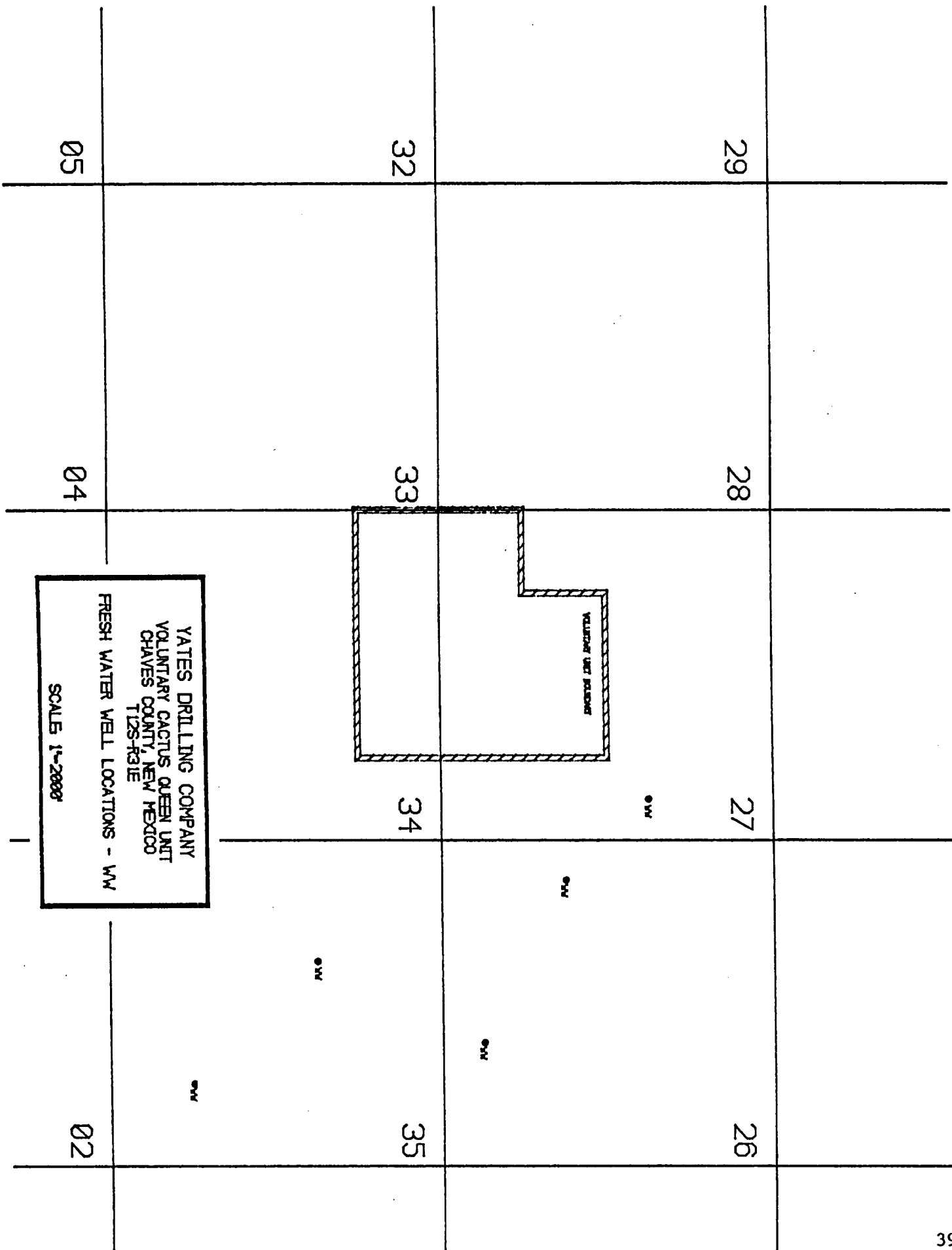
-2933

NE $\frac{1}{4}$

OWD

NO well record info.

SEC	TWN	RNG	UNIT LTR	QTR OF UNIT	TD	TYPE	#
24	12S	31E	K	?	148	DOM.	L4993
24	12S	31E	P	?	160	DOM.	L6649
26	12S	31E	E	?	166	DOM. & STK	L6746
✓26	12S	31E	L	?	?	IRR.	L2117
✓26	12S	31E	O	?	198	COM. (OIL & GAS)	L9566
✓26	12S	31E	O	?	198	COM., DOM. & STK	L6749
✓27	12S	31E	H	?	160	DOM. & STK	L6650
✓35	12S	31E	F	NW	55	DOM.	L4170
✓35	12S	31E	IJOP	?	?	?	L2932
1	13S	31E	K	SE	190	WF	L3460
1	13S	31E	P	SE	220	WF	L3461
1	13S	31E	M	SW	190	COM. & STK	L3837X
1	13S	31E	M	SW	165	COM. & STK	L3837
2	13S	31E	H	SW	165	DEC.	L3834
2	13S	31E	H	?	?	WF	L4295
2	13S	31E	H	NE	196	SRO	L3914
2	13S	31E	H	SW	165	DEC.	L3835
2	13S	31E	P	SE	?	?	L3806
2	13S	31E	I	NE	216	SRO	L2745
12	13S	31E	A	?	217	SRO	L3460
13	13S	31E	ABCD	?	?	OWD	L2933
24	13S	31E	H	NE	196	IND.	L3914
35	13S	31E	F	SW	?	DOM.	L2849



PERMIAN

Treating Chemicals, Inc.

P.O. BOX 728

LOVINGTON, N.M. 88263

PHONE (505) 396-5674

WATER ANALYSIS REPORT

Company Yates Drilling Date Sampled 1-22-88
 Field Caprock County Chavez
 Lease Graham Water Station State NM
 Well _____ Formation _____
 Type of Water Fresh Water, B/D _____
 Sampling Point Water Tanks Sampled By Blackwell

DISSOLVED SOLIDS

CATIONS

	mg/l	meq/l
Sodium, Na+(Calc)	230	10
Calcium, Ca++	120	6
Magnesium, Mg++	24	2
Barium, Ba++	neg	-
Iron, Fe (Total)		

OTHER PROPERTIES

pH 8.2
 Specific Gravity 1.000
 H₂S neg
 Total Dissolved Solids 1144
 Total Hardness 400

ANIONS

Chloride, Cl-	350	35.5
Sulfate, So ₄ =	120	3
Carbonate, Co ₃ =	0	0
Bicarbonate, HCo ₃ -	300	5

Remarks and Recommendations _____

PERMIAN

Treating Chemicals, Inc.

P.O. BOX 728
LOVINGTON, N.M. 88263
PHONE (505) 396-5674

WATER ANALYSIS REPORT

Company Yates Drilling Date Sampled 1-22-88
Field Caprock County Chavez
Lease Graham Water well (fresh) State NM
Well North of Lease Formation Blackwell
Type of Water Fresh Water, B/D Blackwell
Sampling Point Well head Sampled By

DISSOLVED SOLIDS

CATIONS

	mg/l	meq/l
Sodium, Na+(Calc)	115	5
Calcium, Ca++	120	6
Magnesium, Mg++	15	1
Barium, Ba++	Neg	68.7
Iron, Fe (Total)		

OTHER PROPERTIES

pH 8.3
Specific Gravity 1.000
H₂S Neg
Total Dissolved Solids 817
Total Hardness 360

ANIONS

Chloride, Cl-	200	35.5	6
Sulfate, So ₄ =	55	48	1
Carbonate, Co ₃ =	0	30	0
Bicarbonate, HCo ₃ -	312	61	5

Remarks and Recommendations

ERMIAN

ating Chemicals, Inc.

P.O. BOX 728
LOVINGTON, N.M. 88260
PHONE (505) 396-5674

WATER ANALYSIS REPORT

Company Yates Drilling Report Date Sampled 1-22-88
Field Caprock County Lea
Lease Williams Ranch State NM
Well Williams Fresh Water Formation _____
Type of Water Fresh Water Water, B/D _____
Sampling Point Well head Sampled By Blackwell

DISSOLVED SOLIDS

CATIONS

	mg/l	meq/l
Sodium, Na+(Calc)	70 ÷ 23	3.0
Calcium, Ca++	80 ÷ 20	4.0
Magnesium, Mg++	20 ÷ 12.2	1.6
Barium, Ba++	Neg ÷ 68.7	
Iron, Fe (Total)		

OTHER PROPERTIES

pH 8.2
Specific Gravity 1.000
H₂S Neg
Total Dissolved Solids 602
Total Hardness 271

ANIONS

	mg/l	meq/l
Chloride, Cl-	100 ÷ 35.5	2.8
Sulfate, So ₄ =	40 ÷ 48	0.8
Carbonate, Co ₃ =	0 ÷ 30	0
Bicarbonate, HCo ₃ -	292 ÷ 61	4.8

Remarks and Recommendations _____

PERMIAN

Treating Chemicals, Inc.

P. O. BOX 72
LOVINGTON, NM
PHONE (505) 396

WATER ANALYSIS REPORT

Company	Yates Drilling	Date Sampled	1-22-88
Field	Caprock	County	Lea
Lease	Gallagher	State	NM
Well	1	Formation	Queens
Type of Water	Produced	Water, B/D	
Sampling Point	Treater	Sampled By	Blackwell

DISSOLVED SOLIDS

CATIONS

	mg/l	meq/l
Sodium, Na+(Calc)	98100	23
Calcium, Ca++	3750	20
Magnesium, Mg++	12900	12.2
Barium, Ba++	neg	0.7
Iron, Fe (Total)		

OTHER PROPERTIES

pH	5.9
Specific Gravity	1.200
H ₂ S	Neg
Total Dissolved Solids	314,240
Total Hardness	62,800

ANIONS

Chloride, Cl-	198000	35.5	5577
Sulfate, So ₄ =	1350	4.8	28
Carbonate, Co ₃ =	0	30	0
Bicarbonate, HCo ₃ -	140	61	2.3

Remarks and Recommendations

PERMIAN

Treating Chemicals, Inc.

P.O. BOX 72
LOVINGTON, N.M.
PHONE (505) 396

WATER ANALYSIS REPORT

Company	Yates Drilling	Date Sampled	1-22-88
Field	Caprock	County	Lea
Lease	Doyle	State	NM
Well	12 & 4	Formation	Queens
Type of Water	Produced	Water, B/D	
Sampling Point	Treater	Sampled By	Blackwell

DISSOLVED SOLIDS

CATIONS

	mg/l	meq/l
Sodium, Na+(Calc)	97900	23 4257
Calcium, Ca++	3800	20 190
Magnesium, Mg++	13300	12.2 1090
Barium, Ba++	0	0 8.7
Iron, Fe (Total)	58	

ANIONS

Chloride, Cl-	196,000	35.5	5521
Sulfate, SO_4^{2-}	1400	4.8	29
Carbonate, CO_3^{2-}	0	3.0	0
Bicarbonate, HCO_3^-	140	6.1	2.3

OTHER PROPERTIES

pH	5.7
Specific Gravity	1.200
H_2S	neg.
Total Dissolved Solids	312,598
Total Hardness	64,900

Remarks and Recommendations

WATER ANALYSIS REPORT

Company Yates Drilling Date Sampled 1-22-88
Field Caprock County Lea
Lease Burkett State NM
Well _____ Formation Queens
Type of Water Produced Water, B/D _____
Sampling Point Treater Sampled By Blackwell

DISSOLVED SOLIDS

CATIONS

	mg/l	meq/l
Sodium, Na+(Calc)	98000	4261
Calcium, Ca++	4100	205
Magnesium, Mg++	12800	1049
Barium, Ba++	Neg	68.7
Iron, Fe (Total)		

OTHER PROPERTIES

pH 5.9
Specific Gravity 1.200
H₂S Neg.
Total Dissolved Solids 313,220
Total Hardness 6300

ANIONS

	mg/l	meq/l
Chloride, Cl-	197,000	5549
Sulfate, So ₄ =	1200	25
Carbonate, Co ₃ =	0	30
Bicarbonate, HCo ₃ -	120	61

Remarks and Recommendations _____

ating Chemicals, Inc.

11-50-6 101-331-5674

W. 22. 2007 3 11 10 10

charts and recommendations

1	63,000
---	--------

1.1

46

ERMIAN

ating Chemicals, Inc.

P.C. EOA 126
 10000 C.N. 11 88200
 10000 C.N. 11 88200

WATER ANALYSIS

Company Yates Drilling

Field

Lease

Garner

Well

7

Type of Water Produced

Sampling Point

DISSOLVED SOLIDS

CATIONS

Sodium, Na (Total)

105,000

Calcium, Ca

4,750

Magnesium, Mg

11,900

Barium, Ba

Iron, Fe (Total)

ANIONS

Chloride, Cl-

204,000

Sulfate, SO₄²⁻

1,100

Carbonate, CO₃²⁻

0

Bicarbonate, HCO₃⁻

205

anion and cation balance

Date Sampled

1-22-88

Locality

Lea

County

NM

Location

Queens

Water, B/B

Sampled by

Blackwell

OTHER PROPERTIES

pH 5.8

Specific Gravity

1.200

H₂S Neg

Total Dissolved

Solids 326,955

Total Hardness

60,700

LIBURTON DIVISION LABORATOR

HALLIBURTON SERVICES

ARTESIA DISTRICT

LABORATORY REPORT

No. W539, W540 & W541-89

TO Yates Drilling
105 South Fourth Street
Artesia, NM 88210

Date October 17, 1989

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Submitted by _____ Date Rec. October 16, 1989

Well No. _____ Depth _____ Formation _____

Field _____ County _____ Source _____

	SPEAR WW #1	GF #7	DEL FED. #3
Resistivity	0.74 @ 70°	0.052 @ 70°	0.054 @ 70°
Specific Gravity ..	1.006 @ 70°	1.1730 @ 70°	1.1571 @ 70°
pH	6.4	6.6	6.6
Calcium	1,686	6,744	7,418
Magnesium	546	10,230	7,979
Chlorides	5,000	159,000	143,000
Sulfates	Nil	Nil	Medium
Bicarbonates	305	214	183
Soluble Iron	Nil	10	3
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----

Remarks:

Eric Jacobson
 Respectfully submitted

Analyst: Eric Jacobson - EIT

HALLIBURTON SERVICES

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HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

ARTESIA DISTRICT

LABORATORY REPORT

No. W536, W537 & W538-89

TO Yates Drilling
105 South Fourth Street
Artesia, NM 88210

Date October 17, 1989

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Submitted by _____ Date Rec. October 16, 1989

Well No. _____ Depth _____ Formation _____

Field _____ County _____ Source _____

	BUR FEDERAL #3	GALLAHAN ST. #1	AP STATE #1
Resistivity	0.051 @ 70°	0.051 @ 70°	0.058 @ 70°
Specific Gravity ..	1.1200 @ 70°	1.196 @ 70°	1.137 @ 70°
pH	6.5	6.6	6.8
Calcium	6,070	5,620	6,407
Magnesium	10,912	12,685	6,615
Chlorides	184,000	180,000	122,000
Sulfates	Heavy	Medium	Medium
Bicarbonates	214	183	305
Soluble Iron	10	25	0
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----

Remarks:

Eric Jacobson
 Respectfully submitted

Analyst: Eric Jacobson - EIT

HALLIBURTON SERVICES

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

ARTESIA DISTRICT

LABORATORY REPORT

No. W542, W543 & W544-89

TO Yates Drilling
105 South Fourth Street
Artesia, NM 88210

Date October 17, 1989

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Submitted by _____ Date Rec. October 16, 1989

Well No. _____ Depth _____ Formation _____

Field _____ County _____ Source _____

	Graham WW #1	Graham WW #2	Doy #1
Resistivity	0.60 @ 70°	0.91 @ 70°	N.A.
Specific Gravity ..	1.007 @ 70°	1.005 @ 70°	N.A.
pH	6.5	6.7	6.6
Calcium	1,124	1,124	4,946
Magnesium	477	614	14,186
Chlorides	6,000	4,000	198,000
Sulfates	N11	N11	N11
Bicarbonates	214	214	153
Soluble Iron	N11	N11	75
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----

Remarks:

Eric Jacobson
 Respectfully submitted

Analyst: Eric Jacobson - EIT

HALLIBURTON SERVICES

**YATES DRILLING COMPANY
PROPOSED DOYAL FEE LEASE WATERFLOOD PROJECT
CHAVES COUNTY, NEW MEXICO**

NMOCD FORM C-108

**BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION**

YATES **EXHIBIT NO. 18**
CASE NO. 9809, 9810, 9823

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APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☒ no

II. Operator: Yates Drilling Company

Address: 105 South 4th Street, Artesia, New Mexico 88210

Contact party: Tobin L. Rhodes Phone: (505) 748-1471

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Tobin L. Rhodes Title Petroleum Engineer

Signature: Tobin L. Rhodes Date: 10-13-89

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

II. WELL DATA

The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

OIL CONSERVATION DIVISION
FORM C-108 (Supplement)

Application of Yates Drilling Company
For a Secondary Recovery Project
Doyal Fee Lease Project
Chaves County, New Mexico

I. Purpose:

Application is made for authorization to inject water into the Queen formation underlying the Doyal Fee Lease. The proposed project consists of 160 acres, more or less, of Fee lands in Unit M, (SW/4 SW/4) Section 26, Units I, P, (E/2 SE/4) of Section 27, and Unit A, (NE/4 NE/4) of Section 34, Township 12 South, Range 31 East, Chaves County New Mexico. This project would be classified as a secondary recovery project with the objective of recovering hydrocarbons that will not and can not be recovered by primary means.

Many wells in the proposed project area are primary depleted or are very near primary depletion. Our studies show that the injection of water into selected wells will result in the recovery of oil in economic quantities not otherwise recoverable. This project should provide economic benefits to all parties holding any type of interest in the project acreage.

II. Operator:

Yates Drilling Company
105 South Fourth Street
Artesia, New Mexico 88210

Phone Number: (505) 748-1471

III. Injection Well Data:

A well data sheet is attached for each of the three wells proposed for water injection. Each injection well data sheet includes a downhole schematic of how each individual well will be configured if this application is approved.

IV. Existing Project:

The proposed project is not an expansion of an existing project and will be a totally new project.

V. Ownership:

A lease ownership map is attached which identifies all wells and lease ownership within two miles of any of the six proposed injection wells. A map is also attached on which the area of review has been identified by drawing a one-half mile circle around each injection well.

VI. Well Data:

There are presently fifteen wells including proposed injection wells that fall within the boundaries of the proposed project or within the area of review. Two of these wells has been plugged and abandoned, one well is temporarily abandoned, and the remaining twelve wells are active pumping oil wells producing from the Queen formation. Available data for each of the wells is included in the attached well data sheets. Additionally a downhole schematic has been drawn depicting each of the two plugged and abandoned wells.

VII. Project Data:

1. The proposed daily average water injection rate is approximately 200 barrels per day for each of the three proposed water injection wells. Total water injection for the project would be 600 barrels per day. The maximum injection rate for any individual well will be based on fracture pressure as determined by step-rate pressure tests to be conducted on each injection well.

2. Produced water will be stored in covered steel storage tank(s) and in open top fiberglass tanks making the produced water system an open system. Any fresh water will be stored in a covered steel tank. Produced oil will immediately be separated from produced water. The oil will be stored in a steel covered production tank until sold.

3. Initially the injection wells may take water on a vacuum, but as the reservoir fills a positive surface

injection pressure will be required to inject water. The maximum injection pressure will also be determined by proposed step-rate pressure tests. At no time prior to the step-rate tests will the injection pressure exceed a pressure limitation of 0.2 PSIG per foot of depth to the top of the injection interval.

4. The source of injection fluid will be produced water from the producing wells within the unit and fresh water from the Ogollala aquifer in the area. No commitment has been made but commercial sources of fresh water are available in the area.

5. No water compatibility problems are expected as Ogollala water has been successfully injected into the Queen formation, throughout the Caprock Queen Field, without excessive problems. Compatibility tests have been run commingling the produced water and fresh water and no adverse problems were observed.

VIII. Geologic Data:

The proposed project area produces from the upper sandstone member of the Queen formation, upper Guadalupian series; Permian system. The average producing depth in the field is approximately 2989 feet. The existing producing formation will be the interval into which water will be injected.

The productive/injection interval, as indicated from a whole core analysis on the DeLuna Federal #3 (330' FNL & 1980' FEL, 34-12s-31e) and sidewall core data from numerous wells, is fine grained, friable, gray, quartz sandstone. The grains are sub-angular to sub-rounded and well sorted. The cementing material is variously from anhydrite and dolomite. The exact depositional environment is unknown. Porosity and permeability are intergranular in nature. The sandstone is not naturally fractured.

The Cactus Queen Field is a stratigraphic trap. Cementation of the sandstone results in the loss of porosity and permeability, creating a barrier on all sides with the exception of the east. A tilted oil-water contact limits the production in that direction. The oil/water contact has been established at (+1440) in the southeast end of the field and (+1446) at the northeast edge.

The primary underground source of fresh water in this area is the Ogollala formation of Tertiary age, the base of which is estimated to be 300 feet below the

surface. This aquifer is protected behind the surface pipe and cement of all existing wells in the unit area. The Chinlee formation is also a fresh water aquifer which immediately underlies the Ogollala formation. The Base of the Chinlee is estimated to be approximately 500 feet below the surface in the project area. The Chinlee is behind the production casing in all existing wells in the project area.

IX. Stimulation Program:

Each of the currently producing wells has previously received a fracture treatment. The details of these treatments are outlined in the data sheet for each individual well. There are no plans to stimulate any of the existing wells which will be producing wells in this project.

The wells which will be injection wells may require a small clean-up acid treatment prior to injection. We plan to treat each of the proposed injection wells with 1000 to 2000 gallons of 15% hydrochloric acid. This treatment should insure that existing perforations are open and that each well will accept water or gas at the lowest possible pressure.

X. Well Logs:

Well logs for each of the existing wells in the proposed unit have previously been submitted to the Hobbs office of the NMOCD.

XI. Fresh Water:

The Office of the State Engineer in Roswell has a record of six wells within one mile of the proposed project. The total depths of two of the wells are unknown, however all six wells are assumed to be producing from the Ogollala formation. Analysis reports for water taken from three of the wells are attached.

XII. Injection Zone Isolation:

Available engineering and geologic data has been examined and no evidence of open faulting or any other hydrologic connection between the injection zone and

any underground source of drinking water has been found.

XIII. Proof of Notice:

A listing of off-set leasehold operators within 1/2 mile of any injection wells and the surface owners that have received a copy of this application by certified mail is attached.

XIV. Certification:

I hereby certify that the information submitted with this application is true and correct to best of my knowledge and belief.

Tobin L. Rhodes

Petroleum Engineer

Tobin L. Rhodes

October 13, 1989

YATES DRILLING COMPANY
PROPOSED PROJECT AREA
CHAVES COUNTY, NEW MEXICO
T12S-R31E

AREA OF REVIEW
& PROJECT OUTLINE

INJECTION WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Doyal
 WELL NO.: 1 FOOTAGE: 660' FNL - 990' FEL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 409.46

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 250 SX.
 TOC: 2200' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3100'
 TOTAL DEPTH: 3100'

INJECTION INTERVAL

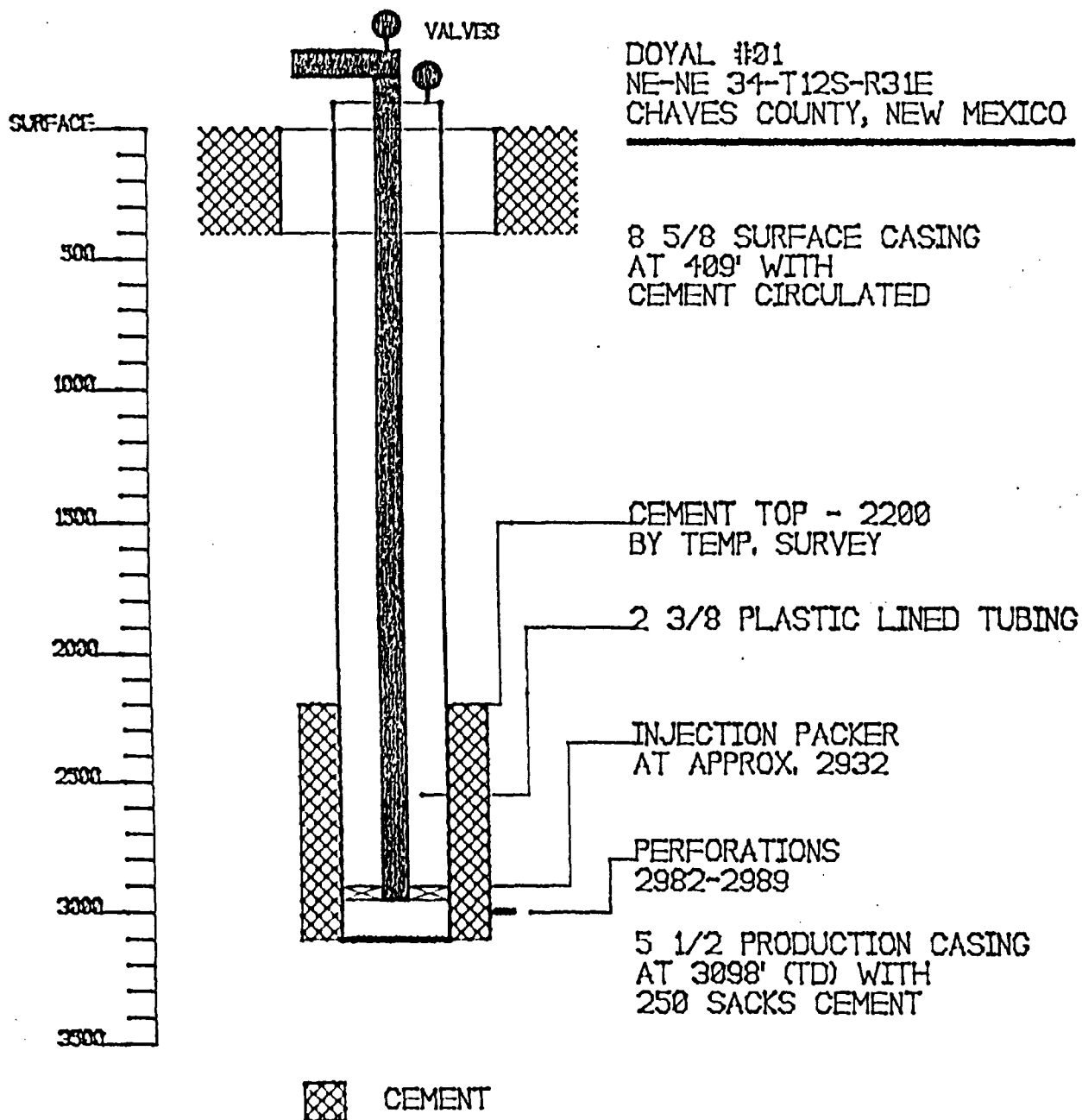
2982' FEET TO 2989' FEET - PERFORATED

TUBING

TUBING SIZE: 2-3/8" LINED WITH: Plastic SET IN A
Baker AD-1 PACKER AT: 2932' FEET

OTHER DATA

1. NAME OF INJECTION FORMATION: Queen
2. NAME OF FIELD OR POOL (IF APPLICABLE): SE Chaves Queen
3. IS THIS A NEW WELL DRILLED FOR INJECTION? No
 IF NO, FOR WHAT PURPOSE WAS THE WELL ORIGINALLY DRILLED?
This well was drilled as a Queen producing well.
4. HAS WELL EVER BEEN PERFORATED IN ANY OTHER ZONE(S)? No
 LIST ALL SUCH PERFORATED INTERVALS AND GIVE PLUGGING
 DETAILS (SACKS OF CEMENT OR BRIDGE PLUG(S) USED): _____
5. GIVE DEPTH TO AND NAME OF ANY OVERLYING AND/OR
 UNDERLYING OIL OR GAS ZONES (POOLS) IN THIS AREA:
None known.



INJECTION WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Doyal
 WELL NO.: 3 FOOTAGE: 1980' ESL - 2990' FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 260 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 409'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 850 SX.
 TOC: 630' FEET DETERMINED BY: Cement Bond Log
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3099'
 TOTAL DEPTH: 3100'

INJECTION INTERVAL

2991' FEET TO 2997' FEET - PERFORATED

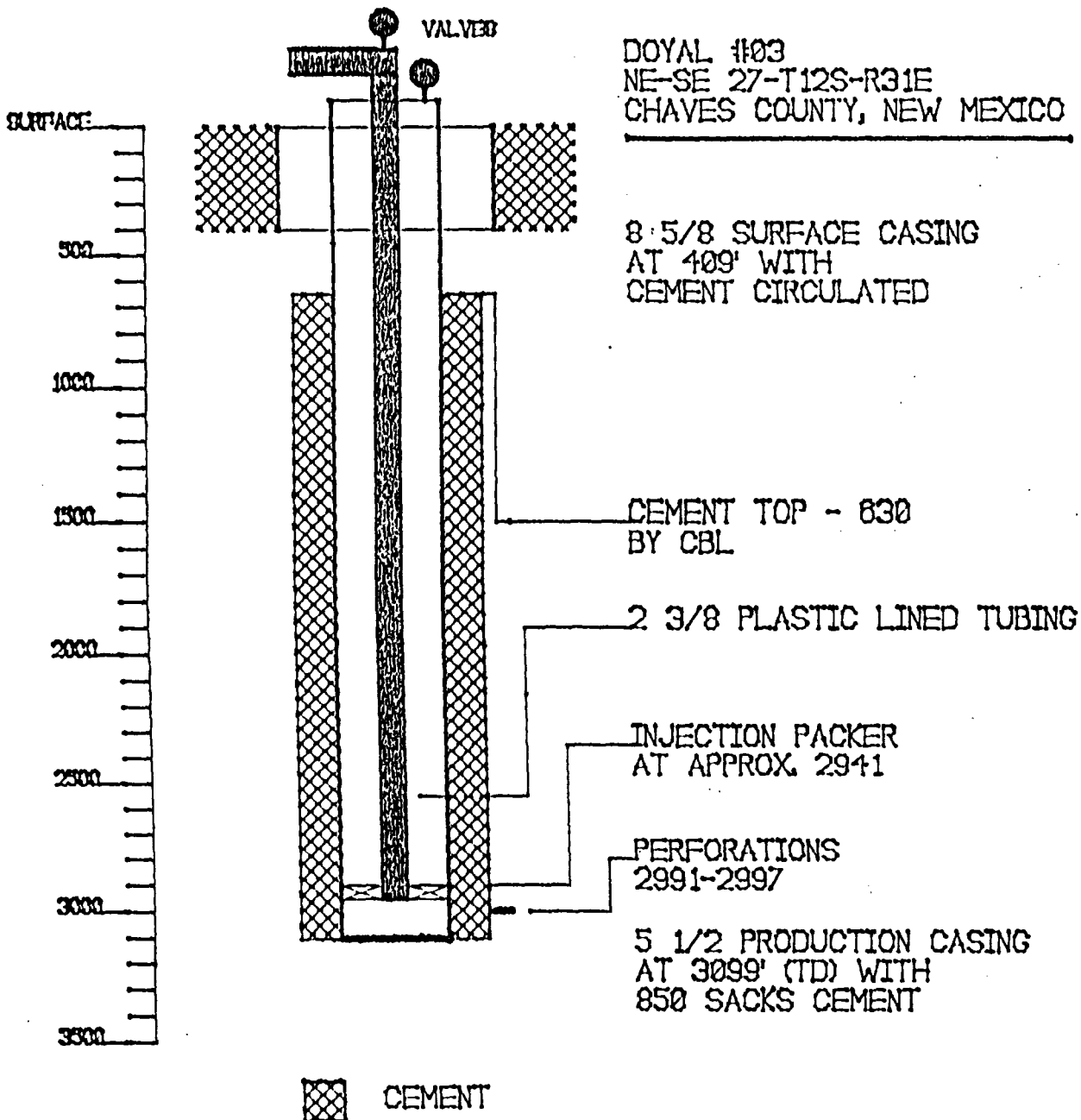
TUBING

TUBING SIZE: 2-3/8" LINED WITH: Plastic SET IN A
Baker AD-1 PACKER AT: 2941' FEET

OTHER DATA

1. NAME OF INJECTION FORMATION: Queen
2. NAME OF FIELD OR POOL (IF APPLICABLE): SE Chaves Queen
3. IS THIS A NEW WELL DRILLED FOR INJECTION? No
 IF NO, FOR WHAT PURPOSE WAS THE WELL ORIGINALLY DRILLED?
This well was drilled as a Queen producing well.
This well is temp. aban. due to high water production
4. HAS WELL EVER BEEN PERFORATED IN ANY OTHER ZONE(S)? No
 LIST ALL SUCH PERFORATED INTERVALS AND GIVE PLUGGING
 DETAILS (SACKS OF CEMENT OR BRIDGE PLUG(S) USED): _____

5. GIVE DEPTH TO AND NAME OF ANY OVERLYING AND/OR
 UNDERLYING OIL OR GAS ZONES (POOLS) IN THIS AREA: _____
None known.



INJECTION WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Doyal
 WELL NO.: 4 FOOTAGE: 330' FSL - 330' FWL SEC: 26-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 400

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 975 SX.
 TOC: 310' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3088'
 TOTAL DEPTH: 3100'

INJECTION INTERVAL

2982' FEET TO 2985' FEET - PERFORATED

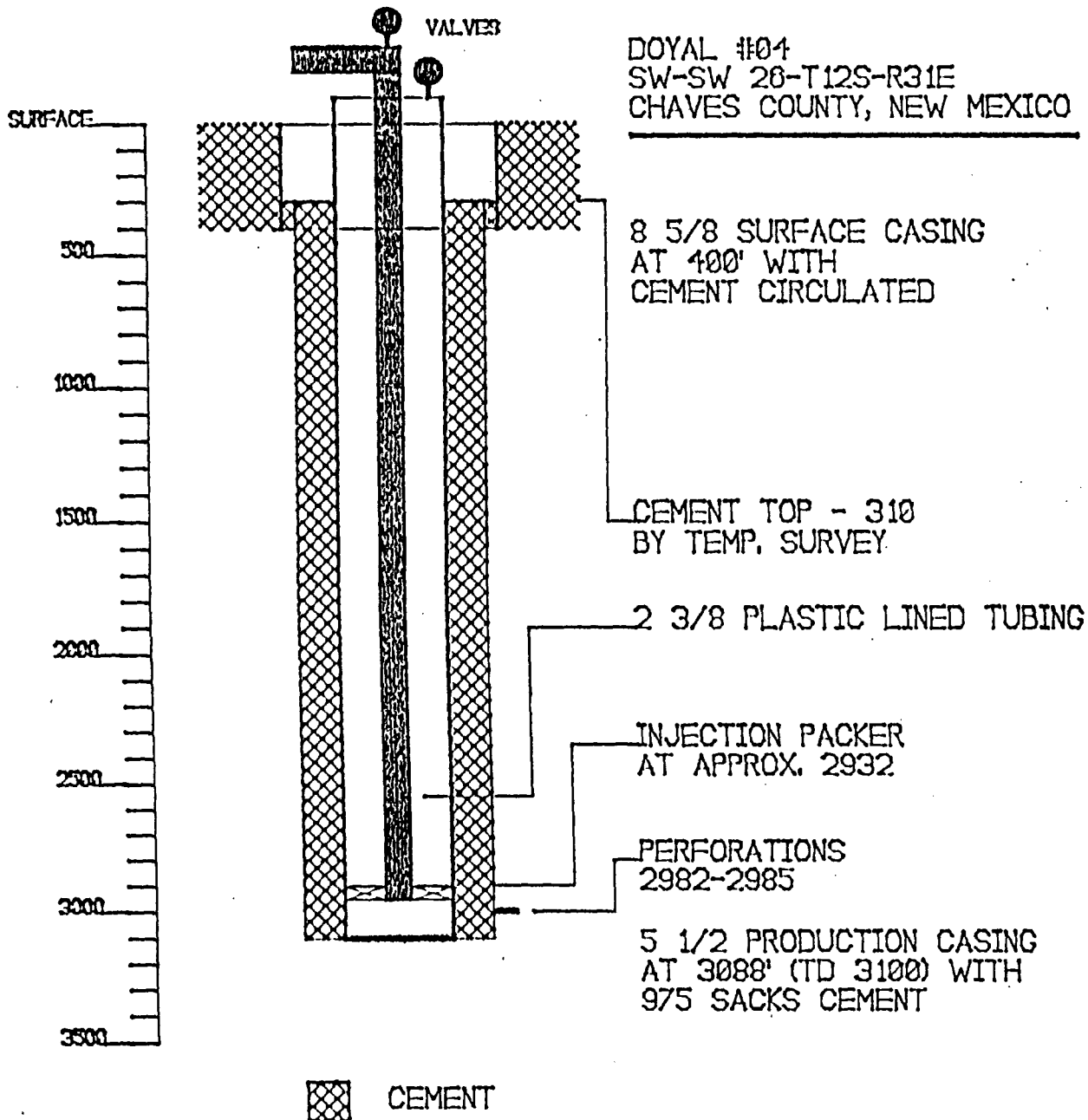
TUBING

TUBING SIZE: 2-3/8" LINED WITH: Plastic SET IN A
Baker AD-1 PACKER AT: 2932' FEET

OTHER DATA

1. NAME OF INJECTION FORMATION: Queen
2. NAME OF FIELD OR POOL (IF APPLICABLE): SE Chaves Queen
3. IS THIS A NEW WELL DRILLED FOR INJECTION? No
 IF NO, FOR WHAT PURPOSE WAS THE WELL ORIGINALLY DRILLED?
This well was drilled as a Queen producing well.
4. HAS WELL EVER BEEN PERFORATED IN ANY OTHER ZONE(S)? No
 LIST ALL SUCH PERFORATED INTERVALS AND GIVE PLUGGING
 DETAILS (SACKS OF CEMENT OR BRIDGE PLUG(S) USED): _____

5. GIVE DEPTH TO AND NAME OF ANY OVERLYING AND/OR
 UNDERLYING OIL OR GAS ZONES (POOLS) IN THIS AREA:
None known.



WELL DATA SHEET

OPERATOR: Yates Drilling Company LEASE: Apache "27" State
WELL NO.: 1 FOOTAGE: 330' FSL-2310' FWL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" CEMENTED WITH: SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 422'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
TOC: FEET DETERMINED BY:
HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 4-1/2" CEMENTED WITH: SX.
TOC: 210' FEET DETERMINED BY:
HOLE SIZE: 7-7/8" SETTING DEPTH: 3150'
TOTAL DEPTH: 3150'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
SPUD DATE: 5-9-85 COMPLETION DATE: 6-27-85
PERFORATED: 2984 FEET TO 2991 FEET

STIMULATION: 100 gals. 15% HCl acid, 12000 gals. gel water
4000 gals. CO2, 10500# 20/40 sand, 10000# 12/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS:

WELL DATA SHEET

OPERATOR: Yates Drilling Company LEASE: Apache "27" State
 WELL NO.: 2 FOOTAGE: 1650' FSL-2310' FEL SEC: 27-T12a-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" CEMENTED WITH: SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 454'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
 TOC: FEET DETERMINED BY:
 HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 4-1/2" CEMENTED WITH: SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3150'
 TOTAL DEPTH: 3150'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 7-29-85 COMPLETION DATE: 8-23-85
 PERFORATED: 2996 FEET TO 3000 FEET

STIMULATION: 850 gals. 15% HCl acid, 16000 gals. gel water
25% CO2, 10500# 20/40 sand, 10000# 12/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS:

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Burkitt Federal
 WELL NO.: 3 FOOTAGE: 330' FNL-2310' FWL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 270 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 424'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 260 SX.
 TOC: 1640' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3083'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 8-9-85 COMPLETION DATE: 10-1-85
 PERFORATED: 2988 FEET TO 2992 FEET

STIMULATION: 750 gals. 15% HCl acid, 15000 gals. gel water
24 tons CO2, 12000# 20/40 sand, 7000# 12/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: DeLuna Federal
 WELL NO.: 3 FOOTAGE: 330' FNL-1780' FEL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 300 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 433'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 410 SX.
 TOC: 1900' FEET DETERMINED BY: Cement Bond Log
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3074'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 2-11-85 COMPLETION DATE: 3-20-85
 PERFORATED: 2987-1/2 FEET TO 2993 FEET

STIMULATION: 750 gals. 15% hcl, 15000 gals. 30# gel, 23-1/2
tons CO2, 13000# 20/40 sand, 10000# 10/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&O, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Doyal
 WELL NO.: 1 FOOTAGE: 660'ENL- 990'FEL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 409.46'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" CEMENTED WITH: 250 SX.
 TOC: 2200' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3098'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 7-31-84 COMPLETION DATE: 8-25-84
 PERFORATED: 2982' FEET TO 2989' FEET

STIMULATION: 750 gallons of 15 % HCl, 15000 gallons 30# gel
5000 SCF N2 per barrel, 10900# 20/40 sand, and 4200# 10/20
sand.

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well.

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Doyal
 WELL NO.: 2 FOOTAGE: 500'ESL-760'FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 275 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 411'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
 TOC: FEET DETERMINED BY:
 HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 5-1/2" CEMENTED WITH: 250 SX.
 TOC: 2200' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3090'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 9-7-84 COMPLETION DATE: 9-20-84
 PERFORATED: 2981' FEET TO 2987' FEET

STIMULATION: 750 gallons of 15% HCl, 15000 gallons 30# gel
1 25% CO2 12000# 20/40 sand, 10000# 10/20 sand.

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well.

IF P&A, LIST PLUGGING DETAILS:

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Doyal
WELL NO.: 3 FOOTAGE: 1980'ESL- 990'FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 260 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 409'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
TOC: FEET DETERMINED BY:
HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 650 SX.
TOC: 630' FEET DETERMINED BY: Temp. Survey
HOLE SIZE: 7-7/8" SETTING DEPTH: 3099'
TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
SPUD DATE: 9-20-84 COMPLETION DATE: NONE
PERFORATED: 2991' FEET TO 2997' FEET

STIMULATION: 750 gallons of 15 % HCl, 15000 gallons 30# gel
, 25% CO2 20000# 20/40 sand, 10000# 10/20 sand.

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Temp. Abandoned

IF P&A, LIST PLUGGING DETAILS:

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Doyal
 WELL NO.: 4 FOOTAGE: 330'ESL- 330'FWL SEC: 26-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 400'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 975 SX.
 TOC: 310' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3068'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 11-18-84 COMPLETION DATE: 1-24-87
 PERFORATED: 2982' FEET TO 2985' FEET

STIMULATION: 750 gallons of 15 % HCl, 15000 gallons 30# gel
22 tons CO2, 12000# 20/40 sand, 8500 # 12/20 sand.

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Gallagher State
WELL NO.: 1 FOOTAGE: 330' ENL- 330' FWL SEC: 35-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 433'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
TOC: _____ FEET DETERMINED BY: _____
HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 900 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 7-7/8" SETTING DEPTH: 3084'
TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
SPUD DATE: 10-28-84 COMPLETION DATE: 11-9-84
PERFORATED: 2982' FEET TO 2987' FEET

STIMULATION: 650 gallons of 15 % HCl, 15000 gallons 30# gel
, 22 tons CO2, 12000# 20/40 sand, 10250# 10/20 sand.

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Garner Federal
WELL NO.: 2 FOOTAGE: 2310 FSL-2310 FEL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
TOC: Surface FEET DETERMINED BY: Circulation
HOLE SIZE: 12-1/4" SETTING DEPTH: 410'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
TOC: _____ FEET DETERMINED BY: _____
HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 550 SX.
TOC: 1992' FEET DETERMINED BY: Cement Bond Log
HOLE SIZE: 7-7/8" SETTING DEPTH: 3098'
TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
SPUD DATE: 4-29-84 COMPLETION DATE: 6-1-84
PERFORATED: 2982 FEET TO 2990 FEET

STIMULATION: 750 gals. 15% HCl acid, 20000 gals. 30# gel,
25% CO2, 16500# 20/40 sand, 1790# 12/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Garner Federal
 WELL NO.: 3 FOOTAGE: 1980' ENL-1980' FEL SEC: 34-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 225 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 400'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 250 SX.
 TOC: 1810' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3100'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 7-2-84 COMPLETION DATE: 8-12-84
 PERFORATED: 2981 FEET TO 2986 FEET

STIMULATION: 750 gals. 15% HCl acid, 15000 gals. 30# gel,
5000 SCF N2 per barre, 1500# 20/40 sand, 1700# 12/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Garner Federal
 WELL NO.: 7 FOOTAGE: 660' FSL-1980' FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 424'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: _____ SX.
 TOC: _____ FEET DETERMINED BY: _____
 HOLE SIZE: _____ SETTING DEPTH: _____

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 270 SX.
 TOC: 1900' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3098.54'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 10-14-84 COMPLETION DATE: 10-30-84
 PERFORATED: 2987' FEET TO 2993' FEET

STIMULATION: 750 gallons of 15 % HCl, 15000 gallons 30# gel
, 1000 SCE/BBL CO2 13000# 20/40 sand, 9000# 10/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS: _____

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Garner Federal
 WELL NO.: 9 FOOTAGE: 1650' FSL-2310' FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 420'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
 TOC: FEET DETERMINED BY:
 HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 5-1/2" 14# CEMENTED WITH: 320 SX.
 TOC: 1820' FEET DETERMINED BY: Temp. Survey
 HOLE SIZE: 7-7/8" SETTING DEPTH: 3098'
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 11-11-84 COMPLETION DATE: 11-30-84
 PERFORATED: 2985' FEET TO 2995' FEET

STIMULATION: 750 gallons of 15 % HCl, 15000 gallons 30# gel
, 16 tons of CO2, 18000# 20/40 sand, 12500# 10/20 sand

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Pumping oil well

IF P&A, LIST PLUGGING DETAILS:

WELL DATA SHEET

OPERATOR: Yates Drilling Co. LEASE: Rich Federal
 WELL NO.: 1 FOOTAGE: 2310' FNL-2310' FEL SEC: 27-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" 24# CEMENTED WITH: 250 SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 412'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: None SX.
 TOC: None FEET DETERMINED BY: None
 HOLE SIZE: None SETTING DEPTH: None

LONG STRING

SIZE: None CEMENTED WITH: None SX.
 TOC: None FEET DETERMINED BY: None
 HOLE SIZE: 7-7/8" SETTING DEPTH: None
 TOTAL DEPTH: 3100'

PRODUCING INTERVAL

FORMATION: None POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 11-30-84 COMPLETION DATE: None
 PERFORATED: None FEET TO None FEET

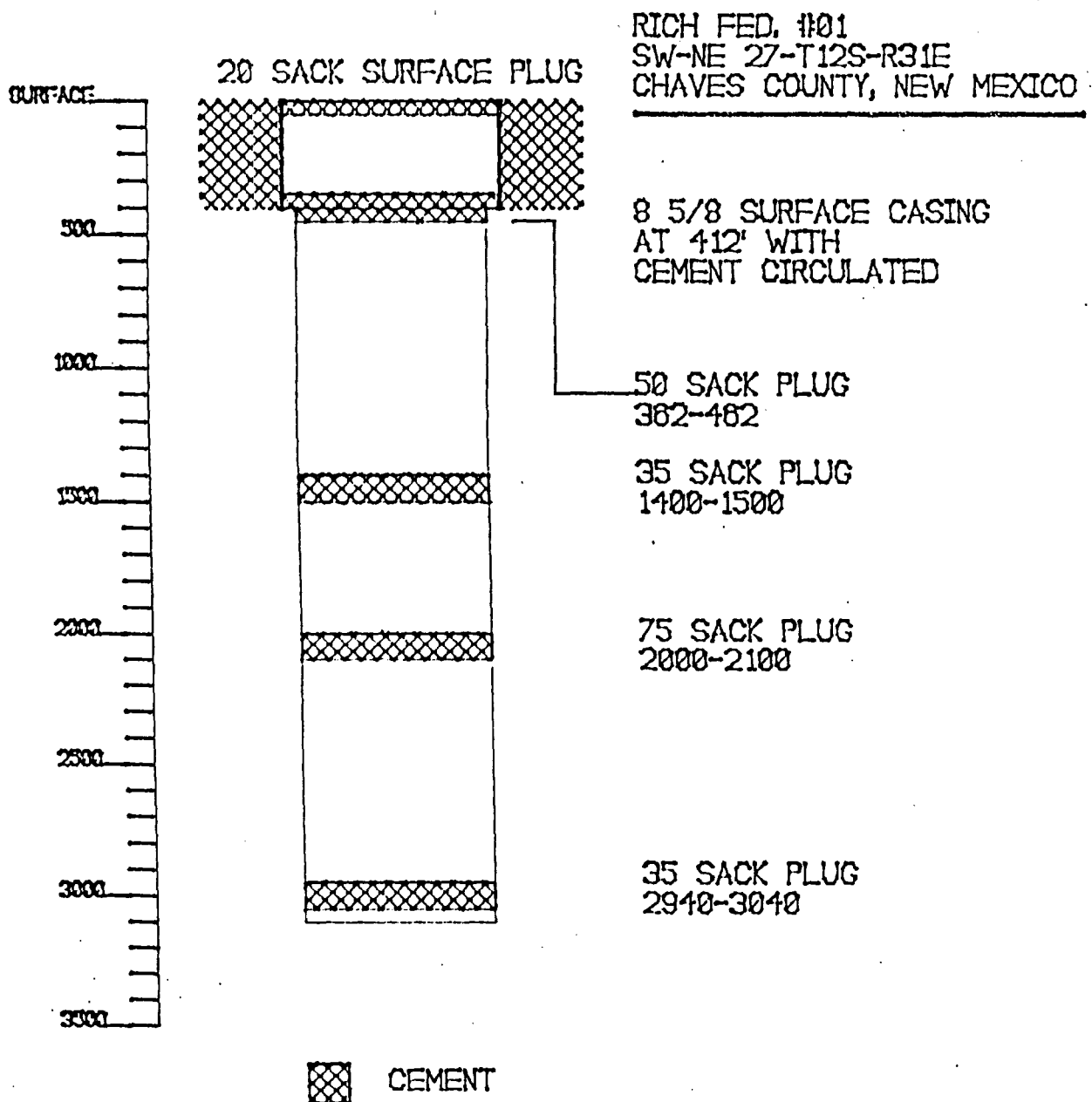
STIMULATION: None

OTHER PERFORATED ZONES: None

CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Plugged and Abandoned

IF P&A, LIST PLUGGING DETAILS: P&A 12-12-84
Plug 3040-2940' 35 sx Class "C" neat, Plug 2100-2000' 75 sx
Class "C" w/2% CaCl2, plug 1500-1400' 35 sx Class "C" neat,
Plug 462-362' 50 sx Class "C" w/2% CaCl2, Plug 50-Sur. 20sx
Class "C" neat



WELL DATA SHEET

OPERATOR: Snow Oil Company LEASE: Toles Federal
 WELL NO.: 1 FOOTAGE: 1980'ESL-1650'FWL SEC: 26-T12s-R31e

TUBULAR DATA

SURFACE CASING

SIZE: 8-5/8" CEMENTED WITH: SX.
 TOC: Surface FEET DETERMINED BY: Circulation
 HOLE SIZE: 12-1/4" SETTING DEPTH: 473'

INTERMEDIATE CASING

SIZE: None CEMENTED WITH: SX.
 TOC: FEET DETERMINED BY:
 HOLE SIZE: SETTING DEPTH:

LONG STRING

SIZE: 4-1/2" CEMENTED WITH: SX.
 TOC: 900' FEET DETERMINED BY: Estimate
 HOLE SIZE: SETTING DEPTH: 3115'
 TOTAL DEPTH: 3115'

PRODUCING INTERVAL

FORMATION: Queen POOL OR FIELD: SE Chaves Queen
 SPUD DATE: 1-8-85 COMPLETION DATE: None
 PERFORATED: 2344 FEET TO 2845 FEET

STIMULATION:

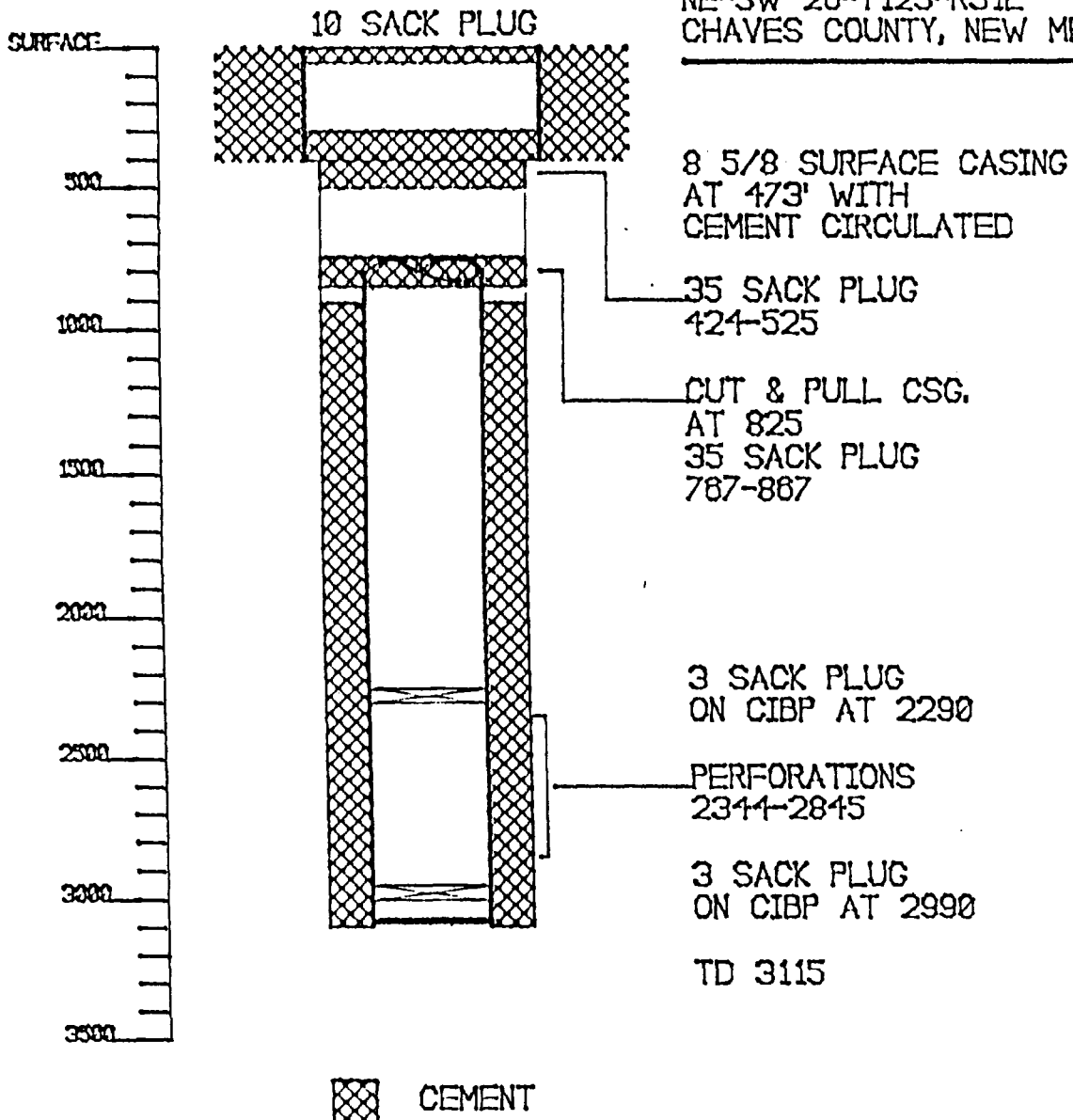
OTHER PERFORATED ZONES: None

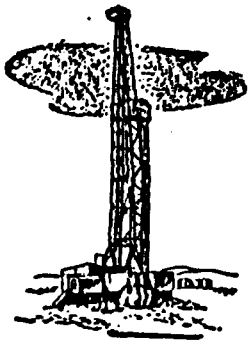
CURRENT STATUS

WHAT IS CURRENT STATUS OF WELL? Plugged and Abandoned

IF P&A, LIST PLUGGING DETAILS: 3sx plug on CIBP @ 2990'
3sx plug on CIBP @ 2290', cut and pulled 4-1/2" casing @ 825
35sx plug @ 867', 35sx plug @ 524', 10sx plug @ surface

TOLES FED. #101
NE-SW 28-T12S-R31E
CHAVES COUNTY, NEW MEXICO





YATES DRILLING COMPANY

105 SOUTH FOURTH STREET — (505) 746-9889

FAX (505) 746-6480

TELEX 508891 (YPCART)

ARTESIA, NEW MEXICO 88210

May 31, 1989

PEYTON YATES
PRESIDENT

S. P. YATES
VICE PRESIDENT

RANDY G. PATTERSON
SECRETARY

DENNIS G. KINSEY
TREASURER

New Mexico State Engineer
District 2 Office
P.O. Box 1717
Roswell, New Mexico 88202

Attention: Glen Brim, District Supervisor 

Gentlemen:

Yates Drilling Company is proposing to waterflood the Queen formation underlying portions of Township 12 South, Range 31 East and Township 13 South, Range 31 East, Chaves County, New Mexico.

To insure the protection of fresh water aquifers in this area we would like to obtain the location, depth and geological name of the producing formation for any water wells located in either described township. Additionally, the identification of any commercial water wells in the area would be helpful.

Any information that your office can provide concerning this matter will be greatly appreciated.

Sincerely yours,

YATES DRILLING COMPANY



Tobin L. Rhodes
Petroleum Engineer

'89 JUN 1 AM 8 35
STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

JUN 12 1989

June 9, 1989

Yates Drilling Company

ATTN: Tobin L. Rhodes, Petroleum Engineer

Enclosed are well locations and some information pertaining to these wells. They were drilled and finished in the Ogallala Formation (TO). Record of other wells finished deeper on other water formations were found north of Township 12 South in Township 11 South, Range 31 East. These wells are finished in the Triassic Formation (TRC), depth of wells are between + 200 feet to 300 feet.

 Johnny R. Hernandez

Basin Supervisor

Section 24 Township 12 South Range 31 East

1993	NE $\frac{1}{4}$ SW $\frac{1}{4}$	Dom.	T.D. 140	5 $\frac{1}{2}$ " casing - Shallow
6647	SE $\frac{1}{4}$ SE $\frac{1}{4}$	Dom & Stk	T.D. 160'	4 $\frac{1}{2}$ " casing - Shallow

Section 26 Township 12 South Range 31 East

-2117	NW $\frac{1}{4}$ SW $\frac{1}{4}$	Irr.		
-6746	SW $\frac{1}{4}$ NW $\frac{1}{4}$	Dom. & Stk	T.D. 166'	Not cased - Shallow
-6749	SW $\frac{1}{4}$ SE $\frac{1}{4}$	Comm. & DOM & STK	T.D. 198'	6" casing - Shallow
L-9566	SW $\frac{1}{4}$ SE $\frac{1}{4}$	COM, Oil & Gas	Same	

Well L-9566 is stock well L-6749** Comm.

Section 27 Township 12 S Range 31 E.

L-6650	SE $\frac{1}{4}$ NE $\frac{1}{4}$	Dom & Stk	T.D. 160'	4 $\frac{1}{2}$ " casing - Shallow
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Section 35 Township 12 South Range 31 East

L-2932	SE $\frac{1}{4}$	OWD		
L-4170	NW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$	Dom.	T.D. 55'	Casing 8" Shallow
L-4296	NW $\frac{1}{4}$ NW $\frac{1}{4}$	WF	Cancelled	
L-4296-X	SW $\frac{1}{4}$ SW $\frac{1}{4}$	WF	Cancelled	
L-4296-X-2	NE $\frac{1}{4}$ NE $\frac{1}{4}$	WF	Cancelled	
L-4296-X-3	SE $\frac{1}{4}$ SE $\frac{1}{4}$	WF	Cancelled	

↑
NO Wells
↓

Section 23

Township 13 South Range 31 East

L-3914-X-10	SE $\frac{1}{4}$ SE $\frac{1}{4}$	Ind.
L-3914-X-11	SE $\frac{1}{4}$ NW $\frac{1}{4}$	Ind.
L-3914-X-12	NE $\frac{1}{4}$ NE $\frac{1}{4}$	Ind.
L-3914-X-13	SE $\frac{1}{4}$ SW $\frac{1}{4}$	Ind.
L-3914-X-14	NW $\frac{1}{4}$ SE $\frac{1}{4}$	Ind.

↑
WELLS NOT DRILLED
↓

Section 24

Township 13 South Range 31 East

L-3914	NE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$	Ind.
L-3914-X	NE $\frac{1}{4}$ SW $\frac{1}{4}$	Ind.
L-3914-X-2	NE $\frac{1}{4}$ NW $\frac{1}{4}$	Ind.
L-3914-X-3	SW $\frac{1}{4}$ SE $\frac{1}{4}$	Ind.
L-3914-X-4	SE $\frac{1}{4}$ NE $\frac{1}{4}$	Ind.
L-3914-X-5	NE $\frac{1}{4}$ SE $\frac{1}{4}$	Ind.
L-3914-X-6	NW $\frac{1}{4}$ NE $\frac{1}{4}$	Ind.
L-3914-X-7	NE $\frac{1}{4}$ NE $\frac{1}{4}$	Ind.
L-3914-X-8	SW $\frac{1}{4}$ NW $\frac{1}{4}$	Ind.
L-3914-X-9	SE $\frac{1}{4}$ NW $\frac{1}{4}$	Ind.

T.D. 176' 8 $\frac{5}{8}$ " casing - Shallow

↑
WELLS NOT DRILLED
↓

Section 35

Township 13 South Range 31 East

L-2849	SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$	Dom.
--------	--	------

No well record info.

tion 1

Township 13 South Range 31 East

460
461
837
837-X

SE $\frac{1}{2}$ NE $\frac{1}{2}$ SW $\frac{1}{2}$
SE $\frac{1}{2}$ SE $\frac{1}{2}$ SE $\frac{1}{2}$
SW $\frac{1}{2}$ SW $\frac{1}{2}$ SW $\frac{1}{2}$
SW $\frac{1}{2}$ SW $\frac{1}{2}$ SW $\frac{1}{2}$

WF

WF

Com. & Stock

Com. & Stock

TD. 14' 8 $\frac{5}{8}$ " casing - Shallow
TD. 220' 8 $\frac{5}{8}$ " casing - Shallow
Rptd TD. 165' 6" casing - Shallow
Rptd TD. 190' 7" casing - Shallow

tion 2

Township 13 South Range 31 East

806
833
834
835
295

SE $\frac{1}{2}$ SE $\frac{1}{2}$ SE $\frac{1}{2}$
NE $\frac{1}{2}$ NE $\frac{1}{2}$ SE $\frac{1}{2}$
SW $\frac{1}{2}$ SE $\frac{1}{2}$ NE $\frac{1}{2}$
SW $\frac{1}{2}$ SE $\frac{1}{2}$ NE $\frac{1}{2}$
SE $\frac{1}{2}$ NE $\frac{1}{2}$

Stock

Com.

Dec.

Dec.

WF

NO well record info.

With down. no well

Rptd - TD. 165' 6 $\frac{3}{8}$ " casing - Shallow
Rptd - TD. 165' 6 $\frac{3}{8}$ " casing - Shallow

2914

NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ SRO - T.D. 196' 8 $\frac{5}{8}$ " casing - Shallow

2745

NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ SRO - T.D. 216' 6 $\frac{3}{4}$ " casing - Shallow

ction 12

Township 13 South Range 31 East

934

NE $\frac{1}{2}$

OWD

NO well record info.

-3460

NE $\frac{1}{4}$ NE $\frac{1}{4}$

SRO - T.D. 217' - 8 $\frac{5}{8}$ " casing - Shallow

ction 13

Township 13 South Range 31 East

2933

NE $\frac{1}{2}$

OWD

NO well record info.

SEC	TWN	RNG	UNIT LTR	QTR OF UNIT	TD	TYPE	#
24	12S	31E	K	?	148	DOM.	L4993
24	12S	31E	P	?	160	DOM.	L6649
26	12S	31E	E	?	166	DOM. & STK	L6746
✓26	12S	31E	L	?	?	IRR.	L2117
✓26	12S	31E	O	?	198	COM. (OIL & GAS)	L9566
✓26	12S	31E	O	?	198	COM., DOM. & STK	L6749
✓27	12S	31E	H	?	160	DOM. & STK	L6650
✓35	12S	31E	F	NW	55	DOM.	L4170
✓35	12S	31E	IJOP	?	?	?	L2932
1	13S	31E	K	SE	190	WF	L3460
1	13S	31E	P	SE	220	WF	L3461
1	13S	31E	M	SW	190	COM. & STK	L3837X
1	13S	31E	M	SW	165	COM. & STK	L3837
2	13S	31E	H	SW	165	DEC.	L3834
2	13S	31E	H	?	?	WF	L4295
2	13S	31E	H	NE	196	SRO	L3914
2	13S	31E	H	SW	165	DEC.	L3835
2	13S	31E	P	SE	?	?	L3806
2	13S	31E	I	NE	216	SRO	L2745
12	13S	31E	A	?	217	SRO	L3460
13	13S	31E	ABCD	?	?	OWD	L2933
24	13S	31E	H	NE	196	IND.	L3914
35	13S	31E	F	SW	?	DOM.	L2849

29

28

27

26

32

33

34

35

OW

OW

OW

OW

OW

DOYAL LEASE

YATES DRILLING COMPANY
DOYAL FEE LEASE WATERFLOOD PROJECT
CHAVES COUNTY, NEW MEXICO
T12S-R31E

FRESH WATER WELL LOCATIONS

SCALE 1"=2000'

05

04

02

PERMIAN

treating Chemicals, Inc.

P. O. BOX 728
LOVINGTON, N.M. 88263
PHONE (505) 396-5674

WATER ANALYSIS REPORT

Company Yates Drilling Date Sampled 1-22-88
Field Caprock County Chavez
Lease Graham Water Station State NM
Well _____ Formation _____
Type of Water Fresh Water, B/D _____
Sampling Point Water Tanks Sampled By Blackwell

DISSOLVED SOLIDS

CATIONS

	mg/l	meq/l
Sodium, Na+(Calc)	230	10
Calcium, Ca++	120	6
Magnesium, Mg++	24	2
Barium, Ba++	neg	-
Iron, Fe (Total)		

OTHER PROPERTIES

pH 8.2
Specific Gravity 1.000
H₂S neg
Total Dissolved Solids 1144
Total Hardness 400

ANIONS

	mg/l	meq/l
Chloride, Cl-	350	10
Sulfate, So ₄ =	120	3
Carbonate, Co ₃ =	0	0
Bicarbonate, HCo ₃ -	300	5

Remarks and Recommendations _____

PERMIAN

treating Chemicals, Inc.

P. O. BOX 728
LOVINGTON, N.M. 88263
PHONE (505) 396-5674

WATER ANALYSIS REPORT

Company Yates Drilling Date Sampled 1-22-88
Field Caprock County Chavez
Lease Graham Water well (fresh) State NM
Well North of Lease Formation Blackwell
Type of Water Fresh Water, B/D Blackwell
Sampling Point Well head Sampled By

DISSOLVED SOLIDS

CATIONS

	mg/l	meq/l
Sodium, Na+(Calc)	115	5
Calcium, Ca++	120	6
Magnesium, Mg++	15	1
Barium, Ba++	Neg	68.7
Iron, Fe (Total)		

OTHER PROPERTIES

pH 8.3
Specific Gravity 1.000
H₂S Neg
Total Dissolved Solids 817
Total Hardness 360

ANIONS

Chloride, Cl-	200	35.5	6
Sulfate, So ₄ =	55	48	1
Carbonate, Co ₃ =	0	30	0
Bicarbonate, HCo ₃ -	312	61	5

Remarks and Recommendations

ERMIAN

ing Chemicals, Inc.

P. O. BOX 728
LOVINGTON, N.M. 88263
PHONE (505) 396-5674

WATER ANALYSIS REPORT

Company Yates Drilling Report Date Sampled 1-22-88
Field Caprock County Lea
Lease Williams Ranch State NM
Well Williams Fresh Water Formation _____
Type of Water Fresh Water Water, B/D _____
Sampling Point Well head Sampled By Blackwell

DISSOLVED SOLIDS

CATIONS

	mg/l	meq/l
Sodium, Na+(Calc)	70	3.0
Calcium, Ca++	80	4.0
Magnesium, Mg++	20	1.6
Barium, Ba++	Neg	68.7
Iron, Fe (Total)		

OTHER PROPERTIES

pH 8.2
Specific Gravity 1.000
H₂S Neg
Total Dissolved Solids 602
Total Hardness 271

ANIONS

	mg/l	meq/l
Chloride, Cl-	100	2.8
Sulfate, So ₄ =	40	0.8
Carbonate, Co ₃ =	0	0
Bicarbonate, HCo ₃ -	292	4.8

Remarks and Recommendations _____

PERMIAN

Treating Chemicals, Inc.

P.O. BOX 72
LOVINGTON, N.M.
PHONE (505) 396

WATER ANALYSIS REPORT

Company	Yates Drilling	Date Sampled	1-22-88
Field	Caprock	County	Lea
Lease	Gallagher	State	NM
Well	1	Formation	Queens
Type of Water	Produced	Water, B/D	
Sampling Point	Treater	Sampled By	Blackwell

DISSOLVED SOLIDS

CATIONS	mg/l	meq/l
Sodium, Na+(Calc)	98100	23 4265
Calcium, Ca++	3750	20 188
Magnesium, Mg++	12900	2.2 1057
Barium, Ba++	neg	8.7
Iron, Fe (Total)		

OTHER PROPERTIES

pH	5.9
Specific Gravity	1.200
H ₂ S	Neg
Total Dissolved Solids	314,240
Total Hardness	62,800

ANIONS

Chloride, Cl-	198000	35.5	5577
Sulfate, So ₄ =	1350	28	
Carbonate, Co ₃ =	0	0	
Bicarbonate, HCo ₃ -	140	61	2.3

Remarks and Recommendations

PERMIAN

Treating Chemicals, Inc.

P. O. BOX 72
LOVINGTON, NM
PHONE (505) 396

WATER ANALYSIS REPORT

Company	Yates Drilling	Date Sampled	1-22-88
Field	Caprock	County	Lea
Lease	Doyle	State	NM
Well	12 & 4	Formation	Queens
Type of Water	Produced	Water, B/D	
Sampling Point	Treater	Sampled By	Blackwell

DISSOLVED SOLIDS

CATIONS

	mg/l	meq/l
Sodium, Na+(Calc)	97900	23 4257
Calcium, Ca++	3800	20 190
Magnesium, Mg++	13300	12.2 1090
Barium, Ba++	0	0 8.7
Iron, Fe (Total)	58	

ANIONS

Chloride, Cl-	196,000	35.5	5521
Sulfate, $SO_4^{=}$	1400	48	29
Carbonate, $CO_3^{=}$	0	30	0
Bicarbonate, HCO_3^{-}	140	61	2.3

OTHER PROPERTIES

pH	5.7
Specific Gravity	1.200
H_2S	neg.
Total Dissolved Solids	312,598
Total Hardness	64,900

Remarks and Recommendations

PERMIAN

treating Chemicals, Inc.

P.O. BOX 728
LOVINGTON, N.M. 88263
PHONE (505) 396-5674

WATER ANALYSIS REPORT

Company Yates Drilling Date Sampled 1-22-88
Field Caprock County Lea
Lease Burkett State NM
Well _____ Formation Queens
Type of Water Produced Water, B/D _____
Sampling Point Treater Sampled By Blackwell

DISSOLVED SOLIDS

CATIONS

	mg/l	meq/l
Sodium, Na+(Calc)	98000	4261
Calcium, Ca++	4100	205
Magnesium, Mg++	12800	1049
Barium, Ba++	Neg	68.7
Iron, Fe (Total)		

OTHER PROPERTIES

pH 5.9
Specific Gravity
1.200
H₂S Neg.
Total Dissolved
Solids 313,220
Total Hardness
6300

ANIONS

	mg/l	meq/l
Chloride, Cl-	197,000	5549
Sulfate, So ₄ =	1200	25
Carbonate, Co ₃ =	0	30
Bicarbonate, HCo ₃ -	120	61

Remarks and Recommendations _____

ERMIAN

ating Chemicals, Inc.

P.O. Box 728
 Tulsa, Okla. 74101
 Phone 505-234-2678

WATER ANALYSIS REPORT

Company Yates Drilling

Well

Lease Deluna

Well

Type of Water Produced

Sampling Point Treater

DISSOLVED SOLIDS

CATIONS

Sodium, Na⁺ (Calc)

Calcium, Ca⁺⁺

Magnesium, Mg⁺⁺

Barium, Ba⁺⁺

Iron, Fe (Total)

ANIONS

Chloride, Cl⁻

Sulfate, SO₄⁻²

Carbonate, CO₃⁻²

Bicarbonate, HCO₃⁻

Remarks and Recommendations

Date Sampled 1-22-88

County Lea

State NM

Location Queens

Water, R/B

Sampled by Blackwell

OTHER PROPERTIES

pH 6.0

Specific Gravity

1.200

H₂S Neg

Total Dissolved

Solids 135,148

Total Hardness

63,000

5465

25

1.1

ERMIAN

ating Chemicals, Inc.

Company Yates Drilling

Well

Lease

Garner

Well

7

Type of Water

Produced

Sampling Point

DISSOLVED SOLI

CATIONS

Sodium, Na (Total)

105,000

Calcium, Ca

4,750

Magnesium, Mg

11,900

Barium, Ba

Iron, Fe (Total)

ANIONS

Chloride, Cl-

204,000

Sulfate, SO₄

1,100

Carbonate, CO₃

0

Bicarbonate, HCO₃

205

Carbon Dioxide, CO₂

Date Sampled

1-22-88

County

Lea

State

NM

Location

Queens

Water, B/L

Sampled by

Blackwell

OTHER PROPERTIES

pH 5.8

Specific Gravity

1.200

H₂S Neg

Total Dissolved

Solids 326,955

Total Hardness

60,700

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

ARTESIA DISTRICT

LABORATORY REPORT

No. W539, W540 & W541-89

TO Yates Drilling
105 South Fourth Street
Artesia, NM 88210

Date October 17, 1989

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Submitted by _____ Date Rec. October 16, 1989

Well No. _____ Depth _____ Formation _____

Field _____ County _____ Source _____

	SPEAR WW #1	CF #7	DEL FED. #3
Resistivity	0.74 @ 70°	0.052 @ 70°	0.054 @ 70°
Specific Gravity ..	1.006 @ 70°	1.1730 @ 70°	1.1571 @ 70°
pH	6.4	6.6	6.6
Calcium	1,686	6,744	7,418
Magnesium	546	10,230	7,979
Chlorides	5,000	159,000	143,000
Sulfates	Nil	Nil	Medium
Bicarbonates	305	214	183
Soluble Iron	Nil	10	3
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-----	-----	-----	-----
-----	-----	-----	-----

Remarks:

Eric Jacobson
 Respectfully submitted

Analyst: Eric Jacobson - EIT

HALLIBURTON SERVICES

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HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

ARTESIA DISTRICT

LABORATORY REPORT

No. W536, W537 & W538-89

TO Yates Drilling
105 South Fourth Street
Artesia, NM 88210

Date October 17, 1989

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Submitted by _____ Date Rec. October 16, 1989

Well No. _____ Depth _____ Formation _____

Field _____ County _____ Source _____

	<u>BUR FEDERAL #3</u>	<u>GALLAHAN ST. #1</u>	<u>AP STATE #1</u>
Resistivity	<u>0.051 @ 70°</u>	<u>0.051 @ 70°</u>	<u>0.058 @ 70°</u>
Specific Gravity ..	<u>1.1200 @ 70°</u>	<u>1.196 @ 70°</u>	<u>1.137 @ 70°</u>
pH	<u>6.5</u>	<u>6.6</u>	<u>6.8</u>
Calcium	<u>6,070</u>	<u>5,620</u>	<u>6,407</u>
Magnesium	<u>10,912</u>	<u>12,685</u>	<u>6,615</u>
Chlorides	<u>184,000</u>	<u>180,000</u>	<u>122,000</u>
Sulfates	<u>Heavy</u>	<u>Medium</u>	<u>Medium</u>
Bicarbonates	<u>214</u>	<u>183</u>	<u>305</u>
Soluble Iron	<u>10</u>	<u>25</u>	<u>0</u>
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Remarks:

Eric Jacobson
 Respectfully submitted

Analyst: Eric Jacobson - EIT

HALLIBURTON SERVICES

HALLIBURTON DIVISION LABORATORY.

HALLIBURTON SERVICES

ARTESIA DISTRICT

LABORATORY REPORT

No. W542, W543 & W544-89

TO Yates Drilling
105 South Fourth Street
Artesia, NM 88210

Date October 17, 1989

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Submitted by _____ Date Rec. October 16, 1989

Well No. _____ Depth _____ Formation _____

Field _____ County _____ Source _____

	<u>Graham WW #1</u>	<u>Graham WW #2</u>	<u>Doy #1</u>
Resistivity	<u>0.60 @ 70°</u>	<u>0.91 @ 70°</u>	<u>N.A.</u>
Specific Gravity ..	<u>1.007 @ 70°</u>	<u>1.005 @ 70°</u>	<u>N.A.</u>
pH	<u>6.5</u>	<u>6.7</u>	<u>6.6</u>
Calcium	<u>1,124</u>	<u>1,124</u>	<u>4,946</u>
Magnesium	<u>477</u>	<u>614</u>	<u>14,186</u>
Chlorides	<u>6,000</u>	<u>4,000</u>	<u>198,000</u>
Sulfates	<u>Nil</u>	<u>Nil</u>	<u>Nil</u>
Bicarbonates	<u>214</u>	<u>214</u>	<u>153</u>
Soluble Iron	<u>Nil</u>	<u>Nil</u>	<u>75</u>
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-----	-----	-----	-----
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Remarks:

Eric Jacobson
 Respectfully submitted

Analyst: Eric Jacobson - EIT

HALLIBURTON SERVICES