

DHC 3/20/00

devon

ENERGY CORPORATION

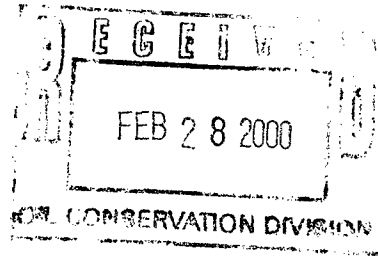
20 North Broadway, Suite 1500
Oklahoma City, Oklahoma 73102-8260

Telephone 405/235-3611
FAX 405/552-4550

February 24, 2000

Certified Mail No. Z 068 589 783

STATE OF NEW MEXICO
Energy, Minerals and Natural Resources Dept.
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505-6429



RE: Downhole Commingling
Eagle 35 L Federal #1
Section L-35-17S-27E
API #30-015-29090
Red Lake (Q-GB-SA) and
Red Lake (Glorieta-Yeso), NE Fields
Eddy County, NM

Gentlemen:

Concerning the referenced, enclosed please find the Form C-107A Application for Downhole Commingling and attachments (and three copies).

Please direct inquiries concerning this application to Ernie Buttross at (405) 235-3611, Ext. 4509.

Yours truly,

DEVON ENERGY CORPORATION (NEVADA)

Tonja Rutelonis
Engineering Tech.

/trr
Enclosures

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980
DISTRICT II
811 South First St., Artesia, NM 88210-2835
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410-1693
DISTRICT IV
2040 S. Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-107-A
Revised August 1999

APPROVAL PROCESS:

Administrative Hearing

EXISTING WELLBORE

YES NO

APPLICATION FOR DOWNHOLE COMMINGLING

Devon Energy Corporation (Nevada)

20 N. Broadway, Suite 1500, Oklahoma City OK 73102-8260

Operator

Address

Eagle 35 L Federal

1

L - 35-17S-27E

Eddy

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County
Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 6137

Property Code

19401

API NO.

30-015-29090

Federal , State , (and/or) Fee

The following facts are submitted in support of downhole commingling	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Red Lake (Q-GB-SA)		Red Lake (Glor-Yeso), NE
2. Top and Bottom of Pay Section (Perforations)	1934'-2322'		To be perforated 2850'-3150'
3. Type of production (Oil or Gas)	Oil		Oil
4. Method of Production (Flowing or Artificial Lift)	Artificial Lift		Artificial Lift
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	a. (Current) 50 psi producing BHP b. (Original)	a. b.	a. 100 psi producing BHP b.
6. Oil Gravity (°API) or Gas BTU Content	39.5°		41.8°
7. Producing or Shut-In?	Producing		Awaiting perfs
Production Marginal? (yes or no)	Yes		Expected to be marginal
• If Shut-In, give date and oil/gas/water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: N/A Rates:	Date: Rates:	Date: N/A Rates:
• If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: 1/15/00 Rates: 6 BOPD, 20 MCFGPD, 3 BWPD	Date: Rates:	Date: N/A Rates: N/A
8. Fixed Percentage Allocation Formula - % for each zone (total of %'s to equal 100%)	Oil: 29 % Gas: 29 %	Oil: % Gas: %	Oil: 71 % Gas: 71 %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? ☒ Yes ☐ No
If not, have all working, overriding, and royalty interests been notified by certified mail? ☐ Yes ☐ No

11. Will cross-flow occur? ☐ Yes ☒ No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. ☐ Yes ☐ No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each other? ☒ Yes ☐ No

13. Will the value of production be decreased by commingling? ☐ Yes ☒ No (If Yes, attach explanation)

14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. ☒ Yes ☐ No

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S).

16. ATTACHMENTS:

- * C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- * Production curve for each zone for at least one year. (If not available, attach explanation.)
- * For zones with no production history, estimated production rates and supporting data.
- * Data to support allocation method or formula.
- * Notification list of working, overriding, and royalty interests for uncommon interest cases.
- * Any additional statements, data, or documents required to support commingling.

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

SIGNATURE Tonja Rutelonis TITLE Engineering Technician DATE 2/23/00

TYPE OR PRINT NAME Tonja Rutelonis TELEPHONE NO. (405) 552-4515

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

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102

Revised February 10, 1994

Instruction on back

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

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

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-29090	Pool Code 51300	Pool Name Red Lake (Q-GB-SA) & Red Lake; Glorieta - Yeso, NE
Property Code 19401	Property Name Eagle 35 "L" Federal	Well Number 1
OGRID No. 6137	Operator Name Devon Energy Corporation (Nevada)	Elevation 3596'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	35	17 S	27 E		2310	South	330	West	Eddy

Bottom Hole Location If Different From Surface

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

Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. <u>E. L. Buttross, Jr.</u> Signature E.L. Buttross, Jr. Printed Name District Engineer Title July 10, 1996 Date	
	SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. June 7, 1996 Date Surveyed Signature & Seal of Professional Surveyor W.O. No. 6202g7 Certificate No. Jones 7977 BASIN SURVEYS	

Eagle 35 L Federal #1

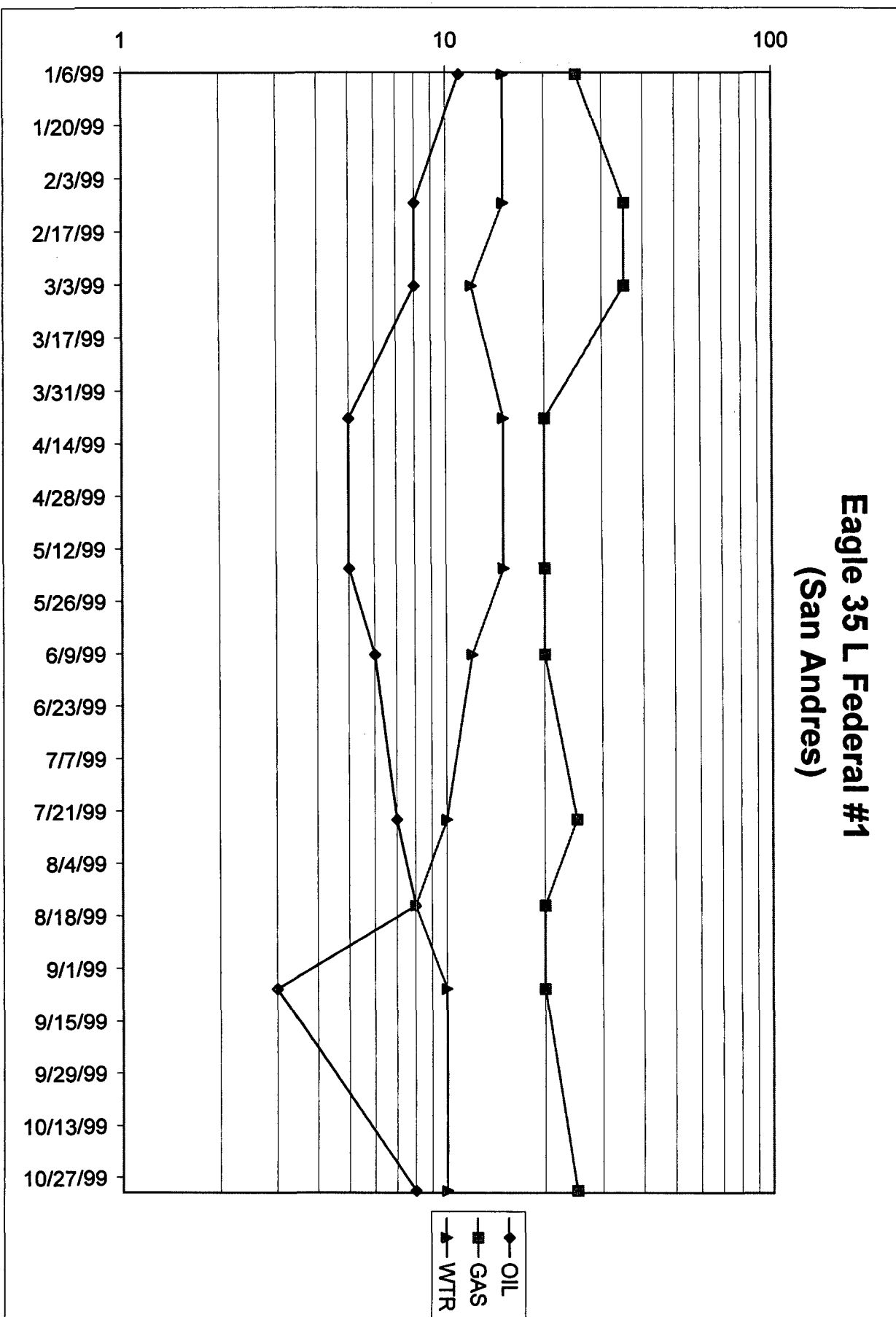
Allocation Formula

Well Name	Producing Formation	*Daily Production Test	
		3-month Average	% of Total
Logan 35 B Federal #9	Red Lake (Glor-Yeso), NE	15 BO/45 MCF/91 BW	71 %
Eagle 35 L Federal #1	Red Lake (Q-GB-SA)	6 BO/22 MCF/9 BW	29 %

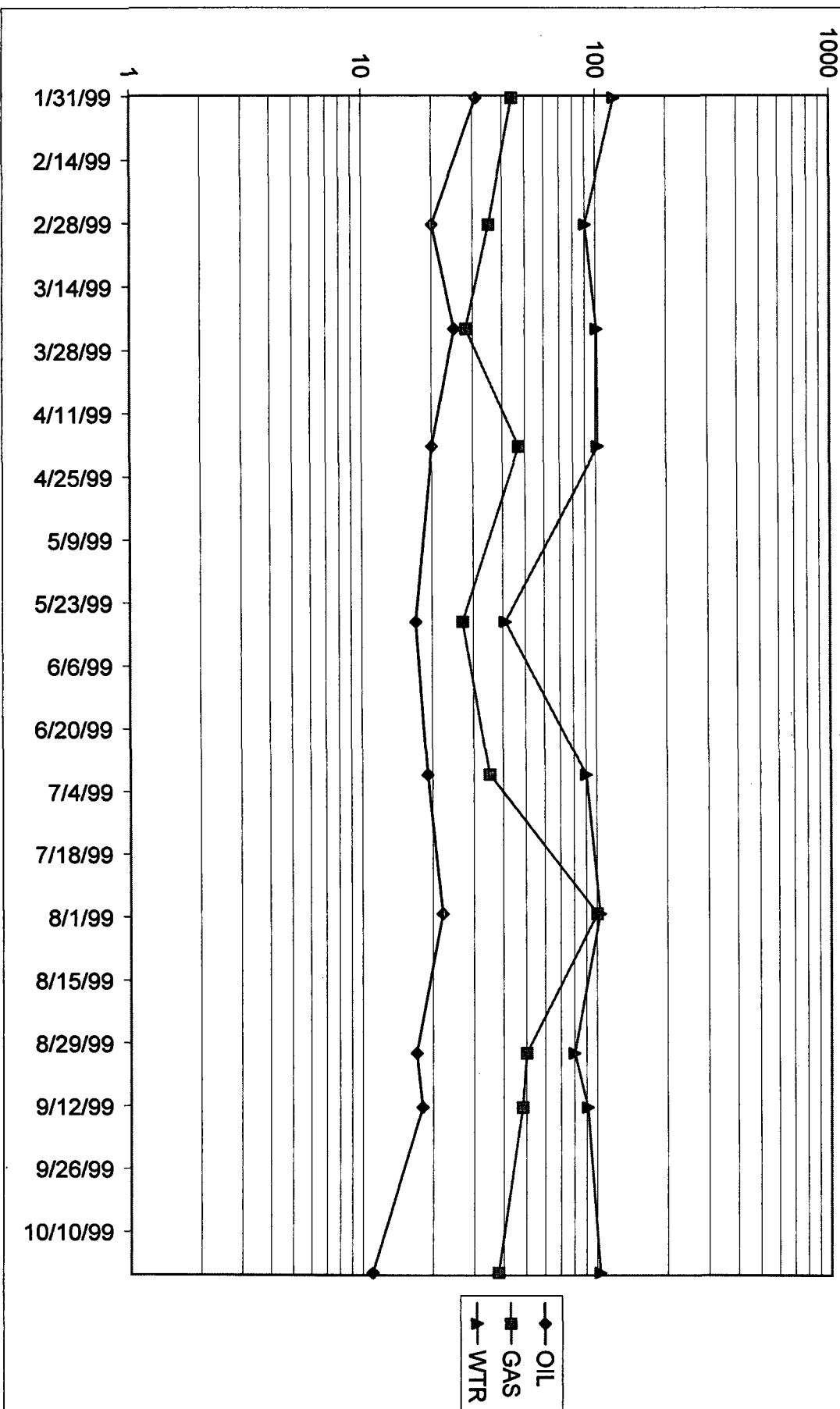
* From attached production plots

The above production test represents stable production from a San Andres producer (Eagle 35 L Federal #1) and a Yeso producer (Logan 35 B Federal #9). We believe these rates of production represent an acceptable means to allocate production. **We have previously received approval for downhole commingling in these fields utilizing a similar allocation method.**

Eagle 35 L Federal #1 (San Andres)

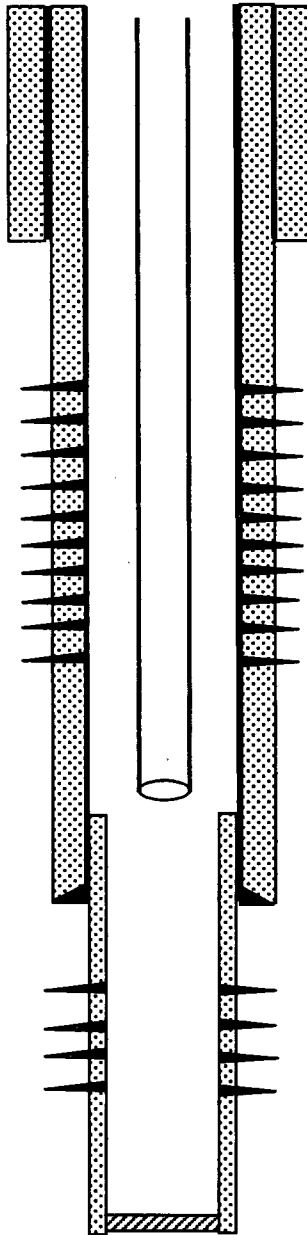


Logan 35 B Federal #9 (Yeso)



DEVON ENERGY CORPORATION - WELLBORE SCHEMATIC

WELL NAME: Eagle 35 L Federal #1			FIELD: Red Lake			
LOCATION: 2310' FSL & 330' FWL, Section 35-17S-27E			COUNTY: Eddy			STATE: NM
ELEVATION: GL = 3596'			SPUD DATE: 1/19/97		COMP DATE: 2/9/00	
API#: 30-015-29090		PREPARED BY: T. Rutelonis			DATE: 2/9/00	
	DEPTH	SIZE	WEIGHT	GRADE	THREAD	HOLE SIZE
CASING:	0' - 1074'	8-5/8"	24#	J-55		12-1/4"
CASING:	0' - 2649'	5 1/2"	15.5#	J-55		7-7/8"
LINER:	2550' - 4000'	4"	10.46#	J-55	FL4S	4-3/4"
TUBING:	0' - 2520'	2-7/8"				
TUBING:						



CURRENT



PROPOSED

OPERATOR: DEVON ENERGY CORPORATION

8-5/8" Casing, Set @ 1074' w/ 500 sxs cmt. TOC @ surface

SAN ANDRES PERFORATIONS:
1934'-2322'

2-7/8" tbg w/ SN @ 2520'

TOL @ 2520'

5 1/2" 15.5# J-55 Casing Set @ 2649' w/ 500 sxs cmt. TOC @ surf.

YESO PERFORATIONS:
±2850' - ±3150' (20 HOLES, .38")

TD @ 4000'

DISTRIBUTED
United States only false, fictitious
4-9-97

Analysis: 24190

Water Analysis Report from Baker Petrolite

Summary of Mixing Waters		
Sample Number	133534	112098
Company	DEVON ENERGY	DEVON ENERGY
Lease	HAWK 8	HAWK 3
Well	WELL #3	BATTERY
Sample Location	WELLHEAD	FWKO
	YESO	SAN ANDRES
Anions (mg/L)		
Chloride	106,253	99,569
Bicarbonate	573	497
Carbonate	0.00	0.00
Sulfate	3,912	4,489
Phosphate	0.00	0.00
Borate	0.00	0.00
Silicate	0.00	0.00
Cations (mg/L)		
Sodium	67,918	63,725
Magnesium	369	509
Calcium	1,749	1,770
Strontium	36.0	49.0
Barium	0.06	0.10
Iron	48.0	0.40
Potassium	523	269
Aluminum	0.00	0.00
Chromium	0.00	0.00
Copper	0.00	0.00
Lead	0.00	0.00
Manganese	0.00	0.00
Nickel	0.00	0.00
Anion/Cation Ratio	1.00	1.00
TDS (mg/L)	181,381	170,877
Density (g/cm)	1.12	1.11
Sampling Date	10/26/99	7/28/99
Account Manager	CURRY FRUIT	CURRY FRUIT
Analyst	JOANNA RAGAN	JOANNA RAGAN
Analysis Date		8/4/99
pH at time of sampling	5.90	7.90
pH at time of analysis		
pH used in Calculations	5.90	7.90

Analysis: 24190

Water Analysis Report from Baker Petrolite

Mixes at 80°F and 0 psi

Predictions of Carbon Dioxide Pressure, Saturation Index and Amount of Scale in lb/1000bbl												
Mix Waters		CO ₂	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
133534	112098	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
100%	0%	5.52	-0.31		-0.20		-0.18		-0.21		0.13	0.01
90%	10%	4.90	-0.27		-0.19		-0.17		-0.18		0.17	0.01
80%	20%	4.30	-0.22		-0.18		-0.16		-0.16		0.20	0.01
70%	30%	3.70	-0.17		-0.17		-0.16		-0.14		0.23	0.02
60%	40%	3.10	-0.10		-0.17		-0.15		-0.12		0.26	0.02
50%	50%	2.51	-0.01		-0.16		-0.14		-0.10		0.29	0.02
40%	60%	1.92	0.09	7.5	-0.15		-0.14		-0.08		0.32	0.02
30%	70%	1.34	0.24	16.9	-0.15		-0.13		-0.06		0.35	0.03
20%	80%	0.78	0.46	26.8	-0.14		-0.13		-0.04		0.38	0.03
10%	90%	0.27	0.89	37.5	-0.14		-0.12		-0.02		0.40	0.03
0%	100%	0.05	1.51	48.8	-0.13		-0.12		0.00	0.18	0.43	0.03

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

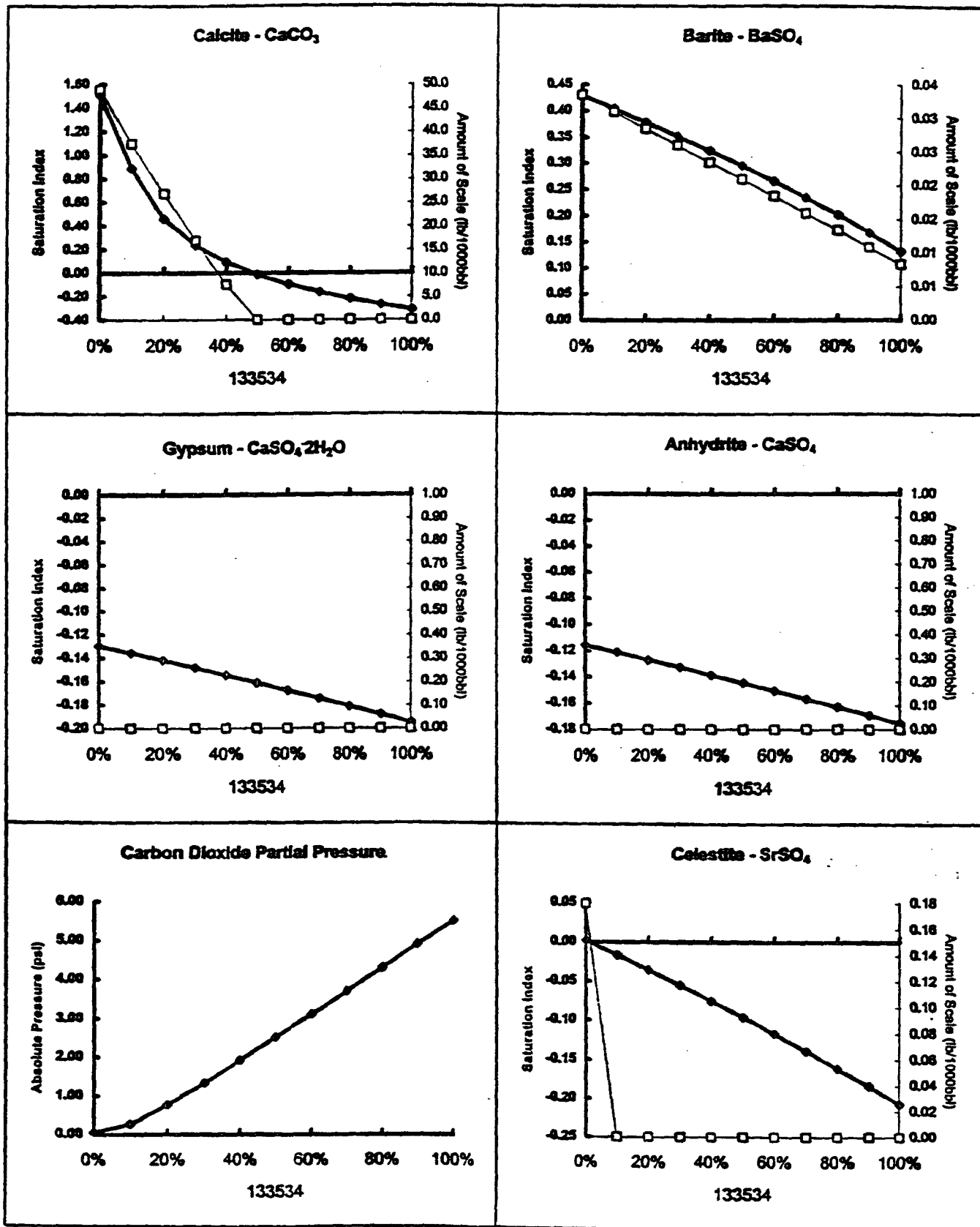
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: CO₂ Pressure is absolute pressure. Total Pressure is gauge pressure.

Mixture Predictions from Baker-Petrolite

133534 with 112098 at 80°F and 0 psi

Analysis: 24190



Analysis: 24190

Water Analysis Report from Baker Petrolite

Mixes at 100°F and 0 psi

Predictions of Carbon Dioxide Pressure, Saturation Index and Amount of Scale in lb/1000bbl

Mix Waters		CO ₂	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
133534	112098	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
100%	0%	6.73	-0.22		-0.27		-0.19		-0.24		-0.08	
90%	10%	5.99	-0.18		-0.27		-0.18		-0.22		-0.04	
80%	20%	5.25	-0.13		-0.26		-0.18		-0.19		-0.01	
70%	30%	4.52	-0.07		-0.25		-0.17		-0.17		0.03	0.00
60%	40%	3.80	-0.00		-0.25		-0.16		-0.15		0.06	0.01
50%	50%	3.08	0.08	7.2	-0.24		-0.16		-0.13		0.09	0.01
40%	60%	2.37	0.18	15.2	-0.23		-0.15		-0.11		0.12	0.01
30%	70%	1.67	0.32	23.8	-0.22		-0.14		-0.09		0.15	0.01
20%	80%	0.99	0.53	32.8	-0.22		-0.14		-0.07		0.17	0.02
10%	90%	0.40	0.89	42.5	-0.21		-0.13		-0.05		0.20	0.02
0%	100%	0.11	1.37	53.0	-0.20		-0.12		-0.03		0.22	0.02

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

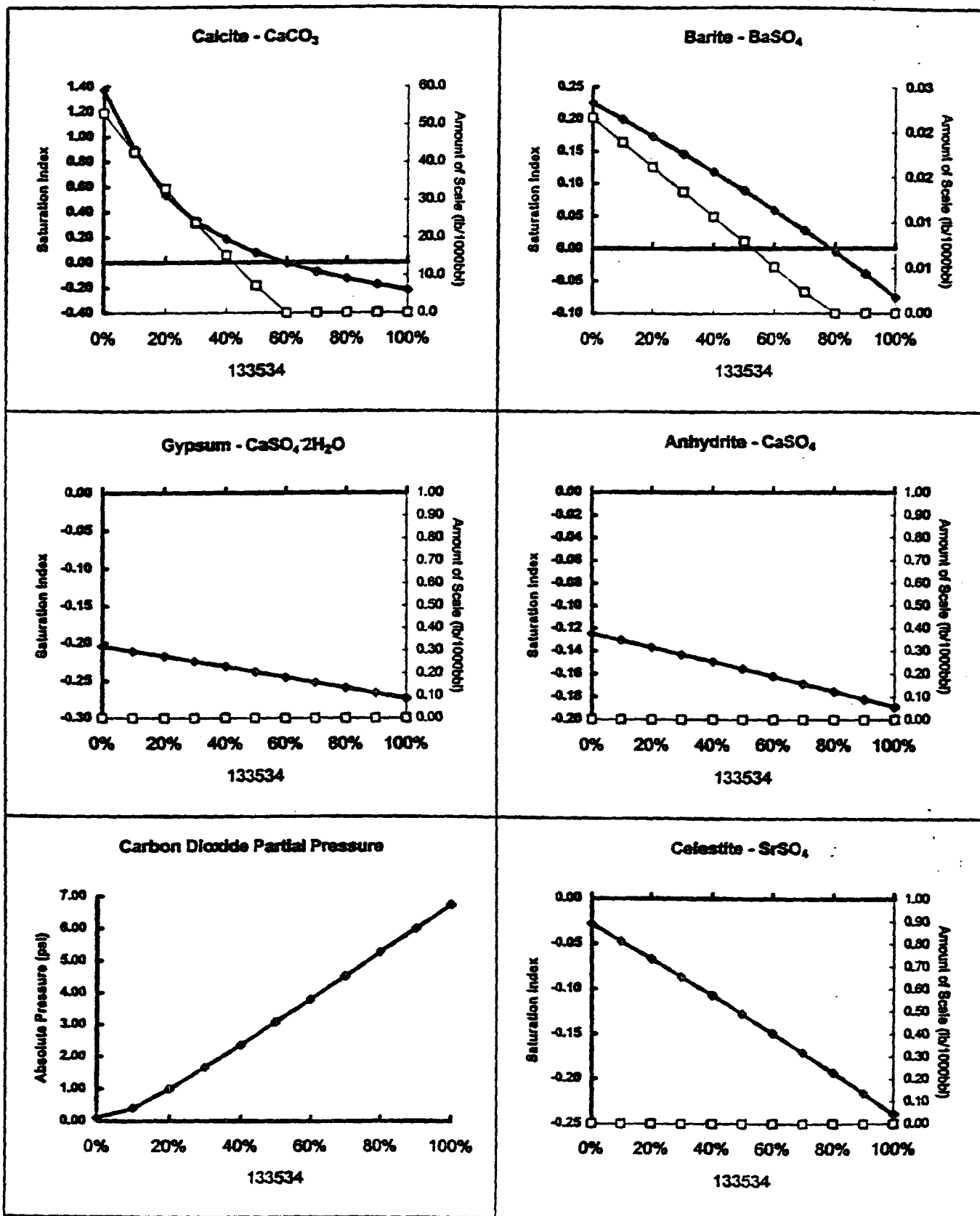
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: CO₂ Pressure is absolute pressure. Total Pressure is gauge pressure.

Mixture Predictions from Baker-Petrolite

133534 with 112098 at 100°F and 0 psi

Analysis: 24190



Analysis: 24190

Water Analysis Report from Baker Petrolite

Mixes at 120°F and 0 psi

Predictions of Carbon Dioxide Pressure, Saturation Index and Amount of Scale in lb/1000bbl												
Mix Waters		CO ₂	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
133534	112098	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
100%	0%	7.93	-0.12		-0.34		-0.18		-0.26		-0.26	
90%	10%	7.06	-0.08		-0.33		-0.17		-0.24		-0.22	
80%	20%	6.20	-0.03		-0.33		-0.16		-0.21		-0.19	
70%	30%	5.34	0.02	2.7	-0.32		-0.16		-0.19		-0.15	
60%	40%	4.49	0.09	9.2	-0.31		-0.15		-0.17		-0.12	
50%	50%	3.65	0.17	16.1	-0.30		-0.14		-0.15		-0.09	
40%	60%	2.83	0.27	23.3	-0.30		-0.13		-0.13		-0.06	
30%	70%	2.01	0.41	31.0	-0.29		-0.13		-0.11		-0.03	
20%	80%	1.24	0.60	39.2	-0.28		-0.12		-0.09		-0.01	
10%	90%	0.58	0.90	47.9	-0.27		-0.11		-0.07		0.02	0.00
0%	100%	0.20	1.26	57.4	-0.27		-0.11		-0.05		0.04	0.01

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

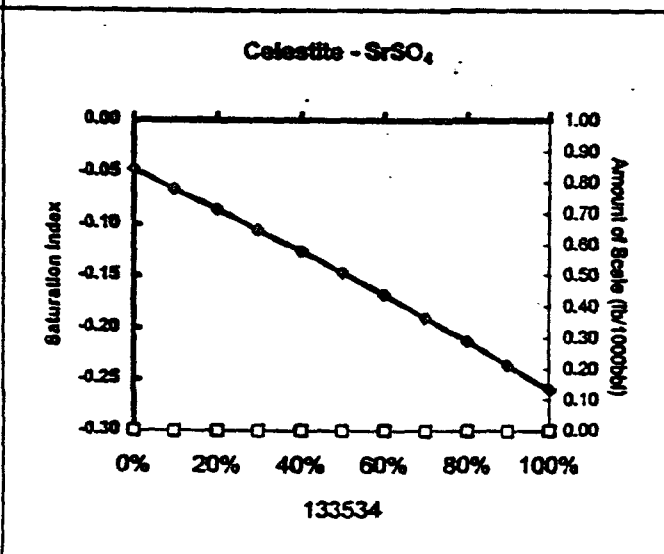
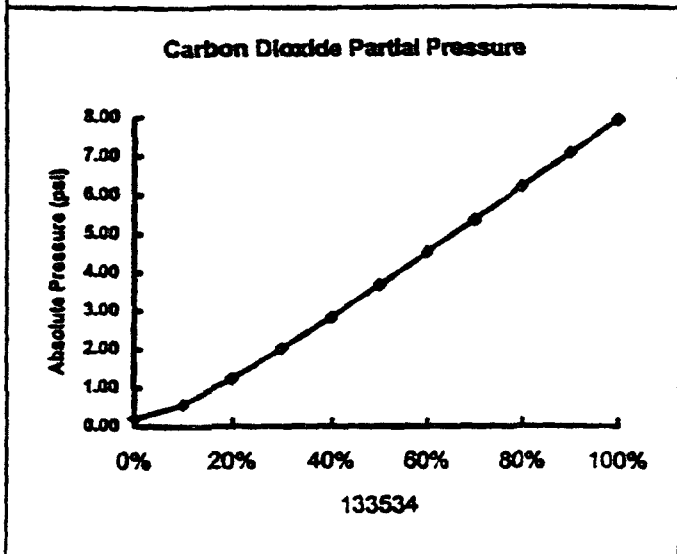
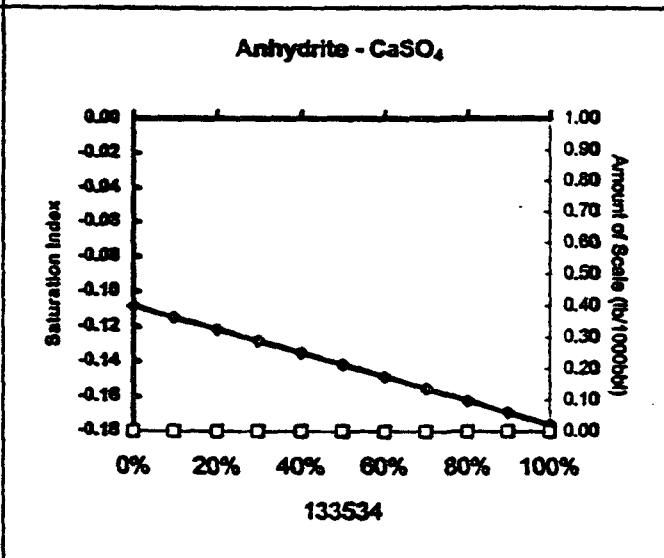
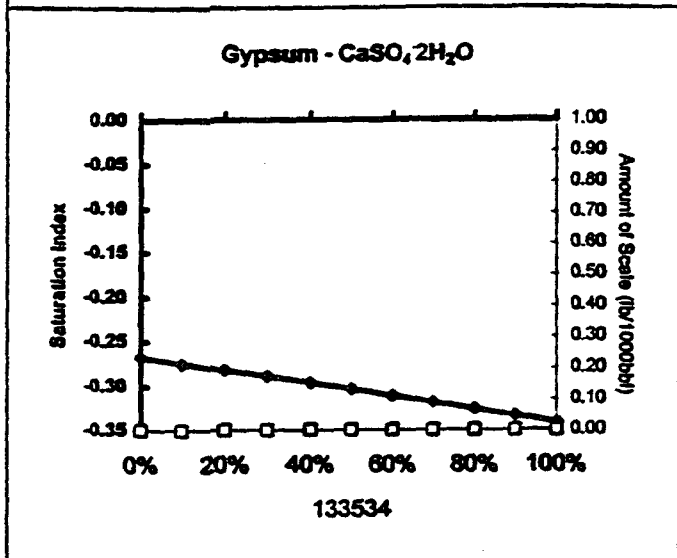
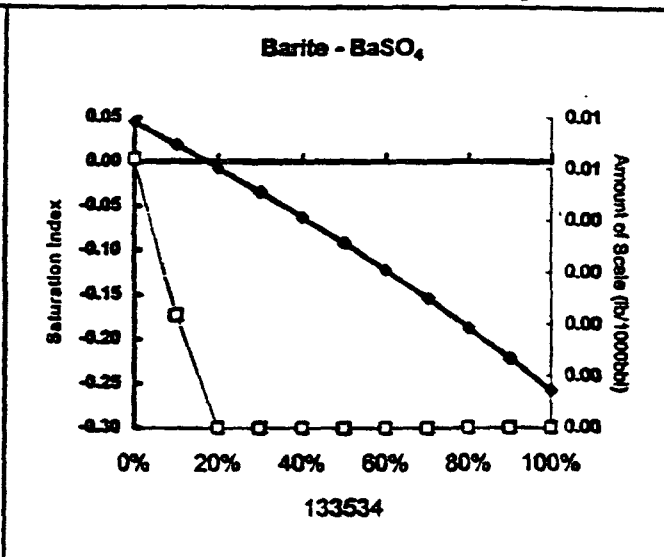
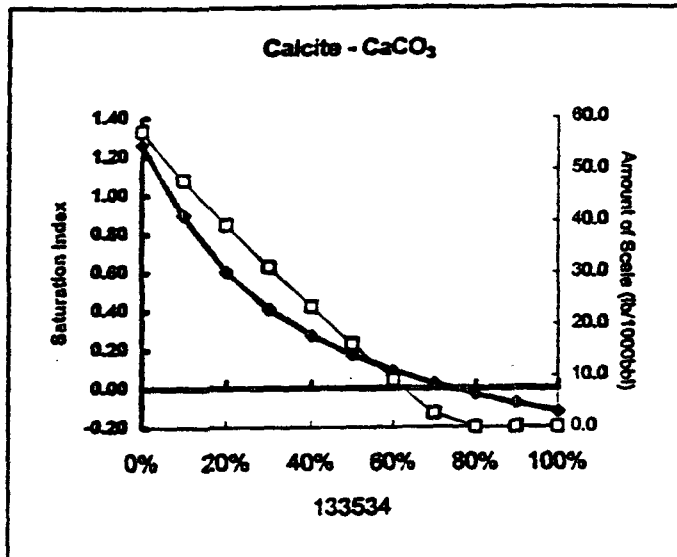
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: CO₂ Pressure is absolute pressure. Total Pressure is gauge pressure.

Mixture Predictions from Baker-Petrolite

133534 with 112098 at 120°F and 0 psi

Analysis: 24190



Analysis: 24190

Water Analysis Report from Baker Petrolite

Mixes at 140°F and 0 psi

Predictions of Carbon Dioxide Pressure, Saturation Index and Amount of Scale in lb/1000bbl												
Mix Waters		CO ₂	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
133534	112098	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
100%	0%	9.05	-0.02		-0.40		-0.14		-0.27		-0.42	
90%	10%	8.07	0.02	2.7	-0.39		-0.13		-0.25		-0.38	
80%	20%	7.09	0.07	8.0	-0.38		-0.13		-0.22		-0.35	
70%	30%	6.13	0.13	13.5	-0.38		-0.12		-0.20		-0.31	
60%	40%	5.17	0.19	19.3	-0.37		-0.11		-0.18		-0.28	
50%	50%	4.22	0.27	25.4	-0.36		-0.11		-0.16		-0.25	
40%	60%	3.29	0.37	31.9	-0.35		-0.10		-0.14		-0.22	
30%	70%	2.38	0.49	38.7	-0.34		-0.09		-0.12		-0.19	
20%	80%	1.53	0.66	46.0	-0.34		-0.08		-0.10		-0.17	
10%	90%	0.80	0.90	53.8	-0.33		-0.08		-0.08		-0.14	
0%	100%	0.34	1.18	62.3	-0.32		-0.07		-0.06		-0.11	

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

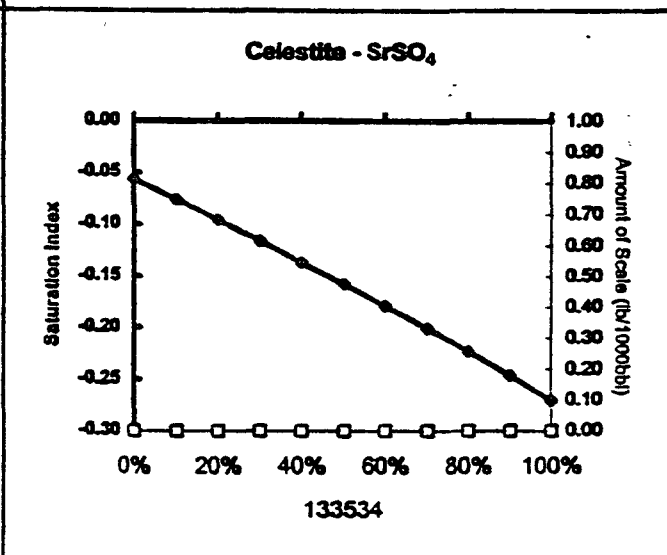
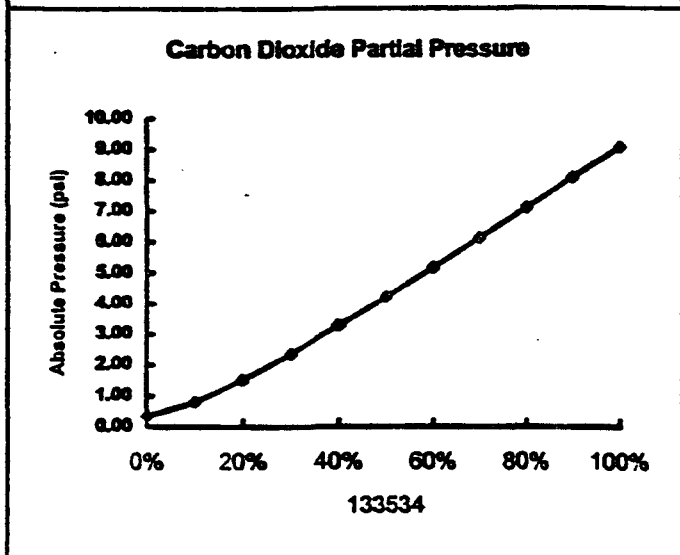
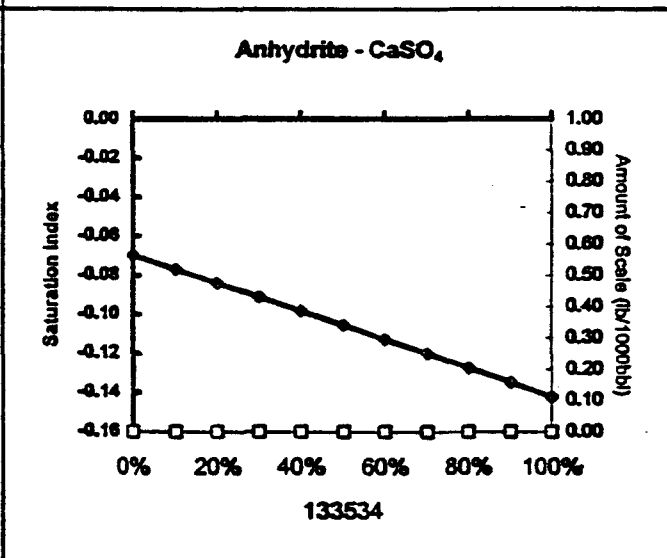
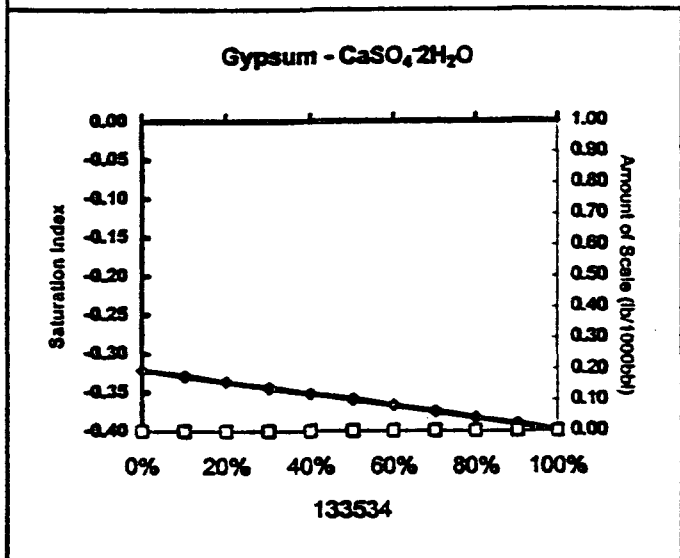
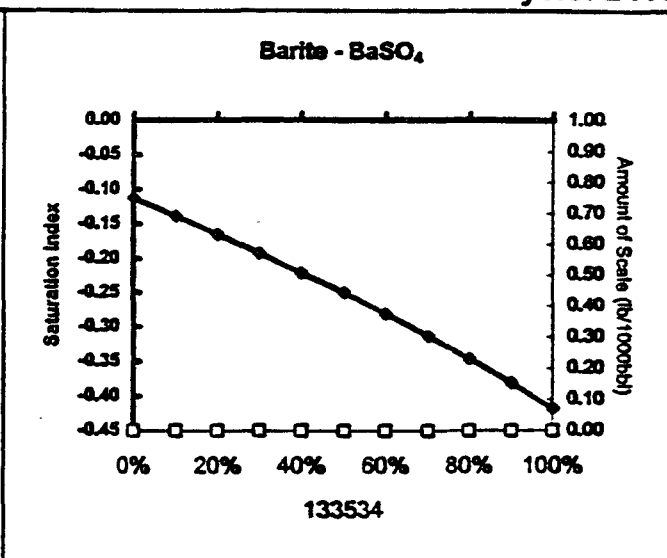
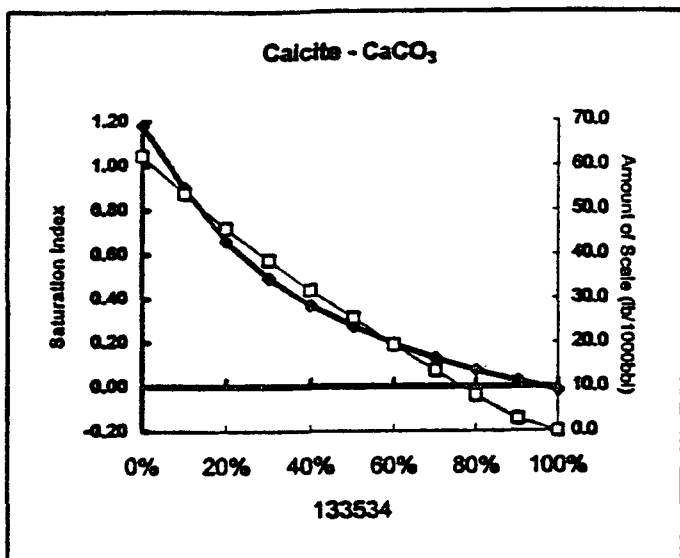
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: CO₂ Pressure is absolute pressure. Total Pressure is gauge pressure.

Mixture Predictions from Baker-Petrolite

133534 with 112098 at 140°F and 0 psi

Analysis: 24190





Mobile Analytical Laboratories

LABORATORIES IN COESSA, GUDDINGS & STACY DAM
WEST UNIVERSITY AND WESTOVER STREET

P.O. BOX 88210

COESSA, TEXAS 78763-0210

PHONE 337-4744

FAX 337-4751

SEPTEMBER 16, 1996

MR. ROLLAND W. PERRY
LABORATORY SERVICES
1311 TASKER DR.
MOBBS, NEW MEXICO 88240

DEAR MR. PERRY:

THE FOLLOWING ARE THE RESULTS OF THE SEVEN OIL SAMPLES FOR SULFUR
CONTENT AND GRAVITY, SAMPLED 09/14/96, RECEIVED 09/15/96,
LAB NOS. 1483-1489:

	SULFUR	API GRAVITY @ 60 °F	SPECIFIC GRAVITY @ 60 °F
LAB NO. 1483: DEVON HAWK #3-1	1.347 %wt	31.3	0.8691
LAB NO. 1484: DEVON HAWK #3-3	0.684 %wt	41.3	0.8188
LAB NO. 1485: DEVON HAWK #3-11	0.700 %wt	35.1	0.8492
LAB NO. 1486: DEVON HAWK #3-4	0.643 %wt	37.4	0.8380
SAN ANDRES			
LAB NO. 1487: DEVON HAWK #3-5	0.609 %wt	39.5	0.8275
LAB NO. 1488: DEVON WEST RED LAKE	0.590 %wt	39.0	0.8299
LAB NO. 1489: DEVON HONDO FED	0.522 %wt	38.2	0.8338

TEST METHOD: SULFUR ASTM D-4294

WE APPRECIATE THE OPPORTUNITY TO WORK WITH YOU ON THESE TESTS. IF YOU
HAVE ANY QUESTIONS OR REQUIRE ANY FURTHER INFORMATION, PLEASE FEEL
FREE TO CONTACT ME AT ANY TIME.

SINCERELY,


STEPHEN REID
SR/dt

DEC-15-99 WED 34 Laboratory Services

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Laboratory Services, Inc.
4018 Fiesta Drive
Hobbs, New Mexico 88240
Telephone: (505) 387-3713

SULFUR IN CRUDE OIL

Devon Energy
P. O. Box 240
Artesia, New Mexico 88211-0250

Dec 15, 1999

YESO OIL Samples

	Total Sulfur	API Gravity @ 60° F	Specific Gravity @ 60° F
Hawk 8-3	0.4116 wt. %	42.8	0.8128
Eagle 83.9	0.4382 wt. %	37.3	0.8383
Logan 35-9	0.4752 wt. %	41.8	0.8165
Logan 35-14	0.4430 wt. %	41.8	0.8165

Thank You,
Rolland Perry