

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. Division
811 S. 1st Street
Artesia, NM 88210-2834

FORM APPROVED
Budget Bureau No. 1004-0135
Expires March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other
2. Name of Operator
DEVON ENERGY CORPORATION (NEVADA)
3. Address and Telephone No.
20 NORTH BROADWAY, SUITE 1500, OKLAHOMA CITY, OKLAHOMA 73102 (405) 235-3611
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
890' FSL & 940' FEL, Section 8-18S-27E, Unit "P"

5. Lease Designation and Serial No.
NM-29273
6. If Indian, Allottee or Tribe Name
NA
7. If Unit or CA, Agreement Designation
8. Well Name and No.
Hawk 8 P Federal #11
9. API Well No.
30-015-29027
10. Field and Pool, or Exploratory Area
Red Lake (Q-GB-SA)
11. County or Parish, State
Eddy County, NM

CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent
- ☐ Subsequent Report
- ☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
- ☐ Recompletion
- ☐ Plugging Back
- ☐ Casing Repair
- ☐ Altering Casing
- ☒ Other Downhole Commingling

- ☐ Change of Plans
- ☐ New Construction
- ☐ Non-Routine Fracturing
- ☐ Water Shut-Off
- ☐ Conversion to Injection
- ☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Devon Energy Corporation (Nevada) has applied with the New Mexico Oil Conservation Division and the Bureau of Land Management requesting the Hawk 8 P Federal #11 be deepened to the Yeso and then downhole commingled in the Red Lake (Q-GB-SA) and Red Lake; Glorieta-Yeso Fields.

A copy of the NMOCD Application for Downhole Commingling is attached.

SUBJECT TO
LIKE APPROVAL
BY STATE

14. I hereby certify that the foregoing is true and correct

Signed Tonja Rutelonis

Tonja Rutelonis

Title Engineering Technician

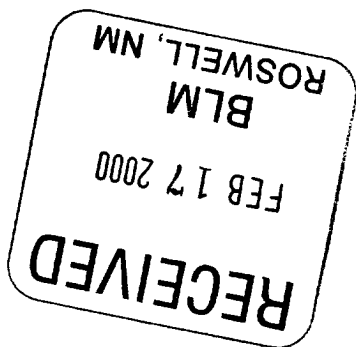
Date 2/11/00

(This space for Federal or State office use)

Approved by _____
Conditions of approval, if any:

Title PETROLEUM ENGINEER

Date FEB 18 2000



DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980
DISTRICT II
111 South First St., Artesia, NM 88210-2836
DISTRICT III
1000 Broadway Rd., Aztec, NM 87410-1863
DISTRICT IV
2040 S. Pacheco, Santa Fe, NM 87305

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

Hawk 8 P Federal

11

P - 8-18S-27E

Eddy

Lease

Well No.

Unit Ltr. - Sec. - Twp. - Rge

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

OGRID NO. 6137

Property Code

19132

API NO.

30-015-29027

Federal ☒

State ☐

(and/or) Fee ☐

The following data is required to support an application for commingling.			
1. Pool Name and Pool Code	Red Lake (Q-GB-SA)		Red Lake (Glor-Yeso)
2. Top and Bottom of Pay Section (Perforations)	1293'-2140'		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 ($^{\circ}$ API) or Gas BTU Content	39.5 $^{\circ}$		38.3 $^{\circ}$
7. Producing or Shut-In?	Producing		Awaiting perms
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: 12/6/99 Rates: 8 BOPD, 27 MCFGPD, 19 BWPD	Date: Rates:	Date: N/A Rates: N/A
8. Fixed Percentage Allocation Formula - % for each zone (total of %'s to equal 100%)	Oil: 41 % Gas: 41 %	Oil: % Gas: %	Oil: 59 % Gas: 59 %

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

Tonia Rutelonis

TITLE Engineering Technician

DATE 2/4/00

TYPE OR PRINT NAME

Tonia Rutelonis

TELEPHONE NO. (405) 552-4515

DISTRICT I
P.O. Box 1960, Hobbs, NM 88240

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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

EXHIBIT 2

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

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-29027	Pool Code 51300	Pool Name Red Lake (O-GB-SA) ; Red Lake ; Glorieta - Veso
Property Code 19132	Property Name Crane Federal Hawk "8P" Federal	Well Number -2- 11
OGED No. 6137	Operator Name Devon Energy Corporation (Nevada)	Elevation 3454'

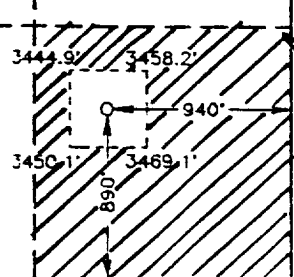
Surface Location

UL or lot No. P	Section 8	Township 18 S	Range 27 E	Lot Idn	Feet from the 890	North/South line South	Feet from the 940	East/West line East	County Eddy
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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.						

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 that the information contained herein is true and complete to the best of my knowledge and belief. E. L. Buttross, Jr. Signature E. L. Buttross, Jr. Printed Name District Engineer Title May 23, 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. March 20, 1996 Date Surveyed Signature & Seal of Professional Surveyor W.O. No. 60931 Certificate No. Garr L. Jones 977 BASIN SURVEYS	

Hawk 8 P Federal #11

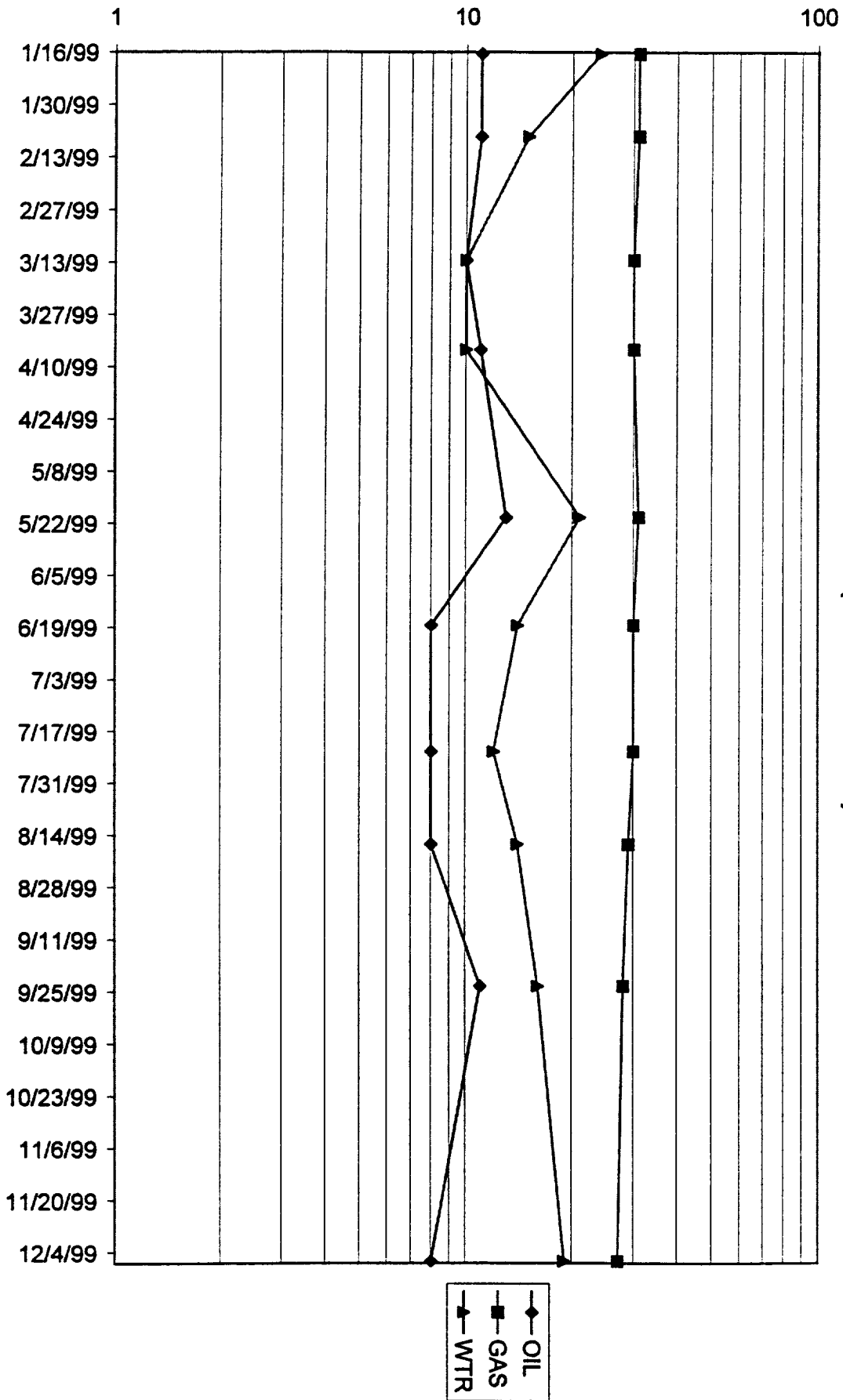
Allocation Formula

Well Name	Producing Formation	*Daily Production Test	
		3-month Average	% of Total
Kaiser B #6	Red Lake (Glor-Yeso)	13 BO/52 MCF/78 BW	59 %
Hawk 8 P Federal #11	Red Lake (Q-GB-SA)	9 BO/28 MCF/16 BW	41 %

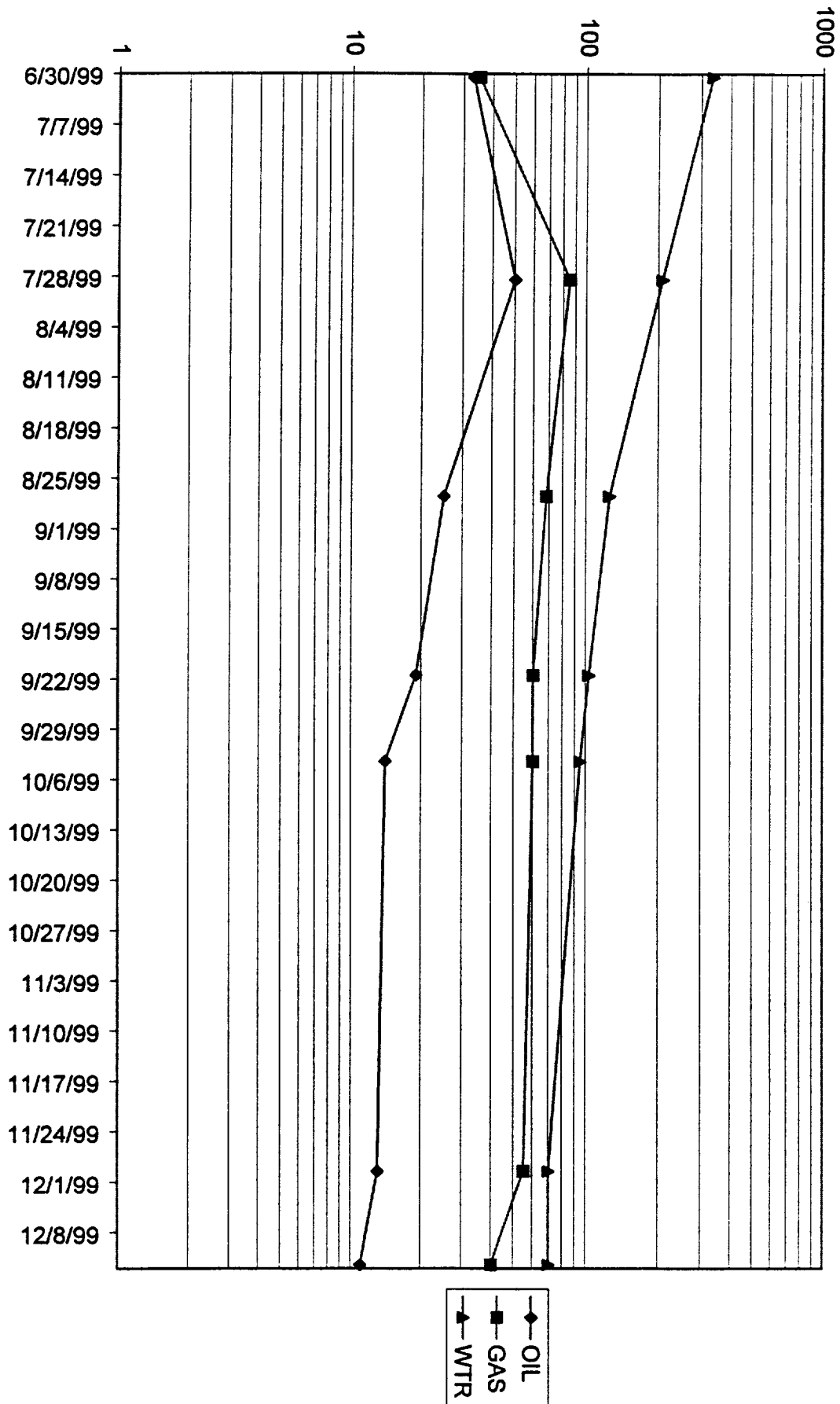
* From attached production plots

The above production test represents stable production from a San Andres producer (Hawk 8 P Federal #11) and a Yeso producer (Kaiser B #6). 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.**

Hawk 8 P Federal #11 (San Andres)

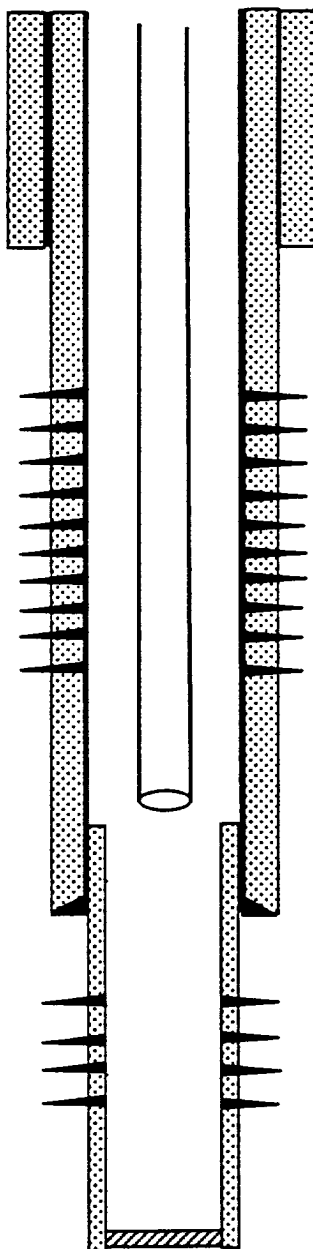


Kaiser B #6 (Yeso)



DEVON ENERGY CORPORATION - WELLBORE SCHEMATIC

WELL NAME: Hawk 8 P Federal #11			FIELD: Red Lake			
LOCATION: 890' FSL & 940' FEL. Sec. 8-18S-27E			COUNTY: Eddy			STATE: NM
ELEVATION: GL = 3454"			SPUD DATE: 8/8/96		COMP DATE: 9/7/96	
API#: 30-015-29027		PREPARED BY: T. Rutelonis			DATE: 9/21/99	
	DEPTH	SIZE	WEIGHT	GRADE	THREAD	HOLE SIZE
CASING:	0' - 1096'	8-5/8"	24#	J-55		12-1/4"
CASING:	0' - 2346'	5 1/2"	15.5#	J-55		7-7/8"
LINER:	2250' - 4500'	4"	10.46#	J-55	FL4S	4-3/4"
TUBING:	0' - 2220'	2-7/8"				
TUBING:						



CURRENT



PROPOSED

OPERATOR: DEVON ENERGY CORPORATION

8-5/8" Casing, Set @ 1055' w/ 550 sxs cmt. TOC @ surface

PREMIER PERFORATIONS:

1293'-1300' (2 HOLES, .40")

(PERFS SQZ'D & TA'D)

UPPER SAN ANDRES PERFORATIONS:

1387'-1509' (3 HOLES, .40")

(PERFS SQZ'D & TA'D)

SAN ANDRES PERFORATIONS:

1646'-2140' (18 holes, .40", ALPHA, "A", "B", "C", & "D")

2-7/8" tbg w/ SN @ 2220'

TOL @ 2250'

5 1/2" 15.5# J-55 Casing Set @ 2346' w/ 450 sxs cmt. TOC @ surf.

YESO PERFORATIONS:

±2850'- ±3150' (20 HOLES, .38")

TD @ 4500'

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE

FORM APPROVED

(See other instructions on reverse side)

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ HOT ☐ Other ☐
b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESER. ☐ Other ☐

2. NAME OF OPERATOR
DEVON ENERGY CORPORATION (NEVADA)

3. ADDRESS AND TELEPHONE NO.
20 N. BROADWAY, SUITE 1500, OKC, OK 73102-8260 (405) 235-3611

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface 890' FSL & 940' FEL Unit "P"
At top prod. interval reported below (SAME)
At total depth (SAME)

5. LEASE DESIGNATION AND SERIAL NO.
NM-29273
6. IF INDIAN, ALLOTTEE OR TRIBE NAME
NA
7. UCC AGREEMENT NAME
NA
8. FARM OR LEASE NAME, WELL NO.
Hawk "8P" Federal #11
9. APT WELL NO.
30-015-29027
10. FIELD AND POOL, OR WELDCAT
Red Lake (Q-GB-SA)
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
"P" 8-T18S-R27E

14. PERMIT NO.
DATE ISSUED 6/28/96
12. COUNTY OR PARISH
Eddy County
13. STATE
NM
15. DATE SPUNDED
8/8/96
16. DATE T.D. REACHED
8/12/96
17. DATE COMPL. (Ready to prod.)
9/7/96
18. ELEVATIONS (DF, HEB, RT, GR, ETC.)*
KB 3463'; GL 3454'; DF 3462'
19. ELEV. CASINGHEAD
20. TOTAL DEPTH, MD & TVD
2350'
21. PLUG, BACK T.D., MD & TVD
2302'
22. IF MULTIPLE COMPL., HOW MANY?
NA
23. INTERVALS DRILLED BY
ROTARY TOOLS
CABLE TOOLS
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
Grayburg - San Andres 1293-2140'
25. WAS DIRECTIONAL SURVEY MADE
No
26. TYPE ELECTRIC AND OTHER LOGS RUN
LDT/CNL/DLL/MSFL/GR; CBL
27. WAS WELL CORED
No

28. CASING RECORD (Report all strings set in well)
CASING SIZE/GRADE WEIGHT, LB./FT. DEPTH SET (MD) HOLE SIZE TOP OF CEMENT, CEMENTING RECORD AMOUNT PULLED
8-5/8" J-55 24# 1096' 12-1/4" surf; 300 sbs 35/65 & 250 sbs "C" NA
5-1/2" J-55 15.5# 2346' 7-7/8" surf; 150 sbs 35/65 & 300 sbs "C" NA

29. LINER RECORD
SIZE TOP (MD) BOTTOM (MD) SACKS CEMENT* SCREEN (MD)
30. TUBING RECORD
SIZE DEPTH SET (MD) PACKER SET (MD)
2-7/8" 2167' (OET)

31. PERFORATION RECORD (Interval, size and number)
1293-1300' PREMIER (2 .40" EHD holes)
1387-1509' U. SAN ANDRES (3 .40" EHD hole)
1646' ALPHA (1 .40" EHD holes)
1882-1891' "A" (3 .40" EHD holes)
1937-1938' "B" (3 .40" EHD holes)
2032-2058' "C" (5 .40" EHD holes)
2112-2140' "D" (6 .40" EHD holes)
32. ACID SHOT, FRACTURE, CEMENT SQUEEZE, ETC.
DEPTH INTERVAL (MD) AMOUNT AND KIND OF MATERIAL USED
1293-2140' 2500 gals of 15% NeFe acid
1293-2140' 1,000 gals PrePad + 2 drum Pro-Kem scale
inhibitor + 180,000 gals gelled water + 6000#
100 mesh sand + 237,000# 20/40 Brady Sand

33. PRODUCTION
DATE FIRST PRODUCTION 9/14/96 PRODUCTIONS METHOD 1/Flowing, gas lift, pumping—size and type of pump
Pumping (2-1/2" x 2" x 12' RWTC Pump)
WELL STATUS (Producing or shut-in)
Producing
DATE OF TEST 9/22/96 HOURS TESTED 24 CHOKER SIZE PROD. FOR TEST PERIOD OIL-BBL. 172 GAS-MCF. 344 WATER-BBL. 278 GAS-OIL RATIO 2000/1
FLOW, TUBING PRESS. CASING PRESSURE CALCULATED 24-HOUR RATE OIL-BBL. 172 GAS-MCF. 344 WATER-BBL. 278 OIL GRAVITY-API (CORR.) 35

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)
Sold TEST WITNESSED BY
Danny Hollett

35. LIST OF ATTACHMENTS
Logs, Deviation Surveys

36. I hereby certify that the foregoing and attached information is complete and correct as determined by me or a qualified person.
SIGNED Diana M. Keys TITLE ENGINEERING TECHNICIAN DATE September 23, 1996

*(See Instructions and Spaces for Additional Data on Reverse Side)

Water Analysis Report from Baker Petrolite

Analysis: 24190

Summary of Mixing Waters		
Sample Number	133534	112098
Company	DEVON ENERGY	DEVON ENERGY
Lease	HAWK 8	HAWK 78
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 PRUIT	CURRY PRUIT
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.

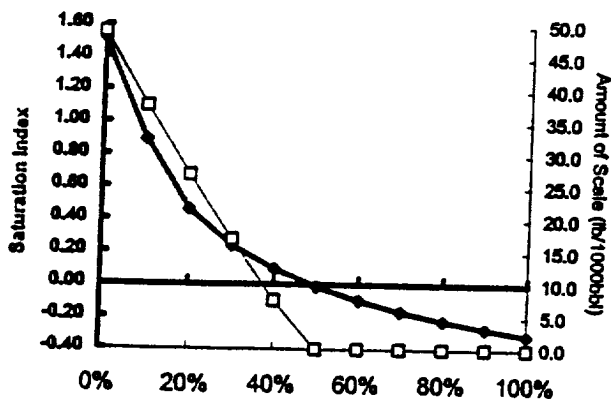
Note 3: CO₂ Pressure is absolute pressure. Total Pressure is gauge pressure.

Mixture Predictions from Baker-Petrolite

133534 with 112098 at 80°F and 0 psi

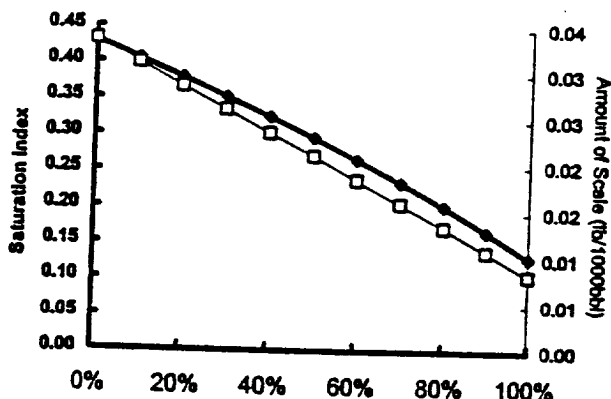
Analysis: 24190

Calcite - CaCO_3



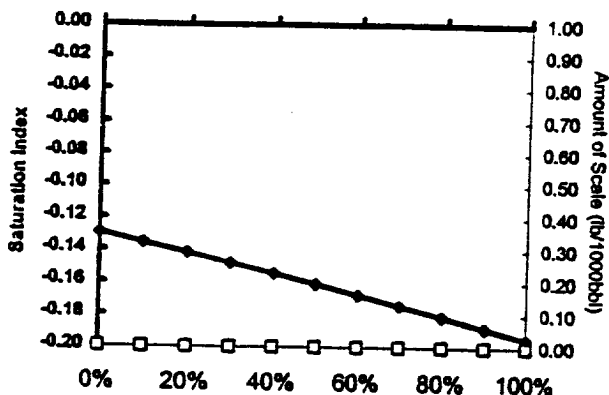
133534

Barite - BaSO_4



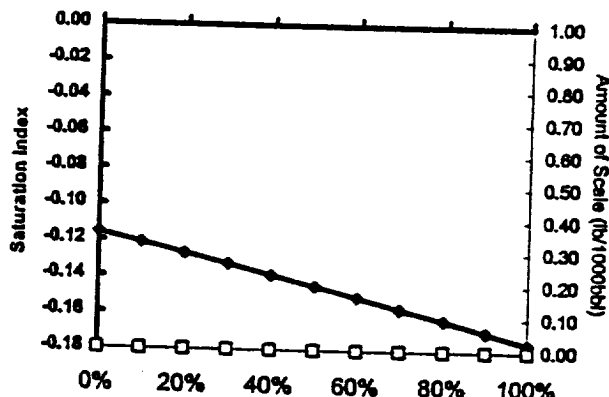
133534

Gypsum - $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$



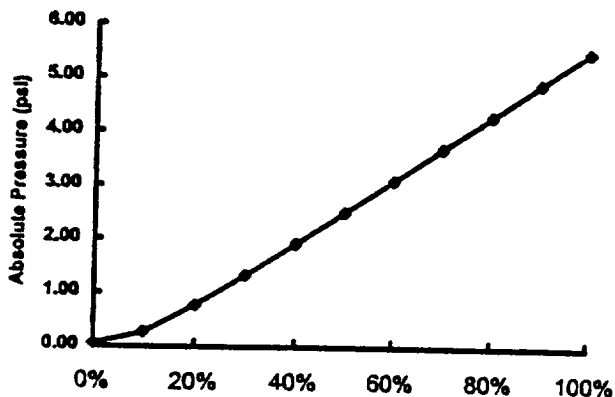
133534

Anhydrite - CaSO_4



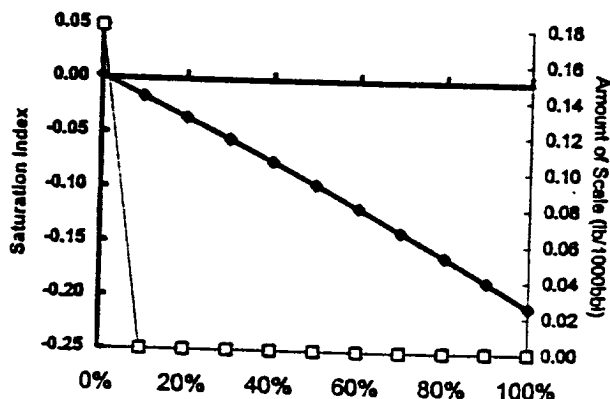
133534

Carbon Dioxide Partial Pressure



133534

Celestite - SrSO_4



133534

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.

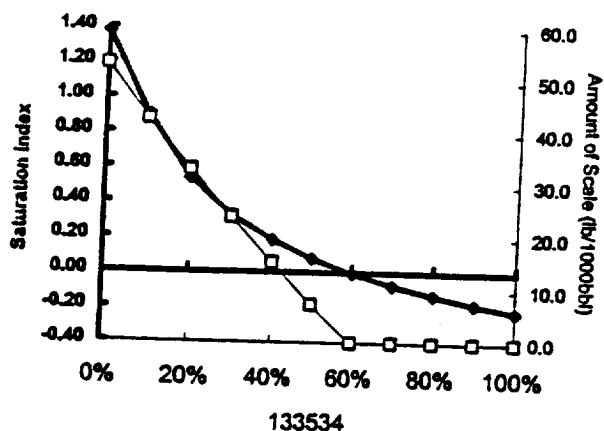
Note 3: CO₂ Pressure is absolute pressure. Total Pressure is gauge pressure.

Mixture Predictions from Baker-Petrolite

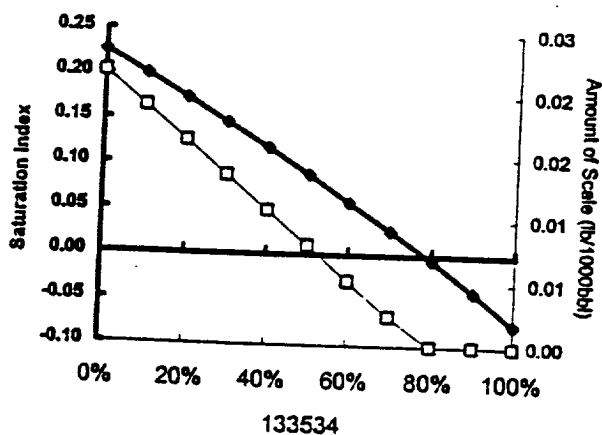
133534 with 112098 at 100°F and 0 psi

Analysis: 24190

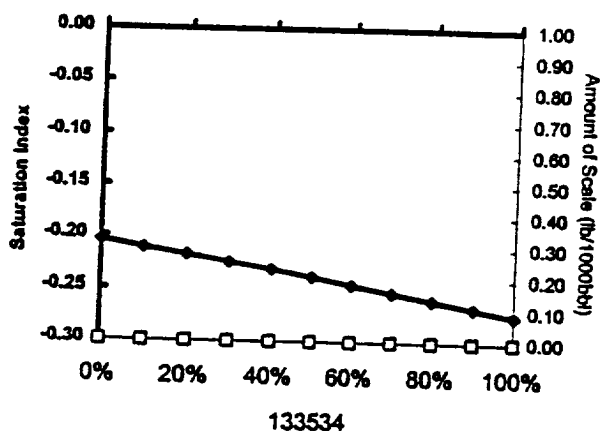
Calcite - CaCO_3



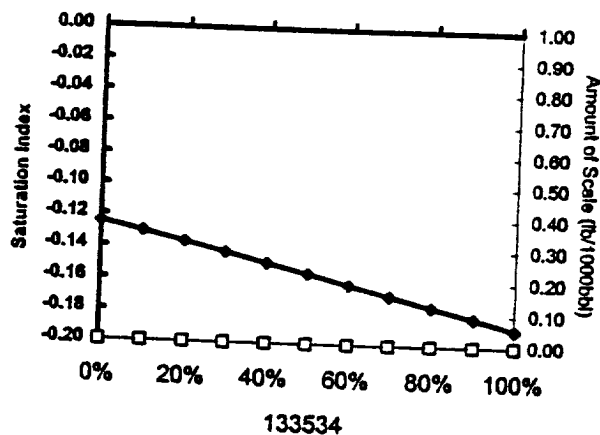
Barite - BaSO_4



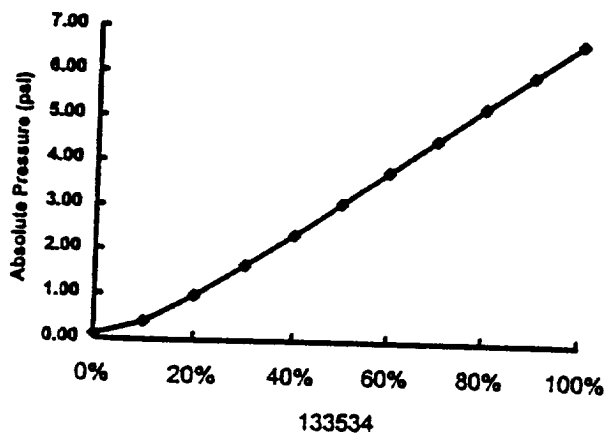
Gypsum - $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$



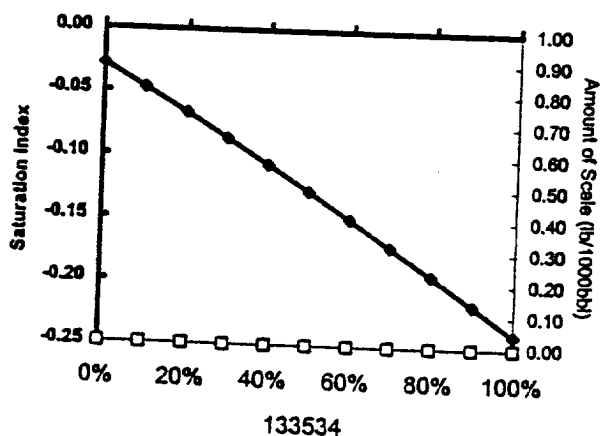
Anhydrite - CaSO_4



Carbon Dioxide Partial Pressure



Celestite - SrSO_4



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.

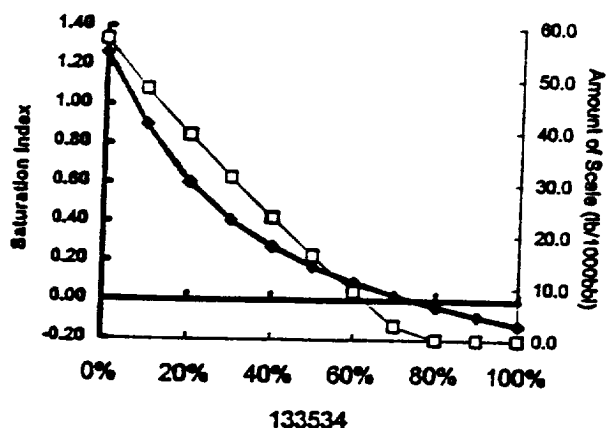
Note 3: CO₂ Pressure is absolute pressure. Total Pressure is gauge pressure.

Mixture Predictions from Baker-Petrolite

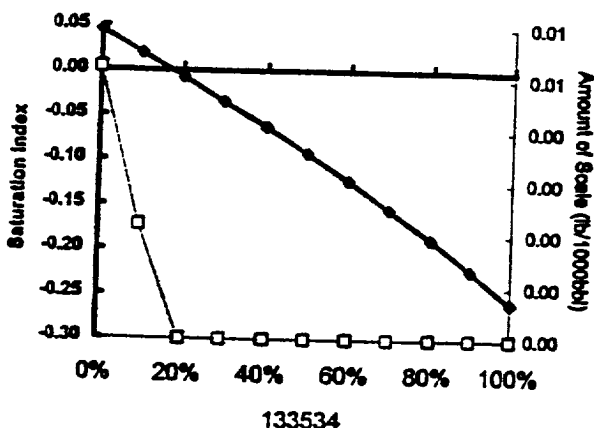
133534 with 112098 at 120°F and 0 psi

Analysis: 24190

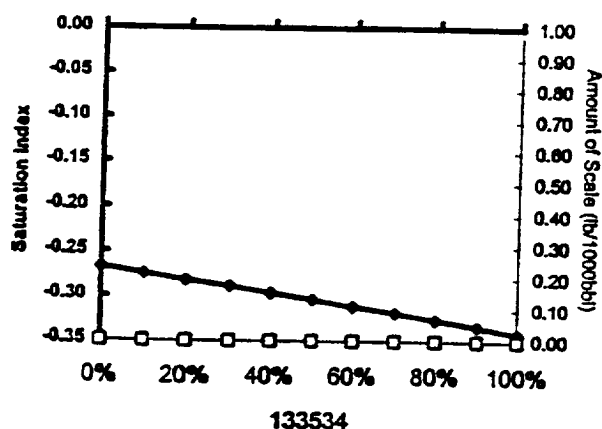
Calcite - CaCO_3



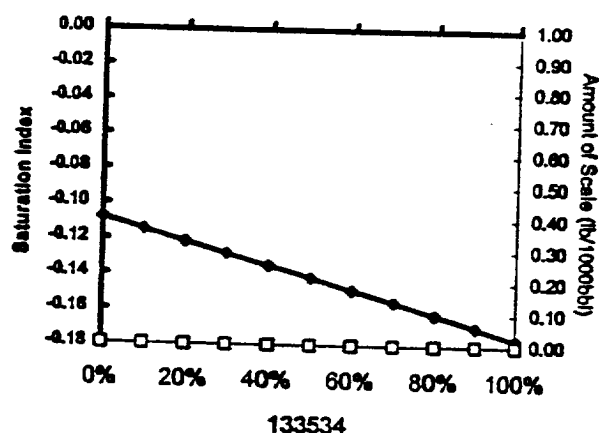
Barite - BaSO_4



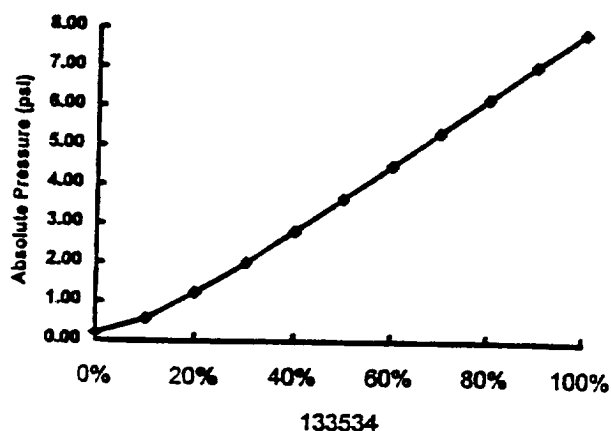
Gypsum - $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$



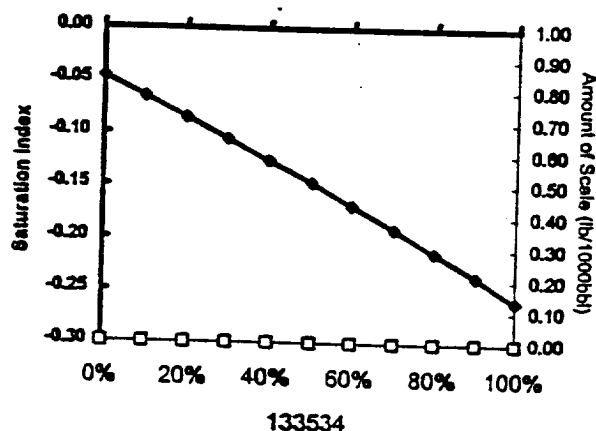
Anhydrite - CaSO_4



Carbon Dioxide Partial Pressure



Celestite - SrSO_4



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.

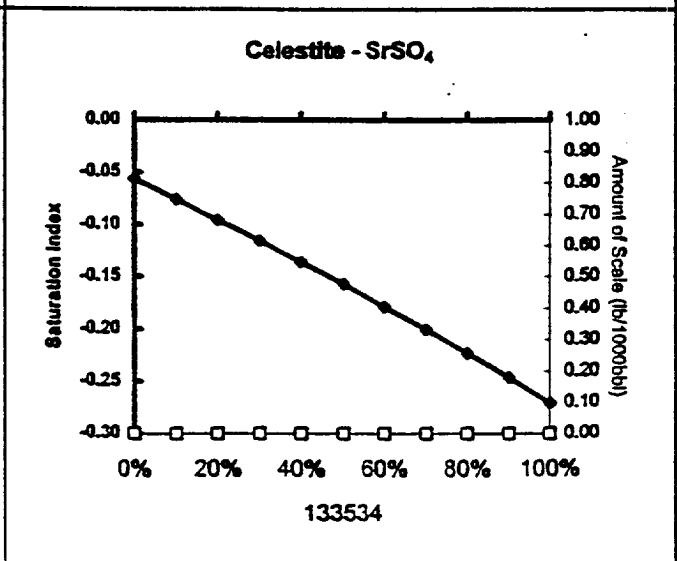
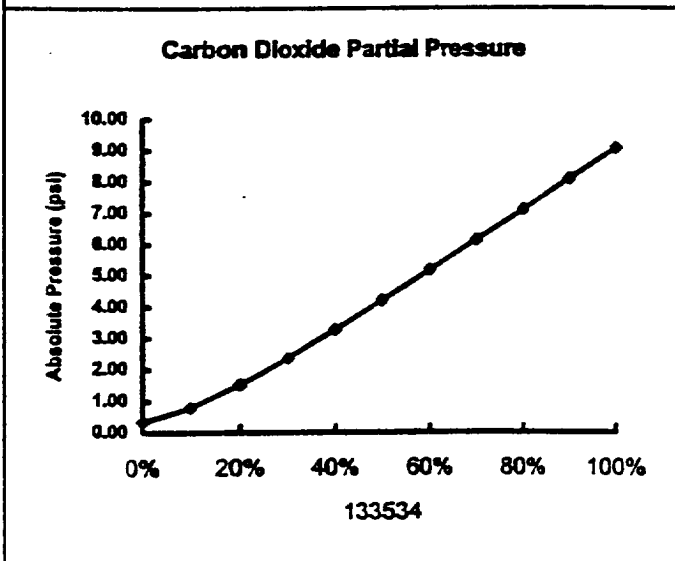
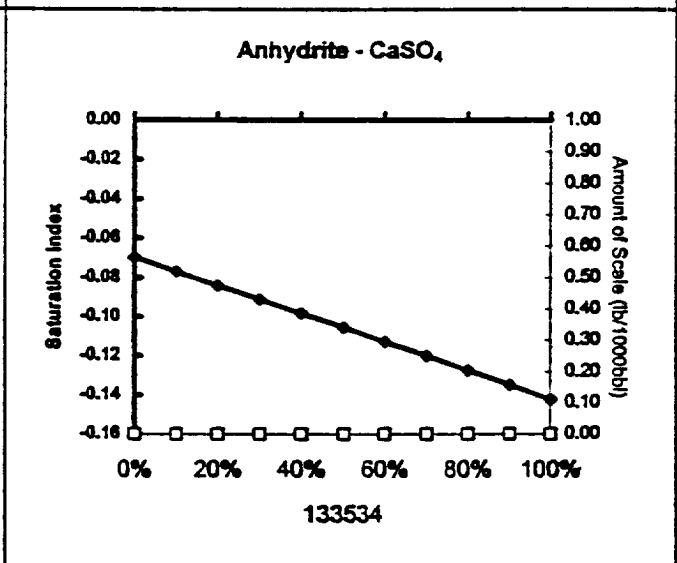
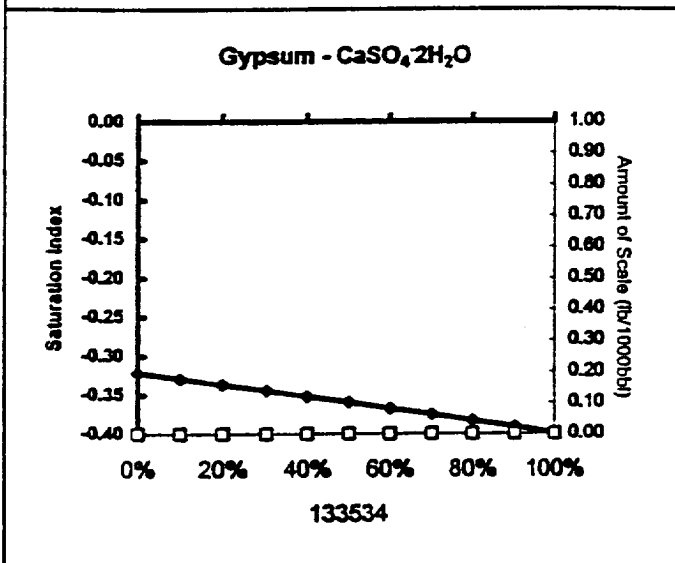
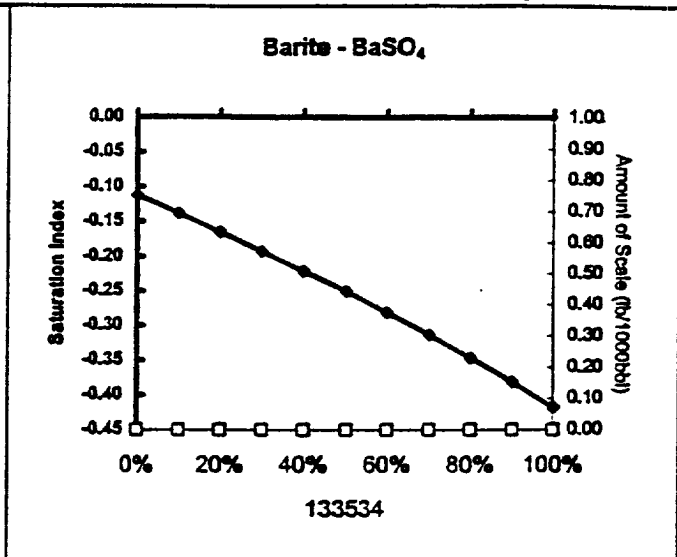
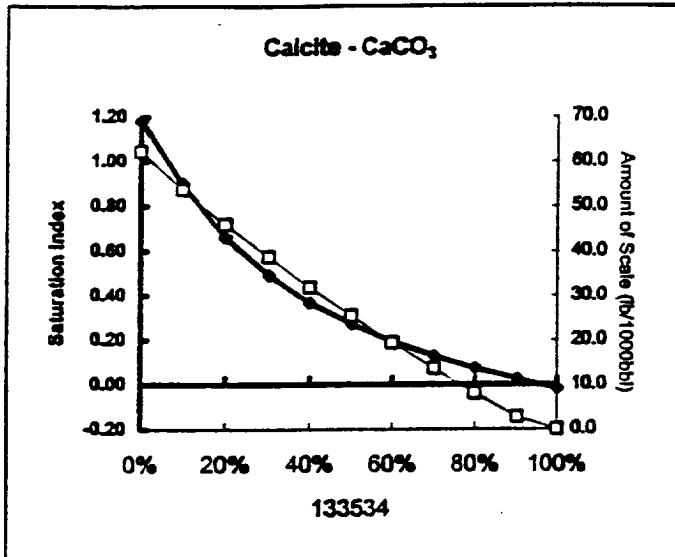
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

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, BIDDINGS & STACY DAM
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PHONE 337-4744

FAX 337-4781

SEPTEMBER 16, 1996

MR. ROLLAND W. PERRY
LABORATORY SERVICES
1331 TASKER DR.
HOBBS, 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 #8-1	1.347 %wt	31.3	0.8691
LAB NO. 1484: DEVON HAWK #8-3	0.684 %wt	41.3	0.8188
LAB NO. 1485: DEVON HAWK #8-11	0.700 %wt	35.1	0.8492
LAB NO. 1486: DEVON HAWK #8-4	0.643 %wt	37.4	0.8380
SAN ANDRES LAB NO. 1487: DEVON HAWK #8-5	0.609 %wt	39.5	0.8275
LAB NO. 1488: DEVON WEST RED LAKE	0.690 %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- 1-99 L E D 1 36 Laboratory S. uices

P-02

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S

Laboratory Services, Inc.
4018 Fiesta Drive
Hobbs, New Mexico 88240
Telephone: (505) 397-3713

SULFUR IN CRUDE OIL

Devon Energy
P. O. Box 250
Artesia, New Mexico 88211-0250

Dec 1, 1999

Total
SulfurAPI
Gravity @ 60° FSpecific
Gravity @ 60° F

Kaiser #1 Well (yeso)	0.4040 wt. %	38.3	0.8333
Kaiser Main (Hed or)	0.1888 wt. %	49.8	0.8241

Thank You,
Rolland Perry