



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

September 17, 1998

Burlington Resources
P. O. Box 4289
Farmington, NM 87499-4289
Attention: Peggy Bradfield

Administrative Order TX-283

Dear Ms. Bradfield:

Reference is made to your request for an exception to the tubing setting requirements as contained in Division Rule 107 (j) for the below-named wells.

Pursuant to the authority granted me by Rule 107(j) (4), you are hereby authorized to make tubingless completions in the following wells:

Well Name, Number and Location:

Pipkin No. 4, API# 30-045-06556, Unit A, Section 18, Township 27 North, Range 10 West, NMPM, San Juan County, New Mexico.

Huerfanito Unit No. 49, API# 30-045-06155, Unit G, Section 35, Township 27 North, Range 9 West, NMPM, San Juan County, New Mexico.

Huerfanito Unit No. 25, API# 30-045-05998, Unit P, Section 4, Township 26 North, Range 9 West, NMPM, San Juan County, New Mexico.

Huerfanito Unit No. 24, API# 30-045-06030, Unit K, Section 4, Township 26 North, Range 9 West, NMPM, San Juan County, New Mexico.

Huerfano Unit No. 47, API# 30-045-05971, Unit A, Section 9, Township 26 North, Range 9 West, NMPM, San Juan County, New Mexico.

McConnell No. 2, API# 30-045-05816, Unit O, Section 13, Township 26 North, Range 9 West, NMPM, San Juan County, New Mexico.

McConnell No. 3, API# 30-045-05854, Unit G, Section 13, Township 26 North, Range 9 West, NMPM, San Juan County, New Mexico.

Summit B No. 5, API# 30-045-60273, Unit F, Section 33, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico.

Whitley No. 1, API# 30-045-06531, Unit E, Section 17, Township 27 North, Range 9 West, NMPM, San Juan County, New Mexico.

PVZV2005731491

Aztec No. 6, API# 30-045-07393, Unit P, Section 14, Township 28 North, Range 11 West, NMPM, San Juan County, New Mexico.

Mangum No. 3, API# 30-045-07810, Unit J, Section 28, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico.

Atlantic C No. 8, API# 30-045-20137, Unit A, Section 31, Township 31 North, Range 10 West, NMPM, San Juan County, New Mexico.

Florance No. 8, API# 30-045-20462, Unit C, Section 20, Township 30 North, Range 9 West, NMPM, San Juan County, New Mexico.

Pierce No. 9, API# 30-045-20475, Unit F, Section 7, Township 30 North, Range 9 West, NMPM, San Juan County, New Mexico.

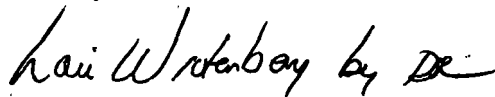
Sunray B No. 7, API# 30-045-20846, Unit K, Section 15, Township 30 North, Range 10 West, NMPM, San Juan County, New Mexico.

Sunray A No. 5, API# 30-045-20894, Unit O, Section 10, Township 30 North, Range 10 West, NMPM, San Juan County, New Mexico.

Summit No. 7, API# 30-045-21530, Unit K, Section 34, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico.

The Division reserves the right to rescind this authority in the event that waste appears to be resulting therefrom.

Sincerely,



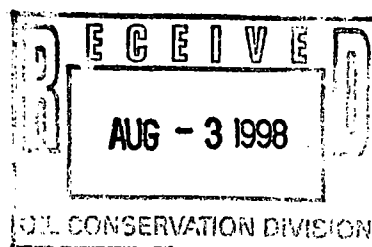
Lori Wrotenbery
Director

LW/RJ/kv

cc: Oil Conservation Division - Aztec

BURLINGTON RESOURCES

SAN JUAN DIVISION



July 31, 1998

New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Att: Mr. Roy Johnson

Dear Mr. Johnson:

This is an application for variance to Rule 107 Section J. We intend to workover and drill additional hole in the following wells in the Pictured Cliffs formation, run 3 1/2" casing and cement, and run no tubing.

Pipkin #4	NE Section 18, T-27-N, R-10-W - A	30-045-06556
Huerfanito Unit #49	NE Section 35, T-27-N, R-9-W - G	30-045-06155
Huerfanito Unit #25	SE Section 4, T-26-N, R-9-W - P	30-045-05998
Huerfanito Unit #24	SW Section 4, T-26-N, R-9-W - K	30-045-06030
Huerfano Unit #47	NE Section 9, T-26-N, R-9-W - A	30-045-05971
McConnell #2	SE Section 13, T-26-N, R-9-W - O	30-045-05816
McConnell #3	NE Section 13, T-26-N, R-9-W - G	30-045-05854

In addition, we intend to workover the following Pictured Cliffs wells which currently have 3 1/2" casing. We will stimulate and fracture treat these wells, and will run no tubing back in the wells.

Summit B #5	NW Section 33, T-29-N, R-11-W - F	30-045-60273
Whitley #1	NW Section 17, T-27-N, R-9-W - E	30-045-06531
Aztec #6	SE Section 14, T-28-N, R-11-W - P	30-045-07393
Mangum #3	SE Section 28, T-29-N, R-11-W - J	30-045-07810
Atlantic C #8	NE Section 31, T-31-N, R-10-W - A	30-045-20137
Florance #8	NW Section 20, T-30-N, R-9-W - C	30-045-20462
Pierce #9	NW Section 7, T-30-N, R-9-W - F	30-045-20475
Sunray B #7	SW Section 15, T-30-N, R-10-W - K	30-045-20846
Sunray A #5	SE Section 10, T-30-N, R-10-W - O	30-045-20894
Summit #7	SE Section 34, T-29-N, R-11-W - K	30-045-21530

These tubingless completions are desirable as they allow Burlington to economically produce reserves from the tight, low pressure Pictured Cliffs formation. Significant cost savings are realized using this method. The 3 1/2" casing string will allow the wells to produce at a higher rate than can be realized through smaller tubulars, and also carry less risk during any subsequent workover operations.

Mr. Roy Johnson
New Mexico Oil Conservation Division
Page Two
July 31, 1998

All the listed wells meet the following criteria:

- are in proven fields
- are less than 5000' total depth
- do not have corrosive or pressure problems
- are not dual completions
- will not produce any liquids or condensate (dry gas only)

Attached is a pertinent data sheet and wellbore schematic for each well. Please let me know if you require any additional information for these wells.

Sincerely,

BURLINGTON RESOURCES

A handwritten signature in cursive script, appearing to read "Peggy Bradfield".

Peggy Bradfield
Regulatory/Compliance Administrator

xc: NMOCD - Aztec District Office

Pipkin # 4
Pertinent Data Sheet

API #: 300450655600

Location: 990 ' FNL & 990 ' FEL, Unit A, Section 18, T27N, R10W, San Juan County, New Mexico

Latitude: 36 ° - 34.79 ' **Longitude:** 107 ° - 55.83 '

Field: Fulcher Kutz PC

Elevation: 5,933 ' GL
5,940 ' KB

TD: 1,825 '

PBTD: 1,811 '

DP #: 50856A

Lease: NM 217300

GWI: 100 %

NRI: 84.5 %

Prop#: 12569300

Spud Date: 11/15/51

Compl Date: 12/15/51

Initial Potential: 324 Mcfd

Original SIP: 544 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
12 1/4 est	8 5/8	28 J-55	116	60	circ to surf
7 7/8	5 4/7	14.65 Line Pipe	1,715	100	985' (TS)
4 3/4	openhole		1,715 -1,825		

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
2 3/8"	4.7 J-55	1,702'	57 (est)	Pkr @ 1676

Formation Tops:

Ojo Alamo: 660 '
Kirtland Shale: 800 '
Fruitland: 1,412 '
Pictured Cliffs: 1,712 '

Logging Record:

Original Stimulation: SOH w/190 qts SNG

Workover History: None

Production History: 5/98 PC capacity: 14 MCF/D. 5/98 PC cum: 363 MMCF.

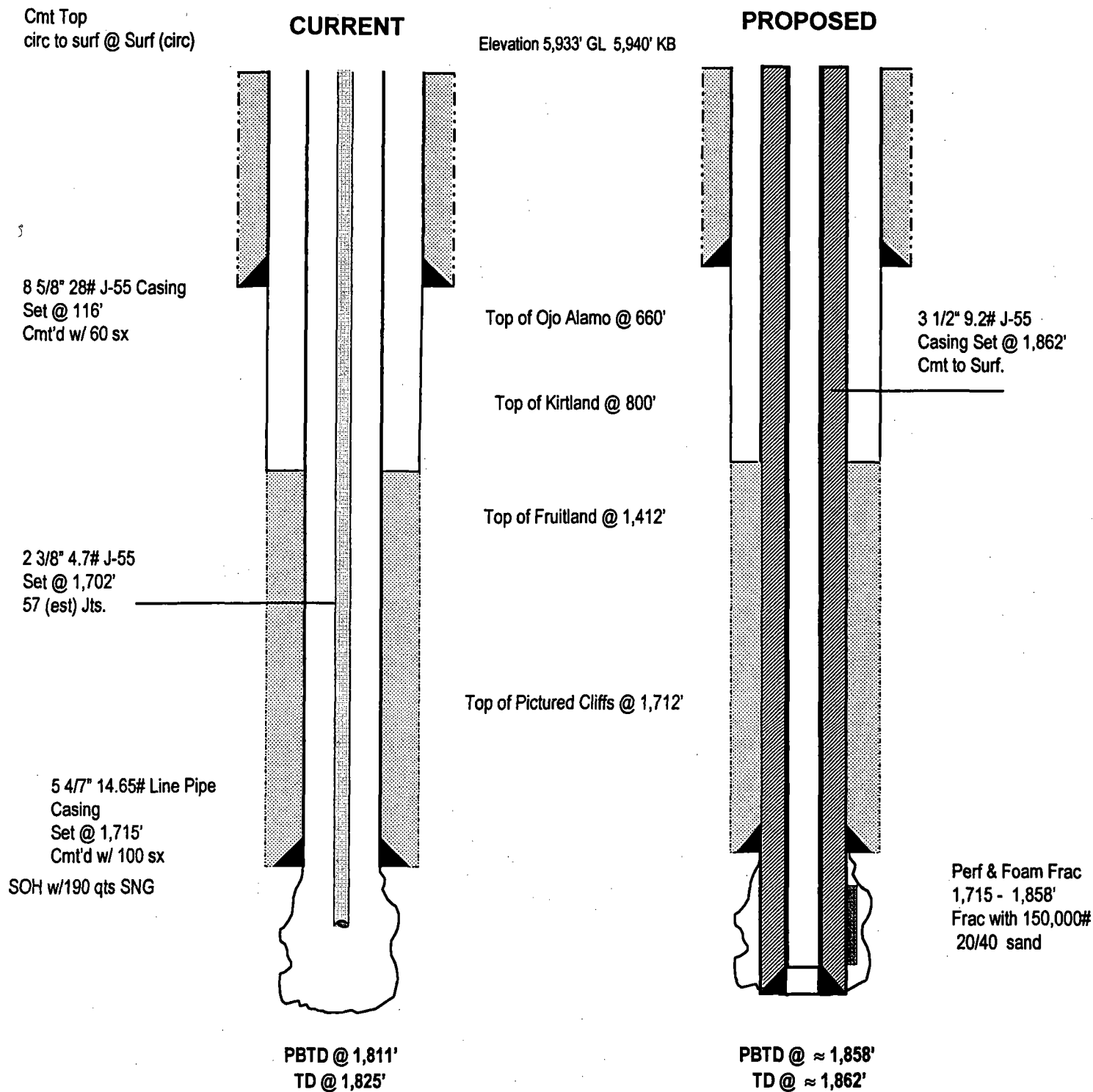
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Pipkin # 4

Section 18 A, T-27 -N R-10 -W
San Juan, New Mexico

Fulcher Kutz Pictured Cliffs Field Wellbore Schematic



Huerfanito Unit # 49
Pertinent Data Sheet

API #: 300450615500

Location: 1725 ' FNL & 1800 ' FEL, Unit G, Section 35, T27N, R09W, San Juan County, New Mexico

Latitude: 36 ° - 32.04 '

Longitude: 107 ° - 45.29 '

Field: Ballard PC

Elevation: 6,351 ' GL
6,359 ' KB

TD: 2,218 '

PBTD: 2,208 '

DP #: 49578A

Lease: NM 4937300

GW: 83.76212 %

NRI: 70.856095 %

Prop#: 7970800

Spud Date: 4/17/56

Compl Date: 5/6/56

Initial Potential: 5585 Mcfd

Original SIP: 650 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
12 1/4 est	8 5/8	24 J-55	90	70	circ to surf
7 7/8 est	5 1/2	15.5 J-55	2,165	100	1576' @ 75% eff.
4 3/4	openhole		2,165 -2,218		

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1"	1.7 Line Pipe	2,194'	99	

Formation Tops:

Ojo Alamo: 1,268 '
Kirtland Shale: 1,466 '
Fruitland: 1,856 '
Pictured Cliffs: 2,170 '

Logging Record:

Original Stimulation: SOF w/17,800 gal oil and 30,000# sd

Workover History: None

Production History: 5/98 PC capacity: 44.0 MCF/D. 5/98 PC cum: 1852.0 MMCF.

Pipeline: EPNG

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Huerfanito Unit # 49

Section 35 G, T-27 -N R-09 -W
San Juan, New Mexico

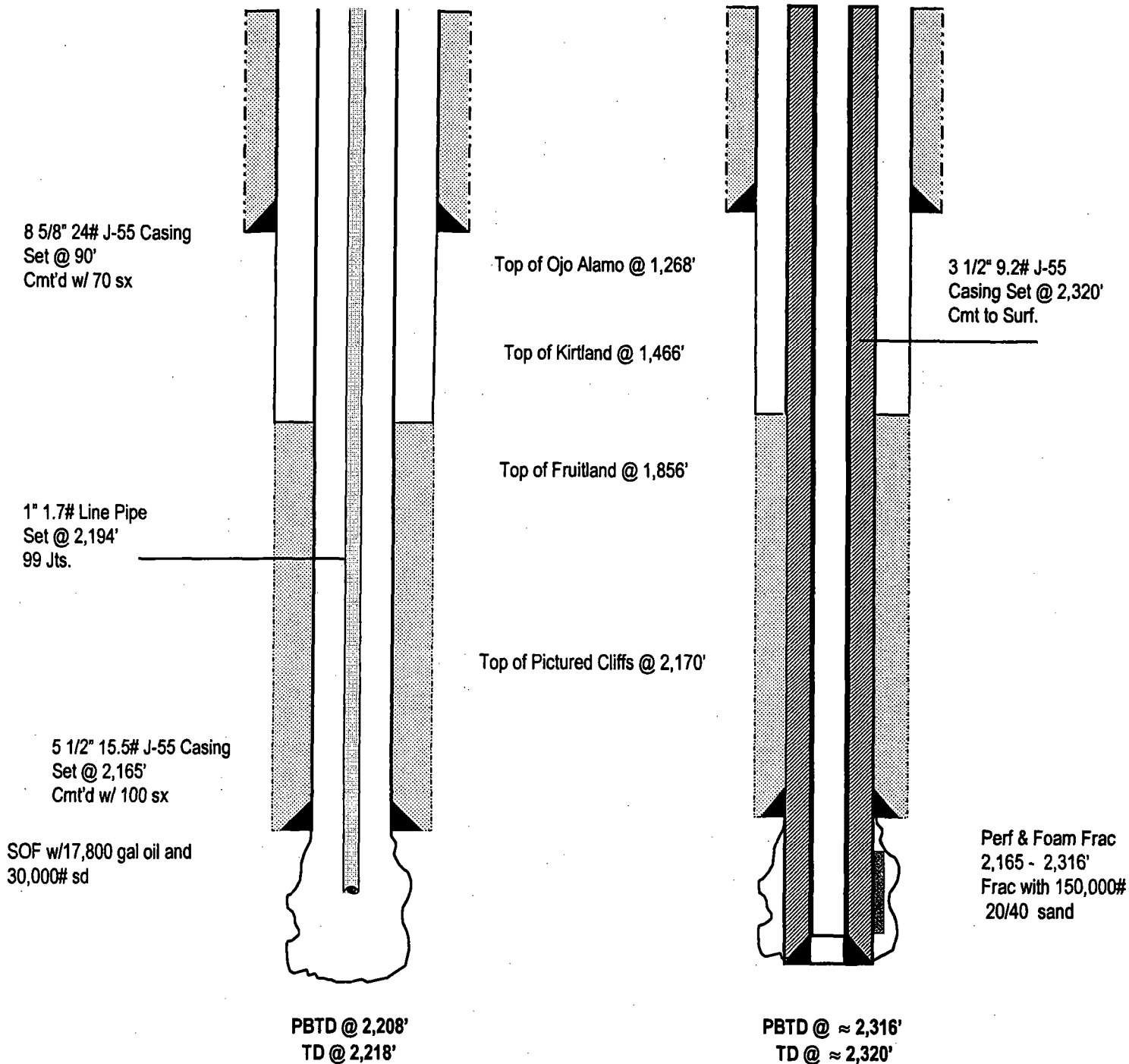
Ballard Pictured Cliffs Field Wellbore Schematic

Cmt Top
circ to surf @ Surf (circ)

CURRENT

Elevation 6,351' GL 6,359' KB

PROPOSED



Huerfanito Unit # 25
Pertinent Data Sheet

API #: 300450599800

Location: 890 ' FSL & 990 ' FEL, Unit P, Section 4, T26N, R09W, San Juan County, New Mexico

Latitude: 36 ° - 30.74 '

Longitude: 107 ° - 47.28 '

Field: Ballard PC

Elevation: 6,349 ' GL
6,356 ' KB

TD: 2,133 '

PBTD: 2,123 '

DP #: 49307A

Lease: NM 4524301

GWl: 83.76212 %

NRI: 70.856095 %

Prop#: 7970813

Spud Date: 6/10/55

Compl Date: 7/13/55

Initial Potential: 5369 Mcfd

Original SIP: 641 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
12 1/4 est	8 5/8	24 J-55	104	80	circ to surf
7 7/8 est	5 1/2	14 J-55	2,083	100	1494' @ 75% eff.
4 3/4	openhole		2,083 -2,133		

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1"	1.7 Line Pipe	2,112'	100	

Formation Tops:

Ojo Alamo: 1,205 '
Kirtland Shale: 1,320 '
Fruitland: 1,827 '
Pictured Cliffs: 2,092 '

Logging Record:

Original Stimulation: SOF w/7,800 gal oil and 11,000# sd

Workover History: None

Production History: 5/98 PC capacity: 39.0 MCF/D. 5/98 PC cum: 1811.0 MMCF.

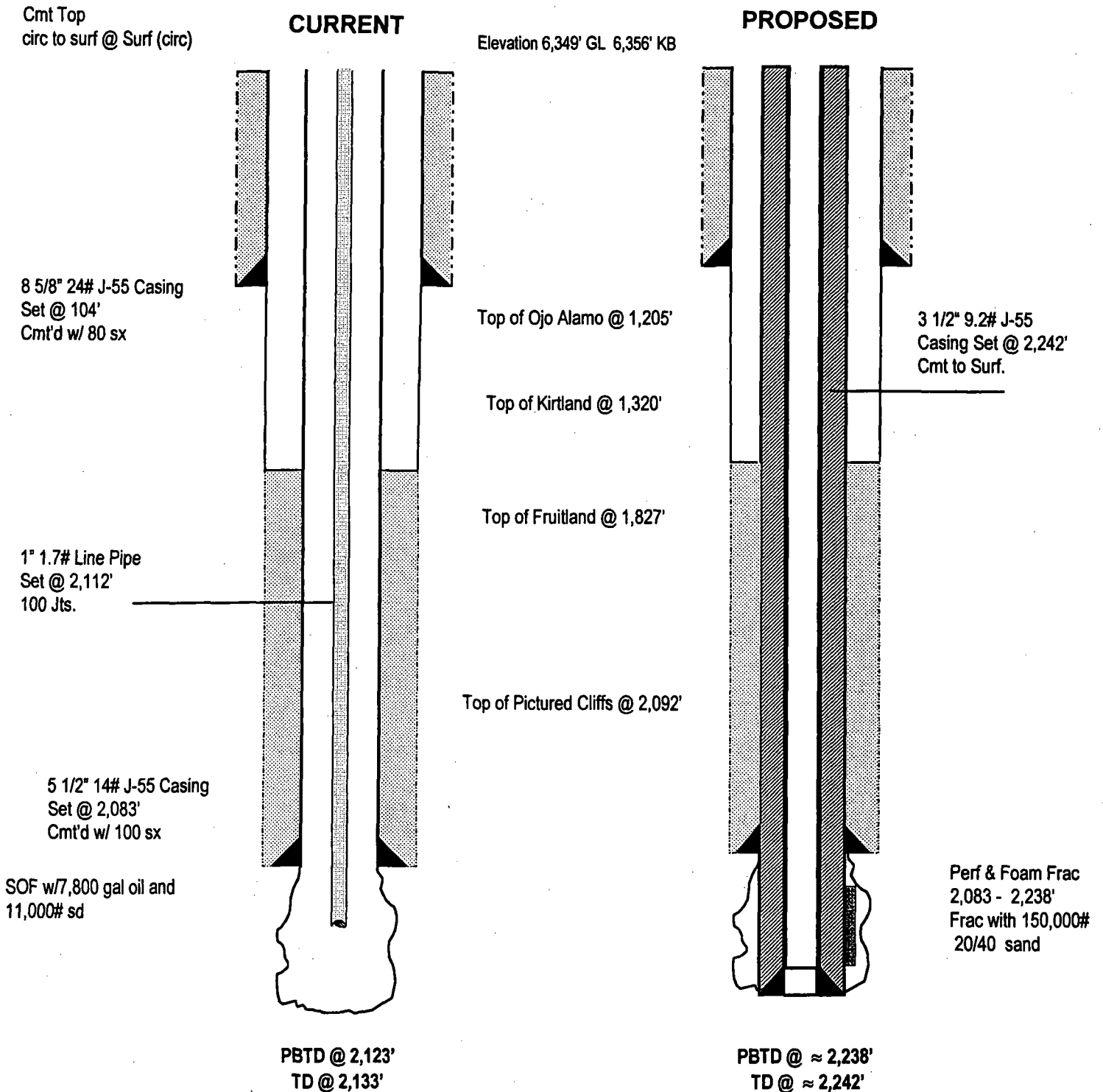
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Huerfanito Unit # 25

Section 4 P, T-26 -N R-09 -W
San Juan, New Mexico

Ballard Pictured Cliffs Field Wellbore Schematic



Huerfanito Unit # 24
Pertinent Data Sheet

API #: 300450603000

Location: 1850 ' FSL & 1650 ' FWL, Unit K, Section 4, T26N, R09W, San Juan County, New Mexico

Latitude: 36 ° - 30.9 '

Longitude: 107 ° - 47.8 '

Field: Ballard PC

Elevation: 6,400 ' GL
6,407 ' KB

TD: 2,192 '

PBTD: 2,182 '

DP #: 49306A

Lease: NM 4524300

GWl: 83.76212 %

NRI: 70.856095 %

Prop#: 7970800

Spud Date: 8/14/55

Compl Date: 10/6/55

Initial Potential: 6085 Mcfd

Original SIP: 653 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
12 1/4 est	8 5/8	24 J-55	101	80	circ to surf
7 7/8 est	5 1/2	14 J-55	2,131	100	1542' @ 75% eff.
4 3/4	openhole		2,131 -2,192		

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1"	1.7 Line Pipe	2,167 '	103	

Formation Tops:

Ojo Alamo: 1,320 '
Kirtland Shale: 1,392 '
Fruitland: 1,920 '
Pictured Cliffs: 2,135 '

Logging Record:

Original Stimulation: SOF w/7,750 gal oil and 12,000# sd

Workover History: None

Production History: 5/98 PC capacity: 28.0 MCF/D. 5/98 PC cum: 1569.0 MMCF.

Pipeline: EPNG

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Huerfanito Unit # 24

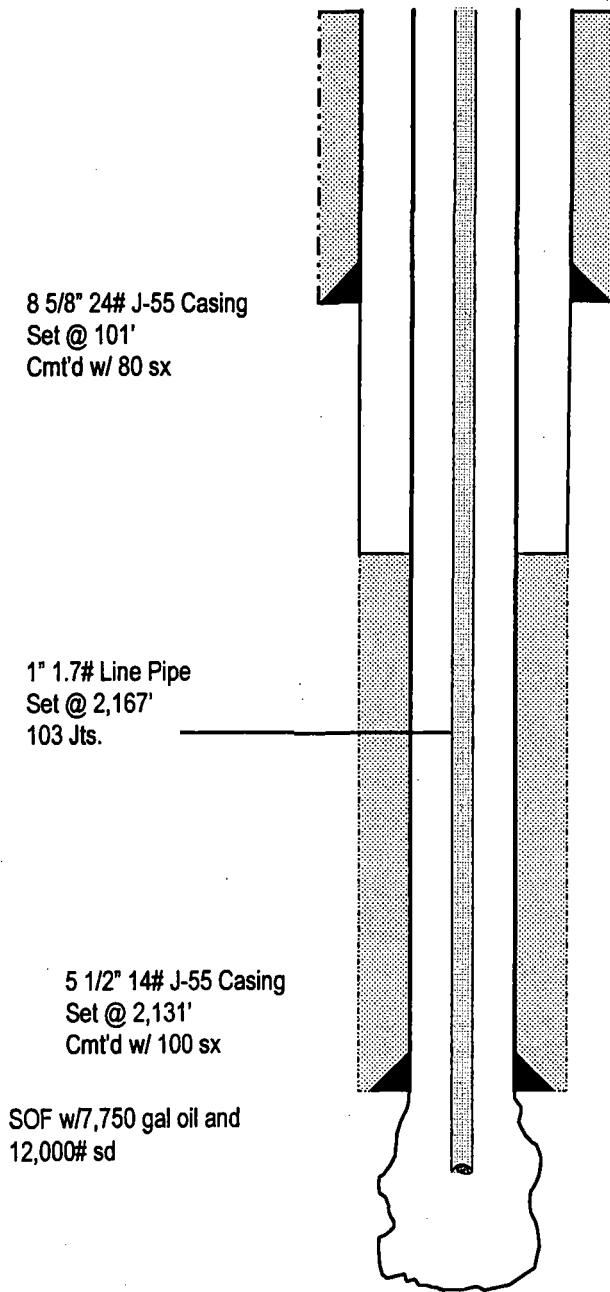
Section 4 K, T-26 -N R-09 -W
San Juan, New Mexico

Ballard Pictured Cliffs Field Wellbore Schematic

Cmt Top
circ to surf @ Surf (circ)

CURRENT

Elevation 6,400' GL 6,407' KB



PBTD @ 2,182'
TD @ 2,192'

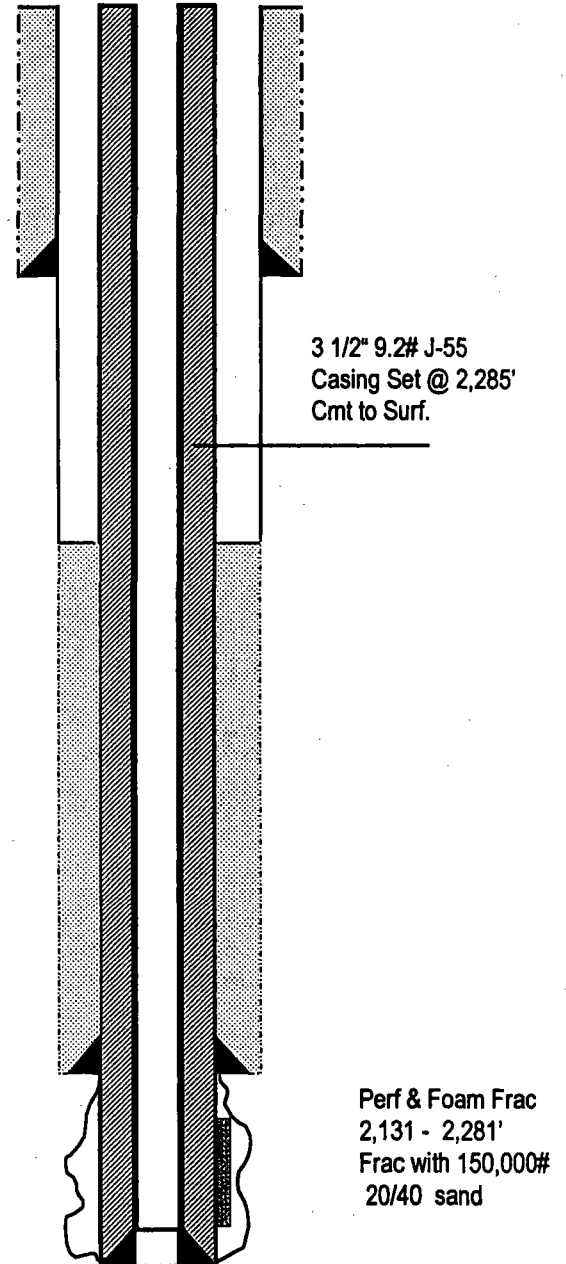
Top of Ojo Alamo @ 1,320'

Top of Kirtland @ 1,392'

Top of Fruitland @ 1,920'

Top of Pictured Cliffs @ 2,135'

PROPOSED



PBTD @ ~ 2,281'
TD @ ~ 2,285'

Huerfano # 47
Pertinent Data Sheet

API #: 300450597100

Location: 990 ' FNL & 990 ' FEL, Unit A, Section 9, T26N, R09W, San Juan County, New Mexico

Latitude: 36 ° - 30.43 '

Longitude: 107 ° - 47.28 '

Field: Ballard PC

Elevation: 6,372 ' GL
6,380 ' KB

TD: 2,115 '

PBTD: 2,105 '

DP #: 51014A

Lease: ?

GWI: 62.554764 %

NRI: 45.351087 %

Prop#: 7971100

Spud Date: 2/4/56

Compl Date: 2/24/56

Initial Potential: 2331 Mcfd

Original SIP: 621 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
13 3/4 est	9 5/8	25.4 J-55	133	100	circ to surf
8 3/4	7	20 J-55	2,083	150	870' (TS)
4 3/4	openhole		2,083 -2,115		

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1 1/4"	2.3 J-55	2,107 '	100	

Formation Tops:

Ojo Alamo: 1,262 ' All Tops are estimated
Kirtland Shale: 1,360 '
Fruitland: 1,856 '
Pictured Cliffs: 2,081 '

Logging Record:

Original Stimulation: SWF w/ 40,000 gal wtr and 60,000# sd

Workover History: None

Production History: 5/98 PC capacity: 4.0 MCF/D. 5/98 PC cum: 1366.0 MMCF.

Pipeline: EPNG

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Huerfano # 47

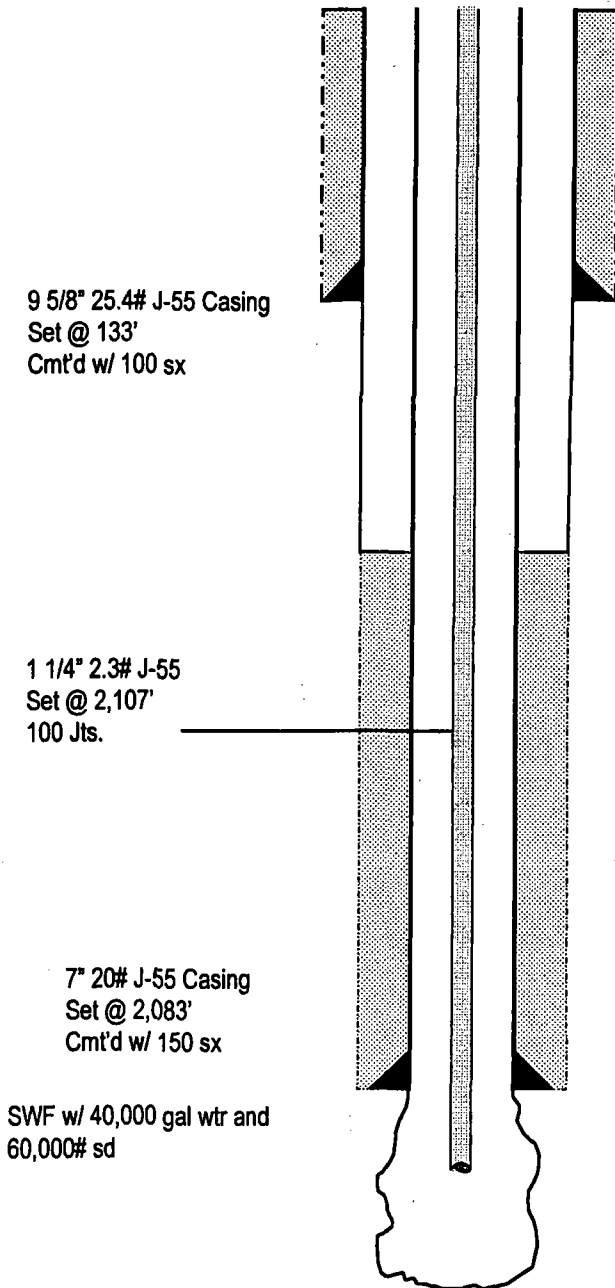
Section 9 A, T-26 -N R-09 -W
San Juan, New Mexico

Ballard Pictured Cliffs Field Wellbore Schematic

Cmt Top
circ to surf @ Surf (circ)

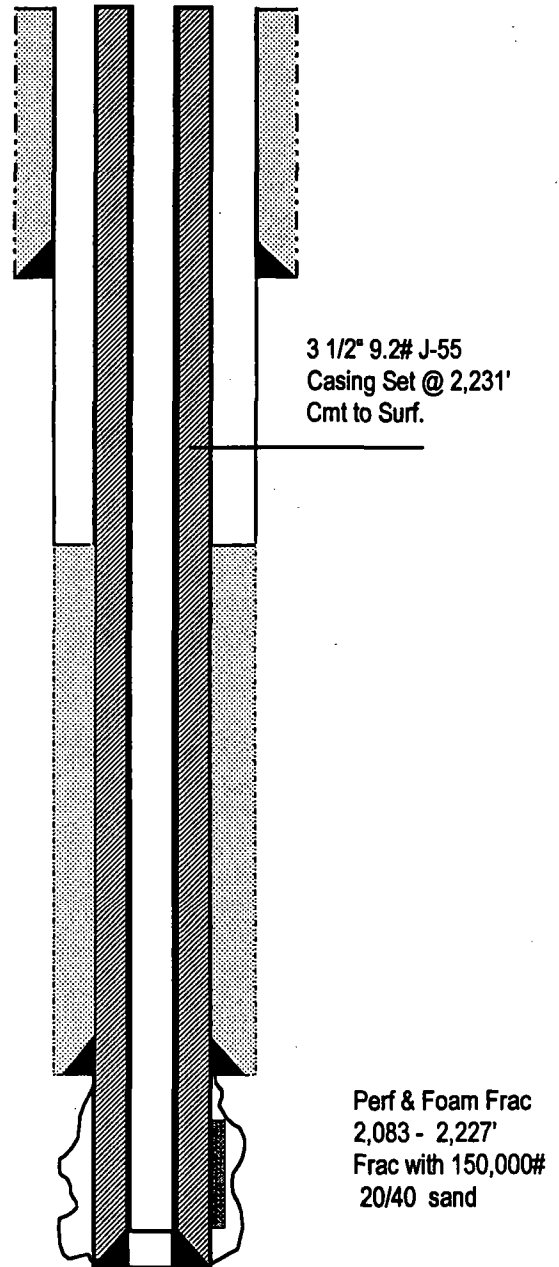
CURRENT

Elevation 6,372' GL 6,380' KB



PBTD @ 2,105'
TD @ 2,115'

PROPOSED



PBTD @ ~ 2,227'
TD @ ~ 2,231'

McConnell # 2
Pertinent Data Sheet

API #: 300450581600

Location: 988 ' FSL & 1850 ' FEL, Unit O, Section 13, T26N, R09W, San Juan County, New Mexico

Latitude: 36 ° - 29.01 '

Longitude: 107 ° - 44.27 '

Field: Ballard PC

Elevation: 6,298 ' GL
6,308 ' KB

TD: 2,045 '

PBTD: 2,034 '

DP #: 51018A

Lease: NM 4113 U300

GWl: 67.5 %

NRI: 50.709375 %

Prop#: 12615800

Spud Date: 3/7/56

Compl Date: 4/4/56

Initial Potential: 1325 Mcfd

Original SIP: 638 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
13 3/4	9 5/8	25.4 J-55	133	100	circ to surf
8 3/4	5 1/2	15.5 J-55	1,996	150	1050' (TS)
4 3/4	openhole		1,996 -2,045		

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1 1/4"	2.3 J-55	2,024 '	96	

Formation Tops:

Ojo Alamo: 1,208 ' All Tops are estimated
Kirtland Shale: 1,325 '
Fruitland: 1,677 '
Pictured Cliffs: 1,995 '

Logging Record:

Original Stimulation: SWF w/ 41,600 gal wtr and 60,000# sd

Workover History: None

Production History: 5/98 PC capacity: 2.0 MCF/D. 5/98 PC cum: 1169.0 MMCF.

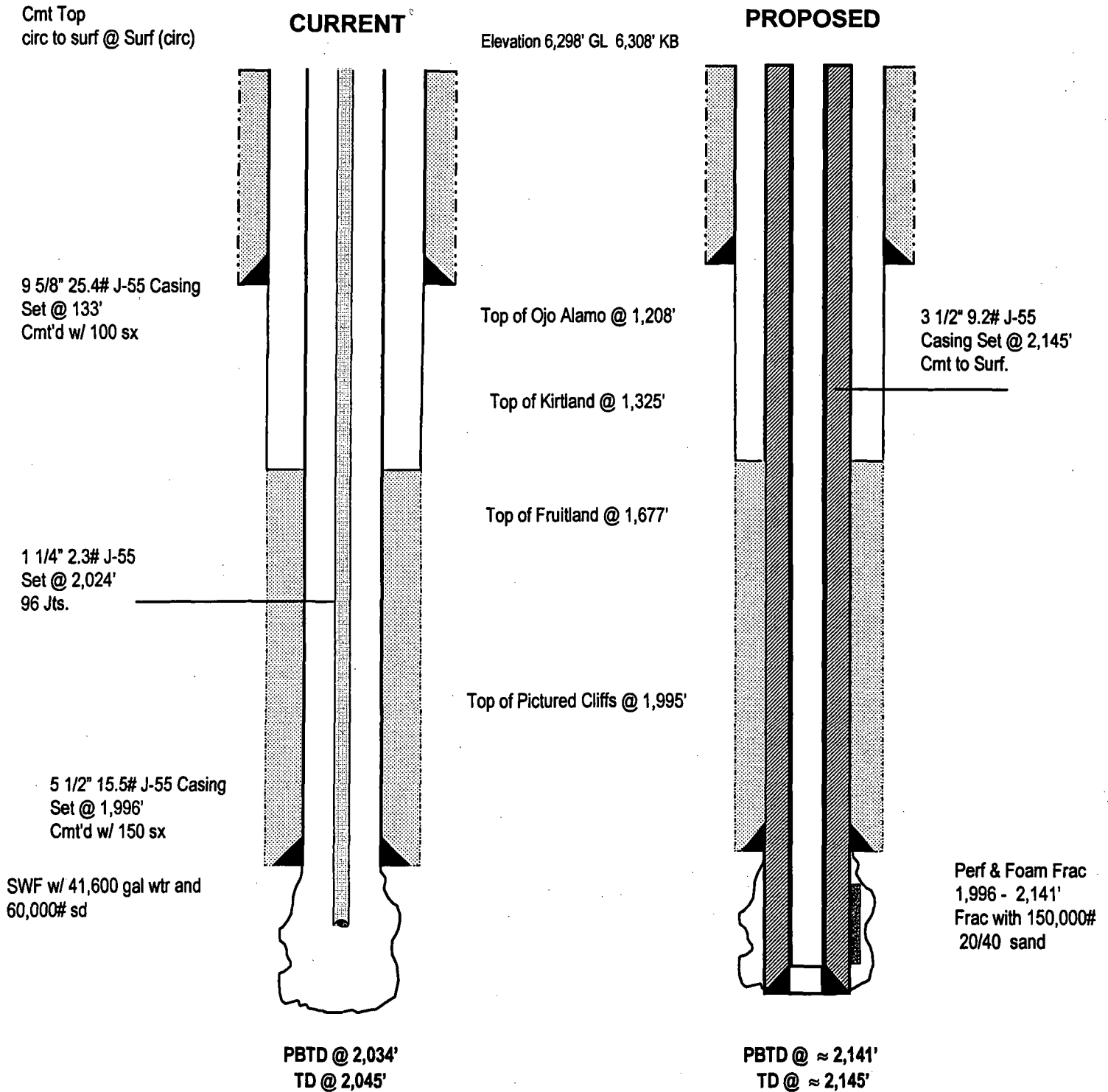
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McConnell # 2

Section 13 O, T-26 -N R-09 -W
San Juan, New Mexico

Ballard Pictured Cliffs Field Wellbore Schematic



McConnell # 3
Pertinent Data Sheet

API #: 300450585400

Location: 1753 ' FNL & 1850 ' FEL, Unit G, Section 13, T26N, R09W, San Juan County, New Mexico

Latitude: 36 ° - 29.42 '

Longitude: 107 ° - 44.27 '

Field: Ballard PC

Elevation: 6,276 ' GL
6,286 ' KB

TD: 2,062 '

PBTD: 2,052 '

DP #: 51020A

Lease: NM 4113 U300

GWl: 67.5 %

NRI: 50.709375 %

Prop#: 12615800

Spud Date: 3/12/56

Compl Date: 3/21/56

Initial Potential: 1124 Mcfd

Original SIP: 650 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
13 3/4	9 5/8	25.4 J-55	133	100	circ to surf
8 3/4	5 1/2	15.5 J-55	1,991	150	1140' (TS)
4 3/4	openhole		1,991 -2,062		

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1 1/4"	2.3 J-55	2,044 '	97	

Formation Tops:

Ojo Alamo: 1,204 ' All Tops are estimated
Kirtland Shale: 1,311 '
Fruitland: 1,703 '
Pictured Cliffs: 1,998 '

Logging Record:

Original Stimulation: SWF w/ 36,374 gal wtr and 60,000# sd

Workover History: None

Production History: 5/98 PC capacity: 4.0 MCF/D. 5/98 PC cum: 1019.0 MMCF.

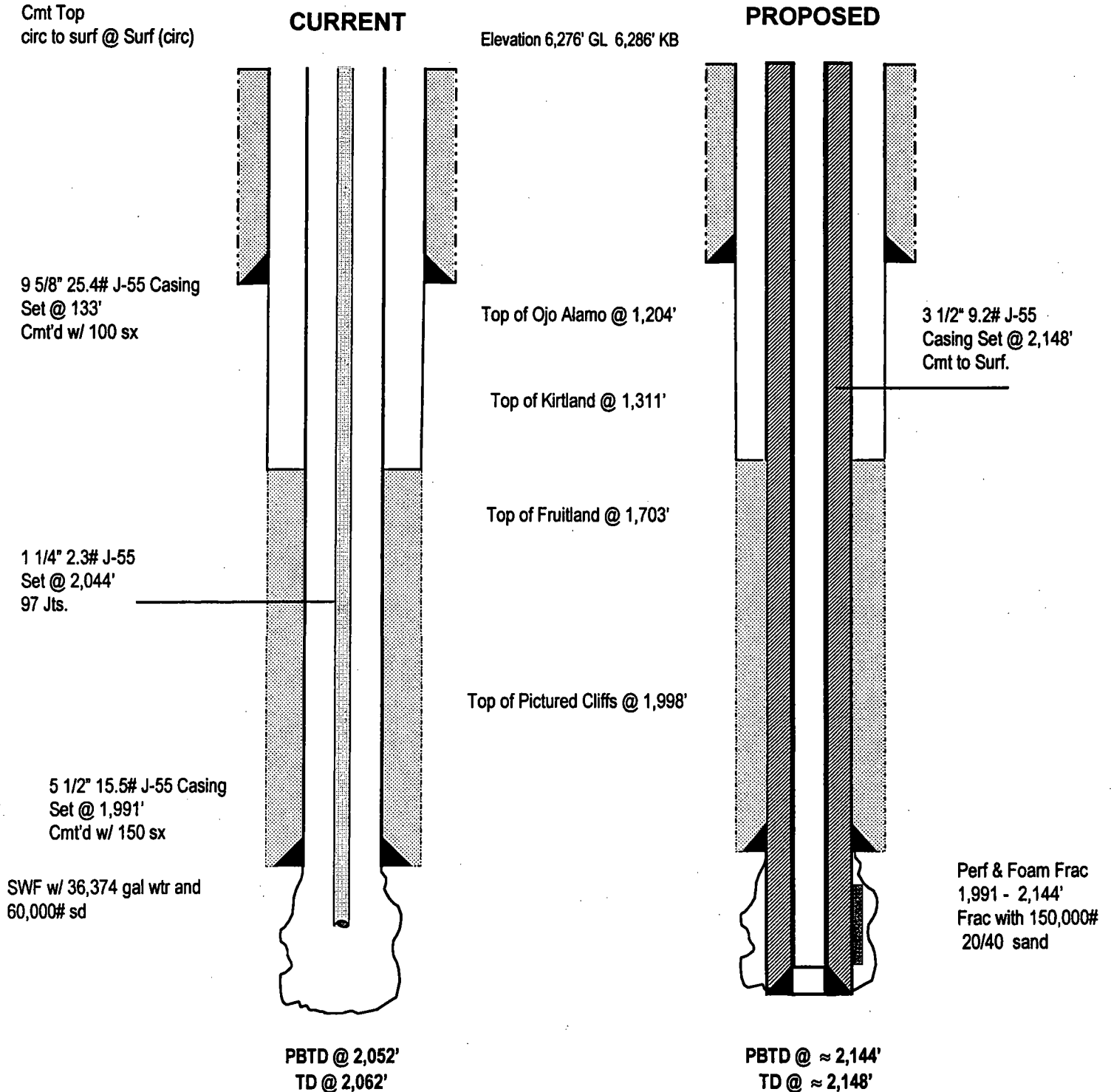
Pipeline: EPNG

File: Q:\area\lpteam\1998\welldata\convent~1\CONVPERT

McConnell # 3

Section 13 G, T-26 -N R-09 -W
San Juan, New Mexico

Ballard Pictured Cliffs Field Wellbore Schematic



Summit B # 5
Pertinent Data Sheet

API #: 300456027300

Location: 1650 ' FNL & 1650 ' FWL, Unit F, Section 33, T29N, R11W, San Juan County, New Mexico

Latitude: 36 ° - 41.1 '

Longitude: 107 ° - 59.98 '

Field: Fulcher Kutz PC

Elevation: 5,527 ' GL
5,534 ' KB

TD: 1,783 '

PBTD: 1,750 '

DP #: 32203A

Lease: NM 9843220

GWI: 100 %

NRI: 87.5 %

Prop#: 71264100

Spud Date: 3/8/46

Compl Date: 4/1/47

Initial Potential: 1620 Mcfd

Original SIP: ? psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
16.5 est	15 1/2	60 J-55	56	10	Surf @ 75% eff.
7 7/8	5 1/2	14 J-55	1,630	40	1395' @ 75% eff.
4 3/4	3 1/2	10.3 C-75	1,781	175	circ to surf.

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1 1/4"	2.6 J-55	1,665'	51	

Formation Tops:

Ojo Alamo: 432 ' All Tops are Estimated
Kirtland Shale: 494 '
Fruitland: 1,214 '
Pictured Cliffs: 1,628 '

Logging Record:

Original Stimulation: Original: SOH w/55 qts SNG, Restim: Perf'd 1636,40,44,48,52,56,60,64,68,82,86,80, SWF w/41,850 gal wtr, 55,500# 20/40 sd

Workover History: 11/11/83: 3-1/2 Restim (see above Stimulation)

Production History: 5/98 PC capacity: 12 MCF/D. 5/98 PC cum: 1,338 MMCF.

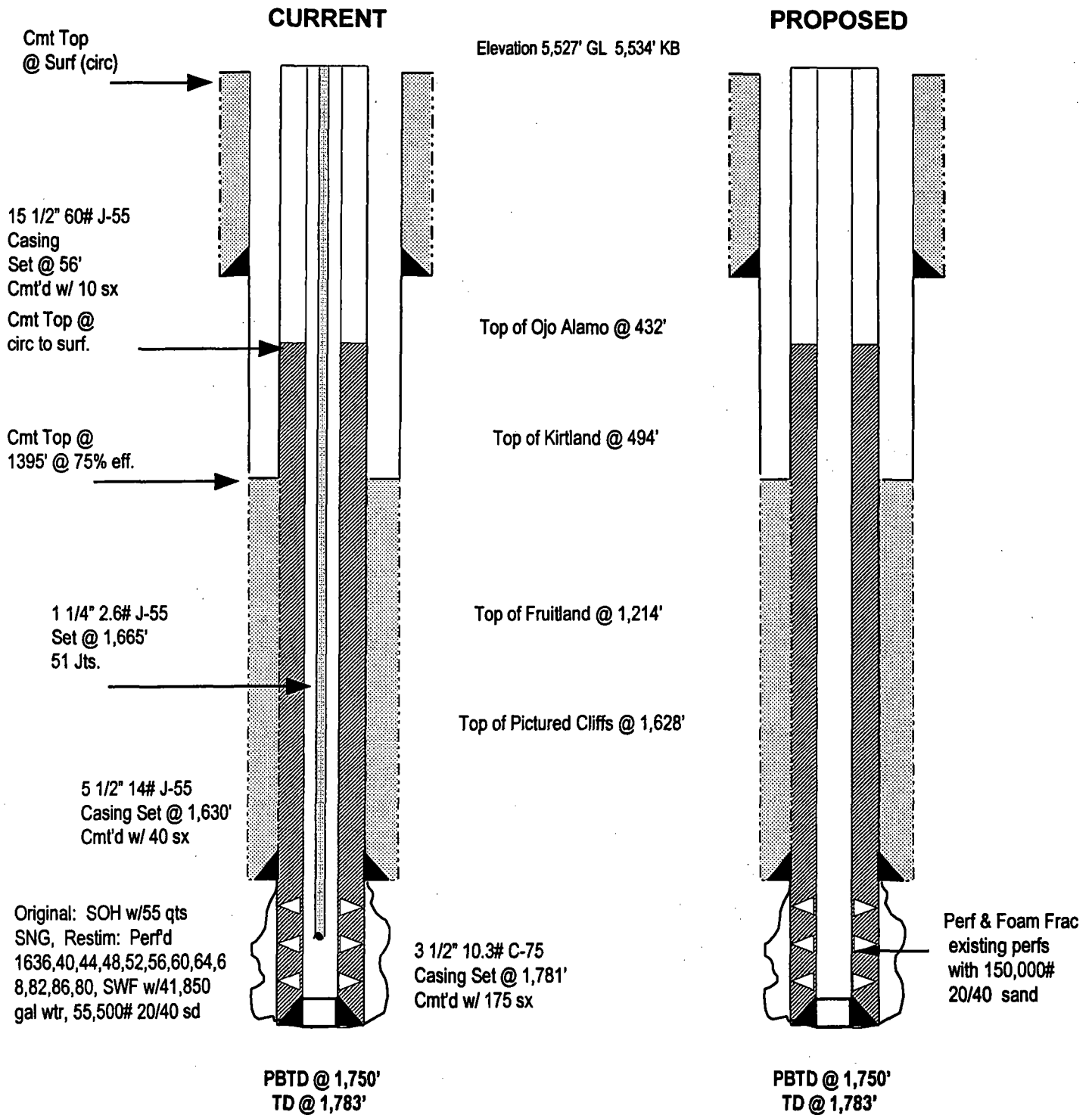
Pipeline: WFS

File: Q:\area\lpcteam\1998\well\data\restim\RSTMPERT

Summit B # 5

Section 33 F, T-29 -N R-11 -W
San Juan, New Mexico

Fulcher Kutz Pictured Cliffs Field Wellbore Schematic



Whitley # 1
Pertinent Data Sheet

API #: 300450653100

Location: 1650 ' FNL & 990 ' FWL, Unit E, Section 17, T27N, R09W, San Juan County, New Mexico

Latitude: 36 ° - 34.64 '

Longitude: 107 ° - 48.99 '

Field: Fulcher Kutz PC

Elevation: 6,383 ' GL
6,393 ' KB

TD: 2,412 '

PBTD: 2,410 '

DP #: 85705

Lease: 020293T

GWl: 25 %

NRI: 21 %

Prop#: 0-020293

Spud Date: 6/1/50

Compl Date: 6/30/50

Initial Potential: 460 Mcfd

Original SIP: ? psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
12 1/4	8 5/8	24 J-55	92	35	circ to surf
7 7/8	5 1/2	14 J-55	2,297	95	1738' @ 75% eff.
4 3/4	3 1/2	6.9 J-55	2,412	115	741' @ 75% eff.

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1"	1.7 Line Pipe	2,348 '	118 est	

Formation Tops:

Ojo Alamo: 1,364 ' All Tops are Estimated
Kirtland Shale: 1,513 '
Fruitland: 2,064 '
Pictured Cliffs: 2,303 '

Logging Record:

Original Stimulation: Original: SOH w/245 qts SNG, Restim: Perf'd 2306-10, 2319-25, 2330-56 w/2 SPF, SWF w/30,870 gal wtr, 8,920# 10/20 & 19,940# 20/40 sd, Post Workover gauge: 1673 Mcfd

Workover History: 5/4/66: 3-1/2 Restim (see above Stimulation)

Production History: 5/98 PC capacity: 30 MCF/D. 5/98 PC cum: 1,232 MMCF.

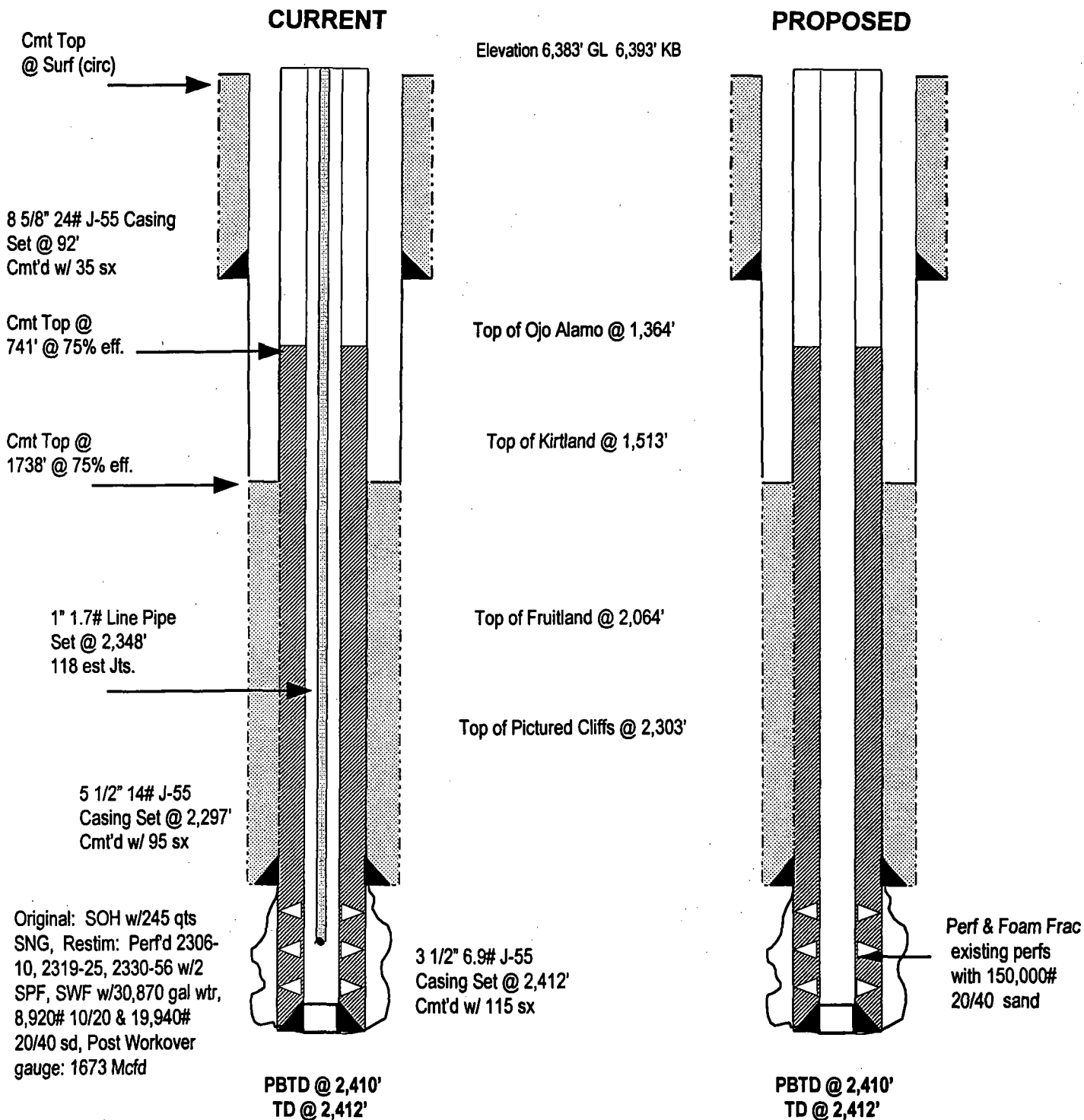
Pipeline: WFS

File: Q:\area\pcteam\1998\welldata\restim\RSTMPERT

Whitley # 1

Section 17 E, T-27 -N R-09 -W
San Juan, New Mexico

Fulcher Kutz Pictured Cliffs Field Wellbore Schematic



Aztec # 6
Pertinent Data Sheet

API #: 300450739300

Location: 440 ' FSL & 210 ' FEL, Unit P, Section 14, T28N, R11W, San Juan County, New Mexico

Latitude: 36 ° - 39.37 '

Longitude: 107 ° - 57.86 '

Field: Fulcher Kutz PC

Elevation: 5,817 ' GL
5,819 ' KB

TD: 1,877 '

PBTD: 1,867 '

DP #: 3723

Lease: 020247T

GWI: 25 %

NRI: 21.75 %

Prop#: 20247

Spud Date: 11/22/39

Compl Date: 12/16/39

Initial Potential: 1580 Mcfd

Original SIP: 495 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
16.5 est	15 1/2	60 J-55	41	7	circ to surf
7 7/8 est	5 1/2	14 J-55	1,830	50	1536' @ 75% eff.
4 3/4	3 1/2	6.9 J-55	1,870	135	Surf @ 75% eff.

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1 1/2"	2.75 J-55	1,833 '	61 est	

Formation Tops:

Ojo Alamo: 706 ' All Tops are Estimated
Kirtland Shale: 734 '
Fruitland: 1,627 '
Pictured Cliffs: 1,827 '

Logging Record:

Original Stimulation: Original: Natural, Restim: Perf'd 1832-48 w/2 SPF, SWF w/ 13,900 gal wtr, 10,000# 10/20 sd

Workover History: 9/28/65: 3-1/2 Restim (see above Stimulation)

Production History: 5/98 PC capacity: 27 MCF/D. 5/98 PC cum: 1,952 MMCF.

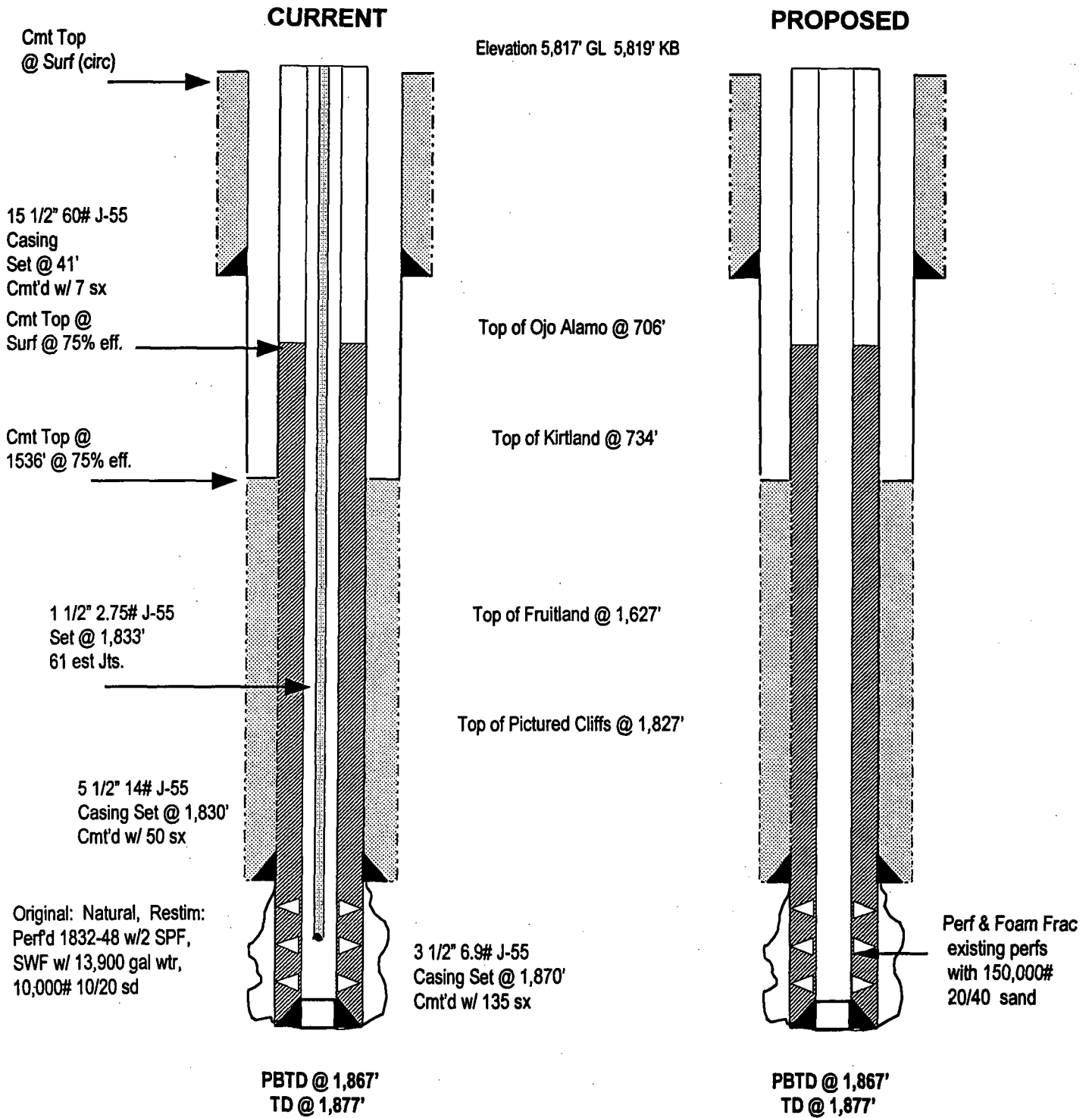
Pipeline: BROG

File: Q:\area\pcteam\1998\well\data\restim\RSTMPERT

Aztec # 6

Section 14 P, T-28 -N R-11 -W
San Juan, New Mexico

Fulcher Kutz Pictured Cliffs Field Wellbore Schematic



Mangum # 3
Pertinent Data Sheet

API #: 300450781000

Location: 1650 ' FSL & 1650 ' FEL, Unit J, Section 28, T29N, R11W, San Juan County, New Mexico

Latitude: 36 ° - 41.64 '

Longitude: 107 ° - 59.59 '

Field: Fulcher Kutz PC

Elevation: 5489 est ' GL
5,494 ' KB

TD: 1,748 '

PBTD: 1,747 '

DP #: 46229

Lease: NM 9407220

GWl: 62.5 %

NRI: 54.6875 %

Prop#: 23007

Spud Date: 7/31/47

Compl Date: 8/31/47

Initial Potential: 987 Mcfd

Original SIP: ? psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
16.5 est	15 1/2	60 J-55	40	10	Surf @ 75% eff.
7 7/8 est	5 1/2	14 J-55	1,630	50	1336' @ 75% eff.
4 3/4	3 1/2	6.9 J-55	1,747	225	Surf @ 75% eff.

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1"	1.7 Line Pipe	1,675'	79	

Formation Tops:

Ojo Alamo: 426' All Tops are Estimated
Kirtland Shale: 571'
Fruitland: 1,322'
Pictured Cliffs: 1,640'

Logging Record:

Original Stimulation: Original: SOH w/65 qts SNG, Restim: Perf'd 1628-40, 1660-70 w/2 SPF, SWF w/20,000 gal wtr, 10,000# 10/20 & 10,000# 20/40 sd, Post Workover gauge: 925 Mcfd

Workover History: 3/9/66: 3-1/2 Restim (see above Stimulation)

Production History: 5/98 PC capacity: 6 MCF/D. 5/98 PC cum: 734 MMCF.

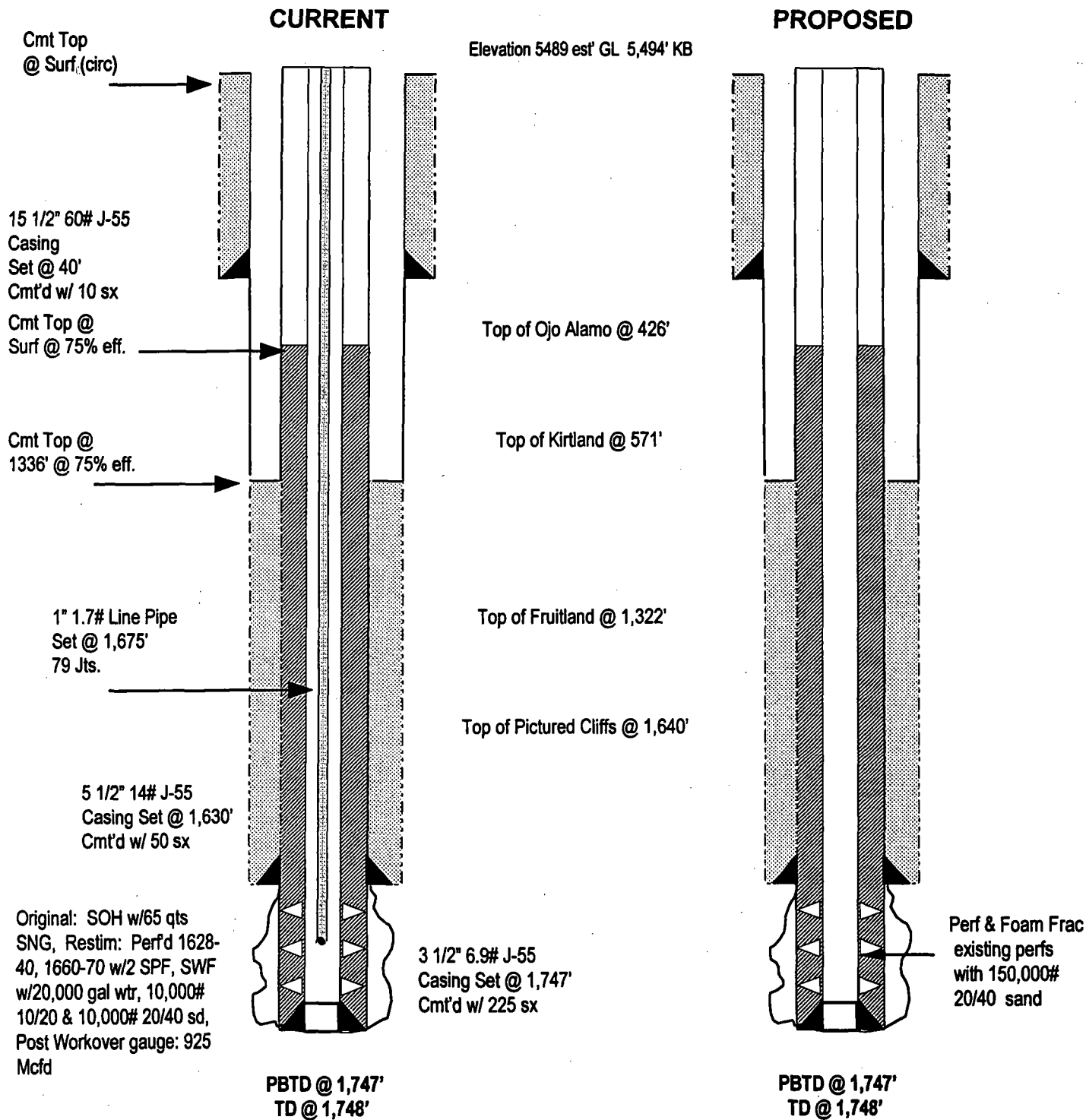
Pipeline: WFS

File: Q:\area\lpteam\1998\well\data\restim\RSTMPERT

Mangum # 3

Section 28 J, T-29 -N R-11 -W
San Juan, New Mexico

Fulcher Kutz Pictured Cliffs Field Wellbore Schematic



Atlantic C # 8
Pertinent Data Sheet

API #: 300452013700

Location: 1150 ' FNL & 1050 ' FEL, Unit A, Section 31, T31N, R10W, San Juan County, New Mexico

Latitude: 36 ° - 51.55 '

Longitude: 107 ° - 55.09 '

Field: Blanco PC

Elevation: 6,054 ' GL
6,064 ' KB

TD: 2,883 '

PBTD: 2,872 '

DP #: 51679A

Lease: NM 904300

GWl: 100 %

NRI: 85.5 %

Prop#: 12601500

Spud Date: 8/28/67

Compl Date: 9/14/67

Initial Potential: 2426 Mcfd

Original SIP: 911 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
12 1/4	8 5/8	24 J-55	208	170	circ to surf
6 3/4	2 7/8	6.4 J-55	2,883	240	1680' @ 75% eff.

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1 1/4"	2.3 IJ	2,740'	84	

Formation Tops:

Ojo Alamo: 1,308 '
Kirtland Shale: 1,400 '
Fruitland: 2,460 '
Pictured Cliffs: 2,710 '

Logging Record: IES,DENS,TS

Original Stimulation: Perf'd 2718-30', 2742-50 w/24 SPZ, SWF w/ 34,860 gal wtr and 30,000# 10/20 sand

Workover History:

Production History: 5/98 PC capacity: 21.0 MCF/D. 5/98 PC cum: 800.0 MMCF.

Pipeline: EPNG

File: Q:\area\lpcteam\1998\well\data\slimhole\SLIMPRT

Atlantic C # 8

Section 31 A, T-31 -N R-10 -W
San Juan, New Mexico

Blanco Pictured Cliffs Field Wellbore Schematic

CURRENT

Elevation 6,054' GL 6,064' KB

PROPOSED

Cmt Top
@ Surf (circ)

8 5/8" 24# J-55 Casing
Set @ 208'
Cmt'd w/ 170 sx

Cmt Top @
1680' @ 75% eff.

1 1/4" 2.3# IJ
Set @ 2,740'
84 Jts.

2 7/8" 6.4# J-55
Casing Set @ 2,883'
Cmt'd w/ 240 sx

Perf'd 2718-30', 2742-50 w/24
SPZ, SWF w/ 34,860 gal wtr and
30,000# 10/20 sand

Top of Ojo Alamo @ 1,308'

Top of Kirtland @ 1,400'

Top of Fruitland @ 2,460'

Top of Pictured Cliffs @ 2,710'

Perf & Foam Frac
with 150,000#
20/40 sand

PBTD @ 2,872'
TD @ 2,883'

PBTD @ 2,872'
TD @ 2,883'

Florance # 8
Pertinent Data Sheet

API #: 300452046200

Location: 850 ' FNL & 1800 ' FWL, Unit C, Section 20, T30N, R09W, San Juan County, New Mexico

Latitude: 36 ° - 48.12 '

Longitude: 107 ° - 48.34 '

Field: Blanco PC

Elevation: 6,078 ' GL
6,088 ' KB

TD: 2,834 '

PBTD: 2,824 '

DP #: 52275A

Lease: NM 105300

GWI: 100 %

NRI: 81.5 %

Prop#: 72249500

Spud Date: 4/20/69

Compl Date: 6/30/69

Initial Potential: 1750 Mcfd

Original SIP: 698 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
12 1/4	8 5/8	24 K-55	230	190	circ to surf
6 3/4	2 7/8	6.4 J-55	2,834	215	1756' @ 75% eff.

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1 1/4"	2.3 IJ	2,758'	86	

Formation Tops:

Ojo Alamo: 1,512 '
Kirtland Shale: 1,628 '
Fruitland: 2,451 '
Pictured Cliffs: 2,770 '

Logging Record: IEL,DENS,TS

Original Stimulation: Perf'd 2771-83' w/2 SPF, SWF w/ 30,000 gal wtr and 7,500# 10/20 sand

Workover History:

Production History: 5/98 PC capacity: 34.0 MCF/D. 5/98 PC cum: 902.0 MMCF.

Pipeline: EPNG

File: Q:\area\pcteam\1998\welldata\slimhole\SLIMPERT

Florance # 8

Section 20 C, T-30 -N R-09 -W
San Juan, New Mexico

Blanco Pictured Cliffs Field Wellbore Schematic

CURRENT

Elevation 6,078' GL 6,088' KB

PROPOSED

Cmt Top
@ Surf (circ)

8 5/8" 24# K-55 Casing
Set @ 230'
Cmt'd w/ 190 sx

Cmt Top @
1756' @ 75% eff.

1 1/4" 2.3# IJ
Set @ 2,758'
86 Jts.

2 7/8" 6.4# J-55
Casing Set @ 2,834'
Cmt'd w/ 215 sx

Perfd 2771-83' w/2 SPF, SWF
w/ 30,000 gal wtr and 7,500#
10/20 sand

Top of Ojo Alamo @ 1,512'

Top of Kirtland @ 1,628'

Top of Fruitland @ 2,451'

Top of Pictured Cliffs @ 2,770'

Perf & Foam Frac
with 150,000#
20/40 sand

PBTD @ 2,824'
TD @ 2,834'

PBTD @ 2,824'
TD @ 2,834'

Pierce # 9
Pertinent Data Sheet

API #: 300452047500

Location: 1737 ' FNL & 990 ' FWL, Unit F, Section 7, T30N, R09W, San Juan County, New Mexico

Latitude: 36 ° - 49.73 ' **Longitude:** 107 ° - 49.41 '

Field: Fulcher Kutz PC

Elevation: 6,506 ' GL
6,516 ' KB

TD: 3,294 '

PBTD: 3,294 '

DP #: 52267A

Lease: NM 819300

GWI: 100 %

NRI: 81.943769 %

Prop#: 72002500

Spud Date: 5/8/69

Compl Date: 6/30/69

Initial Potential: 3813 Mcfd

Original SIP: 853 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
12 1/4	8 5/8	24 J-55	214	165	circ to surf
6 3/4	2 7/8	6.4 J-55	3,294	225	2166' @ 75% eff.

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1 1/4"	2.33 IJ	3,250'	100	

Formation Tops:

Ojo Alamo: 1,882 '
Kirtland Shale: 2,024 '
Fruitland: 2,856 '
Pictured Cliffs: 3,222 '

Logging Record: IES,FDC,TS

Original Stimulation: Perf'd 3222-42' w/40 Holes, SWF w/ 24,840 gal wtr and 25,000# 10/20 sand

Workover History:

Production History: 5/98 PC capacity: 16.0 MCF/D. 5/98 PC cum: 1390.0 MMCF.

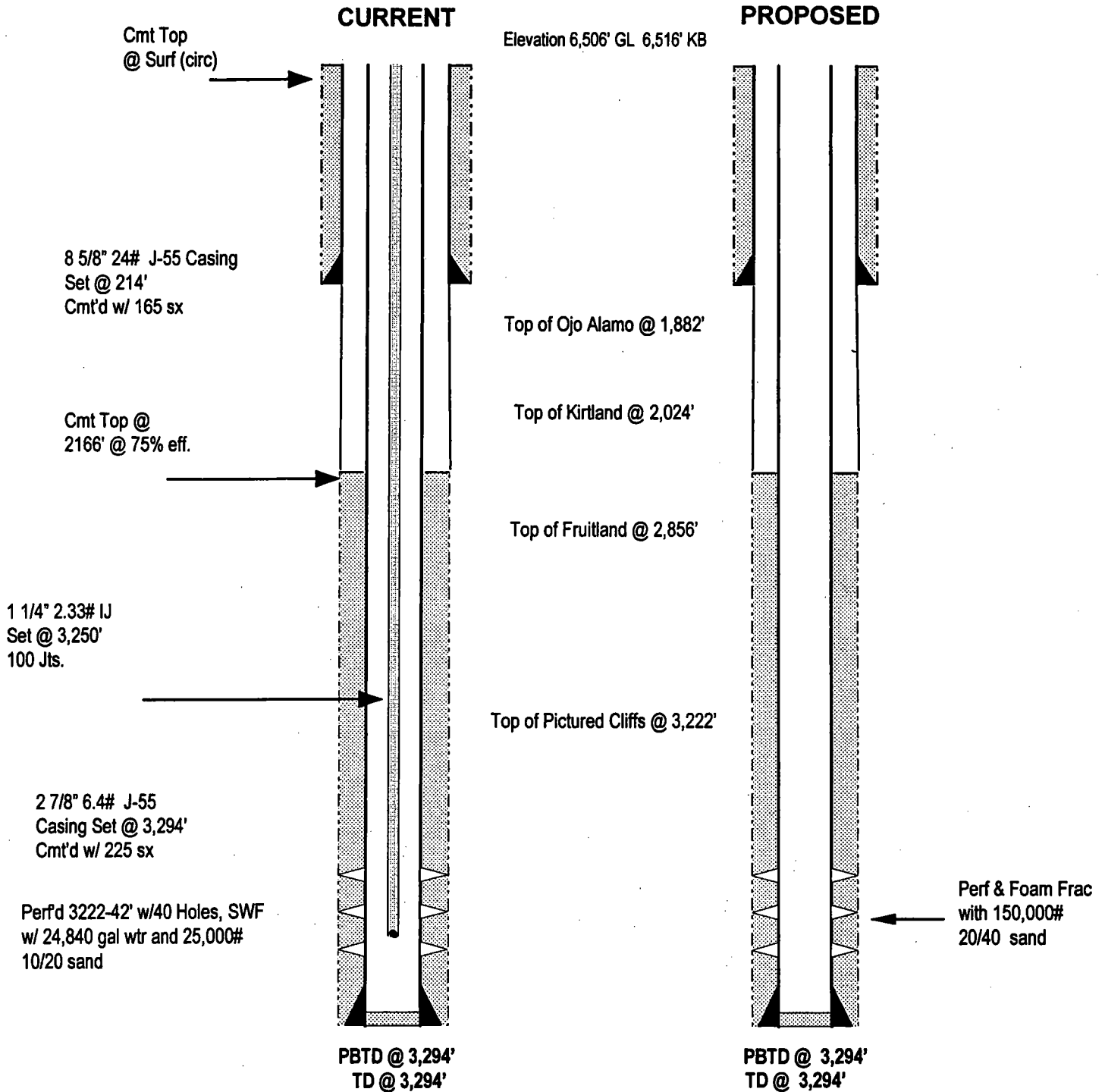
Pipeline: EPNG

File: Q:\area\lpcteam\1998\welldata\slimhole\SLIMPERT

Pierce # 9

Section 7 F, T-30 -N R-09 -W
San Juan, New Mexico

Fulcher Kutz Pictured Cliffs Field Wellbore Schematic



Sunray B #7
Pertinent Data Sheet

API #: 300452084600

Location: 1525 ' FSL & 1500 ' FWL, Unit K, Section 15, T30N, R10W, San Juan County, New Mexico

Latitude: 36 ° - 48.55 '

Longitude: 107 ° - 52.51 '

Field: Blanco PC

Elevation: 6,381 ' GL
6,392 ' KB

TD: 3,106 '

PBTD: 3,095 '

DP #: 44313A

Lease: NM 817300

GWI: 100 %

NRI: 82.833333 %

Prop#: 72257000

Spud Date: 4/21/72

Compl Date: 7/6/72

Initial Potential: 2533 Mcfd

Original SIP: 952 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
12 1/4	8 5/8	24 J-55	136	90	circ to surf
6 3/4	2 7/8	6.4 J-55	3,106	200	1475' (TS)

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1 1/4"	2.3 J-55	3,024'	93	

Formation Tops:

Ojo Alamo: 1,650 '
Kirtland Shale: 1,780 '
Fruitland: 2,660 '
Pictured Cliffs: 3,005 '

Logging Record: IEL, CDL, TS

Original Stimulation: Perf'd 3008-20', 3030-42', w/48 Holes, SWF w/ 30,786 gal wtr and 30,000# 10/20 sand

Workover History: None

Production History: 5/98 PC capacity: 20 MCF/D. 5/98 PC cum: 713 MMCF.

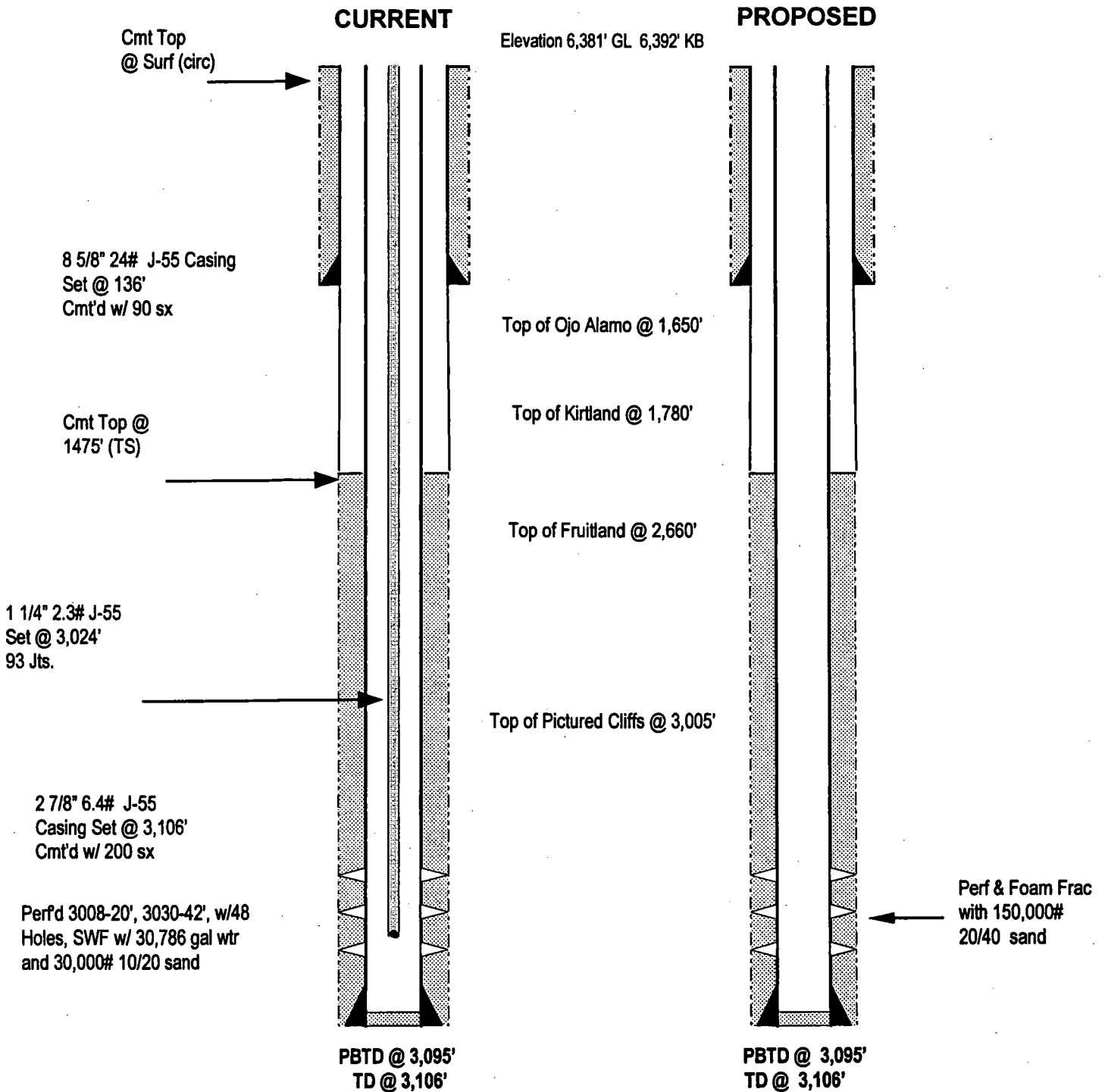
Pipeline: EPNG

File: Q:\area\lpcteam\1998\welldata\slimhole\SLIMPERT

Sunray B # 7

Section 15 K, T-30 -N R-10 -W
San Juan, New Mexico

Blanco Pictured Cliffs Field Wellbore Schematic



Sunray A # 5
Pertinent Data Sheet

API #: 300452089400

Location: 850 ' FSL & 1460 ' FEL, Unit O, Section 10, T30N, R10W, San Juan County, New Mexico

Latitude: 36 ° - 49.28 '

Longitude: 107 ° - 52.02 '

Field: Blanco PC

Elevation: 6,841 ' GL
6,852 ' KB

TD: 3,605 '

PBTD: 3,594 '

DP #: 44310A

Lease: NM 816300

GWI: 100 %

NRI: 82 %

Prop#: 12599600

Spud Date: 4/30/72

Compl Date: 7/3/72

Initial Potential: 3987 Mcfd

Original SIP: 962 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
12 1/4	8 5/8	24 J-55	140	190	circ to surf
6 3/4	2 7/8	6.4 J-55	3,605	220	2300' (TS)

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1 1/4"	2.3 IJ	3,356'	107	

Formation Tops:

Ojo Alamo: 2,218 '
Kirtland Shale: 2,340 '
Fruitland: 3,200 '
Pictured Cliffs: 3,480 '

Logging Record: IEL, CDL, TS

Original Stimulation: Perf'd 3528-40', 3506-18', 3484-96' w/72 Holes, SWF w/ 33,096 gal wtr and 40,000# 10/20 sand

Workover History:

Production History: 5/98 PC capacity: 54 MCF/D. 5/98 PC cum: 943 MMCF.

Pipeline: EPNG

File: Q:\area\pcteam\1998\welldata\slimhole\SLIMPRT

Sunray A # 5

Section 10 O, T-30 -N R-10 -W
San Juan, New Mexico

Blanco Pictured Cliffs Field Wellbore Schematic

CURRENT

Elevation 6,841' GL 6,852' KB

PROPOSED

Cmt Top
@ Surf (circ)

8 5/8" 24# J-55 Casing
Set @ 140'
Cmt'd w/ 190 sx

Cmt Top @
2300' (TS)

1 1/4" 2.3# IJ
Set @ 3,356'
107 Jts.

2 7/8" 6.4# J-55
Casing Set @ 3,605'
Cmt'd w/ 220 sx

Perf'd 3528-40', 3506-18', 3484-
96' w/72 Holes, SWF w/ 33,096
gal wtr and 40,000# 10/20 sand

Top of Ojo Alamo @ 2,218'

Top of Kirtland @ 2,340'

Top of Fruitland @ 3,200'

Top of Pictured Cliffs @ 3,480'

PBTD @ 3,594'
TD @ 3,605'

PBTD @ 3,594'
TD @ 3,605'

Perf & Foam Frac
with 150,000#
20/40 sand

Summit # 7
Pertinent Data Sheet

API #: 300452153000

Location: 1505 ' FSL & 1850 ' FEL, Unit K, Section 34, T29N, R11W, San Juan County, New Mexico

Latitude: 36 ° - 40.76 ' **Longitude:** 107 ° - 58.88 '

Field: Fulcher Kutz PC

Elevation: 5,651 ' GL
5,661 ' KB

TD: 1,830 '

PBTD: 1,818 '

DP #: 32212A

Lease: NM 9403 220

GWI: 100 %

NRI: 79.5 %

Prop#: 71264900

Spud Date: 9/14/74

Compl Date: 9/24/74

Initial Potential: 1350 Mcfd

Original SIP: 144 psi

Casing Record:

<u>Hole Size (In.)</u>	<u>Csg Size (In.)</u>	<u>Wt. (#'s) & Grade</u>	<u>Depth Set (Ft.)</u>	<u>Cement (Sx.)</u>	<u>Cement (Top)</u>
12 1/4	7 5/8	26.4 K-55	143	85	circ to surf
6 3/4	2 7/8	6.4 N-80	1,818	425	352' @ 75% eff.

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u># Joints</u>	<u>Comments</u>
1 1/4"	2.3 IJ	1,750'	58 est	

Formation Tops:

Ojo Alamo: 534 '
Kirtland Shale: 698 '
Fruitland: 1,466 '
Pictured Cliffs: 1,738 '

Logging Record: IES, GR, DCB

Original Stimulation: Perf'd 1742-60', 1768-78', 1786-96' w/41 Holes, SWF w/ 34,000 gal wtr and 30,000# sand

Workover History:

Production History: 5/98 PC capacity: 59.0 MCF/D. 5/98 PC cum: 1039.0 MMCF.

Pipeline: BROG

File: Q:\area\pcteam\1998\welldata\slimhole\SLIMPERT

Summit # 7

Section 34 K, T-29 -N R-11 -W
San Juan, New Mexico

Fulcher Kutz Pictured Cliffs Field Wellbore Schematic

CURRENT

PROPOSED

Elevation 5,651' GL 5,661' KB

Cmt Top
@ Surf (circ)

7 5/8" 26.4# K-55 Casing
Set @ 143'
Cmt'd w/ 85 sx

Cmt Top @
352' @ 75% eff.

1 1/4" 2.3# IJ
Set @ 1,750'
58 est Jts.

2 7/8" 6.4# N-80
Casing Set @ 1,818'
Cmt'd w/ 425 sx

Perf'd 1742-60', 1768-78', 1786-
96' w/41 Holes, SWF w/ 34,000
gal wtr and 30,000# sand

Top of Ojo Alamo @ 534'

Top of Kirtland @ 698'

Top of Fruitland @ 1,466'

Top of Pictured Cliffs @ 1,738'

Perf & Foam Frac
with 150,000#
20/40 sand

PBTD @ 1,818'
TD @ 1,830'

PBTD @ 1,818'
TD @ 1,830'