Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:
11/07/2018		DHC	pMAM1831458137

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Geological & Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Applicant: APACHE CORPORATION **OGRID Number:** 873
Well Name: D State #70 **API:** 30-015-39742
Pool: Artesia Glorieta Yeso (96830) and Artesia Queen Grayburg San Andres (3230) **Pool Code:**

SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED BELOW

DHC 4867

1) **TYPE OF APPLICATION:** Check those which apply for [A]
   A. Location – Spacing Unit – Simultaneous Dedication
      ☐NSL ☐NSP (PROJECT AREA) ☐NSP (PRORATION UNIT) ☐SD

   B. Check one only for [I] or [II]
      [I] Commingling – Storage – Measurement
      ■DHC ☐CTB ☐PLC ☐PC ☐OLS ☐OLM
      [II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery
      ☐WFX ☐PMX ☐SWD ☐IPI ☐EOR ☐PPR

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

2) **NOTIFICATION REQUIRED TO:** Check those which apply.
   A. ☐ Offset operators or lease holders
   B. ☐ Royalty, overriding royalty owners, revenue owners
   C. ☐ Application requires published notice
   D. ☐ Notification and/or concurrent approval by SLO
   E. ☐ Notification and/or concurrent approval by BLM
   F. ☐ Surface owner
   G. ☐ For all of the above, proof of notification or publication is attached, and/or,
   H. ■ No notice required

3) **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Alicia Fulton
Print or Type Name

Alicia Fulton
Signature

11/8/2018
Date

432-818-1088
Phone Number

alicia.fulton@apachecorp.com
e-mail Address

District I
1625 N. French Drive, Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

APPLICATION FOR DOWNHOLE COMMINGLING

Form C-107A
Revised August 1, 2011

APPLICATION TYPE
X Single Well
___Establish Pre-Approved Pools
EXISTING WELLBORE
X Yes _No

Apache Corporation — Operator
303 Veterans Airpark Lane, Midland TX 79705 — Address

D State — Lease
70 — Well No.
B-35-17S-28E — Unit Letter-Section-Township-Range
Eddy — County

OGRID No. 873 Property Code 308712 API No. 30-015-39742 Lease Type:_____Federal X State _Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Artesia Queen-Grayburg- San Andres		Artesia Glorieta Yeso
Pool Code	Oil-3230		Oil-96830
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	2744-3539 perf		3750-4452 perf
Method of Production (Flowing or Artificial Lift)	Artificial Lift		Artificial Lift
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)	200 psi est.		300 psi est.
Oil Gravity or Gas BTU (Degree API or Gas BTU)	36°		38°
Producing, Shut-In or New Zone	Not Tested Yet		Producing
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: Rates N/A	Date: Rates:	Date: August 21, 2018 Rates: 3 BOPD, 16 BWPD, 29 MCFD
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil 62% Gas 30%	Oil % Gas %	Oil 38% Gas 70%

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes X No
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? Yes No

Are all produced fluids from all commingled zones compatible with each other? Yes X No

Will commingling decrease the value of production? Yes No X

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

NMOCD Reference Case No. applicable to this well: Administrative Order DHC 2906

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, royalty and overriding royalty interests for uncommon interest cases.
Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

List of other orders approving downhole commingling within the proposed Pre-Approved Pools
List of all operators within the proposed Pre-Approved Pools
Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
Bottomhole pressure data.

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

SIGNATURE Alicia Fulton TITLE Reg Tech DATE 11-8-18

TYPE OR PRINT NAME Alicia Fulton TELEPHONE NO. (432) 818 1088

E-MAIL ADDRESS alicia.fulton@apachecorp.com

November 13, 2018

New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Attn: Engineering Bureau

RE: Application for Downhole Commingling
D State 70 well from the San Andres and Glorieta-Yeso
NW4NE4 Section 35, Township 17 South, Range 28 East
Eddy County, New Mexico

Dear Engineers:

Apache Corporation ("Apache") hereby requests your approval to downhole commingle production from our D State #70 well, API# 30-015-39742, a vertical well located in the NW4NE4 of Sec 35, T17S, R28E, producing from the Artesia; Glorieta-Yeso pool. All interests are the same in both pools, the Artesia Queen-Grayburg-San Andres and the Artesia Glorieta Yeso.

Enclosed for your review is a copy of Apache's application requesting approval from the New Mexico State Land Office and the New Mexico Oil Conservation Division to downhole commingle the referenced well. To evidence your approval for the downhole commingling of production, please execute the signature block below and return one copy of this letter to my attention by e-mail, fax, or using the enclosed prepaid return envelope. Should you have any questions, please don't hesitate to contact me.

Sincerely,

APACHE CORPORATION

Jan Baker

Jan Baker
Landman
Jan.Baker@apachecorp.com
432-818-1654 (office)
432-818-1197 (fax)

The undersigned hereby approves to downhole commingle production from the D State #70 well, API# 30-015-39742, as proposed in this letter, subject to further approval by the New Mexico Oil Conservation Division.

_____
Signature

_____
Printed Name

_____
Title

D State #70 30-015-39742
B-35-17S-28E 190'FNL & 2380' FEL
C-107 A - Application for downhole commingling

Attachments :

C-102 for each zone

Production curve for each zone for at least one year. (If not available, attach explanation.)
D State #70 Glorieta-Yeso production curve attached.

For zones with no production history, estimated production rates and supporting data.
Data to support allocation method or formula
The San Andres does not have any production history in the D State #70.
The D State #8 was used as an offset to prove up hole potential in the San Andres since it is approximately 725 feet from the D State #70 (picture attached).
Geology studied a D State #70 log and also correlated it with a D State #8 log to help determine the new perforations in the San Andres for the D State #70(D State #70 log attached).
Also attached is historical San Andres production in the D State #8 and forecasted D State #70 Glorieta-Yeso production. These were combined to form an overall forecast for the downhole commingle of the D State #70.
This forecast for the D State #70 proved that an IP of 9.9 BOPD and 51 MCFPD is expected total, and of that, 6.9 BOPD and 22 MCFD will come from the San Andres. The Glorieta-Yeso currently tests 3 BOPD and 29 MCFPD.
Attached you will find the expected commingled forecasts.

All working interest are identical and notification is not required.

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax (575) 393-0720
DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax (575) 748-9720
DISTRICT III
1000 Rio Brazos Road, Aztec, NM 87410
Phone (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax. (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

RECEIVED
JUL 23 2012
NMOCD ARTESIA

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-39742	96830	ARTESIA; GLORIETA-YESO (O)

Property Code	Property Name	Well Number
308712	D STATE	070

OGRID No.	Operator Name	Elevation
873	APACHE CORPORATION	3684'

Surface Location

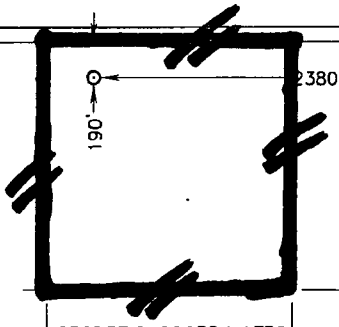
UL or lot No	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	35	17-S	28-E		190	NORTH	2380	EAST	EDDY

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	Joint or Infill	Consolidation Code	Order No.
40			NSL-6556

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



GEODETIC COORDINATES
NAD 27 NME

SURFACE LOCATION
Y=654182.2 N
X=557639.7 E
LAT.=32.798296° N
LONG=104.145752° W
LAT.=32° 47' 54" N
LONG.=104° 08' 45" W

OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division

Reesa Holland 7/17/12
Signature Date

REESA HOLLAND
Printed Name

Reesa.Holland@apachecorp.com
E-mail Address

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

NOVEMBER 10, 2011
Date of Survey

Signature & Seal of Professional Surveyor:

RONALD J. EIDSON
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

12/02/2011

Certificate Number: Gary G. Eidson 12641
Ronald J. Eidson 3239

ACR JWSC W.O. 11.11 2313

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OIL CONSERVATION DIVISION
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RECEIVED
JUL 23 2012
NMOCD ARTESIA

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office
AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-39742	3230	ARTESIA, Queen-Grayburg-San Andres

Property Code	Property Name	Well Number
308712	D STATE	670

OGRID No.	Operator Name	Elevation
873	APACHE CORPORATION	3684'

Surface Location

UL or lot No	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	35	17-S	28-E		190	NORTH	2380	EAST	EDDY

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40			NSL-6556

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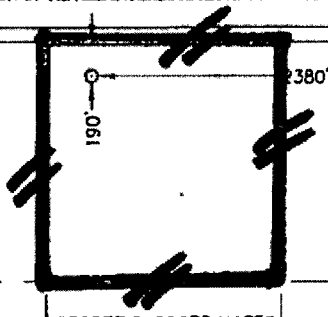

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NAD 27 NME

SURFACE LOCATION
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X=557639.7 E
LAT.=32.798296° N
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I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division

Signature 11-8-18
Date

Alicia Fulton
Printed Name

alicia.fulton@apachecorp.com
E-mail Address

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

NOVEMBER 10, 2011
Date of Survey

Signature & Seal of Professional Surveyor:

RONALD J. EIDSON
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

12/02/2011

Certificate Number Gary L. Eidson 12641
Ronald J. Eidson 3239

ACR JWSC W.O. 11.11.2313

D State #70 Original Production		
Date	Gas (MM5CFPM)	Oil (BPM)
Jan-19	0.802	80.4
Feb-19	0.718	71.8
Mar-19	0.789	78.5
Apr-19	0.757	75.1
May-19	0.776	76.7
Jun-19	0.745	73.4
Jul-19	0.764	75
Aug-19	0.758	74.1
5ep-19	0.728	70.9
Oct-19	0.747	72.5
Nov-19	0.717	69.4
Dec-19	0.736	71
Jan-20	0.73	70.2
Feb-20	0.678	65
Mar-20	0.72	68.8
Apr-20	0.691	65.9
May-20	0.709	67.4
Jun-20	0.682	64.6
Jul-20	0.699	66.1
Aug-20	0.694	65.5
5ep-20	0.667	62.8
Oct-20	0.685	64.2
Nov-20	0.658	61.6
Dec-20	0.676	63.1
Jan-21	0.671	62.5
Feb-21	0.602	55.9
Mar-21	0.663	61.4
Apr-21	0.637	58.9
May-21	0.654	60.3
Jun-21	0.629	57.9
Jul-21	0.646	59.3
Aug-21	0.642	58.8
Sep-21	0.617	56.4
Oct-21	0.634	57.8
Nov-21	0.609	55.5
Dec-21	0.626	56.9
Jan-22	0.622	56.4
Feb-22	0.558	50.6
Mar-22	0.615	55.5
Apr-22	0.591	53.3
May-22	0.607	54.7
Jun-22	0.584	52.5
Jul-22	0.6	53.8
Aug-22	0.597	53.4
Sep-22	0.574	51.3
Oct-22	0.59	52.6
Nov-22	0.568	50.6
Dec-22	0.583	51.9
Jan-23	0.58	51.5
Feb-23	0.521	46.2
Mar-23	0.574	50.8
Apr-23	0.552	48.8
May-23	0.567	50.1
Jun-23	0.546	48.1
Jul-23	0.561	49.4
Aug-23	0.558	49
Sep-23	0.537	47.1
Oct-23	0.552	48.4
Nov-23	0.532	46.5
Dec-23	0.547	47.8
Jan-24	0.544	47.4
Feb-24	0.506	44.1
Mar-24	0.538	46.8
Apr-24	0.518	45
May-24	0.533	46.2
Jun-24	0.513	44.5
Jul-24	0.527	45.7
Aug-24	0.525	45.4
5ep-24	0.505	43.6
Oct-24	0.52	44.8

D 5tate #08 San Andres		
Date	Gas (MM5CFPM)	Oil (BPM)
Oct-01	0.782	222.7
Nov-01	0.713	208.2
Dec-01	0.697	208
Jan-02	0.661	201.1
Feb-02	0.569	176.1
Mar-02	0.602	189.2
Apr-02	0.557	177.6
May-02	0.552	178.2
Jun-02	0.513	167.5
Jul-02	0.511	168.3
Aug-02	0.492	163.6
Sep-02	0.46	154.1
Oct-02	0.46	155.1
Nov-02	0.431	146.3
Dec-02	0.431	147.4
Jan-03	0.419	143.7
Feb-03	0.368	126.8
Mar-03	0.396	137.2
Apr-03	0.373	129.7
May-03	0.376	131
Jun-03	0.354	124
Jul-03	0.357	125.3
Aug-03	0.349	122.6
5ep-03	0.33	116.2
Oct-03	0.333	117.6
Nov-03	0.315	111.5
Dec-03	0.319	112.9
Jan-04	0.312	110.6
Feb-04	0.286	101.5
Mar-04	0.3	106.5
Apr-04	0.285	101.1
May-04	0.289	102.6
Jun-04	0.274	97.5
Jul-04	0.278	98.9
Aug-04	0.273	97.1
Sep-04	0.26	92.4
Oct-04	0.264	93.8
Nov-04	0.251	89.3
Dec-04	0.255	90.7
Jan-05	0.251	89.2
Feb-05	0.224	79.3
Mar-05	0.244	86.4
Apr-05	0.232	82.3
May-05	0.237	83.8
Jun-05	0.226	79.8
Jul-05	0.23	81.2
Aug-05	0.227	80
5ep-05	0.216	76.3
Oct-05	0.22	77.7
Nov-05	0.21	74.1
Dec-05	0.215	75.4
Jan-06	0.212	74.4
Feb-06	0.189	66.3
Mar-06	0.207	72.4
Apr-06	0.197	69.1
May-06	0.201	70.4
Jun-06	0.193	67.3
Jul-06	0.197	68.6
Aug-06	0.194	67.7
Sep-06	0.186	64.6
Oct-06	0.19	66
Nov-06	0.182	63
Dec-06	0.186	64.3
Jan-07	0.184	63.5
Feb-07	0.164	56.7
Mar-07	0.18	62
Apr-07	0.172	59.3
May-07	0.176	60.5
Jun-07	0.169	57.9
Jul-07	0.173	59.1

5ynthetic Decline Curve		
Month	Gas (MM5CFPM)	Oil (BPM)
1	1.584	303.1
2	1.431	280
3	1.486	286.5
4	1.418	276.2
5	1.345	252.8
6	1.347	262.6
7	1.321	252.6
8	1.31	252.3
9	1.241	238.4
10	1.258	240.8
11	1.209	233
12	1.196	225.1
13	1.19	225.3
14	1.109	211.3
15	1.151	216.2
16	1.11	209.6
17	1.077	194.2
18	1.078	201.8
19	1.072	195.8
20	1.07	196.5
21	1.021	186.8
22	1.042	189.5
23	1.007	184.2
24	1.006	179.3
25	1.004	180.1
26	0.917	167.4
27	0.982	174.3
28	0.949	169.5
29	0.94	161.8
30	0.929	164.4
31	0.931	160.4
32	0.931	161.4
33	0.891	153.9
34	0.912	156.7
35	0.882	152.6
36	0.886	149.3
37	0.886	150.2
38	0.809	139.9
39	0.87	146.2
40	0.842	142.5
41	0.831	134
42	0.828	138.9
43	0.832	136.1
44	0.834	137.2
45	0.8	131.1
46	0.82	133.8
47	0.795	130.6
48	0.799	128.2
49	0.8	129.2
50	0.731	120.3
51	0.789	126.2
52	0.764	123.2
53	0.756	116.4
54	0.753	120.5
55	0.758	118.5
56	0.759	119.4
S7	0.73	114.4
58	0.749	117
59	0.726	114.2
60	0.733	112.4
61	0.734	113.4
62	0.688	107.1
63	0.724	111.1
64	0.702	108.5
65	0.697	102.9
66	0.693	106.5
67	0.699	105
68	0.701	105.9
69	0.674	101.5
70	0.693	103.9

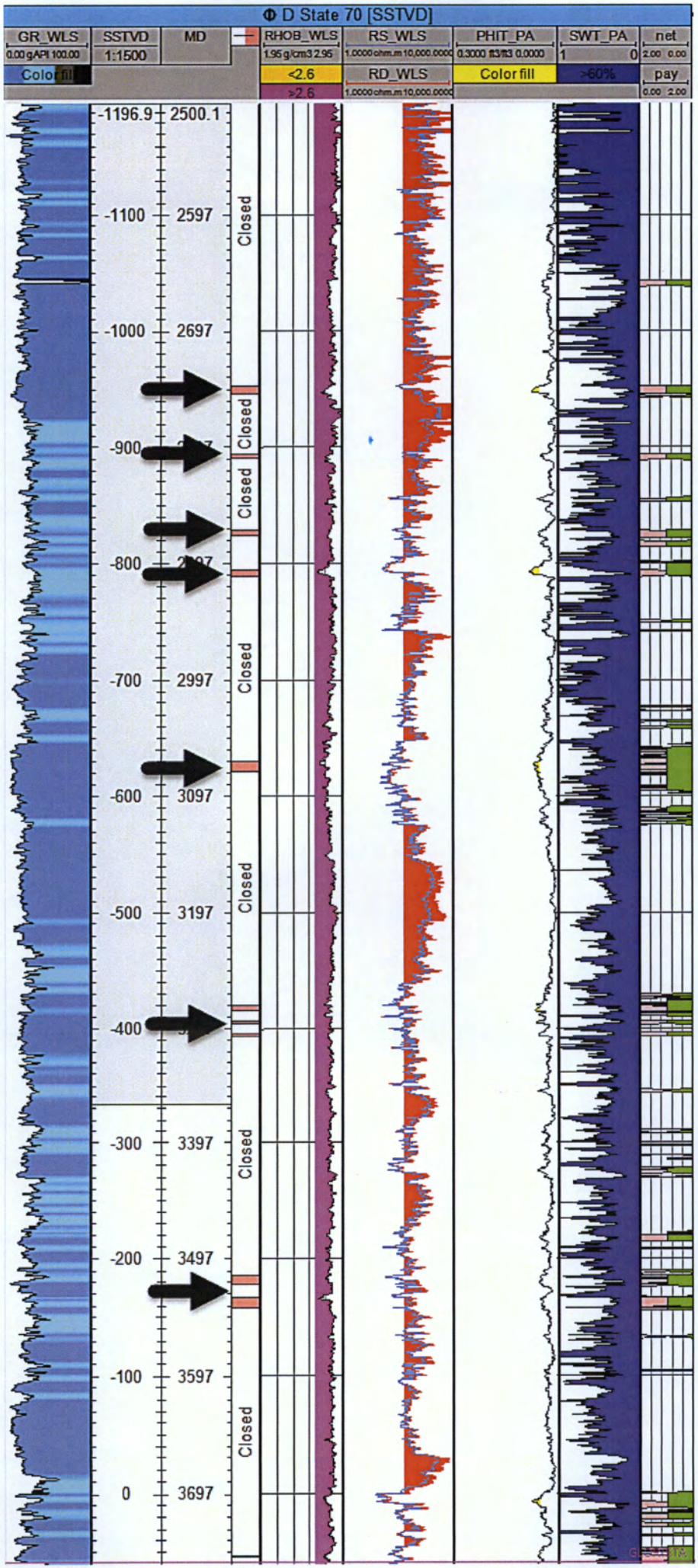
D State #70 Original Production		
Date	Gas (MMSCFPM)	Oil (BPM)
Nov-24	0.5	43.1
Dec-24	0.515	44.3
Jan-25	0.512	44
Feb-25	0.46	39.5
Mar-25	0.507	43.5
Apr-25	0.489	41.9
May-25	0.503	43
Jun-25	0.484	41.4
Jul-25	0.498	42.5
Aug-25	0.495	42.3
Sep-25	0.477	40.7
Oct-25	0.491	41.8
Nov-25	0.473	40.2
Dec-25	0.486	41.3
Jan-26	0.484	41.1
Feb-26	0.435	36.9
Mar-26	0.48	40.6
Apr-26	0.462	39.1
May-26	0.476	40.2
Jun-26	0.458	38.7
Jul-26	0.472	39.8
Aug-26	0.47	39.6
Sep-26	0.452	38.1
Oct-26	0.466	39.2
Nov-26	0.449	37.7
Dec-26	0.462	38.8
Jan-27	0.46	38.6
Feb-27	0.413	34.7
Mar-27	0.456	38.2
Apr-27	0.439	36.8
May-27	0.452	37.8
Jun-27	0.436	36.4
Jul-27	0.448	37.4
Aug-27	0.446	37.2
Sep-27	0.43	35.9
Oct-27	0.443	36.9
Nov-27	0.427	35.5
Dec-27	0.439	36.5
Jan-28	0.437	36.3
Feb-28	0.408	33.8
Mar-28	0.434	36
Apr-28	0.418	34.7
May-28	0.431	35.7
Jun-28	0.415	34.4
Jul-28	0.427	35.3
Aug-28	0.426	35.2
Sep-28	0.41	33.9
Oct-28	0.422	34.9
Nov-28	0.407	33.6

	GLOR	GAS	OIL
CUM		66.281	5934.4
ALLOCATED % EST		70%	38%

D State #08 San Andres		
Date	Gas (MMSCFPM)	Oil (BPM)
Aug-07	0.171	58.4
Sep-07	0.164	55.9
Oct-07	0.167	57.1
Nov-07	0.16	54.7
Dec-07	0.164	55.9
Jan-08	0.163	55.2
Feb-08	0.151	51.1
Mar-08	0.16	54.1
Apr-08	0.153	51.8
May-08	0.157	52.9
Jun-08	0.15	50.7
Jul-08	0.154	51.8
Aug-08	0.153	51.3
Sep-08	0.146	49.1
Oct-08	0.15	50.2
Nov-08	0.144	48.1
Dec-08	0.147	49.2
Jan-09	0.146	48.7
Feb-09	0.131	43.6
Mar-09	0.144	47.8
Apr-09	0.138	45.8
May-09	0.142	46.9
Jun-09	0.136	45
Jul-09	0.139	46
Aug-09	0.138	45.6
Sep-09	0.133	43.7
Oct-09	0.136	44.7
Nov-09	0.131	42.9
Dec-09	0.134	43.9
Jan-10	0.133	43.5
Feb-10	0.119	39
Mar-10	0.131	42.8
Apr-10	0.126	41
May-10	0.129	42
Jun-10	0.124	40.3
Jul-10	0.128	41.3
Aug-10	0.127	41
Sep-10	0.122	39.3
Oct-10	0.125	40.3
Nov-10	0.12	38.6
Dec-10	0.123	39.6
Jan-11	0.122	39.3
Feb-11	0.11	35.2
Mar-11	0.121	38.6
Apr-11	0.116	37.1
May-11	0.119	38
Jun-11	0.115	36.5
Jul-11	0.118	37.4
Aug-11	0.117	37.1

	SA	GAS	OIL
CUM		29.078	9772.5
ALLOCATED % EST		30%	62%

Synthetic Decline Curve		
Month	Gas (MMSCFPM)	Oil (BPM)
71	0.671	101.5
72	0.679	100.2
73	0.679	101.1
74	0.62	94.2
75	0.671	99.4
76	0.652	97.1
77	0.654	94.1
78	0.644	95.5
79	0.651	94.3
80	0.652	95.2
81	0.627	91.4
82	0.645	93.6
83	0.626	91.5
84	0.632	90.4
85	0.634	91.3
86	0.579	85
87	0.627	89.8
88	0.608	87.8
89	0.607	83.8
90	0.602	86.5
91	0.61	85.6
92	0.612	86.5
93	0.588	83.1
94	0.605	85.2
95	0.587	83.3
96	0.595	82.5
97	0.596	83.3
98	0.544	77.6
99	0.59	82.1
100	0.572	80.3
101	0.571	76.8
102	0.567	79.2
103	0.574	78.4
104	0.575	79.2
105	0.554	76.2
106	0.571	78.2
107	0.554	76.5
108	0.561	75.8
109	0.562	76.6
110	0.528	72.4
111	0.557	75.6
112	0.54	74
113	0.541	70.9
114	0.536	73
115	0.543	72.4
116	0.545	73.2
117	0.525	70.4
118	0.54	72.3
119	0.524	70.7


D State 70 [SSTVD]
GR_WLS
0.00 gAPI 100.00
Color fill
SSTVD
1:1500
MD
RHOB_WLS
1.95 g/cm3 2.95
<2.6
>2.6
RS_WLS
1.0000 ohm.m 10,000.0000
RD_WLS
1.0000 ohm.m 10,000.0000
PHIT_PA
0.3000 ft3/ft3 0.0000
Color fill
SWT_PA
1 0
>60%
net
2.00 0.00
pay
0.00 2.00
-1196.9
2500.1
-1100
2597
-1000
2697
-900
-800
-700
2997
-600
3097
-500
3197
-400
-300
3397
-200
3497
-100
3597
0
3697
Closed

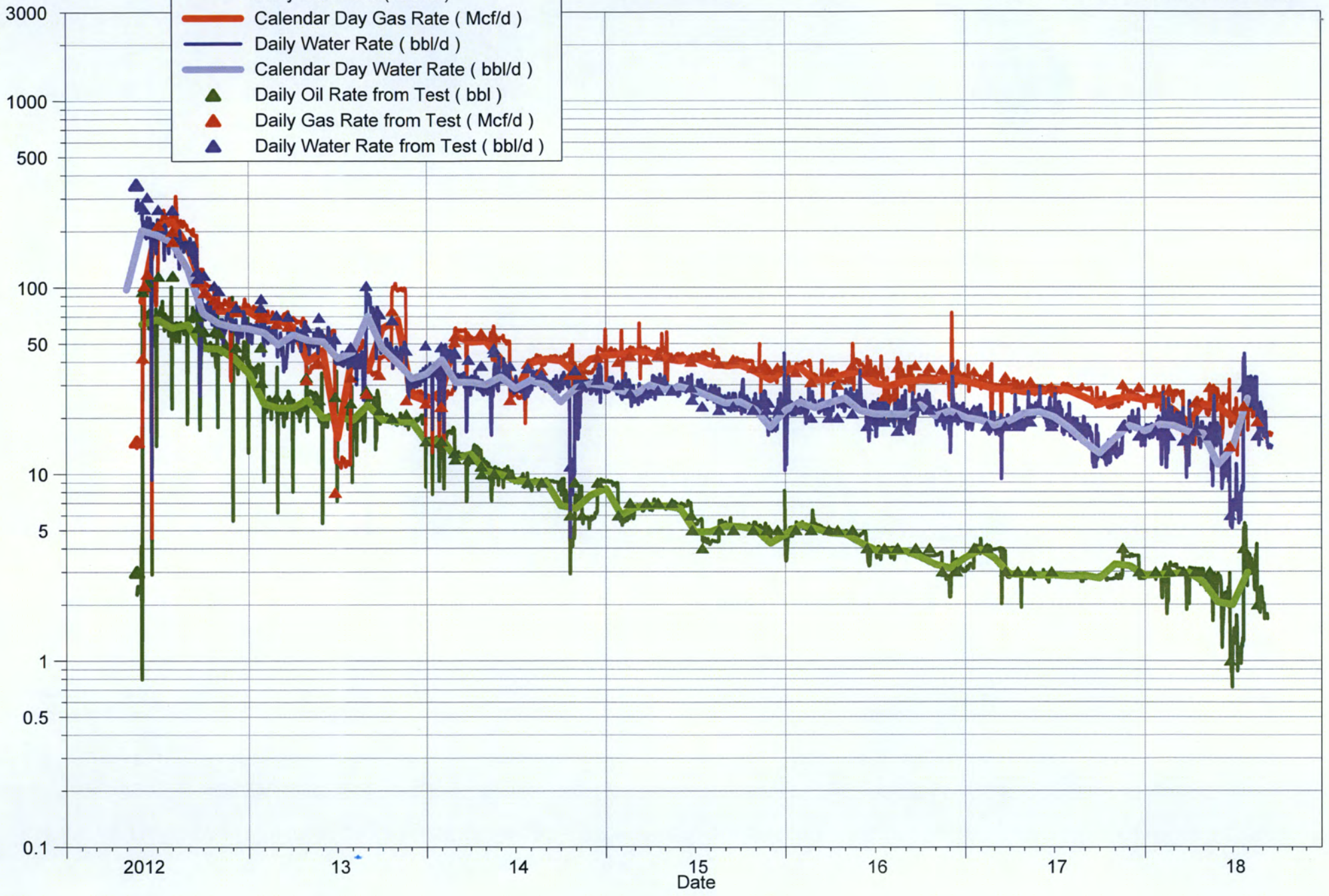
IMS 2015

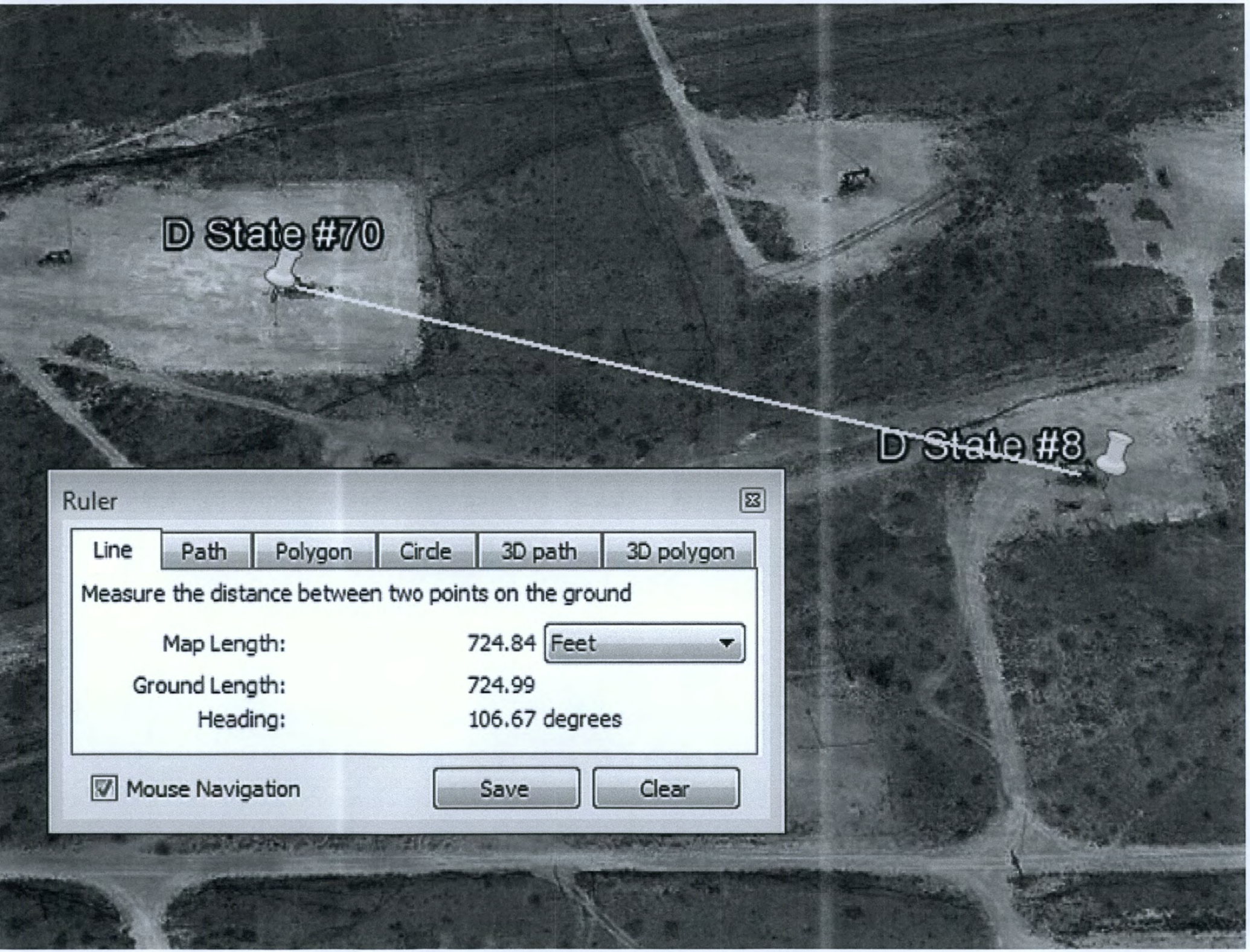
D STATE #70
Daily Oil Rate (bbl/d)
Calendar Day Oil Rate (bbl/d)
Daily Gas Rate (Mcf/d)
Calendar Day Gas Rate (Mcf/d)
Daily Water Rate (bbl/d)
Calendar Day Water Rate (bbl/d)
Daily Oil Rate from Test (bbl)
Daily Gas Rate from Test (Mcf/d)
Daily Water Rate from Test (bbl/d)

D STATE #70

ROD PUMP
CROW FLATS

GLORIETA YESO
Cumulative Oil Produced : 29.41 Mbbl
Cumulative Gas Produced : 103.03 MMcf
Cumulative Water Produced : 88 Mbbl
ART-04501-WILLIAMS, CHARLES




D State #70
D State #8
Ruler
Line
Path
Polygon
Circle
3D path
3D polygon
Measure the distance between two points on the ground
Map Length:
724.84
Feet
Ground Length:
724.99
Heading:
106.67 degrees
Mouse Navigation
Save
Clear

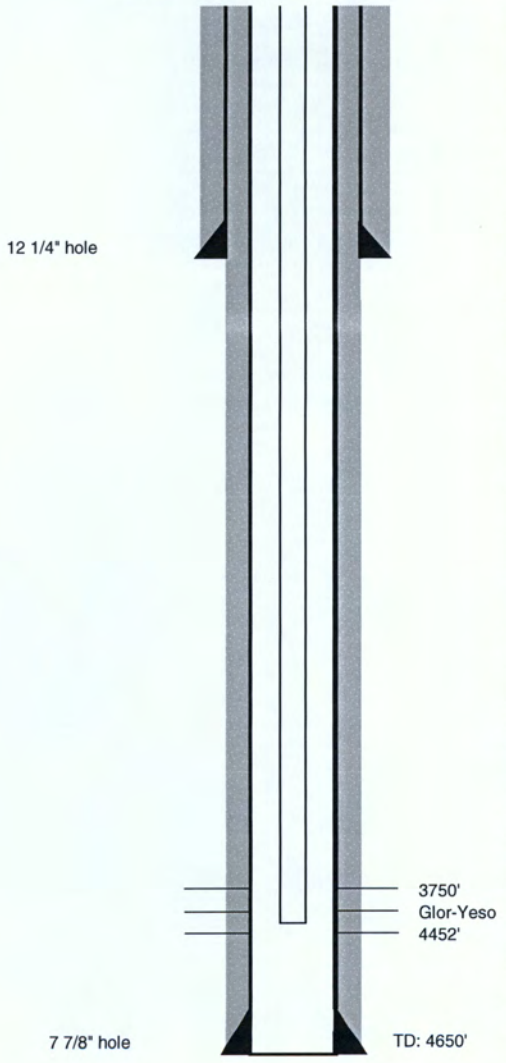
Apache Corporation

Work Objective Current

Region Office Permian / Midland
District /Field Office NW District
AFE Type

Start Date	TBD	End Date	TBD
Lease	D State	KB/GL	3684' GL
Well Name	D State	Well No.	#70
Field	Artesia (BP)	TD @	4650'
County	Eddy	PBTD @	4571'
State	New Mexico	ETD @	
AFE #	TBD	API #	30-015-39742
Gross AFE	TBD	Spud Date	4/4/2012
Apache WI	39.316644%	Comp. Date	5/17/2012

Description	O.D.	Grade	Weight	Depth	Cmt Sx	TOC
Surface Csg	8 5/8"	J-55	24#	424'	450 sx	Circ 85 sx to surf
Inter Csg						
Prod Csg	5 1/2"	J-55	17#	4650'	1020 sx	Circ 166 sx to surf
Casing Liner						



Date	Zone	Actual Perforations	JSPF	Total Perfs
4/16/2012	Glorieta-Yeso	3750, 60, 75, 3810, 34, 62, 67, 3908, 18, 31, 62, 73, 82, 4008, 23, 33, 48, 54, 68, 83, 4100, 12, 34, 42, 60, 87, 4208, 40, 56, 91, 4326, 56, 73, 4404, 52'	1	35

Date	Zone	Stimulation / Producing Interval	Amount
4/17/2012	Glorieta-Yeso	Acidize 3750-4452' w/3000 gal 15% NEFE w/70 ball sealers	
5/7/2012	Glorieta-Yeso	Frac 3750-4452' w/204,876 gal 20# & 237,800# 16/30 WHT sand. Flush w/3570 gal 20# linear gel	

Well History / Failure

Apache Representative _____ **Contract Rig/Number** _____

Apache Engineer Alex Hernandez **Operator** _____

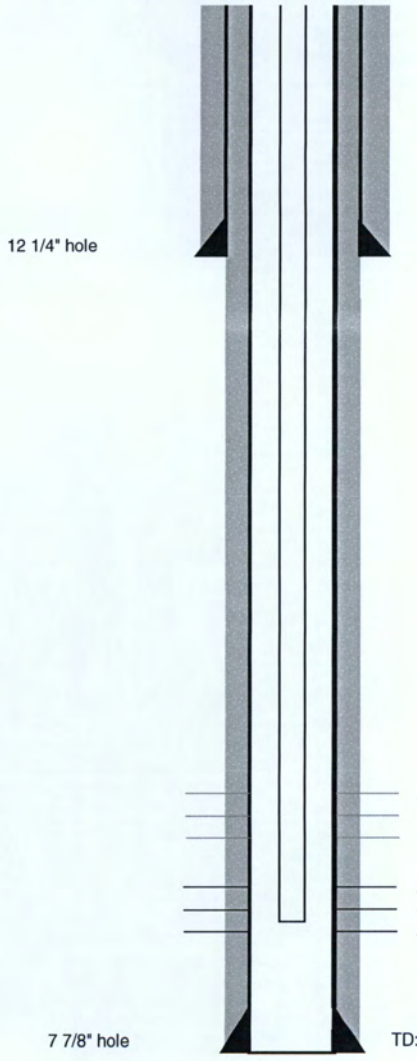
Apache Corporation

Work Objective Proposed

Region Office Permian / Midland
District /Field Office NW District
AFE Type

Start Date	TBD	End Date	TBD
Lease	D State	KB/GL	3684' GL
Well Name	D State	Well No.	#70
Field	Artesia (BP)	TD @	4650'
County	Eddy	PBTD @	4571'
State	New Mexico	ETD @	
AFE #	TBD	API #	30-015-39742
Gross AFE	TBD	Spud Date	4/4/2012
Apache WI	39.316644%	Comp. Date	5/17/2012

Description	O.D.	Grade	Weight	Depth	Cmt Sx	TOC
Surface Csg	8 5/8"	J-55	24#	424'	450 sx	Circ 85 sx to surf
Inter Csg						
Prod Csg	5 1/2"	J-55	17#	4650'	1020 sx	Circ 166 sx to surf
Casing Liner						



Date	Zone	Actual Perforations	JSPF	Total Perfs
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TBD	San Andres	2744-2751, 2803-2806, 2868-2873, 2902-2908, 3067-3076, 3277-3282, 3290-3293, 3301-3304, 3511-3519, 3530-3539'	1	68

Date	Zone	Stimulation / Producing Interval	Amount
4/17/2012	Glorieta-Yeso	Acidize 3750-4452' w/3000 gal 15% NEFE w/70 ball sealers	
5/7/2012	Glorieta-Yeso	Frac 3750-4452' w/204,876 gal 20# & 237,800# 16/30 WHT sand. Flush w/3570 gal 20# linear gel	
TBD	San Andres	Acidize 2744-3539' w/10,000 gal 15% HCl w/150 ball sealers	

Well History / Failure

Apache Representative _____ **Contract Rig/Number** _____

Apache Engineer Alex Hernandez **Operator** _____

Apache

AFE: 11-18-1847

Well name:	**D State #70**
API Number:	30-015-39742
County, State:	Eddy, NM
Legals:	SEC-35 TWP-17S RGE-28E
Depths:	4650 MD 4571 PBTD
Producing Interval:	3750 - 4452' Glorieta-Yeso

CSG	OD	Wt/Ft	Cap (bbl/ft)	Top	Set @
Surface	8.625"	24#	0.0636	0'	424
Production	5.500"	17#	0.0232	0'	4650

Engineer:	Alex Hernandez	432-818-1694 (o)	alex.hernandez@apachecorp.com
Assistant Foreman:	David Pedroza	575-910-3283 (c)	david.pedroza@apachecorp.com
Production Foreman:	Javier Berdoza	575-441-5755 (c)	javier.berdoza@apachecorp.com

What's New:

1) ***Add perforations to well at 2744-3539' (1 JSPF – 68 holes).***
2) ***Acidize new perforations w/ 10,000 gallons of 15% HCl and 150 ball sealers.***
3) ***Install 1-1/2" rod pump w/ 2-stage, HVR, brass Ni-carb bbl and brass pull tube, alternate (California) ball and seats.***
4) ***Inspect and replace rods with customer owned as necessary.***
5) ***Inspect and replace tubing with customer owned as necessary.***

WELL HISTORY

The D State #70 was drilled on 4/4/12 and completed on 5/7/12 in the Glorieta-Yeso from 3,750-4,452'. The well was acidized with 3,000 gallons of 15% HCL and fraced with 204,876 gal 20#, and 237,800# of 16/30 WHT sand. Flushed with 3570 gal 20# linear gel and placed on production on 5/17/12.

The well has not been repaired since it was drilled in 4/2012. The well recently developed a hole in tubing on 9/2018. Evaluation of potential in the San Andres revealed opportunity to add some perforations in areas with high porosity/high resistivity lenses. Once perforated, it is recommended to acidize the well with 10,000 gallons of 15% HCL and 150 ball sealers. The well will produce from both the Glorieta-Yeso and the San Andres.

WORKOVER SUMMARY:

The well failed due to suspected HIT. The tentative repair plan is as follows; POOH w/ rods, TOOH w/ tubing, add perforations, acidize formation, TIH w/ tubing, RIH w/ rods, RTP.

11/5/2018

Apache

AFE: 11-18-1847

PROCEDURE:

1. MIRU workover rig & reverse unit.
2. POOH w/ rods and pump. Report preliminary findings of the pump and rods (paraffin, scale, sand, rod wear, etc.).
3. Pump produced water as necessary to ND pumping tee. NU 5k double BOP (2-7/8" rams on top and blinds on bottom) and function test. Release TAC (if not set, please note in WellView).
4. TOOH w/ tubing and BHA while scanning.
5. TIH w/ tubing 4-1/2" mill and casing scraper to PBTD, TOOH. If there are significant solids LD mill and TIH w/ tubing bailer (recover samples if possible to test).
6. MIRU WL, RIH w/ gauge ring, POOH, correlate w/ previous logs.
7. RIH to shoot perforations at 1 JSPF between 2744'-3539' (intervals below) using charges that generates a 0.37"- 0.42" diameter hole with a minimum of 21" penetration. RDMO WL.

• 2744-2751	• 2902-2908	• 3290-3293	• 3530-3539
• 2803-2806	• 3067-3076	• 3301-3304	
• 2868-2873	• 3277-3282	• 3511-3519	

8. TIH w/ RBP, packer and tubing while hydro-testing, set RBP at 3590', pull up hole, and set packer at 2700'.
9. MIRU acid crew. Verify acid concentration is 15% +/- 1% (titrate). If possible request additives such as inhibitors, surfactants, and iron sequesterant are mixed on location to verify they are present. Verify iron concentration is less than 100 ppm in acid. Circulate tank for 15 minutes to mix additives into solution.
10. Acidize the San Andres. Test lines to 4,500 psi (MSTP = 3500 psi), bleed off. Set pressure safety valve at 4,500. Establish rate at 3-5bbl/min with brine water. Acidize with 10,000 gallons of NEFE 15% HCl acid, 150 ball sealers, 200 bbls of treated brine water spacer, and stimulation fluid).
11. Release packer, retrieve RBP, TOOH w/ BHA and tubing.
12. TIH w/ production BHA and tubing while hydro-testing.
13. RIH w/ 1-1/2" pump and rods.
14. Put well on test for two weeks.
15. RTP.