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DELTA
PETROLEUM
CORPORATION

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BEFORE THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF COLORADO

IN THE MATTER OF THE PROMULGATION AND ESTABLISHMENT OF FIELD RULES TO GOVERN OPERATIONS IN THE BUZZARD CREEK, VEGA AND BRUSH CREEK FIELDS, MESA COUNTY, COLORADO	))))	CAUSE NOS. 369, 399 and 429 DOCKET NO. 0903-SP-12

REQUEST FOR RECOMMENDATION OF APPROVAL OF APPLICATION WITHOUT A HEARING BASED ON THE MERITS OF THE VERIFIED APPLICATION AND SUPPORTING EXHIBITS

Delta Petroleum Corporation ("Delta"), by its undersigned representative, pursuant to Rule 511.b. of the Rules and Regulations of the Colorado Oil and Gas Conservation Commission, hereby requests Hearing Officer recommendation of its verified application for approval by the Commission.

Delta requests that the captioned matter be approved based on the merits of the application, the sworn testimony provided by three witnesses and their exhibits submitted herein. A recommended order is also included for Hearing Officer review.

WHEREFORE, Delta requests that its application be recommended for approval without a hearing based on the submittal of the required documents which support such request.

DATED this 16th day of March, 2009.

Respectfully submitted,

John H. O'Shaughnessy

John H. O'Shaughnessy, Landman
Delta Petroleum Corporation

DELTA

PETROLEUM
CORPORATION

Buzzard Creek, Vega and Brush Creek Fields

Mesaverde Group
Mesa County, Colorado

Request for an order to establish drilling and spacing units for certain lands in Township 9 South, Ranges 92 and 93 West, 6th P.M.

Cause Nos. 369, 399 and 429
Docket Number 0903-SP-12

March 16, 2009

Delta Petroleum Corporation
370 Seventeenth Street, Suite 4300
Denver, Colorado 80202

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Delta Petroleum Corporation

IN THE MATTER OF THE PROMULGATION AND ESTABLISHMENT OF FIELD RULES TO GOVERN OPERATIONS IN THE BUZZARD CREEK, VEGA AND BRUSH CREEK FIELDS, MESA COUNTY, COLORADO

My name is Paul Joeckel. I am a Land Manager for Delta Petroleum Corporation. I am familiar with the Application Lands. A copy of my curriculum vitae is enclosed in the exhibit booklet submitted by the Applicant. The below-mentioned Exhibits are true and correct to the best of my knowledge and belief and were prepared under my supervision and control.

The Application Lands covered in this Application are described as follows:

Township 9 South, Range 92 West, 6th P.M.
Section 6: Lots 1(47.66), 2(47.70), 3(49.40), 4(40.82), 5(40.35), 6(39.92), S½ NE¼, SE¼ (All)
Containing 505.85 acres, more or less.

Section 7: Lots 1(39.70), 2(39.68), 3(39.46), 4(39.10), E½ (All)
Containing 477.94 acres, more or less.

Section 18: Lots 1(38.87), 2(38.64), 3(38.4), 4(38.17), N½ NE¼, SW¼ NE¼, SE¼
Containing 434.08 acres, more or less.

Section 19: Lots 1(37.93), 2(37.66), 3(37.38), 4(37.11), E½ (All)
Containing 470.08 acres, more or less.

Township 9 South, Range 93 West, 6th P.M.
Section 8: W½
Containing 320.00 acres, more or less.

Section 17: N½
Containing 320.00 acres, more or less.

Section 18: E½
Containing 320.00 acres, more or less.

Section 21: S½
Containing 320.00 acres, more or less.

Section 22: S½ N½
Containing 160.00 acres, more or less.

Section 28: E½ Containing 320.00 acres, more or less.
W½ Containing 320.00 acres, more or less.

Section 29: E½ Containing 320.00 acres, more or less.
W½ Containing 320.00 acres, more or less.

Mesa County, Colorado
(hereinafter collectively the "Application Lands").

The Applicant is seeking to establish various drilling and spacing units for the production of gas and associated hydrocarbons from the Mesaverde Group, including the Williams Fork and Iles Formations as described above in the Application Lands, in part, to a) facilitate the formation of communitization agreements with the Bureau of Land Management, and b) provide equitable allocation of payment to mineral owners. The Applicant has drilled, tested and completed wells in the Williams Fork and Iles Formations of the Mesaverde Group adjacent to or nearby the Application Lands. Applicant believes the land described in the Application Lands has been established to be underlain by the Williams Fork and Iles Formations of the Mesaverde Group, common sources of supply productive of gas and associated hydrocarbons. The above-proposed drilling and spacing units will allow more efficient drainage of the Williams Fork and Iles Formations of the Mesaverde Group, will prevent waste, will not adversely affect correlative rights and will assure the greatest ultimate recovery of gas and associated hydrocarbon substances from the reservoirs.

Exhibit B-1 Proposed Spacing Units

Exhibit B-1 is a plat which depicts the Application Lands. The Applicant requests that for the portion of the Application Lands outlined in red the Oil and Gas Conservation Commission of the State of Colorado ("Commission") allow for the spacing as designated above in the Application Lands for the production of gas and associated hydrocarbons from the Mesaverde Group (including the Williams Fork and Iles Formations). Applicant is requesting these spacing units to accommodate the Bureau of Land Management for communitization of leases and also for dealing with irregular sections. Irregular Sections 6 and 7 of Township 9 South, Range 92 West each have one BLM lease covering the entire section so therefore the spacing unit is needed to ensure the proper setbacks previously approved by the Commission. Irregular Section 18 of Township 9 South, Range 92 West contains one BLM lease, two fee leases and a 40 acre tract in the SE¼ NE¼ operated by the United States Forestry Department which is unavailable for lease and therefore has been omitted from this application. Irregular Section 19 of Township 9 South, Range 92 West contains one BLM lease and one fee lease and as stated above the spacing unit needs to be established to accommodate the BLM communitization. The S½ N½ of Section 22, Township 9 South, Range 93 West contains two fee leases and is bordered on the north by the Buzzard Creek Federal Unit and on the south by the S½ of Section 22 which was previously established as a 320-acre drilling and spacing unit by Commission Order No. 369-3. Sections 28 and 29 of Township 9 South, Range 93 West each contain one BLM lease and one fee lease and should be

established as a 320-acre drilling and spacing unit at the Operator's option for "standup" or "laydown" orientation.

Exhibit B-2 Surface Ownership

Exhibit B-2 is a plat which depicts the Application Lands and reflects the surface ownership within the Application Lands.

Exhibit B-3 Mineral Ownership

Exhibit B-3 reflects the federal and private mineral ownership underlying the Application Lands.

Exhibit B-4 Leasehold Ownership

Exhibit B-4 depicts the leasehold ownership. Delta is the current operator and owns or has a contractual working interest in the Delta and EnCana leases within the Application Lands.

Exhibit B-4 Order Nos. 1-124, 369-4, 399-4

Exhibit B-4 also depicts the area in green wherein Commission Orders were entered that allowed the equivalent of one (1) well per 10 acres on such lands in green.

Exhibit B-4 Order Nos. 1-127, 369-5, 386-4, 399-5, 429-10

Exhibit B-4 also depicts the area in blue wherein Commission Orders were entered that allowed the equivalent of one (1) well per 10 acres on such lands in blue.

Exhibit C Topographic Map

Exhibit C is a plat which depicts the Application Lands and reflects the topography within the Application Lands.

Paul Joeckel
Land Manager
Delta Petroleum Corporation

ACKNOWLEDGMENT

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 16th day of March, 2009, by Paul Joeckel, Land Manager for Delta Petroleum Corporation.

Witness my hand and official seal.

My commission expires: 12-18-2010

CHERYL LAJEUNESSE
NOTARY PUBLIC
STATE OF COLORADO
My Commission Expires 12/18/2010

Cheryl Lajeunesse
Notary Public

Address: 370 17th St., Suite 4300
Denver, CO 80202

Jacinda Nettik
Geologic Testimony
Cause Nos. 369, 399, and 429, Docket No. 0903-SP-12
Delta Petroleum Corporation

IN THE MATTER OF THE PROMULGATION AND ESTABLISHMENT OF FIELD RULES TO GOVERN OPERATIONS IN THE BUZZARD CREEK, VEGA AND BRUSH CREEK FIELDS, MESA COUNTY, COLORADO

My name is Jacinda Nettik. I am a geologist with Delta Petroleum Corporation. I have been a geologist since 2001. I earned my Bachelor of Science degree from University of North Carolina at Wilmington. I am a geologist working the Piceance Basin with knowledge of the Wasatch, Mesaverde Group including Williams Fork & Iles (Rollins Sandstone, Cozzette Sandstone, Corcoran & Sego Sandstone) of the Application Lands. I have previously testified before the Colorado Oil and Gas Conservation Commission ("COGCC") as an expert in the field of Petroleum Geology in regards to reduced setbacks and increased density for the adjacent Vega Federal Unit and other lands. A copy of my resume is included in the Delta exhibit booklet.

Geologic Overview of the Mesaverde Group in the Piceance Basin
The Mesaverde Group in the Piceance Basin is a basin-center gas accumulation. The basin has regionally extensive gas accumulation in discontinuous fluvial sandstones with low porosity (< 13%) and low permeability (<0.1 md) interbedded with marine and nonmarine shales and coals. The sands are lenticular in profile. Individual sandstones range 0.5-29 feet thick and 40 to 2,791 feet wide with the average 9 feet thick and 526 feet wide. (Cole, R.D., Cumella S.P. 2005, Sandbody Architecture in the Lower Williams Fork Formation (Upper Cretaceous), Coal Canyon, Colorado with Comparison to the Piceance Basin Subsurface: The Mountain Geologist v.42, n.3, p.85).

Exhibit J1 Microseismic Summary
Exhibit J1 is a summary of the microseismic project Delta Petroleum ran near the Application Lands, which suggests the drainage ellipse for a wellbore is oriented east-west and not symmetrical making correct placement of bottom hole locations crucial for optimal drainage.

Exhibit J2 "An Overview of the Williams Fork Geological Model and Supporting Reservoir Engineering Data for 10-acre Density Development," by Williams Production RMT Company April 24, 2006
Exhibit J2 is Williams Production RMT Company's data supplied to the Colorado Oil and Gas Conservation Commission in reference to the request for an order to allow the equivalent of one well per 10 acres, with the permitted well to be located no closer than 100 feet from the unit boundary for certain lands in Townships 6 and 7 South, Ranges 94 and 95 West, 6th P.M. in Cause Nos. 139 & 440, Docket Number 0607-AW-11, dated April 24, 2006. Data included also supports optimal bottom hole placement for drainage, which can be accomplished through the establishment of drilling and spacing units.

Exhibit J3 Image Log & Borehole Breakout Data
Exhibit J3 is analysis from an image log and borehole breakout on NVega 21-431 located in Section 21, Township 9 South, Range 93 West, 6th P.M. This slide shows the drilling-induced fractures are oriented east-west at 272 deg – 92 deg. In addition, the

borehole breakout was analyzed as a check on drilling induced fractures and these values should be perpendicular to each other, which they are.

Exhibit J4 Drainage Ellipse Map
Exhibit J4 is a drainage ellipse map for the Application Lands. The red and blue ellipses represent the area believed to be drained by each well. The ellipses are oriented east-west based on image log data, borehole break, microseismic, and other operators in the Piceance Basin. Also displayed are Application Lands outlined in red and the Buzzard Creek Federal Unit in blue.

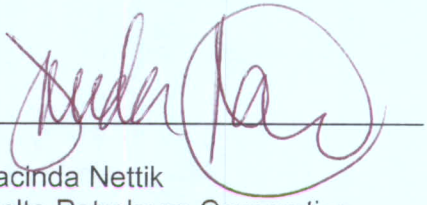
Exhibit J5 Delta's Geologic Summary
Delta exhibits suggest that microseismic data, image logs, borehole breakout analysis, and currently spaced acreage of Delta and other operators in the area support the establishment of drilling and spacing units for optimal bottom hole well placement on application lands.

Delta has collected microseismic data to help determine the correct bottom hole placement. Microseismic provides information on frac half lengths, which is valuable information for calculating drainage ellipses and determining bottom hole well locations. Delta's microseismic data provides an average half length of 1,050' with a range from 950' to 1,175'.

In addition, the frac azimuth was confirmed with microseismic data, image logs, and borehole breakout. These all suggest the frac azimuth is east-west and therefore the locations should be placed closer together north-south than east-west to minimize drainage interference. A typical drainage ellipse in the Piceance Basin has a ratio of 1:6.

Williams Production RMT Company provided the COGCC "An Overview of the Williams Fork Geological Model and Supporting Reservoir Engineering Data for 10 acre Density Development." This document which is included in Delta's exhibits further supports established drilling and spacing units are necessary for optimal bottom hole well placements because orientation is critical for avoiding drainage interference. Delta's application lands are similar to Williams and since the Williams data supported spacing units being established, it therefore supports Delta's request for spacing units.

In summary, to adequately drain the application lands, drilling and spacing units should be established for optimal bottom hole well placement. Spacing units are necessary due to various lease lines that would otherwise not allow for optimal well placement. The strong east-west drainage ellipse is supported by microseismic, image logs, and borehole breakout. Some of Delta's leasehold has already been established for drilling and spacing units, which has successfully allowed for optimal bottom hole well placement.



Jacinda Nettik
Delta Petroleum Corporation
Geologist

ACKNOWLEDGMENT

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 16th day of March, 2009, by Jacinda Nettik.

Witness my hand and official seal.

My commission expires: 12·18·2010

CHERYL LAJEUNESSE
NOTARY PUBLIC
STATE OF COLORADO
My Commission Expires 12/18/2010

Cheryl Lajeunesse
Notary Public

Address: 370 17th St. Suite 4300
Denver, CO 80202

Charles Williams
Engineering Testimony
Cause Nos. 369, 399, and 429, Docket No. 0903-SP-12
Delta Petroleum Corporation

IN THE MATTER OF THE PROMULGATION AND ESTABLISHMENT OF FIELD RULES TO GOVERN OPERATIONS IN THE BUZZARD CREEK, VEGA AND BRUSH CREEK FIELDS, MESA COUNTY, COLORADO

My name is Charles Williams. I am the Piceance Basin Reservoir Engineering Manager with Delta Petroleum Corporation. I have been a petroleum engineer since 1980. I earned two Bachelor of Science Engineering degrees from New Mexico State University. I am the reservoir engineer working the Piceance Basin with engineering, economic, and geologic knowledge concerning the application lands. I have previously testified before the COGCC as an expert in the field of Petroleum Engineering in regards to reduced setbacks and increased density for the adjacent Delta operated Vega Federal Unit. A brief copy of my resume is included in the Delta exhibit booklet.

Operators throughout the Piceance Basin have applied for and received well density reductions to 10-acre density. Drilling and completing wells on 10-acre density conforms with industry precedence and standards currently in place for well density in the Piceance Basin, reference **Exhibit J2 "An Overview of the Williams Fork Geological Model and Supporting Reservoir Engineering Data for 10-acre Density Development," by Williams Production RMT Company April 24, 2006.**

Delta has previously received 10-acre well density approval from the COGCC in Cause Nos. 1, 369, 386, 399, and 429 in September, 2008 on all acreage it operates in Mesa County. Delta has also received orders establishing certain 320-acre drilling and spacing units for some of its acreage.

Delta will further enhance its operations in this area if drilling and spacing units are established. Approval of this application will facilitate Delta in providing equitable allocation of payment to the included mineral owners, both Federal and private. Spacing Units allows the operator to minimize surface disturbance and surface facilities by utilizing an equitable allocation of payment to all mineral owners. This will in turn allow Delta to adequately and economically produce the gas reserves from its operations in this area.

Exhibit H1 is a 10-acre Type Well plot.

Exhibit H2 is five (5) producing wells from Delta's adjacent operated acreage.

Exhibit I is a summary of a 10-acre Vega type well and the resulting economics.

Charles H. Williams
Delta Petroleum Corporation
Reservoir Engineering Manager
Piceance Basin

ACKNOWLEDGMENT

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 16th day of March, 2009, by Charles Williams.

Witness my hand and official seal.

My commission expires: 12-18-2010

CHERYL LAJEUNESSE
NOTARY PUBLIC
STATE OF COLORADO
My Commission Expires 12/18/2010

Cheryl Lajeunesse
Notary Public

Address: 370 17th St., Suite 4300
Denver, CO 80202

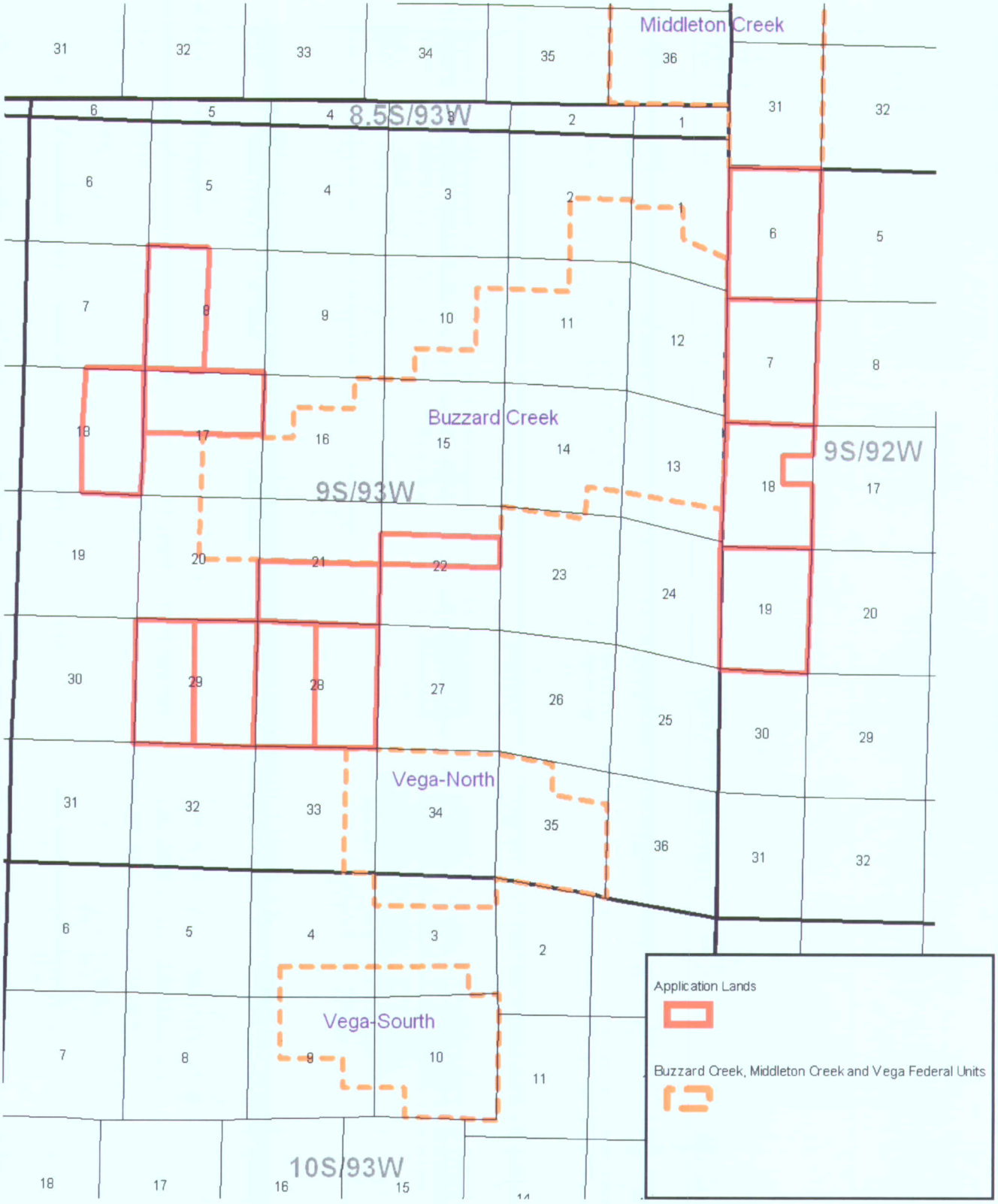


Exhibit Number: B1 Applicant: Delta Petroleum Corporation Exhibit Author: P. Joeckel	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Application Lands and Federal Units County Name: Mesa

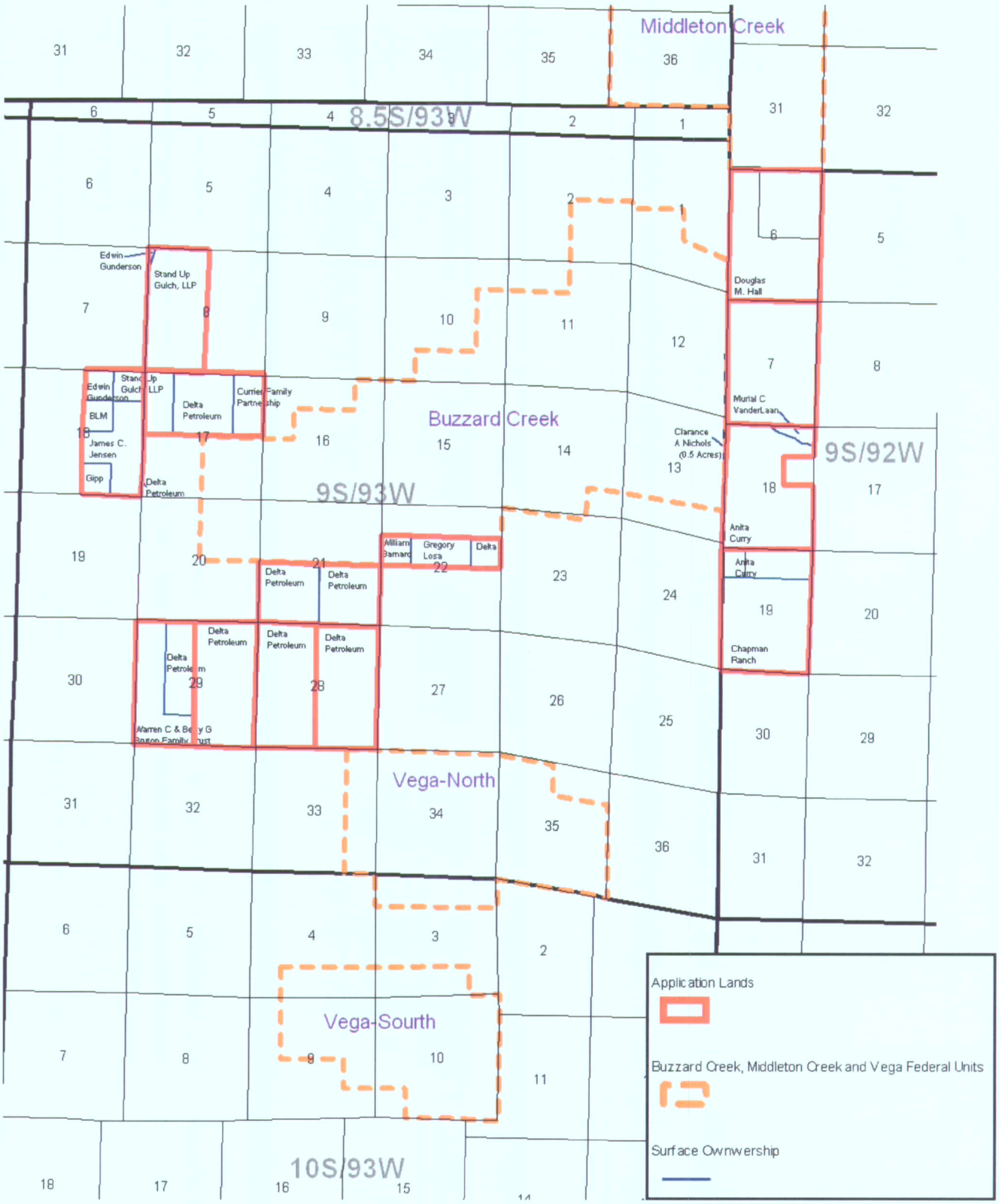


Exhibit Number: B2 Applicant: Delta Petroleum Corporation Exhibit Author: P. Joeckel	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Surface Ownership County Name: Mesa

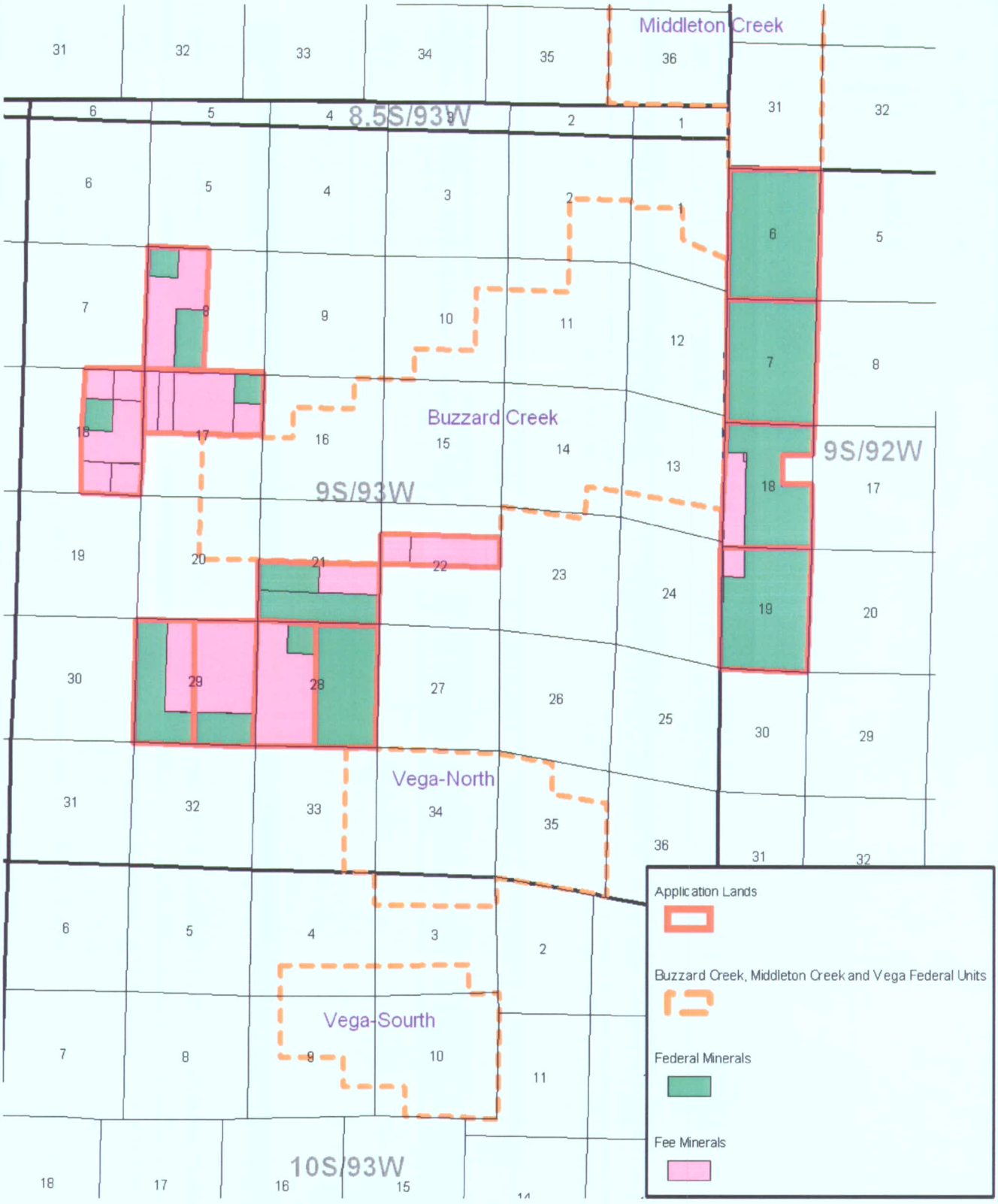


Exhibit Number: B3 Applicant: Delta Petroleum Corporation Exhibit Author: P. Joeckel	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Mineral Ownership County Name: Mesa

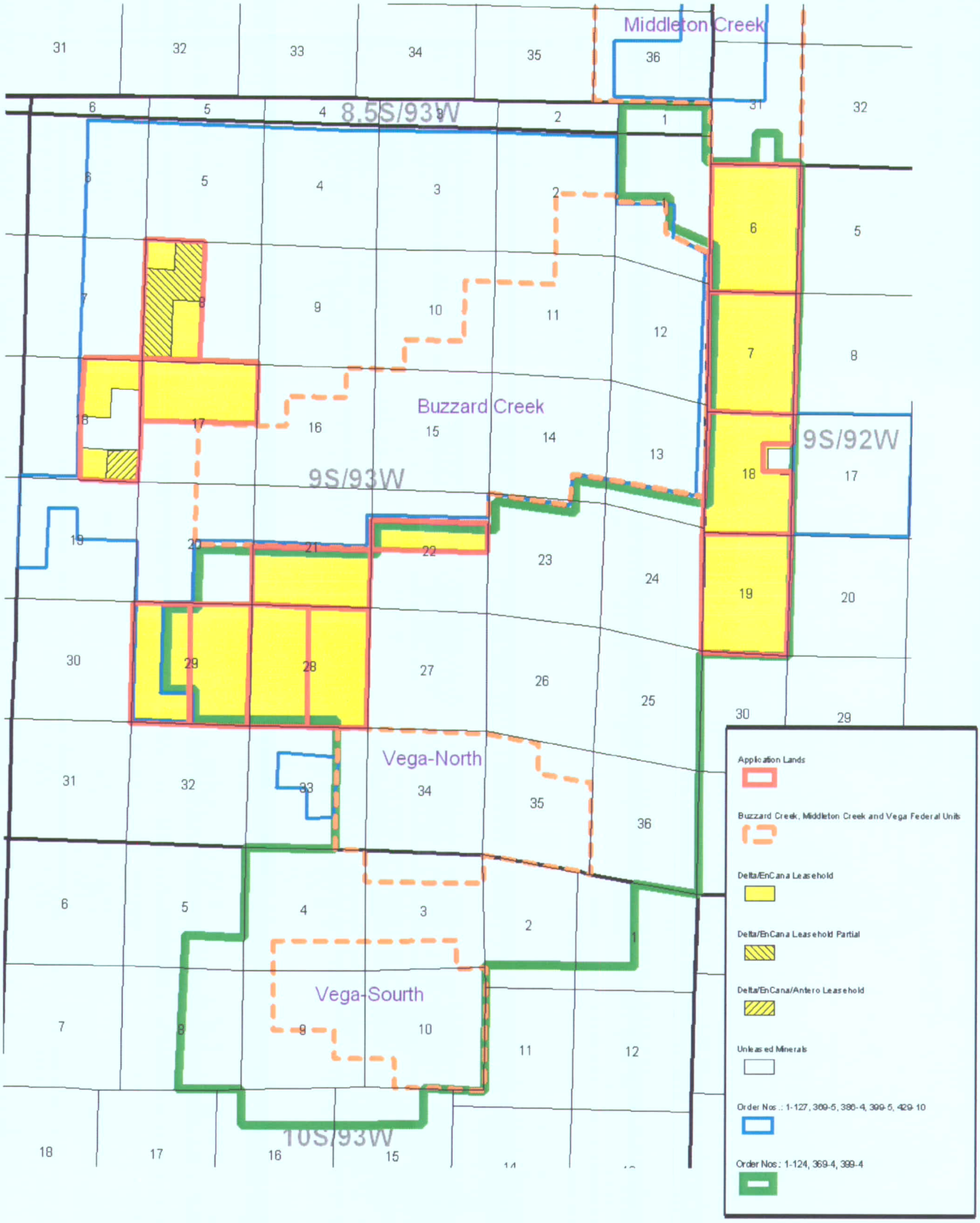


Exhibit Number: B4 Applicant: Delta Petroleum Corporation Exhibit Author: P. Joeckel	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Leasehold and Previous COGCC Orders County Name: Mesa

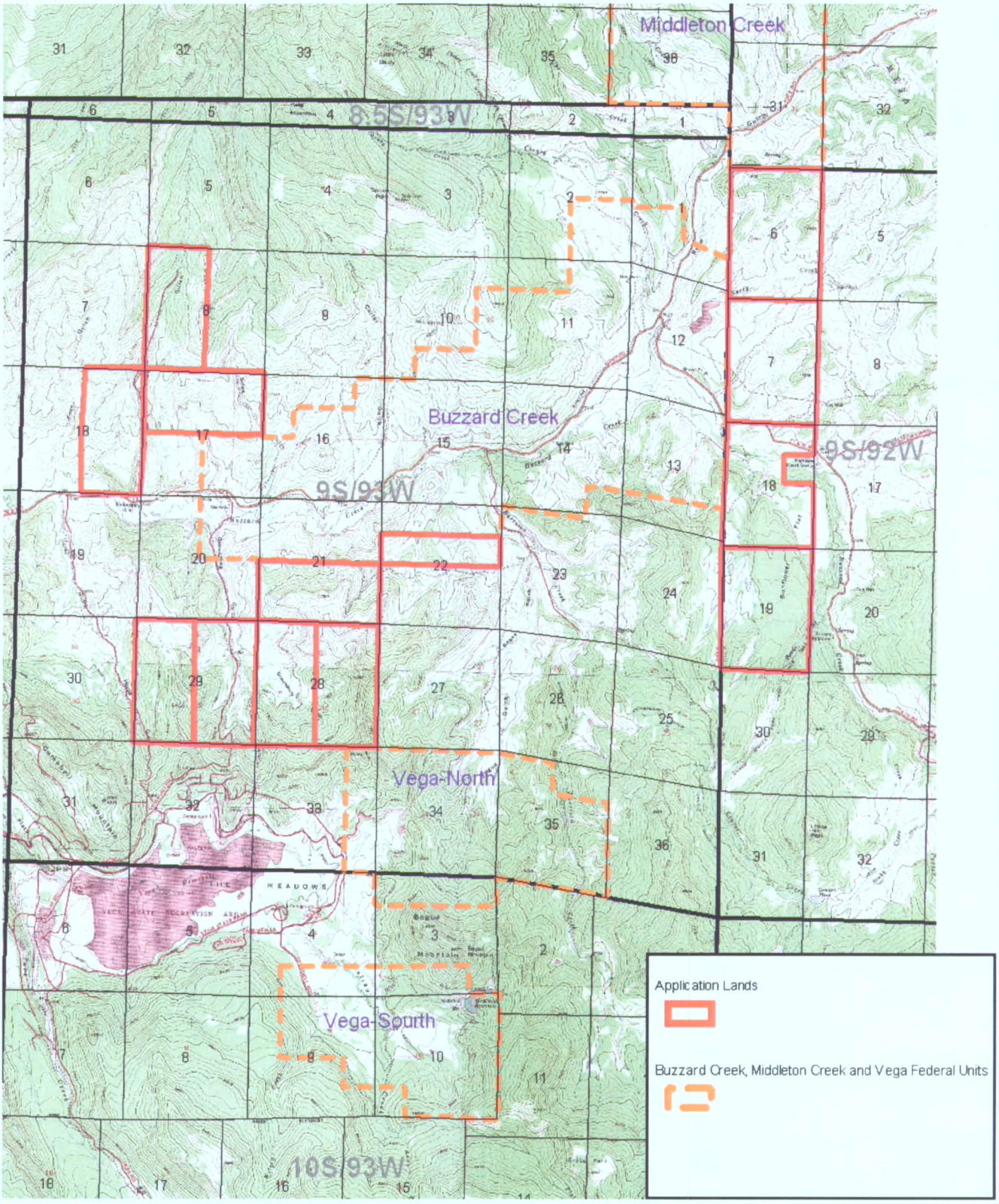


Exhibit Number: C Applicant: Delta Petroleum Corporation Exhibit Author: P. Joeckel	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Topographic Map County Name: Mesa

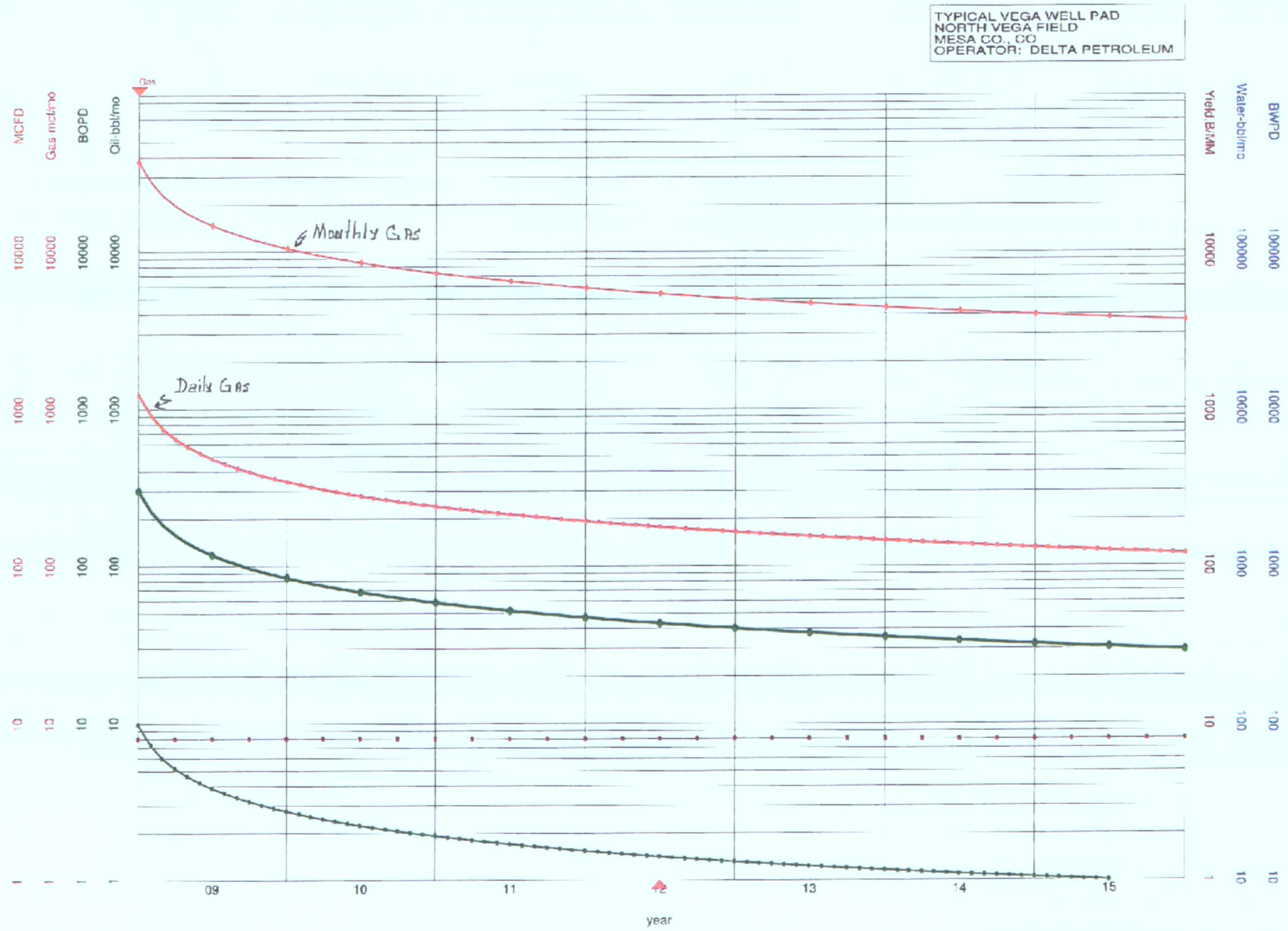


Exhibit Number: H1 Applicant: Delta Petroleum Corporation Exhibit Author: C. Williams	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Type Well Production Plot County Name: Mesa

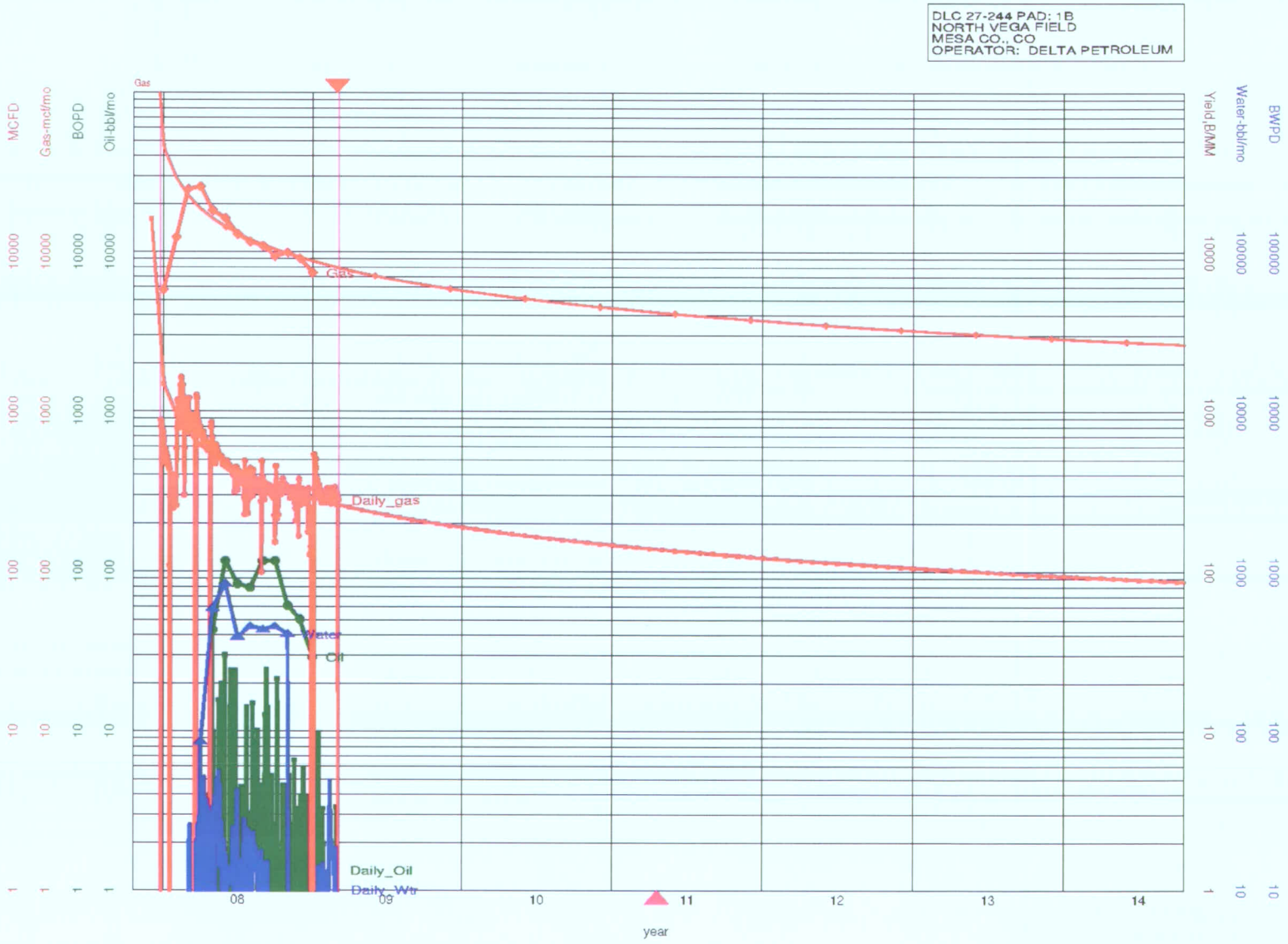
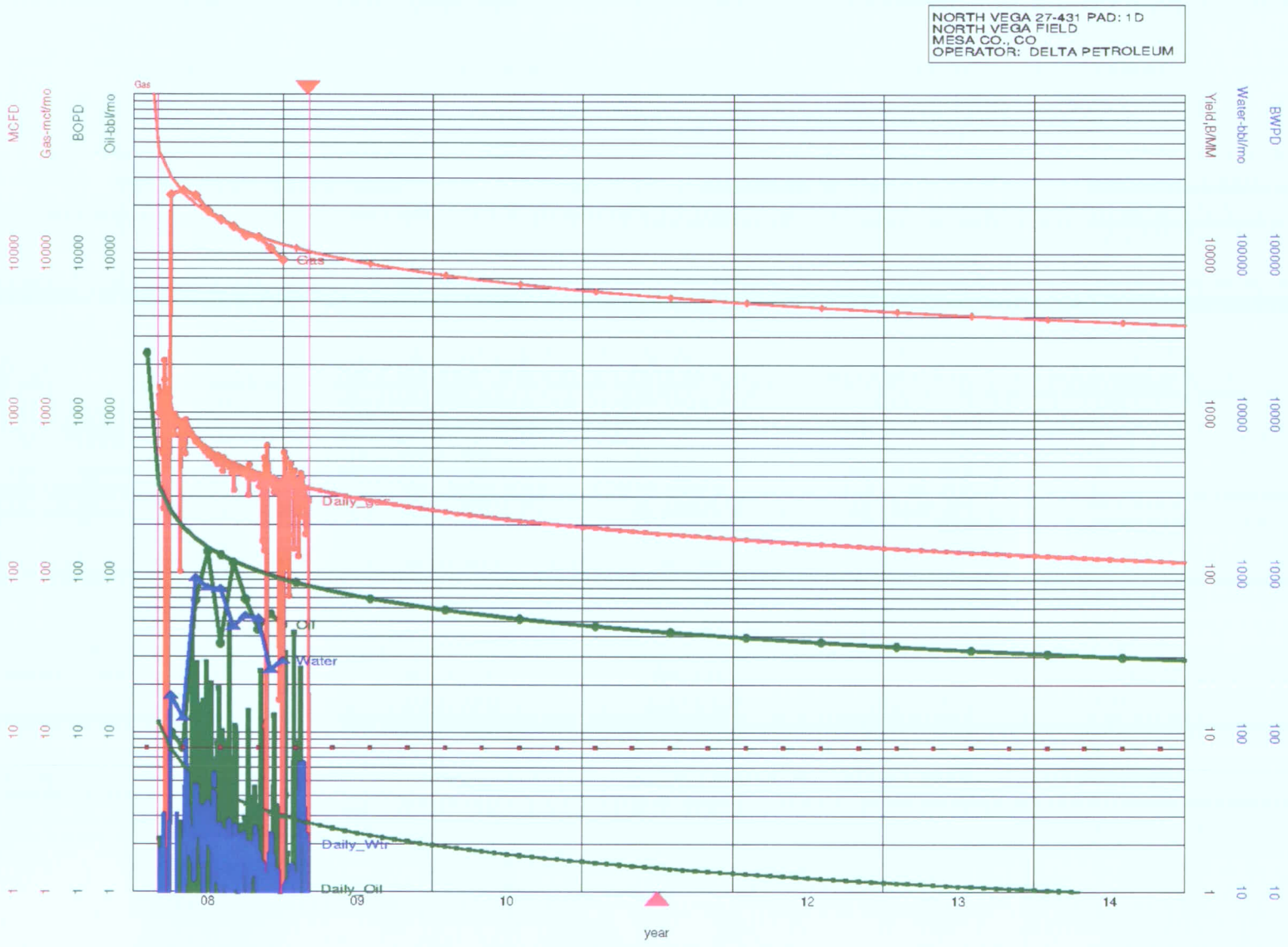


Exhibit Number: H2 Applicant: Delta Petroleum Corporation Exhibit Author: C. Williams	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Decline Curve for Adjacent Well County Name: Mesa



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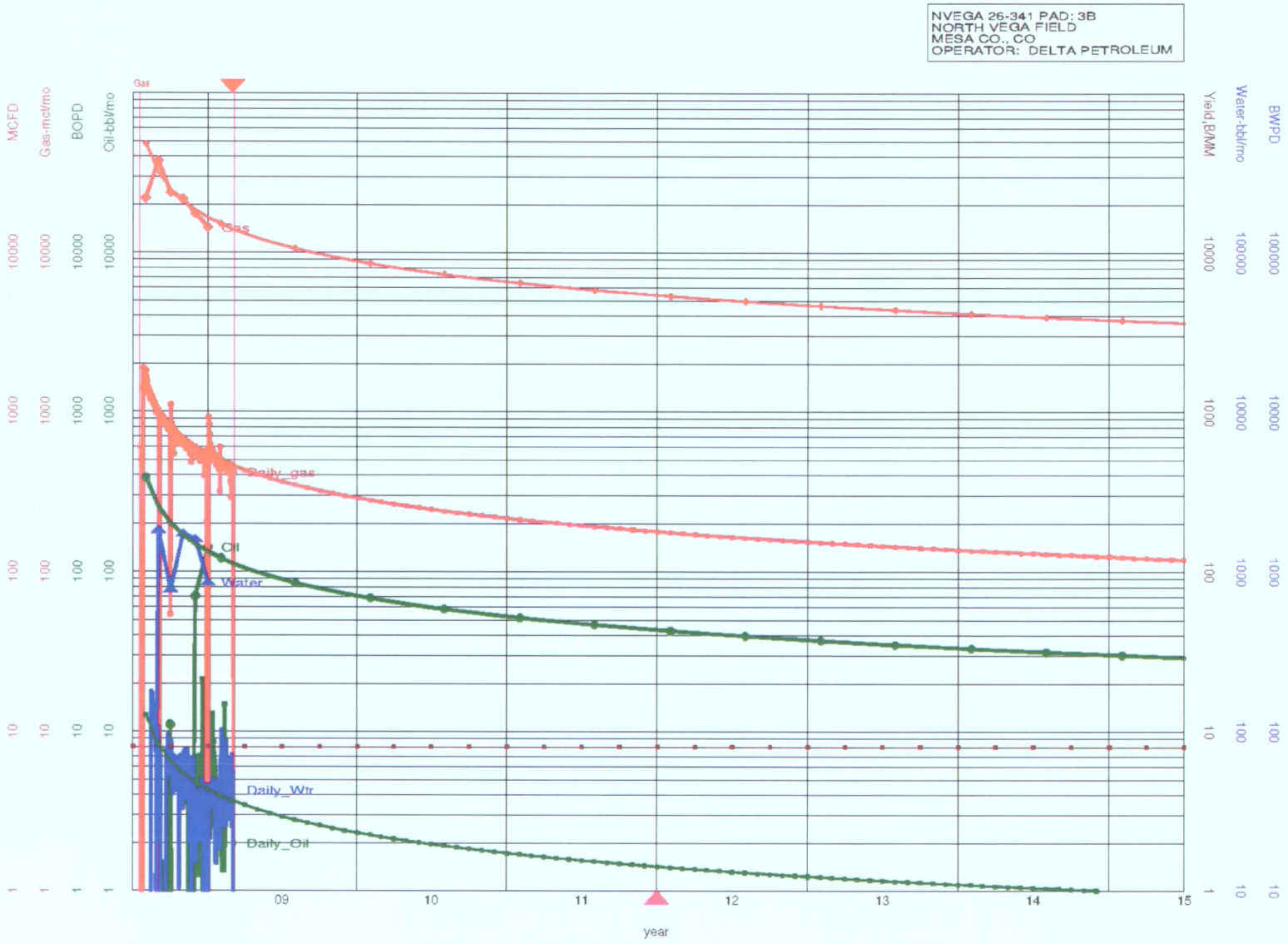

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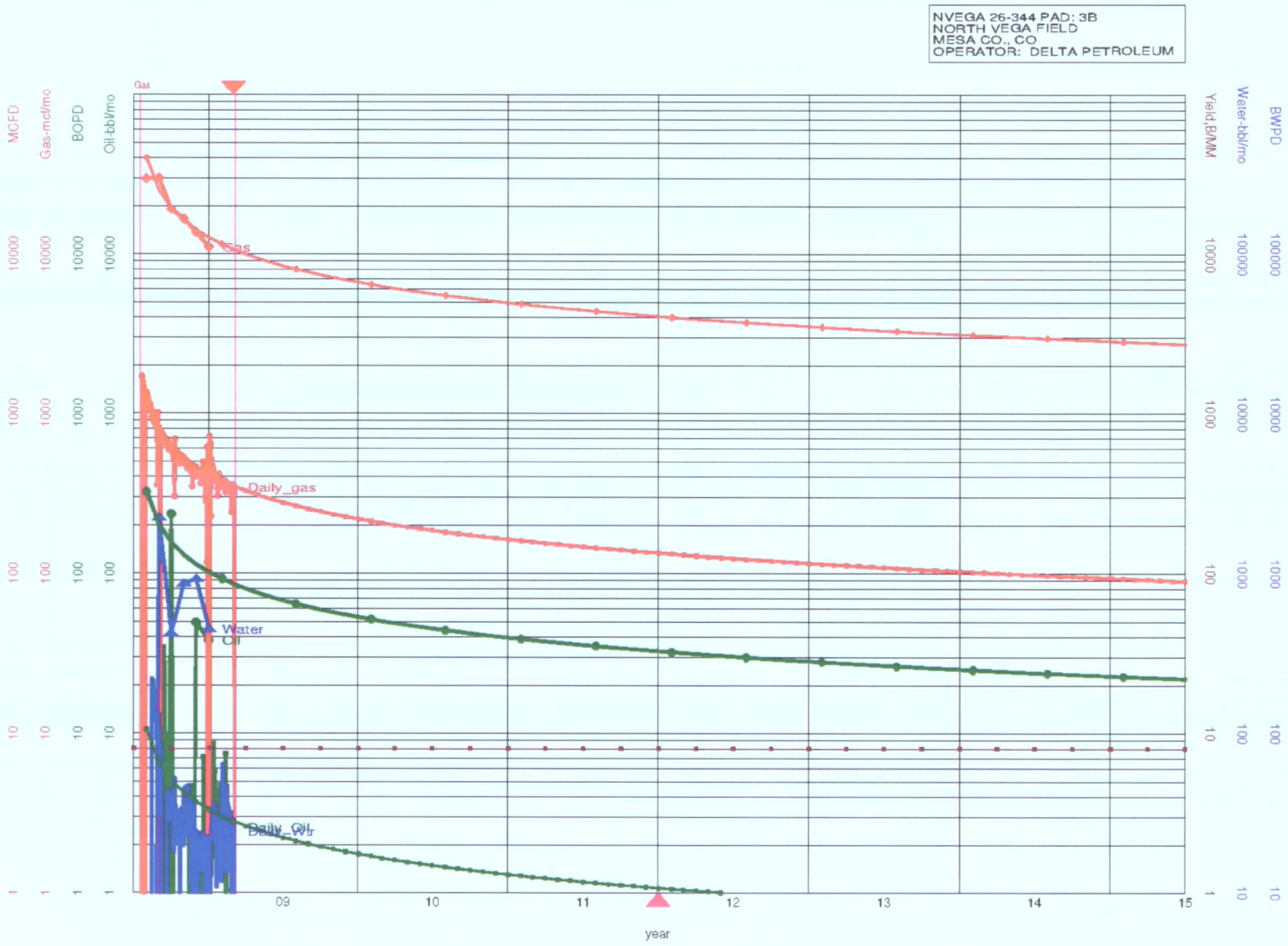

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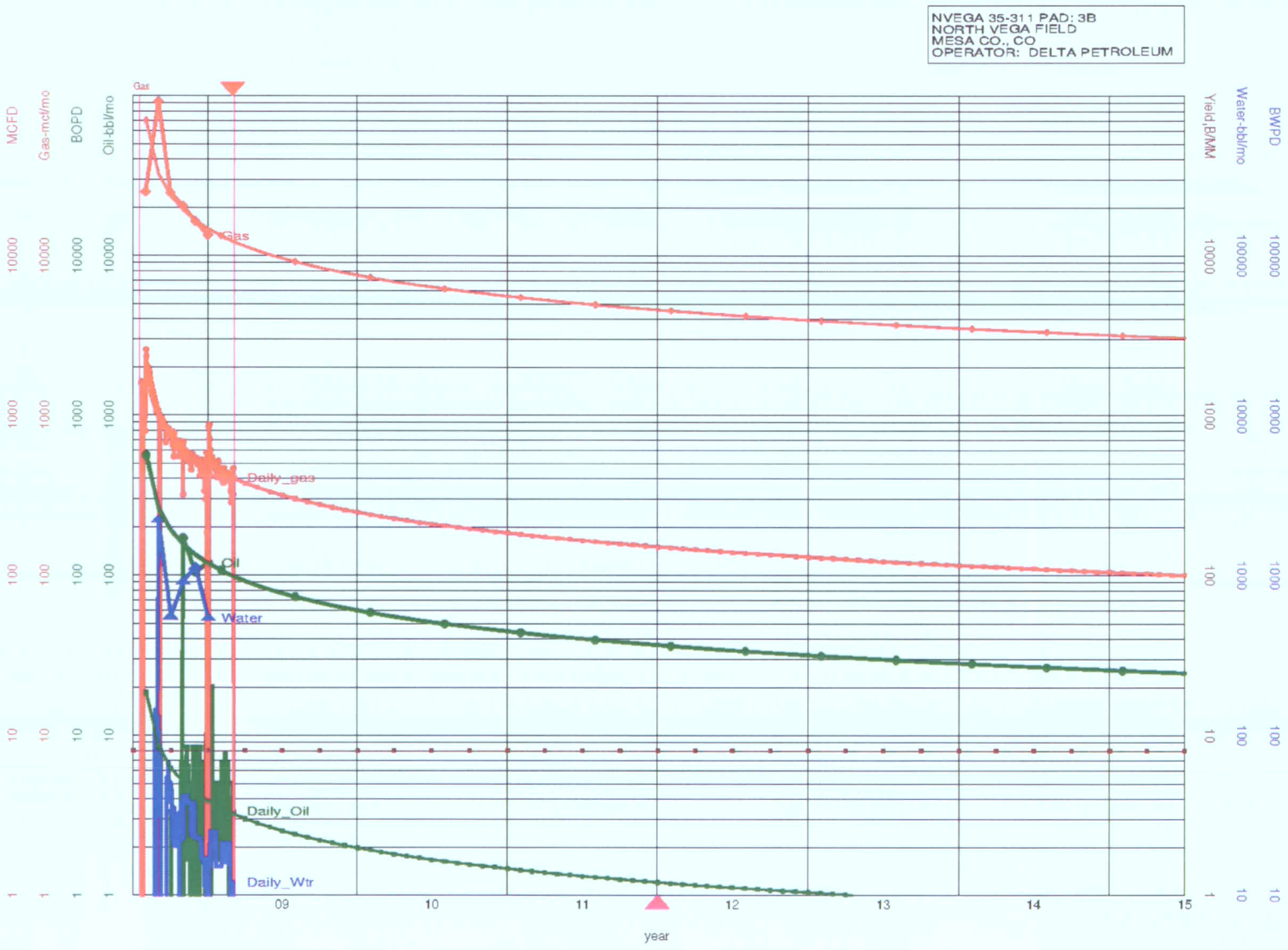


Exhibit Number: H2 Applicant: Delta Petroleum Corporation Exhibit Author: C. Williams	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Decline Curve for Adjacent Well County Name: Mesa

DELTA PETROLEUM CORPORATION

TYPE WELL
ECONOMIC SUMMARY

INPUT PARAMETERS

Well Cost -- $1.925mm

Working Interest -- 100%

Net Revenue Interest -- 84.25%

IP -- 1,233 mcfd

Gross EUR -- 1.2 Bcf

Wellhead Gas Price -- $5.00/mcf flat

Operating Costs -- $0.48/mcf

TYPE CURVE PARAMETERS

IP -- 1,233 mcfd

Hyperbolic B factor -- 1.75

Initial Decline -- 72%

Final Decline -- 6 %

Gross EUR -- 1.2 Bcf

RESULTS

ROR -- 14.61%

PV9 -- $355,000

Payout(undiscounted) -- 5.8 years

Exhibit Number: I Applicant: Delta Petroleum Corporation Exhibit Author: C. Williams	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Reserve/Economic Calculations County Name: Mesa

Vega Drainage Pattern & Bottom hole locations

Vega's technical team had Halliburton run an image log (XRMI) on Pad 1, Vega Unit 4-341 and Pinnacle run microseismic on Pad 14 observing wells Vega Unit 34-331ST and Vega Unit 34-431 with Vega Unit 34-324 as the monitoring well. The purpose for geology was determining the azimuth of the fractures and frac half lengths to get a better handle on drainage patterns for placing bottom hole locations (bhl) optimally. Delta's completion team had additional goals for running microseismic. Complications were experienced while running microseismic and data was only collected from 3 of 8 frac stages. Microseismic showed the fracs from the 34-331 and the 34-431 growing together.

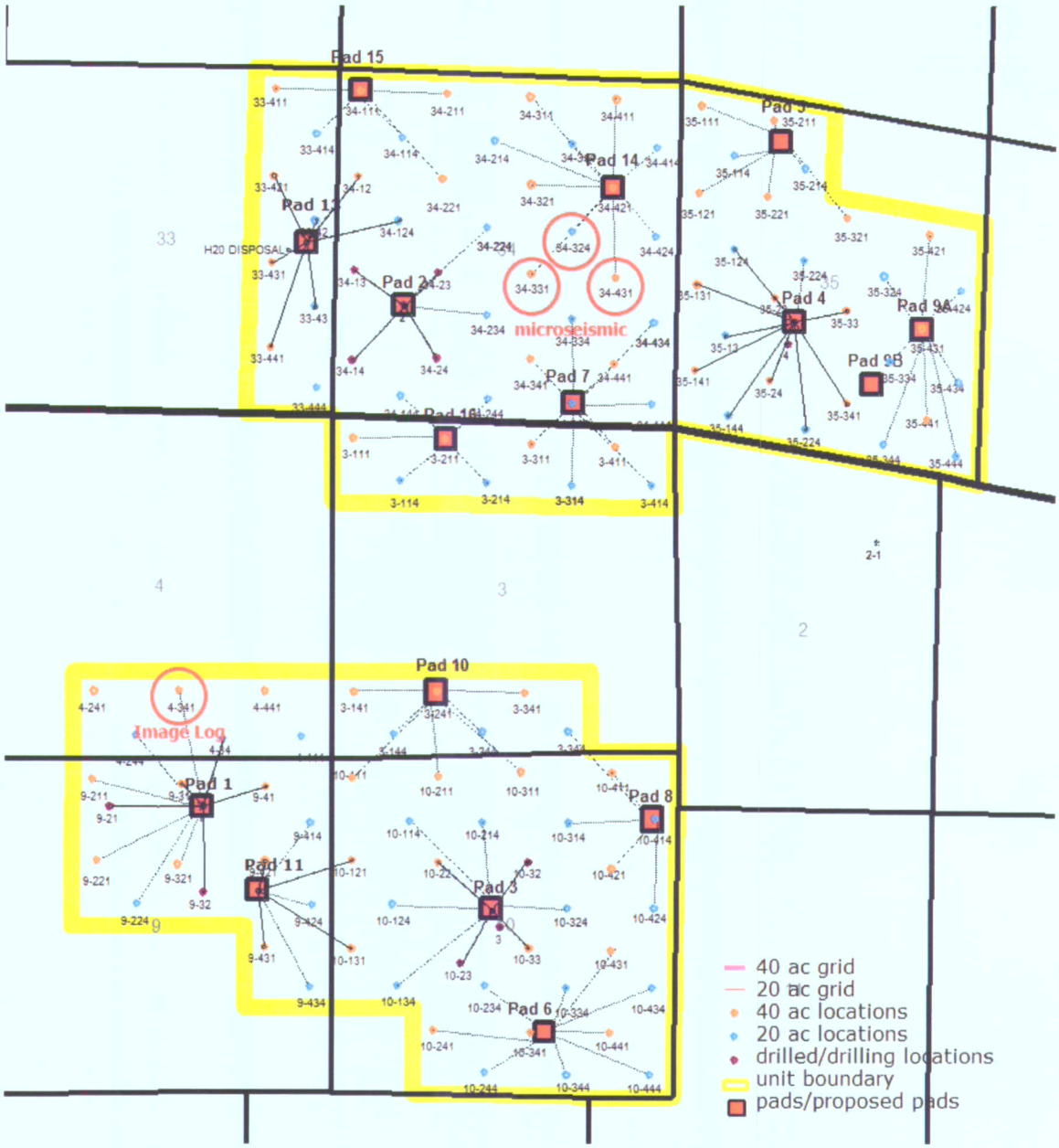


Exhibit Number: J1 Applicant: Delta Petroleum Corporation Exhibit Author: J. Nettik	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Microseismic Summary County Name: Mesa

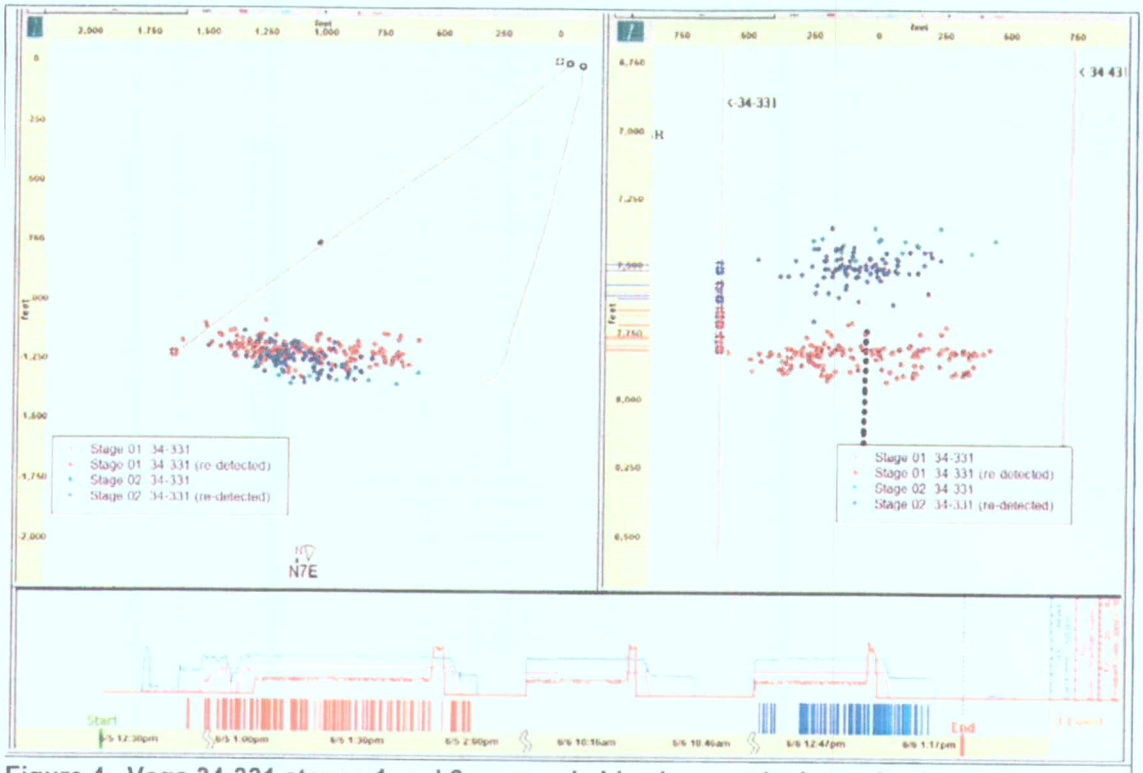


Figure 4. Vega 34-331 stages 1 and 2 map and side views and microseismic event log

Image shows fracs from two wells growing together because of frac azimuth.

Azimuth

The image below shows the azimuths of fractures as indicated with the image log and microseismic. The image log azimuth of induced fracture is N85E (85 degrees), the microseismic average from the first stage, (best microseismic recording) gave an azimuth of N85W (95 deg.) with a range from N83W to N89W (97-91 deg). The two averages (85 & 95 deg.) give a 10 degree range with the average at 90 deg. This indicates the Vega bhl are not located optimally with most at 90 degrees from each other. The 90 degree azimuth of bottom hole locations in Vega varies slightly in sections that are not oriented true north-south, east-west.

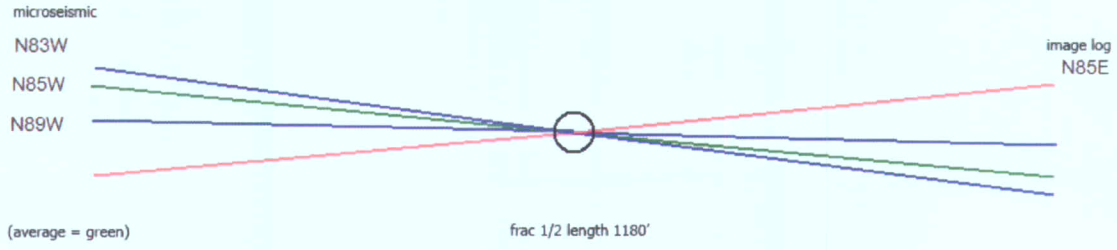


Exhibit Number: J1 Applicant: Delta Petroleum Corporation Exhibit Author: J. Nettik	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Microseismic Summary County Name: Mesa

Frac Half Length

Microseismic frac half lengths range from 950'-1,175' (average 1050').

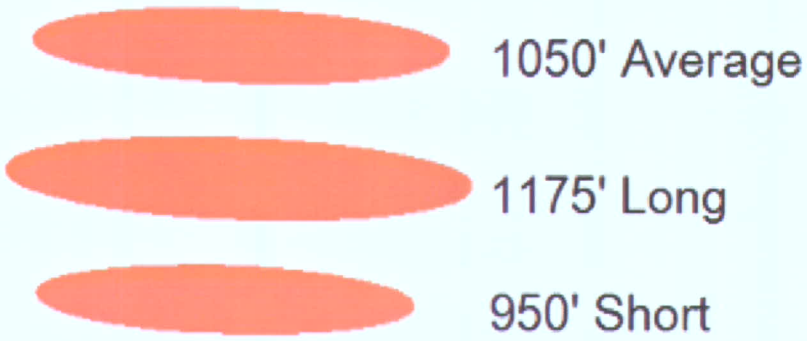
Drainage Ellipse

In the Piceance Basin a ratio of 1:6 is used to calculate drainage ellipses. Based on this ratio you'd expect the wells in the Piceance to have a drainage areas of 11-17 acres based on frac half legth with the average draining 13.2 acres.

Average Frac Half Length 1050'
(2 x 1050') x 350' = 13.2 acres

Long Frac Half Length 1175'
(2 x 1175') x 392' = 16.6 acres

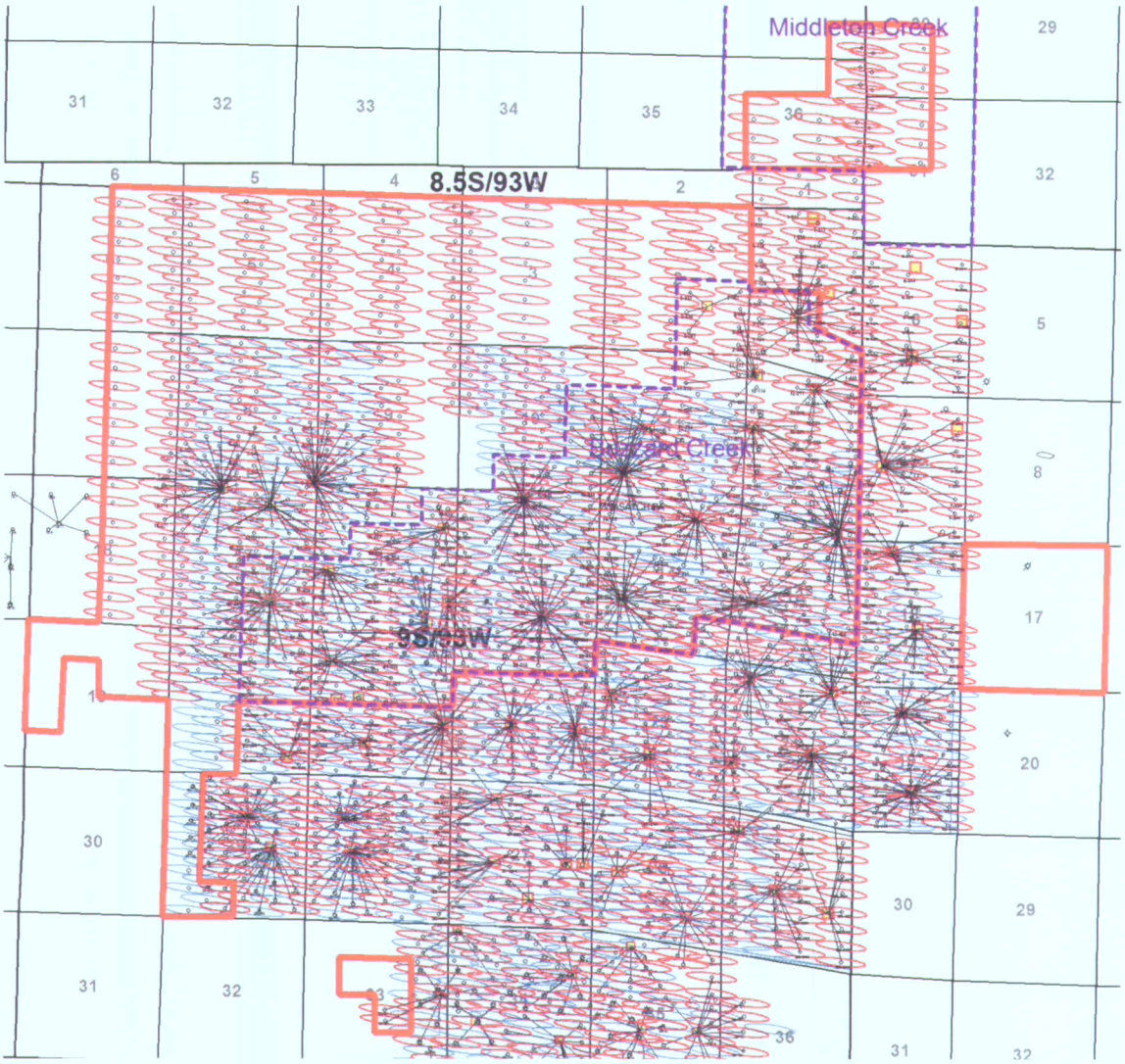
Short Frac Half Length 950'
(2 x 950') x 317' = 10.9 acres



The image below shows drainage ellipses based on fracture half lengths of 1050' (average frac half lengths determined from the microseismic). This image demonstrates that gas reserves are left in the ground when the average drainage ellipse is used. Based on the frac lengths observed in Delta's microseimic program even the maxium frac half lengths of 1,175' leave gas reserves in the ground by only draining 16.6 acres.

Exhibit Number: J1 Applicant: Delta Petroleum Corporation Exhibit Author: J. Nettik	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Microseismic Summary County Name: Mesa

Drainage Ellipse Map



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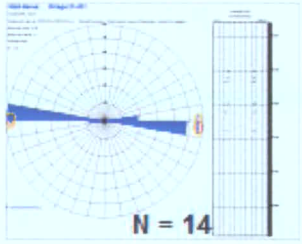
Summary

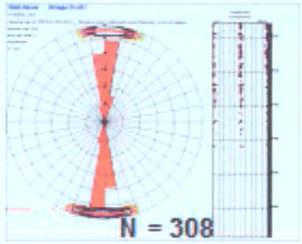
Fronterra Geosciences

Drilling-induced Centerline/Tensile



$s_{H\,max}$ = 272°- 092°

Breakouts Method One

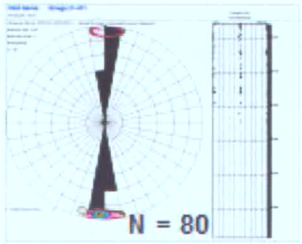


$s_{h\,min}$ = 182°- 002°

Predicted

$s_{H\,max}$ = 272°- 092°

Breakouts Method Two



$s_{h\,min}$ = 181°- 001°

Predicted

$s_{H\,max}$ = 271°- 091°

Measurements of present-day stress features indicate a maximum horizontal present-day stress azimuth of 272° - 092° (W-E). Drilling-induced centerline/tensile fractures and borehole breakouts measurements are in excellent agreement with each other.

Drilling-induced centerline/tensile fractures are the preferred feature to accurately determine maximum horizontal present-day stress. These features appear more discrete on the formation image and are easier to measure with a higher confidence.

Two methods were used to measure borehole breakouts. Method one measured every set of breakouts seen on the resistivity image. Where gaps in the imaging tool obscures borehole breakouts, the size and shape of the breakout is inferred. Method two measured only those sets of breakouts that are entirely visible on the formation image.

A 1° discrepancy between method one and method two of measuring borehole breakouts is minor and attributed to the lower population of the method two borehole breakouts.

Exhibit Number: J3 Applicant: Delta Petroleum Corporation Exhibit Author: J. Nettik	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Image Log and Borehole Breakout County Name: Mesa

Exhibit Number: J4 Applicant: Delta Petroleum Corporation Exhibit Author: J. Nettik	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Drainage Ellipse Map County Name: Mesa

Delta's Geologic Summary

Delta exhibits suggest microseismic data, image logs, borehole breakout analysis, currently spaced Delta acreage, and other Operators in the area support established drilling and spacing units for optimal bottom hole placement on application lands.

Delta has collected microseismic data to help determine the correct bottom hole placement. Microseismic provides information on frac half lengths, which is valuable information for calculating drainage ellipses and determining bottom hole locations. Delta's microseismic data provides an average half length of 1,050' with a range from 950' to 1,175'.

In addition, the frac azimuth was confirmed with microseismic data, image logs, and borehole breakout. These all suggest the frac azimuth is east-west and therefore the locations should be placed closer together north-south than east-west to minimize drainage interference. A typical drainage ellipse in the Piceance has a ration of 1:6.

Williams Production RMT Company provided the COGCC "An Overview of the Williams Fork Geological Model and Supporting Reservoir Engineering Data for 10 acre Density Development," this document which is included in Delta's exhibits further supports established drilling and spacing units are necessary for optimal bottom hole placements because orientation is critical for avoiding drainage interference. Delta's application lands are similar to Williams and suggests since Williams data supports spacing and it therefore supports Delta's spacing application.

In summary to adequately drain the application lands established drilling and spacing units are necessary for optimal bottom hole placement. Spacing is necessary due to various lease lines that would otherwise not allow for optimal placement. The strong east-west drainage ellipse is supported by microseismic, image logs, borehole breakout. Currently some of Delta's leasehold is already spaced, which has successfully allowed for optimal bottom hole placement.

Exhibit Number: J5 Applicant: Delta Petroleum Corporation Exhibit Author: J. Nettik	Cause No. 369, 399 and 429 Docket No. 0903-SP-12 Type of Exhibit: Geologic Summary County Name: Mesa

Paul M. Joeckel

Land Manager
Delta Petroleum Corporation
370 17th Street Suite 4300
Denver, CO 80202
303.820.4046
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Land Manager responsible for the Piceance Basin. Management duties include overseeing all lease acquisitions, Surface Use Agreements and Right-Of-Way Agreements necessary for the drilling of oil and gas wells by the corporation and by out side consigns. After acquiring the oil and gas leases cause and approve the necessary title information and title curative data to protect the corporation in its acquisition of properties and drilling efforts. Duties also include the supervision and processing of all Authority for Expenditures and other lease and real property maintenance issues, including the company's compliance with all COGCC rules and regulations related to working interest in which the corporation participates.

In 1976 received a B. A. degree in Economics from Colorado State University. During 1976 and until 1977 was self-employed as an independent landman working primarily in the DJ Basin in Colorado. From June 1977 until January 1980 Mr. Joeckel was employed by Diamond Shamrock Corporation as a senior landman. From January 1980 through January 2007, co-organized and managed the start-up company, Eagle Exploration Company. Acquired approximately 1 million acres of federal and state oil and gas leases located throughout the Rocky Mountain Region. Responsibilities included hiring geologists and engineer for the purpose of generating drilling prospects and identifying producing properties. Acquired leases on the prospects and caused the exploration wells to be drilled. Acquired several producing properties. Hired and managed land administrative people to set up lease records system for the company's leases and producing properties. Negotiated and prepared a variety of agreements providing support for wells drilled on or offsetting the company's acreage by third parties. Ordered drilling title opinions and cured necessary title defects on all wells drilled and operated by the company.

Charles H. Williams

Reservoir Engineering Manager
Piceance Basin
Delta Petroleum Corporation
370 17th Street Suite 4300
Denver, CO 80202
303.575.0385
cwilliams@deltapetro.com

Current:

Reservoir Engineering Manager responsible for Delta's Piceance Basin assets, both operated and non-operated. Duties also include engineering for all of Delta's Non-Operated Working Interest properties.

Twenty-eight(plus) years of varied work experience as a Petroleum Engineer.
Began work in the Oil and Gas Industry in 1980 as a field engineer with Texaco Inc., working in Hobbs, New Mexico in the Permian Basin. Held various engineering positions of increasing responsibility for fourteen years with Texaco.
Since leaving Texaco have consulted and worked for numerous Independent Oil and Gas companies in the Denver area. Worked fields in the Gulf Coast, Mid-Continent, and Rockies. Worked the San Juan Basin area for six years.

Graduated from New Mexico State University in 1980 with:

Bachelor of Science, Civil Engineering &
Bachelor of Science, Geological Engineering

Jacinda Nettik, Geologist

2244 Franklin St, Denver, CO 80205, 303-868-2160, jacinda@nettik.com

Education:

August 2001, **Bachelor of Science in Geology,** University of North Carolina at Wilmington, Wilmington, NC

Work Experience:

2/04-Present

Geologist, Delta Petroleum Corporation, Denver, CO

Geology experience working the Piceance Basin, DJ Basin, Wind River Basin, Paradox Basin and Austin Chalk trend. Currently lead geologist for the Piceance Basin Business Unit. Responsibilities include supervising geological operations during drilling of wells. Assessing potential on existing leaseholds and creating a comprehensive development plan, which includes placement of bottom holes, completions intervals, additional productive zones. Proposing prospects and developing an inventory of prospects and locations. Assisting reservoir, production and completion staff with development & completion strategies. Providing drilling locations with supporting documentation to drilling, regulatory and land personnel. Providing geological support in property evaluations, which have included shale resource plays, Bakken, Piceance, DJ Basin, Greater Green River Basin, Paradox Basin among other areas. Geosteering horizontal Austin Chalk wells through GR interpretation and seismic interpretations in Austin Chalk trend. Testifying for COGCC in hearings for decreased setback, increased well density & spacing. Geologic presenter at web telecast Analyst Conference, Piceance Basin Dataroom and Investor presentations. Software experience Geographix, Petra, PI Dwights/IHS Energy, Global Mapper among others.

10/01-2/04

Petroleum Business Development Manager, RockWare, Inc., Golden, CO

Responsibilities included petroleum sales, technical support & technical writing for geological software. Teaching courses for industry professionals in RockWorks & LogPlot which included, cross-sections, solid modeling, statistical analysis, digitizing & data import. Attending professional conferences for demonstrations & discussion of geological software.

Research Experience:

Summer 2000

Student Geologist, National Science Foundation funded Research Experience for Undergraduates, Western Carolina University & University of South Florida at Tampa

Selected as one of 12 participants to conduct geologic field mapping of the Carroll Knob complex in western North Carolina, involved basic field mapping, digital mapping using ArcView, collection of geophysical data using seismography, resistivity, Electromagnetics-34, Ground Penetrating Radar, magnetometery. Geochemical analysis (major and trace elements) using Direct Current Emission Spectrometer.

Publications and Professional Presentations:

- Grosser, B., Nettik, J., Sha, G., Tweedy, K., O'Shaughnessy, B., Huntsman, J. (2001), An Inventory of Joints in the Roanoke Rapids Tailrace, Northeastern, North Carolina. Geological Society of America Abstracts with Program, v. 33, n. 2, p. A-66.
- Meyer, J., Nettik, J., Pollock, M., Sullivan, W., Bierly, L., Tibbits, M., Gerseny, M., DeArmond, B., Dean, R., Natoli, J., Csontos, R., Lesmerises, M., Ryan, J. Yorkovich, S., Savov, I., Peterson, V., Burr, J., Kruse S. (March 2001), Geochemistry and Petrogenesis of the Carroll Knob Mafic/Ultramafic Complex, Macon County, North Carolina. Geological Society of America Abstracts with Program, v. 33, n. 2, p. A-69.

- Bierly L., Sullivan, W., Tibbits, M., Natoli, J., Csontos R., Meyer, J., Nettik, J., Dean, R., DeArmond, B., Gerseny, M., Lesmerises, M., Pollock, M., Yurkovich, S., Savov, I., Peterson, V., Burr, J., Kruse, S., Schneider, J., Ryan J. (2001), Petrographic and Field Relations of a Portion of the Carroll Knob Mafic/Ultramafic Complex, Eastern, Blue Ridge, Macon Co., NC. Geological Society of America Abstracts with Program, v. 33, n. 2, p. A-69.
- Dean, R., DeArmond, B., Gerseny, M., Pollock, M., Csontos, R., Lesmerises, M., Natoli, J., Meyer, J., Bierly, L., Nettik, J., Sullivan, W., Tibbits, M., Schneider, J., Kruse, S., Peterson, V., Yurkovich, S., Burr, J., Ryan, J. (2001), Geophysical Transects Across the Margins of the Carroll Knob Mafic/Ultramafic Complex, Macon County, North Carolina. Geological Society of America Abstracts with Program, v. 33, n. 2, p. A-67.

Awards, Achievements and Professional Memberships:

- **AAPG Member**
- **RMAG Member**
- **SE-GSA Best Poster Presentation**, Southeastern Geological Society of America, 2001, Raleigh, NC. Petrographic and Field Relations of a Portion of the Carroll Knob Mafic/Ultramafic Complex, Eastern, Blue Ridge, Macon Co., NC.
- **UNCW Honors Student Research and Travel Grant**, UNCW for 4 Poster Presentations at the Southeastern Geological Society Association, September 2000
- **AAUW**, American Association of University Women Academic Scholarship, awarded to exceptional women in science and math related majors, April 2001.
- **National Science Foundation Grant**, Selected as a participant for an internship at Furman University, Summer 2000.
- **National Science Foundation funded Research Experience for Undergraduates**. Western Carolina University & University of South Florida at Tampa, Summer 2000.
- **Dean's List**, The University of North Carolina at Wilmington.
- **President of UNCW Geology Club**, Implemented the adoption of a beach access from Surfrider Foundation and the Parks and Rec. Association, T-shirt sales, and designed web site, 2000-2001.

Continuing Education:

- 7/9/08-7/11/08 **Rocky Mtn Geology & Energy Resources Conferences**, Denver, CO
- 5/12/08-5/16/08 **Basic Well Log Analysis**, Austin, TX
- 4/20/08-4/23/08 **AAPG National Convention**, San Antonio, TX
- 2/7/08-2/8/08 **NAPE**, Houston, TX
- 10/10/07-10/12/07 **Field Trip: Classic Geology and Reservoir Characterization Studies of Central Utah**, UT
- 10/7/07-10/9/07 **AAPG Rocky Mtn Section**, Snowbird, UT
- 9/14/07 **RMAG/PTTC Fall Symposium, Structural Concepts & App. in Rocky Mountain Hydrocarbon Plays,** Denver, CO
- 5/11/07-5/19/07 **Geology and Stratigraphy of Grand Canyon Field Trip,** Grand Canyon
- 3/31-4/4/07 **AAPG Annual Convention**, Long Beach, CA
- 1/31-2/1/07 **NAPE**, Houston, TX
- 12/4-8 /06 **Frac School,** Texas A&M, Steamboat Springs, CO
- 9/26/06 **USGS Core Workshop-Barnett Sh, Ft.Worth Basin & Niobrara Fm**, Lakewood, CO
- 9/25/06 **Shale Gas: From Grass-Roots Explor. to Prod.-A Symposium**, Denver, CO
- 8/7-9/06 **Rocky Mountain Gas, Geology & Resources Conference**, Denver, CO
- 6/11-13/06 **RMAG/AAPG Regional Meeting**, Billings, MT

- 5/1/06 **Seismic Attribute Mapping of Struct.& Strat**, SEG/EAGE, Golden, CO
- 3/3/06 **Old Electric Logs: Interpretation & Analysis**, PTTC/KGS, Lawrence, KS
- 3/2/06 **The Crash Course in Log Analysis**, PTTC/KGS, Lawrence, KS
- 2/24/06 **Geographix- smartSECTION,** Landmark, Highlands Ranch, CO
- 9/24/05 **Bakken Play Essentials**, AAPG, Jackson, WY
- 8/29/05 **Low Permeability Reservoirs in the Rockies**, RMAG/PTTC, Denver, CO
- 3/31/05 **Intro to Mining the Internet --Oil & Gas Professional,** PTTC Golden, CO
- 11/15/04 **Hydrothermal Dolomite Conference**, RMAG/CSM SEG, Golden, CO
- Spring 2004 **GeoPlus PETRA Basics**, PTTC, Golden, CO
- Spring 2004 **GeoGraphix-Interpret. Mapping Course,** Landmark, Highlands Ranch, CO
- 9/03 **Introduction to ArcGIS**, All Points, Boulder, CO
- 3/03 **The Remediation Course**, Princeton Groundwater, Denver CO
- Fall 2002 **Hydrology**, audit Colorado School of Mines, Golden, CO