#290-3

01756831

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

REQUEST FOR AN ORDER TO ALLOW THREE ADDITIONAL WELLS, FOR A TOTAL OF FOUR WELLS, PER 320 ACRE DRILLING AND SPACING UNITS, IN CERTAIN LANDS LOCATED IN TOWNSHIP 10 NORTH, RANGES 93 AND 94 WEST, 6TH P.M., MOFFAT COUNTY, COLORADO, BIG HOLE FIELD, WITH THE PERMITTED WELL TO BE LOCATED NO CLOSER THAN 600 FEET FROM THE UNIT BOUNDARY	CAUSE NO: 290 ORDER NO: DOCKET NO: 0802-AW-05

VERIFIED STATEMENT OF
CLIFF CLARK
SENIOR DIVISION GEOLOGIST

In support of the Verified Application of Cohort Energy Company in Cause No. 290, Docket No. 0802-AW-05, pursuant to Rule 511.b., Cohort Energy Company respectfully submits the written testimony of Cliff Clark, Senior Division Geologist of Cohort Energy Company:

I am currently employed as Senior Division Geologist of Cohort Energy Company. I have been and am presently responsible for and have knowledge of the geology related to the Application Lands.

I have testified previously as an expert witness in petroleum geology matters before the COGCC or before Hearing Officers of the COGCC. Attached is a copy of my resume prepared by me. Also attached are Exhibits, G-1, G-2, G-3, G-4, G-5, and G-6, which were prepared by me or under my direction and control. I have reviewed the exhibits and to the best of my knowledge and belief, the exhibits are correct and accurate as of this date.

(a) Exhibit G-1 Summary of Geological Exhibits

(b) Exhibit G-2 Stratigraphic Column: This exhibit reflects the depositional environment and the formations that were deposited in the Northwest Colorado Application Area and the Lewis Shale Formation is noted with a red arrow. The Lewis lies immediately below the Fox Hills Formation and above the Mesaverde Group. The Turbidite Sandstones developed within the Lewis Shale Formation are the productive intervals in Bighole and Great Divide Fields.

(c) Exhibit G-3 Location Map of Proposed Increased Density Drilling Area: This exhibit reflects the location of the Proposed Increased Density Drilling area outlining the lands covered by this Application, and existing lands which already have been approved for increased density drilling.

(d) Exhibit G-4 Structure Map on the Top Lewis Formation: This map shows the rather uniform rate of dip to the NW across the entire area with Bighole and Great Divide Fields existing wells noted. The locations and values of the data points used to construct this map are noted.

(e) Exhibit G-5 Weatherford Quicklook Log: This exhibit, which was run in the J-W Operating Company #14-12 Raftopoulous well (API # 05-081-07389), SW/SW Section 12, T 10 N – R 94 W showing the intervals in the Lewis Turbidite Sands of the Lewis Shale.

(f) Exhibit G-6 Drilling Mudlog (Entrada Geosciences): This exhibit was constructed while drilling of the J-W Operating Company #14-12 Raftopoulous well. This log shows the intervals in the Lewis Turbidite Sands of the Lewis Shale and their Lithology and the Gas Shows recorded while drilling through these formations as well as Drill Time and Gamma Ray.

In addition the Commission has previously found that the "the Middle Lewis Formation is continuous across the application lands and the individual sands are discontinuous across the application lands. Further testimony indicated that there is low recovery from the existing wells, that the drainage areas are small and that the permeability is low." (Order 290-2, Findings, ¶ 7).

Core analysis (7512-7669 ft) from the Tom Brown, Inc. # 24-29 well in Sec. 29, T 10 N, R 93 W, from August, 2003 is now available. The Arithmetic Mean of Porosity is 11.82 %. The Arithmetic Mean of Klinkenberg Permeability is 0.107 mD at a net confining stress of 400 psig. Furthermore, there are numerous shale layers which would act as permeability barriers for vertical and some lateral gas migration.

The Commission also has previously found that "the various sands within the Lewis Formation, including the Middle Lewis Formation and that both wet and gas saturated sands are found in the Middle Lewis Formation . . . and that the Lewis Formation is an alternating series of fine-grained sandstones and thick impermeable shales, with extremely compartmentalized sandstones due to stratigraphy." (Order 290-2, Findings, ¶ 9).

The Commission also found that "[t]he wells had poor reservoir rocks and poor stimulations which caused low gas recoveries ranging from 1% to 28% in the Big Hole Field." (Order 290-2, Findings, ¶ 10).

Accordingly, and based upon the Commission's previous findings and my study of the geology underlying the Application Lands, the Application Lands are similar in geology to the lands addressed in Order 290-2 and are part of the Bighole field.

VERIFICATION

Cliff Clark, of lawful age, being first duly sworn upon oath, deposes and says that he is the Senior Division Geologist with Cohort Energy Company/JW Operating Company, and that he has read the foregoing Application and that the matters therein contained are true to the best of his knowledge, information and belief.

By: Cliff Clark
Cliff Clark

STATE OF COLORADO)
) ss.
COUNTY OF Arapahoe)

Subscribed and sworn to before me this 11th day of February, 2008 by Cliff Clark, Senior Division Geologist for Cohort Energy Company/JW Operating Company.

Witness my hand and official seal.

My commission expires: 6-20-2011

Fran M Hodor
Notary Public

Clifford C. Clark

First Seismic Corporation, Denver, CO 1986 – 1989
Consultant
Directed seismic data acquisition activity in the United States and Internationally. Responsible for evaluation of new and evolving "plays" and determined from geologic and economic analyses the viability of new projects. Traveled to Siberia to conduct and eventually conclude negotiations with Former Soviet Union Joint Venture Partner.

Ensource Inc., Denver, CO 1981 – 1986
Exploration Manager (1983-1986)
Division Geophysicist (1981-1983)
Managed a successful exploration program in most Rocky Mountain Basins, Texas and Michigan. Directed efforts as Operator of a multi-company Joint Venture. Operated the drilling of over 100 wildcat and development wells and originated exploration budgets of $7-10 Million/year. Supervised ten professional explorationists. Evaluated outside prospect submittals. Completed geological and geophysical evaluation of over 1.4 million acres in less than 2 years and prioritized which basins to explore based on reserve potential and economics.

Anadarko Production Company, Denver, CO 1981
Staff Geophysicist

Getty Oil Company, New Orleans, LA & Denver, CO 1975 – 1981
Senior Geophysicist
Participated in all geological and geophysical facets of oil and gas exploration in the Rockies and Gulf Coast, including offshore.

Chevron Oil Company, New Orleans, LA 1972 – 1975
Development Geologist and Geophysicist
Performed well site work, detailed reservoir mapping and economic analysis according to corporate guidelines.

Education

Edinboro State University, Pennsylvania (BS Geology) 1970
Northern Illinois University (MS Geology/Geophysics) 1972
Thesis Research conducted in Victorialand, Antarctica 1971 – 1972

Honors

Consulting for The Gerson-Lehrman Group (www.glgroup.com) over the last 5 years, I have been awarded GLG Leader designation (Ranked in Top 5% of their 150,000+ Worldwide Consultants), and recently (11/30/2007) was invited to and presented a seminar to 24 Investment Advisors in New York City (The Penn Club) on **Shale Gas, From New York to Texas**.

Clifford C. Clark

7074 South Revere Parkway
Centennial, CO 80112
cclark@jwoperating.com & geoman49@aol.com

720-385-3078
Fax 303-422-0178
Cell 303-881-0499

Summary

- Thirty five years of progressive experience in exploration and development of hydrocarbon prospects
- Diverse Domestic and International geological and geophysical background
- Registered Professional Geologist Wyoming (PG-1897)
- Licensed Professional Geologist Illinois (196-00493)
- Certified Petroleum Geophysicist (AAPG # 62)

Professional Experience

Cohort Energy Company/J-W Operating Company, Centennial, CO **2006-present**
Senior Division Geologist
Develop Prospects in the Sand Wash Basin, Colorado and the Greater Green River Basin, Wyoming focusing on Tight Gas Sands and Gas Shales. Review outside Prospect submittals in these Basins and make recommendations to Management regarding such submittals. Provide advice to Management on Appalachian Basin Plays.

Centennial Resources LLC, Centennial, CO **2003 – 2006**
Manager
Co-founded company to develop high potential projects, primarily following the Ordovician Trenton/Black River formation in the Appalachian and Illinois Basins. Sold interest in Centennial to Partner in 8/2006.

Consultant/Independent, Denver, CO **(Owner, Freedom Energy Associates, Inc.)** **1997 – 2003**
Contracted as a geological/geophysical consultant for several Independents and generated prospects for my own account. More than ten years of recent 3-D workstation experience (SMT's Kingdom-2d/3d Pak, Landmark and Geoquest) for numerous clients such as BP, MHA Petroleum Consultants, Kerr-McGee Rocky Mountain Corporation, Mountain Petroleum, Davis Petroleum, Sharon Resources, Bonneville Fuels, Norstar Petroleum, Liedtke Development Corp., Texas Crude, and Petrogulf Corporation. Areas of investigation included Kansas, Colorado, Texas, Wyoming, North Dakota, Indiana, Illinois, Louisiana, New Mexico, and California. Developed and drilled coalbed & coal mine methane projects in Illinois and Indiana and marketed a large Wind River Basin Prospect I personally developed. Performed "New Ventures" basin analysis and prospect development for Kerr-McGee throughout North America during the 13-month period from February 2002 through March 2003.

Sharon Resources, Inc., Denver, CO **1993 – 1997**
Exploration Vice President/Consultant
Conducted entire exploration and production operation for small independent company. Operated the drilling and production of wells in Colorado, Kansas, Illinois, and California. Managed multi-company Joint Venture in California and drilled 3 of 4 successful Forbes gas wells. Developed Rocky Mountain, Mid-Continent, Illinois, Michigan and Appalachian Basin prospects. Built and operated small gas gathering system and coordinated with gas marketer. Designed, recorded, processed and interpreted numerous 3-D seismic projects. Presented paper at RMAG/DGS conference on 3-D technology and co-authored paper in AAPG Bulletin on 3-D seismic. Generated plays as well as prospects.

Consultant/Independent, Denver, CO **(d/b/a Freedom Energy Associates, Inc.)** 1989 – 1993
Contracted as a geophysical and geological consultant to numerous clients including BWAB, Canadian Hunter Exploration, Elk Exploration (HS Resources), Cox Oil & Gas, Peter K. Roosevelt. Generated prospects and sold drilling projects to ENRON, McRae & Henry LLC, Peter K. Roosevelt and Global Resources.

Summary of Geological Exhibits

Exhibit G-1: Summary of Geological Exhibits
Exhibit G-2: Stratigraphic Column
Exhibit G-3: Location Map of Proposed Increased Density Drilling Area
Exhibit G-4: Structure Map Top Lewis Shale Formation
Exhibit G-5: Weatherford Quicklook Log J-W Operating # 14-12 Raftopoulous Well
Exhibit G-6: Mudlog from J-W Operating # 14-12 Raftopoulous Well

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Exhibit: G-1

Stratigraphic Chart – NW Colorado

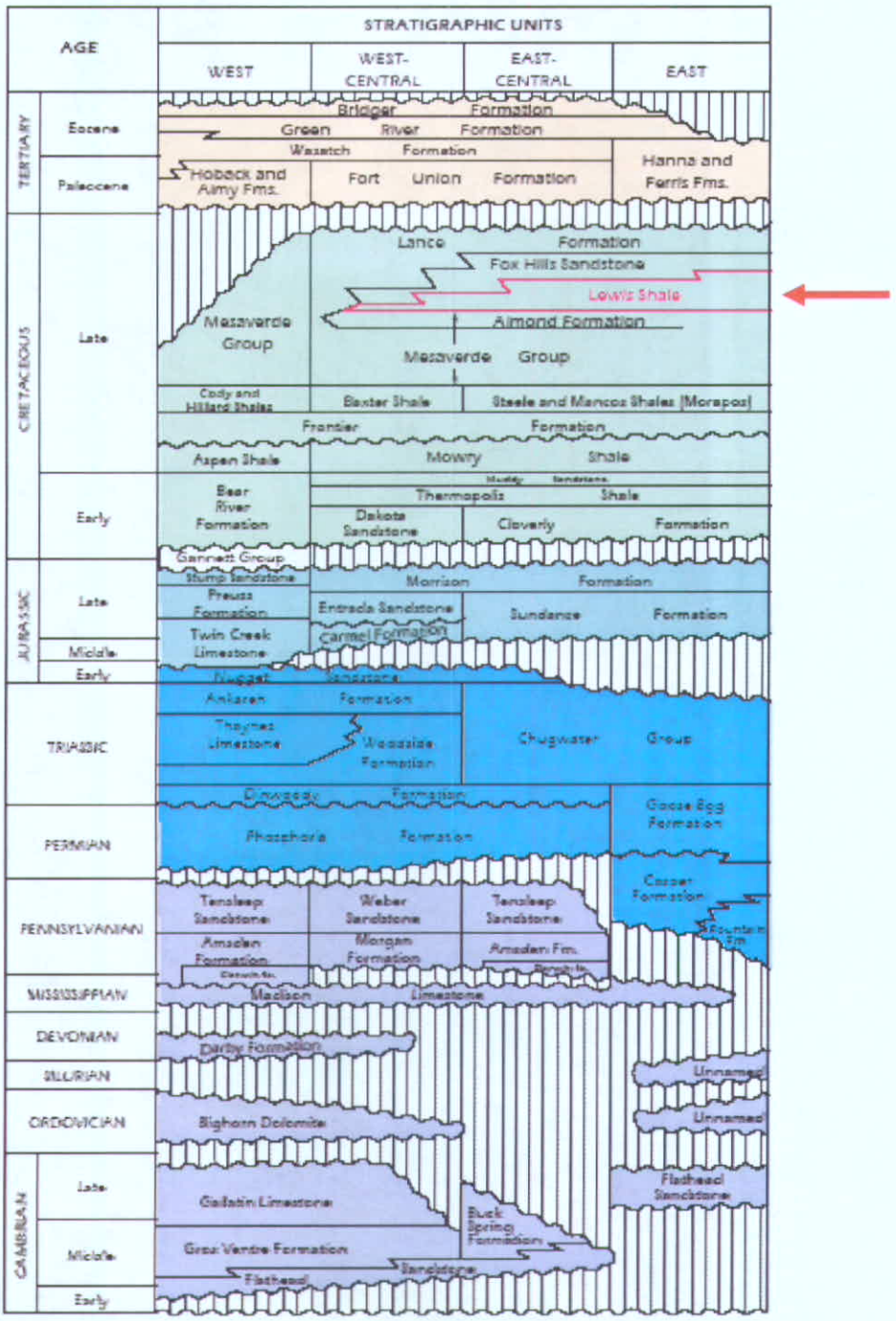

Figure 2. Chart showing formations and stratigraphic relations in the Southwestern Wyoming Province. The Lewis Total Petroleum System is outlined in red.

From USGS Digital Data Series DDS-69-D. Chapter 9, 2005

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Exhibit: G-2

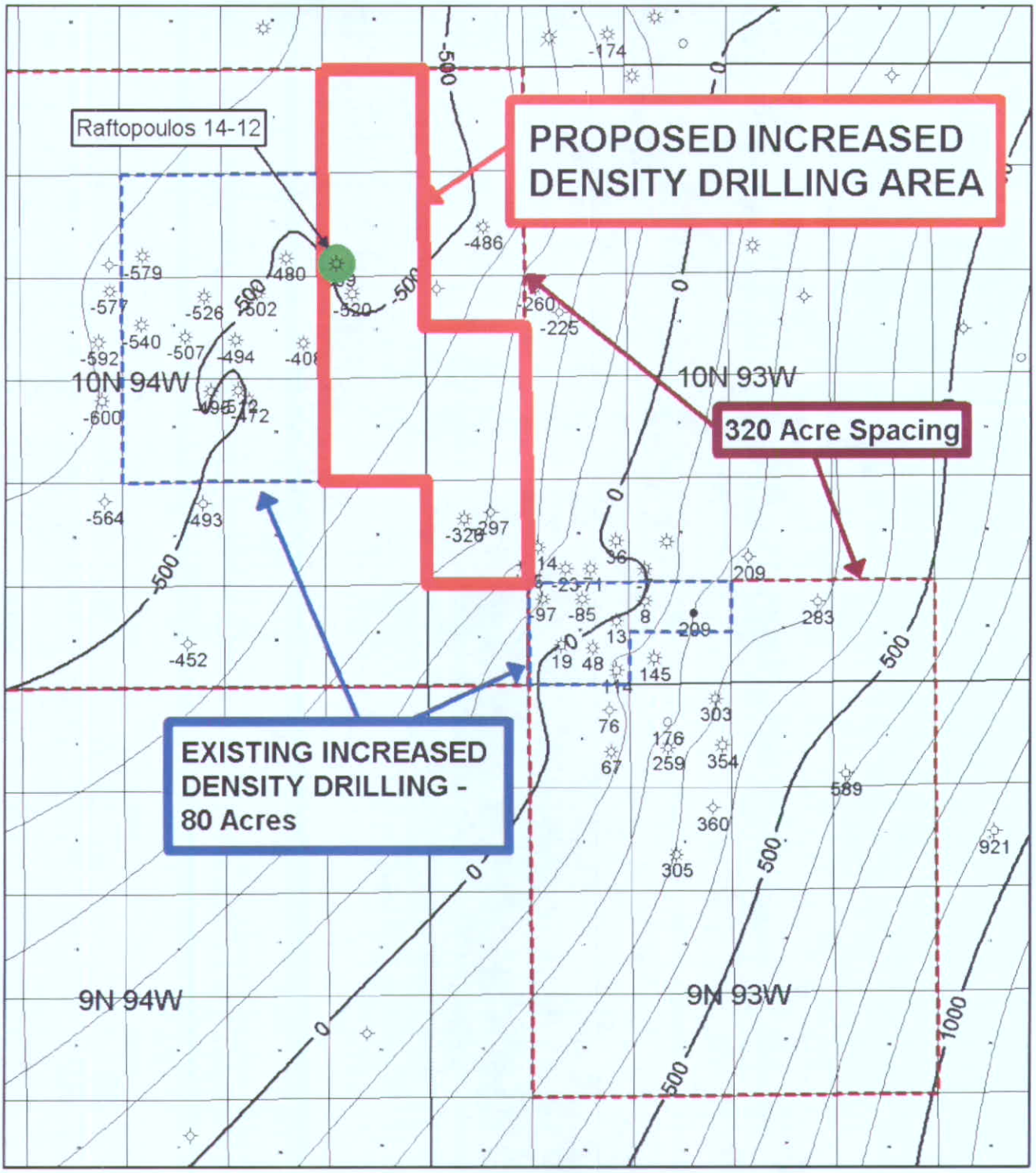

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Exhibit: G-4

J-W OPERATING COMPANY
7075 S. Revere Parkway
CENTENNIAL, COLORADO 80112
OFFICE: (303) 422-4990
FAX: (303) 422-0174

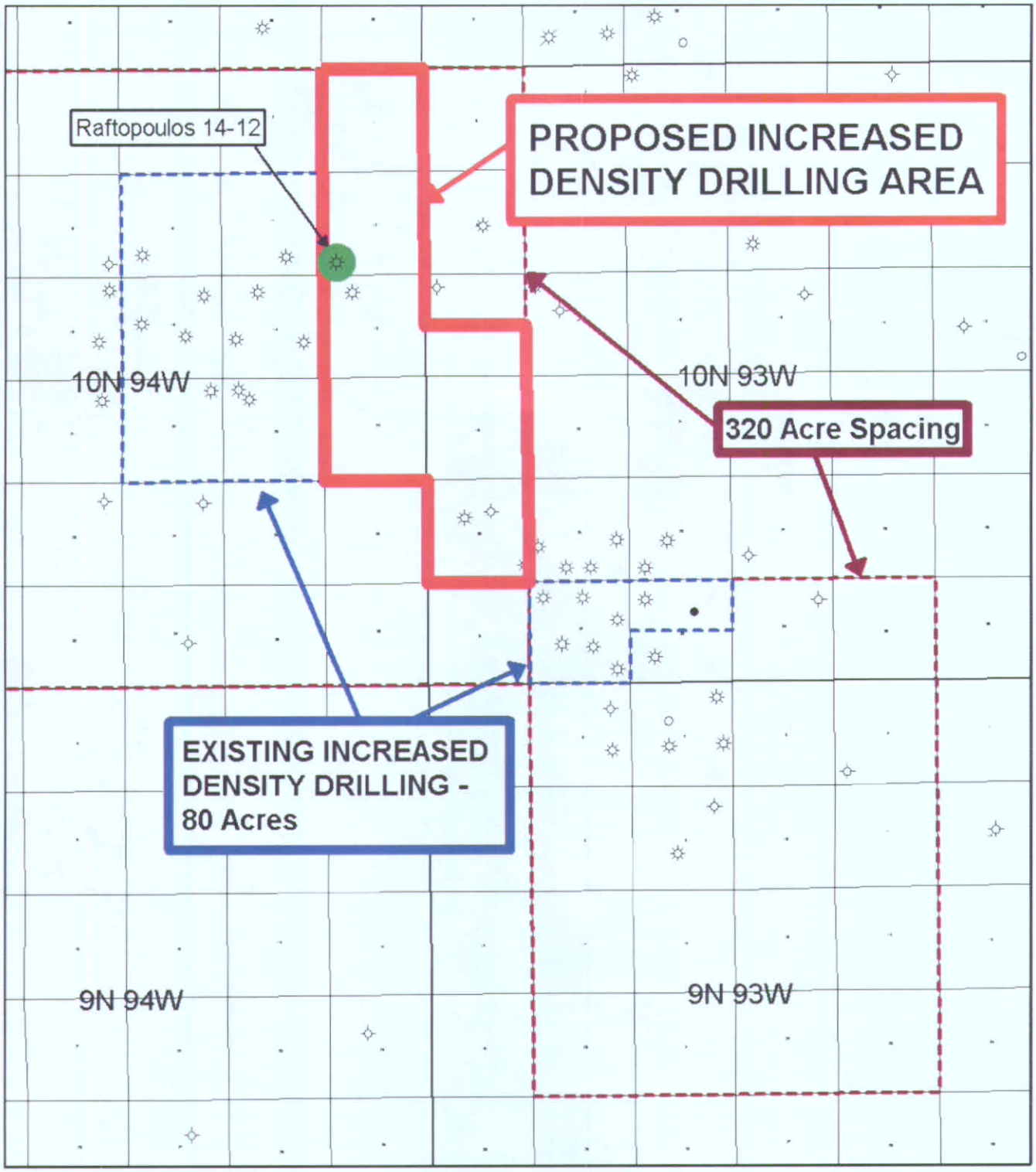
STRUCTURE TOP LEWIS SHALE

CI = 100'

BIGHOLE / GREAT DIVIDE

MOFFAT, COLORADO

Author:	Prepared By:	Date:
CClark	JFuller	01/30/2008
	Scale:	File: Bighole_Great Divide_STRUCTURE Top Lewis_LOCCLGARED.GP



J-W OPERATING COMPANY
7074 S. Revere Parkway
CENTENNIAL, COLORADO 80112
OFFICE: (303) 422-4990
FAX: (303) 422-0178

PROPOSED INCREASED DENSITY DRILLING AREA

BIGHOLE / GREAT DIVIDE

MOFFAT, COLORADO

Author:	Prepared By:	Date:
CClark	JFuller	01/30/2008
	Scale:	File: Bighole_Great Divide_STRUCTURE Topleveli LOC CLEANED UP

Cause No. 290, Docket No. 0802-AW-05
Exhibit: G-3

J-W Operating # 14-12 Raftopoulous
SW/SW 12 -T 10 N – R 94 W
API # 05-081-07389

Weatherford Quicklook Log

COMPACT QUINT COMBO
QUICKLOOK
LOG

COMPANY	J-W OPERATING COMPANY
WELL	RAFTOPOULOS 14-12
FIELD	BIG HOLE
PROVINCE/COUNTY	MOFFAT
COUNTRY/STATE	U.S.A. / COLORADO
LOCATION	660' FSL & 660' FWL

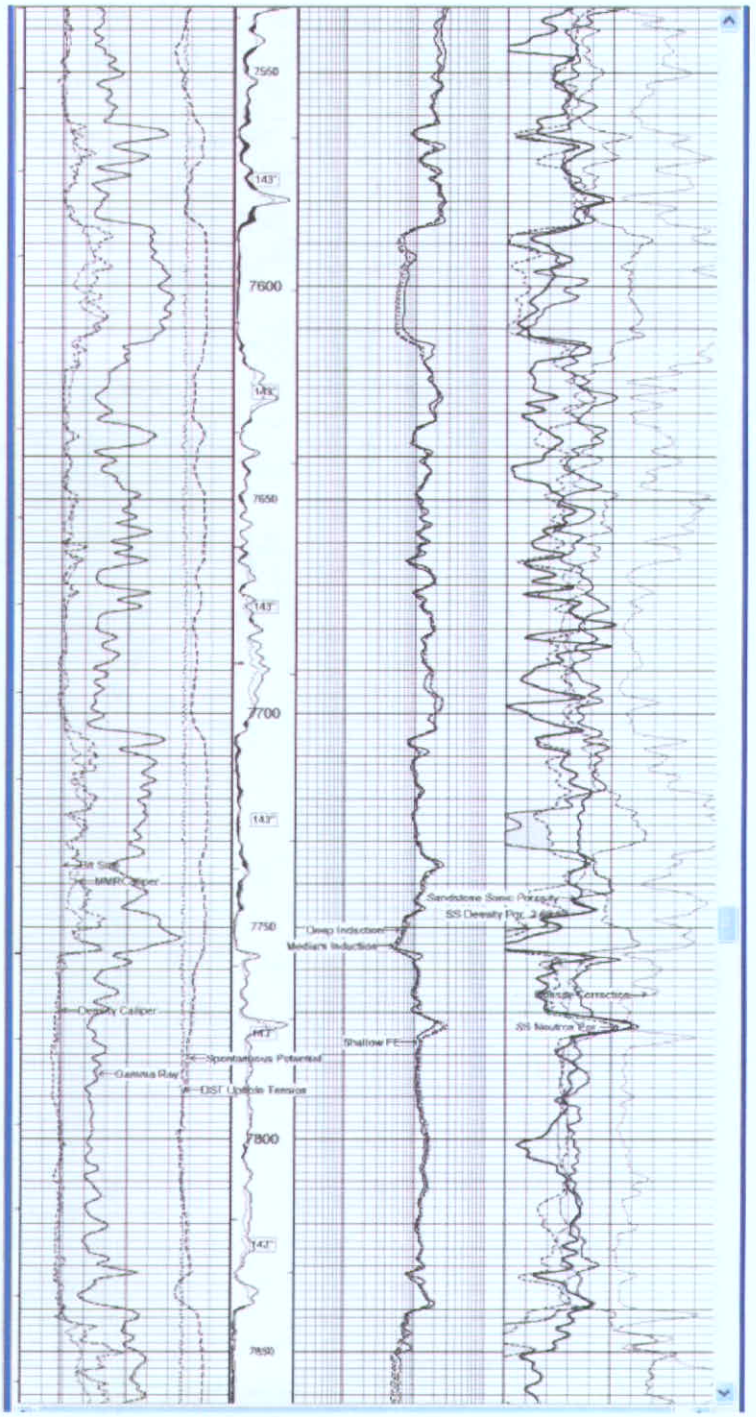
SEC	TWP	RGE	Other Services
12	10N	94W	

API Number 05-081-07389
Permit Number

Permanent Datum: L Elevation 6733 feet
Log Measured From K.B. @ 20 FEETabove Permanent Datum
Drilling Measured From K.B.

Elevations:
KB 6753.00 feet
DF 6752.00 feet
GL 6733.00 feet

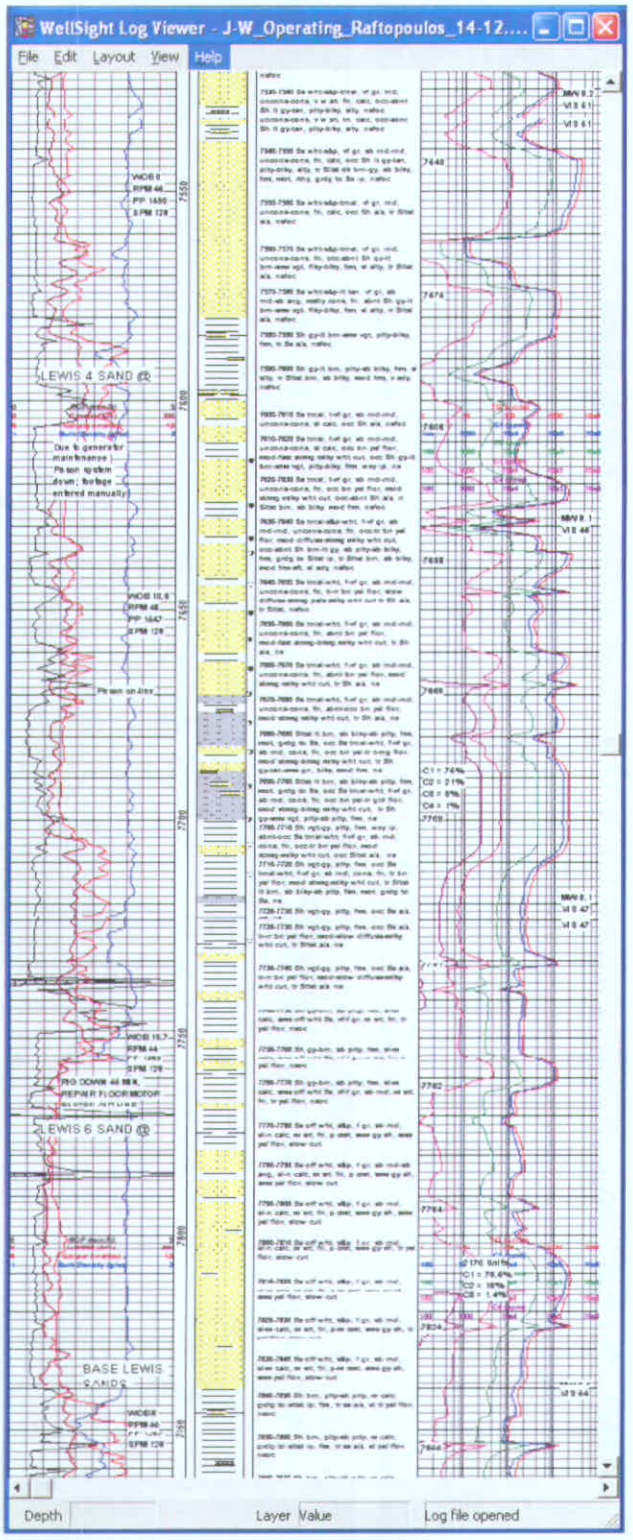
Date	20-SEP-2007			
Run Number	ONE			
Depth Driller	9200.00	feet		
Depth Logger	8620.00	feet		
First Reading	8617.00	feet		
Last Reading	821.00	feet		
Casing Driller	803.00	feet		
Casing Logger	821.00	feet		
Bit Size	7.88	inches		
Hole Fluid Type	LSND			
Density / Viscosity	9.60 lb/USg	57.00 CP		
PH / Fluid Loss	9.50	5.60 ml/30Min		
Sample Source	FLOW LINE			
Rm @ Measured Temp	1.95 @ 78.0	ohm-m		
Rmf @ Measured Temp	1.56 @ 78.0	ohm-m		
Rmc @ Measured Temp	2.34 @ 78.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	1.05 @148.0	ohm-m		
Time Since Circulation	8 HOURS			
Max Recorded Temp	148.00	deg F		
Equipment Name	COMPACT			
Equipment / Base	13056	RK SPR		
Recorded By	A. VAN BRUNT		M. GOODMAN	
Witnessed By	S. PADILLA		G. JOHNSON	
Last Title	Last Line		Last Line	



Cause No. 290, Docket No. 0802-AW-05, February 25, 2008
Exhibit: G-5

J-W Operating # 14-12 Raftopoulous
SW/SW 12 -T 10 N – R 94 W
API # 05-081-07389

Mudlog



Cause No. 290, Docket No. 0802-AW-05, February 25,2008
Exhibit: G-6