

EXHIBIT 8

Sidewall core analysis from the San Juan
32-9 Unit #106 and #108 Pictured Cliffs
productive zone.

CORE LABORATORIES

Company : Amoco Production Company
Well : San Juan No. 32-9 Unit Nos. 106 & 108
Location :
Co, State :

Field :
Formation :
Coring Fluid :
Elevation :

File No.:
Date : 1-Apr-1991
API No.:
Analysts:

C O R E A N A L Y S I S R E S U L T S

SAMPLE NUMBER	DEPTH ft	POROSITY (HELIUM) %	SATURATION		GRAIN DENSITY gm/cc	DESCRIPTION
			(PORE VOLUME) OIL %	WATER %		
San Juan No. 32-9 Unit No. 106 Sidewall Samples 1-8						
1	3390.0	4.0	0.0	47.5	2.66	Sltst dk gry-gry sli arg lam
2	3398.0	7.8	0.0	14.2	2.80	Dol brn vf xln w/ Sst gry f-vf gr arg sli calc
3	3404.0	5.8	0.0	25.6	2.65	Sst gry f-vf gr arg lam
4	3417.0	8.2	0.0	16.5	2.67	Sst gry f-vf gr arg glauc
5	3425.0	3.9	0.0	46.7	2.70	Sst gry f-vf gr arg glauc pyr calc
6	3434.0	10.6	0.0	11.8	2.69	Sst gry f-vf gr arg glauc pyr sli calc
7	3440.0	7.3	0.0	12.4	2.71	Sst gry f-vf gr arg glauc pyr calc
8	3447.0	11.9	0.0	12.0	2.69	Sst gry f-vf gr arg glauc sli calc
San Juan No. 32-9 Unit No. 108 Sidewall Samples 9-14						
9	3425.0	12.2	0.0	29.0	2.67	Sst gry f-vf gr arg glauc
10	3433.0	7.1	0.0	16.6	2.69	Sst gry f-vf gr arg calc glauc
11	3440.0	13.3	0.0	12.0	2.65	Sst gry f-vf gr arg sli calc glauc
12	3460.0	4.0	0.0	54.7	2.63	Sltst dk gry v arg
13	3472.0	9.0	0.0	12.5	2.70	Sst gry f-vf gr arg calc glauc pyr
14	3477.0	2.4	0.0	10.1	2.71	Sst gry f-vf gr arg calc glauc pyr

CORE LABORATORIES

Company : Amoco Production Company
Well : San Juan No. 32-9 Unit Nos. 106 & 108
Location :
Co, State :

Field :
Formation :
Coring Fluid :
Elevation :

File No.:
Date : 1-Apr-1991
API No.:
Analysts:

C M S - 2 0 0 T E S T D A T A

SAMPLE NUMBER	DEPTH ft	MOB PRESSURE psi	PORE VOLUME cc	POROSITY %	K _o md	K _{air} (est) md	b (He) psi	BETA ft(-1)	ALPHA microns
1	3390.0	800.0	0.57	4.6	0.005	0.008	44.02	1.3765E15	2.18156E4
1	3390.0	1100.0	0.55	4.5	0.003	0.005	50.11	7.8549E15	7.77880E4
2	3398.0	800.0	0.94	7.4	0.002	0.004	92.19	2.1079E15	1.18327E4
2	3398.0	1100.0	0.94	7.4	0.001	0.002	124.17	1.8538E15	5.93962E3
3	3404.0	800.0	0.79	6.1	0.055	0.078	28.38	5.6644E12	9.69929E2
3	3404.0	1100.0	0.74	5.8	0.035	0.053	35.97	2.5800E12	2.83112E2
3	3404.0	1500.0	0.72	5.6	0.024	0.037	38.12	2.9545E13	2.23047E3
3	3404.0	1750.0	0.71	5.5	0.018	0.030	41.12	2.9543E13	1.73229E3
5	3425.0	800.0	0.71	5.1	0.005	0.009	58.89	1.4145E16	2.28520E5
5	3425.0	1100.0	0.67	4.8	0.006	0.008	27.73	5.3801E16	9.84928E5
10	3433.0	800.0	1.01	7.4	0.012	0.025	74.56	1.1004E15	4.25966E4
10	3433.0	1100.0	1.00	7.4	0.006	0.017	131.86	8.5048E13	1.65231E3
10	3433.0	1500.0	0.99	7.3	0.004	0.012	157.01	9.7550E12	1.28430E2
10	3433.0	1750.0	0.97	7.2	0.004	0.011	157.20	1.1053E15	1.28030E4
6	3434.0	800.0	1.60	11.6	0.010	0.019	70.41	3.1126E15	9.60152E4
6	3434.0	1100.0	1.57	11.4	0.005	0.013	139.55	2.6848E14	4.04118E3
6	3434.0	1500.0	1.53	11.2	0.004	0.011	161.13	1.8075E14	2.05098E3
6	3434.0	1750.0	1.51	11.1	0.003	0.010	168.75	2.1572E14	2.12422E3
7	3440.0	800.0	1.09	7.6	0.005	0.010	79.74	1.5495E16	2.34255E5
7	3440.0	1100.0	1.07	7.5	0.003	0.007	151.09	9.7376E15	7.99395E4
7	3440.0	1500.0	1.07	7.5	0.003	0.007	104.68	3.1413E16	3.27346E5

CORE LABORATORIES

Company : Amoco Production Company
Well : San Juan No. 32-9 Unit Nos. 106 & 108

Field :
Formation :

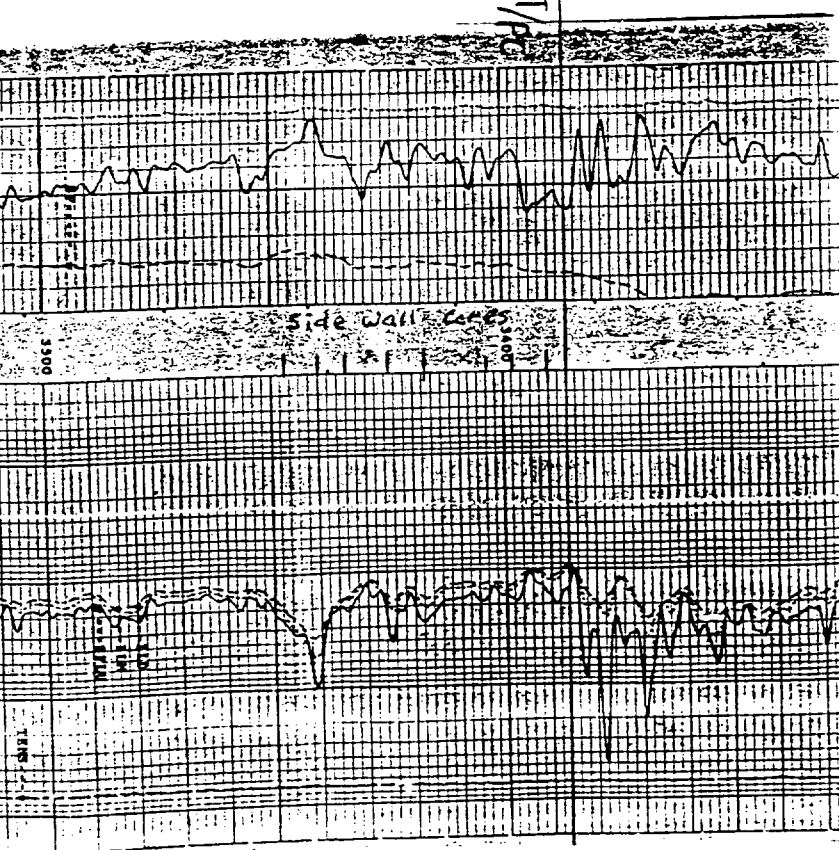
File No.:
Date : 1-Apr-1991

C M S - 2 0 0 T E S T D A T A

SAMPLE NUMBER	DEPTH ft	MOB PRESSURE psi	PORE VOLUME cc	POROSITY %	K _{oo} md	K _{air} (est) md	b (He) psi	BETA ft(-1)	ALPHA microns
11	3440.0	800.0	1.69	11.6	0.027	0.052	67.13	2.8406E14	2.39047E4
11	3440.0	1100.0	1.68	11.5	0.018	0.043	99.72	3.4834E13	1.96485E3
11	3440.0	1500.0	1.66	11.4	0.016	0.039	105.77	3.1730E13	1.56449E3
11	3440.0	1750.0	1.65	11.4	0.015	0.037	107.71	3.6176E13	1.67325E3
8	3447.0	800.0	1.55	12.2	0.029	0.058	68.66	1.9586E14	1.78531E4
8	3447.0	1100.0	1.52	12.0	0.020	0.048	97.34	5.2212E13	3.37734E3
8	3447.0	1500.0	1.50	11.8	0.017	0.042	109.44	1.3979E13	7.51692E2
8	3447.0	1750.0	1.49	11.7	0.016	0.040	110.51	2.4133E13	1.21819E3
13	3472.0	800.0	0.94	8.8	0.011	0.022	75.60	1.2336E15	4.25643E4
13	3472.0	1100.0	0.92	8.6	0.006	0.016	124.58	6.5181E14	1.22081E4
13	3472.0	1500.0	0.90	8.5	0.004	0.012	145.46	1.1501E15	1.51985E4
13	3472.0	1750.0	0.89	8.4	0.004	0.011	129.05	3.5587E15	4.69691E4

[illegible]

in No.	ONE		
size - x No.	58 X 288		
Ring Flute Level			
only			
1/2 RHY	350 5 PPM		
2 1/2 RHY	248 CHAM	8	1/2 DEG
Ring Speed	180 CHAM	8	1/2 DEG
INFLUENT DATA	300 5 PPM		



COMPANY		AMOCO PRODUCTION COMPANY	
WELL		SAN JUAN 32-9 #106	
FIELD		FINANCE PCT. CLIFTS	
COUNTY	SAN JUAN	STATE	NEW MEXICO
LOCALITY		TOWNSHIP & SEC. 7E	
LAND SURVEY NO.	0783984-7-7E-2-S-1	SECT.	1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-99

Order No.	184288		
old Level			
TY	18000 PPM		
TY	84N CHAM	0	HE BEG
good	124 CHAM	0	HE BEG
TY DATA	18000 PPM		
or 1	508 418		
or 2	01C 1127		
or 3	01E 2803		
or 4	N8C 2896		

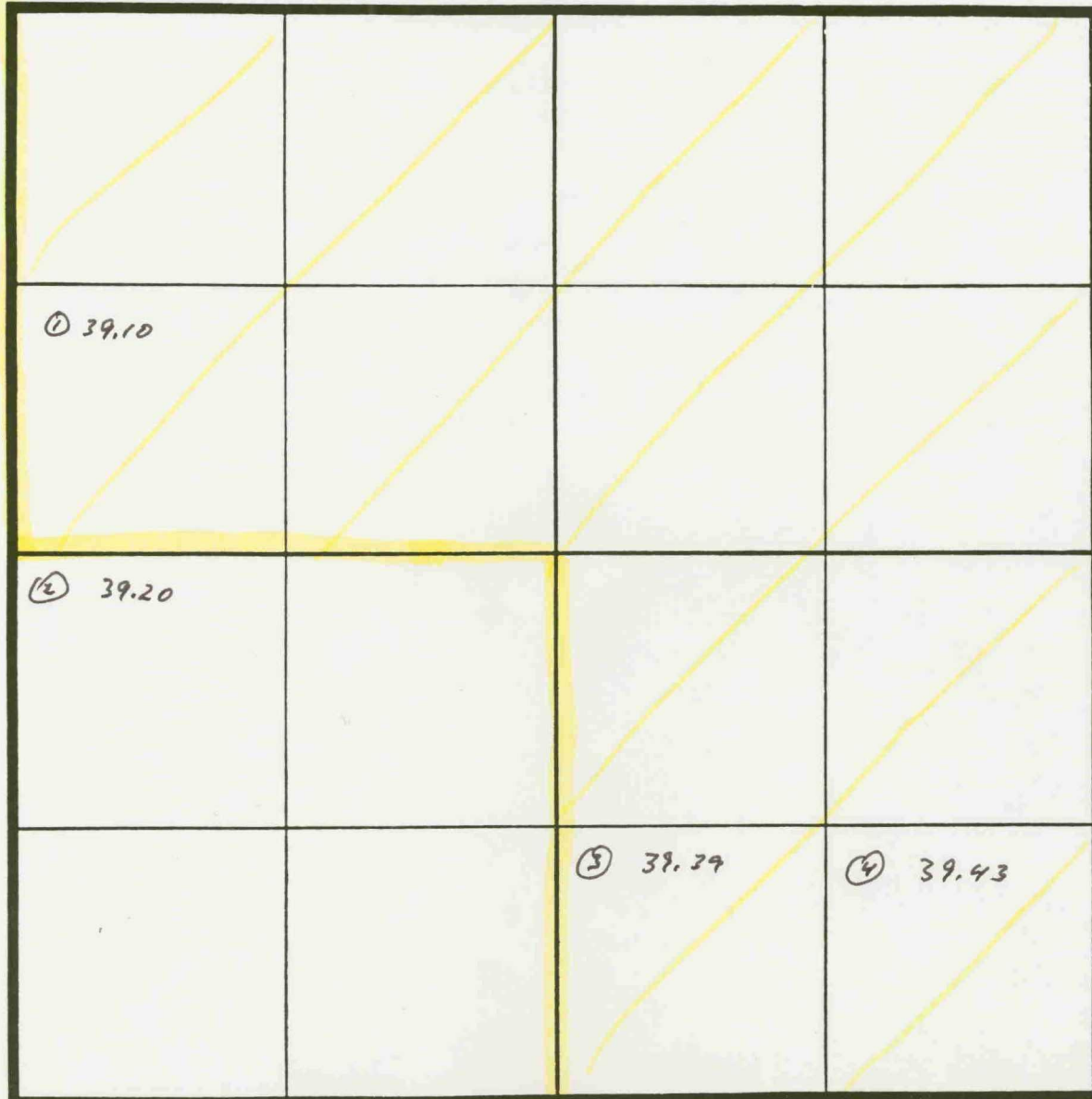
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EXHIBIT #9

Protection of Fresh Water Aquifers

Oil and gas well operators in the San Juan Basin are required by federal and state regulations to protect all fresh water zones from contamination. In the Tank Mountain area these rules pertain mainly to the cementing of casing across the Ojo Alamo Formation which is found at an average depth of 1900 feet. Conoco believes that compliance with the existing rules and regulations adequately protects the fresh water aquifers. Drilling of gas wells in the Tank Mountain Area will not adversely affect any aquifers that are being used or expected to be used in the foreseeable future for domestic or agricultural supplies.

Sec. 28 Township No. 31 NORTH of Range No. 9 WEST



Sec. 4 Township No. 30 NORTH of Range No. 9 WEST

④ 41.27	⑤ 41.43	⑥ 41.57	⑦ 41.73

Sec. 33 Township No. 31 NORTH of Range No. 9 WEST

(4) 39.42	(3) 39.46	(2) 39.50	(1) 39.54
(5) 39.44	(6) 39.48	(7) 39.52	(8) 39.56
(12) 39.46	(11) 39.50	(10) 39.54	(9) 39.58
(13) 39.48	(14) 39.52	(15) 39.56	(16) 39.60

United States Department of Interior

BUREAU OF LAND MANAGEMENT
ALBUQUERQUE DISTRICT OFFICE
435 Montano Road NE
Albuquerque, New Mexico 87107

INFORMAL MEETING FOR TIGHT FORMATION AREA DESIGNATION PROPOSED BY
THE CONOCO, INC., OKLAHOMA CITY, OK. MEETING HELD AT 1 PM,
FRIDAY, DECEMBER 6, 1991, WITH BLM, NMOCD, AND CONOCO, INC.

<u>NAME</u>	<u>PHONE NUMBER</u>	<u>ORGANIZATION</u>
1. Allen F. Buckingham	(505) 761-8765	BLM
2. Jane Clancy	(505) 761-8760	BLM
3. Robert Kent	(505) 761-8762	BLM
4. Arlene Salazar	(505) 761-8772	BLM
5. Ben Sargent	405 948-3100	Conoco
6. Reed meek	405 948-4867	
7. Anna Grigo	505-827-5532	OCD
8. Michael E. Hoyer	505-827-5811	OCD
9. Tom Kellahan	505-982-4285	CONOCO
10. Gregory M Gardg	405 948-3100	CONOCO
11. STEVE KLEIN	405-948-3149	CONOCO
12.		

STATE OF NEW MEXICO
ENERGY AND MINERAL'S DEPARTMENT
OIL CONSERVATION DIVISION
P. O. Box 2088
SANTA FE, NEW MEXICO 87501

SPECIAL RULES AND PROCEDURES FOR
TIGHT FORMATION DESIGNATIONS UNDER SECTION
107 OF THE NATURAL GAS POLICY ACT OF 1978

Amended 2-1-81

A. General

Applications for tight formation designations under Section 107 of the NGPA and applicable FERC rules and regulations shall be accepted by the Division at its Santa Fe, New Mexico office after June 30, 1980. These special rules apply only to tight formation designations and do not apply to individual well filing requirements for price category determination.

B. Definitions

1. "Crude Oil" means a mixture of hydrocarbons that exists in the liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separation facilities.
2. "Division" means the Oil Conservation Division of the Energy and Minerals Department of the State of New Mexico.
3. "FERC" means the Federal Energy Regulatory Commission.
4. "USGS" means the office of the United States Geological Survey in Albuquerque, New Mexico.
5. "Formation" means any geological formation or portion thereof described by geological as well as geographical parameters which is the subject of a tight formation designation application.
6. "Infill drilling" means any drilling in a substantially developed formation (or a portion thereof) subject to requirements respecting well-spacing or proration units which were amended by the Division or the Oil Conservation Commission after the formation (or portion thereof) was substantially

-2-

developed and which were adopted for the purpose of more effective and efficient drainage of the reservoirs in such formation. Such amendment may provide for the establishment of smaller drilling or production units or may permit the drilling of additional wells on the original units.

C. Procedure

1. To the extent that the Division's general rules of procedure for public hearings are not altered or amended by these special rules, such general rules of procedure shall be applicable and are incorporated herein by reference.
2. All applications for tight formation designation in the State of New Mexico, in which Federal, Indian, state, or fee lands, or any combination thereof, are involved, shall be filed with the Division.
3. All applications for tight formation designation shall be set for public hearing.
4. A complete set of exhibits which an applicant proposes to offer or introduce at a hearing, together with a statement of the meaning and purpose of each exhibit, shall be submitted to the Division (and to the USGS when federal or Indian lands are involved) when the application is filed or at least 15 days prior to a hearing. These exhibits shall cover all aspects of the required evidentiary data described in Section D below. Three additional complete sets of such exhibits and statements, enclosed in an unsealed postage-paid packet, shall also accompany the application or be presented at the hearing; this packet and its contents will be forwarded to the FERC by the Division after the hearing, together with the Division order recommending disposition of the application.
5. Where practicable, applications may be consolidated for hearing at the discretion of the Director of the Division.
6. Within 15 days after its issuance, any order promulgated by the Division pursuant to these special rules shall be submitted by the Division to the FERC in accordance with Section 271.705 of the FERC rules

Order No. R-6388-A
Exhibit A

and regulations applicable to NCPA for approval or disapproval of a tight formation designation.

D. Evidence

1. Evidence offered by an applicant at a hearing shall include:

- a. a map and geographical and geological descriptions of the area and formation for which the designation is sought; and
- b. geological and engineering data to support the application; and
- c. a map or list which clearly locates or describes wells which are currently producing oil or gas, or both, from the formation within the geographical area of the formation, and
- d. a report of the extent to which an applicant believes existing State and Federal regulations will assure that development of the formation will not adversely affect or impair any fresh water aquifers (during both hydraulic fracturing and waste disposal operations) that are being used or are expected to be used in the foreseeable future for domestic or agricultural water supplies; and
- e. if the formation has been authorized to be developed by infill drilling prior to the date of recommendation, information and data demonstrating that the formation cannot be developed without the incentive price established in 18 CFR §271.703(a).
- f. any other information which the Division may require.
2. Evidence shall be based on each of the following geological and engineering guidelines:
 - a. The estimated average in situ gas permeability, throughout the pay section, is expected to be 0.1 millidarcy or less.
 - (1) Permeability may be established and demonstrated by any customary or acceptable methods, techniques, or testing acceptable in the oil and gas industry.

- b. The stabilized production rate, either at atmospheric pressure or calculated against atmospheric pressure, of wells completed for production in the formation, without stimulation, is not expected to exceed the production rate determined in accordance with the following table:

If the average depth to the top of the formation (in feet):		The maximum allowable production rate (in Mc./day) may not exceed:	
exceeds:	but does not exceed:		
0	1000	44	
1000	1500	51	
1500	2000	59	
2000	2500	68	
2500	3000	79	
3000	3500	91	
3500	4000	105	
4000	4500	122	
4500	5000	141	
5000	5500	163	
5500	6000	188	
6000	6500	217	
6500	7000	251	
7000	7500	290	
7500	8000	336	
8000	8500	388	
8500	9000	449	
9000	9500	519	
9500	10000	600	
10000	10500	693	
10500	11000	802	
11000	11500	927	
11500	12000	1071	
12000	12500	1238	
12500	13000	1432	
13000	13500	1655	
13500	14000	1913	
14000	14500	2212	
14500	15000	2557	

- c. No well drilled into the recommended tight formation is expected to produce, without stimulation, more than five barrels of crude oil per day.

- d. If an application meets the guidelines contained in subparagraphs 2 b and 2 c above, but does not meet the guidelines contained in subparagraph 2 a, an applicant may, in the alternative, show that the formation exhibits low permeability characteristics and that the incentive price is necessary to provide reasonable incentive for production of the natural gas from the formation due to extraordinary risks or costs associated with such production.
 - (1) An application based on the guidelines outlined in subparagraph 2 d above shall include data to support the contention that the guidelines contained in paragraph 2 b and 2 c above are met, and in addition thereto, shall contain:
 - (a) the types and extent of enhanced production techniques which are expected to be necessary, and
 - (b) the estimated expenditures necessary for employing those techniques, and
 - (c) an estimate of the degree of increase in production from use of such techniques together with engineering and geological data to support that estimate.
- e. If the formation or any portion thereof was authorized to be developed by infill drilling prior to the date of recommendation and the Division has information which in its judgment indicates that such formation or portion subject to infill drilling can be developed absent the incentive price established in 18 CFR §271.703(a), then the Division shall not include such formation or portion thereof in its recommendation.

dr/