

QUINTANA PETROLEUM CORPORATION

1050 SEVENTEENTH STREET
SUITE 400
DENVER, COLORADO 80265
(303) 628-9211

March 21, 1988

Bureau of Land Management
P. O. Box 7
Monticello, UT 84535

Re: Caballo Unit Federal #1-8
Caballo Unit Federal #2-9
Caballo Unit Federal #1-15
Caballo Unit Federal #1-16
San Juan County, Utah

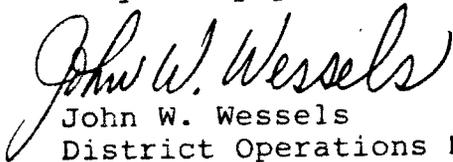
Gentlemen:

This letter is to inform you that Permitco is authorized to act as Agent and to sign documents on behalf of Quintana Petroleum Corporation when necessary for filing county, state and federal permits including Onshore Order No. 1 Right-of-Way applications, etc. for the referenced wells.

It should be understood that Permitco is acting as Agent only in those matters stated above and is not responsible for drilling, completion, production or compliance with regulations.

Quintana Petroleum Corporation agrees to accept full responsibility for operations conducted in order to drill, complete and produce the above-mentioned wells.

Very truly yours,


John W. Wessels
District Operations Manager

cc: Permitco - Lisa Green
BLM
P. O. Box 970
Moab, UT 84532

jp

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

(Other instructions on reverse side)

5. Lease Designation and Serial No.
U-23520
6. If Indian, Allottee or Tribe Name
N/A
7. Unit Agreement Name
Caballo Unit
8. Farm or Lease Name
Caballo Federal Unit
9. Well No.
#2-9
10. Field and Pool, or Wildcat
 Wildcat
11. Sec., T., R., M., or Blk. and Survey or Area
Sec. 9, T36S - R23E

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work
DRILL DEEPEN PLUG BACK
b. Type of Well
Oil Well Gas Well Single Zone Multiple Zone
2. Name of Operator
303/628-2111 APR - 1 1988 1830-17th St., Suite 400
QUINTANA PETROLEUM CORP. Denver, CO 80265
3. Address of Operator
303/322-7878 P.O. Box 44065
Permitco Inc. - Agent DIVISION OF OIL, GAS & MINING Denver, CO 80201-4065
4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface 1800' FSL and 1680' FWL
At proposed prod. zone NE SW Sec. 9

14. Distance in miles and direction from nearest town or post office*
25 miles southeast of Monticello, Utah
12. County or Parrish 13. State
San Juan Utah
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any)
360'
16. No. of acres in lease
1,703.39
17. No. of acres assigned to this well
40
18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.
approx. 1400'
19. Proposed depth
6863' *skel*
20. Rotary or cable tools
Rotary
21. Elevations (Show whether DF, RT, GR, etc.)
6390' GR
22. Approx. date work will start*
Immediately upon approval of this application.

23. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12-1/4"	9-5/8"	36#	2261'	821 sx or suffic to circ. to surf.
8-3/4"	5-1/2"	15.5 & 17#	6863'	To be designed upon completion. Sufficient to cover zones of interest.

Quintana Petroleum Corp. proposes to drill a well to 6863' to test the Ismay and Desert Creek formations. If productive, casing will be run the well completed. If dry, the well will be plugged and abandoned as per BLM and State of Utah requirements.

See Onshore Order No. 1 attached.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. Signed Gesa L. Green Title Consultant for Quintana Petroleum Corp. Date 3/28/88

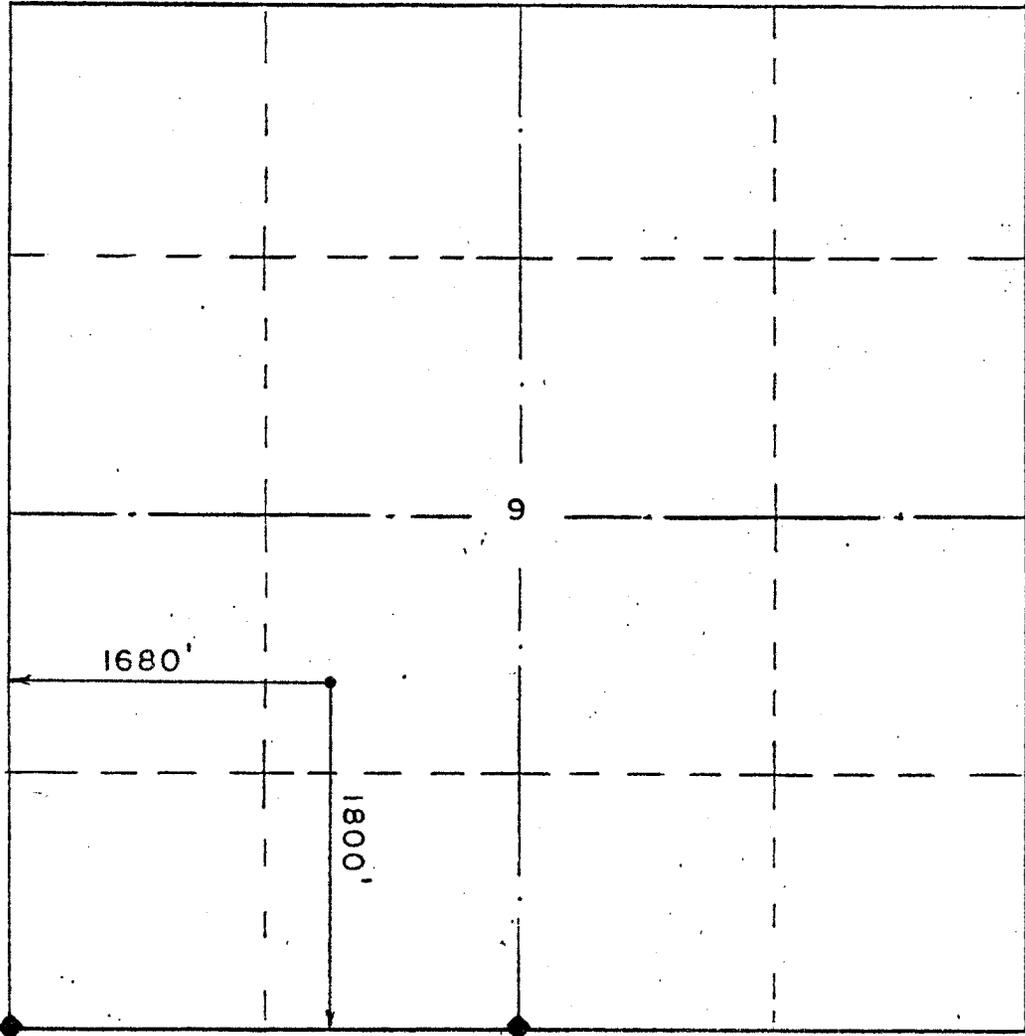
(This space for Federal or State office use)

Permit No. 43-037-31402 Approval Date APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
Approved by _____ Title _____ Date _____
Conditions of approval, if any:

DATE: 4-11-88
BY: John R. Jay
WELL SPACING: RB15-2-3

* See Instructions On Reverse Side

WELL LOCATION AND ACREAGE DEDICATION PLAT



1"=1000'

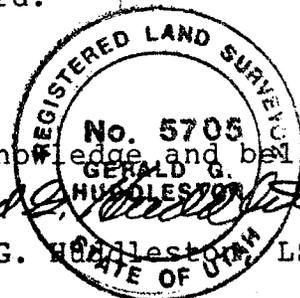
◆ brass cap

WELL LOCATION DESCRIPTION:
 Quintana Petroleum, Caballo Federal 2-9
 1800'FSL & 1680'FWL
 Section 9, T.36 S., R.23 E., SLM
 San Juan County, Utah
 6390'grd. elevation
 References: N 17 46'E , 720',6422'grd.

The above plat is true and correct to my knowledge and belief.

16 March 1988

Gerald G. Huggleston, LS



ONSHORE OIL & GAS ORDER NO. 1

Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

CABALLO UNIT FEDERAL #2-9
1800' FSL and 1680' FWL
Section 9, T36S - R23E
San Juan County, Utah

Prepared For:

QUINTANA PETROLEUM CORP.

By:

PERMITCO INC.
P.O. Box 44065
Denver, Colorado 80201-4065
303/322-7878

Copies Sent To:

- 4 - BLM - Moab, Utah
- 1 - BLM - Monticello, Utah
- 1 - Division of Oil, Gas & Mining - SLC, Utah
- 1 - Div. of State Lands - Natural Resources - Moab, Utah
- 3 - Quintana Petroleum Corp. - Denver, CO



Permitco Incorporated
A Petroleum Permitting Company

Permitco
Permitco
Permitco

ONSHORE ORDER NO.
Petroleum Corp.
Unit Federal 2-9
' ESL and 1680'FWL
, T36S-R23E
County, Utah

CONFIDENTIAL-TIGHT HOLE

DRILLING PROGRAM

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR 3100), Onshore Oil and Gas Order No. 1, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

1. The surface formation and estimated formation tops to be encountered are as follows:

<u>Formation</u>	<u>Depth</u>	<u>Subsea</u>
Dakota (Burrow Canyon)	Surface	
Chinle	2261'	+4143'
Shinarump	2924'	+3480'
Hermosa	5136'	+1268'
Ismay	6494'	- 90'
Hovenweep Shale	6604'	- 200'
Lower Ismay	6657'	- 253'
Gothic Shale	6711'	- 307'
Desert Creek	6728'	- 324'
Chimney Rock Shale	6842'	- 438'
T.D. - Akah	6863'	- 459'

2. The estimated depths at which oil, gas, water or other mineral bearing zones are expected to be encountered are as follows:

<u>Substance</u>	<u>Formation</u>	<u>Anticipated Depth</u>
Oil	Upper Ismay	6494'
Oil	Desert Creek	6728'

All fresh water and prospectively valuable minerals (as described by BLM at onsite) encountered during drilling, will be recorded by depth cased and cemented. All oil and gas shows will be tested to determine commercial potential.



Permitco Incorporated
A Petroleum Permitting Company

ONSHORE ORDER NO.
 Quintana Petroleum Corp.
 Caballo Unit Federal 2-9
 1800' FSL and 1680'FWL
 Sec. 9, T36S-R23E
 San Juan County, Utah

CONFIDENTIAL-TIGHT HOLE

DRILLING PROGRAM

3. Pressure control equipment will consist of a 10", 3000# BOP. (See BOP Diagram attached.)

BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout preventer controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs.

4. a. Casing

The proposed casing program is as follows:

<u>Purpose</u>	<u>Depth</u>	<u>Hole Size</u>	<u>O.D.</u>	<u>Wt.</u>	<u>Grade</u>	<u>Type</u>	<u>New or Used</u>
Conductor	0-40'	17-1/2"	16#	--			
Surface	0-2261'	12-1/4"	9-5/8"	36#	K-55	ST&C	New
Produc.	0-6000'	8-3/4"	5-1/2"	15.5#	K-55	LT&C	New
Produc.	6000-TD	8-3/4"	5-1/2"	17.0#	K-55	LT&C	New

- b. Cement

The cementing program will be as follows:

Surface
 0-2261' Type and Amount
 621 sx Lite with 2% CaCl₂ and 1/4#/sk Flocele, followed by 200 sx Class B w/2% CaCl₂ or sufficient to circulate to surface.

Production Type and Amount

Will be designed upon completion - sufficient to cover zones of interest.

Anticipated cement tops will be reported as to depth, not the expected number of sacks.



Permitco Incorporated
 A Petroleum Permitting Company

ONSHORE ORDER NO.
Quintana Petroleum Corp.
Caballo Unit Federal 2-9
1800' FSL and 1680'FWL
Sec. 9, T36S-R23E
San Juan County, Utah

CONFIDENTIAL-TIGHT HOLE

DRILLING PROGRAM

c. Auxiliary Equipment will be as follows:

1. Kelly cock.
2. Float above the bit.
3. A sub with a full opening valve will be on the floor when the kelly is not in use.
4. Monitoring of the system will be done visually.

5. Drilling fluid will be as follows:

<u>Interval</u>	<u>Mud Type</u>	<u>Mud Wt.</u>	<u>Visc.</u>	<u>F/L</u>	<u>PH</u>
0-2261'	Gel/Lime	8.3-8.6	27-35	N/C	8.5-9.0
2261-5100'	Water w/Gel/Lime				
	Sweeps	8.4-8.6	27-35	N/C	8.5-9.0
5100-T.D.	Dispersed	9.0-10.5	35-45	8-10cc	10+

Bloolie line will be misted to reduce fugative dust when air drilling.

6. Coring, logging and testing programs are as follows:

- a. No cores are anticipated.
- b. The logging program will consist of the following: A Dual Induction SFL or Dual Laterolog MSFL and BHC Sonic/GR will be run from T.D. to base of Surface casing. A CNL Lithodensity will be run over selected zones.
- c. Drill Stem Tests may be run in the Ismay and Desert Creek formations if shows warrant.



Permitco Incorporated
A Petroleum Permitting Company

ONSHORE ORDER NO.
Quintana Petroleum Corp.
Caballo Unit Federal 2-9
1800' FSL and 1680' FWL
Sec. 9, T36S-R23E
San Juan County, Utah

CONFIDENTIAL-TIGHT HOLE

DRILLING PROGRAM

Whether the well is completed as a dry hole or as a producer, "Well Completion or Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analysis, well-test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the District Manager.

7. Abnormal conditions, bottom hole pressures and potential hazards.
 - a. The maximum bottom hole pressure to be expected is 3800 psi.
8. Anticipated Starting Dates and Notifications of Operations
 - a. Quintana Petroleum Corp. plans to spud the Caballo Unit Federal #2-9 immediately upon approval of this application and intends to complete the well within approximately one month after the well has reached T.D.
 - b. Required verbal notifications are summarized in Table I, attached. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the District Office within twenty-four (24) hours after spudding. If the spudding occurs on a weekend or holiday, the written report will be submitted on the following regular work day.
 - c. In accordance with Onshore Oil and Gas Order No. 1, this well will be reported on Form 3160-6, "Monthly Report of Operations", starting with the month in which operations commence and continuing each month until the well is physically plugged and abandoned. This report will be filed directly with the BLM, Moab District Office, P.O. Box 970, Moab, Utah 84532.
 - d. Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported to the Resource Area in accordance with requirements of NPL-3A.



Permitco Incorporated
A Petroleum Permitting Company

ONSHORE ORDER NO.
Quintana Petroleum Corp.
Caballo Unit Federal 2-9
1800' FSL and 1680'FWL
Sec. 9, T36S-R23E
San Juan County, Utah

CONFIDENTIAL-TIGHT HOLE

DRILLING PROGRAM

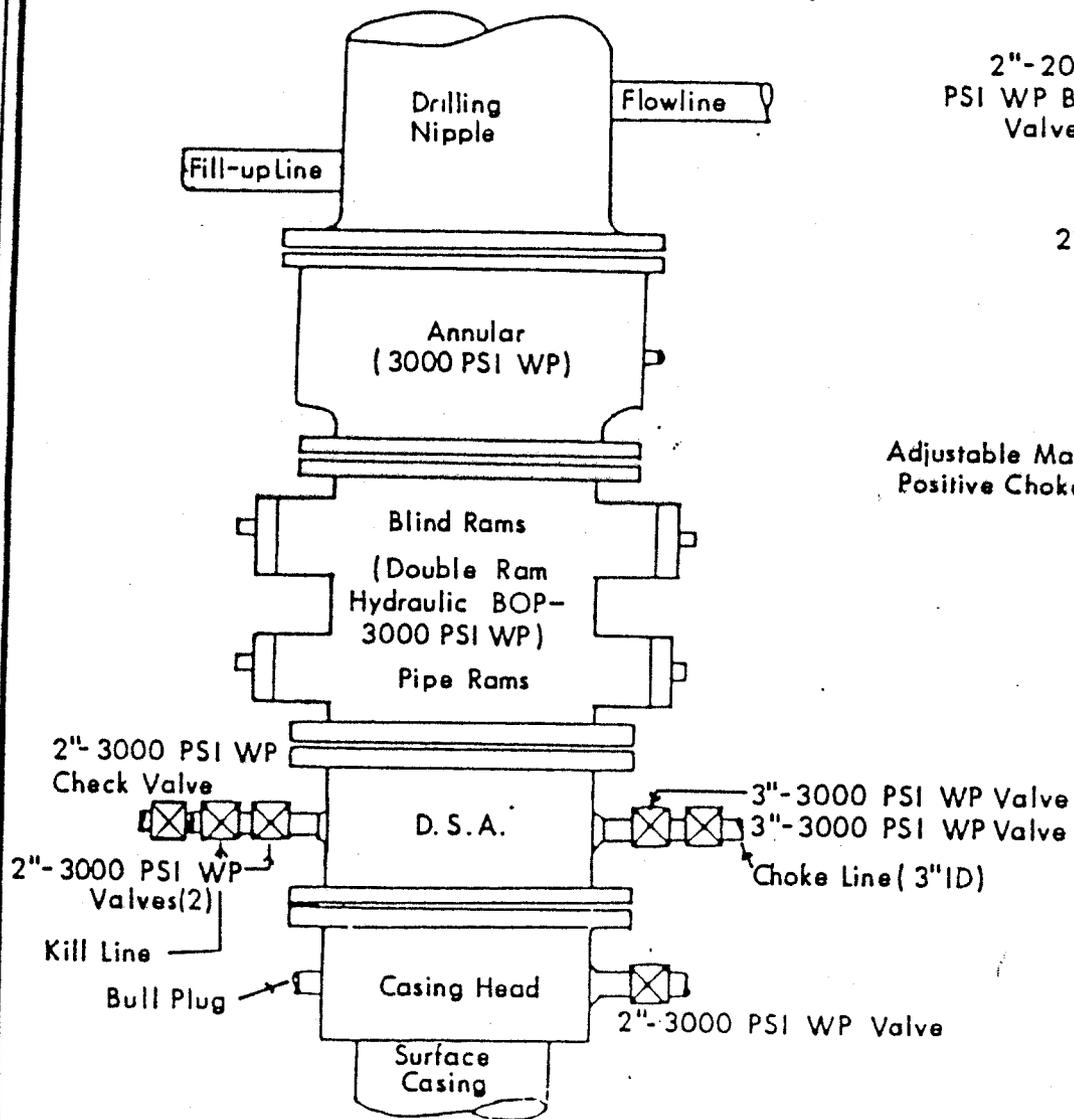
- e. Should the well be successfully completed for production, the District Manager will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than five (5) business days following the date on which the well is placed on production.
- f. A first production conference will be scheduled within fifteen (15) days after receipt of the first production report. The Resource Area Office will coordinate the field conference.
- g. A "Subsequent Report of Abandonment" (Form 3160-5) will be filed with the District Manager within thirty (30) days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the Area Manager or his representative, or the appropriate surface managing agency.
- h. Approval to vent/flare gas during initial well evaluation will be obtained from the District Office. This preliminary approval will not exceed 30 days or 50 MMCF gas. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.
- i. Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6. The marker will be constructed as follows: Above ground pipe. The top of the marker will be closed or capped.
- j. The following minimum information will be permanently placed on the marker with a plate, cap, or beaded-on with a welding torch:

"Fed" or "Ind", as applicable. "Well number, location by 1/4 1/4, section, township and range". "Lease number".

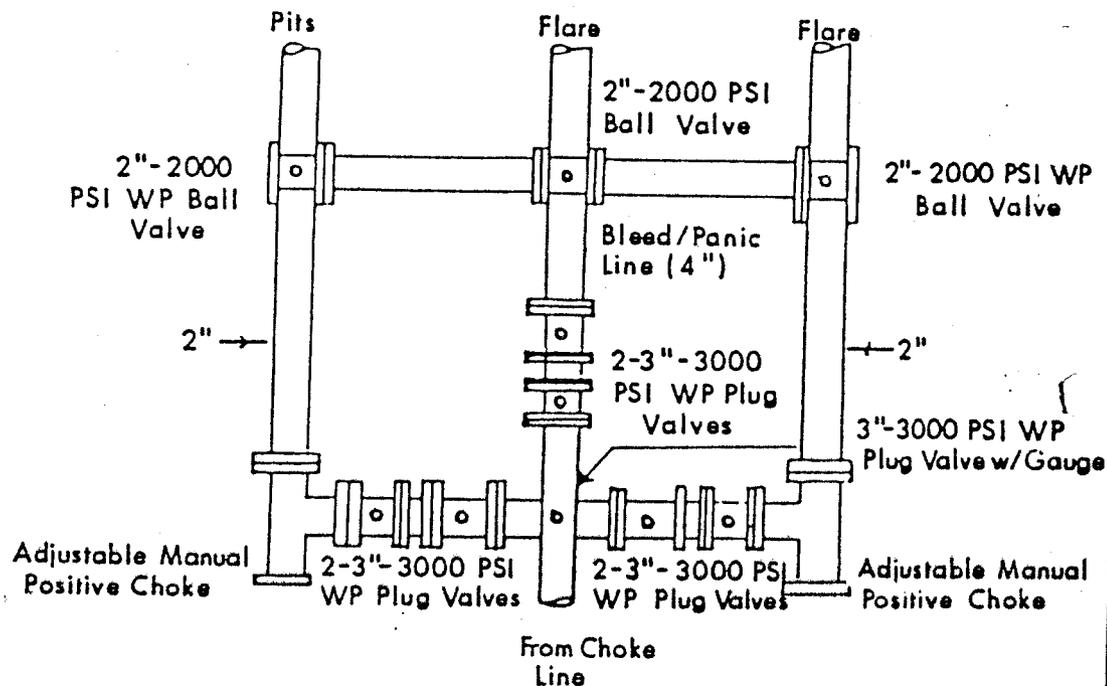


Permitco Incorporated
A Petroleum Permitting Company

**BOP SCHEMATIC
3000 PSI WORKING PRESSURE**



PLAN VIEW CHOKER MANIFOLD



The hydraulic closing unit will be located more than 30' from the wellhead. Choke & bleed/panic lines will go to the pit and flare. All connections in choke line and manifold will be flanged or welded. All flanges should be ring joint gasket type. All turns in lines shall be constructed using targeted 90° tees or block ells. All lines shall be anchored.

Quintana

Denver, Colorado

BOPE SCHEMATIC

ONSHORE ORDER NO.
Quintana Petroleum Corp.
Caballo Unit Federal 2-9
1800' FSL and 1680' FWL
Sec. 9, T36S - R23E
San Juan County, Utah

CONFIDENTIAL-TIGHT HOLE

SURFACE USE PLAN

ONSHORE OIL & GAS ORDER NO. 1

Thirteen Point Surface Use Plan

1. Existing Roads

- a. The proposed well site is located 25 miles southeast of Monticello, Utah.
- b. Directions to the location from Blanding, Utah are as follows:

Go north on Highway 191 for 8.9 miles. Turn east onto the Devils Canyon Road (Alkali #204) and proceed 3.0 miles in a southeasterly direction to a fork in the road. Turn right onto Mustang 207 and go south and west 1.1 miles. Turn left onto a bladed oilfield road and proceed southerly for 1.1 miles. Turn right (west) onto flagged access and proceed approximately 900 feet to the location.
- c. The roads in the area are primarily county roads. See Map #1.
- d. Improvement to the existing access will not be necessary.
- e. All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.
- f. An encroachment permit will be obtained from the San Juan County Road Department, 801/587-2231, ext. 43.

2. Planned Access Roads

- a. The last 900 feet will be new access. It is anticipated that the road will be flatbladed initially during drilling operations and upgraded if the well is productive.
- b. The maximum total disturbed width will be 30 feet.
- c. The grade will be approximately 5%.

ONSHORE ORDER NO.
Quintana Petroleum Corp.
Caballo Unit Federal 2-9
1800' FSL and 1680' FWL
Sec. 9, T36S - R23E
San Juan County, Utah

CONFIDENTIAL-TIGHT HOLE

SURFACE USE PLAN

- d. No turnouts are anticipated. No culverts are anticipated at this time but drainage will be installed as needed.
 - e. Trees along the new access route will be stockpiled along the access.
 - f. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance by the surface owner.
 - g. The access road will be water barred or brought to Class III Road Standards within 60 days of dismantling of the drilling rig. If this time frame cannot be met, the San Juan Area Manager will be notified so that temporary drainage control can be installed along the access road.
3. Location of Existing Wells Within a 1-Mile Radius of the Proposed Location. (See Map #1).
- a. Water Wells - none
 - b. Injection or disposal wells - none
 - c. Producing Wells - one
 - d. Drilling Wells - none
4. Location of Tank Batteries and Production Facilities.
- a. All permanent structures (onsite for six months or longer) constructed or installed (including oil well pump jacks) will be painted a flat, nonreflective, earthtone color to match the standard environmental colors, as determined by the Rocky Mountain Five-State Interagency Committee. All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The color will be neutral to blend in with the terrain.



Permitco Incorporated
A Petroleum Permitting Company

ONSHORE ORDER NO.
Quintana Petroleum Corp.
Caballo Unit Federal 2-9
1800' FSL and 1680' FWL
Sec. 9, T36S - R23E
San Juan County, Utah

CONFIDENTIAL-TIGHT HOLE

SURFACE USE PLAN

4. Production Facilities (cont.)

- b. If a tank battery is constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain 1-1/2 times the storage capacity of the largest tank.
- c. If the well is productive, a production facility layout will be submitted showing the proposed facilities.
- d. All loading lines will be placed inside the berm surrounding the tank battery.
- e. Any necessary pits will be properly fenced to prevent any wildlife entry. The production pit will be flagged overhead.
- f. All site security guidelines identified in 43 CFR 3162.7-4 regulations will be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.
- g. All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the District Manager.
- h. Gas meter runs for each well will be located within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and 500 feet downstream of the meter run or any production facilities. Meter runs will be housed and/or fenced.
- i. The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first three months on new meter installations and at least quarterly thereafter. The Area Manager will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the Resource Area Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.



Permitco Incorporated
A Petroleum Permitting Company

ONSHORE ORDER NO.
Quintana Petroleum Corp.
Caballo Unit Federal 2-9
1800' FSL and 1680' FWL
Sec. 9, T36S - R23E
San Juan County, Utah

CONFIDENTIAL-TIGHT HOLE

SURFACE USE PLAN

5. Location and Type of Water Supply
 - a. All water needed for drilling purposes will be obtained from a private source.
 - b. Water will be trucked to location over the county roads in the area.
 - c. No water well is to be drilled on this lease.
 - d. Use of water for this operation will approved by obtaining a temporary use permit from the Utah State Engineer, in Price, Utah, 801/637-1303.
 - e. Water obtained on private land, or land administered by another agency, will require approval from the owner or agency for use of the land.

6. Source of Construction Material
 - a. Road surfacing material will be obtained from a commercial source. Pad construction material will be native.
 - b. The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3.

7. Methods for Handling Waste Disposal
 - a. The reserve pit will not be lined unless pourous material is encountered. At least half the capacity will be in cut. If blasting of the pit area is necessary the State of Utah - Natural Resources Office will be notified for inspection of the pit to determine the necessity of a pit liner.
 - b. Three sides of the reserve pit will be fenced with three strands of barbed wire before drilling starts. The fourth side will be fenced as soon as the drilling is completed. The fence will be kept in good repair while the pit is drying.
 - c. All trash will be contained in a trash cage and hauled to an approved landfill upon completion of drilling operations.

ONSHORE ORDER NO.
Quintana Petroleum Corp.
Caballo Unit Federal 2-9
1800' FSL and 1680' FWL
Sec. 9, T36S - R23E
San Juan County, Utah

CONFIDENTIAL-TIGHT HOLE

SURFACE USE PLAN

7. Methods for Handling Waste Material (cont.)

- d. At the request of Quintana Petroleum, no burning will be permitted at this location.
- e. Produced waste water will be confined to a lined pit for a period not to exceed 90 days after initial production. During the 90-day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).

8. Ancillary Facilities

- a. There are no airstrips, camps, or other facilities planned during the drilling of the proposed well.

9. Well Site Layout

- a. See Diagram #1 for rig layout. See Diagram #2 for cross section of drill pad. See Diagram #3 for cuts and fills.
- b. The location of mud tanks; reserve, trash cage; pipe racks; living facilities and soil stockpiles will be shown on Diagram #1 and #3. The location will be laid out and constructed as discussed during the predrill conference.
- c. Approximately 10 inches (or the maximum amount) of topsoil material will be removed from the location and stockpiled on the north side of the wellpad. Topsoil along the access will be reserved in place.
- d. Access to the well pad will be from the east edge of the pad.

10. Reclamation

- a. Immediately upon completion of drilling, the location and surrounding area will be cleared of all remaining debris, materials, trash and junk not required for production.



Permitco Incorporated
A Petroleum Permitting Company

ONSHORE ORDER NO.
Quintana Petroleum Corp.
Caballo Unit Federal 2-9
1800' FSL and 1680' FWL
Sec. 9, T36S - R23E
San Juan County, Utah

CONFIDENTIAL-TIGHT HOLE

SURFACE USE PLAN

10. Reclamation of Surface (cont.)

- b. Before any dirt work to restore the location takes place, the reserve pit must be completely dry.
- c. All disturbed areas will be recontoured to approximate the natural contours.
- d. The stockpiled topsoil will be spread evenly over the disturbed contours.
- e. Seed will be drilled at a time specified by the surface owner.

The following seed mixture was requested by the surface owner:

<u>Species</u>	<u>Lbs./acre</u>
Crested Wheatgrass	7.5

- f. The reserve pit and that portion of the location and access road not needed for production and production facilities will be reclaimed.

11. a. Surface Ownership

Ivan Watkins
c/o Clyde Watkins
P.O. Box 938
Blanding, Utah 84511
801/678-2414

b. Mineral Ownership

Federal



Permitco Incorporated
A Petroleum Permitting Company

ONSHORE ORDER NO. 1
Quintana Petroleum Corp.
Caballo Unit Federal 2-9
1800' FSL and 1680' FWL
Sec. 9, T36S - R23E
San Juan County, Utah

CONFIDENTIAL-TIGHT HOLE

SURFACE USE PLAN

12. Other Information

- a. There will be no deviation from the proposed drilling and/or workover program without prior approval from the District Manager. Safe drilling and operating practices must be used. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.3-2.
- b. "Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3162.3-2.
- c. The dirt contractor will be provided with an approved copy of the surface use plan.
- d. All persons in the area who are associated with the project will be informed by the operator that they will be subject to prosecution for disturbing archaeological sites or collecting artifacts. If subsurface cultural material is exposed during construction, work at that spot will stop immediately and the BLM, San Juan Resource Area Office will be contacted (801/587-2141.) The operator will be responsible for the cost of evaluation of the discovery and proper mitigation measures. Any decision as to proper mitigation shall be made by the authorized officer after consulting with the operator.
- e. This permit will be valid for a period of one year from the date of approval. After permit termination, a new application will be filed for approval for any future operations.
- f. If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to a contraction in the unit or other lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligation determined by the authorized officer.
- g. An archeological study was conducted by LaPlata Archeological Consultants. No significant cultural resources were found and clearance is recommended. A copy of this report will be submitted directly by LaPlata Archeological Consultants.



Permitco Incorporated
A Petroleum Permitting Company

ONSHORE ORDER NO.
Quintana Petroleum Corp.
Caballo Unit Federal 2-9
1800' FSL and 1680' FWL
Sec. 9, T36S - R23E
San Juan County, Utah

CONFIDENTIAL-TIGHT HOLE

SURFACE USE PLAN

13. Lessee's or Operator's Representative and Certification

Permit Matters

PERMITCO INC.
Lisa L. Green
P.O. Box 44065
Denver, CO 80201-4065
303/322-7878

Drilling & Completion Matters

QUINTANA PETROLEUM CORP.
1050-17th St.
Suite 400
Denver, CO 80265
303/628-9211 (W) -
303/969-9468 (H) - Scott Kimbrough

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Quintana Petroleum Corp. and its contractors and subcontractors in conformity with the plan and the terms and conditions under which it is approved.

This statement is subject to the provision of 18 U.S.C. 1001 for the filing of a false statement.

March 28, 1988
Date:



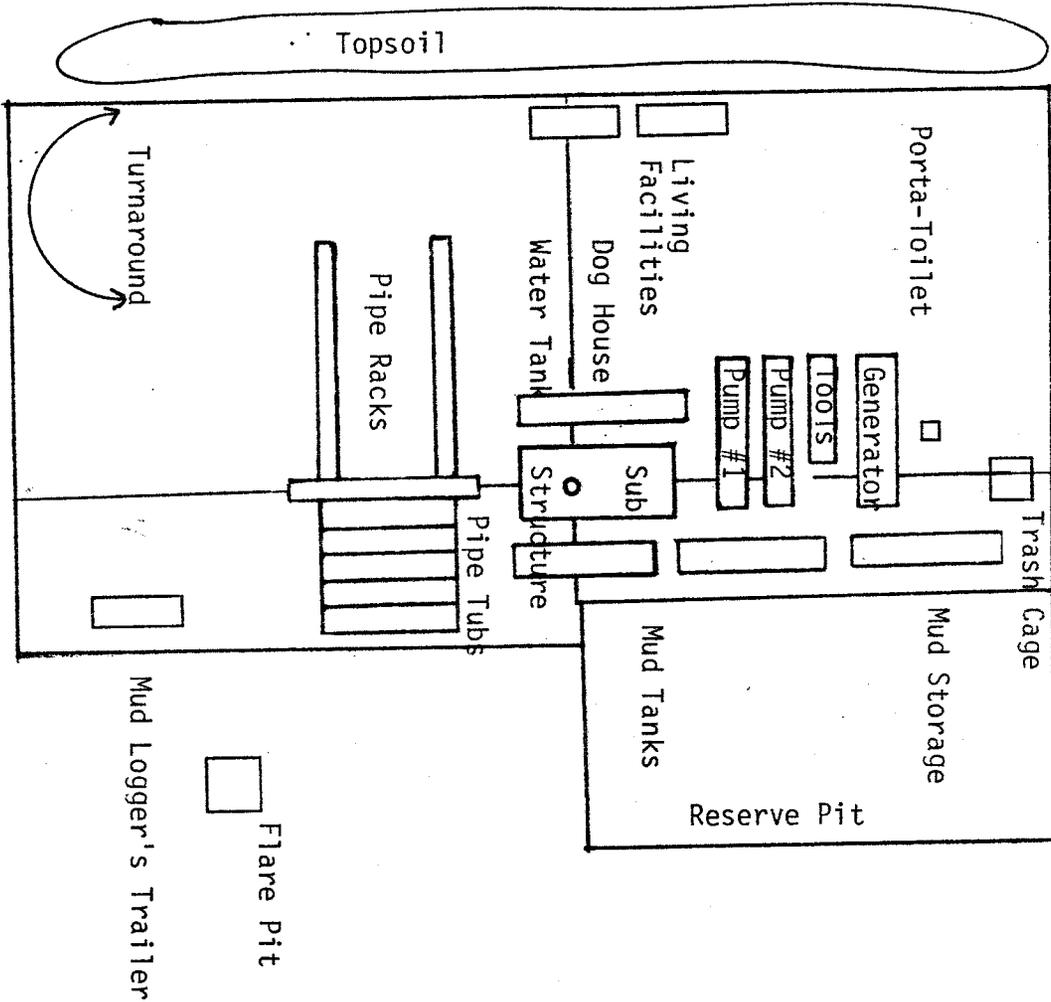
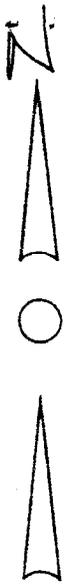
Lisa L. Green - PERMITCO INC.
Authorized Agent for:
QUINTANA PETROLEUM CORP.



GRAM #1
Rig Layout

Quintana Petroleum Corp.
Caballo Federal Unit #2-9
1800' FSL and 1680' FWL
Sec. 9, T36S - R23E
San Juan County, Utah

Scale: 1" = 60'



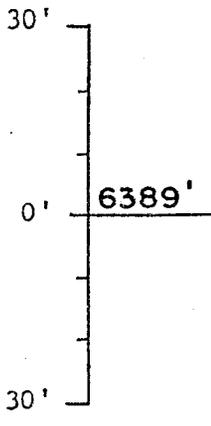
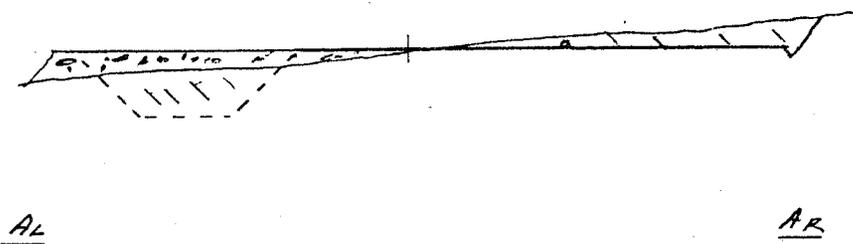
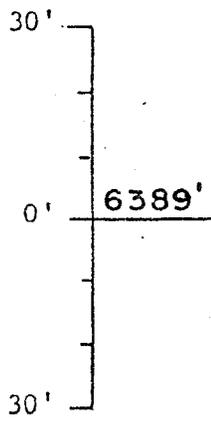
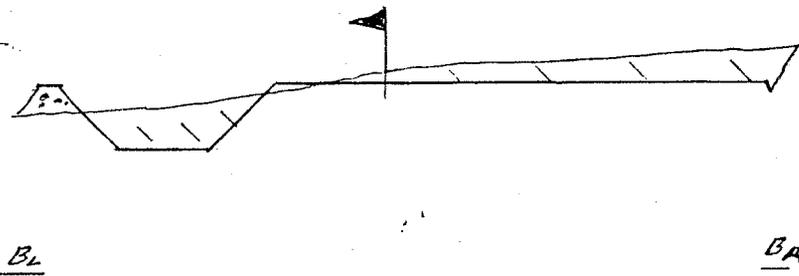
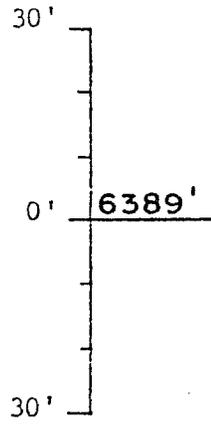
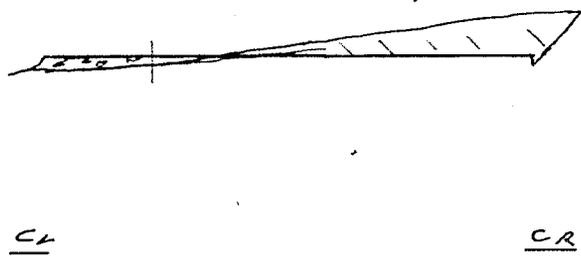
WELL PAD CROSS-SECTION

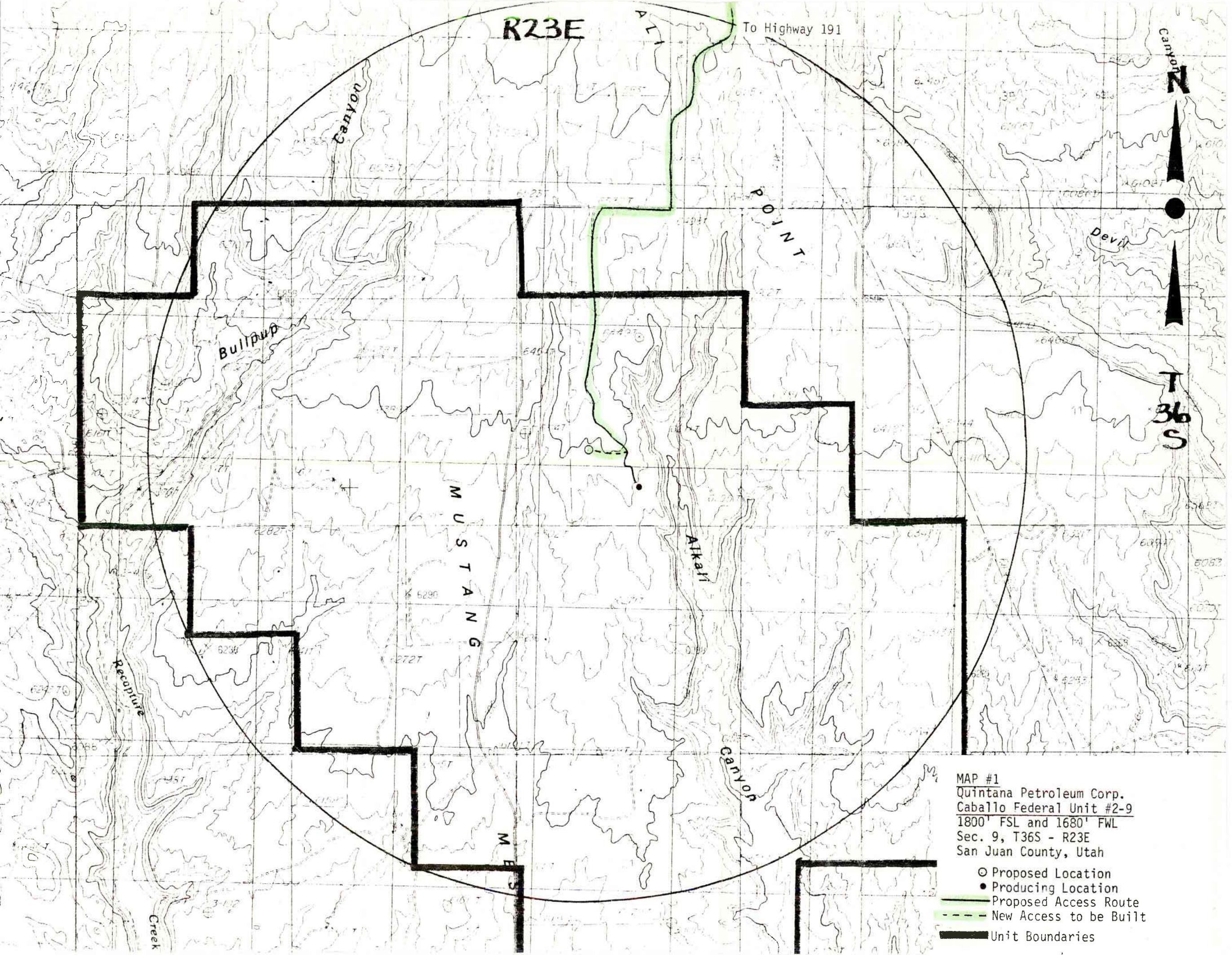
Caballo Federal 2-9

Cut /////
Fill 

Scales: 1" = 60' H.
1" = 30' V.

Quintana Petroleum Corp.
Caballo Federal Unit #2-9
1800' FSL and 1680' FWL
Sec. 9, T36S - R23E
San Juan County, Utah





R23E

To Highway 191

T
36
S

Bullpup

M
U
S
T
A
N
G

Alkali

Canyon

Recapture

Creek

MAP #1
Quintana Petroleum Corp.
Caballo Federal Unit #2-9
1800' FSL and 1680' FWL
Sec. 9, T36S - R23E
San Juan County, Utah

- Proposed Location
- Producing Location
- Proposed Access Route
- - - New Access to be Built
- █ Unit Boundaries

CONFIDENTIAL

OPERATOR Quintana Petroleum Corp. DATE 4-7-88

WELL NAME Caballo ~~Federal~~ Unit 2-9

SEC NESW 9 T 36S R 23E COUNTY San Juan

43-637-31402
API NUMBER

Fed.
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

Unit well
Need water permit

CONFIDENTIAL
PERIOD
EXPIRED
ON 9-05-89

APPROVAL LETTER:

SPACING:

R615-2-3

Caballo
UNIT

R615-3-2

CAUSE NO. & DATE

R615-3-3

STIPULATIONS:

1- water



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

April 11, 1988

Quintana Petroleum Corporation
c/o Permitco, Incorporated
P. O. Box 44065
Denver, Colorado 80201-4065

Gentlemen:

Re: Caballo Unit 2-9 - NE SW Sec. 9, T. 36S, R. 23E
1800' FSL, 1680' FWL - San Juan County, Utah

Approval to drill the referenced well is hereby granted in accordance with Section 40-6-18, Utah Code Annotated, as amended 1983; and predicated on Rule R615-2-3, Oil and Gas Conservation General Rules, subject to the following stipulations:

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water as required by Chapter 3, Title 73, Utah Code Annotated.

In addition, the following actions are necessary to fully comply with this approval:

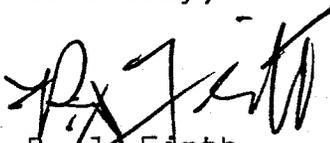
1. Spudding notification within 24 hours after drilling operations commence.
2. Submittal of an Entity Action Form within five working days following spudding and whenever a change in operations or interests necessitates an entity status change.
3. Submittal of the Report of Water Encountered During Drilling, Form OGC-8-X.
4. Prompt notification if it is necessary to plug and abandon the well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or Jim Thompson, Lead Inspector, (Home) 298-9318.

Page 2
Quintana Petroleum Corporation
Caballo Unit 2-9
April 11, 1988

5. Compliance with the requirements of Rule R615-3-22, Gas Flaring or Venting, Oil and Gas Conservation General Rules.
6. Prior to commencement of the proposed drilling operations, plans for facilities for disposal of sanitary wastes at the drill site shall be submitted to the local health department. These drilling operations and any subsequent well operations must be conducted in accordance with applicable state and local health department regulations. A list of local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 538-6121.
7. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31402.

Sincerely,



R. J. Firth
Associate Director, Oil & Gas

as
Enclosures
cc: Branch of Fluid Minerals
D. R. Nielson
8159T

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1A. TYPE OF WORK
 DRILL DEEPEN PLUG BACK

B. TYPE OF WELL
 OIL WELL GAS WELL OTHER SINGLE ZONE MULTIPLE ZONE

2. NAME OF OPERATOR 303/628-9211 1050-17th St., Suite 400
 Quintana Petroleum Corp. Denver, CO 80265

3. ADDRESS OF OPERATOR 303/322-7878 P.O. Box 44065
 Permitco Inc. - Agent Denver, CO 80201-4065

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
 At surface 1800' FSL and 1680' FWL
 At proposed prod. zone NE NW Sec. 9

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 25 miles southeast of Monticello, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 360'

16. NO. OF ACRES IN LEASE 1,703.39

17. NO. OF ACRES ASSIGNED TO THIS WELL 40

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. approx. 1400'

19. PROPOSED DEPTH 6863'

20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DP, RT, GR, etc.)
 6390' GR

22. APPROX. DATE WORK WILL START*
 Immediately upon approval of this application.

23. PROPOSED CASING AND CEMENTING PROGRAM

5. LEASE DESIGNATION AND SERIAL NO.
 U-23520

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
 N/A

7. UNIT AGREEMENT NAME
 Caballo Unit

8. FARM OR LEASE NAME
 Caballo Federal Unit

9. WELL NO.
 #2-9

10. FIELD AND POOL, OR WILDCAT
 Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 Sec. 9, T36S - R23E

12. COUNTY OR PARISH 13. STATE
 San Juan Utah

RECEIVED
 APR 27 1988
 DIVISION OF
 OIL, GAS & MINING

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNER Dean G. Green TITLE Consultant for Quintana Petroleum Corp. DATE 3/28/88

(This space for Federal or State office use)

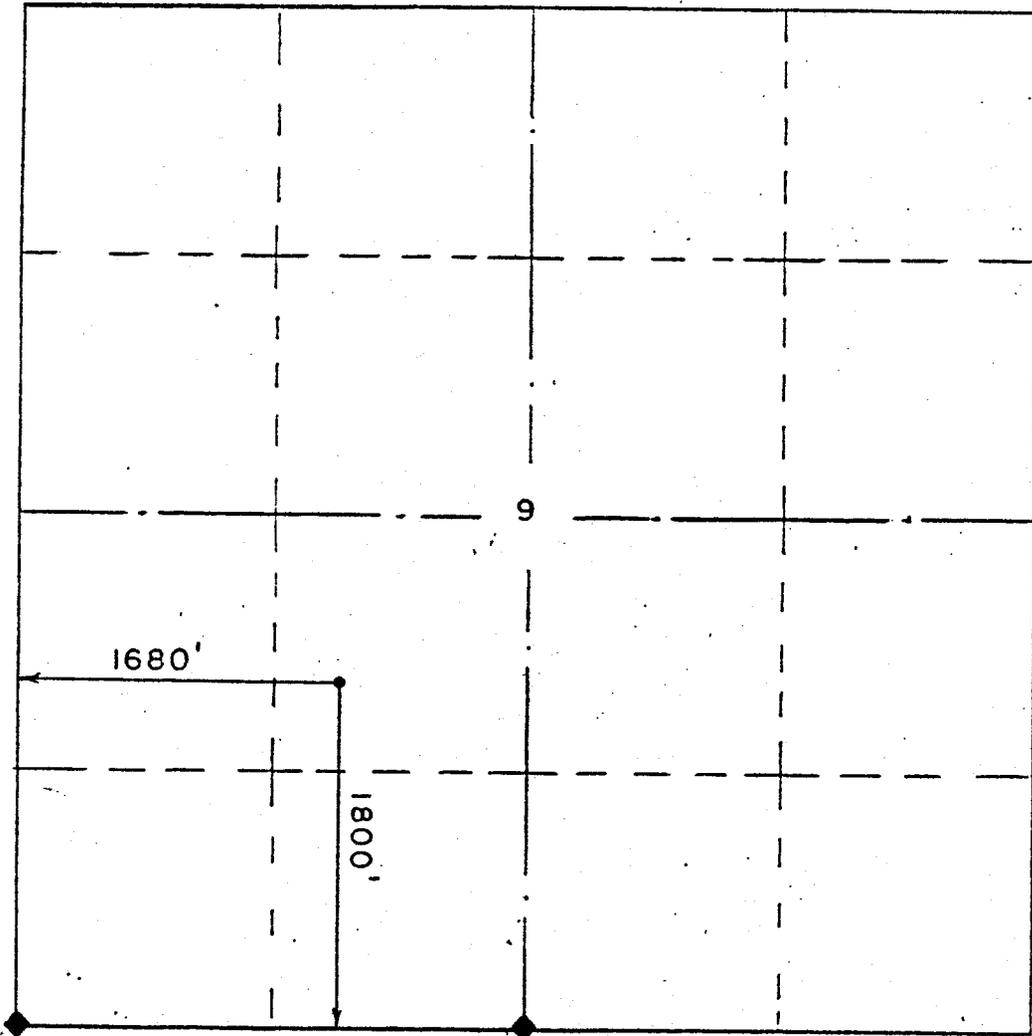
PERMIT NO. _____ APPROVAL DATE _____
 APPROVED BY /s/ Kenneth V. Rhea TITLE Assistant District Manager DATE APR 25 1988
 CONDITIONS OF APPROVAL, IF ANY:

FLARING OR VENTING OF GAS IS SUBJECT TO NTL 4-A DATED 1/1/80
CONDITIONS OF APPROVAL ATTACHED
 *See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Docm

WELL LOCATION AND ACREAGE DEDICATION PLAT



1"=1000'
 ◆ brass cap

WELL LOCATION DESCRIPTION:
 Quintana Petroleum, Caballo Federal 2-9
 1800'FSL & 1680'FWL
 Section 9, T.36 S., R.23 E., SLM
 San Juan County, Utah
 6390'grd. elevation
 References: N 17 46'E , 720',6422'grd.

The above plat is true and correct to my knowledge and belief.

16 March 1988

REGISTERED LAND SURVEYOR
 No. 5705
 GERALD G. HUBBLESTON
 STATE OF UTAH
 LS

Gerald G. Hubbleston

Gerald G. Hubbleston

Quintana Petroleum Corporation
Well No. Caballo Federal Unit 2-9
Sec. 9, T. 36 S., R. 23 E.
San Juan County, Utah
Lease U-23520

CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Quintana Petroleum Corporation is the bonded entity on this application. Liability will remain with the bonded party named above until we are formally notified by letter of the new bonded entity in reference to this Application for Permit to Drill.

NOTIFICATIONS

Notify the San Juan Resource Area, at (801) 587-2141 for the following:

2 days prior to commencement of dirt work, construction or reclamation;

1 day prior to spudding;

Notify the Moab District Office, Branch of Fluid Minerals at (801) 259-6111 for the following:

No well abandonment operations will be commenced without the prior approval of the District Manager. In the case of newly drilled dry holes, and in emergency situations, verbal approval can be obtained by calling the following individuals, in the order listed.

Dale Manchester, Petroleum Engineer Office Phone: (801) 259-6111

Home Phone: (801) 259-6239

Lynn Jackson, Chief, Branch of Fluid Minerals

Office Phone: (801) 259-6111

Home Phone: (801) 259-7990

Paul Brown, I&E Coordinator

Office Phone: (801) 259-6111

Home Phone: (801) 259-7018

24 hours advance notice is required for all abandonments.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to test or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals)

5. LEASE DESIGNATION AND SERIAL NO.
U-23520

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
Caballo Unit

8. FARM OR LEASE NAME
CABALLO UNIT FEDERAL

9. WELL NO.
#2-9

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., E., M., OR BLK. AND SURVEY OR AREA
Section 9, T36S-R23E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

MAY 9 1988

CONFIDENTIAL

DIVISION OF OIL, GAS & MINING (303)628-9211

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
QUINTANA PETROLEUM CORPORATION

3. ADDRESS OF OPERATOR
1050 - 17th Street, Suite 400, Denver, Colorado 80265

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

14. PERMIT NO. 43-037-31402

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6390' GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF

PULL OR ALTER CASING

WATER SHUT-OFF

REPAIRING WELL

FRACTURE TREAT

MULTIPLE COMPLETE

FRACTURE TREATMENT

ALTERING CASING

SHOOT OR ACIDIZE

ABANDON*

SHOOTING OR ACIDIZING

ABANDONMENT*

REPAIR WELL

CHANGE PLANS

(Other)

(Other)

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Confirmation of verbal approval from Dale Manchester, BLM - Moab, and Rich McClure, BLM - Monticello to move the subject well from the approved location (1800' FSL & 1680' FWL) to a spot 100' due northeast. The new location will be surveyed and a plat provided when available. See attached sheet for calculated new location. Note: new location lies well within the 10-acre archeologically approved area previously approved. Also, approval has been received from landowner.

18. I hereby certify that the foregoing is true and correct

SIGNED

John R. Bays

TITLE

Production Technician

DATE

5/6/88

(This space for Federal or State office use)

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

ACCEPTED BY THE STATE

OF UTAH DIVISION OF OIL, GAS, AND MINING

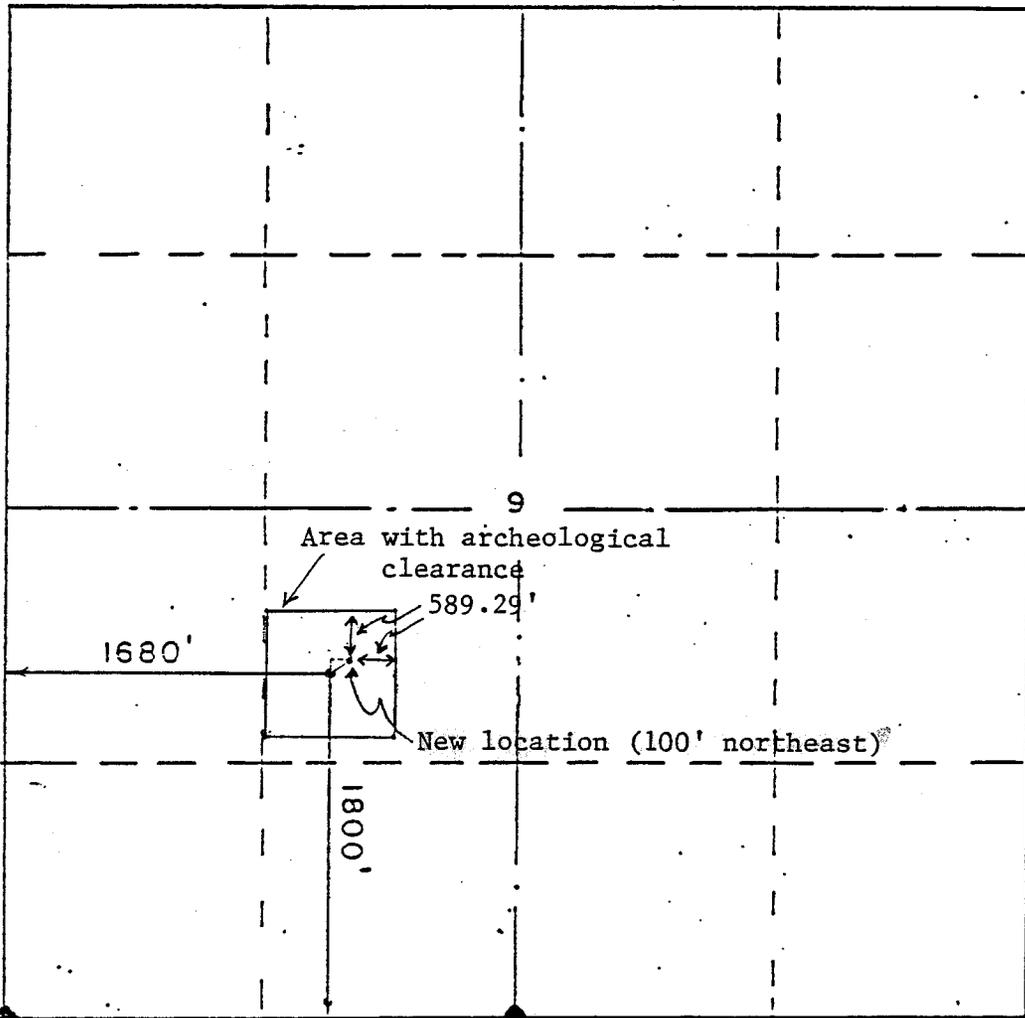
cc: BLM - Monticello
State of Utah

Federal approval of this action is required before commencing operations. See Instructions on Reverse Side

DATE: 5-10-88

BY *John R. Bays*

WELL LOCATION AND ACREAGE DEDICATION PLAN.



WELL LOCATION DESCRIPTION:
 Quintana Petroleum, Caballo Federal 2-9
 1800'FSL & 1680'FWL
 Section 9, T.36 S., R.23 E., SLM
 San Juan County, Utah
 6390'grd. elevation
 References: N 17 46'E , 720', 6422'grd.

The above plat is true and correct to my knowledge and belief.

16 March 1988

REGISTERED LAND SURVEYOR
 No. 5705
 GERALD G. HULLSTROM
 HULLSTROM
 Gerald G. Hullstrom LS
 STATE OF UTAH

TEMPORARY

FILING FOR WATER IN THE STATE OF UTAH

APR 4 1988

MAR 29 1988

Rec. by
 Fee Rec. 30.00
 Receipt # 24001
 Microfilmed
 Roll #

APPLICATION TO APPROPRIATE WATER RIGHTS SALT LAKE

For the purpose of acquiring the right to use a portion of the unappropriated water of the State of Utah, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of the Laws of Utah.

* WATER RIGHT NO. 09 — 1566 * APPLICATION NO. A T63151

1. *PRIORITY OF RIGHT: March 29, 1988 * FILING DATE: March 29, 1988

2. OWNER INFORMATION
 Name(s): Quintana Petroleum Corp. c/o PERMITCO INC Interest: %
 Address: P.O. Box 44065
 City: Denver State: CO Zip Code: 80201-4065
 Is the land owned by the applicant? Yes No XX
 (If "No", please explain in EXPLANATORY section.)

3. QUANTITY OF WATER: cfs and/or 0.5 ac-ft

4. SOURCE: Spring/Pond * DRAINAGE:
 which is tributary to
 which is tributary to
 POINT(S) OF DIVERSION: COUNTY: San Juan
NW SW NW Sec. 34, T35S - R23E *no wells this loc.*
N. 990 ft. & W. 330 ft. from W $\frac{1}{2}$ Cor. Sec. 34, T35S, R23E, SLB&M.

Description of Diverting Works: 80 bbl. pump truck w/enclosed tank
 * COMMON DESCRIPTION: 5 miles NE of Blanding Blanding Quad

5. POINT(S) OF REDIVERSION
The water will be rediverted from N/A at a point:

Description of Rediverting Works:

6. POINT(S) OF RETURN
 The amount of water consumed will be cfs or 0.5 ac-ft
 The amount of water returned will be cfs or 0 ac-ft
 The water will be returned to the natural stream/source at a point(s): N/A

7. STORAGE
 Reservoir Name: N/A Storage Period: from to
 Capacity: ac-ft. Inundated Area: acres
 Height of dam: feet
 Legal description of inundated area by 40 acre tract(s):

* These items are to be completed by the Division of Water Rights

TEMPORARY

Appropriate

8. List any other water rights which will supplement this application Not known

CONFIDENTIAL

9. NATURE AND PERIOD OF USE

Irrigation:	From _____ to _____
Stockwatering:	From _____ to _____
Domestic:	From _____ to _____
Municipal:	From _____ to _____
Mining:	From _____ to _____
Power:	From _____ to _____
Other: Oil & Gas Drilling	From <u>4/15/88</u> to <u>4/15/89</u>

10. PURPOSE AND EXTENT OF USE

Irrigation: _____ acres. Sole supply of _____ acres.
 Stockwatering (number and kind): _____
 Domestic: _____ Families and/or _____ Persons
 Municipal (name): _____
 Mining: _____ Mining District in the _____ Mine
 Ores mined: _____
 Power: Plant name: _____ Type: _____ Capacity: _____
 Other (describe): Water will be used over the next year for an approximate period of 30 days use per well.

11. PLACE OF USE

Legal description of place of use by 40 acre tract(s): Water will be used at the following drillsites:
Caballo Fed. Unit #1-16, 200' FNL and 800' FEL, Sec. 16, T36S - R23E
Caballo Fed. Unit #2-9, 1800' FSL and 1680' FWL, Sec. 9, T36S - R23E *43-037-31402 Dr.*
Caballo Fed. Unit #1-8, 2510' FSL and 240' FEL, Sec. 8, T36S - R23E *43-037-31401 Dr.*
Caballo Fed. Unit #1-15, 1120' FNL and 700' FWL, Sec. 15, T36S - R23E *43-037-31403 Dr.*

12. EXPLANATORY

The following is set forth to define more clearly the full purpose of this application. (Use additional pages of same size if necessary):

Permission for the use of this water has been obtained from Boyd Laws.
A letter indicating his consent will be forwarded directly to your office by Mr. Laws.
Mr. Laws has requested that we not use this water source during periods in which he needs it for his stock watering purposes. Quintana Petroleum Corp. has agreed to these terms.

The applicant(s) hereby acknowledges that he/she/they are a citizen(s) of the United States of America or intends to become such a citizen(s). The quantity of water sought to be appropriated is limited to that which can be beneficially used for the purposes herein described. The undersigned hereby acknowledges that even though he/she/they may have been assisted in the preparation of the above-numbered application through the courtesy of the employees of the Division of Water Rights, all responsibility for the accuracy of the information contained herein, at the time of filing, rests with the applicant(s).

Lisa L. Green
Signature of Applicant(s)

Lisa L. Green - PERMITCO INC.
Authorized Agent For:
QUINTANA PETROLEUM CORP.

Enc. - \$30.00 filing fee

STATE ENGINEER'S ENDORSEMENT

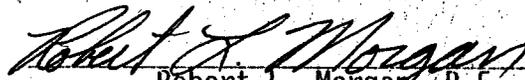
WATER RIGHT NUMBER: 09 - 1566

APPLICATION NO. T63151

1. March 29, 1988 Application received by MP.
 2. March 31, 1988 Application designated for APPROVAL by MP and KLJ.
 3. Comments:
-

Conditions:

This application is hereby APPROVED, dated April 12, 1988, subject to prior rights and this application will expire on April 12, 1989.


Robert L. Morgan, P.E.
State Engineer

WATER PERMIT
09-1567 (T-63152)

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API NO. 43-037-31402

NAME OF COMPANY: QUINTANA PETROLEUM CORPORATION

WELL NAME: CABALLO UNIT 2-9

SECTION NESW 9 TOWNSHIP 36S RANGE 23E COUNTY SAN JUAN

DRILLING CONTRACTOR EXETER

RIG # 68

SPUDDED: DATE 5/11/88

TIME 4:00 p.m.

HOW ROTARY

CONFIDENTIAL

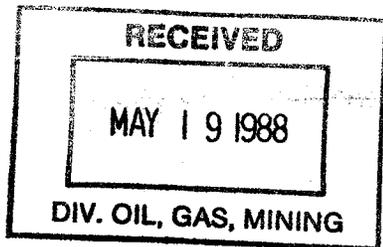
DRILLING WILL COMMENCE _____

REPORTED BY RAY KOEHN

TELEPHONE # 801-587-2274

DATE 5/12/88 SIGNED TAS

ENTITY ACTION FORM - DOGM FORM 6



OPERATOR QUINTANA PETROLEUM CORPORATION
ADDRESS 1050 - 17th Street, Suite 400
Denver, Colorado 80265

OPERATOR CODE N9485
PHONE NO. 303, 628-9211

CONFIDENTIAL

OPERATORS MUST COMPLETE FORM UPON SPUDDING NEW WELL OR WHEN CHANGE IN OPERATIONS OR INTERESTS NECESSITATES CHANGE IN EXISTING ENTITY NUMBER ASSIGNMENT.

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
B	99999	10830	43-037-31402	CABALLO UNIT FEDERAL #2-9	NE SW	9	36S	23E	San Juan	5/11/88	5/11/88
COMMENTS: Federal-lease Proposed Zone - Akah Unit - Caballo Unit (one other well in Unit #10830 - Akah formation - 36S 23E sec. 9)											
COMMENTS:											
COMMENTS:											
COMMENTS:											
COMMENTS:											
COMMENTS:											

- ACTION CODES: A - ESTABLISH NEW ENTITY FOR NEW WELL
 B - ADD NEW WELL TO EXISTING ENTITY
 C - RE-ASSIGN WELL FROM ONE EXISTING ENTITY TO ANOTHER EXISTING ENTITY
 D - RE-ASSIGN WELL FROM ONE EXISTING ENTITY TO A NEW ENTITY
 E - OTHER (EXPLAIN IN COMMENTS SECTION)

(SEE INSTRUCTIONS ON BACK OF FORM)

J. Williams
SIGNATURE
Production Technician 5/16/88
TITLE DATE

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
OIL AND GAS INSPECTION RECORD

Confidential

NE/SW

OPERATOR Quintana Petro. Corp LEASE _____
WELL NO. Corballe unit Fed. 2-9 API 43-037-31402
SEC. 9 T. 36S R. 23E CONTRACTOR _____
COUNTY San Juan FIELD _____

DRILLING/COMPLETION/WORKOVER:

APD WELL SIGN HOUSEKEEPING SCPE
 SAFETY POLL. CONTROL SURFACE USE PITS
 OPERATIONS OTHER

SHUT-IN / TA _____ :
 WELL SIGN HOUSEKEEPING None EQUIPMENT* SAFETY
 OTHER

ABANDONED:
 MARKER HOUSEKEEPING REHAB. OTHER

PRODUCTION:
 WELL SIGN HOUSEKEEPING EQUIPMENT* FACILITIES*
 METERING* POLL. CONTROL PITS DISPOSAL
 SECURITY SAFETY OTHER

GAS DISPOSITION:
 VENTED/FLARED SOLD LEASE USE

LEGEND: Y - YES OR SATISFACTORY
N - NO OR UNSATISFACTORY
NA - NOT APPLICABLE

*FACILITIES INSPECTED: Loc. & Xmas tree (New)

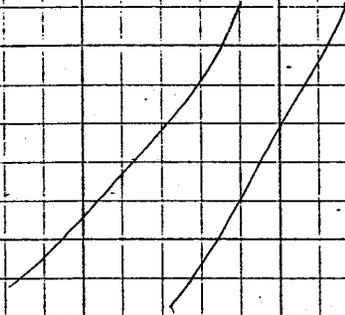
REMARKS: Well ~~is~~ Looks to have been completed it has Xmas tree no Flow lines. Loc has been Rehabed

ACTION: _____

INSPECTOR: Alvin Hoodman DATE 9/5/88 9:00 AM

WEST ↑

WEST HEAD
X
X



QUINTANA PETROLEUM CORPORATION

1050 SEVENTEENTH STREET
SUITE 400
DENVER, COLORADO 80265
(303) 628-9211

September 20, 1988

RECEIVED
SEP 26 1988

Bureau of Land Management
Moab District Office
P. O. Box 970
Moab, Utah 84532

DIVISION OF
OIL, GAS & MINING

RE: Caballo Unit Federal #2-9
Section 9, T36S-R23E
San Juan County, Utah

Gentlemen:

Enclosed for your records please find copies of the following information on the subject well:

1. Well Completion Report (Form 3160-4)
2. DST #1
3. Core Analysis
4. Mud Logger's Report
5. Geologist's Report
6. Electric Logs

We request that this and all information received on this well be held confidential for the maximum time allowable.

Very truly yours,



Jeannie Williams
Production Technician

/jw
enclosures
cc: Land Dept.
Geol. Dept.
State of Utah - DOGM

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

Form approved,
Budget Bureau No. 1004-0137
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

U-23520

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

N/A

7. UNIT AGREEMENT NAME

Caballo Unit

8. FARM OR LEASE NAME

CABALLO UNIT FEDERAL

9. WELL NO.

#2-9

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Section 9, T36S-R23E

12. COUNTY OR PARISH

San Juan

13. STATE

Utah

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL GAS WELL DRY Other SEP 26 1988

b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEPEN PLUG BACK DIFF. REVR. Other

2. NAME OF OPERATOR
QUINTANA PETROLEUM CORPORATION (OIL, GAS & MINING)
(303) 628-9211

3. ADDRESS OF OPERATOR
1050 - 17th Street, Suite 400, Denver, Colorado 80265

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface 1750' FWL & 1870' FSL (see attached survey plat)
At top prod. interval reported below Same
At total depth Same

14. PERMIT NO. 43-037-31402 DATE ISSUED 4/11/88

15. DATE SPUDDED 5/11/88 16. DATE T.D. REACHED 5/26/88 17. DATE COMPL. (Ready to prod.) 6/22/88 (now ST) 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 6394' GR 19. ELEV. CASINGHEAD 6394'

20. TOTAL DEPTH, MD & TVD 6895' 21. PLUG, BACK T.D., MD & TVD 6814' CIBP 22. IF MULTIPLE COMPL., HOW MANY* 23. INTERVALS DRILLED BY ROTARY TOOLS 0'-6895' CABLE TOOLS N/A

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* Information held confidential 25. WAS DIRECTIONAL SURVEY MADE No

26. TYPE ELECTRIC AND OTHER LOGS RUN DIGL/SDL/DSN/Cal/GR; DILG/Density; CAVL/GR/Cal; CBL/VDL/CCL/GR 27. WAS WELL CORED Yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9 5/8"	36#	2286.90'	12 1/4"	Cem w/525 sxs Lite & 200 sxs	"B" - None
5 1/2"	17# & 15.5#	6894.15'	8 3/4"	Cem w/50 sxs Poz & 290 sxs	None
				Thixotropic	

29. LINER RECORD 30. TUBING RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
N/A					2 7/8"	6486.48'	6711'

31. PERFORATION RECORD (Interval, size and number) CONFIDENTIAL Information held confidential
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. DEPTH INTERVAL (MD) AMOUNT AND KIND OF MATERIAL USED Information Confidential

33.* PRODUCTION
DATE FIRST PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) WELL STATUS (Producing or shut-in) S.I.
DATE OF TEST HOURS TESTED CHOKE SIZE PROD'N. FOR TEST PERIOD OIL—BBL. GAS—MCF. WATER—BBL. GAS-OIL RATIO
FLOW. TUBING PRESS. CASING PRESSURE CALCULATED 24-HOUR RATE OIL—BBL. GAS—MCF. WATER—BBL. OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) To be sold as soon as gas line available TEST WITNESSED BY

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records
SIGNED J. Williams TITLE Production Technician DATE 9/20/88

IGT

QUINTANA PETROLEUM CORPORATION
CABALLO UNIT FEDERAL #2-9
NE SW SECTION 9, T36S-R23E
SAN JUAN COUNTY, UTAH

INTERMOUNTAIN GEO-TECH, INC.
P. O. BOX 547
DELTA, CO 81416
303-874-7762

QUINTANA PETROLEUM CORPORATION
CABALLO UNIT FEDERAL #2-9
NE SW SECTION 9, T36S-R23E
SAN JUAN COUNTY, UTAH

TABLE OF CONTENTS

1. SUMMARY OF DAILY ACTIVITY	1
2. BIT RECORD	2
3. DEVIATION SHEET	3
4. DST	4

(1) COPY FINAL MUDLOG (FULLSIZE)
(1) COPY FINAL MUDLOG (HALFSIZE)

DRILLING CONTRACTOR: EXETER #68
DENVER, CO

DRILLING FOREMAN: MR. RAY KOEHN

PUSHER: MR. CURLEY TETER

GEO TECHNOLOGISTS: MR. DALE LOCKHART - MR. GREG LARKIN
INTERMOUNTAIN GEO-TECH, INC.
P. O. BOX 547
DELTA, CO 81416

DRILLING FLUID: MR. GEORGE GOEBEL
MILFART DRILLING FLUIDS
FARMINGTON, NEW MEXICO

DRILL STEM TEST: MR. DAVID DOLYNIUK
LYNES
FARMINGTON, NEW MEXICO

CORING: MR. RANDY ZENISEK
HOMCO CORING
CASPER, WY

WIRE LINE LOGS: WELLEX
VERNAL, UT

WELLSITE GEOLOGIST: MR. DOUG REDMAN

QUINTANA PETROLEUM CORPORATION
CABALLO UNIT FEDERAL #2-9
NE SW SECTION 9, T36S-R23E
SAN JUAN COUNTY, UTAH

SUMMARY OF DAILY ACTIVITY

DATE	ACTIVITY	MIDNITE DEPTH	24 HOUR FOOTAGE
5/17/88	IGT UNIT #2 ON LOC, RIGGING UP	--	--
5/18/88	DRLC	5010'	438'
5/19/88	DRLG	5448'	442'
5/20/88	DRLG, TOH NB #6, TIH DRLG, SURV	5890'	504'
5/21/88	DRLG, SURV	6394'	96'
5/22/88	CORING #1	6490'	26'
5/23/88	CORING #1, TOH TIH CORE #2	6516'	23'
5/24/88	CORE #2, TOH, TIH DRLG	6539'	13'
5/25/88	DRLG DST #1	6552'	204'
5/26/88	DRLG, TD, IGT UNIT #2 RELEASED	6756'	134'

I.G.T.
INTERMOUNTAIN GEO-TECH, INCORPORATED

Post Office Box 158
 Delta, Colorado 81416



Nick Larkin-President

303) 874-7762

DST # 1 6590' to 6638'

Date 5/25/88

FORMATION UPPER ISMAY

1st Open Open w/2" blow, 8" at 3 min, bottom of bucket in 4 min
1 lb in 5 min, 4 lb in 10 min, 8 lb in 15 min, 14 lb in 20 min,
20 lb in 25 min, 30 lb at shut in

NOTE: 7 min into 1st shut in gas to surface

2nd Open blow at 22 lb, 3' flare, 53 lb at 30 min, 82 lb at 60 min

	<u>MINUTES</u>	<u>TOP</u>	<u>MIDDLE</u>	<u>BOTTOM</u>
IHP		<u>3041</u>		<u>3180</u>
IF	<u>30</u>	<u>194</u>		<u>260</u>
FF	<u>60</u>	<u>2307</u>		<u>2475</u>
ISI	<u>60</u>	<u>194</u>		<u>260</u>
2F	<u>120</u>	<u>2473</u>		<u>2576</u>
2FF				
2SI				
FHP		<u>3000</u>		<u>3154</u>

Pipe Recovery 370' of mud & water 270' of gas cut mud
100' of gas cut water

Sample Recovery _____

Mud Resistivities
 Mud= _____ at _____ °F
 Top= _____ at _____ °F
 Middle= _____ at _____ °F
 Bottom= _____ at _____ °F
 Sampler= _____ at _____ °F

BHT 132 °F

Remarks _____

GEO-TECHNOLOGISTS Mr. Dale Lockhart

CABALLO #2-9

QUINTANA PETROLEUM CORPORATION

Sec 9, T36W, R23E
SAN JUAN COUNTY, UTAH

CONFIDENTIAL

TABLE OF CONTENTS

CABALLO #2-9
SEC 9, T36W, R23E
SAN JUAN COUNTY

	PAGE
WELL DATA SUMMARY	1
DAILY DRILLING SUMMARY	2
FORMATION TOPS	3
BIT RECORD	4
SHOW REPORT	5
DRILL STEM TEST REPORT	8
GEOLOGIC SUMMARY	9
SAMPLE DESCRIPTIONS	11
CORE #1 DESCRIPTION	18
CORE #2 DESCRIPTION	19

WELL DATA SUMMARY

WELL NAME: CABALLO UNIT FRDERAL #2-9
OPERATOR: QUINTANA PETROLEUM CORPORATION
LOCATION: NE SW SECTION 9, T36S, R23E
COUNTY: SAN JUAN COUNTY
STATE: UTAH
AREA: BLANDING BASIN - BULLPUP PROSPECT
DRILLING CONTRACTOR: EXETER, RIG #68
DRILLING ENGINEER: RAY KOEHN
WELL SITE GEOLOGY: DOUG REDMOND
ELEVATION: GL 6391'
KB 6402'
DEPTH LOGGED: 5100-6595'
DATE LOGGED: 5/18/88 to 5/28/88
TOTAL DEPTH: 6895'
HOLE SIZE: 12 1/4" to 2289', 8 3/4" to 6895'
CASING PROGRAM: 9 5/8" surface casing to 2289',
5 1/2" to 6895'
CORES: HOMCO
D.S.T.: BAKER LYNES
MUDLOGGING COMPANY: INTERMOUNTAIN GEO-TECH.
MECHANICAL LOGS: WELEX
WELL STATUS: AWAITING COMPLETION

DAILY DRILLING SUMMARY

1988	<u>DATE</u>	<u>DEPTH</u>	<u>PROGRESS</u>	<u>HRS.</u> <u>DRLG.</u>	<u>MUD</u> <u>WEIGHT</u>	<u>VISC.</u>	<u>W.L.</u>	<u>PH</u>	<u>ACTIVITY</u>
	5/14	2289'							Run Surface Casing
	5/18	4952'			H ₂ O				Drilling
	5/19	5471'	519'	19	H ₂ O				Trip For Bit
	5/20	6032'	561'	22	H ₂ O				Drilling
	5/21	6490'	458'	23	9.0	35	9.8	6.5	Circulate Samples
	5/22	6515'	25'	11	9.0	44	9.2	10.0	Core #1
	5/23	6529'	14'	13 3/4	9.0	37	9.6	10.0	Core #2
	5/24	6538'	9'	8 1/4	8.9	37	9.8	10.0	D.S.T. #1
	5/25	6602'	64'	6 1/4	9.3	39	9.6	10.0	Drilling
	5/26	6819'	217'	22 1/2	9.5	39	10.2	9.5	Circulate Samples
	5/27	6895'	76'	6	9.6	42	9.8	9.5	E-logs

FORMATION TOPS

ELEVATION: GL 6391'
KB 6402'

<u>FORMATION</u>	<u>PROGNOSIS</u>	<u>ESTIMATED TOP</u>	<u>E-LOG</u>	<u>SUBSEA</u>
DAKOTA	SURFACE			
CHINLE	2261'	2259'		
HERMOSA	5136'	5140'	5148'	+ 1254'
UPPER ISMAY	6494'	6475'	6473'	- 71'
HOVENWEEP SHALE	6604'	6576'	6573'	- 171'
LOWER ISMAY	6657'	6622'	6618'	- 216'
GOTHIC SHALE	6711'	6685'	6687'	- 285'
DESERT CREEK	6728'	6701'	6700'	- 298'
CHIMNEY ROCK SHALE	6842'	6838'	6848'	- 446'
AKAH	6863'	6865'	6870'	- 468'

SHOW REPORT

WELL NAME: CABALLO #2-9

AREA: BLANDING BASIN COUNTY: SAN JUAN STATE: UTAH

SHOW No.: 1 FORMATION: UPPER ISMAY

FOOTAGE - from 6500' to 6508' Net ftg 8'

	DT	TOTAL GAS	CHROMATOGRAPH BREAKDOWN					other
			C ₁	C ₂	C ₃	C _{4I}	C _{4N}	
BEFORE	45	54	0.50	0.10	TR			
DURING	6-10	80	0.68	0.33	0.24	0.07		
AFTER	48	34	0.35	0.08	TR			

LITHOLOGY TYPE & DESCRIPTION: LS - mgy, vf-med macroxln, sndy+fri, tr anhy, frm

POROSITY Est.: pp - 2mm vugs, estimate about 8%

STAIN DESCRIPTION: vugs are lined with dark brown to black staining

FLUORESCENCE and CUT DESCRIPTION: bright yellow spotty to even fluorescence,
cloudy yellow cut, moderately streaming yellow cut

REMARKS: Rock was described from core. Core had strong oil odor on freshly
fractured faces.

SHOW REPORT

WELL NAME: CABALLO #2-9

AREA: BLANDING BASIN COUNTY: SAN JUAN STATE: UTAH

SHOW No.: 2 FORMATION: DESERT CREEK

FOOTAGE - from 6778' to 6796' Net ftg 18'

	DT	TOTAL GAS	CHROMATOGRAPH BREAKDOWN					other
			C ₁	C ₂	C ₃	C _{4I}	C _{4N}	
BEFORE	6 at 6770'	40	0.07	0.02	TR			
DURING	2.5	245 at 6784'	0.17	0.08	0.03	TR		
AFTER	5	30	0.07	0.02				

LITHOLOGY TYPE & DESCRIPTION: DOLOMITE - mgy-brn, cryptoxln, vf microxln,
earthy, anhy ip, occ sl sucr, pred dns, sft, frm

POROSITY Est.: No visible \emptyset

STAIN DESCRIPTION: Trace black pin point stain

FLUORESCENCE and CUT DESCRIPTION: NONE

REMARKS: _____

SHOW REPORT

WELL NAME: CABALLO #2-9

AREA: BA DING BASIN COUNTY: SAN JUAN STATE: UTAH

SHOW No.: 3

FOOTAGE - from 6816' to 6826' Net ftg 10'

	DT	TOTAL GAS	CHROMATOGRAPH BREAKDOWN					other
			C ₁	C ₂	C ₃	C _{4I}	C _{4N}	
BEFORE	5	50	0.08	0.03	TR			
DURING	1.5	435	0.30	0.18	0.01	0.04	TR?	
AFTER	5	44	0.07	0.02	TR			

LITHOLOGY TYPE & DESCRIPTION: DOLO - brn, mgy, dk brn, cryptoxln, vf-f microxln,
small tr foss, sl sucr & fri, some earthy app, tight, frm

POROSITY Est.: No visible \emptyset

STAIN DESCRIPTION: Trace dark brown to black staining

FLUORESCENCE and CUT DESCRIPTION: Trace with dull yellow fluorescence, it
brightens when hit with chlorothene, no streaming cut

REMARKS: _____

DRILL STEM TEST

WELL: CABALLO #2-9 DATE: 5/24/88

TEST: 1 FORMATION: UPPER ISMAY WITNESS: REDMOND

REASON: SHOW #1

INTERVAL: 6498-6538' T.D. 6538'

TESTING CO.: BAKER LYNES

TYPE TEST: CONVENTIONAL DOUBLE PACKER

CUSHION: NONE

I. FLOW: Open with 2" blow, 8" at 3 min., BOB 4 min., 1# in 5 min., 8# in 15 min., 20# in 25 min., shut in with 30#, NGTS

F. FLOW: GTS 7 min. into ISI. Tool opened with strong blow, GTS immediately.

GAUGES

I. FLOW OPEN _____ MIN.	GTS _____	F. FLOW OPEN <u>60</u> MIN.	GTS <u>Immediately</u>	142.8 Mcf	<u>60</u> min.
_____ Mcf _____ min.	_____	_____ Mcf _____ min.	63.3	_____ Mcf _____ min.	_____
_____ Mcf _____ min.	_____	_____ Mcf _____ min.	89.8	_____ Mcf _____ min.	_____
_____ Mcf _____ min.	_____	_____ Mcf _____ min.	119.2	_____ Mcf _____ min.	_____
_____ Mcf _____ min.	_____	_____ Mcf _____ min.	139.9	_____ Mcf _____ min.	_____

RECOVERY: 370' total, 270' has cut mud, 100' gas cut H₂O

SAMPLE CHAMBER: unknown cfg and 2000 cc H₂O @ 600 psi

TOP CHART	TIME	BOTTOM CHART	
IH: _____	_____	3180	
IF: _____	30	260-260	
ISI: _____	60	2475	
FF: _____	60	189-325	BHT <u>132° F</u>
FSI: _____	120	2576	
FH: _____		3154	

SAMPLES CAUGHT: Gas Oil Water Mud

WHERE CAUGHT: Drill pipe Flow Line Separator MFE Tool

RESISTIVITIES @ 68° REMARKS: _____

PIT MUD: 4 @ 65° = 760 Cl- FILTRATE: _____

REC. MUD: _____ REC. WTR: 4 @ 65° .11,00 Cl-

GEOLOGIC SUMMARY

This well was spudded in on May 11, 1988, with Exeter Drilling Rig #68. It was drilled to 2289', 30' into the Chinle Formation, where 9 5/8" surface casing was set to protect the upper sandstone formations from drilling fluid contamination. Drilling continued with clear, fresh water to 6200', where a closed light mud was used to finish the well.

Two cores were taken for a total of 48', from 6490' to 6538', and one drill stem test, from 6498' to 6538' were run. The results, along with the brief Pennsylvanian Age formation descriptions, follow.

HERMOSA: 5148' - 6473'

This section was undifferentiated, and included the upper interbedded carbonates, siltstones, and shales. Occasional sandstone stringers occur, infrequently throughout this interval, although none showed signs of being economically viable. Further down, the massive carbonates dominate the interval, often grading to mudstone and back. The abundance of chert in different intervals suggest an SO₂ source available for solution. The carbonates near the base finally begin to give way to black, carbonaceous, and fissile Paradox Shale; providing the observer notification of the upcoming Upper Ismay interval.

UPPER ISMAY: 6473' - 6573'

Immediately underlying the Paradox Shale, 4 feet of anhydrite contrasts sharply in the samples where the Upper Ismay zone begins. At 15' below the sample top, 48' of core from 6490' to 6538' were taken in two runs for reservoir evaluation in the limestone. As it turned out, the productive interval had thinned considerably from the first and second well; the lower, porous zone was not present. The core was 100% limestone (see core descriptions): with tight porosity and an oil show in the top 4 feet; 6 feet of tight, dense carbonate; and from 6500 to 6508 feet was a reworked, sandy appearing limestone, devoid of fossils, with 8 to 10% vuggy and intergranular porosity. When the core was fresh, it had a good, strong oil odor, and under the fluorescope it exhibited spotty to even bright yellow-blue fluorescence and cloudy yellow cut. Upon closer inspection, the vugs were stained dark brown to black, leaving the matrix with only occasional spotty light brown stain. Below 6508' the limestone became dense and hard, with only occasional thin mudstone stringers present, making the coring very slow and tough.

The show interval was tested, with somewhat disappointing results. An interval of about average permeability gas reached the surface, however, the test tool recovered water of about 11,000 ppm Cl- and no oil.

The rest of the Ismay section was dense, tight, and drilling continued on to the black Hovenweep Shale and the underlying Lower Ismay.

DESERT CREEK: 6700' - 6848'

The first anhydrite was nearly 50' thick here. The lower Desert Creek contained a very thick dolomitic carbonate from 6765 to 6850'. This dolomite displayed two shows; from 6778 to 6796', and from 6816 to 6826'. The first hydrocarbon show was weak, with an earthy appearing dolomite and no sample

10

show. The second was a good sharp drilling break and corresponding gas increase. The sample show was finely crystalline, the dolomite had spotty light yellow fluorescence and little or no cut. Tight, dense dolomite was beneath the second show to the top of the Chimney Rock Shale. The well was finished at 6890' - drillers depth in Akah anhydrite.

SAMPLE DESCRIPTIONS

5100-5130	70%	<u>Shale</u> - red, orange, brown, medium gray, calcareous, micaceous, silty, firm
	30%	<u>Limestone</u> - off white, light gray, medium gray, cryptocrystalline, very finely microcrystalline, sandy, micaceous, firm, medium hard
5130-5160	60%	<u>Limestone</u> - white, light to medium gray, tan, brown, translucent in part, cryptocrystalline, very finely microcrystalline, marly in part, dense, medium hard
	40%	<u>Shale</u> - dark gray, red, medium gray, calcareous to marly, silty, micaceous in part, firm, medium hard
5160-5190	70%	<u>Limestone</u> - white, light gray, cryptocrystalline, chalky, micaceous, firm
	20%	<u>Siltstone</u> - dark red to brown, micaceous, firm
	10%	<u>Shale</u> - dark gray, red, calcareous, firm, medium hard
5190-5220		Very Poor Sample
	90%	<u>Shale</u> - red, orange, medium to dark gray, calcareous, silty, micaceous in part, brittle, firm
	10%	<u>Limestone</u> - as above
5220-5250	50%	<u>Limestone</u> - white, light to medium gray, cryptocrystalline, very finely microcrystalline, some marly, dense, medium hard
	30%	<u>Shale</u> - dark gray, dark brown, calcareous, micaceous, silty, firm, medium hard
	20%	<u>Sandstone</u> - clear, light to medium gray, very fine to medium grained, siliceous, slightly calcareous, slightly arkosic, glauconitic, angular, some unconsolidated, medium hard
5250-5280	90%	<u>Limestone</u> - off white, light to medium gray, tan, cryptocrystalline, very finely microcrystalline, siliceous in part, occasionally micaceous, dense, medium hard, hard
	10%	<u>Shale</u> - dark gray, marly, calcareous, micaceous, medium hard
5280-5310	40%	<u>Limestone</u> - white, light gray, marly, medium hard
	30%	<u>Sandstone</u> - clear, light to medium gray, medium grain, calcareous, siliceous, subangular to angular, some unconsolidated, tight
	30%	<u>Shale</u> - black, dark gray, dark brown to red, calcareous, marly, silty, micaceous, medium hard
5310-5340	70%	<u>Limestone</u> - light to medium gray, tan, cryptocrystalline, sandy, pyritic, marly in part, firm, medium hard
	30%	<u>Shale</u> - as above Trace Sandstone
5340-5370	90%	<u>Limestone</u> - off white, light to medium gray, tan, cryptocrystalline, siliceous, medium hard, hard
	10%	<u>Chert</u> - dark gray to brown Trace Shale
5370-5400	70%	<u>Sandstone</u> - clear, light gray, medium grain, siliceous, quartzose, subangular, angular, unconsolidated, friable, trace visible ϕ , NFSOC

5370-5400 (continued)	30%	<u>Shale</u> - as above Trace Chert
5400-5430	50%	<u>Limestone</u> - white, light to medium gray, cryptocrystalline, very finely microcrystalline, sandy, medium hard
	40%	<u>Sandstone</u> - as above
	10%	<u>Shale</u> - dark gray, black, calcareous, firm
5430-5460	40%	<u>Shale</u> - medium to dark gray, dark red to brown, marly, micaceous, medium hard
	30%	<u>Sandstone</u> - clear, light to medium gray, very fine to medium grained, calcareous to limy, glauconitic, angular, subangular, tight, medium hard
	30%	<u>Limestone</u> - as above
5460-5490	60%	<u>Shale</u> - dark gray, medium gray, marly, slightly carbonaceous
	40%	<u>Limestone</u> - medium gray, light gray, cryptocrystalline, very finely microcrystalline, siliceous, medium hard, firm
5490-5520	80%	<u>Limestone</u> - medium gray to brown, light gray, cryptocrystalline, very finely microcrystalline, marly in part, micaceous, slightly dolomitic, firm, medium hard, dense
	20%	<u>Shale</u> - as above
5520-5550	90%	<u>Limestone</u> - as above
	10%	<u>Shale</u> - as above
5550-5580	70%	<u>Limestone</u> - white, light to medium gray, cryptocrystalline, very finely microcrystalline, sandy, slightly marly in part, dense, medium hard
	30%	<u>Shale</u> - dark gray, calcareous, silty, occasionally micaceous, some very limy, firm, medium hard
5580-5610	50%	<u>Limestone</u> - as above
	50%	<u>Shale</u> - as above, graded to limestone
5610-5640	60%	<u>Shale</u> - dark gray, medium gray, light gray to green, siliceous in part, silty
	40%	<u>Limestone</u> - as above, sandy, firm Trace Sandstone - 5%, loose grains
5640-5670	100%	<u>Limestone</u> - tan, light to medium gray, translucent, cryptocrystalline, very finely microcrystalline, occasionally siliceous, slightly shaly, dense, medium hard, hard Trace Shale - as above Trace Chert - clear, tan
5670-5700	80%	<u>Shale</u> - dark brown, medium to dark gray, smooth, silty, limy, medium hard
	20%	<u>Limestone</u> - as above
5700-5730	70%	<u>Shale</u> - as above, siliceous in part, medium hard
	30%	<u>Limestone</u> - as above
5730-5760	70%	<u>Shale</u> - dark gray to brown, medium gray, silty, calcareous, marly, slightly dolomitic, some micaceous, medium hard
	30%	<u>Limestone</u> - as above, medium gray, marly, medium hard

5760-5790	60%	<u>Sandstone</u> - clear, white, light gray, very fine to medium grained, pyritic, predominately quartz, slightly calcareous, angular to subangular, well sorted, unconsolidated, tight NFSOC
	20%	<u>Limestone</u> - as above
	20%	<u>Shale</u> - as above
5790-5820	60%	<u>Limestone</u> - light to medium gray, tan to brown, very finely microcrystalline, cryptocrystalline, sandy, occasional trace of mica included, dense, medium hard
	40%	<u>Shale</u> - medium gray to brown, dark gray, silty, very marly, medium hard
		Trace Chert
5820-5850	90%	<u>Limestone</u> - white, light to medium gray, tan, very finely microcrystalline, some cryptocrystalline, siliceous, cherty, dense, medium hard, hard
	10%	<u>Shale</u> - as above
5850-5880	90%	<u>Shale</u> - dark gray, medium to dark gray brown, silty, marly, dolomitic, medium hard, hard
	10%	<u>Limestone</u> - as above
5880-5910	60%	<u>Limestone</u> - tan, brown, light to medium gray, cryptocrystalline, very fine to finely microcrystalline, siliceous, shaly in part, dense, medium hard
	40%	<u>Shale</u> - as above
5910-5940	60%	<u>Shale</u> - as above
	40%	<u>Limestone</u> - as above
		Trace Chert - tan, brown
5940-6000	50%	<u>Limestone</u> - light to medium gray, tan, brown, translucent, cryptocrystalline, very finely microcrystalline, dolomitic, siliceous, dense, medium hard, hard
	50%	<u>Shale</u> - dark gray to brown, marly in part, silty, calcareous, micaceous, earthy, firm to medium hard
		Trace Chert
6000-6030	80%	<u>Limestone</u> - brown, tan, translucent, cryptocrystalline, siliceous, dolomitic, dense, hard
	20%	<u>Shale</u> - as above
6030-6060	90%	<u>Limestone</u> - tan, light to medium gray, translucent, cryptocrystalline, very finely microcrystalline, sandy, siliceous, medium hard, hard, dense
	10%	<u>Shale</u> - as above
6060-6090	90%	<u>Shale</u> - dark gray to brown, black, calcareous, silty, marly, firm, medium hard
	10%	<u>Limestone</u> - as above
6090-6120	70%	<u>Shale</u> - as above
	30%	<u>Limestone</u> - medium gray, tan, translucent, cryptocrystalline, very finely microcrystalline, siliceous, medium hard, hard
6120-6150	70%	<u>Limestone</u> - clear, tan, light to medium gray, cryptocrystalline, translucent, siliceous
	30%	<u>Shale</u> - dark gray to brown, calcareous, silty, medium hard
		Trace Chert - 5%

6150-6180	60%	<u>Shale</u> - as above, very marly, dolomitic, medium hard
	40%	<u>Limestone</u> - as above
6180-6210	90%	<u>Shale</u> - medium to dark gray, graded to mudstone, very marly, dolomitic, lithic, medium hard
	10%	<u>Limestone</u> - as above
6210-6240	70%	<u>Shale</u> - as above
	30%	<u>Limestone</u> - tan, brown, medium gray, translucent, siliceous, hard, medium hard
6240-6250	50%	<u>Shale</u> - as above, very silty
	50%	<u>Limestone</u> - as above
		Trace Sandstone - clear, medium grained, unconsolidated
6250-6270	100%	<u>Limestone</u> - white, light gray, very fine to finely microcrystalline, dolomitic, fossiliferous, clean, dense, medium hard
		Trace Shale
6270-6280	60%	<u>Limestone</u> - light to medium gray, tan, cryptocrystalline, occasionally slightly fossiliferous, shaly in part, medium hard, dense
	40%	<u>Shale</u> - medium gray, smooth, marly, some dark gray to brown, brittle, firm, medium hard
6280-6290	90%	<u>Shale</u> - as above
	10%	<u>Limestone</u> - as above
		Abundant Cavings
6290-6310		Very Poor Sample
	90%	<u>Shale</u> - as above
	10%	<u>Limestone</u> - as above
6310-6320	50%	<u>Shale</u> - medium to dark gray, calcareous, smooth, medium hard
	50%	<u>Limestone</u> - medium gray to brown, some light gray, cryptocrystalline, slightly dolomitic, dense, medium hard
6320-6240		Very Poor Sample, predominately cavings
	60%	<u>Shale</u> - as above
	40%	<u>Limestone</u> - as above
6340-6350	90%	<u>Limestone</u> - tan, brown, light to medium gray, cryptocrystalline, very finely microcrystalline, occasionally chalky appearance, some siliceous, dense, medium hard to hard
	10%	<u>Shale</u> - as above
6350-6380		Very Poor Sample, predominately cavings
	50%	<u>Limestone</u> - as above
	50%	<u>Shale</u> - as above
6380-6390	90%	<u>Limestone</u> - white, light to medium gray, cryptocrystalline, very finely microcrystalline, chalky in part, siliceous in part, dense, firm, hard
	10%	<u>Shale</u> - medium to dark gray, marly, medium hard
		Trace Chert - tan, clear, translucent

6390-6400		Very Poor Sample
	50%	<u>Limestone</u> - as above
	50%	<u>Shale</u> - as above
6400-6410	100%	<u>Limestone</u> - light to medium gray, off white, cryptocrystalline, very finely microcrystalline, occasionally recrystallized, micaceous, dense, medium hard Trace Shale Trace Chert - light gray
6410-6440		Very Poor Sample, predominately cavings
	50%	<u>Shale</u> - as above
	50%	<u>Limestone</u> - as above
		Trace Chert - tan, clear
6440-6470	90%	<u>Shale</u> - black, calcareous, carbonaceous, silty, soft, firm
	10%	<u>Limestone</u> - as above
		Abundant Cavings
6470-6480	70%	<u>Shale</u> - as above
	20%	<u>Limestone</u> - as above
	10%	<u>Anhydrite</u> - white, clear, crystalline in part, soft
6480-6490	80%	<u>Limestone</u> - medium gray to brown, cryptocrystalline, very finely microcrystalline, slightly marly in part, firm, medium hard
	20%	<u>Shale</u> - as above
		Trace Anhydrite - white, soft
6490-6538		See Core numbers 1&2
6538-6550	80%	<u>Limestone</u> - light to medium gray, tan, off white, cryptocrystalline, very finely microcrystalline, slightly dolomitic in part, some becoming slightly shaly, dense, medium hard, hard
	20%	<u>Shale</u> - medium to dark gray, smooth, marly, brittle, medium hard
6550-6570	90%	<u>Limestone</u> - light to medium gray, brown, predominately cryptocrystalline, occasionally very finely microcrystalline, chalky in part, shaly, dense, medium hard
	10%	<u>Shale</u> - as above
6570-6580	70%	<u>Shale</u> - dark gray, black, silty, calcareous, carbonaceous, fissile, firm, medium hard
	30%	<u>Limestone</u> - as above
6580-6600	90%	<u>Shale</u> - as above
	10%	<u>Limestone</u> - as above
6600-6610	100%	<u>Shale</u> - medium gray, dark gray, black, calcareous, medium hard, firm
6610-6620	100%	<u>Shale</u> - black, dark gray, carbonaceous, calcareous, firm
6620-6630	70%	<u>Limestone</u> - medium gray, light gray, cryptocrystalline, very finely microcrystalline, slightly dolomitic, dense, medium hard
	30%	<u>Shale</u> - as above

- 6630-6640 Very Poor Sample
 80% Limestone - as above, medium gray, shaly, medium hard
 10% Anhydrite - white, amorphous, soft
 10% Shale - as above

- 6640-6660 50% Limestone - as above
 30% Anhydrite - white, soft
 20% Shale - as above

- 6660-6680 Very Poor Sample
 60% Limestone - as above
 30% Shale - as above
 10% Anhydrite - as above

- 6680-6690 70% Limestone - medium gray, No Show, cryptocrystalline, very finely
 microcrystalline, some recrystallized, chalky, shaly, medium
 hard
 30% Shale - medium gray, dark gray, black, marly, carbonaceous in
 part, medium hard
 Trace Anhydrite

- 6690-6700 Very Poor Sample
 60% Shale - black, silty, calcareous, carbonaceous, firm
 40% Limestone - as above

- 6700-6710 80% Limestone - tan, light to medium gray, cryptocrystalline, very
 finely microcrystalline, very dolomitic, shaly in part, dense,
 medium hard
 20% Shale - as above

- 6710-6720 90% Limestone - as above
 10% Shale - as above
 Trace Anhydrite - white, soft

- 6720-6750 Very Poor Sample
 80% Limestone - as above, very dolomitic, dense, hard
 10% Anhydrite - white, soft
 10% Shale - as above

- 6750-6760 90% Limestone - medium gray, dark gray, brown, cryptocrystalline,
 shaly, graded to mudstone, very dolomitic, dense, medium hard
 10% Shale - as above
 Trace Anhydrite

- 6760-6770 80% Limestone - as above, very dolomitic, occasionally anhydritic
 10% Anhydrite - white, soft
 10% Shale - as above

- 6770-6780 90% Dolomite - medium gray to brown, translucent in part, very
 finely microcrystalline, some with recrystallized appearance,
 earthy, anhydritic in part, slightly sucrosic, predominately
 dense, soft, firm, medium hard, Show #2
 10% Anhydrite - as above

- 6780-6800 Very Poor Sample, abundant cavings
 80% Dolomite - as above
 10% Shale - medium gray, light gray, marly and dolomitic, dense,
 medium hard
 10% Anhydrite - as above

6800-6816 Very Poor Sample
 90% Dolomite - medium gray, medium brown, dark gray, translucent, cryptocrystalline, some anhydritic, medium hard, dense
 10% Shale - as above

6816-6826
 90% Dolomite - medium brown, dark brown, medium gray, cryptocrystalline, very fine to finely microcrystalline, small trace fossiliferous, recrystallized appearance in part, slightly sucrosic and friable, some earthy appearance, tight, firm
 10% Shale - as above
 Show #3, poor sample quality

6826-6830
 90% Dolomite - medium gray to brown, translucent, cryptocrystalline, graded to limestone, occasionally anhydritic, dense, medium hard
 10% Shale - as above

6830-6840
 70% Dolomite - as above
 30% Shale - black, dark gray, medium gray, very calcareous, graded to mudstone, occasionally carbonaceous, medium hard, blocky, brittle

6840-6850
 50% Shale - as above
 50% Dolomite - as above

6850-6870
 90% Shale - black, calcareous, carbonaceous, silty, fissile, firm
 10% Dolomite - as above

6870-6880
 50% Limestone - medium gray to brown, cryptocrystalline, earthy, some marly, firm
 50% Shale - as above

6880-6890
 Total Depth
 50% Limestone - as above
 30% Shale - as above
 20% Anhydrite - white, soft

CORE #1 DESCRIPTION

5/22/88

Core number 1 was cut 26'; from 6490' to 6516'. Pump pressure dropped, core was pulled, and 24' were recovered.

6490-6494 Limestone - medium gray, cryptocrystalline to macrocrystalline, appears as sandstone, friable, medium hard, some pin point vuggy \emptyset along side of core, strong oil odor, oil and gas bleeding when first lain down, patchy fluorescence, cloudy fast yellow-blue cut

6494-6500 Limestone - medium gray to dark gray, cryptocrystalline, dense, occasionally laminated with mudstone, some fracture filled with mudstone, anhydritic, no show

6500-6502.5 Limestone - medium gray, very finely microcrystalline to macrocrystalline, abundant pin point vuggy \emptyset along edge of core, strong oil odor, sandy appearance, very friable, 6500 to 6500.5 oil and gas bleeding, the whole sample had fair intergranular or intercrystalline \emptyset , dark staining, patchy to even fluorescence, cloudy fast yellow to blue cut, some streaming milky yellow cut

6502.5-6508 Limestone - medium gray, cryptocrystalline to macrocrystalline, sandy appearance, very friable, firm, trace anhydritic fill in occasional vugs, abundant pin point to 2 mm vugs along side of core, strong oil odor, no bleeding oil or gas, pin point vugs and intercrystalline \emptyset , dark brown staining in vugs, spotty to even fluorescence, cloudy yellow-blue cut, estimated \emptyset about 8%

6508-6514 Limestone - medium to dark gray, containing some mudstone, several horizontal fractures wtih anhydritic/mudstone fill, no porosity is evident, no odor, spotty fluorescence with cloudy yellow-blue cut

CORE #2 DESCRIPTION

5/23/88

Core number 2 was cut 22', and 22' were recovered.

- 6516-6527 Limestone - medium gray, cryptocrystalline, very finely microcrystalline, occasional anhydrite nodules, some thin fracture present, anhydrite laminations are present, no \emptyset , no sign of show, the rock is dense, tight, and hard
- 6527-6534 Limestone - as above, however the rock becomes shaly, grading to mudstone in random 1-6" thick laminations
- 6534-6538 Limestone - grading to shaly mudstone, non-fissile, brittle and hard, some evidence of anhydrite filled fossil cast, dense, tight, no show



CONFIDENTIAL

CORE ANALYSIS RESULTS

for

Quintana Petroleum Corporation

No. 2-9 Caballo "B" Unit Well
Wildcat

San Juan County, Utah
File Number: 57121-8195

WF
(PROD. DEPT.)

These analyses, opinions, or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgement of Core Laboratories (all errors and omissions excepted), but Core Laboratories and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operations, or profitableness of any oil, gas, or other mineral well or sand in connection with which such report is used or relied upon.

CORE LABORATORIES

Company : Quintana Petroleum Corporation
 Well : No. 2-9 Caballo "B" Unit
 Location : NE SW Sec. 9 T36S R23E
 Co,State : San Juan, Utah

Field : Wildcat
 Formation : Paradox
 Coring Fluid : Water Base Mud
 Elevation : 6406 KB

File No.: 57121-8195
 Date : 25-May-1988
 API No. :
 Analysts: DS MW FD

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY		POROSITY (HELIUM) %	SATURATION		GRAIN DENSITY gm/cc	FRACTURE TYPE	DESCRIPTION
		(MAXIMUM) Kair md	(90 DEG) Kair md		(PORE VOLUME) OIL %	WATER %			
Core No.1 Ismay Zone 6490.0-6516.0 Cut 26.0' Rec. 24.0'									
1	6490.0- 91.0	1.31	0.37	6.9	7.5	12.0	2.72		Ls gry vf xln p.p.
2	6491.0- 92.0	1.02	0.53	10.1	7.3	12.5	2.72	Vert	Ls gry vf xln p.p.
3	6492.0- 93.0	3.05	0.64	7.4	7.8	15.6	2.72	Vert	Ls gry vf xln p.p.
4	6493.0- 94.0	0.10	0.03	2.3	0.0	43.9	2.70		Ls gry vf xln
+ 5	6494.0- 95.0	0.01		0.5	0.0	31.8	2.71		Ls gry vf xln styl
+* 6	6495.0- 96.0	0.04		0.7	0.0	15.5	2.71	Vert	Ls gry vf xln
+* 7	6496.0- 97.0	96.4		0.9	0.0	49.8	2.71	Vert	Ls gry vf xln
8	6497.0- 98.0	0.64	0.05	3.4	0.0	30.5	2.70		Ls gry vf xln
9	6498.0- 99.0	0.12	0.02	2.9	0.0	33.4	2.70		Ls gry vf xln
+ 10	6499.0- 00.0	<.01		1.1	0.0	15.5	2.70		Ls gry vf xln
11	6500.0- 01.0	1.10	0.87	6.7	4.2	25.5	2.70		Ls gry vf xln p.p. alg
12	6501.0- 02.0	5.53	4.41	10.3	1.0	9.7	2.70		Ls gry vf xln p.p. alg
13	6502.0- 03.0	4.50	3.76	10.2	0.9	13.6	2.69		Ls gry vf xln p.p. alg
14	6503.0- 04.0	4.87	4.67	11.2	4.1	9.7	2.70		Ls gry vf xln p.p. alg
15	6504.0- 05.0	3.15	3.08	10.5	4.9	17.6	2.69		Ls gry vf xln p.p. alg
16	6505.0- 06.0	2.51	2.33	9.8	4.3	15.5	2.70		Ls gry vf xln p.p. alg
17	6506.0- 07.0	2.62	2.62	8.8	1.8	14.2	2.69		Ls gry vf xln p.p. alg
18	6507.0- 08.0	0.43	0.37	6.3	0.0	25.4	2.70		Ls gry vf xln p.p. alg
+ 19	6508.0- 09.0	<.01		0.6	0.0	14.9	2.72		Ls gry vf xln
	6509.0- 14.0								Ls dense -- No Analysis
	6514.0- 16.0								Core Loss

CORE LABORATORIES

Company : Quintana Petroleum Corporation
 Well : No. 2-9 Caballo "B" Unit

Field : Wildcat
 Formation : Paradox

File No.: 57121-8195
 Date : 25-May-1988

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY		POROSITY (HELIUM) %	SATURATION (PORE VOLUME)		GRAIN DENSITY gm/cc	FRACTURE TYPE	DESCRIPTION
		(MAXIMUM) K _{air} md	(90 DEG) K _{air} md		OIL %	WATER %			
Core No.2 Ismay Zone 6516.0-6538.0 Cut 22.0' Rec. 22.0'									
	6516.0- 38.0								Ls dense -- No Analysis
									* Denotes Fractured Permeability Sample
									+ Denotes Sample Unsuitable for Full Diameter Analysis

CORE LABORATORIES

Company : Quintana Petroleum Corporation
 Well : No. 2-9 Caballo "B" Unit

Field : Wildcat
 Formation : Paradox

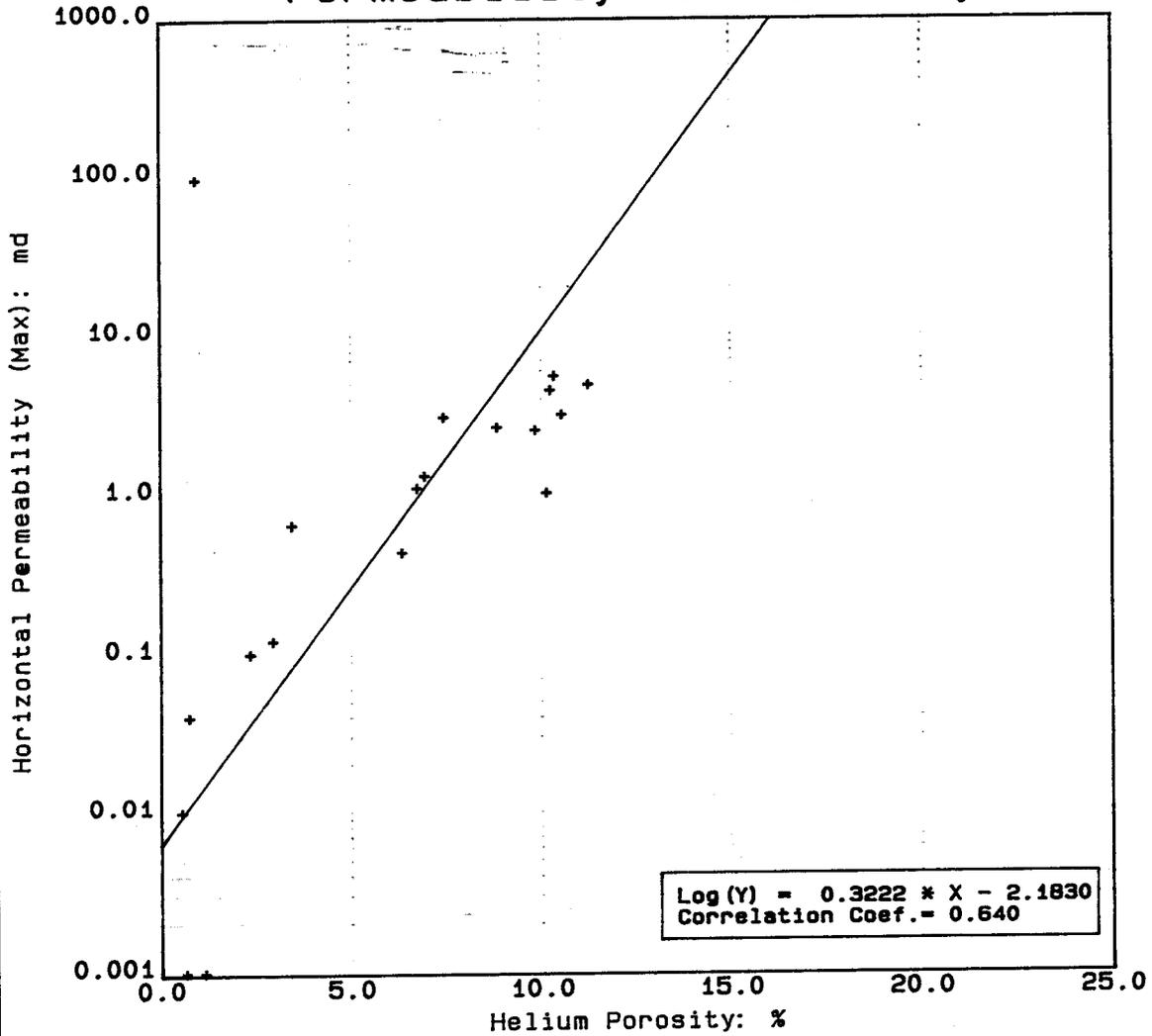
File No.: 57121-8195
 Date : 25-May-1988

TABLE I

SUMMARY OF CORE DATA

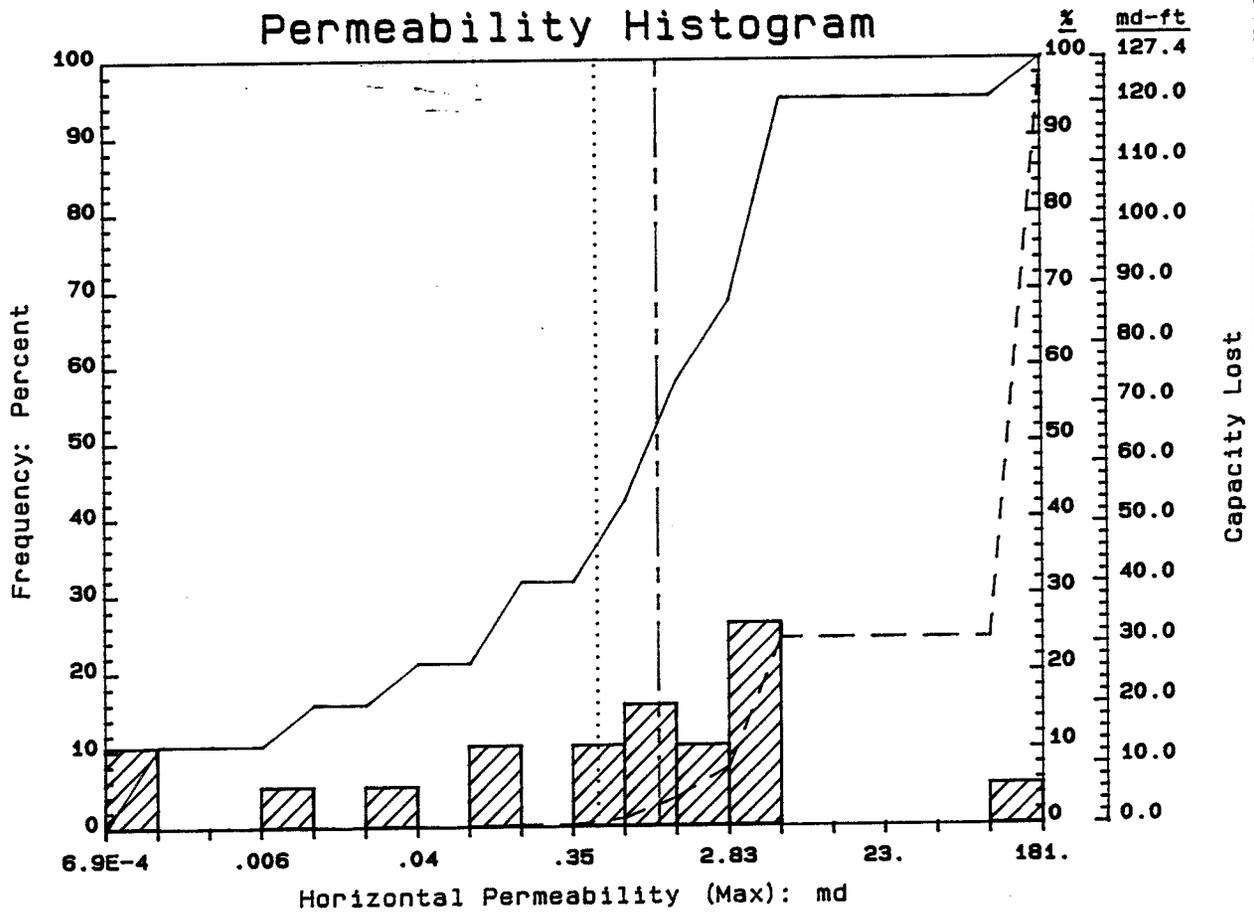
ZONE AND CUTOFF DATA	CHARACTERISTICS REMAINING AFTER CUTOFFS	
ZONE:	ZONE:	PERMEABILITY:
Identification ----- Ismay	Number of Samples ----- 19	Flow Capacity ----- 127.4 md-ft
Top Depth ----- 6490.0 ft	Thickness Represented - 19.0 ft	Arithmetic Average ---- 6.71 md
Bottom Depth ----- 6509.0 ft		Geometric Average ----- 0.49 md
Number of Samples ----- 19	POROSITY:	Harmonic Average ----- 0.01 md
	Storage Capacity ----- 110.6 ϕ -ft	Minimum ----- 0.00 md
DATA TYPE:	Arithmetic Average ---- 5.8 %	Maximum ----- 96.4 md
Porosity ----- (HELIUM)	Minimum ----- 0.5 %	Median ----- 1.10 md
Permeability ----- (MAXIMUM) Kair	Maximum ----- 11.2 %	Standard Dev. (Geom) -- $K \cdot 10^{\pm 1.300}$ md
	Median ----- 6.7 %	
CUTOFFS:	Standard Deviation ---- ± 4.0 %	HETEROGENEITY (Permeability):
Porosity (Minimum) ----- 0.0 %		Dykstra-Parsons Var. -- 0.899
Porosity (Maximum) ----- 100.0 %	GRAIN DENSITY:	Lorenz Coefficient ---- 0.822
Permeability (Minimum) --- 0.0000 md	Arithmetic Average ---- 2.70 gm/cc	
Permeability (Maximum) --- 100000. md	Minimum ----- 2.69 gm/cc	AVERAGE SATURATIONS (Pore Volume):
Water Saturation (Maximum) 100.0 %	Maximum ----- 2.72 gm/cc	Oil ----- 3.5 %
Oil Saturation (Minimum) - 0.0 %	Median ----- 2.70 gm/cc	Water ----- 16.8 %
Grain Density (Minimum) -- 2.00 gm/cc	Standard Deviation ---- ± 0.01 gm/cc	
Grain Density (Maximum) -- 3.00 gm/cc		
Lithology Excluded ----- NONE		

Permeability vs. Porosity



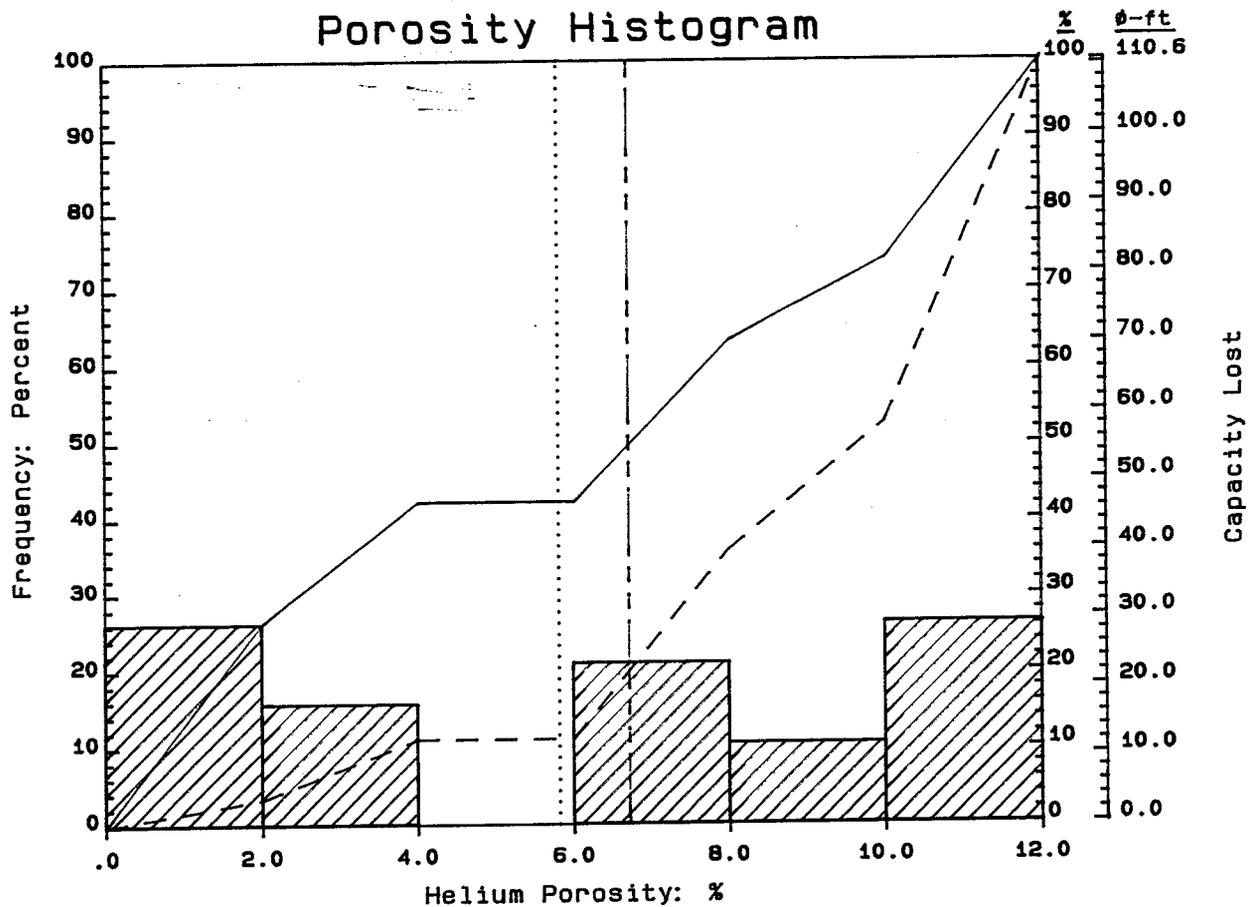
<p>Quintana Petroleum Corporation No. 2-9 Caballo "B" Unit Wildcat San Juan County, Utah Ismay Formation (6490.0-6538.0 feet)</p> <p>Core Laboratories 25-May-1988</p>	<p align="center">- LEGEND - Ismay</p>
--	---

Permeability Histogram



<p style="text-align: center;">Quintana Petroleum Corporation No. 2-9 Caballo "B" Unit Wildcat San Juan County, Utah Ismay Formation (6490.0-6538.0 feet)</p> <p style="text-align: center;">Core Laboratories 25-May-1988</p>	<p style="text-align: center;">- LEGEND -</p> <ul style="list-style-type: none"> — Median Value (1.10) Geom. Average (0.493) — Cumulative Frequency - - - Cumulative Capacity Lost <p style="text-align: center;">19 Samples</p>
--	--

Porosity Histogram



<p style="text-align: center;">Quintana Petroleum Corporation No. 2-9 Caballo "B" Unit Wildcat San Juan County, Utah Ismay Formation (6490.0-6538.0 feet)</p> <p style="text-align: center;">Core Laboratories 25-May-1988</p>	<p style="text-align: center;">- LEGEND -</p> <p>— — — Median Value (6.7) Arith. Average (5.8) ——— Cumulative Frequency - - - Cumulative Capacity Lost</p> <p style="text-align: center;">19 Samples</p>
--	---

CORE LAB SPECTRAL GAMMA-RAY PLOT

Quintana Petroleum Corporation

No. 2-9 Caballo "B" Unit

Wildcat

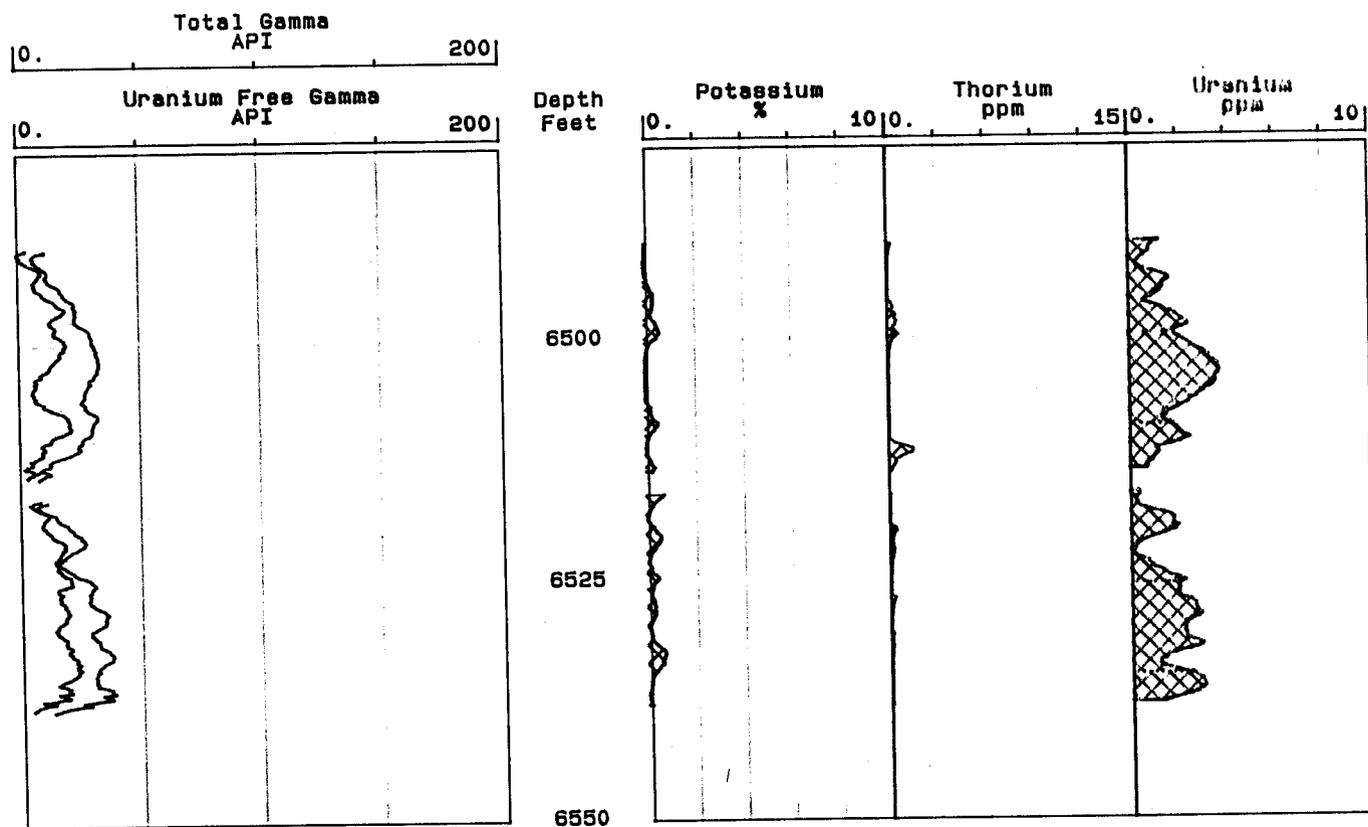
San Juan County, Utah

Ismay Formation (6490.0-6538.0 feet)

Vertical Scale
5.00 in = 100.0 ft

Core Laboratories

25-May-1988



Correlation Coregraph

Quintana Petroleum Corporation

No. 2-9 Caballo "B" Unit

Wildcat

San Juan County, Utah

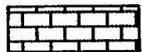
Ismay Formation (6490.0-6538.0 feet)

Vertical Scale
5.00 in = 100.0 ft

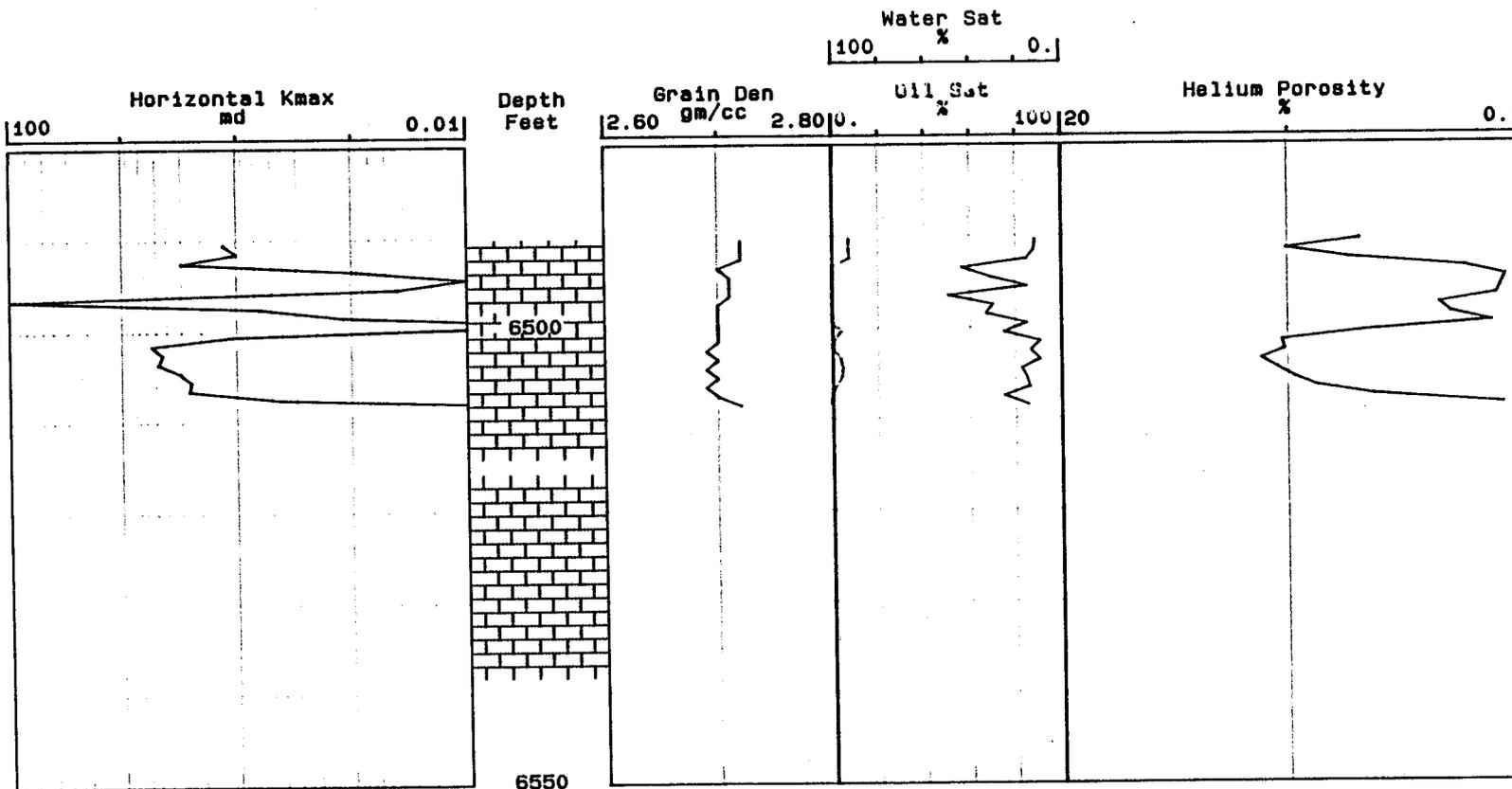
Core Laboratories

25-May-1988

- Lithology Legend -



Limestone



BAKER SERVICE TOOLS

1616 Glenarm — Suite 1350
Denver, CO 80202

Phone (303) 573-8027

CONFIDENTIAL

Contractor Exeter Drilling
Rig No. 68
Spot --
Sec. 9
Twp. 36 S
Rng. 23 E
Field --
County San Juan
State Utah
Elevation 6405' KB
Formation Ismay

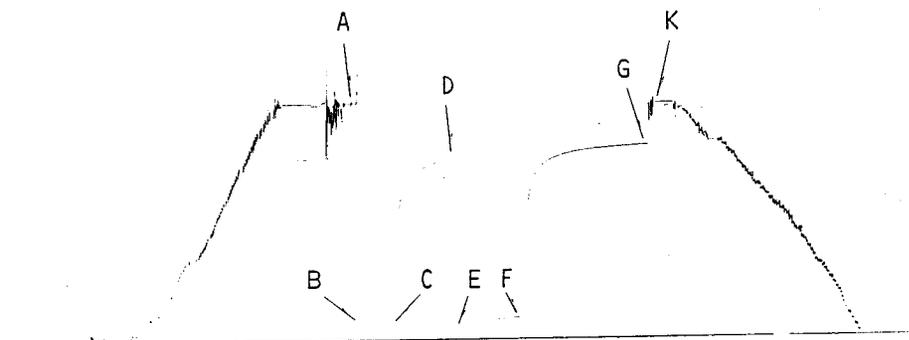
Surface Choke 1/4"
Bottom Choke 3/4"
Hole Size 8 3/4"
Core Hole Size --
DP Size & Wt. 4 1/2" 16.60
Wt. Pipe None
I.D. of DC 2 1/4"
Length of DC 715'
Total Depth 6538'
Type Test Conventional
Interval 6498' - 6538'

Mud Type --
Weight 8.9
Viscosity 37
Water Loss --
Filter Cake --
Resistivity 4.0 @ 65 °F
1,447 Ppm. NaCl
B.H.T. 132 °F
Co. Rep. Ray Koehn
Tester David Dolyniuk
Baker Dist. Farmington, NM

	REPORTED	CORRECTED
Opened Tool	@ <u>10:30</u>	hrs.
Flow No. 1	<u>30</u>	<u>28</u> min.
Shut-In No. 1	<u>60</u>	<u>60</u> min.
Flow No. 2	<u>60</u>	<u>60</u> min.
Shut-In No. 2	<u>120</u>	<u>119</u> min.
Flow No. 3	<u>None Taken</u>	min.
Shut-In No. 3	<u>"</u>	min.

Recorder Type Kuster K-3
No. 16815 Cap. 6100 psi
Depth 6530 feet
Inside _____ Clock _____
Outside x Range 12 hrs.

Initial Hydrostatic	A	<u>3151.6</u>
Final Hydrostatic	K	<u>3126.5</u>
Initial Flow	B	<u>242.8</u>
Final Initial Flow	C	<u>212.5</u>
Initial Shut-In	D	<u>2426.2</u>
Second Initial Flow	E	<u>149.7</u>
Second Final Flow	F	<u>301.8</u>
Second Shut-In	G	<u>2583.4</u>
Third Initial Flow	H	_____
Third Final Flow	I	_____
Third Shut-In	J	_____



Pipe Recovery: 370' Total fluid = 1.81 bbl., consisting of:
270' Gas cut mud = 1.32 bbl.
100' Gas cut water = 0.49 bbl.

Resistivity:
Top: 4.0 @ 65°F - 2.07 @ Res Temp = 1,447 ppm NaCl., 879 ppm Cl.
Middle: 4.0 @ 65°F - 2.07 @ Res Temp = 1,447 ppm NaCl., 879 ppm Cl.
Bottom: .6 @ 65°F - .31 @ Res Temp = 10,770 ppm NaCl., 6,547 ppm Cl.

Remarks: The character of the pressure charts indicate the tool may have opened momentarily while working to bottom causing a slight influx of drilling fluid. This condition apparently had no significant effect on the results of the test.

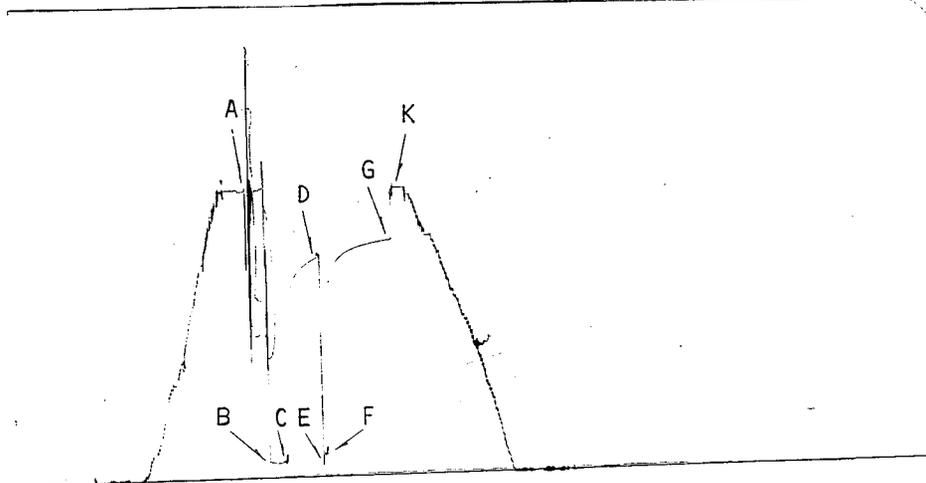
Operator: QUINTANA PETROLEUM CORP.
 Ticket No.: 2773
 Date: 5/24/88
 "TIGHT HOLE"
 Well Name & No.: CABALLO UNIT FEDERAL #2-9
 Location: S-9 T-36S R-23E
 County, State: SAN JUAN COUNTY, UT
 DST No.: I
 Interval: 6498' - 6538'
 Formation: ISMAY

BAKER SERVICE TOOLS

Quintana Petroleum Corp.
Operator

Caballo Unit Federal #2-9
Well Name and No.

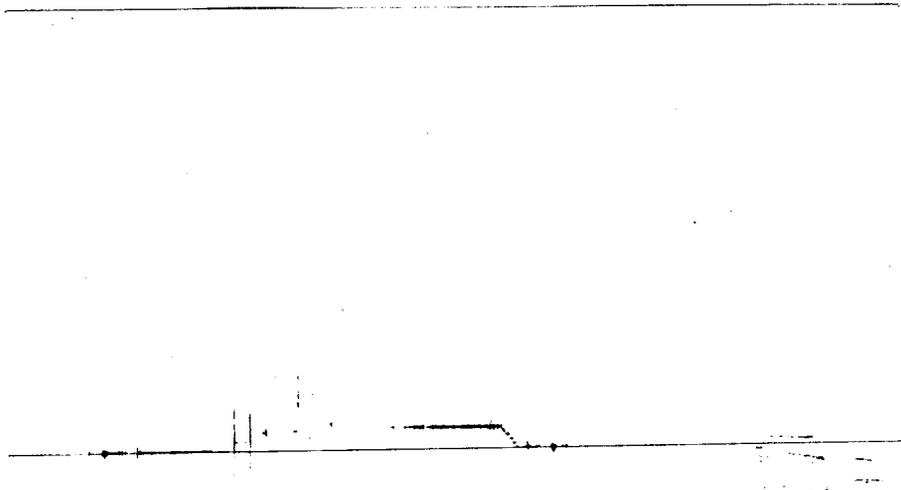
1
DST No.



Recorder Type Kuster K-3
No. 7661 Cap. 4900 psi
Depth 6478 feet
Inside Clock
Outside Range 24 hrs.

Initial Hydrostatic	A	<u>3043.0</u>
Final Hydrostatic	K	<u>3016.2</u>
Initial Flow	B	<u>180.4</u>
Final Initial Flow	C	<u>193.5</u>
Initial Shut-In	D	<u>2305.7</u>
Second Initial Flow	E	<u>135.9</u>
Second Final Flow	F	<u>267.0</u> *
Second Shut-In	G	<u>2475.3</u> *
Third Initial Flow	H	_____
Third Final Flow	I	_____
Third Shut-In	J	_____

* The clock stopped intermittently during the final flow period and final shut-in period.



Recorder Type Kuster K-3
No. 24645 Cap. 4450 psi
Depth 6455 feet
Inside Clock
Outside Range 24 hrs.

Initial Hydrostatic	A	_____
Final Hydrostatic	K	_____
Initial Flow	B	<u>104.3</u>
Final Initial Flow	C	<u>108.9</u>
Initial Shut-In	D	_____
Second Initial Flow	E	<u>223.1</u>
Second Final Flow	F	<u>226.1</u>
Second Shut-In	G	_____
Third Initial Flow	H	_____
Third Final Flow	I	_____
Third Shut-In	J	_____

This pressure gauge was run above the tool.

BAKER SERVICE TOOLS

Quintana Petroleum Corp.

Caballo Unit Federal #2-9

1

Operator

Well Name and No.

DST No.

TIME	CHOKE SIZE	SURFACE PRESSURE	FLOW RATE MCF/D	LIQUID	REMARKS
0	1/4"	2"			Opened tool for initial flow:
3		8"			
4		Bottom of Bucket			
5		1.00 psi			
10		4.00			
15		8.00			
20		14.00			
25		20.00			
30		30.00			Closed tool for initial shut-in
7					Gas to surface:
0					Opened tool for final flow:
5		22.00	54.40		
10		28.00	63.30		
15		37.00	76.50		
20		46.00	89.80		
25		50.00	95.70		
30		58.00	107.50		
35		62.00	113.40		
40		66.00	119.20		
45		76.00	134.20		
50		80.00	139.90		
55		82.00	142.80		
60		82.00	142.80		Closed tool for final shut-in:
					Flared gas:
120					Pulled tool:

BAKER SERVICE TOOLS

SAMPLER REPORT

Company Quintana Petroleum Corp. Date 5/24/88
Well Name & No. Caballo Unit Federal #2-9 Ticket No. 2773
County San Juan State Utah
Test Interval 6498' - 6538' DST No. 1

Pressure in Sampler: 600 _____ psig

Total Volume of Sampler: 2100 _____ cc.

Total Volume of Sample: 2000 _____ cc.

Oil: None _____ cc.

Water: 2000 _____ cc.

Mud: None _____ cc.

Gas: None _____ cu. ft.

Other: None _____

Sample R W: .4 @ 65°F - .21 @ Res Temp = 16,675 ppm NaCl., 10,137 ppm Cl.

Resistivity

Make Up Water Fresh @ _____ °F of Chloride Content _____ ppm.

Mud Pit Sample 4.0 @ 65 °F of Chloride Content 1,447 ppm.

Gas/Oil Ratio _____ Gravity _____ °API @ _____ °F

Where was sample drained On Location

Remarks: _____

BAKER

SERVICE TOOLS

Quintana Petroleum Corp.
Operator

Caballo Unit Federal #2-9
Well Name and No.

1
DST No.

RECORDER NO. 16815 DEPTH 6530 FT.

INITIAL FLOW

<u>DT(MIN)</u>	<u>PRESSURE(P SIG)</u>
0	242.8
5	220.3
10	215.4
15	214.1
20	210.5
25	208.9
28	212.5

RECORDER NO. 16815 DEPTH 6530 FT.

FINAL FLOW

<u>DT(MIN)</u>	<u>PRESSURE(P SIG)</u>
0	149.7
5	167.3
10	204.2
15	219.8
20	234.1
25	245.6
30	256.6
35	264.6
40	272.2
45	281.0
50	288.7
55	295.5
60	301.8

BAKER

SERVICE TOOLS

Quintana Petroleum Corp.
Operator

Caballo Unit Federal #2-9
Well Name and No.

1
DST No.

RECORDER NO. 16815 DEPTH 6530 FT.

INITIAL SHUT-IN

INITIAL FLOW TIME: T = 28 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)	DP(P SIG)
0		212.5	0.0
1	1.462	609.6	397.1
2	1.176	897.6	685.2
3	1.014	1137.2	924.7
4	0.903	1322.9	1110.4
5	0.820	1469.1	1256.7
6	0.753	1604.3	1391.8
7	0.699	1699.3	1486.8
8	0.653	1783.3	1570.9
9	0.614	1847.6	1635.2
10	0.580	1904.7	1692.2
12	0.523	1993.3	1780.8
14	0.477	2062.5	1850.0
16	0.439	2111.7	1899.2
18	0.407	2153.5	1941.1
20	0.380	2187.3	1974.8
22	0.357	2213.2	2000.7
24	0.336	2239.1	2026.6
26	0.317	2260.2	2047.7
28	0.301	2279.0	2066.6
30	0.286	2295.9	2083.4
35	0.255	2329.8	2117.3
40	0.230	2356.7	2144.2
45	0.210	2377.7	2165.3
50	0.193	2395.6	2183.1
55	0.179	2413.1	2200.7
60	0.166	2426.2	2213.7

EXTRAPOLATED PRESSURE: 2608.7 PSI
SLOPE: 1096.8 PSI/LOG CYCLE
POINTS USED: 10

BAKER

SERVICE TOOLS

Quintana Petroleum Corp.
Operator

Caballo Unit Federal #2-9
Well Name and No.

1
DST No.

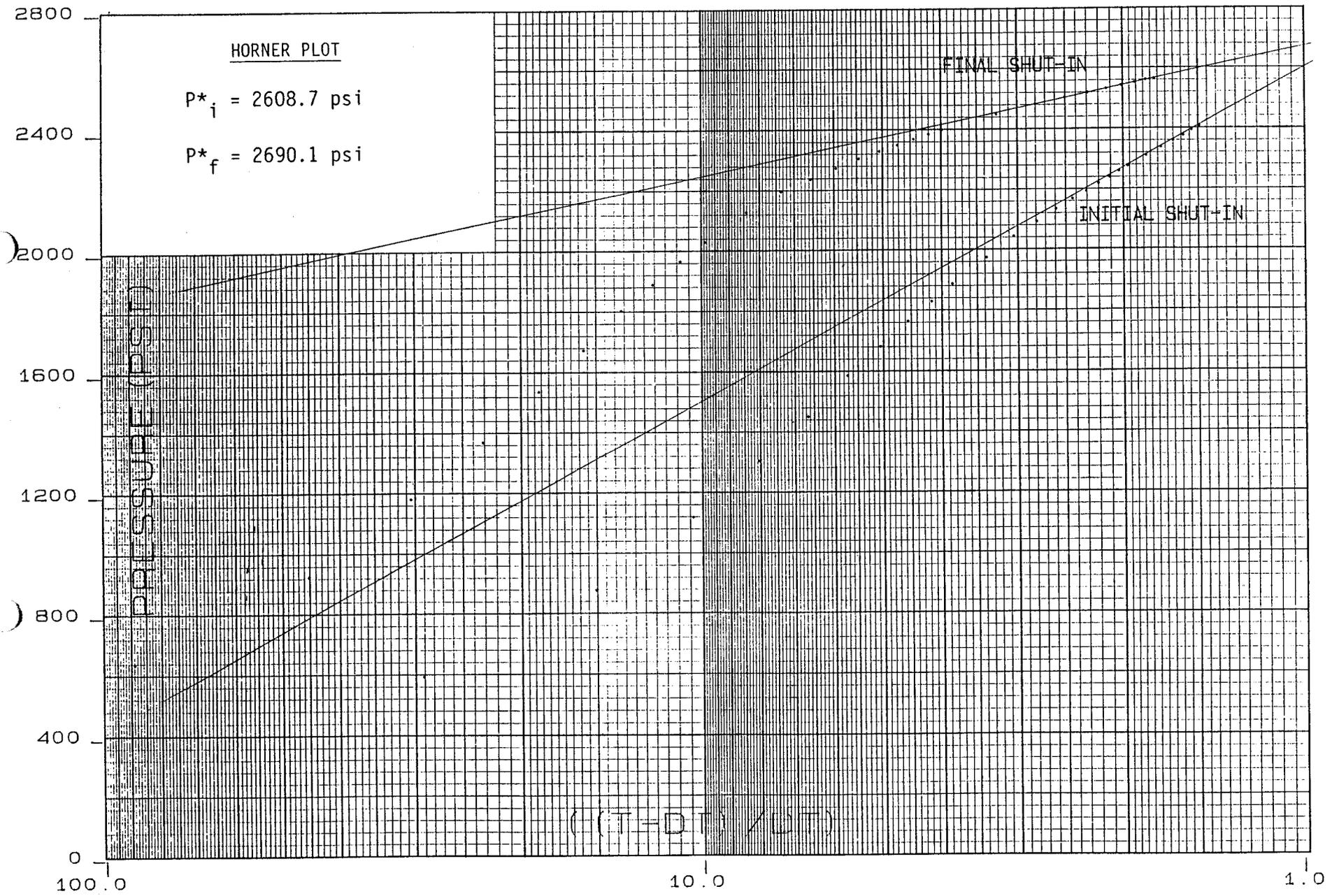
RECORDER NO. 16815 DEPTH 6530 FT.

FINAL SHUT-IN

TOTAL FLOW TIME: T = 88 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)	DP(P SIG)
0		301.8	0.0
1	1.949	652.8	351.0
2	1.653	942.3	640.5
3	1.482	1199.0	897.2
4	1.362	1387.1	1085.2
5	1.270	1553.2	1251.4
6	1.195	1690.2	1388.4
7	1.133	1820.1	1518.2
8	1.079	1905.1	1603.2
9	1.033	1981.8	1679.9
10	0.991	2046.7	1744.9
12	0.921	2145.6	1843.7
14	0.862	2214.0	1912.2
16	0.813	2254.8	1952.9
18	0.770	2290.7	1988.9
20	0.732	2321.3	2019.5
22	0.699	2345.9	2044.1
24	0.669	2366.5	2064.7
26	0.642	2386.3	2084.5
28	0.617	2402.9	2101.0
30	0.595	2416.9	2115.1
40	0.505	2467.3	2165.5
50	0.441	2500.4	2198.5
60	0.392	2520.9	2219.1
70	0.354	2538.0	2236.1
80	0.322	2550.5	2248.7
90	0.296	2561.8	2260.0
100	0.274	2570.3	2268.5
110	0.255	2579.1	2277.3
119	0.240	2583.4	2281.6

EXTRAPOLATED PRESSURE: 2690.1 PSI
SLOPE: 434.9 PSI/LOG CYCLE
POINTS USED: 9



1000.0

LOG/LOG PLOT

100.0

DELTA (P) (PSI)

FINAL SHUT-IN

10.0

INITIAL SHUT-IN

1.0

DELTA (P) (PSI)

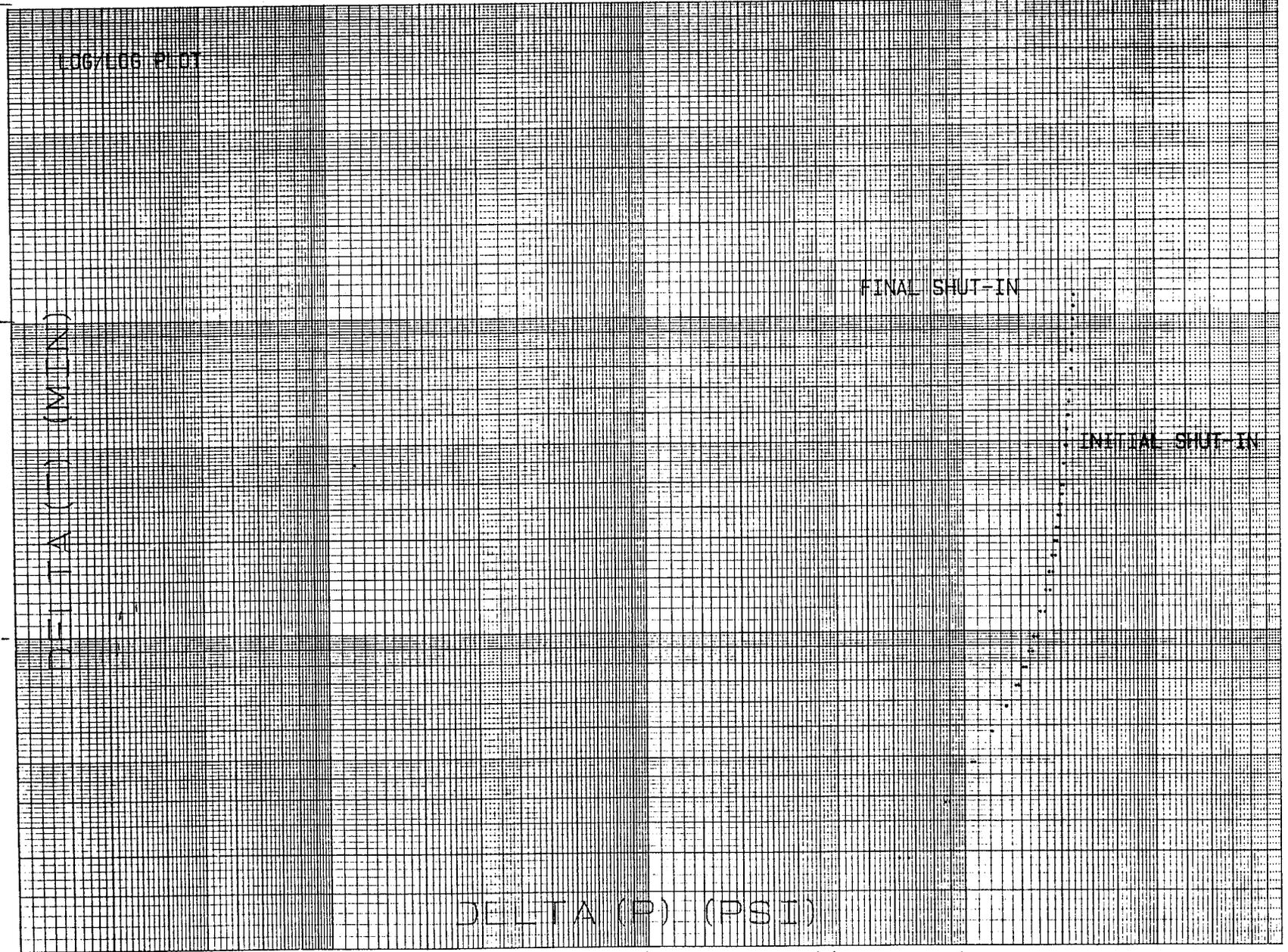
1.0

10.0

100.0

1000.0

10000.0



GAUGE NO. 16815 @ 6530 FT.

3200.0

2400.0

1600.0

800.0

0

PRESSURE (PSI)

TIME (MIN)

0

40.0

80.0

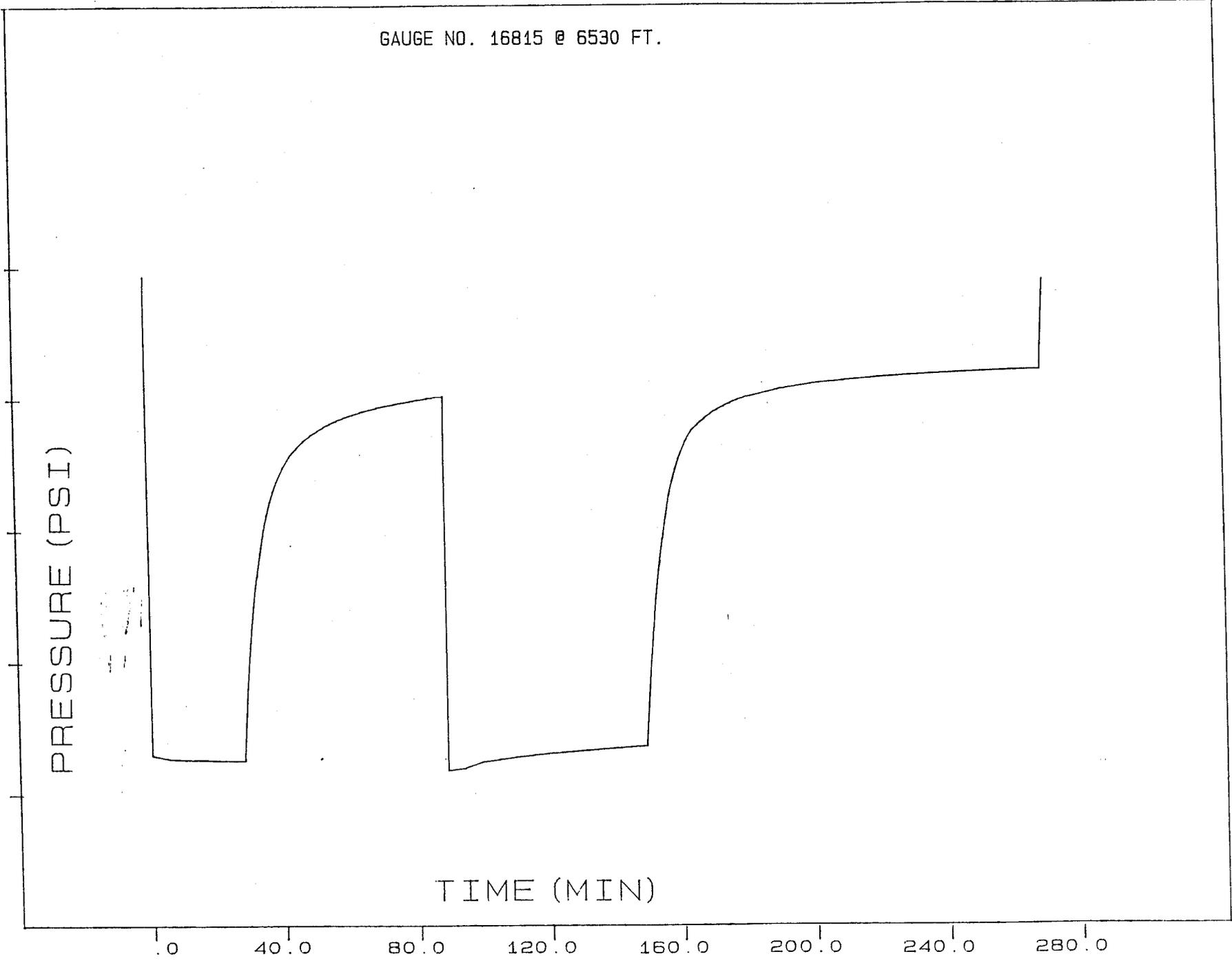
120.0

160.0

200.0

240.0

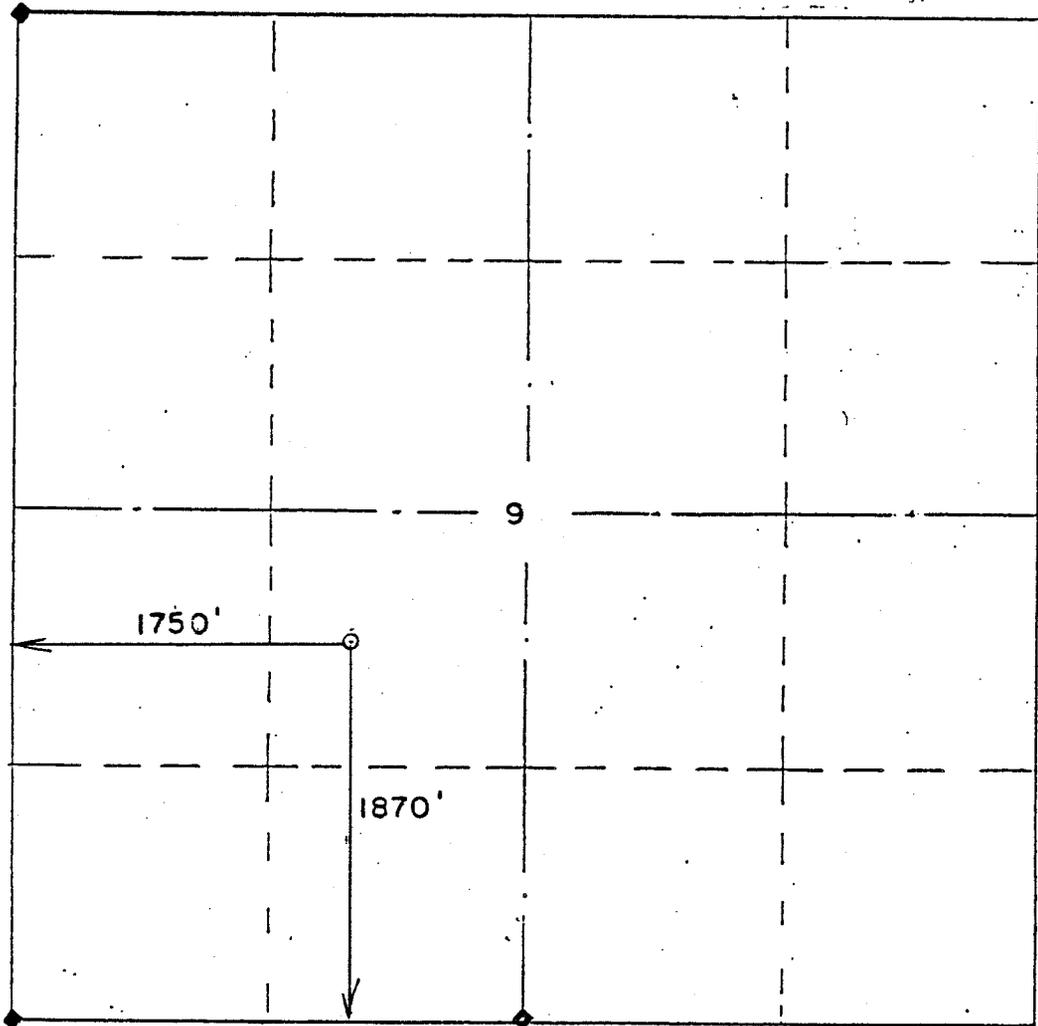
280.0



RECEIVED
SEP 30 1988

WELL LOCATION AND ACREAGE DEDICATION PLAT

DIVISION OF
OIL, GAS & MINING

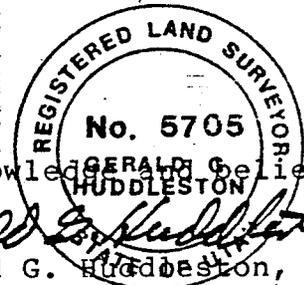


1"=100'

WELL LOCATION DESCRIPTION:
Quintana Petroleum, Caballo Federal 2-9
1870'FSL & 1750'FWL
Section 19, T.36 S., R.23 E., SLM
San Juan County, Utah
6394' ground elevation

The above plat is true and correct to my knowledge and belief.

10 May 1988



Gerald G. Huddleston, LS

QUINTANA PETROLEUM CORPORATION

1050 SEVENTEENTH STREET
SUITE 400
DENVER, COLORADO 80265
(303) 628-9211

January 31, 1989

RECEIVED
FEB 03 1989

State of Utah
Division of Oil, Gas & Mining
3 Triad Center, Suite 350
355 West North Temple
Salt Lake City, Utah 84180-1204

DIVISION OF
OIL, GAS & MINING

Attention: Mr. John Baza

RE: Application to Commingle
Caballo Unit Federal #2-9
Section 9, T36S-R23E
San Juan County, Utah

Dear Mr. Baza:

Quintana Petroleum Corporation requests administrative approval to commingle the Ismay and Desert Creek formations downhole in the Caballo Unit Federal #2-9 well. As indicated on the attached Sundry Notice, it is not possible to measure and allocate production from each zone. All working interests and royalties are the same for both zones and the BLM has given approval to produce the well in this manner.

A copy of this letter of application is being forwarded to all working interest owners of all contiguous oil and gas leases overlying the pool. If none of these owners file a written objection to the application within 15 days after the date this application is filed with the Division, we request administrative approval be granted.

Very truly yours,



Jeannie Williams
Production Technician

/jw
attachments
cc: attached list of WIO's

WORKING INTEREST OWNERS

C. J. ROBERTSON
P. O. Box 3331
Houston, Texas 77253

STANDARD OIL PRODUCTION CO.
Joint Exploration Programs
P. O. Box 4587
Houston, Texas 77002

SANTA FE ENERGY COMPANY
One West Third St., Suite 500
Tulsa, Oklahoma 74103

SAMEDAN OIL CORPORATION
1616 Glenarm Place
Suite 2550
Denver, Colorado 80202

DUNCAN EXPLORATION CO.
1777 So. Harrison, Penthouse I
Denver, Colorado 80210

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIP DATE*
(Other instructions on reverse side)

Form approved
Budget Bureau No. 1004-103
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
FEB 03 1989

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
QUINTANA PETROLEUM CORPORATION

3. ADDRESS OF OPERATOR
1050 - 17th Street, Suite 400, Denver, Colorado 80265

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface
1750' FWL & 1870' FSL (NE SW)

14. PERMIT NO.
43-037-31402

15. ELEVATIONS (Show whether DF, RT, CR, etc.)
6394' GR

5. LEASE DESIGNATION AND SERIAL NO.
UTU-23520

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
Caballo Unit

8. FARM OR LEASE NAME
CABALLO UNIT FEDERAL

9. WELL NO.
#2-9

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Section 9, T36S-R23E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

CONFIDENTIAL

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Confirmation of verbal approval received from Dale Manchester, BLM - Vernal, Utah, to commingle the Ismay and Desert Creek formations downhole.

Moved in WellTech Rig #398 12/30/88 to dually produce Ismay and Desert Creek formations (existing perforations 6780'-6790' and 6492'-6511' O.A.). Unable to latch on to LokSet packer with on/off tool at 6714' - plug out and jammed alongside packer. TIH with Model "R" packer and set at 6618'. Now both zones will produce up tubing. Well currently SI waiting on gas market.

All working interests and royalties the same for both zones.

See attached drawing for details.

18. I hereby certify that the foregoing is true and correct

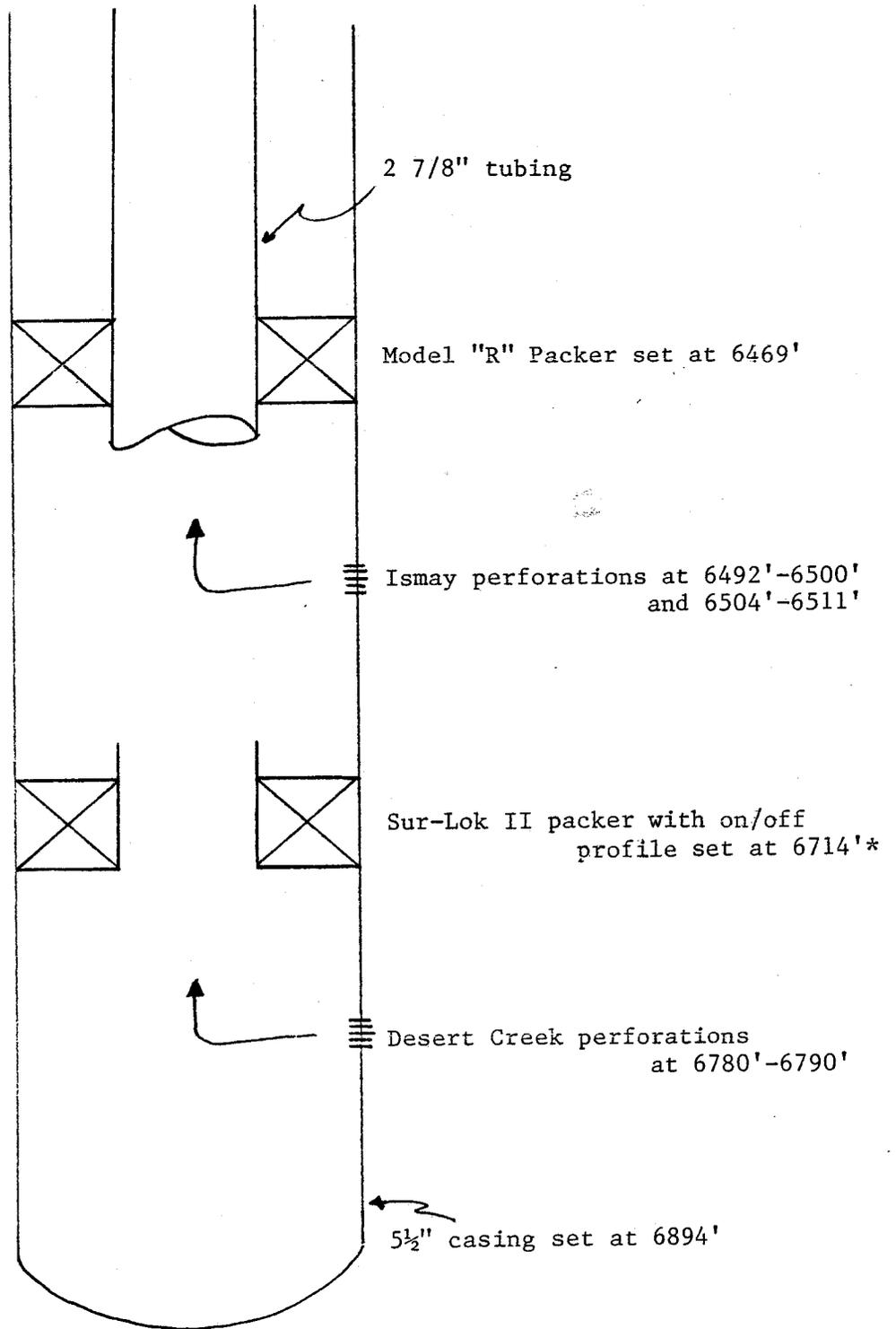
SIGNED *J. Williams* TITLE Production Technician DATE 1/31/89

(This space for Federal or State office use)

APPROVED BY _____ TITLE APPROVED BY THE STATE DATE _____
CONDITIONS OF APPROVAL, IF ANY:
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 2-9-89
*See Instructions on Reverse Side

Federal approval of this action is required before commencing operations.

CABALLO UNIT FEDERAL #2-9



*NOTE: RSG plug came out of Lok-Set packer. Could not recover plug. Therefore could not get on/off back over Lok-Set profile. Rather than set another Lok-Set packer and attempt a casing-tubing dual as originally planned, the decision was made to set a packer above both zones and commingle downhole.

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
OIL AND GAS INSPECTION RECORD

CONF

OPERATOR Quinta Petro Corp LEASE _____

WELL NO. Caballo unit Red 2-9 API 43-037-31402

SEC. 9 T. 36S R. 23E CONTRACTOR _____

COUNTY S/J FIELD _____

DRILLING/COMPLETION/WORKOVER:

<input type="checkbox"/> APD	<input type="checkbox"/> WELL SIGN	<input type="checkbox"/> HOUSEKEEPING	<input type="checkbox"/> BOPE
<input type="checkbox"/> SAFETY	<input type="checkbox"/> POLL. CONTROL	<input type="checkbox"/> SURFACE USE	<input type="checkbox"/> PITS
<input type="checkbox"/> OPERATIONS	<input type="checkbox"/> OTHER		

SHUT-IN Y / TA _____ :

<input checked="" type="checkbox"/> WELL SIGN	<input checked="" type="checkbox"/> HOUSEKEEPING	<u>none</u> EQUIPMENT*	<input checked="" type="checkbox"/> SAFETY
<input checked="" type="checkbox"/> OTHER			

ABANDONED:

<input type="checkbox"/> MARKER	<input type="checkbox"/> HOUSEKEEPING	<input type="checkbox"/> REHAB.	<input type="checkbox"/> OTHER
---------------------------------	---------------------------------------	---------------------------------	--------------------------------

PRODUCTION:

<input type="checkbox"/> WELL SIGN	<input type="checkbox"/> HOUSEKEEPING	<input type="checkbox"/> EQUIPMENT*	<input type="checkbox"/> FACILITIES*
<input type="checkbox"/> METERING*	<input type="checkbox"/> POLL. CONTROL	<input type="checkbox"/> PITS	<input type="checkbox"/> DISPOSAL
<input type="checkbox"/> SECURITY	<input type="checkbox"/> SAFETY	<input type="checkbox"/> OTHER	

GAS DISPOSITION:

<input type="checkbox"/> VENTED/FLARED	<input type="checkbox"/> SOLD	<input type="checkbox"/> LEASE USE
--	-------------------------------	------------------------------------

LEGEND: Y - YES OR SATISFACTORY
N - NO OR UNSATISFACTORY
NA - NOT APPLICABLE

*FACILITIES INSPECTED: Xmas tree

REMARKS: new well has been completed no Lse Equip.
well set well-ech sur. Rig stacked on Loc.
Pit has been Rehabed

ACTION: ATTN Arlene

INSPECTOR: [Signature] DATE 2/14/89

3

STATE OF UTAH
DIVISION OF OIL, GAS & MINING
OIL AND GAS INSPECTION RECORD

INSPECTION

no
sw

OPERATOR Quintana LEASE _____
WELL NO. Cabello Fed U. 2-9 API 43-037-31402
SEC. 9 T. 36S R. 23E CONTRACTOR _____
COUNTY SJS FIELD WFC

DRILLING/COMPLETION/WORKOVER:

APD WELL SIGN HOUSEKEEPING BOPE
 SAFETY POLL. CONTROL SURFACE USE PITS
 OPERATIONS OTHER

SHUT-IN ___ / TA ___:

WELL SIGN HOUSEKEEPING EQUIPMENT* SAFETY
 OTHER

ABANDONED:

MARKER HOUSEKEEPING REHAB. OTHER

PRODUCTION:

WELL SIGN HOUSEKEEPING EQUIPMENT* FACILITIES*
 METERING* POLL. CONTROL PITS DISPOSAL
 SECURITY SAFETY OTHER

GAS DISPOSITION:

VENTED/FLARED SOLD LEASE USE

LEGEND: Y - YES OR SATISFACTORY
N - NO OR UNSATISFACTORY
NA - NOT APPLICABLE

*FACILITIES INSPECTED: Xmastree Lse Equip

REMARKS: POW Flowing

ACTION: _____

INSPECTOR: [Signature] DATE: 1/22/90

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPlicate

RECEIVED
JAN 31 1990

Form approved
Budget Bureau No. 1004-1-1
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug wells to a greater depth.
Use "APPLICATION FOR PERMIT" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>	DIVISION OF OIL, GAS & MINING	7. UNIT AGREEMENT NAME Caballo Unit
2. NAME OF OPERATOR QUINTANA PETROLEUM CORPORATION (303)628-9211		8. FARM OR LEASE NAME CABALLO UNIT FEDERAL
3. ADDRESS OF OPERATOR 1050 - 17th Street, Suite 400, Denver, Colorado 80265		9. WELL NO. #2-9 & #1-15
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface NE SW Section 9, T36S-R23E (Caballo Unit Fed. #2-9) NW NW Section 15, T36S-R23E (Caballo Unit Fed. #1-15)		10. FIELD AND POOL, OR WILDCAT
14. PERMIT NO. 43-037-31402 43-037-31403	15. ELEVATIONS (Show whether of, ft., or, etc.)	11. SEC., T., R., M., OR BLK. AND SURVEY OR ALMA Section 9, T36S-R23E Section 15, T36S-R23E
		12. COUNTY OR PARISH 13. STATE San Juan Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

In accordance with NTL-2B, Quintana Petroleum Corporation requests permission to dispose of produced water from the Ismay formation from the two wells in this Unit. The water will be hauled by Wrightway Trucking to Keystone Disposal, Lisbon Valley, Section 34, T29S-R24E, Grand County, Utah. It is anticipated that a maximum of 200 barrels of water total will be disposed of per month from these wells. Copies of the tickets can be provided if required.

A water analysis is being done and will be forwarded when available.

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 2-5-90
BY: [Signature]

OIL AND GAS	
DRN	RJF
JRB	1- GLH
DTS	SLS
2-TAS	
3	MICROFILM 1/29/90
FILE	

18. I hereby certify that the foregoing is true and correct

SIGNED [Signature] TITLE Production Technician

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL IF ANY:
Federal Approval of this
Action is Necessary

cc: State of Utah DOGM

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPlicate
These instructions go
with the form.

Form approved
Bureau Bureau No. 100-11
Effective August 11, 1985
LEASE DESIGNATION AND SERIAL NO.

DU23520

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different formation.
Use "APPLICATION FOR PERMIT" for such proposals.)

10-1-1991

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	7. UNIT AGREEMENT NAME Caballo Unit
2. NAME OF OPERATOR QUINTANA PETROLEUM CORPORATION (303)692-9559	8. FARM OR LEASE NAME CABALLO UNIT FEDERAL
3. ADDRESS OF OPERATOR 1325 So. Colorado Blvd., Suite 411, Denver, CO 80222	9. WELL NO. #2-9
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also ADOP (7 below). At surface 1750' FWL & 1870' FSL (NE SW)	10. FIELD AND POOL, OR WILDCAT Wildcat
11. ELEVATIONS (Show whether of XT, CR, etc.) 6394' GR	11. SEC. T. R. S. OR BLM. AND AGENCY OR AKA Section 9, T36S-R23E
14. PERMIT NO. 43-037-31402	12. COUNTY OR PARISH: 13. STATE San Juan Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHUT IN OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	

(Note: Report results of multiple completion on Well Completion or Recognition Report and Log form.)

17. DESCRIBE PROMISED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is discontinuously drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Well plugged as follows. Plugging witnessed by Eric Jones, BLM.

- Plug #1: 6711'-5808', 100 sxs Class "G"
- Plug #2: 2337'-2237', 29 sxs Class "G"
- Plug #3: 55'- 5', 14 sxs Class "G"
- TIH, tag Plug #1 at 6574' with 10,000#.
- Plug #4: 6574'-6200', 40 sxs Class "G"
- Plug #5: 2337'-2237', 12 sxs Class "G"
- Plug #6: 55'- 5', 7 sxs Class "G".

Placed 9 ppg drilling mud between all plugs.

Casing cut off 5' below ground level. Welded plate on casing, installed dry hole marker.

Rig released 12/11/90. FINAL REPORT.

18. I hereby certify that the foregoing is true and correct
SIGNED MSnyder TITLE Production Technician DATE 1/2/91

(This space for Federal or State office use)
APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

cc: Utah DOGM

*See Instructions on Reverse Side

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT

RECEIVED

JAN 26 1994

**DIVISION OF
 OIL, GAS & MINING**

Date July 21, 1989

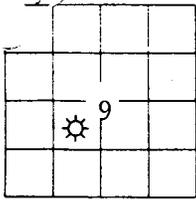
Sec. 9

T. 36 S.

R. 23 E.

SLB& Mer.

Ref. No. _____



FEDERAL

Lease No. 23520 State Utah
 Lessee Tenneco Oil Company 60% et al County San Juan
 Operator Qunitana Petroleum Corporation Field Wildcat
 Well Name & No. Caballo Federal Unit 2-9 Unit/CA Caballo
 A.P.I. Well No. 43-037-31402 District Moab
 Location 1750' FWL and 1870' FSL Subdivision NESW
 Date Drilling Approved April 25, 1988 Well Elevation 6394 GR Feet
 Date Drilling Commenced May 11, 1988 Total Depth 6895 PB 6814 CIBP Feet
 Date Drilling Ceased May 26, 1988 Initial Production 1.5 MCFGPD Flowing
 Date Completed For Production June 22, 1988 Gravity A.P.I. _____

Abandonment Approved (Final) March 20, 1991

FAN Approved 12/30/93

Initial Reservoir Pressure 230 FTP

GEOLOGIC FORMATIONS

PRODUCTIVE HORIZONS

SURFACE	LOWEST TESTED	NAME	DEPTHS	CONTENTS						
<u>Dakota</u>	<u>Akah</u>	<u>Ismay</u>	<u>6492'-6511'</u> <u>(Selective)</u>	<u>Gas</u>						
<table border="1"> <tr> <td>SURFACE MANAGEMENT AGENCY</td> <td><u>Private</u></td> </tr> <tr> <td>MINERAL OWNERSHIP</td> <td><u>BLM</u></td> </tr> <tr> <td>LEASE EXPIRATION</td> <td><u>7/31/83, HBP</u></td> </tr> </table>					SURFACE MANAGEMENT AGENCY	<u>Private</u>	MINERAL OWNERSHIP	<u>BLM</u>	LEASE EXPIRATION	<u>7/31/83, HBP</u>
SURFACE MANAGEMENT AGENCY	<u>Private</u>									
MINERAL OWNERSHIP	<u>BLM</u>									
LEASE EXPIRATION	<u>7/31/83, HBP</u>									

WELL STATUS

YEAR	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
<u>1988</u>					<u>5-11</u> <u>SPUD</u>	<u>6-5</u> <u>1st Prod-Test</u>						
<u>1989</u>						<u>6-29</u> <u>1st Prod</u>						
<u>1990</u>		<u>NTL-28</u> <u>4/20/90</u>								<u>NOT DATA</u> <u>10/24/90</u>		
<u>1991</u>			<u>SRA Apprvd</u> <u>3/20/91</u>									
<u>1993</u>												<u>FAN</u>

Production Memorandum 1/17/88 Lease Extension Memorandum 1/28/88 Confirmation _____

 .ks _____

