

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
 Nova Petroleum Corp.

3. ADDRESS OF OPERATOR
 36 So. State, Suite 1450, SLc UT 84
 P.O. Box 11630 Salt Lake City, Utah 84147

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
 At surface
 1944' FEL 540' FNL Section 20, T9S, R16E, S.L.B. & M.
 At proposed prod. zone
 Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 11 miles southwest of Myton, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
 540'

16. NO. OF ACRES IN LEASE
 640

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.
 6100' *Neat*

19. PROPOSED DEPTH
 6100'

20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 6051

22. APPROX. DATE WORK WILL START*

5. LEASE DESIGNATION AND SERIAL NO.
 U-52018

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
 Nova

9. WELL NO.
 31-20 G NGC Fed.

10. FIELD AND POOL, OR WILDCAT
 Wildcat CASTLE PEAK

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 Sec. 20, T9S, R16E, SLM

12. COUNTY OR PARISH
 Duchesne

13. STATE
 Utah

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
16"	13-3/8"	48# H-40	40'	Redi mix to surface
12 1/4"	9-5/8"	36# J-55	300'	Circ to surface
7-7/8"	5-1/2"	17# K-55	6100'	Circ to top of Green River

See Attachments
 10 pt
 BOP
 Loc Plat
 13pt
 cut sheet
 Topo A
 Topo B

expected down hole pressure 2745 PSI

RECEIVED
 DEC 26 1984
 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. SIGNED _____ TITLE _____ DATE _____

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY THE STATE
 OF UTAH DIVISION OF
 OIL, GAS, AND MINING
 DATE: 1/4/85
 BY: [Signature]

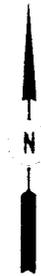
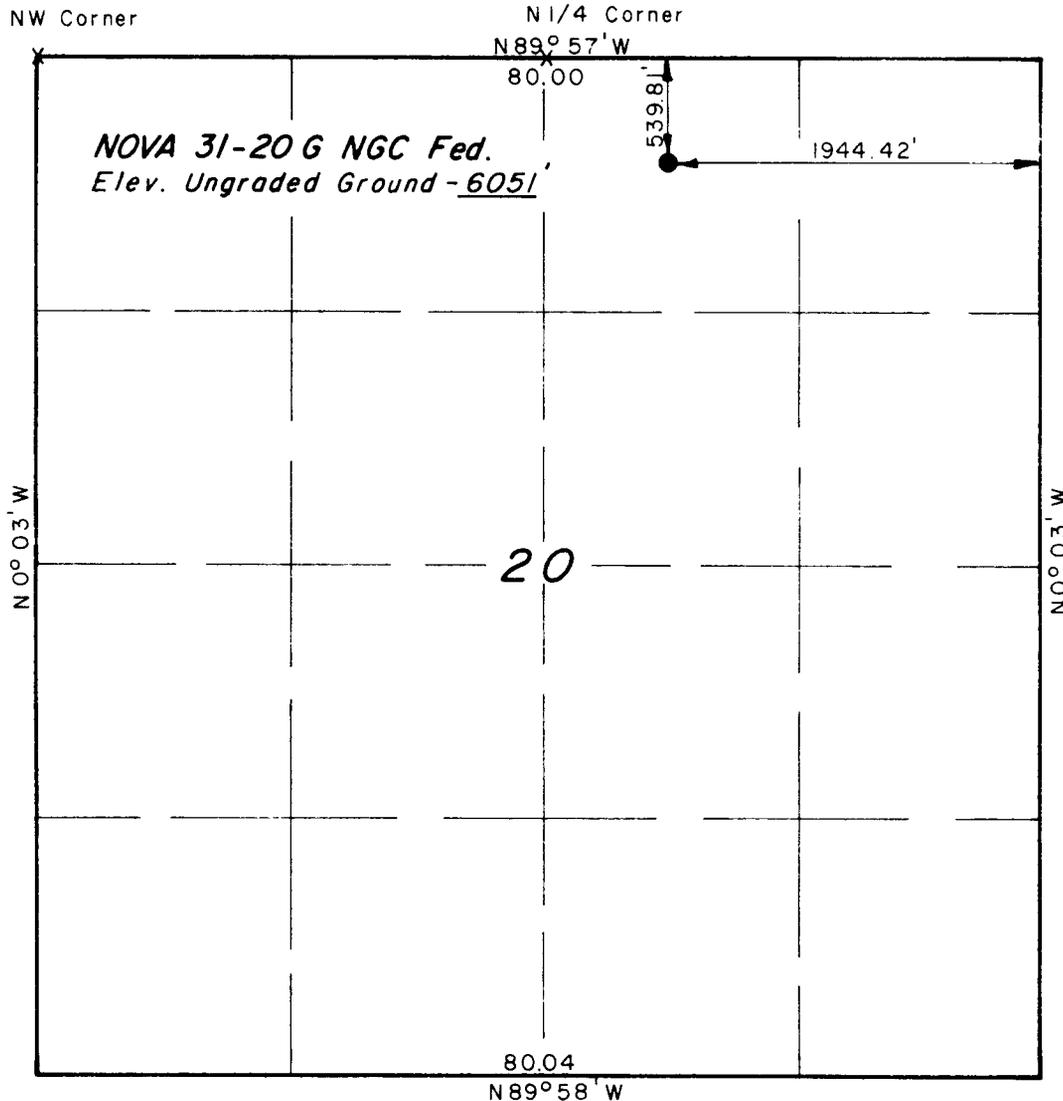
*See Instructions On Reverse Side

PROJECT

NOVA PETROLEUM CORP.

Well location, *NOVA 31-20 G NGC Fed.*
located as shown in the NW1/4 NE1/4
Section 20, T9S, R16E, S.L.B. & M.
Duchesne County, Utah.

T9S, R16E, S.L.B. & M.



FRIS STATE

I HEREBY CERTIFY THAT THE LOCATION OF WELL PROPOSED FROM
THE NOTES OF A SURVEY MADE BY ME OR UNDER MY
SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE AND BELIEF.

[Signature]
REGISTERED LAND SURVEYOR
REGISTRATION NO 2454
STATE OF UTAH

Revised 12/5/84

UINTAH ENGINEERING & LAND SURVEYING
P O BOX Q - 85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

SCALE	1" = 1000'	DATE	5/1/84
PARTY	DB CM	PT	REFERENCES GLO
WEATHER	Cold / Windy	FILE	NOVA PETROLEUM

X = Section Corners Located

CONDITIONS OF APPROVAL FOR NOTICE TO DRILL

Company Nova Petroleum Corp.

Well No. Nova 31-20G NGC Fed.

Location: Section 20, T9S, R16E, S.L.M.

Lease No.: U-52018

Onsite Inspection Date: May 8, 1984

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 the field representative to insure compliance.

A. DRILLING PROGRAM

1. Surface Formation and Estimated Formation Tops:

Uinta Surface, Green River 1400'; Wasatch 5400, T.D. 5800'

2. Estimated Depth at which Oil, Gas, Water, or other Mineral Bearing Zones are Expected to be encountered:

	<u>Formation</u>	<u>Zone</u>
Expected Oil Zones:	Douglas Creek	3800' T.D.
Expected Gas Zones:	Douglas Creek	3800' T.D.
Expected Water Zones:		Surface - 3800'
Expected Mineral Zones:	Green River Oil Shale	1400'

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

3. Pressure Control Equipment:

12" 3000# Double Hydraulic B.O.P. with pipe rams and blind rams and spherical B.O.P.

B.O.P. to be pressure tested before spudding and daily testing of closing units and rams while drilling.

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.

The District Office should be notified, with sufficient lead time, in order to have a BLM representative on location during pressure testing.

4. Casing Program and Auxiliary Equipment:

13 3/8" 48# H-40 40' Redi Mix to Surface

9 5/8" 36# J-55 300' Circulate to Surface approximately 120 sax.

5 1/2" 17# K-55 6100' Circulate to top of Green River approximately 630 sax.

Anticipated cement tops will be reported as to depth, not the expected number of sacks of cement to be used. The District Office should be notified, with sufficient lead time, in order to have a BLM representative on location while running all casing strings and cementing.

5. Mud Program and Circulating Medium:

Water Surface to 3800' Wt. 8.4 - 8.6 Vis. 30-35 Gel 3800' to T.D. 8.6 - 9.1 35-45 W.L. 8-10

6. Coring, Logging and Testing Program:

Dual Induction SFL 300' - T.D.

BHC Density CNL 300' - T.D.

No Coring

Whether the well is completed as a dry hole or as a producer, "Well Completion and 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 analyses, well-test data, geologic summaries, sample description, 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 authorized officer(AO).

7. Abnormal Conditions, Bottom Hole Pressures and Potential Hazards:

None expected

8. Anticipated Starting Dates and Notifications of Operations:

Location Construction:

Spud Date: A.S.A.P.

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the AO. If operations are to be suspended, prior approval of the AO will be obtained and notification given before resumption of operations.

The spud date will be reported orally to the AO within 48 hours after spudding. If the spudding occurs on a weekend or holiday, the report will be submitted on the following regular working day. The oral report will be followed up with a Sundry Notice.

In accordance with Onshore Oil and Gas Order No. 1, this well will be reported on Form 9-329 "Monthly Report of Operations", starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report will be filed, in duplicate, to the Vernal BLM District Office, 170 South 500 East, Vernal, Utah 84078.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported in accordance with the requirements of NTL-3A or its revision.

If a replacement rig is contemplated for completion operations, a "Sundry Notice" (Form 3160-5) to that effect will be filed, for prior approval of the AO, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig.

Should the well be successfully completed for production, the AO 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 5 days following the date on which the well is placed on production.

Pursuant to NTL-2B, with the approval of the District Engineer, produced water may be temporarily disposed of into unlined pits for a period of up to 90 days. During the period so authorized, an application for approval of the permanent disposal method, along with the required water analysis and other information, must be submitted to the District Engineer.

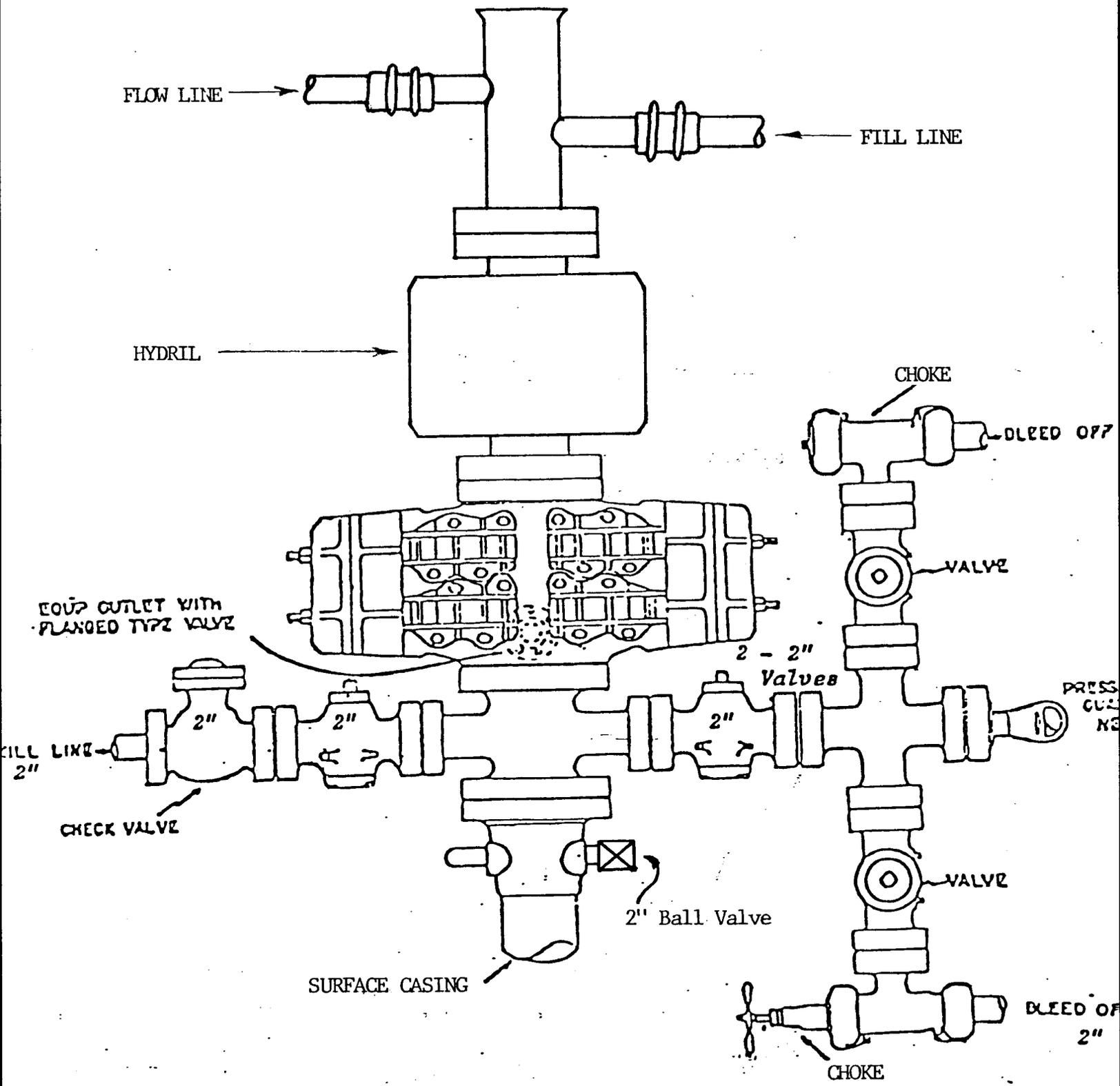
Pursuant to NTL-4A, lessees or operators are authorized to vent/flare gas during initial well evaluation tests, not exceeding a period of 30 days or the production of 50 MMCF of gas, whichever occurs first. An application must be filed with the District Engineer and approval received, for any venting/flaring of gas beyond the initial 30 day authorized test period.

A schematic facilities diagram as required by 43 CFR 3162.7-2, 3162.7-3, and 3162.7-4 shall be submitted to the appropriate District Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in 43 CFR 3162.7 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with 43 CFR 3162.4.

A first production conference will be scheduled within 15 days after receipt of the first production notice.

No well abandonment operations will be commenced without prior approval of the AO. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the SO. A "Subsequent Report of Abandonment" Form 3160-5, will be filed with the AO within 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 AO or his representative, or the appropriate Surface Managing Agency.

Pursuant to Onshore Oil and Gas Order No. 1, lessees and operators have the responsibility to see that their exploration, development, production, and construction operations are conducted in a manner which conforms with applicable Federal laws and regulations and with State and local laws and regulations to the extent that such State and local laws and regulations to the extent that such State and local laws are applicable to operations on Federal or Indian lands.



NOTE: BLOWOUT PREVENTER HAS DOUBLE RAMS;
 ONE BLIND AND ONE PIPE RAM.

Diag. A

NOVA PETROLEUM, CORP.

13 Point Surface Use Plan

For

Nova 31-20G NGC Fed.

Located in

Section 20, T9S, R16E, S.L.B.&M.

Duchense County, Utah

1. EXISTING ROADS:

- a. Location of proposed well in relation to town or other reference point: Approximately 11 miles Southwest of Myton, Utah.
- b. Proposed route to location: U.S. 40 West to U-53; Southwesterly on U-53 9.7 miles to dirt road; Southeasterly on dirt road 2.0 miles to proposed road.
- c. Location and Description of roads in the area: U.S. 40 bituminous surfaced, U-53 gravel surfaced, all other are dirt roads.
- d. Plans for improvement and/or maintenance of existing roads: Some minor grade work on proposed portion of road.
- e. Other: None

2. PLANNED ACCESS ROADS:

- a. Width: 18' road surface (30' total disturbance maximum)
- b. Maximum grades: 8%
- c. Turnouts: None
- d. Location (centerline): Flagged
- e. Drainage: Drainage ditches on side where necessary.
- f. Surface materials (source): Existing materials
- g. Other: None

All travel will be confined to existing access road rights-of-way.

3. LOCATIONS OF EXISTING WELLS: There is one existing Diamond Shamrock location located in the NE 1/4 NE 1/4 Section 20, T9S, R16E, S.L.B. & M.

4. LOCATION OF TANK BATTERIES AND PRODUCTION FACILITIES:

All permanent (onsite for six months or longer) structures constructed or installed (including oil well pump jacks will be painted a flat, non-reflective, earthtone color to match the standard environmental colors, as determined by the Rocky Mountain 5

State Interagency Committee. All facilities will be painted within 6 months of installation. Facilities required to comply with O.S.H.A. (Occupational Safety and Health Act) will be excluded.

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 battery.

Tank batteries will be placed on the: South end of the location.

All loading lines will be placed inside the berm surrounding the tank battery.

All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the AO.

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 anchored securely at the meter. Meter runs will be housed and/or fenced.

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 AO 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 Moab District office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

5. LOCATION AND TYPE OF WATER SUPPLY:

All water needed for drilling purposes will be obtained from: The Duchesne River near Myton, Utah approximately 13.3 miles North of the location site.

6. SOURCE OF CONSTRUCTION MATERIAL:

Road surfacing and pad construction material will be obtained from: Existing materials in the area.

The use of materials under B.L.M. jurisdiction will conform to 43 CFR 3610 . 2-3.

Construction materials will be located on lease.

7. METHODS OF HANDLING WASTE DISPOSAL:

The reserve pit may or may not be lined: To be determined upon completion of construction of the pit.

Burning will not be allowed. All trash must be contained and disposed of by: A trash cage and hauled to an approved sanitary landfill.

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 required water analysis, will be submitted for the AO's approval. Failure to file an application within the time allowed will be considered an incident of noncompliance, and will be grounds for issuing a shut-in order.

8. ANCILLARY FACILITIES:

Camp facilities will not be required.

9. WELL SITE LAYOUT:

The reserve pit will be located: On the West side of the location.

The stockpiled topsoil will be stored: On the Southeast end of the location.

Access to the well pad will be from: Southwest

The trash pit will be located: No trash pit.

Reserve pits will be fenced with a net wire fence and topped with at least one strand of barbed wire.

10. PLANS FOR RESTORATION OF SURFACE:

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

Before any dirt work to restore the location takes place, the reserve pit must be completely dry and all cans, barrels, pipe etc. will be removed.

All disturbed areas will be recontoured to the approximate natural contours.

The stockpiled topsoil will be evenly distributed over the disturbed areas.

Prior to reseeding, all disturbed areas, including the access roads, will be scarified and left with a rough surface.

Seed will be broadcast or drilled at a time specified by the BIM. If broadcast, a harrow or some other implement will be dragged over the seeded area to assure seed coverage. Also, if broadcast the amount of seed will be proportionately larger to total 14 lbs/Acre.

The following seed mixture will be used:

Stipa Comata	1 Lb/Ac
Agropyron Cristatum	1 Lb/Ac
Poa Sekcunda	1 Lb/Ac
Kochia Prostrata	2 Lb/Ac
Atriplex Confertifolia	2 Lb/Ac
Ceratoides Lanata	<u>2 Lb/Ac</u>
	9 Lb/Ac

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

11. SURFACE AND MINERAL OWNERSHIP

B.L.M.

12. OTHER INFORMATION: Seasonal restrictions: There will be no drilling in this area from February 15, to June 15 because of Golden Eagle Nesting.

There will be no deviation from the proposed drilling and/or workover program without prior approval from the AO. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.2.

"Sundry Notice and Report and Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3164.

The dirt contractor will be provided with an approved copy of the surface use plan.

A cultural resource clearance will be required before any construction begins. If any cultural resources are found during construction, all work will stop and the AO will be notified.

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.

13. LESSEE'S OR OPERATORS REPRESENTATIVE AND CERTIFICATION

Representative

Name: Dan Peel

Address: P.O. Box 11630 Salt Lake City, Utah 84147

Phone No. (801) 359-8348

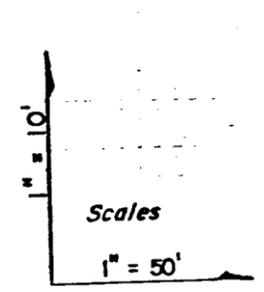
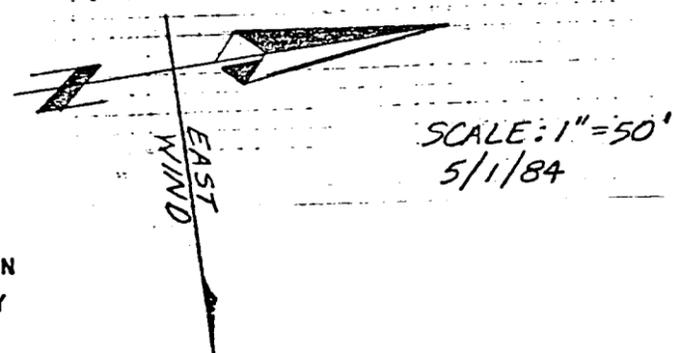
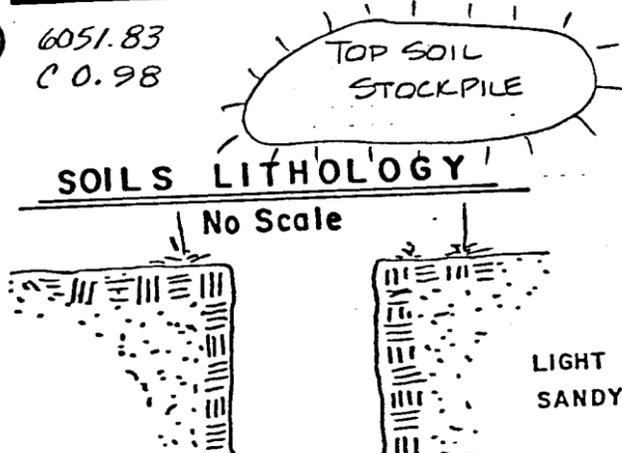
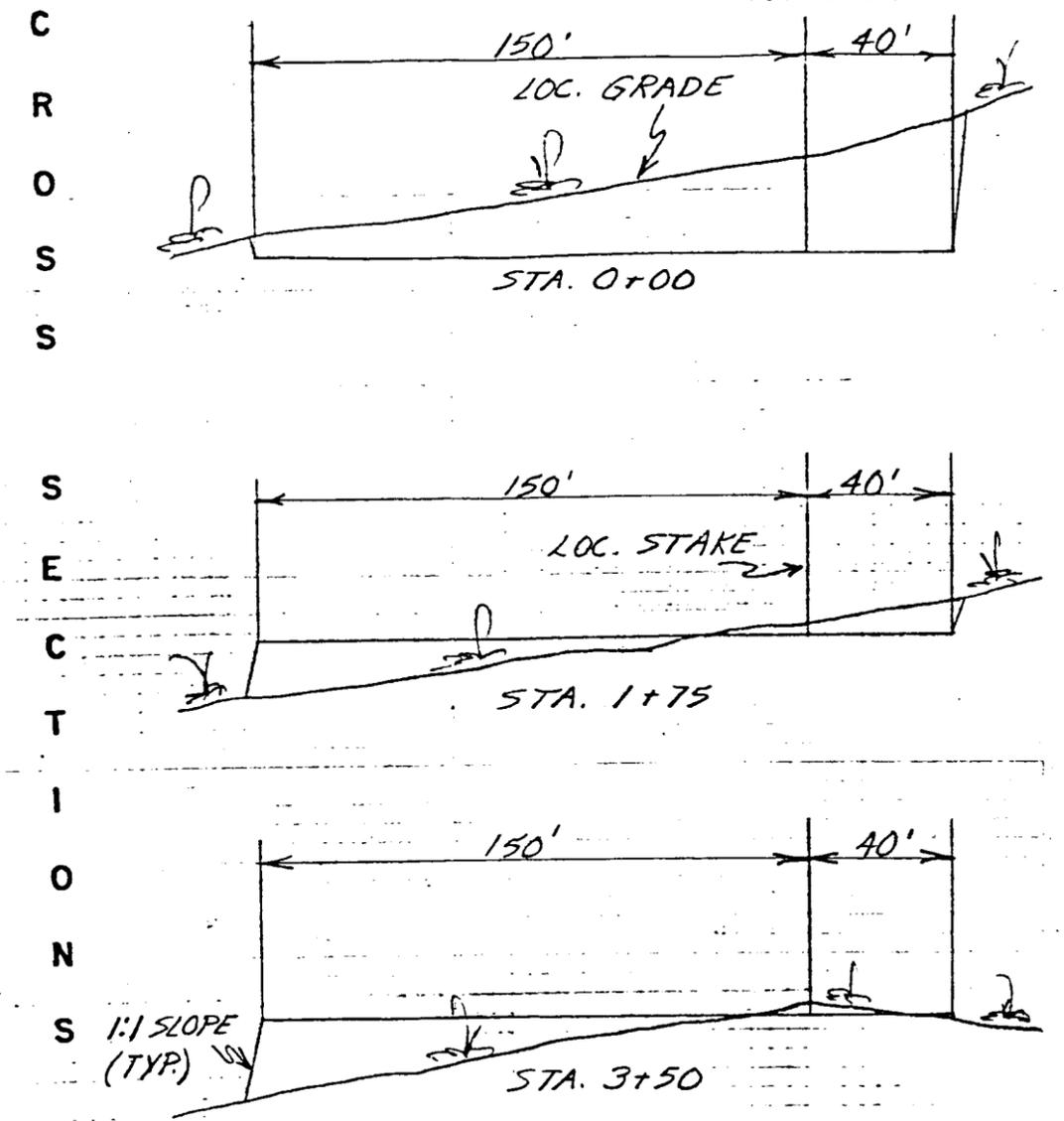
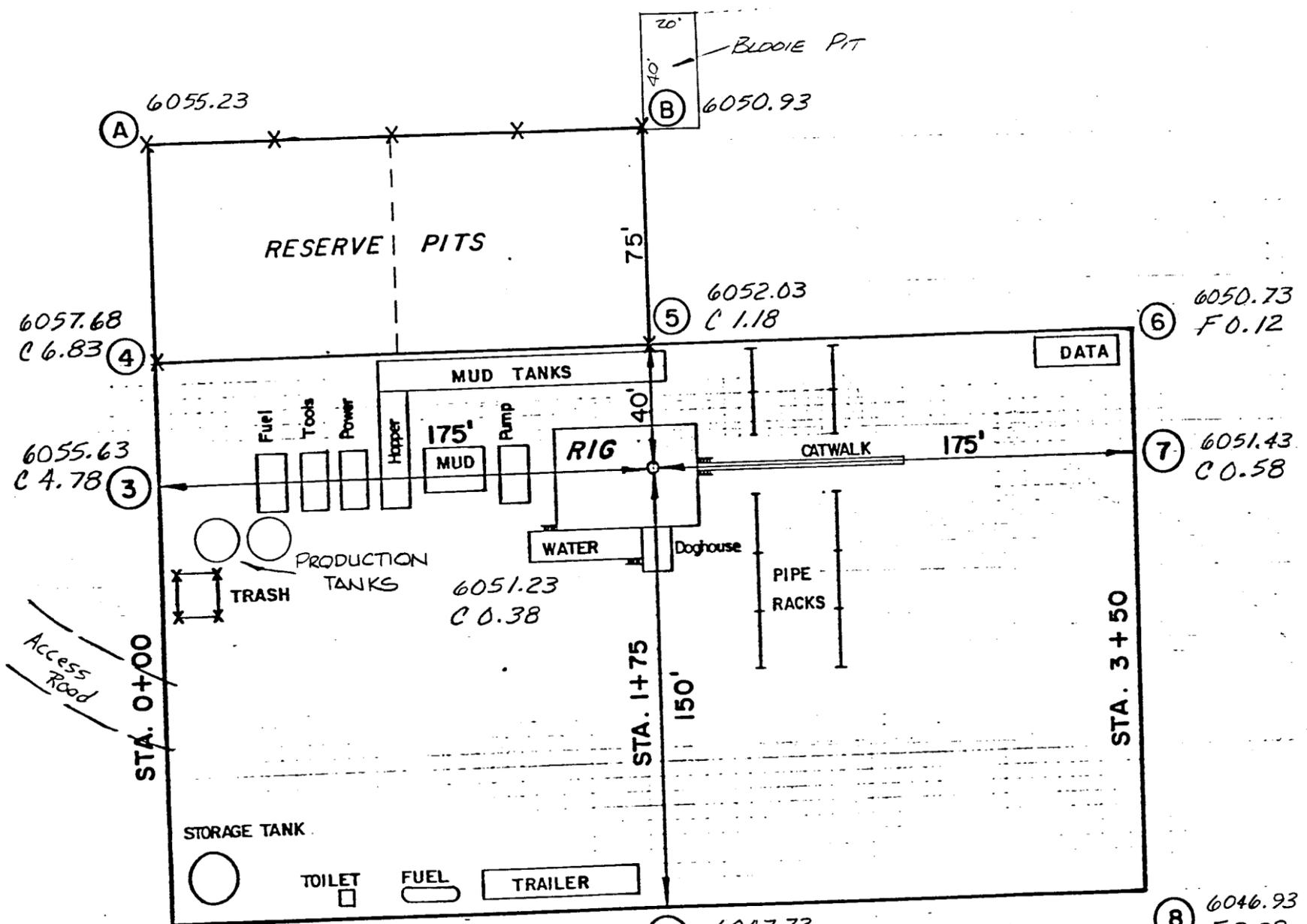
Certification:

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 currently 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: Nova Petroleum Corp. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

12/10/84
Date

Dan Peel
Dan Peel

NOVA PETROLEUM, CORP.
Nova 31-20 G NGC Fed.



Elevation Proposed Ground = 6050.85

APPROXIMATE YARDAGES

Cu. Yds. Cut - 2836
 Cu. Yds. Fill - 2364

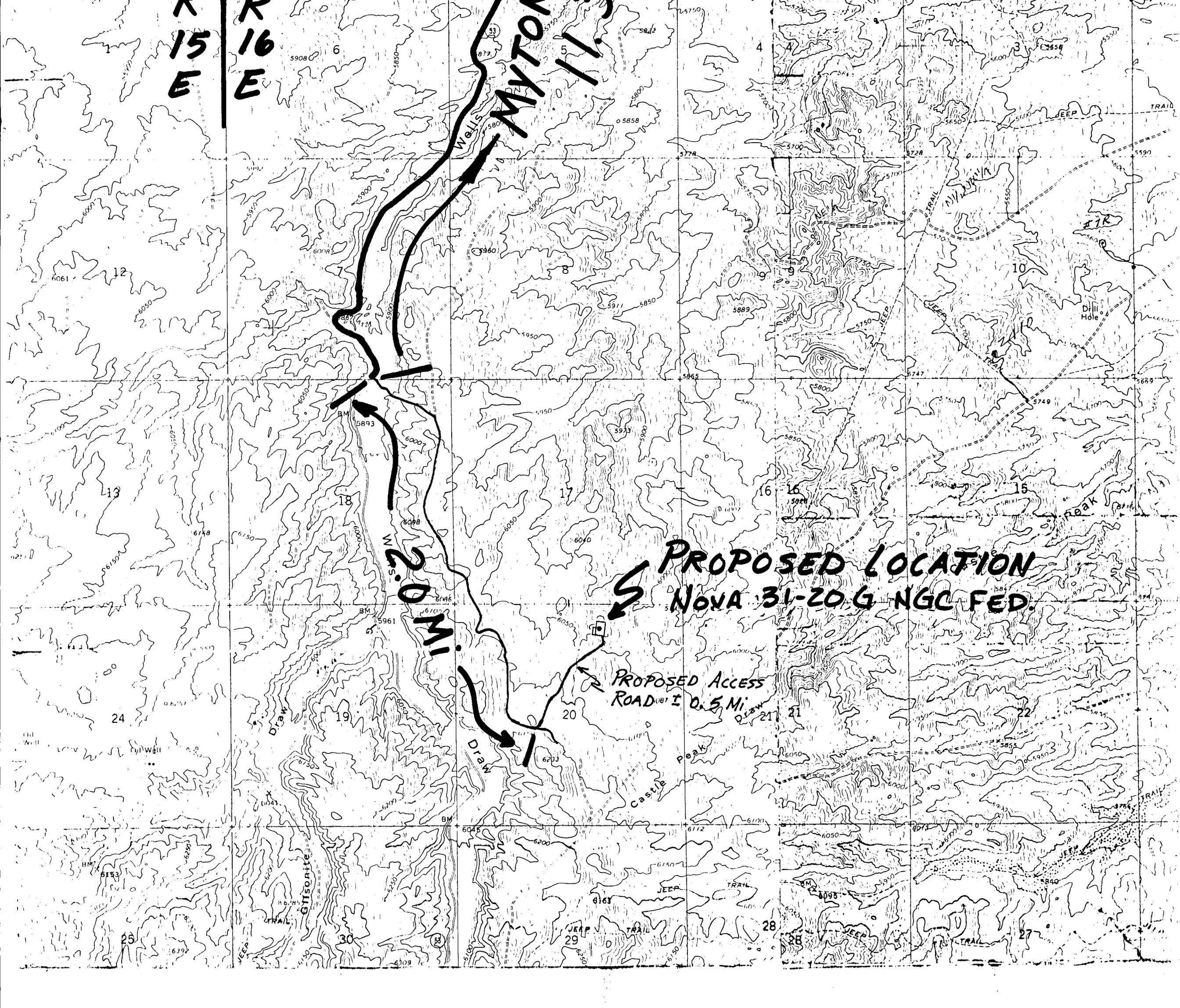
K 15 E
K 16 E

WELLS
MONTANA

2.0 Mi

PROPOSED LOCATION
NOVA 31-20 G NGC FED.

PROPOSED ACCESS
ROAD (BT ± 0.5 Mi)



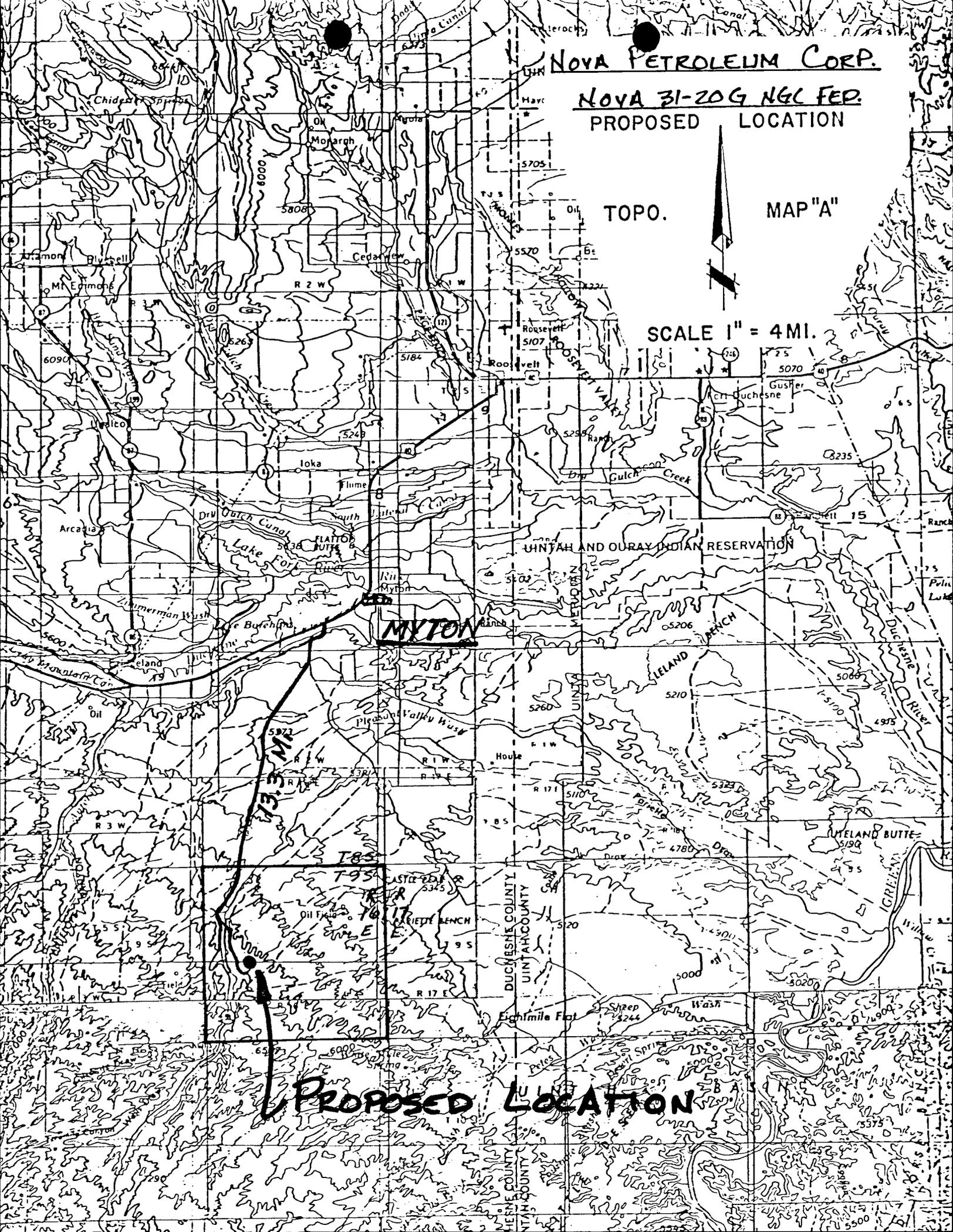
NOVA PETROLEUM CORP.

**NOVA 31-209 NGC FED.
PROPOSED LOCATION**

TOPO.

MAP "A"

SCALE 1" = 4 MI.



MYTON

PROPOSED LOCATION

OPERATOR Nova Petroleum Corp. DATE 12-28-84
WELL NAME Nova # 31-20 G N6C Federal
SEC NW NE 20 T 9S R 16E COUNTY Duchesne

43-013-31071
API NUMBER

Lease
TYPE OF LEASE

CHECK OFF:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> PLAT | <input checked="" type="checkbox"/> BOND | <input checked="" type="checkbox"/> NEAREST WELL |
| <input checked="" type="checkbox"/> LEASE | <input checked="" type="checkbox"/> FIELD | <input checked="" type="checkbox"/> POTASH OR OIL SHALE |

PROCESSING COMMENTS:

No other well within 1000'
Need water permit

APPROVAL LETTER:

SPACING: A-3 _____ UNIT c-3-a _____ CAUSE NO. & DATE
 c-3-b _____ c-3-c _____

STIPULATIONS:

1- Water



PETROLEUM CORPORATION

1450 BENEFICIAL LIFE TOWER
P. O. BOX 11630
SALT LAKE CITY, UTAH 84147
TELEPHONE: 801 - 359-8348
801 - 359-9159

January 3, 1985

RECEIVED
JAN 04 1985

State of Utah
Natural Resources Department
Oil, Gas, and Mining Division
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

DIVISION OF
OIL, GAS & MINING

Gentlemen:

This letter formally serves to request confidential status for the proposed Nova Petroleum Corporation 31-20-G NGC-Federal well located in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 20, Township 9 South, Range 16 East, Duchesne County (undesignated field).

If any further information is needed, please contact me at the above address or telephone number.

Sincerely,

NOVA PETROLEUM CORPORATION

David C. McGinley
Geologist

DCM/dp



January 4, 1985

Nova Petroleum Corporation
P. O. Box 11630
Salt Lake City, Utah 84147

Gentlemen:

Re: Well No. Well No. Nova #31-20 G NGC Federal - NW NE Sec. 20, T. 9S, R. 16E
540' FNL, 1944' FEL - Duchesne County, Utah

Approval to drill the above referenced oil well is hereby granted in accordance with Rule C-3 (b), General Rules and Regulations and Rules of Practice and Procedure, 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.

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

1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695 or R. J. Firth, Associate Director, (Home) 571-6068.
4. Compliance with the requirements and regulations of Rule C-27, Associated Gas Flaring, General Rules and Regulations, Oil and Gas Conservation.

Nova Petroleum Corporation
Well No. Nova #31-20 G NGC Federal
January 4, 1985
Page 2

5. 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 43-013-31071.

Sincerely,



R. J. Firth
Associate Director, Oil & Gas

as
Enclosures
cc: Branch of Fluid Minerals

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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24. SIGNED *Paul E. [Signature]* TITLE *Vice President* DATE *12/10/84*

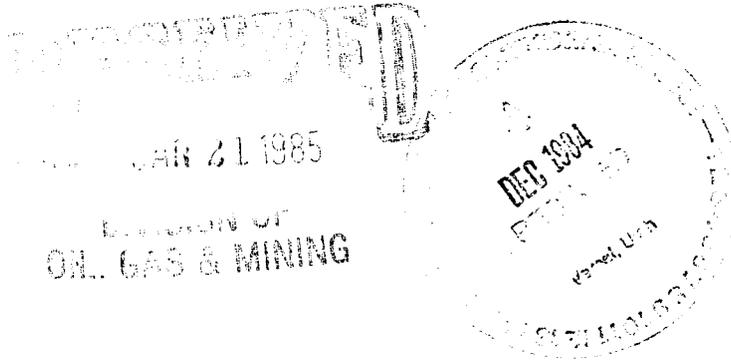
(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____
 APPROVED BY *[Signature]* TITLE **DISTRICT MANAGER** DATE *1-9-85*
 CONDITIONS OF APPROVAL, IF ANY _____

NOTICE OF APPROVAL
 ut 080-5M-090

CONDITIONS OF APPROVAL ATTACHED
 TO OPERATOR'S COPY

*See Instructions On Reverse Side



Div O.G.M.

CONDITIONS OF APPROVAL FOR NOTICE TO DRILL

Company Nova Petroleum Corp. Well No. 31-20G
Location Sec. 20 T9S R16E Lease No. U-52018
Onsite Inspection Date 5-8-84

A. DRILLING PROGRAM

1. Pressure Control Equipment

Prior to drilling out the surface casing shoe, the ram-type preventers shall be tested to 2,000 psi, and the annular-type preventer shall be tested to 1,500 psi.

Choke manifold system will be consistent with API RP 53.

2. Mud Program and Circulating Medium

No chromate additives will be used in the mud system on Federal and Indian lands without prior BLM approval to ensure adequate protection of fresh water aquifers.

3. Coring, Logging and Testing Program

Daily drilling and completion progress reports shall be submitted to this office on a weekly basis.

B. SURFACE USE PLAN

1. No surface disturbing activity will be allowed within $\frac{1}{4}$ mile of an active golden eagle nest site from February 15 to June 15. This does not apply to maintenance and operation of producing wells and facilities. All powerlines constructed on BLM administered lands in areas utilized by golden eagles will require BLM approval.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

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

5. LEASE DESIGNATION AND SERIAL NO.

U-52018

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

NOVA

9. WELL NO.

31-20-G NGC-FEDERAL

10. FIELD AND POOL, OR WILDCAT

WILDCAT

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

Sec. 20, T9S-R16E, SLM

12. COUNTY OR PARISH 13. STATE

Duchesne Utah

SUNDRY NOTICES AND REPORTS ON WELLS
(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.)

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
NOVA PETROLEUM CORPORATION

3. ADDRESS OF OPERATOR
P.O. BOX 11630, SALT LAKE CITY, UTAH 84147

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
1944' FEL 540' FNL Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$, T9S-R16E, SLB&M

14. PERMIT NO.
43-013-31071

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6051 GR

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF	<input type="checkbox"/>	PULL OR ALTER CASING	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	MULTIPLE COMPLETE	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	ABANDON*	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	CHANGE PLANS	<input type="checkbox"/>
(Other) Setting & cementing casing			<input checked="" type="checkbox"/>

SUBSEQUENT REPORT OF:

WATER SHUT-OFF	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
FRACTURE TREATMENT	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
SHOOTING OR ACIDIZING	<input type="checkbox"/>	ABANDONMENT*	<input type="checkbox"/>
(Other)			<input type="checkbox"/>

(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.)*

Drilled well to 6,150'. Cemented 148 joints of K-55 & J-55 15.5 lb. casing with 240 sacks Lite followed by 570 sacks of class 'H' cement. Programmed cement top at 2,100'

RECEIVED
FEDERAL BUREAU OF
OIL, GAS & MINING

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

SIGNED Daniel E. Peel
Daniel E. Peel

TITLE Vice President

DATE 1/23/85

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____ DATE _____

*See Instructions on Reverse Side

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API #43-013-31071

NAME OF COMPANY: NOVA PETROLEUMWELL NAME: #31-20 G NGC FederalSECTION NW NE 20 TOWNSHIP 9S RANGE 16B COUNTY DuchesneDRILLING CONTRACTOR Ram Air Drilling

RIG # _____

SPUDDED: DATE 1-4-85TIME 12:00 NoonHOW Dry Hole DiggerDRILLING WILL COMMENCE Olsen Rig #5 - 1-8-85REPORTED BY Dave McGinleyTELEPHONE # 359-8348DATE 1-7-85 SIGNED GL

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

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

5. LEASE DESIGNATION AND SERIAL NO.

U-52018

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

NOVA

9. WELL NO.

31-20-G NGC-FEDERAL

10. FIELD AND POOL, OR WILDCAT

WILDCAT

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

Sec 20, T9S-R16E, SLM

12. COUNTY OR PARISH

Duchesne

13. STATE

Utah

SUNDRY NOTICES AND REPORTS ON WELLS RECEIVED

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

1. OIL WELL GAS WELL OTHER JAN 20

2. NAME OF OPERATOR
NOVA PETROLEUM CORPORATION

3. ADDRESS OF OPERATOR
P.O. BOX 11630, SALT LAKE CITY, UTAH 84147

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1944' FEL 540' FNL Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$, T9S-R16E, SLB&M

14. PERMIT NO.
43-013-31071

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6,051 GR

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF	<input type="checkbox"/>	PULL OR ALTER CASING	<input type="checkbox"/>
FRACTURE TREAT	<input checked="" type="checkbox"/>	MULTIPLE COMPLETE	<input checked="" type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	ABANDON*	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	CHANGE PLANS	<input type="checkbox"/>
(Other)	<input type="checkbox"/>		<input type="checkbox"/>

SUBSEQUENT REPORT OF:

WATER SHUT-OFF	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
FRACTURE TREATMENT	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
SHOOTING OR ACIDIZING	<input type="checkbox"/>	ABANDONMENT*	<input type="checkbox"/>
(Other)	<input type="checkbox"/>		<input type="checkbox"/>

(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.)*

We hereby request your approval for a variance on Stipulation B.1. on the APD (copy attached) until March 30, 1985 to attempt to complete the well as follows:

We intend to perforate the interval from 5530-5556 with 4/SPF, then shut in the well for a pressure buildup test, or perform a cased hole DST. Subsequent to evaluation of data received, we will fracture treat that zone. The same procedure shall be used on the intervals between 5082-5106 and 4765-4780. The interval 4699-4702 will be perforated with 4/SPF and fracture treated.

Federal approval of this action is required before commencing operations.

ACCEPTED
APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 2/5/85
BY: [Signature]

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

SIGNED [Signature]
Daniel E. Peel

TITLE Vice President

DATE 1/29/85

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____

DATE _____

*See Instructions on Reverse Side

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 4/4/85 Rig up to pick up sucker rods. Displace 30 bbls hot KCL. Run pump and rods (very windy) Transfer 70 bbls oil from flat bottom tank to production tank. Release rig. 200 lbs casing pressure, 180 lbs tubing pressure. Daily Cost = \$11,268.25 Cumulative Cost = \$257,185.71
- 4/5/85 Rig down Gibson #51. Move rig off location. Build base - set pad. Start construction of pumping unit. Lay lines and trace system. Windy - slowing construction. Daily Cost = \$28,722 Cumulative Cost = \$285,907.71
- 4/6/85 Construction of Drain Pit. Daily Cost = \$400 Cumulative Cost = \$286,307.71
- 4/7/85 Shut down for Sunday. Cumulative Cost = \$286,307.71
- 4/8/85 Battery construction. Pumping unit turned on at 2:30 p.m. Running on natural gas. 300 lbs casing pressure, 0 lbs tubing pressure. Daily Cost = \$6,672.50 Cumulative Cost = \$292,980.21
- 4/9/85 Unit down. Backside - 0 lbs. Start on Butane. Made 50 bbls fluid (42 bbls KCL, 8 bbls oil) in 6 to 7 hrs. Daily Cost = \$1,457.41 Cumulative Cost = \$294,437.62
- 4/10/85 Unit down 8+ hours (loaded up). Pumped 98.37 bbls fluid, 73.4 bbls oil, 24.5 bbls water. Flowing casing pressure - 70 lbs. Daily Cost = \$14,333 Cumulative Cost = \$308,770.62

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 3/28/85 100 lbs tubing pressure. 100 lbs casing pressure. Flowed back 5 bbls oil, very gassy. Rig up swab. Swabbed and flowed back 120 bbls of fluid, 20% oil cut. Run in hole with swab. Tag sand 18' above retrievable bridge plug. Continued swabbing. Cut 10-20% oil. Recovered for day - 140 bbls water, 20 bbls oil, 300 bbls left to recover. Shut well in. Shut down for night. Daily Cost = \$4,116 Cumulative Cost = \$215,126.88
- 3/29/85 Rig up swab. Swab 110 bbls fluid - 50% oil cut, very gassy. Wash down to plug. Plug moving down hole 120'. Latch on to plug. Pull above perfs. Shut down for night. Recovered 80 bbls frac fluid, 30 bbls oil. 220 bbls load water recovered to date, 50 bbls oil, 361 bbls load to recover. Daily Cost = \$2,909.78 Cumulative Cost = \$218,036.66
- 3/30/85 Finish trip out of hole. Did not have plug. Trip in hole, went down on plug, can't catch plug. Trip out of hole for inspection of retrieving head. Shut down for night. Daily Cost = \$3,075.40 Cumulative Cost = \$221,112.06
- 3/31/85 Shut down. Daily Cost = \$252 Cumulative Cost = \$221,364.06
- 4/1/85 Finish trip out of hole. Bridge plug on tubing. Trip in hole with perf sub and production string. Tag fill at 5,350'. Trip out of hole to pick up notch collar. Trip in hole. Tag fill. Pull up 1 stand. Rig up circulating lines. Shut down for night. Daily Cost = \$18,347 Cumulative Cost = \$239,711.06
- 4/2/85 Rig up to wash and start circulating. Wash to 5,718'. Pick up 1 joint of 2-7/8" tubing - 1 4-foot perf sub - 1 seat nipple - 31 joints of 2-7/8" tubing - 1 tubing anchor - 145 joints of 2-7/8" tubing. Land anchor at 4,636'. Seat nipple at 5,600'. Shut down for night. Will swab morning of 4/3/85. Run rods and pump in p.m. of 4/3/85. Daily Cost = \$2,762.50 Cumulative Cost = \$242,473.56
- 4/3/85 0 lbs tubing pressure, casing pressure on vacuum. Run in to 5,718'. No fill. Pull up to 5,600'. Rig up swab. Swab 138 bbls. Fluid level at 2,500'. Rig down swab. Rig down floor. Nipple down blow out preventer. Set tubing anchor. Rig up well head assembly. Shut down for night. Bbls load water to recover = 3,181 bbls. Bbls load water recovered to date = 1,021 bbls + 125 bbls oil. Daily Cost = \$3,443.90 Cumulative Cost = \$245,917.46

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

3/25/85 Well shut in. Frac Tuesday morning, 3/26/85. Battery and pad construction today. Daily Cost = \$812 Cumulative Cost = \$184,115.70

3/26/85 50 lbs tubing pressure, 0 lbs casing pressure. Rig up Western Company to pump and flow back. Blow down tubing. Pumped 50 bbls of KCL at 5 bbls per minute at 2,350 lbs. Initial shut in pressure - 1,950 lbs. Closure at 1,750 lbs. Pumped 50 bbls at 5 bbls per minute at 2,600 lbs. Initial shut in pressure - 2,000 lbs. Flow back at 1 bbl per minute. Closure at 1,800 lbs. Pumped 50 bbls at 5 bbls per minute at 2,600 lbs. Shut in for decline to 1,800 lbs. Pumped 50 bbls at 5 bbls per minute at 2,600 lbs. Initial shut in pressure - 2,000 lbs. Flow back at 1/2 bbl per minute. Closure at 1,750 lbs. Rig down Western Company. Hole gassing abundantly. Circulate hole. Trip out of hole. Laid down packer. Pick up pressure recorders. Trip in hole with tubing. Land tubing at 3,800'. Pick up last joint. Shut pipe rams. Pressure test line to 5,000 lbs. Rig up Western Company. Safety meeting. Circulate KCL up tubing with gelled fluid (60 bbls). Start pumping pad. Pumped 10,000 gallons. Pumped 1,000 gals of 1 lb 20/40 sand. Pumped 1,000 gals of 2 lb 20/40 sand. Pumped 2,000 gals of 3 lb 20/40 sand. Pumped 2,000 gals of 4 lb 20/40 sand. Pumped 3,000 gals of 5 lb 20/40 sand. Pumped 1,000 gals of 6 lb 12/20 sand. Pumped 1,000 gals of 8 lb 12/20 sand. Pumped 3,445 gals of flush. Pumped a total of 46,000 lbs of sand (32,000 lbs of 20/40 sand, 14,000 lbs of 12/20 sand). Pumped 581 bbls of recoverable fluid. Treated at 25 bbls per minute at 3,200 lbs. Initial shut in pressure - 2,000 lbs. At 5 minutes - 1,700 lbs, 10 minutes - 1,700 lbs, 15 minutes - 1,625 lbs, 20 minutes - 1,600 lbs, 25 minutes - 1,575 lbs, 30 minutes - 1,575 lbs. Rig down Western Company. Shut well in. Shut down for night. Will flow back tomorrow, 3/27/85. Daily Cost = \$25,249.02 Cumulative Cost = \$209,364.72

3/27/85 300 lbs tubing pressure, 350 lbs casing pressure. Opened well in afternoon. Flowed back 20 bbls KCL. Swabbed back 125.5 bbls of mostly KCL and gelled fluid. Fair show of gas on final two runs. Slight trace of oil. Fair oil show on final run. Set production tanks and line heater. Will hot oil and transfer oil from flat bottom tank to production tank on Thursday, 3/28/85. Daily Cost = \$1,646.16 Cumulative Cost = \$211,010.88

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 3/22/85 PBTB 5,991' Present Operation: Testing
Finish trip out of hole. Laid down plug. Trip in hole with new plug. Set at 4,730'. Pressure tested - would not hold. Reset at 4,740'. Pressure tested to 4,400 PSI for 15 minutes - held good. Circulate hole with 160 bbls of 2% KCL. Trip out of hole. Pick up test tool and perforating gun. Trip in hole. Rig up Welex to correlate Gamma Ray. Landed test tool at 5:00 p.m., too late to perforate. Shut down for night. Daily Cost = \$2,471 Cumulative Cost = \$179,182.36
- 3/23/85 PBTB 5,991' Present Operation: Testing
Set test tool in Open position. Pressure up annulus to 800 PSI. Guns fired. Slight blow - 1/4" to 1/2" in 5 minutes. Rig up to break down. Load tubing with 21 bbls of KCL. Pump 35 bbls into formation. Broke at 800 lbs at 1/2 bbl per minute. Treated at 4-1/2 bbls per minute at 2,000 PSI. Initial shut in pressure - 1,200 lbs, 5 minutes - 900 lbs. Rig up to flow back. Flowed 14 bbls. Rig up to swab. Recovered 36 bbls fluid at 1,700' oil & gas cut. Left open 2-1/2 hours, flowed gas at 15 lbs tubing pressure. Rig up to swab. Fluid level at 1,300'. Recovered 500' oil and 1,000' gas cut water. Pulled from 1,700'. Recovered 700' of oil, 1,000' of gas cut water. Pulled from 2,100'. Recovered 1,500' of fluid, 400' of oil, 1,100' of gas cut water. Pulled from 2,200'. Recovered 700' of oil, 700' of gas cut water. Rig up flowline - 5" blow in bucket, 10 to 25 lbs tubing pressure. Shut in at 6:00 p.m. Shut down for night. Daily Cost = \$2,248.84 Cumulative Cost = \$181,431.20
- 3/24/85 PBTB 5,991' Present Operation: Well Shut In -
Evaluating Data
for Frac
190 lbs tubing pressure, 0 lbs casing pressure. Trip out of hole. Fluid at surface. Tubing blew out. (Unloaded) Attempt to reverse circulate. Drop bar. Swap ends with pump. Could not pump. Swab down tubing. Trip out of hole. Laid down test tools. Trip in hole with packer. Set at 4,630'. Pressure test to 2,000 lbs. Shut down for night. 750 lbs sample chamber pressure. 1.6 SCF of gas. Recovered 1,335 cc of fluid, 835 cc of oil, 500 cc of KCL water. Bottom hole temperature - 139°. Flowing pressure - 495 lbs. Daily Cost = \$1,872.50 Cumulative Cost = \$183,303.70

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 3/18/85 PBTB 5,991' Present Operation: Circulate sand
out of hole
300 lbs tubing pressure, 300 lbs casing pressure.
Blow well down. Recovered 20 bbls fluid. 1,092 bbls
load to recover. Rig up to tag sand. Circulate sand
out of hole. Shut down for night. Daily Cost = \$4,536
Cumulative Cost = \$168,631.86
- 3/19/85 PBTB 5,991' Present Operation: Swabbing
50 lbs tubing pressure, 0 lbs casing pressure. Circulate
hole. Wash 600' to plug at 4,780'+ Pull up packer
to 4,662'. Shut down for night. Daily Cost = \$2,851
Cumulative Cost = \$171,482.86
- 3/20/85 PBTB 5,991' Present Operation: Trip Out of Hole
125 lbs tubing pressure, 125 lbs casing pressure.
Blow well down. Rig up to swab. Fluid at surface.
Recovered 110 bbls fluid. Fluid at 2,500'. Waited
30 minutes. Fluid entry at 500' per hour. Swabbed
until 6:00 p.m. Recovered 98 bbls fluid, 50% oil
and gas cut. Recovered for day - 148 bbls frac fluid,
60 bbls oil, 944 bbls load to recover. Shut down
for night. Daily Cost = \$2,290.50 Cumulative Cost
= \$173,773.36
- 3/21/85 PBTB 5,991' Present Operation: Trip In Hole with
Perforating Guns
& Test Tools
300 lbs tubing pressure, 300 lbs casing pressure.
Blow well down. Flowed 11 bbls oil & gas. Rig up
to circulate. Sand very hard. Wax plugged tubing.
Trip out of hole to inspect retrieving head. Lay
down pressure bombs. Trip in hole. Wash through
sand to plug. Circulate hole clean. Trip out of
hole. Shut down for wind. Daily Cost = \$2,938 Cumulative
Cost = \$176,711.36

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

3/15/85 PBSD 5,991' Present Operation: Testing

Trip out of hole with 15 stands of tubing. 350 lbs casing pressure, 350 lbs tubing pressure. Made back 12 bbls oil, mud, & gas overnight. Pick up. Trip in hole with guns and test tools. Set packer. Pressure up to 1,200 PSI. Guns fired. Slight blow - died in 3 minutes. Rig up Western Company. Load tubing with 250 gallons of 7 1/2% HCL. Formation broke at 4,350'. Pump KCL at 3.7 bbls per minute, acid at 1 bbl per minute. Flushed with 2 bbls KCL. Pumped 40 bbls in formation at 2,300 lbs treating pressure. Initial shut in pressure - 1,200 lbs, 5 minutes - 1,000 lbs. Rig down Western Company. Flowed back and blow down. Made 2 swab runs - KCL, 3rd & 4th run - KCL & gas, 5th run - gas & oil cut water, 6th run - gas & water, 7th run - oil & gas. Shut down. Rig up head and manifold - 58 lbs to 555 lbs flowing tubing pressure, 12" - 18" blow to 0. 6 hours flow time. Shut in. Shut down for night. Daily Cost = \$8,009.75 Cumulative Cost = \$131,078.16

3/16/85 PBSD 5,991' Present Operation: Well Shut In

Release packer. Reverse circulate oil & gas. Trip out of hole. Laid down test tools. 575 lbs sample chamber pressure - 1.34 SCF of gas, 1,200 cc total fluid recovered - 750 oil, 450 KCL water. Pick up packer. Trip in hole to 4,730'. Set packer. Pressure tested to 2,000 PSI. Shut in. Shut down for night. Daily Cost = \$4,942.50 Cumulative Cost = \$136,020.66

3/17/85 PBSD 5,991' Present Operation: Flowing Back

Rig up Western Company for pump-in and flow-back tests. Pumped 150 bbls total KCL at 5 bbls per minute. Recovered 37.5 bbls. Pull packer. Trip in hole to 4,350'. Rig up to frac. Would not pump. Reset packer at 4,848'. Treated at 20 bbls per minute at 2,800 to 4,200 lbs pressure - average 3,100 lbs. Initial shut in pressure - 1,800 lbs, 5 minutes - 1,400 lbs, 10 minutes - 1,400 lbs, 15 minutes - 1,375 lbs. Treated with 1,112 bbls of gel, 45,000 lbs of 20/40 sand and 12,135 lbs 12/20 sand. Rig down Western Company. Shut in at 9:00 p.m. Shut down for night. Daily Cost = \$28,075.20 Cumulative Cost = \$164,095.86

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 3/11/85 PBTB 5,991' Present Operation: Swabbing & Flowing Back
1,300 lbs tubing pressure 1,300 lbs casing pressure
Opened well at 1:00 p.m. on 10/64" choke. Flow back
at 15 to 20 bbls per hour. Flowing back gas cut frac
fluid with trace of oil. Recovered +150 bbls load
plus 5 bbls of oil, 1,113 bbls load to recover. Daily
Cost = \$3,499.50 Cumulative Cost = \$109,820.77
- 3/12/85 PBTB 5,991' Present Operation: Tripping Out of Hole
250 lbs tubing pressure. 300 lbs casing pressure.
No sand. 110 bbls of oil cut fluid flowed overnight.
Recovered a total of +260 bbls of fluid. Swabbed
100 bbls - 40% of oil cut was very gassey. Total
frac fluid recovered to date = 335 bbls. Total oil
recovered to date = +50 bbls. 893 bbls load to recover.
Trip in hole with rest of tubing to 5,700'. No sand.
Trip out of hole. Pick up bridge plug. Trip in hole
with 78 stands of tubing. Set packer at 4,848' KB.
Pressure tested to 4,400 PSI for 15 minutes - held
good. Circulate hole with 200 bbls of 2% KCL. Shut
down for night. Daily Cost = \$2,680.14 Cumulative
Cost = \$112,500.91
- 3/13/85 PBTB 5,991' Present Operation: Tripping Out of Hole
with Guns & Test Tools
Trip out of hole with tubing. Pick up guns and test
tools. Trip in hole. Correlate with Gamma Ray for
perforation. Set packer. Pressure up to 1,000 PSI -
guns fired. Slight blow for 5 minutes. Rig up.
Rig pump for breakdown. Zone would not break down.
Will attempt to acidize morning of 3/14/85. Daily
Cost = \$8,450.84 Cumulative Cost = \$120,951.75
- 3/14/85 PBTB 5,991' Present Operation: Shut In
Rig up Western Company to acidize. Packer set at
4,670'. Open Flopetrol tool. Rig up to check entry.
Swab back 60'. Pump 6 bbls 7-1/2% HCL + 15 bbls 2%
KCL - Flush. Pressure to 4,500 PSI - would not pump.
Drop bar - would not reverse out. Swab tubing. Trip
out of hole. Pick up packer. Trip in hole with 15
stands of tubing. Shut down for night. (Perforation
gun misfired on bottom 9' of zone. Will re-perforate
and test Friday morning, 3/15/85.) Daily Cost = \$2,116.66
Cumulative Cost = \$123,068.41

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 3/8/85 Slight blow on tubing. 0 lbs casing pressure. Circulate hole with 200 bbls. of 2% KCL (casing on vacuum for 35 bbls) Fair show of gas and oil. Pump in perfs - 1/2 bbl at 5 bbls per minute - 1,000 lbs casing pressure, 900 lbs tubing pressure. Pump 15 bbls at 5 bbls per minute - 800 lbs tubing pressure, 800 lbs casing pressure. Bled to 0 lbs in 40 minutes. No flow back. Pump 15 bbls at 5 bbls per minute - 1,300 lbs casing pressure, 1,000 lbs tubing pressure (initial pressure). After 5 minutes - 900 lbs casing pressure, 900 lbs tubing pressure. After 30 minutes - 200 lbs casing pressure, 100 lbs tubing pressure. Flow back - too small to measure. Pump 35 bbls at 5 bbls per minute - 1,412 lbs casing pressure, 1,200 lbs tubing pressure. After 30 minutes - 1,100 lbs casing pressure, 850 lbs tubing pressure. Open well went to 0 lbs pressure. Flow back - too small to measure. Swabbed tubing - recovered 130 bbls. Shut down for night. Daily cost = \$2,512
Cumulative Cost = \$61,144
- 3/9/85 Swab down hole. 1,000 feet of fluid entry overnight - 500 feet of oil, 500 feet of KCL water. Made 2 more swab runs - 600 feet of entry. Rig up Western Company for Mini Frac. Treat with 400 bbls of gel at 2,400 lbs pressure. Flush with 2% KCL. Monitor well for 4 hours. Rig up Petrolog. Tool malfunctions. Rig down Petrolog. Rig up Oil Well Perforators. Run hot and cold Gamma Ray. Measured fracture height - 36 to 40 feet. Shut down for night. Daily Cost = \$9,837.33
Cumulative Cost = \$70,981.33
- 3/10/85 Rig down Oil Well Perforator. Rig up Western Company. Gel up tanks. Held safety meeting. Pressure test lines to 5,000 lbs. Circulate hole with gel. Pull out of hole with 6 stands and one single. Pick up blast joint and sublanded tubing at 5,112 KB. Frac started at 12:45 p.m. Pumped 43,500 lbs of 20/40 sand, 30,000 lbs of 12/20 sand, and 1,263 bbls of fluid. Treated at 2,800 lbs at 20 bbls per minute. Initial Shut In Pressure - 2,500 lbs. 1,900 lbs at 5 minutes, 1,800 lbs at 10 minutes, 1,750 lbs at 15 minutes. Rig down Western. Attempt to run pressure bomb. Would not go. Shut down for night. Will open well at 2:00 p.m. on 3/11/85. Daily Cost = \$35,339.94
Cumulative Cost = \$106,321.27

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 3/4/85 PBTB 5,991' Present Operation: Testing
Tubing Pressure = 0 lbs. Casing Pressure = 0 lbs.
Trip out of hole with tubing and test tools. Laid
down Flopetrol Johnston tools. Oil in last stand
of tubing. 75 lbs. pressure in sample chamber. Waiting
on interpretation from Flopetrol. Daily Cost = \$1,601
Cumulative Cost = \$49,254.50
- 3/5/85 PBTB 5,991' Present Operation: Shut In
Evaluating Data
Daily Cost = \$1,582 Cumulative Cost = \$50,836.50
- 3/6/85 PBTB 5,991' Present Operation: Pulling Test Tool
Laid down drill collar. Waiting on Flopetrol Johnston
Schlumberger. Pick up test tools. Go in hole. Circulate
for breakdown. Set packer at 5,495'. Pressure up
annulus to 2,000 lbs. Held good. Load tubing with
31 bbls+ 2% KCL. Break formation down at 2,200 lbs.
Treated at 4 to 5 bbls per minute at 1,700 lbs. Pumped
27 bbls+. End of formation (Total 58 bbls) Shut in
with 1,000 lbs pressure. After 5 minutes, pressure
was 750 lbs. Flow back and swab 4 bbls. Swab total =
36 bbls water, 3 bbls oil. Shut in 30 minutes. Opened
up. Had 3,500 feet of gas, 200 feet of oil for fluid
entry. Shut well in for pressure buildup. Daily
Cost = \$5,426.50 Cumulative Cost = \$56,263
- 3/7/85 PBTB 5,991' Present Operation: Doing Pump In &
Flow Back Test
Tubing Pressure = 0 lbs. Casing Pressure = 0 lbs.
Released packer. Trip out of hole with tubing and
test tool. Tubing is gassing. Recovered 496' of
fluid, 80' of oil, 416' of slight oil cut of KCL water.
77 lbs. pressure on sample chamber. .01 cubic feet
of gas, 550 cc of oil, 365 cc of KCL water. Laid
down test tools. Trip in hole with tubing. Landed
at 5,510'. Shut down for night.

Additional information:

Test results of DST run on 3/4/85:
3 lbs. flowing pressure
2,200 lbs. shut in pressure.

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 2/26/85 PBTB 5,991' Present Operation: Moving in Completion Rig
Rode Gibson Rig #51 to location. Rig up. Shut down
for night. Daily Cost = \$1,670 Cumulative cost = \$1,670
- 2/27/85 PBTB 5,991' Present Operation: Running in Hole
Rig up Welex. Ran Gamma Ray, Cement Bond Log, Variable
Density Log, Casing Collar Locator Log, and Base Temper-
ature Log. Bottom Hole Temperature = 180°. Good
Bond throughout. Nipple Up Blow Out Preventer. Shut
down for night. Daily Cost = \$8,486.50 Cumulative
cost = \$10,156.50
- 2/28/85 PBTB 5,991' Present Operation: Perforating and Testing
Run in hole with bit and scraper. Total tubing talley -
5,786'. Circulate hole with 200 bbls of 2% KCL.
Trip out of hole, lay down bit and scraper. Pressure
tested casing to 4,400 lbs. for 15 minutes. Tested
good. Shut down for night. Daily cost = \$16,721
Cumulative Cost = \$26,877.50
- 3/1/85 PBTB 5,991' Present Operation: Perforating and Testing
Rig up Schlumberger Johnson Flo-Patrol. Pick up drill
collars and start tripping in to hole. Reached testing
interval to late in the afternoon to perforate and
swab zone in for testing. Shut down for night. Will
perforate tomorrow morning, 3/2/85. Daily cost =
\$18,963 Cumulative Cost = \$45,840.50
- 3/2/85 PBTB 5,991' Present Operation: Shut In for
Pressure Build-up
Set packer, rig up Johnson Flo-Patrol. Pressure up
tubing to 1,000 lbs. Perforate 5530-56 with 4 shots
per foot, total 104 shots. Recorded a 3" blow decreasing
to a slight blow after 10 minutes. Shut in 45 minutes.
Opened tool with 4-6" blow decreasing to 1/2" blow
after 6 hours. Shut in well for pressure build-up.
Daily cost = \$1,601 Cumulative Cost = \$47,441.50
- 3/3/85 PBTB 5,991' Present Operation: Shut In for
Pressure Build-up
Well shut in for pressure build-up. Will pull tool
on Monday morning.

31-20-G NGC-FEDERAL
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
539' FNL 1944' FEL
Duchesne County, Utah

Operator: Nova Petroleum Corporation
Contractor: Olsen Drilling Rig #5
Elevation: 6051' GR.
Spud: 1/4/85

1/19/85 TD 6,150' Present Operation: Logging
16 hours logging, 6 hours tripping for logs, 2 hours
circulating for logs. Mud weight = 8.8, Viscosity = 36.

1/20/85 TD 6,150' Present Operation: Circulating
for Casing
17.5 hours logging, 3.75 hours tripping, 3.75 hours
circulating for casing, .75 hours rigging down
Schlumberger. Mud weight = 8.8, Viscosity = 36.

1/21/85 TD 6,150' Present Operation: Setting and
Cementing Production Casing
8 hours tripping out of hole and laying down drill
pipe and collars, 8 hours rigging up casing crew and
running casing, 3.5 hours circulating hole, 4.5 hours
cementing casing. Ran 74 joints of 15.5 lbs. J-55
LT&C casing and 74 joints of 15.5 lbs. K-55 casing.
Cemented with 240 sacks of Lite and 570 sacks of Class H
+ .6% CF-10 + 1% CaCl₂. Casing landed at 6,118',
set casing. Rig released at 11:00 p.m. 1/20/85.
Final report until completion rig arrives.

1/13/85 TD 4,355' Present Operation: Drilling
 925' in the last 24 hours, 51.7' per hour. 23.25 hours drilling, .5 hours survey, .25 hours rig service. Survey: 2.25° at 4,016'. Weight on bit = 40,000 lbs, 60 RPM, 1050 PSI. Mud weight = 8.4, Viscosity = 27. Sample tops: 3760 Green Shale Facies. Daily cost = \$14,950. Cumulative cost = \$78,777.50

1/14/85 TD 4,970' Present Operation: Drilling
 616' in the last 24 hours, 51' per hour. 16.50 hours drilling, 6.25 hours tripping for bit #2, 1 hour reaming to bottom, .25 hours rig service. Weight on bit = 40,000 lbs, 60 RPM, 1050 PSI. Mud weight = 8.4+, Viscosity = 27. Daily cost = \$8,176. Cumulative cost = \$84,935.40

1/15/85 TD 5,100' Present Operation: Drilling
 130' in the last 24 hours. 15.5 hours drilling, 3.5 hours tripping, 3/4 hour survey, 1/4 hour rig service, 1/2 hour working on pumps, 3 1/2 hours waiting on downhole equipment. Went in unsuccessfully with junk basket to retrieve three lost cones. Will go in with magnets today.

1/16/85 TD 5,150' Present Operation: Circulating to bottom
 Recovered cones. 20 1/2 hours tripping, 1 hour reaming, 1 1/2 hours circulating, 3/4 hour laying down tools. Tripping in with bit #3. Mud weight = 8.5, Viscosity = 27, 3/4 solids, Ca 80, Cl 300

1/17/85 TD 5,830' Present Operation: Drilling
 730' in the last 24 hours. 23 1/4 hours drilling, 1/2 hour survey, 1/4 hour rig service. Mud weight = 8.5, Viscosity = 27. Weight on bit = 40,000, 60 RPM, 1200 PSI.
 Drilling breaks with associated shows:
 5,274' to 5,282'
 5,328' to 5,336'
 5,392' to 5,406'
 5,418' to 5,430'
 5,444' to 5,452'
 5,528' to 5,554' (real good one)
 Tentative sample top for Black Shale: 5,392' or 5,438'

1/18/85 TD 6,150' Present Operation: Logging
 Drilled 330' in the last 24 hours. 10 3/4 hours drilling, 10 hours trips, 2 3/4 hours circulating, 1/2 hour survey. Mud weight = 8.7, Viscosity = 35

31-20-G NGC-FEDERAL
 T9S-R16E
 Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
 539' FNL 1944' FEL
 Duchesne County, Utah

Operator: Nova Petroleum Corporation
 Contractor: Olsen Drilling Rig #5
 Elevation: 6051' GR.
 Spud: 1/4/85

- 1/6/85 TD 325' Present Operation: Moving in
 Drilled 12 $\frac{1}{4}$ " hole to 325' with Ram Air Drilling. Ran 7 joints of K-55, 24 lb casing, set at 319.75'. Cemented with Western using 250 sacks Class H cement with 2% CaCl₂ and $\frac{1}{4}$ lb sack cello-flake. Good returns throughout. Bumped plug. Did not hold. Shut in well; waiting on cement - 8 hours. Cut off casing, welded on well head. Shut down for night. Olsen #5 to start moving in on Monday, 1/7/85. Daily cost: \$20,799 Total cost: \$20,799
- 1/7/85 TD 325' Present Operation: Moving in
 Started moving in at 2:30 p.m. Moved in 8 loads by dark. Shut down for night.
- 1/8/85 TD 325' Present Operation: Moving in
- 1/9/85 TD 325' Present Operation: Rigging up
 Finished moving in rig, setting up. Started hauling in water. Snow slowing things down. Expect to start drilling this afternoon.
- 1/10/85 TD 843' Present Operation: Drilling
 Started drilling at 8:30 p.m., 1/9/85. 515' in the last 9.5 hours, 54.2' per hour. 9.5 hours drilling, 2 hours testing blow out preventer, 1 hour picking up drill collars, 2.5 hours drilling cement and retainer, 9.5 hours rigging up. Weight on bit = 20,000 lbs, 50 RPM, 900 PSI. Mud weight = 8.4, Viscosity = 27. Daily cost = \$8,348.40 Cumulative cost = \$29,147.40
- 1/11/85 TD 2,063' Present Operation: Drilling
 1,220' in the last 24 hours, 55.5' per hour. 21.75 hours drilling, .5 hours survey, 1.75 hours cleaning reserve pits. Survey: .75° at 1,301', 1.5° at 1,904'. Weight on bit = 46,000 lbs, 60 RPM, 1,050 PSI. Mud weight = 8.4, Viscosity = 27. Daily cost = \$16,208.50 Cumulative cost = \$45,355.90
- 1/12/85 TD 3,430' Present Operation: Drilling
 1,324' in the last 24 hours, 56.9' per hour. 23.25 hours drilling, .5 hours survey, .25 hours rig service. Survey: 1.25° at 3,025'. Weight on bit = 40,000 lbs, 60 RPM, 900 PSI. Mud weight = 8.4, Viscosity = 27. Sample tops: 2292 Oil Shale, 3140 Delta Facies. Daily cost = \$18,471.50 Cumulative cost = \$63,827.40

RECEIVED

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
355 WEST NORTH TEMPLE
3 TRIAD CENTER, SUITE 350
Salt Lake City, UT 84180-1203

FEB 01 1988

DIVISION OF OIL
GAS & MINING

REPORT OF WATER ENCOUNTERED DURING DRILLING

Well Name & Number 31-20-G NGC-FEDERAL

Operator NOVA PETROLEUM CORPORATION Address PO BOX 11630, SALT LAKE CITY, UT 84147

Contractor OLSEN DRILLING COMPANY Address 999 18TH ST, SUITE 3300, DENVER, CO 80202

Location NW 1/4 NE 1/4 Sec. 20 T. 9S R. 16E County DUCHESNE

Water Sands

<u>Depth</u>		<u>Volume</u>	<u>Quality</u>
From	To	Flow Rate or Head	Fresh or Salty
1.	<u>NONE ENCOUNTERED</u>		
2.	<u></u>		
3.	<u></u>		
4.	<u></u>		
5.	<u></u>		

(Continue on reverse side if necessary)

Formation Tops UINTA = SURFACE GREEN RIVER = 1600' K.B.
WASATCH = 6100'

Remarks K.B. ELEVATION - 6063'

NOTE: (a) Report on this form as provided for in Rule C-20, General Rules and Regulations and Rules of Practice and Procedure.

(b) If a water analysis has been made of the above reported zone, please forward a copy along with this form.

95 00 sec 10
U-52018

FLOPETROL JOHNSTON

Schlumberger

WELL PERFORMANCE TEST REPORT

A Production Systems Analysis (NODAL)
Based On
Drillstem Test Data

Test Date
03-23-85

Report No.:
36628 E

COMPANY NOVA PETROLEUM	WELL NGC FED. 31-20-6
---	--

TEST IDENTIFICATION Test Type : CASED HOLE - TCP Test Number : 4 Formation : GREEN RIVER Test Interval : 4692 - 4702 FT. Reference Depth : KELLY BUSHING	WELL LOCATION Field : MONUMENT BUTTE County : DUCHESNE State : UTAH Sec / Twn / Rng : S20 TNW4 RNE4 Elevation : 6063 FT.
--	--

MOLE CONDITIONS Total Depth (MVD/TVD) : 4800 FT. PBTD Hole Size / Deviation Angle : — Csg / Liner ID : 5 1/2" - 15.5# Perf'd Interval : 4692 - 4702 FT. Shot Density / Phasing : 4 SPF/120° Gun Type / Perf Cond : TBG.CONV./UNDERBAL.	MUD PROPERTIES Mud Type : KCL WATER 3% Mud Weight : — Mud Resistivity : — Filtrate Resistivity : — Filtrate Chlorides : — Filtrate Nitrates : —
---	--

INITIAL TEST CONDITIONS Gas Cushion Type : NDNE Surface Pressure : NA Liquid Cushion Type : KCL WATER 3% Height Above DST Valve : 7.5 BBLs.	TEST STRING CONFIGURATION Pipe Length / ID : 4607 FT. / 2.441 IN. Collar Length / ID : NA Packer Depth(s) : 4668 FT. BH Choke Size : .5 IN.
--	--

NET PIPE RECOVERY

Volume	Fluid Type	Physical Properties
27 BBLs	OIL, WATER	

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Physical Properties
1.6 SCF	GAS	
335 CC	WATER	.38 OHM -M @ 66°F 23000 PPM CL.
* CC	OIL	*NO MEASUREMENT GIVEN
Pressure: 750 PSIG GOR		GLR **180

**ASSUMED GLR

INTERPRETATION RESULTS

Reservoir Pressure @ Gauge Depth: 1959 PSIA
 Gauge Depth : 4668 FT.
 Hydrostatic Gradient : .420 PSI/FT
 Potentiometric Surface : 5918 FT.
 Effective Permeability to LIQUID 8.74 MDS.
 Transmissibility : 9.07 MD.-FT./CP.
 Skin Factor / Damage Ratio : -4.05 / 0.26
 Omega / Lambda (2φ System) : FRACTURED
 Radius of Investigation : 113 FT.
 Measured Wellbore Storage : 6.69E-03

ROCK / FLUID / WELLBORE PROPERTIES

Reservoir Temperature : 139°F
 Analysis Fluid Type : TOTAL LIQUID
 Formation Volume Factor : 1.10 RVB/STB
 Viscosity : 9.64 CP.
 Z-Factor (gas only) : —
 Net Pay : 10 FT.
 Porosity : ASSUMED 10%
 Total System Compressibility : 2.169E-05 1/PSI
 Wellbore Radius : .365 FT.
 Expected Wellbore Storage : 1.19E-04

FLOW RATE DURING DST **21.9 BLPD last rate**

MAXIMUM FLOW RATE POTENTIAL AFTER COMPLETION
29 BLPD on pump 113 days
after 500 ft. FRAC

This rate is based on a specific completion design & producing time. Call FJS for details.

FJS 814059

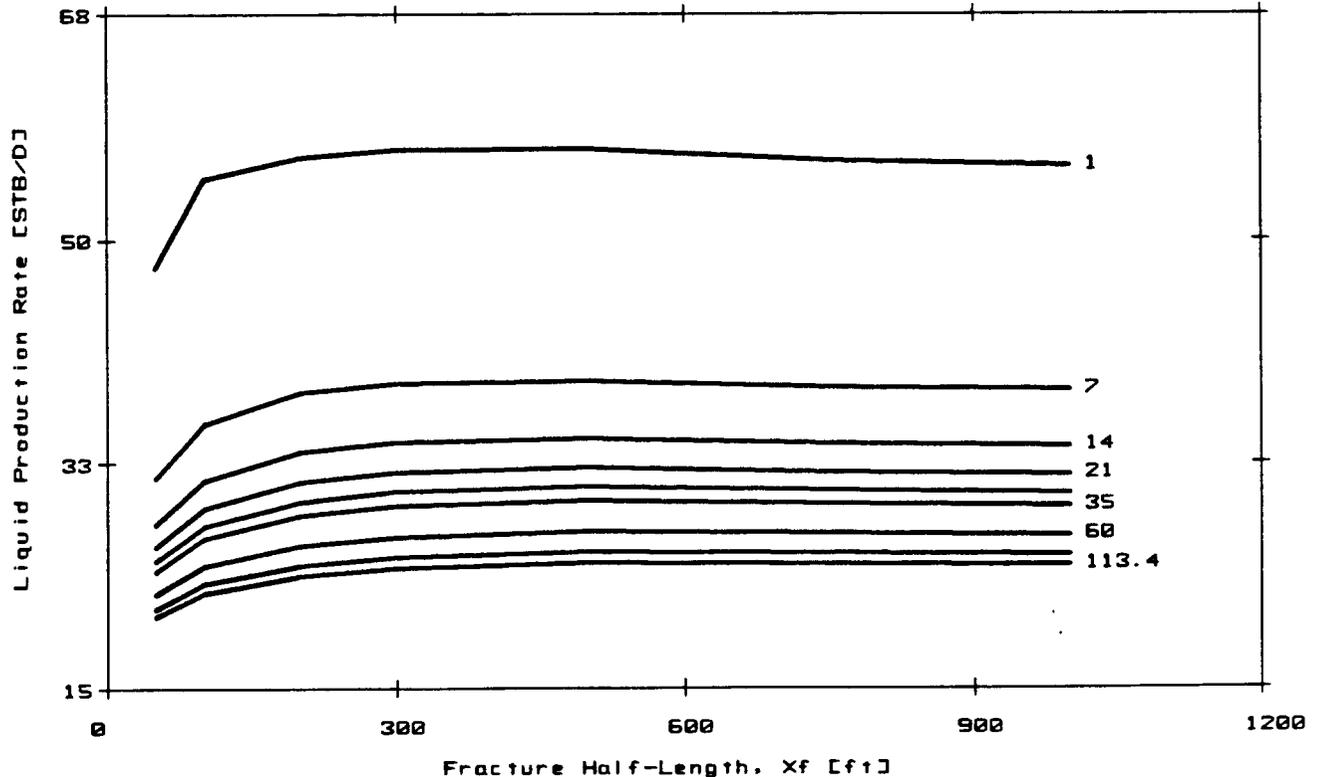
WELL TEST INTERPRETATION REPORT #:36628E		PAGE: 2.
CLIENT : NOVA PETROLEUM CORP.		26-MAR-85
REGION :MID-CONT.	SENSITIVITY ANALYSIS Rate vs. Xf (vs. Time) ACRE SPACING = 80 ACRES	Field: MONUMENT BUTTE
DISTRICT: UERNAL		Zone : GREEN RIVER
BASE : DENUER		Well : NGC FED31-20-6
Engr : D. HALLFORD		Location:

NOTE: THESE SENSITIVITY PLOTS ASSUME THAT THE WELL IS PUMPED WITH 50 PSIA FLOWING BOTTOMHOLE PRESSURE.

TIME TO STABILIZATION AFTER FRAC = APPROX. 113.4 DAYS.

Reservoir Pressure: 1959 psi Gas/Liquid Ratio: 180.0 SCF/STB
 Permeability: 8.74 md Tubing Size: 2.441 in (id)
 Net Thickness: 10.0 ft FLOWING BH Pressure: 50.0 psi

Fracture Conductivity, $k_f w$: 1000 md.ft



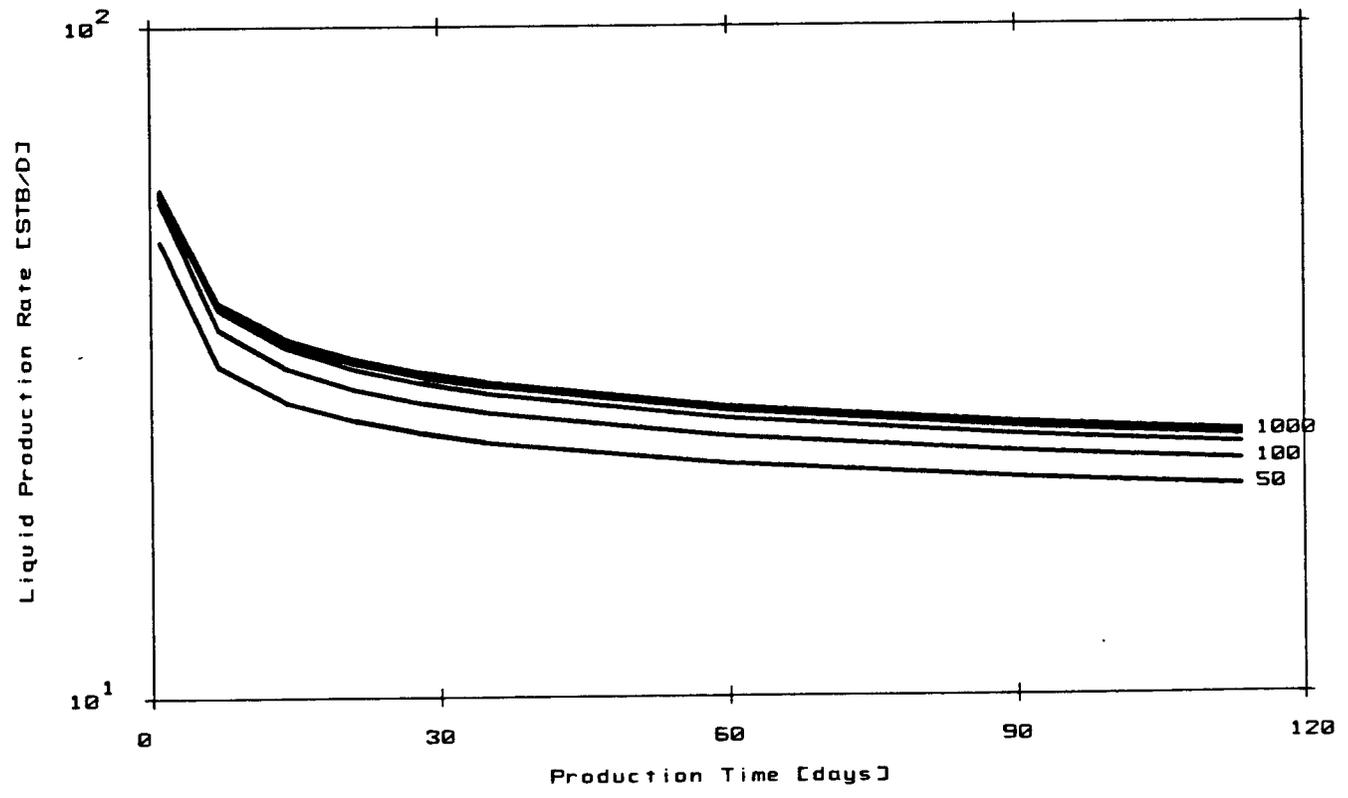
Production Rate vs. Frac. Half-Length, Transient Conditions

1 to 113.4 days : ACRE SPACING = 80 ACRES

WELL TEST INTERPRETATION REPORT #: 36628E		PAGE: 3,
CLIENT : NOVA PETROLEUM CORP.		26-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Rate vs. Time (vs. Xf) ACRE SPACING = 80 ACRES	Field: MONUMENT BUTTE
DISTRICT: UERNAL		Zone : GREEN RIVER
BASE : DENVER		Well : NGC FED31-20-6
Engr : D. HALLFORD		Location:

Reservoir Pressure: 1959 psi Gas/Liquid Ratio: 180.0 SCF/STB
 Permeability: 8.74 md Tubing Size: 2.441 in (id)
 Net Thickness: 10.0 ft FLOWING BH Pressure: 50.0 psi

Fracture Conductivity, kf/w : 1000 md.ft

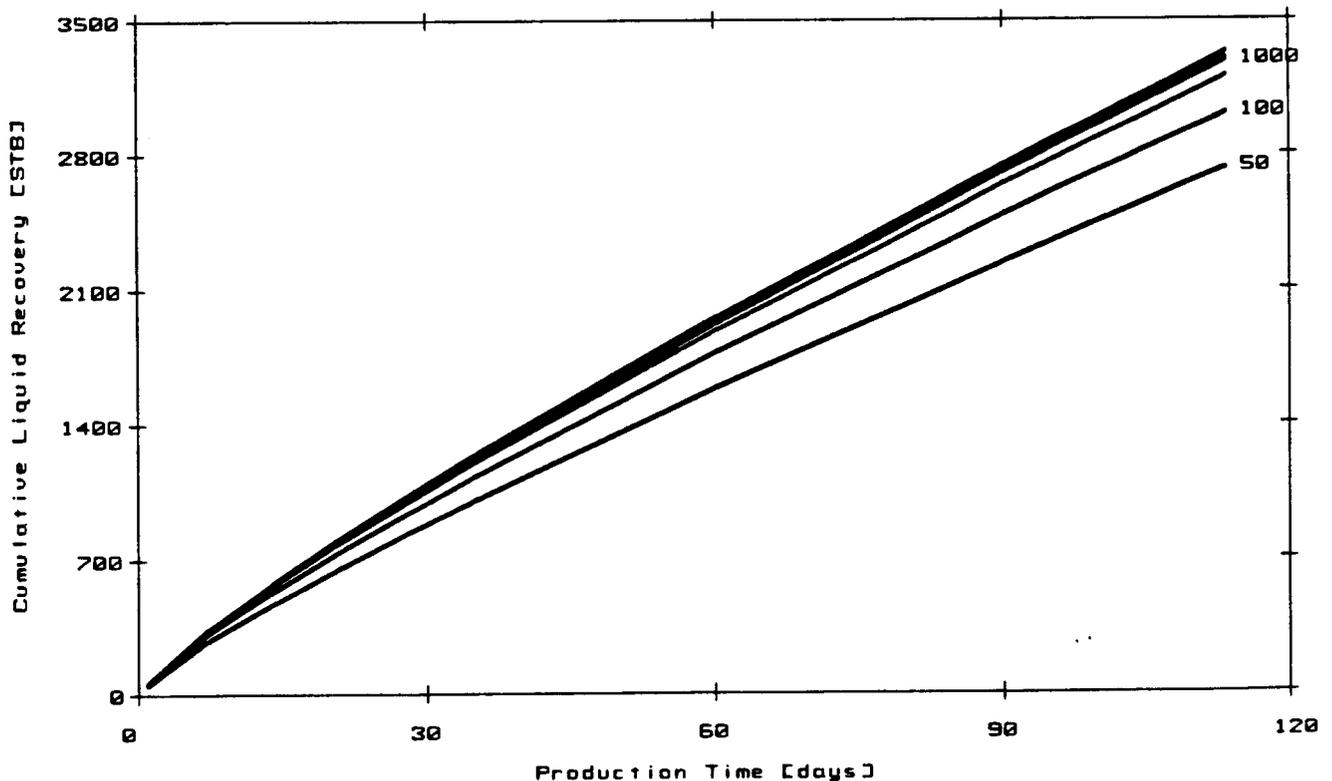


Effect of Time on Production Rate, for Fracture Half-Lengths from 50 to 1000 ft : ACRE SPACING = 80 ACRES

WELL TEST INTERPRETATION REPORT #: 36628E		PAGE: 4.
CLIENT : NOVA PETROLEUM CORP.		26-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Recovery vs. Time (vs. Xf) ACRE SPACING = 80 ACRES	Field: MONUMENT BUTTE
DISTRICT: UERNAL		Zone : GREEN RIVER
BASE : DENVER		Well : NGC FED31-20-6
Engr : D. HALLFORD		Location:

Reservoir Pressure: 1959 psi Gas/Liquid Ratio: 180.0 SCF/STB
Permeability: 8.74 md Tubing Size: 2.441 in (id)
Net Thickness: 10.0 ft FLOWING BH Pressure: 50.0 psi

Fracture Conductivity, kf#w: 1000 md.ft

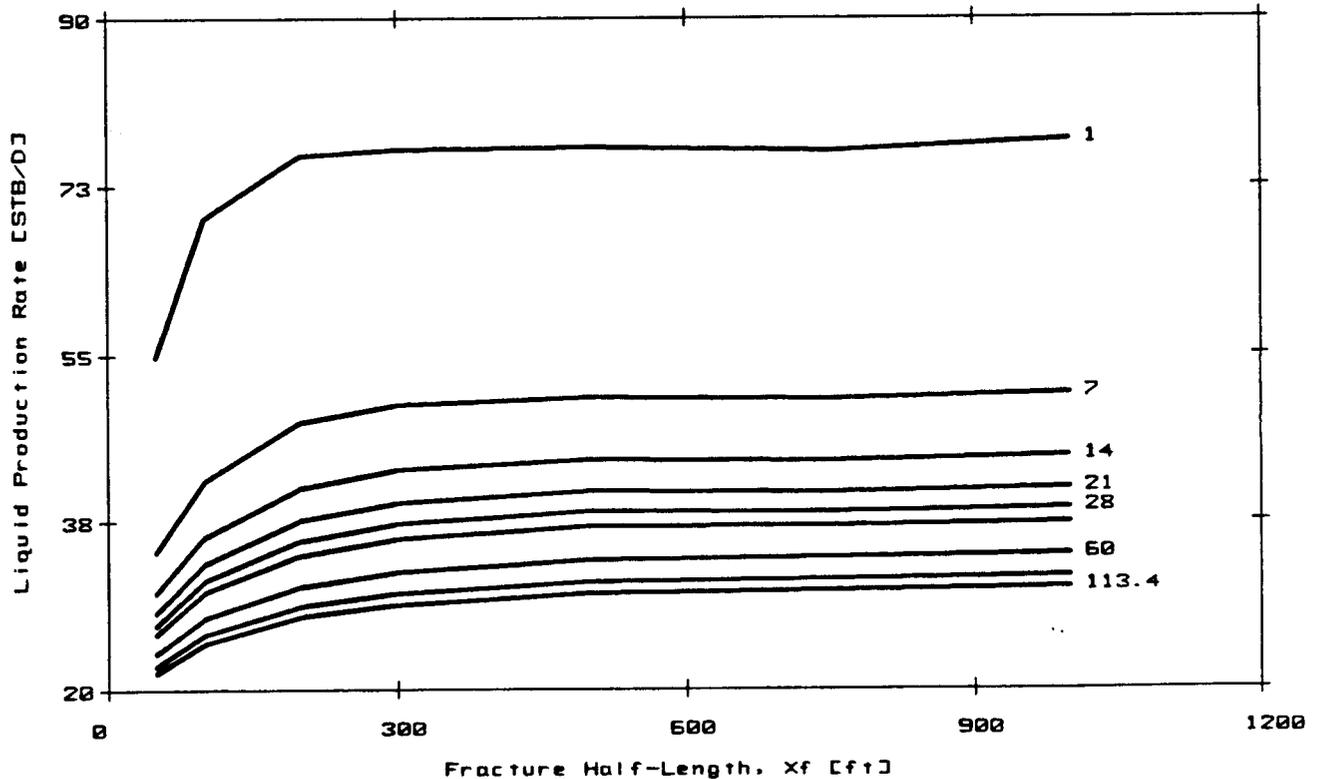


Effect of Time on Cumulative Recovery, for Fracture Half-Lengths from 50 to 1000 ft : ACRE SPACING = 80 ACRES

WELL TEST INTERPRETATION REPORT #:36628E		PAGE: 5,
CLIENT : NOVA PETROLEUM CORP.		26-MAR-85
REGION :MID-CONT.	SENSITIVITY ANALYSIS Rate vs. Xf (vs. Time) ACRE SPACING = 80 ACRES	Field:MONUMENT BUTTE
DISTRICT:UERNAL		Zone :GREEN RIVER
BASE :DENVER		Well :NGC FED31-20-6
Engr :D. HALLFORD		Location:

Reservoir Pressure: 1959 psi Gas/Liquid Ratio: 180.0 SCF/STB
 Permeability: 8.74 md Tubing Size: 2.441 in (id)
 Net Thickness: 10.0 ft FLOWING BH Pressure: 50.0 psi

Fracture Conductivity, kf/w : 2000 md.ft

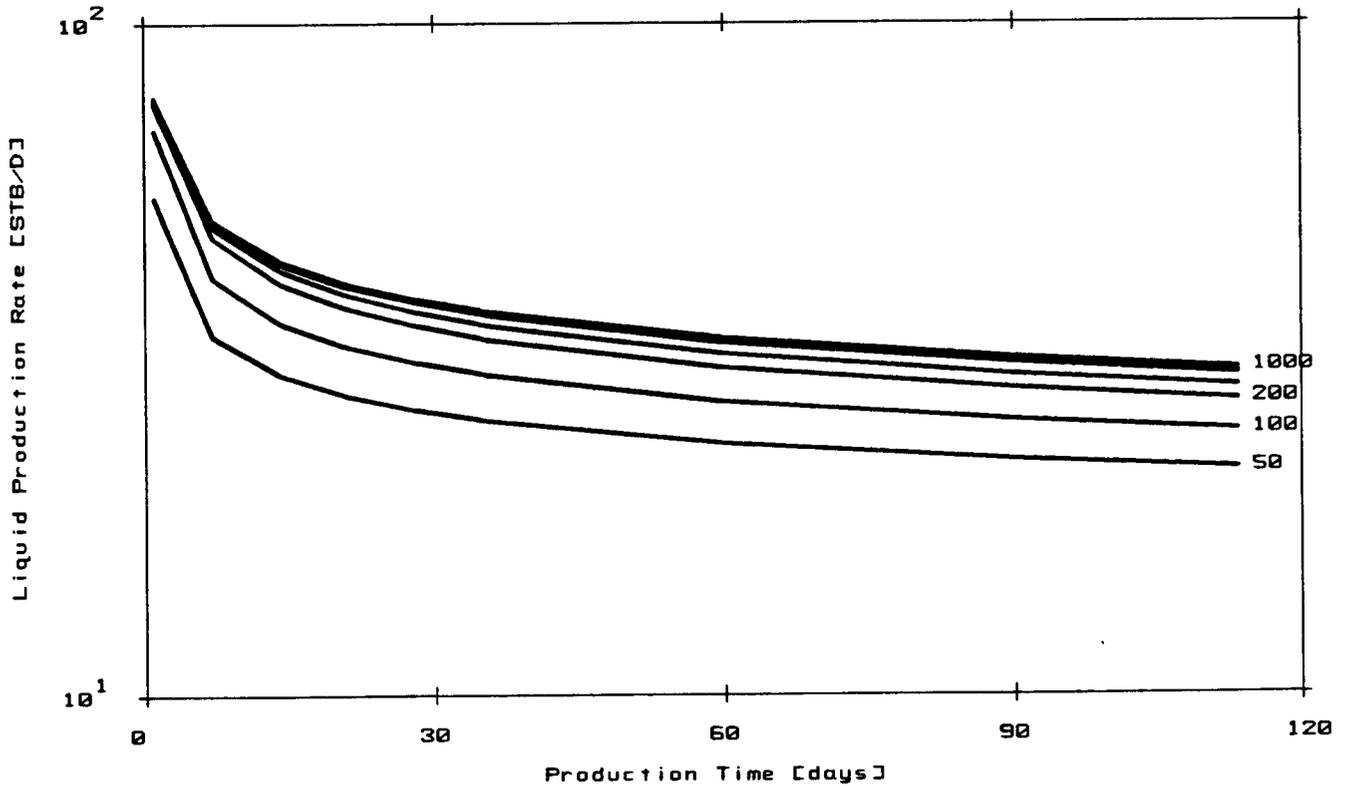


Production Rate vs. Frac. Half-Length, Transient Conditions
 1 to 113.4 days : ACRE SPACING = 80 ACRES

WELL TEST INTERPRETATION REPORT #: 36628E		PAGE: 6.
CLIENT : NOVA PETROLEUM CORP.		26-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Rate vs. Time (vs. Xf) ACRE SPACING = 80 ACRES	Field: MONUMENT BUTTE
DISTRICT: UERNAL		Zone : GREEN RIVER
BASE : DENVER		Well : NGC FED31-20-6
Engr : D. HALLFORD		Location:

Reservoir Pressure: 1959 psi Gas/Liquid Ratio: 180.0 SCF/STB
 Permeability: 8.74 md Tubing Size: 2.441 in (id)
 Net Thickness: 10.0 ft FLOWING BH Pressure: 50.0 psi

Fracture Conductivity, kf/w : 2000 md.ft

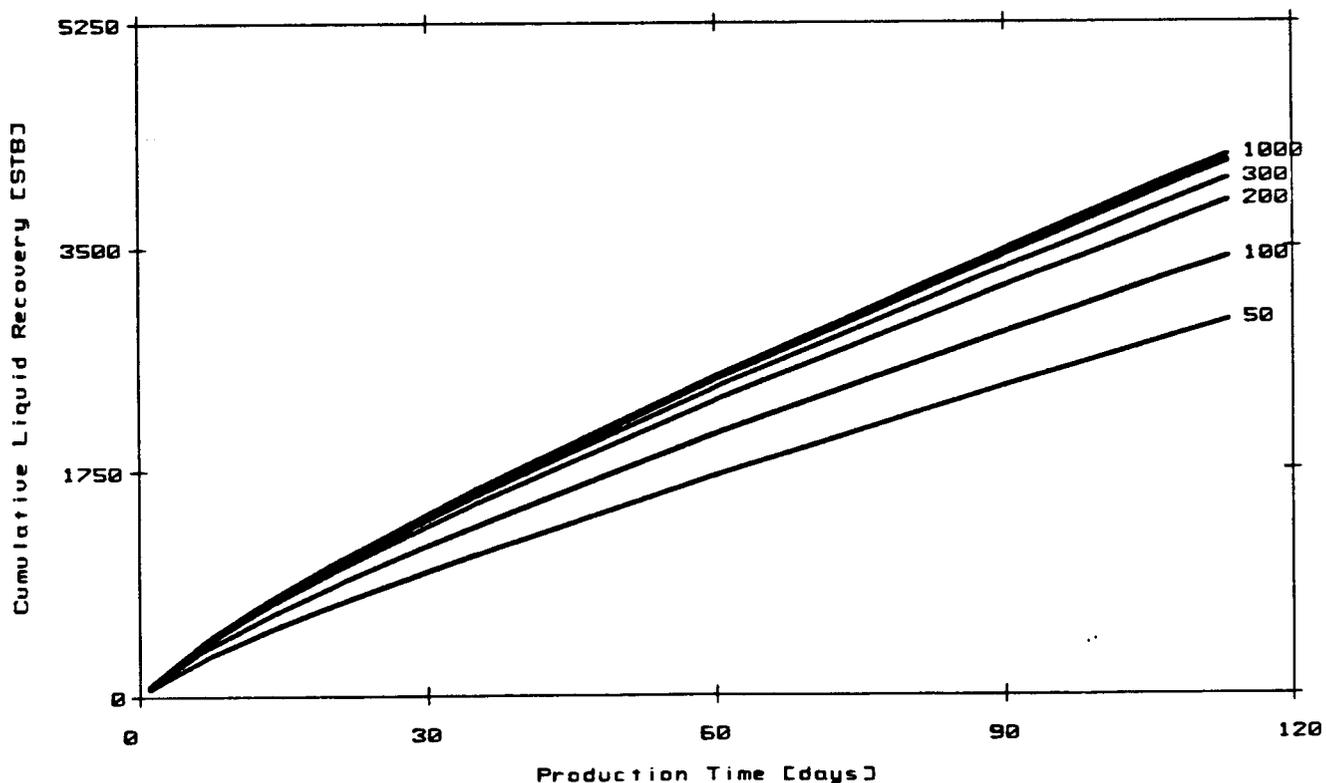


Effect of Time on Production Rate, for Fracture Half-Lengths
 from 50 to 1000 ft : ACRE SPACING = 80 ACRES

WELL TEST INTERPRETATION REPORT #:36628E		PAGE: 7,
CLIENT : NOVA PETROLEUM CORP.		26-MAR-85
REGION :MID-CONT.	SENSITIVITY ANALYSIS Recovery vs. Time (vs. Xf) ACRE SPACING = 80 ACRES	Field: MONUMENT BUTTE
DISTRICT:UERNAL		Zone : GREEN RIVER
BASE :DENUER		Well : NGC FED31-20-6
Engr : D. HALLFORD		Location:

Reservoir Pressure: 1959 psi Gas/Liquid Ratio: 180.0 SCF/STB
Permeability: 8.74 md Tubing Size: 2.441 in (id)
Net Thickness: 10.0 ft FLOWING BH Pressure: 50.0 psi

Fracture Conductivity, kf/w : 2000 md.ft



Effect of Time on Cumulative Recovery, for Fracture Half-Lengths from 50 to 1000 ft : ACRE SPACING = 80 ACRES

WELL TEST INTERPRETATION REPORT #:36628E		PAGE: 8.
CLIENT : NOVA PETROLEUM CORP.		26-MAR-85
REGION :MID-CONT.	SENSITIVITY ANALYSIS Input Data Summary ACRE SPACING = 80 ACRES	Field:MONUMENT BUTTE
DISTRICT:UERNAL		Zone : GREEN RIVER
BASE :DENUER		Well :NGC FED31-20-6
Engr : D. HALLFORD		Location:

Production Time [days]

1.0	7.0	14.0	21.0	28.0
35.0	60.0	90.0	113.4	

Fracture Half-Length, Xf [ft]

50.0	100.0	200.0	300.0	500.0
750.0	1000.			

BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 36628E

COMPANY : NOVA PETROLEUM COMPANY

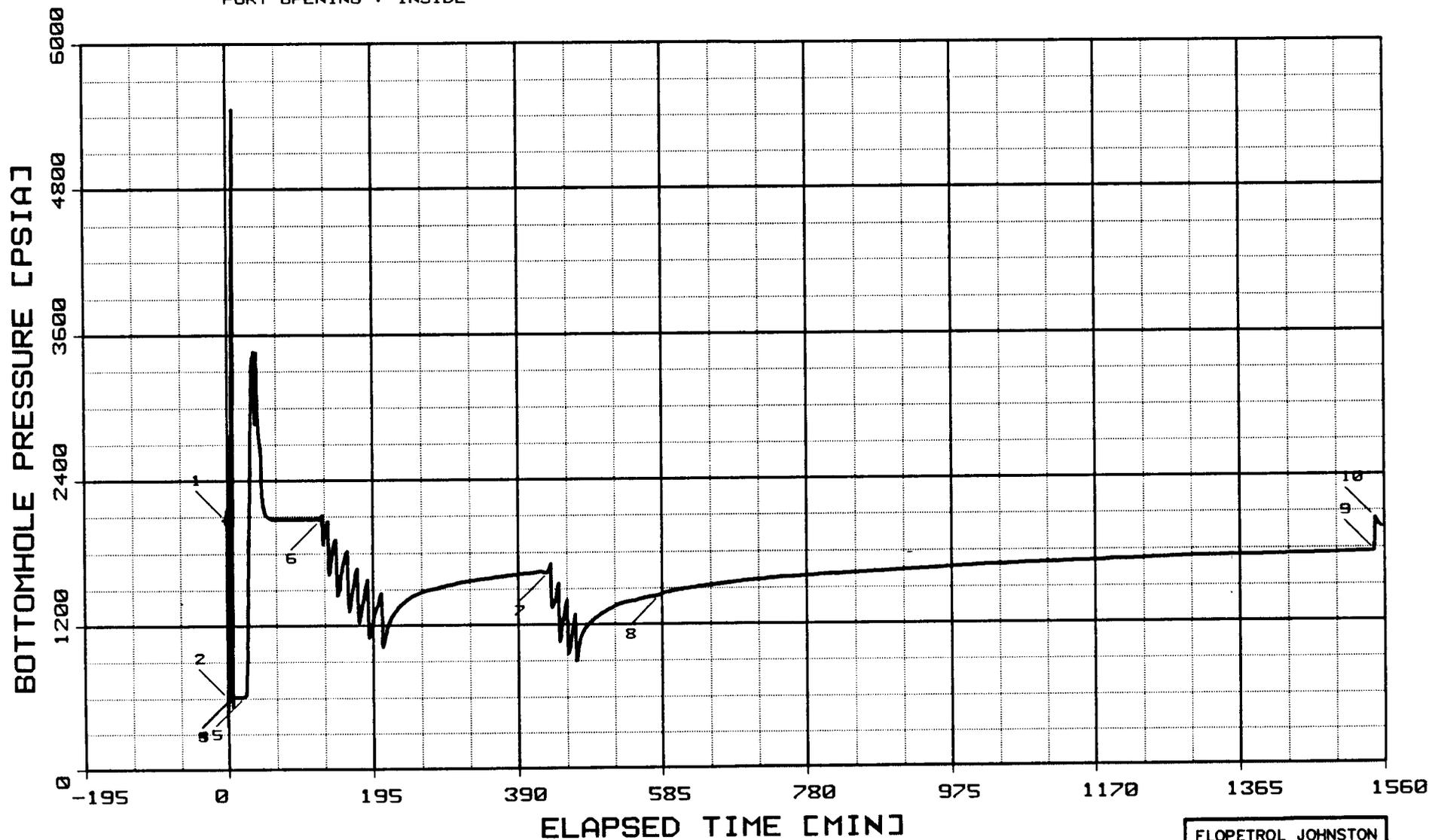
INSTRUMENT NO. J-1400

WELL : NGC FEDERAL 31-20-6

DEPTH : 4668 FT

CAPACITY : 6400 PSI

PORT OPENING : INSIDE



FLOPETROL JOHNSTON

DST EVENT SUMMARY

DATE (M/D/Y)	TIME (HR:MIN)	EVENT E.T. (MIN)	EVENT DESCRIPTION	LABEL PT. #	SURFACE PRESSURE (PSIG)	FLOOR MANIFOLD CHOKE SIZE (64ths INCH)
3-23-85	0832	—	SET PACKER	1		
	0835	—	OPENED TEST TOOL	2		
	0840		FIRED GUNS	3,4		
	0841		SLIGHT BUBBLE			
	0857		START PERFS BREAKDOWN	5		
			3 BBLS/MIN. @ 1200 PSI			
			5 BBLS/MIN. @ 2000 PSI			
			ISIP 1200 PSI			
	1919		BLEED OFF			
	0959		FLOWED BACK 6.5 BBLS			
	1026		RIG UP TO SWAB			
	1036		SWAB #1 - 6 BBLS SURFACE - 1100'	6		
	1046		SWAB #2 - 9 BBLS 400' - 2000'			
	1056		SWAB #3 - 11 BBLS 800' - 2600'			
			SWAB #4 - 10 BBLS 1100' - 2900'			
			SWAB #5 - 8 BBLS 1500' - 2900'			
	1146		SWAB #6 - 10 BBLS 1500' - 3200'			
			SWAB #7 - 6 BBLS 1700' - 3500'			
	1205		RIG DOWN SWAB			
			RIG UP FLOWHEAD & MANIFOLD			
			CLOSED AT SURFACE			
	1219				15.0	
	1225		OPEN TO MANIFOLD		13.0	
	1229				8.0	
	1238				10.0	
	1255				15.0	
	1515				15.0	
	1523		RIG DOWN SWIVEL			
	1530		RIG UP TO SWAB			
	1545		SWAB #8 - 6 BBLS 1300' - 2300'			
	1555		SWAB #9 - 9 BBLS 1700' - 3200'			
	1606		SWAB #10 - 9 BBLS 2000' - 3500'			
	1618		SWAB #11 - 9 BBLS 2200' - 3700'			
	1619		RIG DOWN SWAB			
	1620		RIG UP SWIVEL			
	1621		5 PSI FLARE			

 * WELL TEST DATA PRINTOUT *

FIELD REPORT # : 36628E

INSTRUMENT # : J-1400

CAPACITY [PSI] : 6400.

COMPANY : NOVA PETROLEUM COMPANY

DEPTH [FT] : 4668.0

WELL : NGC FEDERAL 31-20-6

PORT OPENING : INSIDE

TEMPERATURE [DEG F] : 139.0

LABEL POINT INFORMATION

#	TIME		EXPLANATION	ELAPSED TIME, MIN	BOT HOLE PRESSURE PSIA
	OF DAY	DATE			
HH:MM:SS	DD-MM				
1	8:31:58	23	MR HYDROSTATIC MUD	-3.04	2070
2	8:35: 0	23	MR CYCLED TOOL	0.00	595
3	8:38:43	23	MR FIRED GUNS	3.72	595
4	8:38:47	23	MR START FLOW	3.79	604
5	8:57:46	23	MR START PERF BREAKDOWN	22.76	612
6	10:40:42	23	MR SWABBING	125.70	2076
7	15:45:39	23	MR SWABBING	430.65	1634
8	18:16:12	23	MR END FLOW & START SHUT-IN	581.20	1436
9	10:22: 0	24	MR END SHUT-IN	1547.00	1765
10	10:23: 6	24	MR HYDROSTATIC MUD	1548.10	2034

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	3.79	581.20	577.41	604	1436

SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	581.20	1547.00	965.80	1436	1765	1436	1773.72

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
8:38:47	23-MR	3.79	0.00	604
8:43:47	23-MR	8.79	5.00	604
8:48:47	23-MR	13.79	10.00	604
8:53:47	23-MR	18.79	15.00	607
8:58:47	23-MR	23.79	20.00	627
9: 3:47	23-MR	28.79	25.00	1980
9: 8:47	23-MR	33.79	30.00	3392
9:13:47	23-MR	38.79	35.00	3372
9:18:47	23-MR	43.79	40.00	2675
9:23:47	23-MR	48.79	45.00	2160
9:28:47	23-MR	53.79	50.00	2096
9:33:47	23-MR	58.79	55.00	2079
9:38:47	23-MR	63.79	60.00	2074
9:43:47	23-MR	68.79	65.00	2073
9:48:47	23-MR	73.79	70.00	2072
9:53:47	23-MR	78.79	75.00	2072
9:58:47	23-MR	83.79	80.00	2072
10: 3:47	23-MR	88.79	85.00	2074
10: 8:47	23-MR	93.79	90.00	2073
10:13:47	23-MR	98.79	95.00	2073
10:18:47	23-MR	103.79	100.00	2073
10:23:47	23-MR	108.79	105.00	2073
10:28:47	23-MR	113.79	110.00	2073
10:33:47	23-MR	118.79	115.00	2073
10:38:47	23-MR	123.79	120.00	2075
10:43:47	23-MR	128.79	125.00	1870
10:48:47	23-MR	133.79	130.00	2038
10:53:47	23-MR	138.79	135.00	1698
10:58:47	23-MR	143.79	140.00	1886
11: 3:47	23-MR	148.79	145.00	1449
11: 8:47	23-MR	153.79	150.00	1668
11:13:47	23-MR	158.79	155.00	1781
11:18:47	23-MR	163.79	160.00	1308
11:23:47	23-MR	168.79	165.00	1508
11:28:47	23-MR	173.79	170.00	1656
11:33:47	23-MR	178.79	175.00	1280
11:38:47	23-MR	183.79	180.00	1448
11:43:47	23-MR	188.79	185.00	1264
11:48:47	23-MR	193.79	190.00	1194
11:53:47	23-MR	198.79	195.00	1325
11:58:47	23-MR	203.79	200.00	1417
12: 3:47	23-MR	208.79	205.00	1019
12: 8:47	23-MR	213.79	210.00	1171
12:13:47	23-MR	218.79	215.00	1249
12:18:47	23-MR	223.79	220.00	1298
12:23:47	23-MR	228.79	225.00	1340
12:28:47	23-MR	233.79	230.00	1369
12:33:47	23-MR	238.79	235.00	1397
12:38:47	23-MR	243.79	240.00	1421

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
12:43:47	23-MR	248.79	245.00	1438
12:48:47	23-MR	253.79	250.00	1452
12:53:47	23-MR	258.79	255.00	1466
12:58:47	23-MR	263.79	260.00	1476
13: 3:47	23-MR	268.79	265.00	1485
13: 8:47	23-MR	273.79	270.00	1493
13:13:47	23-MR	278.79	275.00	1501
13:18:47	23-MR	283.79	280.00	1508
13:23:47	23-MR	288.79	285.00	1515
13:28:47	23-MR	293.79	290.00	1523
13:33:47	23-MR	298.79	295.00	1529
13:38:47	23-MR	303.79	300.00	1536
13:43:47	23-MR	308.79	305.00	1543
13:48:47	23-MR	313.79	310.00	1550
13:53:47	23-MR	318.79	315.00	1556
13:58:47	23-MR	323.79	320.00	1560
14: 3:47	23-MR	328.79	325.00	1566
14: 8:47	23-MR	333.79	330.00	1570
14:13:47	23-MR	338.79	335.00	1574
14:18:47	23-MR	343.79	340.00	1578
14:23:47	23-MR	348.79	345.00	1582
14:28:47	23-MR	353.79	350.00	1587
14:33:47	23-MR	358.79	355.00	1591
14:38:47	23-MR	363.79	360.00	1595
14:43:47	23-MR	368.79	365.00	1598
14:48:47	23-MR	373.79	370.00	1602
14:53:47	23-MR	378.79	375.00	1606
14:58:47	23-MR	383.79	380.00	1609
15: 3:47	23-MR	388.79	385.00	1613
15: 8:47	23-MR	393.79	390.00	1617
15:13:47	23-MR	398.79	395.00	1621
15:18:47	23-MR	403.79	400.00	1623
15:23:47	23-MR	408.79	405.00	1627
15:28:47	23-MR	413.79	410.00	1631
15:33:47	23-MR	418.79	415.00	1636
15:38:47	23-MR	423.79	420.00	1632
15:43:47	23-MR	428.79	425.00	1632
15:48:47	23-MR	433.79	430.00	1692
15:53:47	23-MR	438.79	435.00	1380
15:58:47	23-MR	443.79	440.00	1514
16: 3:47	23-MR	448.79	445.00	1175
16: 8:47	23-MR	453.79	450.00	1354
16:13:47	23-MR	458.79	455.00	979
16:18:47	23-MR	463.79	460.00	1160
16:23:47	23-MR	468.79	465.00	893
16:28:47	23-MR	473.79	470.00	1072
16:33:47	23-MR	478.79	475.00	1148
16:38:47	23-MR	483.79	480.00	1188
16:43:47	23-MR	488.79	485.00	1220

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
16:48:47	23-MR	493.79	490.00	1247
16:53:47	23-MR	498.79	495.00	1269
16:58:47	23-MR	503.79	500.00	1290
17: 3:47	23-MR	508.79	505.00	1307
17: 8:47	23-MR	513.79	510.00	1323
17:13:47	23-MR	518.79	515.00	1340
17:18:47	23-MR	523.79	520.00	1354
17:23:47	23-MR	528.79	525.00	1366
17:28:47	23-MR	533.79	530.00	1376
17:33:47	23-MR	538.79	535.00	1383
17:38:47	23-MR	543.79	540.00	1388
17:43:47	23-MR	548.79	545.00	1392
17:48:47	23-MR	553.79	550.00	1403
17:53:47	23-MR	558.79	555.00	1411
17:58:47	23-MR	563.79	560.00	1418
18: 3:47	23-MR	568.79	565.00	1423
18: 8:47	23-MR	573.79	570.00	1426
18:13:47	23-MR	578.79	575.00	1433
18:16:12	23-MR	581.20	577.41	1436

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 1436
 PRODUCING TIME [MIN] = 1773.72

TIME OF DAY	DATE	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
18:16:12	23-MR	581.20	0.00	1436	0	
18:17:12	23-MR	582.20	1.00	1442	7	3.249
18:18:12	23-MR	583.20	2.00	1443	7	2.948
18:19:12	23-MR	584.20	3.00	1448	12	2.772
18:20:12	23-MR	585.20	4.00	1450	14	2.648
18:21:12	23-MR	586.20	5.00	1451	16	2.551
18:22:12	23-MR	587.20	6.00	1453	18	2.472
18:23:12	23-MR	588.20	7.00	1455	19	2.405
18:24:12	23-MR	589.20	8.00	1457	21	2.348
18:25:12	23-MR	590.20	9.00	1458	23	2.297
18:26:12	23-MR	591.20	10.00	1460	24	2.251
18:28:12	23-MR	593.20	12.00	1463	27	2.173
18:30:12	23-MR	595.20	14.00	1465	29	2.106
18:32:12	23-MR	597.20	16.00	1469	33	2.049
18:34:12	23-MR	599.20	18.00	1471	35	1.998
18:36:12	23-MR	601.20	20.00	1472	37	1.953
18:38:12	23-MR	603.20	22.00	1474	39	1.912
18:40:12	23-MR	605.20	24.00	1477	42	1.875
18:42:12	23-MR	607.20	26.00	1480	44	1.840

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 1436

PRODUCING TIME [MIN] = 1773.72

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
*****	*****	*****	*****	*****	*****	*****
18:44:12	23-MR	609.20	28.00	1482	46	1.809
18:46:12	23-MR	611.20	30.00	1484	48	1.779
18:51:12	23-MR	616.20	35.00	1489	54	1.713
18:56:12	23-MR	621.20	40.00	1493	58	1.657
19: 1:12	23-MR	626.20	45.00	1497	62	1.607
19: 6:12	23-MR	631.20	50.00	1503	67	1.562
19:11:12	23-MR	636.20	55.00	1508	72	1.522
19:16:12	23-MR	641.20	60.00	1512	76	1.485
19:21:12	23-MR	646.20	65.00	1516	80	1.452
19:26:12	23-MR	651.20	70.00	1519	84	1.421
19:31:12	23-MR	656.20	75.00	1523	88	1.392
19:36:12	23-MR	661.20	80.00	1527	91	1.365
19:41:12	23-MR	666.20	85.00	1530	95	1.340
19:46:12	23-MR	671.20	90.00	1533	98	1.316
19:51:12	23-MR	676.20	95.00	1537	101	1.294
19:56:12	23-MR	681.20	100.00	1540	105	1.273
20: 1:12	23-MR	686.20	105.00	1544	108	1.253
20: 6:12	23-MR	691.20	110.00	1548	112	1.234
20:11:12	23-MR	696.20	115.00	1552	117	1.215
20:16:12	23-MR	701.20	120.00	1555	120	1.198
20:21:12	23-MR	706.20	125.00	1558	122	1.182
20:26:12	23-MR	711.20	130.00	1560	125	1.166
20:31:12	23-MR	716.20	135.00	1563	127	1.150
20:36:12	23-MR	721.20	140.00	1566	130	1.136
20:41:12	23-MR	726.20	145.00	1569	133	1.122
20:46:12	23-MR	731.20	150.00	1572	137	1.108
20:51:12	23-MR	736.20	155.00	1575	140	1.095
20:56:12	23-MR	741.20	160.00	1577	142	1.082
21: 1:12	23-MR	746.20	165.00	1581	145	1.070
21: 6:12	23-MR	751.20	170.00	1582	147	1.058
21:11:12	23-MR	756.20	175.00	1583	148	1.047
21:16:12	23-MR	761.20	180.00	1584	148	1.036
21:21:12	23-MR	766.20	185.00	1586	150	1.025
21:26:12	23-MR	771.20	190.00	1588	152	1.014
21:31:12	23-MR	776.20	195.00	1589	154	1.004
21:36:12	23-MR	781.20	200.00	1592	156	0.994
21:41:12	23-MR	786.20	205.00	1594	158	0.985
21:46:12	23-MR	791.20	210.00	1596	161	0.975
21:51:12	23-MR	796.20	215.00	1599	163	0.966
21:56:12	23-MR	801.20	220.00	1601	166	0.957
22: 1:12	23-MR	806.20	225.00	1603	167	0.949
22: 6:12	23-MR	811.20	230.00	1605	169	0.940
22:11:12	23-MR	816.20	235.00	1606	170	0.932
22:16:12	23-MR	821.20	240.00	1607	172	0.924
22:21:12	23-MR	826.20	245.00	1607	172	0.916
22:26:12	23-MR	831.20	250.00	1610	174	0.908
22:31:12	23-MR	836.20	255.00	1611	175	0.901
22:36:12	23-MR	841.20	260.00	1612	177	0.893

TEST PHASE : SHUTIN PERIOD # 1
 FINAL FLOW PRESSURE [PSIA] = 1436
 PRODUCING TIME [MIN] = 1773.72

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
*****	*****	*****	*****	*****	*****	*****
22:41:12	23-MR	846.20	265.00	1614	178	0.886
22:46:12	23-MR	851.20	270.00	1616	180	0.879
22:51:12	23-MR	856.20	275.00	1617	182	0.872
22:56:12	23-MR	861.20	280.00	1620	184	0.865
23: 1:12	23-MR	866.20	285.00	1621	185	0.859
23: 6:12	23-MR	871.20	290.00	1624	188	0.852
23:11:12	23-MR	876.20	295.00	1624	188	0.846
23:16:12	23-MR	881.20	300.00	1626	190	0.840
23:21:12	23-MR	886.20	305.00	1627	192	0.833
23:26:12	23-MR	891.20	310.00	1629	194	0.827
23:31:12	23-MR	896.20	315.00	1631	195	0.822
23:36:12	23-MR	901.20	320.00	1633	197	0.816
23:41:12	23-MR	906.20	325.00	1634	198	0.810
23:46:12	23-MR	911.20	330.00	1637	201	0.804
23:51:12	23-MR	916.20	335.00	1638	203	0.799
23:56:12	23-MR	921.20	340.00	1639	204	0.794
0: 1:12	24-MR	926.20	345.00	1642	206	0.788
0: 6:12	24-MR	931.20	350.00	1643	208	0.783
0:11:12	24-MR	936.20	355.00	1645	209	0.778
0:16:12	24-MR	941.20	360.00	1646	211	0.773
0:21:12	24-MR	946.20	365.00	1648	213	0.768
0:26:12	24-MR	951.20	370.00	1650	214	0.763
0:31:12	24-MR	956.20	375.00	1651	216	0.758
0:36:12	24-MR	961.20	380.00	1654	218	0.753
0:41:12	24-MR	966.20	385.00	1656	220	0.749
0:46:12	24-MR	971.20	390.00	1659	223	0.744
0:51:12	24-MR	976.20	395.00	1660	225	0.740
0:56:12	24-MR	981.20	400.00	1662	226	0.735
1: 1:12	24-MR	986.20	405.00	1663	227	0.731
1: 6:12	24-MR	991.20	410.00	1665	229	0.726
1:11:12	24-MR	996.20	415.00	1666	230	0.722
1:16:12	24-MR	1001.20	420.00	1667	232	0.718
1:21:12	24-MR	1006.20	425.00	1670	234	0.714
1:26:12	24-MR	1011.20	430.00	1673	237	0.710
1:31:12	24-MR	1016.20	435.00	1675	239	0.706
1:36:12	24-MR	1021.20	440.00	1676	240	0.702
1:41:12	24-MR	1026.20	445.00	1677	241	0.698
1:46:12	24-MR	1031.20	450.00	1677	241	0.694
1:51:12	24-MR	1036.20	455.00	1678	242	0.690
1:56:12	24-MR	1041.20	460.00	1678	243	0.686
2: 1:12	24-MR	1046.20	465.00	1679	243	0.683
2: 6:12	24-MR	1051.20	470.00	1680	245	0.679
2:11:12	24-MR	1056.20	475.00	1682	246	0.675
2:16:12	24-MR	1061.20	480.00	1683	247	0.672
2:21:12	24-MR	1066.20	485.00	1684	249	0.668
2:26:12	24-MR	1071.20	490.00	1687	251	0.665
2:31:12	24-MR	1076.20	495.00	1688	253	0.661
2:36:12	24-MR	1081.20	500.00	1690	254	0.658

TEST PHASE : SHUTIN PERIOD # 1
 FINAL FLOW PRESSURE [PSIA] = 1436
 PRODUCING TIME [MIN] = 1773.72

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
2:41:12	24-MR	1086.20	505.00	1690	255	0.654
2:46:12	24-MR	1091.20	510.00	1691	256	0.651
2:51:12	24-MR	1096.20	515.00	1692	257	0.648
2:56:12	24-MR	1101.20	520.00	1693	257	0.645
3: 1:12	24-MR	1106.20	525.00	1693	257	0.641
3: 6:12	24-MR	1111.20	530.00	1693	257	0.638
3:11:12	24-MR	1116.20	535.00	1694	259	0.635
3:16:12	24-MR	1121.20	540.00	1696	260	0.632
3:21:12	24-MR	1126.20	545.00	1696	260	0.629
3:26:12	24-MR	1131.20	550.00	1697	261	0.626
3:31:12	24-MR	1136.20	555.00	1699	263	0.623
3:36:12	24-MR	1141.20	560.00	1700	264	0.620
3:41:12	24-MR	1146.20	565.00	1701	265	0.617
3:46:12	24-MR	1151.20	570.00	1702	266	0.614
3:51:12	24-MR	1156.20	575.00	1703	267	0.611
3:56:12	24-MR	1161.20	580.00	1704	268	0.608
4: 1:12	24-MR	1166.20	585.00	1705	269	0.606
4: 6:12	24-MR	1171.20	590.00	1706	270	0.603
4:11:12	24-MR	1176.20	595.00	1707	271	0.600
4:16:12	24-MR	1181.20	600.00	1707	272	0.597
4:21:12	24-MR	1186.20	605.00	1710	274	0.595
4:26:12	24-MR	1191.20	610.00	1711	276	0.592
4:31:12	24-MR	1196.20	615.00	1712	276	0.589
4:36:12	24-MR	1201.20	620.00	1712	276	0.587
4:41:12	24-MR	1206.20	625.00	1713	278	0.584
4:46:12	24-MR	1211.20	630.00	1715	279	0.582
4:51:12	24-MR	1216.20	635.00	1715	280	0.579
4:56:12	24-MR	1221.20	640.00	1716	280	0.577
5: 1:12	24-MR	1226.20	645.00	1718	282	0.574
5: 6:12	24-MR	1231.20	650.00	1718	283	0.572
5:11:12	24-MR	1236.20	655.00	1720	284	0.569
5:16:12	24-MR	1241.20	660.00	1721	286	0.567
5:21:12	24-MR	1246.20	665.00	1723	287	0.564
5:26:12	24-MR	1251.20	670.00	1725	289	0.562
5:31:12	24-MR	1256.20	675.00	1726	290	0.560
5:36:12	24-MR	1261.20	680.00	1726	290	0.557
5:41:12	24-MR	1266.20	685.00	1727	291	0.555
5:46:12	24-MR	1271.20	690.00	1728	293	0.553
5:51:12	24-MR	1276.20	695.00	1729	294	0.550
5:56:12	24-MR	1281.20	700.00	1730	294	0.548
6: 1:12	24-MR	1286.20	705.00	1732	296	0.546
6: 6:12	24-MR	1291.20	710.00	1733	297	0.544
6:11:12	24-MR	1296.20	715.00	1734	298	0.542
6:16:12	24-MR	1301.20	720.00	1735	299	0.540
6:21:12	24-MR	1306.20	725.00	1735	300	0.537
6:26:12	24-MR	1311.20	730.00	1735	300	0.535
6:31:12	24-MR	1316.20	735.00	1735	300	0.533
6:36:12	24-MR	1321.20	740.00	1735	300	0.531

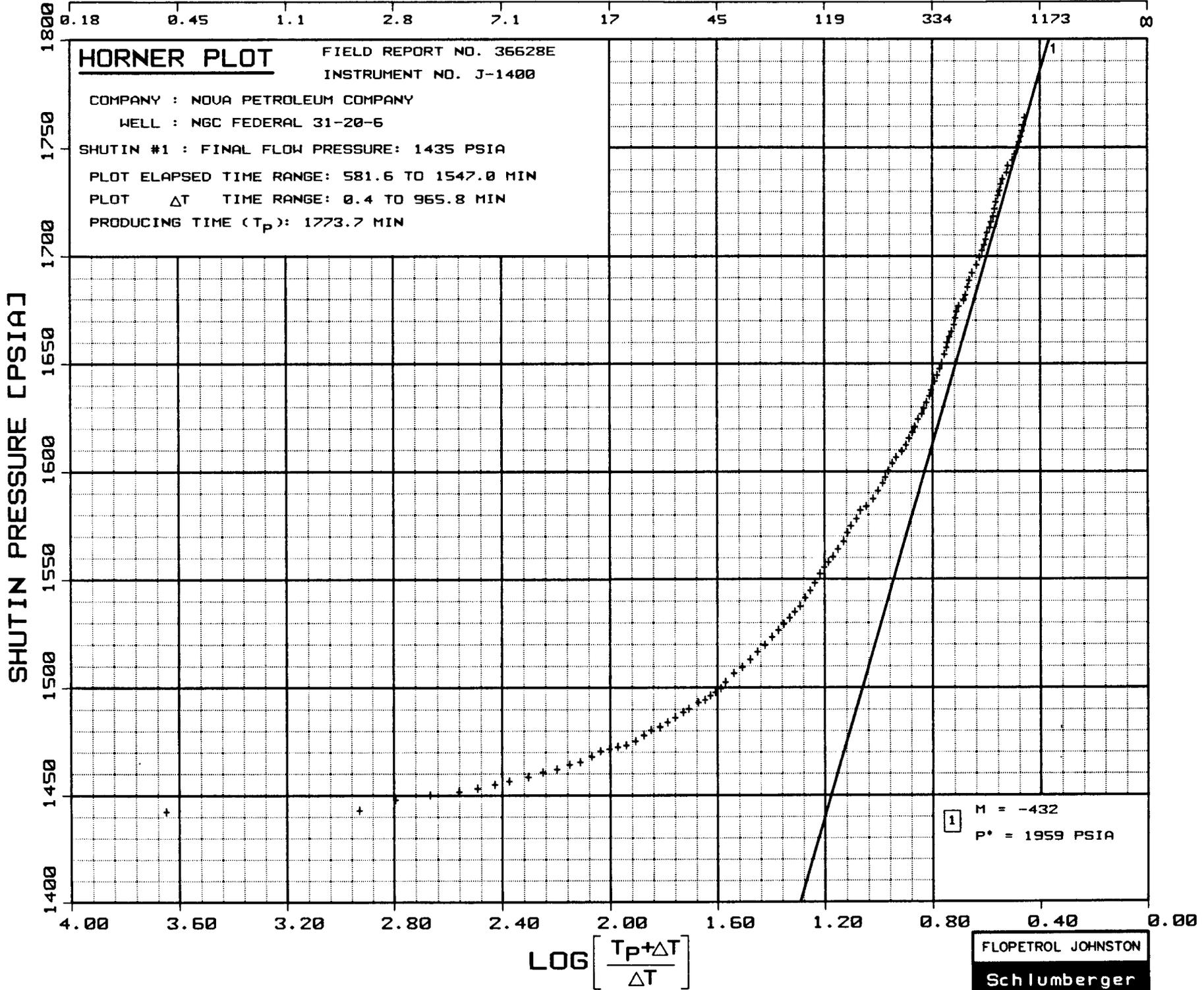
TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 1436

PRODUCING TIME [MIN] = 1773.72

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
6:41:12	24-MR	1326.20	745.00	1735	300	0.529
6:46:12	24-MR	1331.20	750.00	1736	300	0.527
6:51:12	24-MR	1336.20	755.00	1737	301	0.525
6:56:12	24-MR	1341.20	760.00	1738	302	0.523
7: 1:12	24-MR	1346.20	765.00	1739	303	0.521
7: 6:12	24-MR	1351.20	770.00	1740	304	0.519
7:11:12	24-MR	1356.20	775.00	1741	305	0.517
7:16:12	24-MR	1361.20	780.00	1742	306	0.515
7:21:12	24-MR	1366.20	785.00	1742	306	0.513
7:26:12	24-MR	1371.20	790.00	1742	307	0.511
7:31:12	24-MR	1376.20	795.00	1742	307	0.509
7:36:12	24-MR	1381.20	800.00	1742	307	0.507
7:41:12	24-MR	1386.20	805.00	1742	307	0.506
7:46:12	24-MR	1391.20	810.00	1742	307	0.504
7:51:12	24-MR	1396.20	815.00	1743	307	0.502
7:56:12	24-MR	1401.20	820.00	1744	308	0.500
8: 1:12	24-MR	1406.20	825.00	1744	308	0.498
8: 6:12	24-MR	1411.20	830.00	1744	309	0.497
8:11:12	24-MR	1416.20	835.00	1745	310	0.495
8:16:12	24-MR	1421.20	840.00	1746	310	0.493
8:21:12	24-MR	1426.20	845.00	1747	311	0.491
8:26:12	24-MR	1431.20	850.00	1748	312	0.489
8:31:12	24-MR	1436.20	855.00	1748	312	0.488
8:36:12	24-MR	1441.20	860.00	1748	313	0.486
8:41:12	24-MR	1446.20	865.00	1749	314	0.484
8:46:12	24-MR	1451.20	870.00	1750	314	0.483
8:51:12	24-MR	1456.20	875.00	1750	314	0.481
8:56:12	24-MR	1461.20	880.00	1750	315	0.479
9: 1:12	24-MR	1466.20	885.00	1751	316	0.478
9: 6:12	24-MR	1471.20	890.00	1753	317	0.476
9:11:12	24-MR	1476.20	895.00	1753	317	0.474
9:16:12	24-MR	1481.20	900.00	1753	317	0.473
9:21:12	24-MR	1486.20	905.00	1754	318	0.471
9:26:12	24-MR	1491.20	910.00	1755	319	0.470
9:31:12	24-MR	1496.20	915.00	1755	320	0.468
9:36:12	24-MR	1501.20	920.00	1756	321	0.467
9:41:12	24-MR	1506.20	925.00	1757	322	0.465
9:46:12	24-MR	1511.20	930.00	1757	322	0.463
9:51:12	24-MR	1516.20	935.00	1759	323	0.462
9:56:12	24-MR	1521.20	940.00	1760	324	0.460
10: 1:12	24-MR	1526.20	945.00	1761	326	0.459
10: 6:12	24-MR	1531.20	950.00	1763	327	0.457
10:11:12	24-MR	1536.20	955.00	1764	328	0.456
10:16:12	24-MR	1541.20	960.00	1764	328	0.454
10:21:12	24-MR	1546.20	965.00	1765	329	0.453
10:22: 0	24-MR	1547.00	965.80	1765	329	0.453

ΔT (MIN)



FLOPETROL JOHNSTON
Schlumberger

LOG LOG PLOT

COMPANY : NOVA PETROLEUM COMPANY

WELL : NGC FEDERAL 31-20-6

FIELD REPORT NO. 36628E

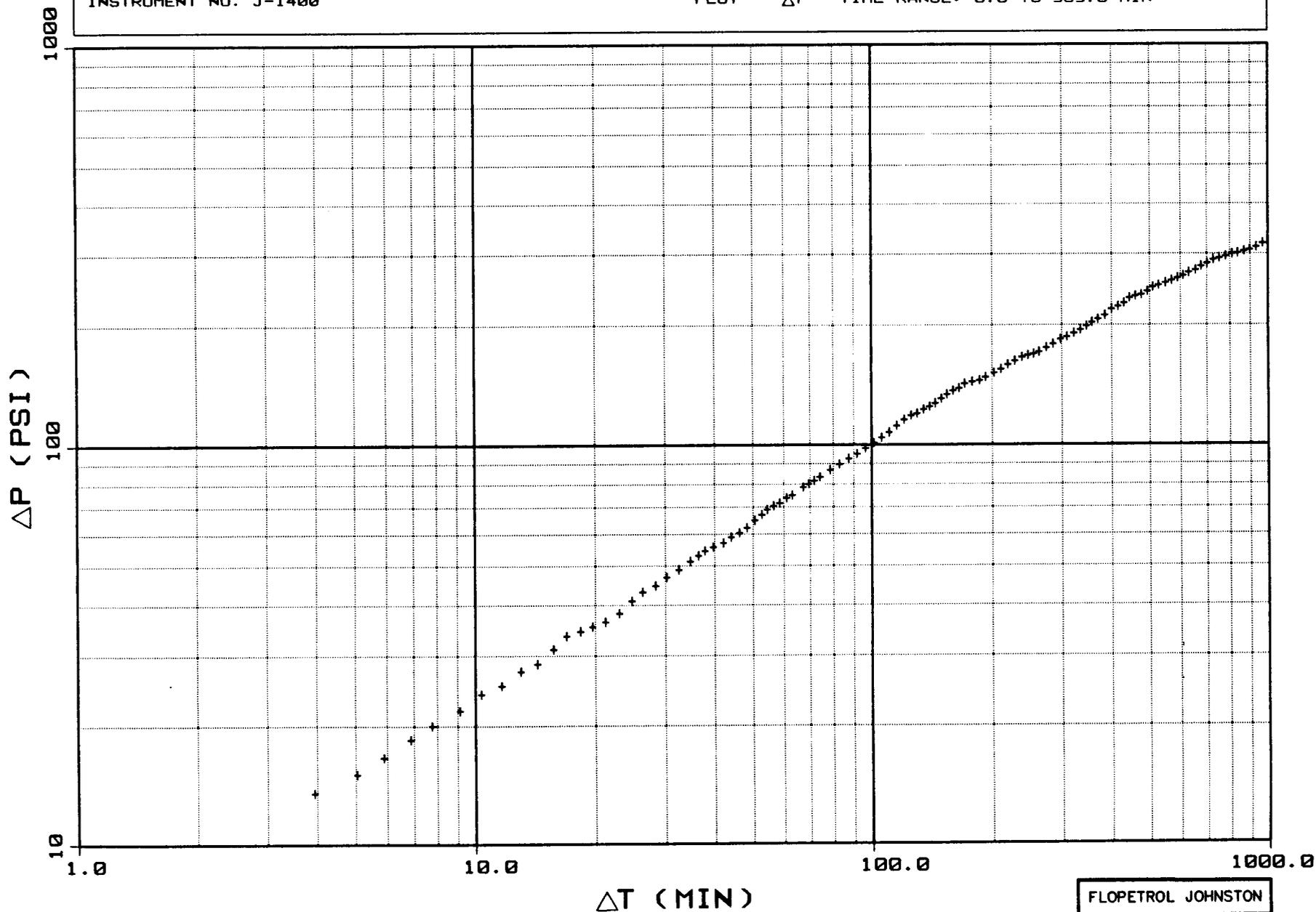
INSTRUMENT NO. J-1400

SHUTIN #1 :

FINAL FLOW PRESSURE (PWF): 1435 PSIA

PLOT ELAPSED TIME RANGE: 585.0 TO 1547.0 MIN

PLOT ΔT TIME RANGE: 3.8 TO 965.8 MIN



FLOPETROL JOHNSTON
Schlumberger

11-52018

FLOPETROL JOHNSTON
Schlumberger

WELL PERFORMANCE TEST REPORT

A Production Systems Analysis (NODAL)
Based On
Drillstem Test Data

Test Date
03-15-85

Report No.:
36781 E

COMPANY
NOVA PETROLEUM

WELL
NGC FED. 31-20-6

TEST IDENTIFICATION
Test Type CASED HOLE - TCP
Test Number 3
Formation GREEN RIVER
Test Interval 4760 - 4780 FT.
Reference Depth KELLY BUSHING

WELL LOCATION
Field MONUMENT BUTTE
County DUCHESNE
State UTAH
Sec / Twn / Rng S20 TNW4 RNE4
Elevation 6063 FT.

HOLE CONDITIONS
Total Depth (MVD/TVD) 4800 FT. PBTD
Hole Size / Deviation Angle --
Csg / Liner ID --
Perf'd Interval 4760 - 4780 FT.
Shot Density / Phasing 4 SPF/120°
Gun Type / Perf Cond TBG.CONV./UNDERBAL.

MUD PROPERTIES
Mud Type KCL WATER 2%
Mud Weight 8.9 LB/GAL
Mud Resistivity --
Filtrate Resistivity --
Filtrate Chlorides --
Filtrate Nitrates --

INITIAL TEST CONDITIONS
Gas Cushion Type NONE
Surface Pressure NA
Liquid Cushion Type KCL WATER 2%
Height Above DST Valve 1581 FT.

TEST STRING CONFIGURATION
Pipe Length / ID 4691 FT./2.441 IN.
Collar Length / ID NA
Packer Depth(s) 4739 FT.
BH Choke Size 1/2 IN.

NET PIPE RECOVERY

Volume	Fluid Type	Physical Properties
18.4 BBL	OIL	27.8° API
22.4 BBL	WATER	110K PPM CL.

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Physical Properties
1.35 SCF	GAS	
750 CC	OIL	27.8° API
450 CC	WATER	.42 OHM -M @ 60°F
		110K PPM CL.
Pressure: 525 PSIG		GOR: 286.2
		GLR: 178.88

INTERPRETATION RESULTS
Reservoir Pressure @Gauge Depth: 1958 PSIA
Gauge Depth 4726 FT.
Hydrostatic Gradient 0.414 PSI/FT
Potentiometric Surface 5858.9 FT.
Effective Permeability to LIQ. : 4.815 MD.
Transmissibility 12.02 MD.-FT./CP.
Skin Factor / Damage Ratio -3.51 / 0.35
Omega / Lambda (2φ System).....
Radius of Investigation 106 FT.
Measured Wellbore Storage 5.67E-03

ROCK / FLUID / WELLBORE PROPERTIES
Reservoir Temperature 144 °F
Analysis Fluid Type TOTAL LIQUID
Formation Volume Factor 1.07 RVB/STB
Viscosity 8.012 CP.
Z-Factor (gas only) --
Net Pay 20 FT.
Porosity 10%
Total System Compressibility 2.0E-05 1/PSI
Wellbore Radius365 FT.
Expected Wellbore Storage 3.99E-05

FLOW RATE DURING DST
226 BLPD avg. / 27.2 BLPD last rate

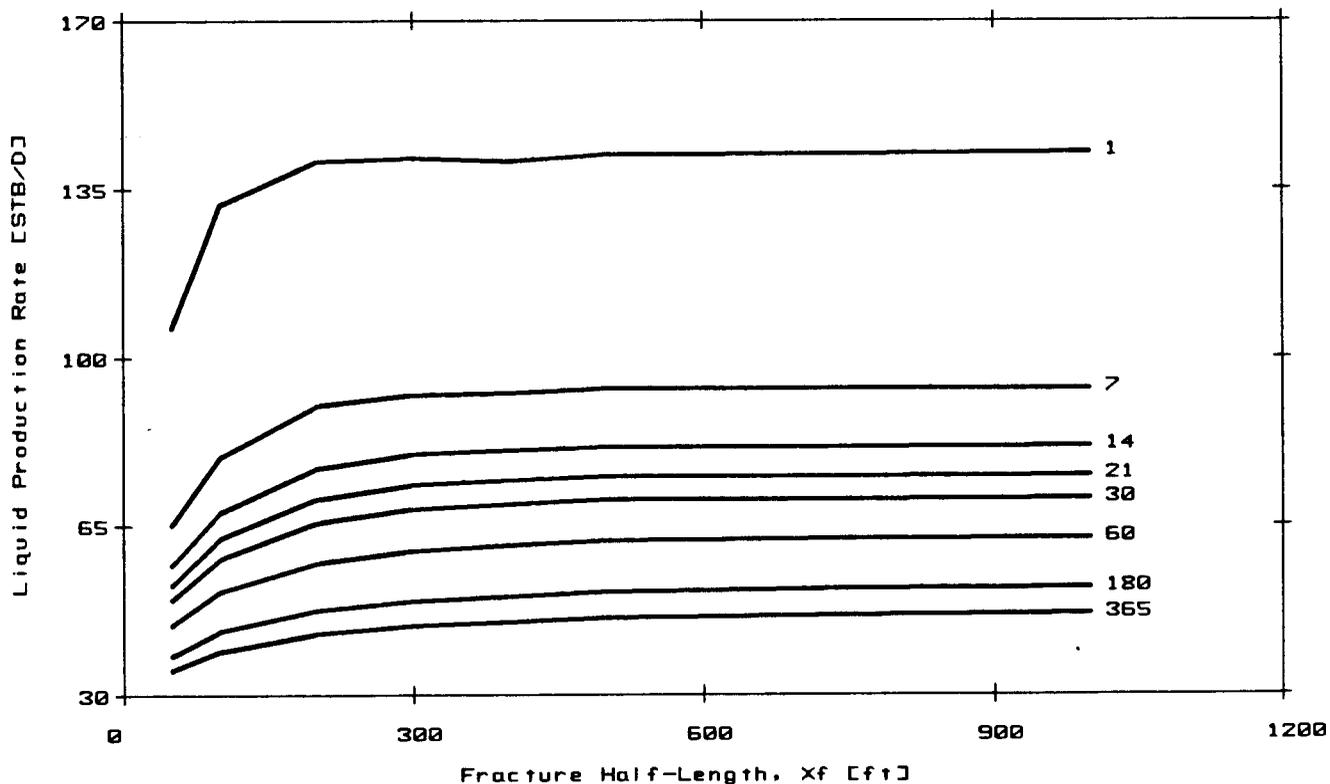
MAXIMUM FLOW RATE POTENTIAL AFTER COMPLETION
SEE SENSITIVITY PLOTS
This rate is based on a specific completion design & producing time. Call FJS for details

FJS-5 B14059

WELL TEST INTERPRETATION REPORT #: 36781E		PAGE: 2,
CLIENT : NOVA PETROLEUM CO.		18-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Rate vs. Xf (vs. Time) ACRE SPACING = 80 ACRES	Field: MONUMENT BUTTE
DISTRICT: UERNAL		Zone : GREEN RIVER
BASE : DENVER		Well : NGC FED31-20-6
Engr : D. HALLFORD		Location:

Reservoir Pressure: 1958 psi Gas/Liquid Ratio: 178.9 SCF/STB
Permeability: 4.82 md Tubing Size: 2.441 in (id)
Net Thickness: 20.0 ft Wellhead Pressure: 50.0 psi

Fracture Conductivity, kf^*w : 1000 md.ft

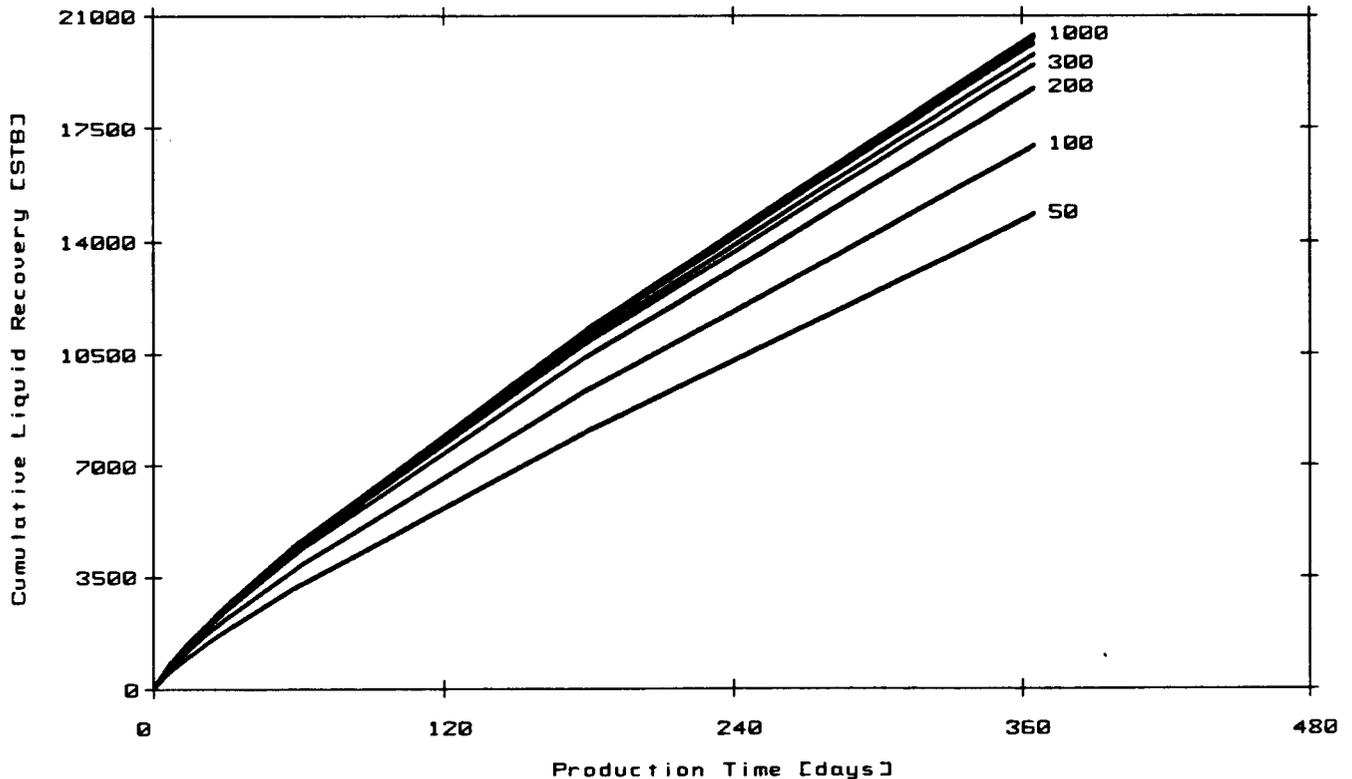


Production Rate vs. Frac. Half-Length, Transient Conditions
1 to 365 days : ACRE SPACING = 80 ACRES

WELL TEST INTERPRETATION REPORT #:36781E		PAGE: 3,
CLIENT : NOVA PETROLEUM CO.		18-MAR-85
REGION :MID-CONT.	SENSITIVITY ANALYSIS Recovery vs. Time (vs. Xf) ACRE SPACING = 80 ACRES	Field: MONUMENT BUTTE
DISTRICT:UERNAL		Zone : GREEN RIVER
BASE :DENUER		Well : NGC FED31-20-6
Engr : D.HALLFORD		Location:

Reservoir Pressure: 1958 psi Gas/Liquid Ratio: 178.9 SCF/STB
Permeability: 4.82 md Tubing Size: 2.441 in (id)
Net Thickness: 20.0 ft Wellhead Pressure: 50.0 psi

Fracture Conductivity, kf*w: 1000 md.ft



Effect of Time on Cumulative Recovery, for Fracture Half-Lengths
from 50 to 1000 ft : ACRE SPACING = 80 ACRES

WELL TEST INTERPRETATION REPORT #:36781E		PAGE: 4.
CLIENT : NOVA PETROLEUM CO.		18-MAR-85
REGION :MID-CONT.	SENSITIVITY ANALYSIS Input Data Summary ACRE SPACING = 80 ACRES	Field: MONUMENT BUTTE
DISTRICT:VERNAL		Zone : GREEN RIVER
BASE : DENUER		Well : NGC FED31-20-6
Engr : D.HALLFORD		Location:

Production Time [days]

1.0	7.0	14.0	21.0	30.0
60.0	180.0	365.0		

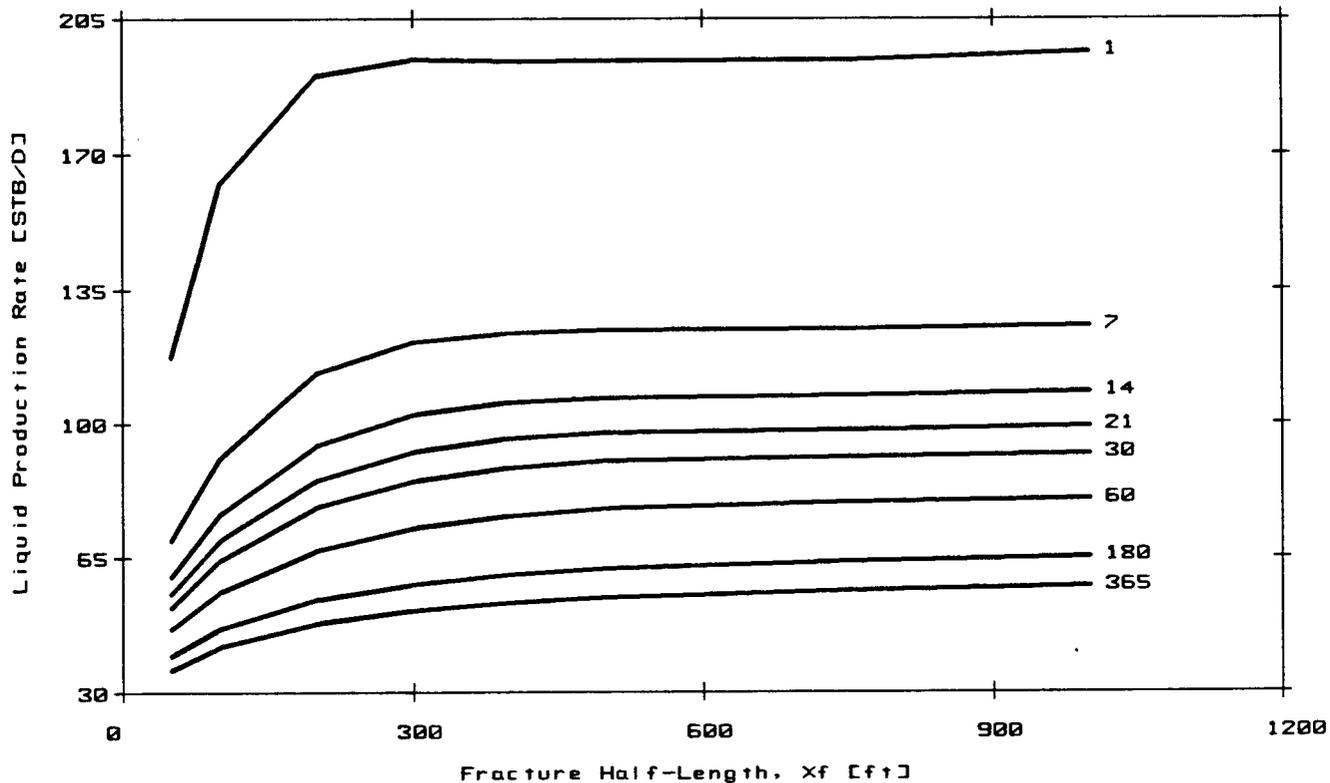
Fracture Half-Length. Xf [ft]

50.0	100.0	200.0	300.0	400.0
500.0	750.0	1000.		

WELL TEST INTERPRETATION REPORT #:36781E		PAGE: 5,
CLIENT : NOVA PETROLEUM CO.		18-MAR-85
REGION :MID-CONT.	SENSITIVITY ANALYSIS Rate vs. Xf (vs. Time) ACRE SPACING = 80 ACRES	Field: MONUMENT BUTTE
DISTRICT: UERNAL		Zone : GREEN RIVER
BASE : DENVER		Well : NGC FED31-20-6
Engr : D. HALLFORD		Location:

Reservoir Pressure: 1958 psi Gas/Liquid Ratio: 178.9 SCF/STB
Permeability: 4.82 md Tubing Size: 2.441 in (id)
Net Thickness: 20.0 ft Wellhead Pressure: 50.0 psi

Fracture Conductivity, $kf*w$: 2000 md.ft

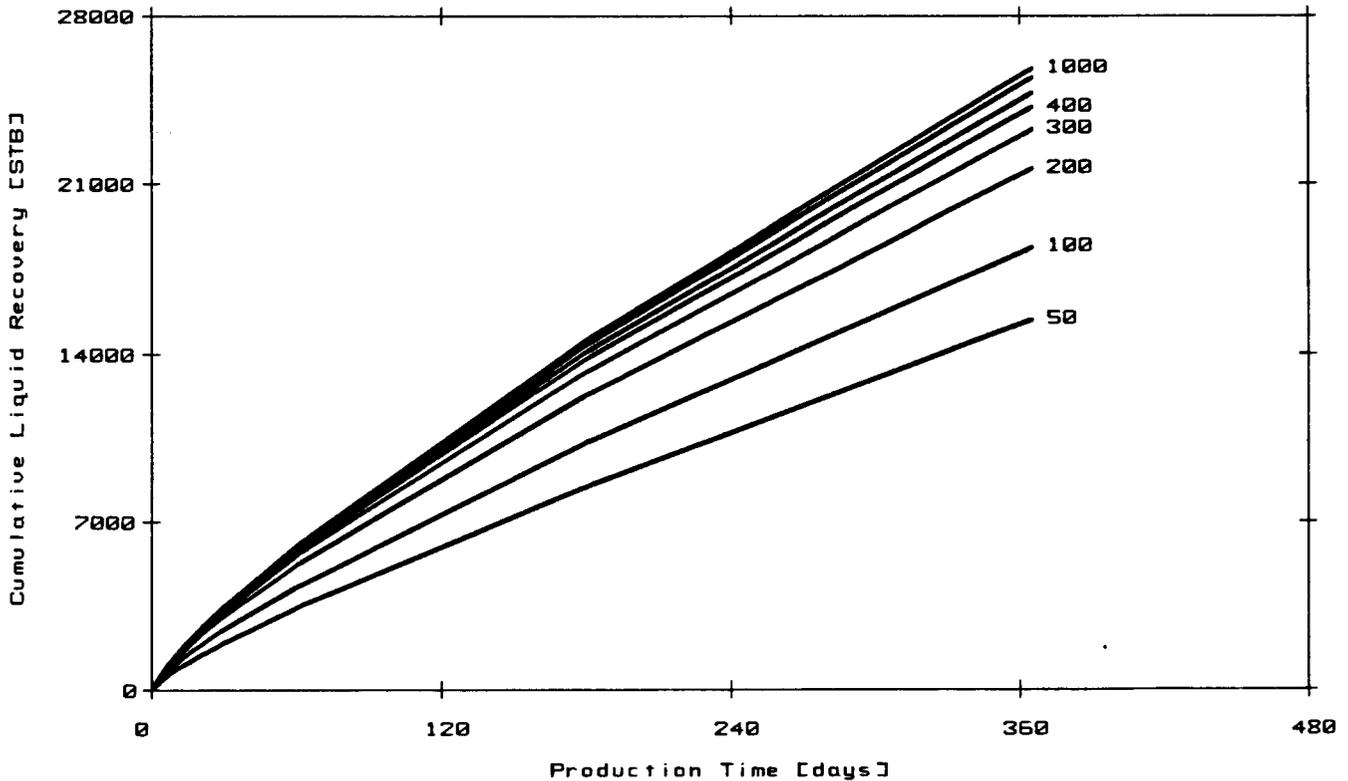


Production Rate vs. Frac. Half-Length, Transient Conditions
1 to 365 days : ACRE SPACING = 80 ACRES

WELL TEST INTERPRETATION REPORT #: 36781E		PAGE: 6,
CLIENT : NOVA PETROLEUM CO.		18-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Recovery vs. Time (vs. Xf) ACRE SPACING = 80 ACRES	Field: MONUMENT BUTTE
DISTRICT: UERNAL		Zone : GREEN RIVER
BASE : DENVER		Well : NGC FED31-20-6
Engr : D. HALLFORD		Location:

Reservoir Pressure: 1958 psi Gas/Liquid Ratio: 178.9 SCF/STB
Permeability: 4.82 md Tubing Size: 2.441 in (id)
Net Thickness: 20.0 ft Wellhead Pressure: 50.0 psi

Fracture Conductivity, kf/w : 2000 md.ft



Effect of Time on Cumulative Recovery, for Fracture Half-Lengths
from 50 to 1000 ft : ACRE SPACING = 80 ACRES

WELL TEST INTERPRETATION REPORT #:36781E		PAGE: 7, 18-MAR-85
CLIENT : NOVA PETROLEUM CO.		
REGION :MID-CONT. DISTRICT:UERNAL BASE :DENVER Engr : D.HALLFORD	SENSITIVITY ANALYSIS Input Data Summary ACRE SPACING = 80 ACRES	Field: MONUMENT BUTTE Zone : GREEN RIVER Well : NGC FED31-20-6 Location:

Production Time [days]

1.0	7.0	14.0	21.0	30.0	.
60.0	180.0	365.0			

Fracture Half-Length. Xf [ft]

50.0	100.0	200.0	300.0	400.0
500.0	750.0	1000.		

BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 36781E

COMPANY : NOVA PETROLEUM CO.

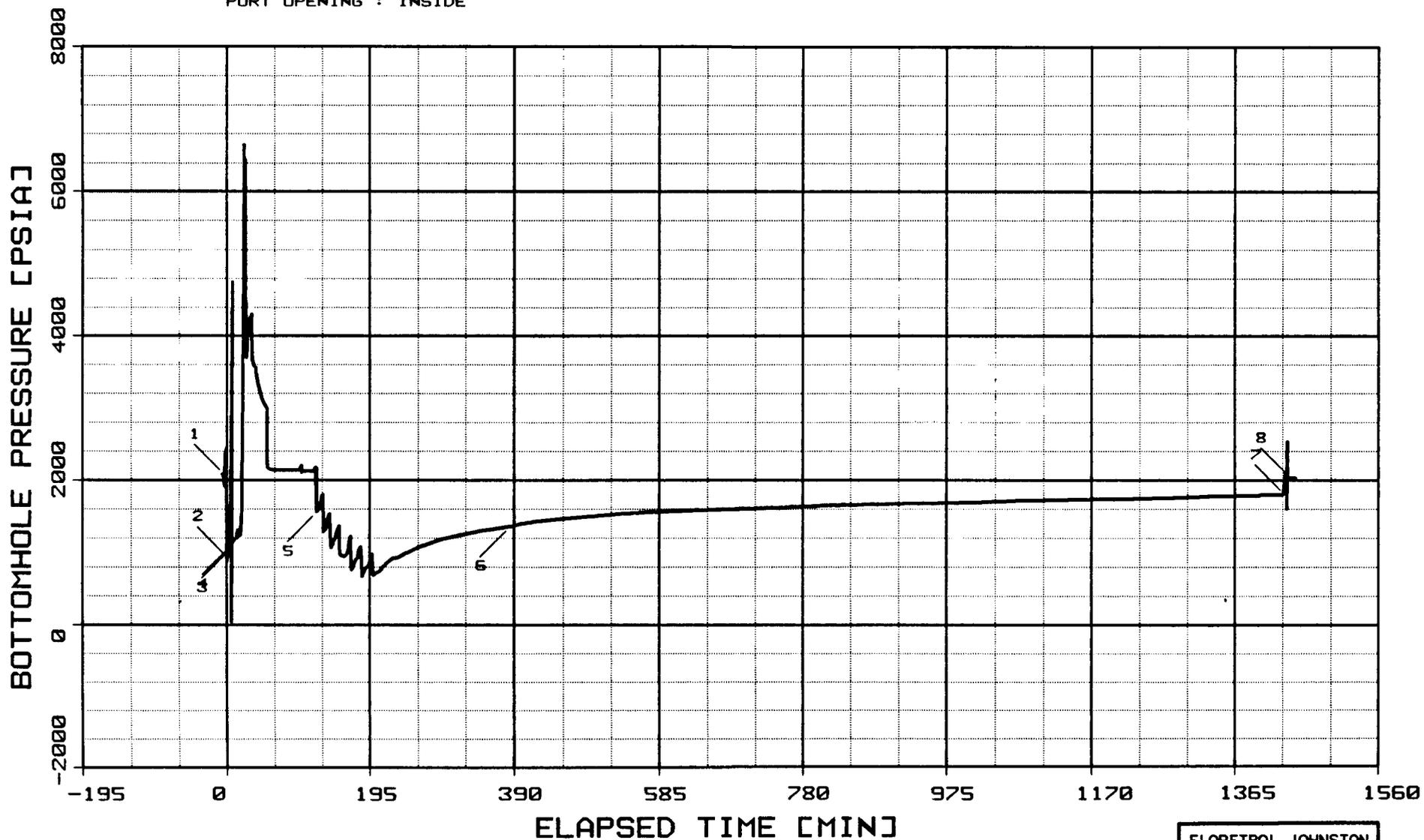
INSTRUMENT NO. J-1318

WELL : NGC FEDERAL #31-20-6

DEPTH : 4726 FT

CAPACITY : 9000 PSI

PORT OPENING : INSIDE



DST EVENT SUMMARY

DATE (M/D/Y)	TIME (HR:MIN)	EVENT E.T. (MIN)	EVENT DESCRIPTION	LABEL PT. #	SURFACE PRESSURE (PSIG)	FLOOR MANIFOLD CHOKE SIZE (64ths INCH)
3-15-85	1135	—	SET PACKER	1		BUBBLE HOSE
	1140	—	OPENED TEST TOOL	2		"
	1150		FIRED GUNS & START FLOW	3,4		"
	1206		START BREAKDOWN - PERFS BROKE AT 4300 PSI			
	1207		PUMP 7.5% ACID			
	1209		6.0 BBLs AT 3.7 BBLs/MIN. @ 3400 PSI			
			START FLUSH 2% KCL WATER			
	1216		ACID AT PERFS			
	1223		STOP PUMPING 1200 PSI - ISI 1200 PSI			
			TOTAL BBLs PUMPED 52 BBLs			
			40 BBLs PUMPED INTO FORMATION			
	1240		BLOW DOWN TUBING TO PIT			
	1340		BEGIN SWABBING	5		
	1522		GAS TO FLARE LINE		58.0	
	1528		GAS		26.0	
	1535		GAS		16.0	
	1540		GAS		10.0	
	1545		GAS		13.0	1/4"
	1600				10.0	"
	1615				5.0	"
	1630				3.0	"
	1800	—	CLOSED TEST TOOL FOR FINAL SHUT-IN	6		"
	1133	—	FINISHED FINAL SHUT-IN	7		"
	1133	—	UNSEATED PACKER	8		"
	1105	—	REVERSED OUT			
	1130		FINISHED REVERSING			
		—	BEGAN TRIP OUT OF HOLE			

 * WELL TEST DATA PRINTOUT *

FIELD REPORT # : 36781E

INSTRUMENT # : J-1318

COMPANY : NOVA PETROLEUM CO.

CAPACITY [PSI] : 9000.

WELL : NGC FEDERAL #31-20-6

DEPTH [FT] : 4726.0

PORT OPENING : INSIDE

TEMPERATURE [DEG F]. : 144.0

LABEL POINT INFORMATION

#	TIME OF DAY	DATE	EXPLANATION	ELAPSED TIME, MIN	BOT HOLE PRESSURE PSIA
1	11:35:34	15-MR	HYDROSTATIC MUD	-4.44	2078
2	11:40: 0	15-MR	CYCLED TOOL	0.00	942
3	11:45:56	15-MR	FIRED GUNS	5.93	1058
4	11:46:54	15-MR	START FLOW	6.90	1106
5	13:43:10	15-MR	SWABBING	123.17	1558
6	18: 5:31	15-MR	END FLOW & START SHUT-IN	385.51	1353
7	11:33: 0	16-MR	END SHUT-IN	1433.00	1797
8	11:40:35	16-MR	HYDROSTATIC MUD	1440.58	2032

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	6.90	385.51	378.61	1106	1353

SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	385.51	1433.00	1047.49	1353	1797	1353	2156.60

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
11:46:54	15-MR	6.90	0.00	1106
11:51:54	15-MR	11.90	5.00	1194
11:56:54	15-MR	16.90	10.00	1232
12: 1:54	15-MR	21.90	15.00	2511
12: 6:54	15-MR	26.90	20.00	3738
12:11:54	15-MR	31.90	25.00	4209
12:16:54	15-MR	36.90	30.00	3609
12:21:54	15-MR	41.90	35.00	3394
12:26:54	15-MR	46.90	40.00	3183
12:31:54	15-MR	51.90	45.00	3046
12:36:54	15-MR	56.90	50.00	2154
12:41:54	15-MR	61.90	55.00	2142
12:46:54	15-MR	66.90	60.00	2139
12:51:54	15-MR	71.90	65.00	2138
12:56:54	15-MR	76.90	70.00	2137
13: 1:54	15-MR	81.90	75.00	2137
13: 6:54	15-MR	86.90	80.00	2137
13:11:54	15-MR	91.90	85.00	2137
13:16:54	15-MR	96.90	90.00	2136
13:21:54	15-MR	101.90	95.00	2186
13:26:54	15-MR	106.90	100.00	2122
13:31:54	15-MR	111.90	105.00	2122
13:36:54	15-MR	116.90	110.00	2122
13:41:54	15-MR	121.90	115.00	2185
13:46:54	15-MR	126.90	120.00	1647
13:51:54	15-MR	131.90	125.00	1434
13:56:54	15-MR	136.90	130.00	1394
14: 1:54	15-MR	141.90	135.00	1088
14: 6:54	15-MR	146.90	140.00	1175
14:11:54	15-MR	151.90	145.00	1334
14:16:54	15-MR	156.90	150.00	954
14:21:54	15-MR	161.90	155.00	949
14:26:54	15-MR	166.90	160.00	1132
14:31:54	15-MR	171.90	165.00	773
14:36:54	15-MR	176.90	170.00	904
14:41:54	15-MR	181.90	175.00	1063
14:46:54	15-MR	186.90	180.00	711
14:51:54	15-MR	191.90	185.00	799
14:56:54	15-MR	196.90	190.00	931
15: 1:54	15-MR	201.90	195.00	683
15: 6:54	15-MR	206.90	200.00	734
15:11:54	15-MR	211.90	205.00	784
15:16:54	15-MR	216.90	210.00	840
15:21:54	15-MR	221.90	215.00	883
15:26:54	15-MR	226.90	220.00	918
15:31:54	15-MR	231.90	225.00	926
15:36:54	15-MR	236.90	230.00	946
15:41:54	15-MR	241.90	235.00	974
15:46:54	15-MR	246.90	240.00	1001

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
15:51:54	15-MR	251.90	245.00	1025
15:56:54	15-MR	256.90	250.00	1051
16: 1:54	15-MR	261.90	255.00	1073
16: 6:54	15-MR	266.90	260.00	1090
16:11:54	15-MR	271.90	265.00	1106
16:16:54	15-MR	276.90	270.00	1124
16:21:54	15-MR	281.90	275.00	1141
16:26:54	15-MR	286.90	280.00	1157
16:31:54	15-MR	291.90	285.00	1172
16:36:54	15-MR	296.90	290.00	1187
16:41:54	15-MR	301.90	295.00	1199
16:46:54	15-MR	306.90	300.00	1211
16:51:54	15-MR	311.90	305.00	1224
16:56:54	15-MR	316.90	310.00	1235
17: 1:54	15-MR	321.90	315.00	1246
17: 6:54	15-MR	326.90	320.00	1256
17:11:54	15-MR	331.90	325.00	1266
17:16:54	15-MR	336.90	330.00	1277
17:21:54	15-MR	341.90	335.00	1286
17:26:54	15-MR	346.90	340.00	1296
17:31:54	15-MR	351.90	345.00	1304
17:36:54	15-MR	356.90	350.00	1313
17:41:54	15-MR	361.90	355.00	1320
17:46:54	15-MR	366.90	360.00	1328
17:51:54	15-MR	371.90	365.00	1336
17:56:54	15-MR	376.90	370.00	1345
18: 1:54	15-MR	381.90	375.00	1351
18: 5:31	15-MR	385.51	378.61	1353

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 1353

PRODUCING TIME [MIN] = 2156.60

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
18: 5:31	15-MR	385.51	0.00	1353	0	
18: 6:31	15-MR	386.51	1.00	1364	10	3.334
18: 7:31	15-MR	387.51	2.00	1364	10	3.033
18: 8:31	15-MR	388.51	3.00	1365	12	2.857
18: 9:31	15-MR	389.51	4.00	1369	15	2.733
18:10:31	15-MR	390.51	5.00	1372	19	2.636
18:11:31	15-MR	391.51	6.00	1375	21	2.557
18:12:31	15-MR	392.51	7.00	1377	24	2.490
18:13:31	15-MR	393.51	8.00	1380	26	2.432
18:14:31	15-MR	394.51	9.00	1382	29	2.381

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 1353

PRODUCING TIME [MIN] = 2156.60

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
*****	*****	*****	*****	*****	*****	*****
18:15:31	15-MR	395.51	10.00	1384	31	2.336
18:17:31	15-MR	397.51	12.00	1388	35	2.257
18:19:31	15-MR	399.51	14.00	1393	39	2.190
18:21:31	15-MR	401.51	16.00	1396	43	2.133
18:23:31	15-MR	403.51	18.00	1399	46	2.082
18:25:31	15-MR	405.51	20.00	1403	49	2.037
18:27:31	15-MR	407.51	22.00	1407	53	1.996
18:29:31	15-MR	409.51	24.00	1410	56	1.958
18:31:31	15-MR	411.51	26.00	1413	60	1.924
18:33:31	15-MR	413.51	28.00	1416	63	1.892
18:35:31	15-MR	415.51	30.00	1420	66	1.863
18:40:31	15-MR	420.51	35.00	1425	71	1.797
18:45:31	15-MR	425.51	40.00	1431	78	1.740
18:50:31	15-MR	430.51	45.00	1437	84	1.690
18:55:31	15-MR	435.51	50.00	1443	90	1.645
19: 0:31	15-MR	440.51	55.00	1449	96	1.604
19: 5:31	15-MR	445.51	60.00	1454	100	1.568
19:10:31	15-MR	450.51	65.00	1459	105	1.534
19:15:31	15-MR	455.51	70.00	1465	111	1.503
19:20:31	15-MR	460.51	75.00	1469	116	1.474
19:25:31	15-MR	465.51	80.00	1474	120	1.446
19:30:31	15-MR	470.51	85.00	1478	125	1.421
19:35:31	15-MR	475.51	90.00	1482	128	1.397
19:40:31	15-MR	480.51	95.00	1486	132	1.375
19:45:31	15-MR	485.51	100.00	1489	136	1.353
19:50:31	15-MR	490.51	105.00	1494	141	1.333
19:55:31	15-MR	495.51	110.00	1498	144	1.314
20: 0:31	15-MR	500.51	115.00	1503	150	1.296
20: 5:31	15-MR	505.51	120.00	1508	154	1.278
20:10:31	15-MR	510.51	125.00	1512	159	1.261
20:15:31	15-MR	515.51	130.00	1517	163	1.245
20:20:31	15-MR	520.51	135.00	1520	167	1.230
20:25:31	15-MR	525.51	140.00	1525	171	1.215
20:30:31	15-MR	530.51	145.00	1528	174	1.201
20:35:31	15-MR	535.51	150.00	1531	178	1.187
20:40:31	15-MR	540.51	155.00	1535	182	1.174
20:45:31	15-MR	545.51	160.00	1538	185	1.161
20:50:31	15-MR	550.51	165.00	1542	189	1.148
20:55:31	15-MR	555.51	170.00	1545	192	1.136
21: 0:31	15-MR	560.51	175.00	1550	196	1.125
21: 5:31	15-MR	565.51	180.00	1552	198	1.113
21:10:31	15-MR	570.51	185.00	1553	200	1.102
21:15:31	15-MR	575.51	190.00	1556	202	1.092
21:20:31	15-MR	580.51	195.00	1558	204	1.081
21:25:31	15-MR	585.51	200.00	1560	206	1.071
21:30:31	15-MR	590.51	205.00	1562	209	1.061
21:35:31	15-MR	595.51	210.00	1564	210	1.052
21:40:31	15-MR	600.51	215.00	1567	214	1.043

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 1353

PRODUCING TIME [MIN] = 2156.60

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNERS TIME
*****	*****	*****	*****	*****	*****	*****
21:45:31	15-MR	605.51	220.00	1569	215	1.034
21:50:31	15-MR	610.51	225.00	1571	217	1.025
21:55:31	15-MR	615.51	230.00	1572	218	1.016
22: 0:31	15-MR	620.51	235.00	1574	221	1.008
22: 5:31	15-MR	625.51	240.00	1577	223	0.999
22:10:31	15-MR	630.51	245.00	1579	226	0.991
22:15:31	15-MR	635.51	250.00	1581	228	0.983
22:20:31	15-MR	640.51	255.00	1582	229	0.976
22:25:31	15-MR	645.51	260.00	1583	230	0.968
22:30:31	15-MR	650.51	265.00	1586	232	0.961
22:35:31	15-MR	655.51	270.00	1587	234	0.954
22:40:31	15-MR	660.51	275.00	1590	236	0.947
22:45:31	15-MR	665.51	280.00	1591	237	0.940
22:50:31	15-MR	670.51	285.00	1593	239	0.933
22:55:31	15-MR	675.51	290.00	1594	240	0.926
23: 0:31	15-MR	680.51	295.00	1595	241	0.920
23: 5:31	15-MR	685.51	300.00	1596	243	0.913
23:10:31	15-MR	690.51	305.00	1598	245	0.907
23:15:31	15-MR	695.51	310.00	1600	246	0.901
23:20:31	15-MR	700.51	315.00	1602	249	0.895
23:25:31	15-MR	705.51	320.00	1604	250	0.889
23:30:31	15-MR	710.51	325.00	1605	251	0.883
23:35:31	15-MR	715.51	330.00	1606	253	0.877
23:40:31	15-MR	720.51	335.00	1607	254	0.871
23:45:31	15-MR	725.51	340.00	1610	256	0.866
23:50:31	15-MR	730.51	345.00	1611	258	0.860
23:55:31	15-MR	735.51	350.00	1613	260	0.855
0: 0:31	16-MR	740.51	355.00	1615	261	0.850
0: 5:31	16-MR	745.51	360.00	1616	263	0.845
0:10:31	16-MR	750.51	365.00	1618	264	0.839
0:15:31	16-MR	755.51	370.00	1620	267	0.834
0:20:31	16-MR	760.51	375.00	1623	269	0.829
0:25:31	16-MR	765.51	380.00	1626	272	0.824
0:30:31	16-MR	770.51	385.00	1629	276	0.820
0:35:31	16-MR	775.51	390.00	1632	279	0.815
0:40:31	16-MR	780.51	395.00	1635	281	0.810
0:45:31	16-MR	785.51	400.00	1636	282	0.806
0:50:31	16-MR	790.51	405.00	1637	284	0.801
0:55:31	16-MR	795.51	410.00	1639	286	0.797
1: 0:31	16-MR	800.51	415.00	1642	288	0.792
1: 5:31	16-MR	805.51	420.00	1645	291	0.788
1:10:31	16-MR	810.51	425.00	1646	293	0.784
1:15:31	16-MR	815.51	430.00	1648	294	0.779
1:20:31	16-MR	820.51	435.00	1650	297	0.775
1:25:31	16-MR	825.51	440.00	1652	298	0.771
1:30:31	16-MR	830.51	445.00	1652	299	0.767
1:35:31	16-MR	835.51	450.00	1654	301	0.763
1:40:31	16-MR	840.51	455.00	1655	302	0.759

TEST PHASE : SHUTIN PERIOD # 1
 FINAL FLOW PRESSURE [PSIA] = 1353
 PRODUCING TIME [MIN] = 2156.60

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
1:45:31	16-MR	845.51	460.00	1656	303	0.755
1:50:31	16-MR	850.51	465.00	1658	304	0.751
1:55:31	16-MR	855.51	470.00	1659	306	0.747
2: 0:31	16-MR	860.51	475.00	1660	306	0.744
2: 5:31	16-MR	865.51	480.00	1661	307	0.740
2:10:31	16-MR	870.51	485.00	1662	309	0.736
2:15:31	16-MR	875.51	490.00	1663	310	0.732
2:20:31	16-MR	880.51	495.00	1664	310	0.729
2:25:31	16-MR	885.51	500.00	1665	311	0.725
2:30:31	16-MR	890.51	505.00	1665	312	0.722
2:35:31	16-MR	895.51	510.00	1667	314	0.718
2:40:31	16-MR	900.51	515.00	1668	314	0.715
2:45:31	16-MR	905.51	520.00	1669	315	0.712
2:50:31	16-MR	910.51	525.00	1670	317	0.708
2:55:31	16-MR	915.51	530.00	1671	318	0.705
3: 0:31	16-MR	920.51	535.00	1672	319	0.702
3: 5:31	16-MR	925.51	540.00	1673	319	0.698
3:10:31	16-MR	930.51	545.00	1674	321	0.695
3:15:31	16-MR	935.51	550.00	1675	322	0.692
3:20:31	16-MR	940.51	555.00	1676	323	0.689
3:25:31	16-MR	945.51	560.00	1676	323	0.686
3:30:31	16-MR	950.51	565.00	1677	324	0.683
3:35:31	16-MR	955.51	570.00	1679	325	0.680
3:40:31	16-MR	960.51	575.00	1679	326	0.677
3:45:31	16-MR	965.51	580.00	1680	327	0.674
3:50:31	16-MR	970.51	585.00	1681	327	0.671
3:55:31	16-MR	975.51	590.00	1682	328	0.668
4: 0:31	16-MR	980.51	595.00	1683	330	0.665
4: 5:31	16-MR	985.51	600.00	1684	331	0.662
4:10:31	16-MR	990.51	605.00	1685	332	0.659
4:15:31	16-MR	995.51	610.00	1686	333	0.657
4:20:31	16-MR	1000.51	615.00	1687	334	0.654
4:25:31	16-MR	1005.51	620.00	1688	335	0.651
4:30:31	16-MR	1010.51	625.00	1689	336	0.648
4:35:31	16-MR	1015.51	630.00	1690	337	0.646
4:40:31	16-MR	1020.51	635.00	1692	338	0.643
4:45:31	16-MR	1025.51	640.00	1694	340	0.640
4:50:31	16-MR	1030.51	645.00	1696	343	0.638
4:55:31	16-MR	1035.51	650.00	1699	346	0.635
5: 0:31	16-MR	1040.51	655.00	1702	349	0.633
5: 5:31	16-MR	1045.51	660.00	1704	350	0.630
5:10:31	16-MR	1050.51	665.00	1705	352	0.628
5:15:31	16-MR	1055.51	670.00	1706	353	0.625
5:20:31	16-MR	1060.51	675.00	1708	355	0.623
5:25:31	16-MR	1065.51	680.00	1711	357	0.620
5:30:31	16-MR	1070.51	685.00	1712	359	0.618
5:35:31	16-MR	1075.51	690.00	1714	360	0.615
5:40:31	16-MR	1080.51	695.00	1715	362	0.613

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 1353

PRODUCING TIME [MIN] = 2156.60

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
5:45:31	16-MR	1085.51	700.00	1717	364	0.611
5:50:31	16-MR	1090.51	705.00	1718	365	0.608
5:55:31	16-MR	1095.51	710.00	1718	365	0.606
6: 0:31	16-MR	1100.51	715.00	1719	365	0.604
6: 5:31	16-MR	1105.51	720.00	1720	366	0.602
6:10:31	16-MR	1110.51	725.00	1721	368	0.599
6:15:31	16-MR	1115.51	730.00	1721	368	0.597
6:20:31	16-MR	1120.51	735.00	1722	369	0.595
6:25:31	16-MR	1125.51	740.00	1722	369	0.593
6:30:31	16-MR	1130.51	745.00	1723	370	0.590
6:35:31	16-MR	1135.51	750.00	1725	372	0.588
6:40:31	16-MR	1140.51	755.00	1727	374	0.586
6:45:31	16-MR	1145.51	760.00	1727	374	0.584
6:50:31	16-MR	1150.51	765.00	1728	375	0.582
6:55:31	16-MR	1155.51	770.00	1729	375	0.580
7: 0:31	16-MR	1160.51	775.00	1730	376	0.578
7: 5:31	16-MR	1165.51	780.00	1731	378	0.576
7:10:31	16-MR	1170.51	785.00	1732	379	0.574
7:15:31	16-MR	1175.51	790.00	1734	380	0.572
7:20:31	16-MR	1180.51	795.00	1734	380	0.570
7:25:31	16-MR	1185.51	800.00	1735	381	0.568
7:30:31	16-MR	1190.51	805.00	1735	381	0.566
7:35:31	16-MR	1195.51	810.00	1736	382	0.564
7:40:31	16-MR	1200.51	815.00	1737	383	0.562
7:45:31	16-MR	1205.51	820.00	1737	383	0.560
7:50:31	16-MR	1210.51	825.00	1738	384	0.558
7:55:31	16-MR	1215.51	830.00	1739	385	0.556
8: 0:31	16-MR	1220.51	835.00	1739	386	0.554
8: 5:31	16-MR	1225.51	840.00	1740	386	0.552
8:10:31	16-MR	1230.51	845.00	1741	387	0.550
8:15:31	16-MR	1235.51	850.00	1742	389	0.549
8:20:31	16-MR	1240.51	855.00	1743	389	0.547
8:25:31	16-MR	1245.51	860.00	1744	391	0.545
8:30:31	16-MR	1250.51	865.00	1746	392	0.543
8:35:31	16-MR	1255.51	870.00	1747	393	0.541
8:40:31	16-MR	1260.51	875.00	1748	394	0.540
8:45:31	16-MR	1265.51	880.00	1748	394	0.538
8:50:31	16-MR	1270.51	885.00	1749	396	0.536
8:55:31	16-MR	1275.51	890.00	1751	397	0.534
9: 0:31	16-MR	1280.51	895.00	1752	399	0.533
9: 5:31	16-MR	1285.51	900.00	1754	400	0.531
9:10:31	16-MR	1290.51	905.00	1756	403	0.529
9:15:31	16-MR	1295.51	910.00	1759	405	0.528
9:20:31	16-MR	1300.51	915.00	1761	408	0.526
9:25:31	16-MR	1305.51	920.00	1763	409	0.524
9:30:31	16-MR	1310.51	925.00	1764	410	0.523
9:35:31	16-MR	1315.51	930.00	1765	412	0.521
9:40:31	16-MR	1320.51	935.00	1767	413	0.519

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 1353

PRODUCING TIME [MIN] = 2156.60

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
*****	*****	*****	*****	*****	*****	*****
9:45:31	16-MR	1325.51	940.00	1769	416	0.518
9:50:31	16-MR	1330.51	945.00	1772	418	0.516
9:55:31	16-MR	1335.51	950.00	1773	420	0.515
10: 0:31	16-MR	1340.51	955.00	1774	421	0.513
10: 5:31	16-MR	1345.51	960.00	1776	422	0.511
10:10:31	16-MR	1350.51	965.00	1778	424	0.510
10:15:31	16-MR	1355.51	970.00	1779	425	0.508
10:20:31	16-MR	1360.51	975.00	1779	425	0.507
10:25:31	16-MR	1365.51	980.00	1780	426	0.505
10:30:31	16-MR	1370.51	985.00	1781	428	0.504
10:35:31	16-MR	1375.51	990.00	1782	429	0.502
10:40:31	16-MR	1380.51	995.00	1783	430	0.501
10:45:31	16-MR	1385.51	1000.00	1783	430	0.499
10:50:31	16-MR	1390.51	1005.00	1784	431	0.498
10:55:31	16-MR	1395.51	1010.00	1785	432	0.496
11: 0:31	16-MR	1400.51	1015.00	1796	443	0.495
11: 5:31	16-MR	1405.51	1020.00	1797	443	0.493
11:10:31	16-MR	1410.51	1025.00	1797	444	0.492
11:15:31	16-MR	1415.51	1030.00	1797	444	0.490
11:20:31	16-MR	1420.51	1035.00	1797	444	0.489
11:25:31	16-MR	1425.51	1040.00	1797	444	0.488
11:30:31	16-MR	1430.51	1045.00	1797	444	0.486
11:33: 0	16-MR	1433.00	1047.49	1797	444	0.486

BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 36781E

COMPANY : NOVA PETROLEUM CO.

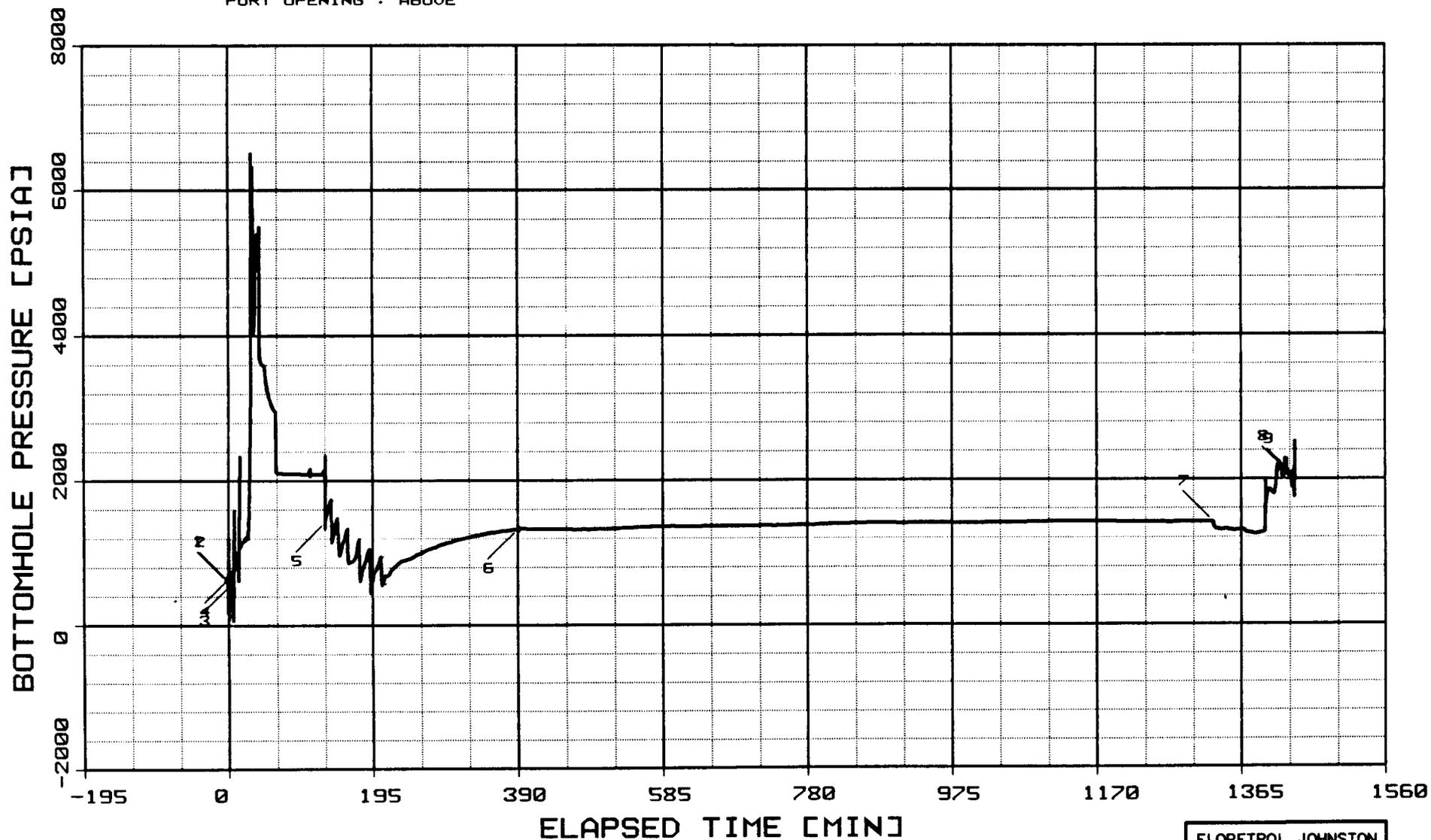
INSTRUMENT NO. J-045

WELL : NGC FEDERAL 31-20-6

DEPTH : 4697 FT

CAPACITY : 9000 PSI

PORT OPENING : ABOVE



FLOPETROL JOHNSTON

 * WELL TEST DATA PRINTOUT *

FIELD REPORT # : 36781E

INSTRUMENT # : J-045
 CAPACITY [PSI] : 9000.
 DEPTH [FT] : 4697.0
 PORT OPENING : ABOVE
 TEMPERATURE [DEG F]. : 144.0

COMPANY : NOVA PETROLEUM CO.
 WELL : NGC FEDERAL 31-20-6

LABEL POINT INFORMATION

#	TIME OF DAY DATE		EXPLANATION	ELAPSED TIME, MIN	BOT HOLE PRESSURE PSIA
	HH:MM:SS	DD-MM			
1	11:37:32	15	MR HYDROSTATIC MUD	-2.47	607
2	11:40: 0	15	MR CYCLED TOOL	0.00	602
3	11:46:42	15	MR FIRED GUNS	6.70	604
4	11:47:17	15	MR START FLOW	7.29	727
5	13:50:55	15	MR SWABBING	130.92	1431
6	18:10:40	15	MR END FLOW & START SHUT-IN	390.66	1322
7	9:46:40	16	MR STARTED REVERSING	1326.66	1410
8	11:33: 0	16	MR END SHUT-IN	1433.00	2029
9	11:39:44	16	MR HYDROSTATIC MUD	1439.74	1993

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	7.29	390.66	383.37	727	1322

SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	390.66	1433.00	1042.34	1322	2029	1322	383.37

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
11:47:17	15-MR	7.29	0.00	727
11:52:17	15-MR	12.29	5.00	1000
11:57:17	15-MR	17.29	10.00	1115
12: 2:17	15-MR	22.29	15.00	1162
12: 7:17	15-MR	27.29	20.00	1319
12:12:17	15-MR	32.29	25.00	5961
12:17:17	15-MR	37.29	30.00	5095
12:22:17	15-MR	42.29	35.00	5474
12:27:17	15-MR	47.29	40.00	3591
12:32:17	15-MR	52.29	45.00	3285
12:37:17	15-MR	57.29	50.00	3072
12:42:17	15-MR	62.29	55.00	2961
12:47:17	15-MR	67.29	60.00	2096
12:52:17	15-MR	72.29	65.00	2094
12:57:17	15-MR	77.29	70.00	2092
13: 2:17	15-MR	82.29	75.00	2091
13: 7:17	15-MR	87.29	80.00	2089
13:12:17	15-MR	92.29	85.00	2088
13:17:17	15-MR	97.29	90.00	2086
13:22:17	15-MR	102.29	95.00	2085
13:27:17	15-MR	107.29	100.00	2085
13:32:17	15-MR	112.29	105.00	2084
13:37:17	15-MR	117.29	110.00	2083
13:42:17	15-MR	122.29	115.00	2083
13:47:17	15-MR	127.29	120.00	2087
13:52:17	15-MR	132.29	125.00	1496
13:57:17	15-MR	137.29	130.00	1689
14: 2:17	15-MR	142.29	135.00	1237
14: 7:17	15-MR	147.29	140.00	1468
14:12:17	15-MR	152.29	145.00	1034
14:17:17	15-MR	157.29	150.00	1194
14:22:17	15-MR	162.29	155.00	887
14:27:17	15-MR	167.29	160.00	876
14:32:17	15-MR	172.29	165.00	954
14:37:17	15-MR	177.29	170.00	842
14:42:17	15-MR	182.29	175.00	804
14:47:17	15-MR	187.29	180.00	947
14:52:17	15-MR	192.29	185.00	506
14:57:17	15-MR	197.29	190.00	730
15: 2:17	15-MR	202.29	195.00	812
15: 7:17	15-MR	207.29	200.00	635
15:12:17	15-MR	212.29	205.00	682
15:17:17	15-MR	217.29	210.00	702
15:22:17	15-MR	222.29	215.00	783
15:27:17	15-MR	227.29	220.00	828
15:32:17	15-MR	232.29	225.00	873
15:37:17	15-MR	237.29	230.00	889
15:42:17	15-MR	242.29	235.00	902
15:47:17	15-MR	247.29	240.00	927

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
15:52:17	15-MR	252.29	245.00	955
15:57:17	15-MR	257.29	250.00	982
16: 2:17	15-MR	262.29	255.00	1004
16: 7:17	15-MR	267.29	260.00	1029
16:12:17	15-MR	272.29	265.00	1049
16:17:17	15-MR	277.29	270.00	1070
16:22:17	15-MR	282.29	275.00	1087
16:27:17	15-MR	287.29	280.00	1104
16:32:17	15-MR	292.29	285.00	1120
16:37:17	15-MR	297.29	290.00	1136
16:42:17	15-MR	302.29	295.00	1150
16:47:17	15-MR	307.29	300.00	1166
16:52:17	15-MR	312.29	305.00	1180
16:57:17	15-MR	317.29	310.00	1193
17: 2:17	15-MR	322.29	315.00	1206
17: 7:17	15-MR	327.29	320.00	1217
17:12:17	15-MR	332.29	325.00	1229
17:17:17	15-MR	337.29	330.00	1238
17:22:17	15-MR	342.29	335.00	1249
17:27:17	15-MR	347.29	340.00	1258
17:32:17	15-MR	352.29	345.00	1267
17:37:17	15-MR	357.29	350.00	1275
17:42:17	15-MR	362.29	355.00	1282
17:47:17	15-MR	367.29	360.00	1289
17:52:17	15-MR	372.29	365.00	1298
17:57:17	15-MR	377.29	370.00	1304
18: 2:17	15-MR	382.29	375.00	1312
18: 7:17	15-MR	387.29	380.00	1318
18:10:40	15-MR	390.66	383.37	1322

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 1322

PRODUCING TIME [MIN] = 383.37

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNERS TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
18:10:40	15-MR	390.66	0.00	1322	0	
18:11:40	15-MR	391.66	1.00	1330	7	2.585
18:12:40	15-MR	392.66	2.00	1327	5	2.285
18:13:40	15-MR	393.66	3.00	1327	5	2.110
18:14:40	15-MR	394.66	4.00	1327	5	1.986
18:15:40	15-MR	395.66	5.00	1327	5	1.890
18:16:40	15-MR	396.66	6.00	1327	5	1.812
18:17:40	15-MR	397.66	7.00	1327	5	1.746
18:18:40	15-MR	398.66	8.00	1327	5	1.689

TEST PHASE : SHUTIN PERIOD # 1
 FINAL FLOW PRESSURE [PSIA] = 1322
 PRODUCING TIME [MIN] = 383.37

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
*****	*****	*****	*****	*****	*****	*****
18:19:40	15-MR	399.66	9.00	1327	5	1.639
18:20:40	15-MR	400.66	10.00	1327	5	1.595
18:22:40	15-MR	402.66	12.00	1326	4	1.518
18:24:40	15-MR	404.66	14.00	1326	3	1.453
18:26:40	15-MR	406.66	16.00	1325	2	1.397
18:28:40	15-MR	408.66	18.00	1324	2	1.348
18:30:40	15-MR	410.66	20.00	1325	3	1.305
18:32:40	15-MR	412.66	22.00	1326	4	1.265
18:34:40	15-MR	414.66	24.00	1325	3	1.230
18:36:40	15-MR	416.66	26.00	1325	3	1.197
18:38:40	15-MR	418.66	28.00	1325	3	1.167
18:40:40	15-MR	420.66	30.00	1325	3	1.139
18:45:40	15-MR	425.66	35.00	1323	1	1.077
18:50:40	15-MR	430.66	40.00	1323	1	1.025
18:55:40	15-MR	435.66	45.00	1322	0	0.979
19: 0:40	15-MR	440.66	50.00	1322	0	0.938
19: 5:40	15-MR	445.66	55.00	1322	0	0.901
19:10:40	15-MR	450.66	60.00	1322	0	0.869
19:15:40	15-MR	455.66	65.00	1322	0	0.839
19:20:40	15-MR	460.66	70.00	1322	-1	0.811
19:25:40	15-MR	465.66	75.00	1321	-2	0.786
19:30:40	15-MR	470.66	80.00	1320	-2	0.763
19:35:40	15-MR	475.66	85.00	1320	-2	0.741
19:40:40	15-MR	480.66	90.00	1321	-1	0.721
19:45:40	15-MR	485.66	95.00	1320	-2	0.702
19:50:40	15-MR	490.66	100.00	1321	-1	0.684
19:55:40	15-MR	495.66	105.00	1321	-1	0.668
20: 0:40	15-MR	500.66	110.00	1321	-1	0.652
20: 5:40	15-MR	505.66	115.00	1321	-1	0.637
20:10:40	15-MR	510.66	120.00	1324	1	0.623
20:15:40	15-MR	515.66	125.00	1326	4	0.609
20:20:40	15-MR	520.66	130.00	1328	6	0.596
20:25:40	15-MR	525.66	135.00	1331	9	0.584
20:30:40	15-MR	530.66	140.00	1333	11	0.573
20:35:40	15-MR	535.66	145.00	1336	14	0.562
20:40:40	15-MR	540.66	150.00	1339	16	0.551
20:45:40	15-MR	545.66	155.00	1342	20	0.541
20:50:40	15-MR	550.66	160.00	1345	23	0.531
20:55:40	15-MR	555.66	165.00	1347	25	0.522
21: 0:40	15-MR	560.66	170.00	1348	26	0.513
21: 5:40	15-MR	565.66	175.00	1349	27	0.504
21:10:40	15-MR	570.66	180.00	1351	29	0.496
21:15:40	15-MR	575.66	185.00	1354	31	0.487
21:20:40	15-MR	580.66	190.00	1356	33	0.480
21:25:40	15-MR	585.66	195.00	1357	35	0.472
21:30:40	15-MR	590.66	200.00	1358	36	0.465
21:35:40	15-MR	595.66	205.00	1360	37	0.458
21:40:40	15-MR	600.66	210.00	1360	38	0.451

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 1322

PRODUCING TIME [MIN] = 383.37

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
*****	*****	*****	*****	*****	*****	*****
21:45:40	15-MR	605.66	215.00	1359	36	0.445
21:50:40	15-MR	610.66	220.00	1359	36	0.438
21:55:40	15-MR	615.66	225.00	1359	36	0.432
22: 0:40	15-MR	620.66	230.00	1359	36	0.426
22: 5:40	15-MR	625.66	235.00	1359	36	0.420
22:10:40	15-MR	630.66	240.00	1359	36	0.415
22:15:40	15-MR	635.66	245.00	1359	37	0.409
22:20:40	15-MR	640.66	250.00	1360	37	0.404
22:25:40	15-MR	645.66	255.00	1360	38	0.399
22:30:40	15-MR	650.66	260.00	1361	38	0.393
22:35:40	15-MR	655.66	265.00	1361	38	0.389
22:40:40	15-MR	660.66	270.00	1362	39	0.384
22:45:40	15-MR	665.66	275.00	1362	40	0.379
22:50:40	15-MR	670.66	280.00	1362	40	0.375
22:55:40	15-MR	675.66	285.00	1362	40	0.370
23: 0:40	15-MR	680.66	290.00	1363	41	0.366
23: 5:40	15-MR	685.66	295.00	1364	41	0.362
23:10:40	15-MR	690.66	300.00	1365	42	0.358
23:15:40	15-MR	695.66	305.00	1365	42	0.354
23:20:40	15-MR	700.66	310.00	1365	42	0.350
23:25:40	15-MR	705.66	315.00	1365	42	0.346
23:30:40	15-MR	710.66	320.00	1365	42	0.342
23:35:40	15-MR	715.66	325.00	1365	43	0.338
23:40:40	15-MR	720.66	330.00	1367	44	0.335
23:45:40	15-MR	725.66	335.00	1367	44	0.331
23:50:40	15-MR	730.66	340.00	1366	44	0.328
23:55:40	15-MR	735.66	345.00	1366	44	0.325
0: 0:40	16-MR	740.66	350.00	1366	44	0.321
0: 5:40	16-MR	745.66	355.00	1368	46	0.318
0:10:40	16-MR	750.66	360.00	1369	47	0.315
0:15:40	16-MR	755.66	365.00	1371	49	0.312
0:20:40	16-MR	760.66	370.00	1372	50	0.309
0:25:40	16-MR	765.66	375.00	1372	50	0.306
0:30:40	16-MR	770.66	380.00	1373	51	0.303
0:35:40	16-MR	775.66	385.00	1374	51	0.300
0:40:40	16-MR	780.66	390.00	1375	53	0.297
0:45:40	16-MR	785.66	395.00	1377	54	0.295
0:50:40	16-MR	790.66	400.00	1379	56	0.292
0:55:40	16-MR	795.66	405.00	1381	58	0.289
1: 0:40	16-MR	800.66	410.00	1383	60	0.287
1: 5:40	16-MR	805.66	415.00	1385	63	0.284
1:10:40	16-MR	810.66	420.00	1387	65	0.282
1:15:40	16-MR	815.66	425.00	1388	65	0.279
1:20:40	16-MR	820.66	430.00	1388	66	0.277
1:25:40	16-MR	825.66	435.00	1389	66	0.274
1:30:40	16-MR	830.66	440.00	1389	67	0.272
1:35:40	16-MR	835.66	445.00	1392	69	0.270
1:40:40	16-MR	840.66	450.00	1394	72	0.268

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 1322

PRODUCING TIME [MIN] = 383.37

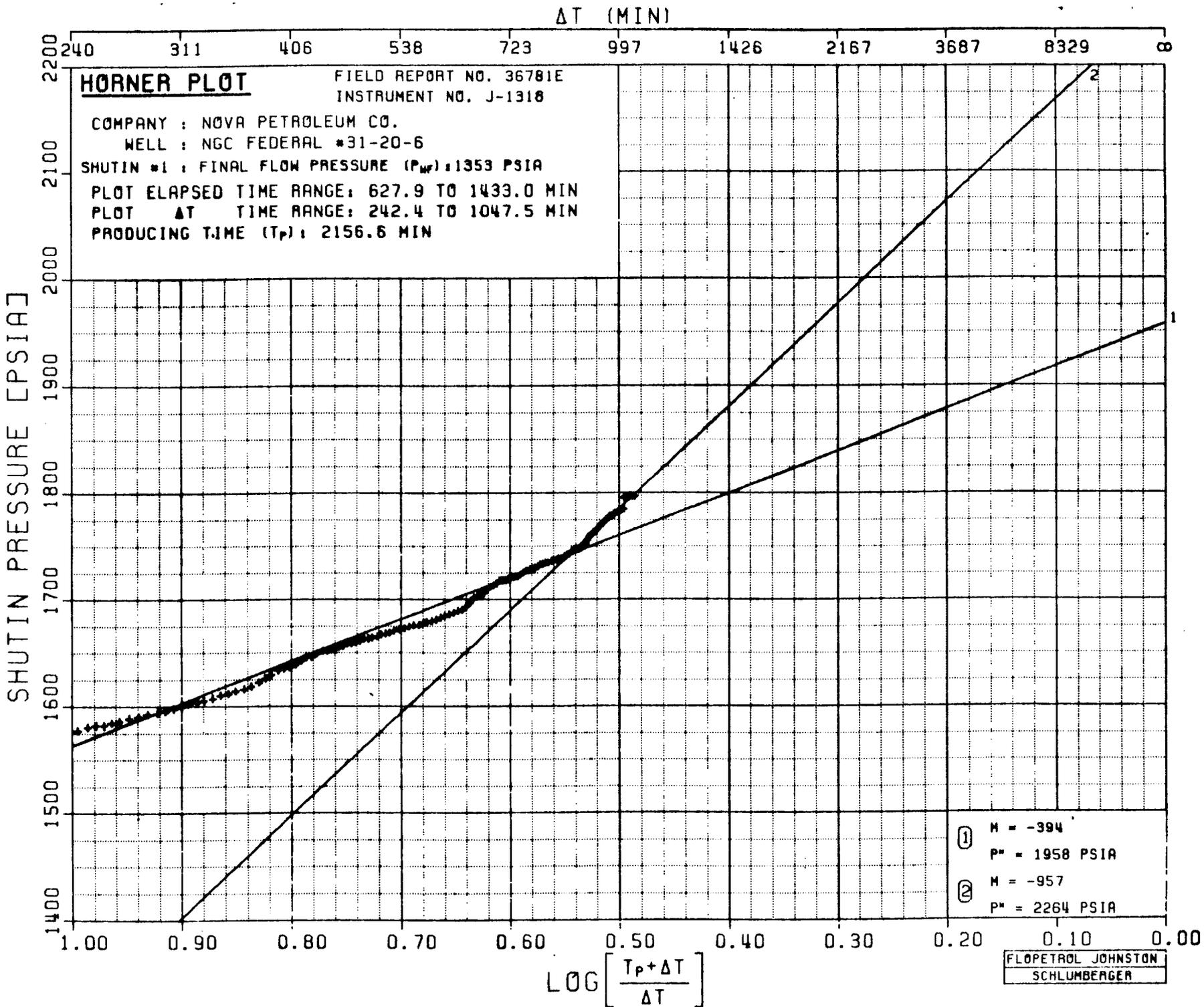
TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNERS TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
1:45:40	16-MR	845.66	455.00	1396	74	0.265
1:50:40	16-MR	850.66	460.00	1397	75	0.263
1:55:40	16-MR	855.66	465.00	1399	76	0.261
2: 0:40	16-MR	860.66	470.00	1400	78	0.259
2: 5:40	16-MR	865.66	475.00	1402	79	0.257
2:10:40	16-MR	870.66	480.00	1402	79	0.255
2:15:40	16-MR	875.66	485.00	1402	79	0.253
2:20:40	16-MR	880.66	490.00	1402	79	0.251
2:25:40	16-MR	885.66	495.00	1402	79	0.249
2:30:40	16-MR	890.66	500.00	1401	79	0.247
2:35:40	16-MR	895.66	505.00	1400	78	0.245
2:40:40	16-MR	900.66	510.00	1400	78	0.243
2:45:40	16-MR	905.66	515.00	1399	77	0.242
2:50:40	16-MR	910.66	520.00	1399	77	0.240
2:55:40	16-MR	915.66	525.00	1400	78	0.238
3: 0:40	16-MR	920.66	530.00	1401	79	0.236
3: 5:40	16-MR	925.66	535.00	1402	79	0.235
3:10:40	16-MR	930.66	540.00	1402	79	0.233
3:15:40	16-MR	935.66	545.00	1402	79	0.231
3:20:40	16-MR	940.66	550.00	1402	79	0.230
3:25:40	16-MR	945.66	555.00	1402	79	0.228
3:30:40	16-MR	950.66	560.00	1402	79	0.226
3:35:40	16-MR	955.66	565.00	1402	79	0.225
3:40:40	16-MR	960.66	570.00	1402	79	0.223
3:45:40	16-MR	965.66	575.00	1402	79	0.222
3:50:40	16-MR	970.66	580.00	1402	79	0.220
3:55:40	16-MR	975.66	585.00	1401	78	0.219
4: 0:40	16-MR	980.66	590.00	1399	77	0.217
4: 5:40	16-MR	985.66	595.00	1399	77	0.216
4:10:40	16-MR	990.66	600.00	1399	77	0.215
4:15:40	16-MR	995.66	605.00	1399	76	0.213
4:20:40	16-MR	1000.66	610.00	1398	76	0.212
4:25:40	16-MR	1005.66	615.00	1398	76	0.210
4:30:40	16-MR	1010.66	620.00	1398	76	0.209
4:35:40	16-MR	1015.66	625.00	1399	77	0.208
4:40:40	16-MR	1020.66	630.00	1400	78	0.206
4:45:40	16-MR	1025.66	635.00	1401	79	0.205
4:50:40	16-MR	1030.66	640.00	1401	79	0.204
4:55:40	16-MR	1035.66	645.00	1401	79	0.203
5: 0:40	16-MR	1040.66	650.00	1400	78	0.201
5: 5:40	16-MR	1045.66	655.00	1400	78	0.200
5:10:40	16-MR	1050.66	660.00	1401	78	0.199
5:15:40	16-MR	1055.66	665.00	1402	80	0.198
5:20:40	16-MR	1060.66	670.00	1403	81	0.197
5:25:40	16-MR	1065.66	675.00	1404	82	0.195
5:30:40	16-MR	1070.66	680.00	1404	82	0.194
5:35:40	16-MR	1075.66	685.00	1405	83	0.193
5:40:40	16-MR	1080.66	690.00	1408	86	0.192

TEST PHASE : SHUTIN PERIOD # 1
 FINAL FLOW PRESSURE [PSIA] = 1322
 PRODUCING TIME [MIN] = 383.37

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
5:45:40	16-MR	1085.66	695.00	1409	86	0.191
5:50:40	16-MR	1090.66	700.00	1410	87	0.190
5:55:40	16-MR	1095.66	705.00	1410	88	0.189
6: 0:40	16-MR	1100.66	710.00	1410	88	0.188
6: 5:40	16-MR	1105.66	715.00	1412	90	0.186
6:10:40	16-MR	1110.66	720.00	1414	92	0.185
6:15:40	16-MR	1115.66	725.00	1416	93	0.184
6:20:40	16-MR	1120.66	730.00	1417	94	0.183
6:25:40	16-MR	1125.66	735.00	1417	95	0.182
6:30:40	16-MR	1130.66	740.00	1419	96	0.181
6:35:40	16-MR	1135.66	745.00	1420	97	0.180
6:40:40	16-MR	1140.66	750.00	1420	97	0.179
6:45:40	16-MR	1145.66	755.00	1419	97	0.178
6:50:40	16-MR	1150.66	760.00	1417	95	0.177
6:55:40	16-MR	1155.66	765.00	1416	94	0.176
7: 0:40	16-MR	1160.66	770.00	1415	92	0.175
7: 5:40	16-MR	1165.66	775.00	1413	91	0.175
7:10:40	16-MR	1170.66	780.00	1413	91	0.174
7:15:40	16-MR	1175.66	785.00	1413	91	0.173
7:20:40	16-MR	1180.66	790.00	1413	91	0.172
7:25:40	16-MR	1185.66	795.00	1413	90	0.171
7:30:40	16-MR	1190.66	800.00	1412	90	0.170
7:35:40	16-MR	1195.66	805.00	1412	90	0.169
7:40:40	16-MR	1200.66	810.00	1412	90	0.168
7:45:40	16-MR	1205.66	815.00	1412	89	0.167
7:50:40	16-MR	1210.66	820.00	1411	89	0.167
7:55:40	16-MR	1215.66	825.00	1410	88	0.166
8: 0:40	16-MR	1220.66	830.00	1410	88	0.165
8: 5:40	16-MR	1225.66	835.00	1409	87	0.164
8:10:40	16-MR	1230.66	840.00	1409	86	0.163
8:15:40	16-MR	1235.66	845.00	1408	86	0.162
8:20:40	16-MR	1240.66	850.00	1407	85	0.162
8:25:40	16-MR	1245.66	855.00	1408	85	0.161
8:30:40	16-MR	1250.66	860.00	1408	86	0.160
8:35:40	16-MR	1255.66	865.00	1408	86	0.159
8:40:40	16-MR	1260.66	870.00	1407	85	0.159
8:45:40	16-MR	1265.66	875.00	1406	84	0.158
8:50:40	16-MR	1270.66	880.00	1406	83	0.157
8:55:40	16-MR	1275.66	885.00	1406	84	0.156
9: 0:40	16-MR	1280.66	890.00	1406	84	0.156
9: 5:40	16-MR	1285.66	895.00	1407	84	0.155
9:10:40	16-MR	1290.66	900.00	1407	85	0.154
9:15:40	16-MR	1295.66	905.00	1408	85	0.153
9:20:40	16-MR	1300.66	910.00	1408	85	0.153
9:25:40	16-MR	1305.66	915.00	1408	85	0.152
9:30:40	16-MR	1310.66	920.00	1408	85	0.151
9:35:40	16-MR	1315.66	925.00	1408	85	0.151
9:40:40	16-MR	1320.66	930.00	1408	86	0.150

TEST PHASE : SHUTIN PERIOD # 1
 FINAL FLOW PRESSURE [PSIA] = 1322
 PRODUCING TIME [MIN] = 383.37

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
9:45:40	16-MR	1325.66	935.00	1410	87	0.149
9:50:40	16-MR	1330.66	940.00	1315	-7	0.149
9:55:40	16-MR	1335.66	945.00	1307	-15	0.148
10: 0:40	16-MR	1340.66	950.00	1307	-16	0.147
10: 5:40	16-MR	1345.66	955.00	1308	-14	0.147
10:10:40	16-MR	1350.66	960.00	1296	-26	0.146
10:15:40	16-MR	1355.66	965.00	1292	-30	0.145
10:20:40	16-MR	1360.66	970.00	1299	-23	0.145
10:25:40	16-MR	1365.66	975.00	1304	-18	0.144
10:30:40	16-MR	1370.66	980.00	1277	-46	0.143
10:35:40	16-MR	1375.66	985.00	1259	-63	0.143
10:40:40	16-MR	1380.66	990.00	1253	-70	0.142
10:45:40	16-MR	1385.66	995.00	1246	-76	0.142
10:50:40	16-MR	1390.66	1000.00	1256	-66	0.141
10:55:40	16-MR	1395.66	1005.00	1271	-51	0.140
11: 0:40	16-MR	1400.66	1010.00	1812	490	0.140
11: 5:40	16-MR	1405.66	1015.00	1824	502	0.139
11:10:40	16-MR	1410.66	1020.00	1864	541	0.139
11:15:40	16-MR	1415.66	1025.00	2232	910	0.138
11:20:40	16-MR	1420.66	1030.00	2021	699	0.137
11:25:40	16-MR	1425.66	1035.00	2215	893	0.137
11:30:40	16-MR	1430.66	1040.00	2032	710	0.136
11:33: 0	16-MR	1433.00	1042.34	2029	706	0.136



LOG LOG PLOT

COMPANY : NOVA PETROLEUM CO.

WELL : NGC FEDERAL #31-20-6

FIELD REPORT NO. 36781E

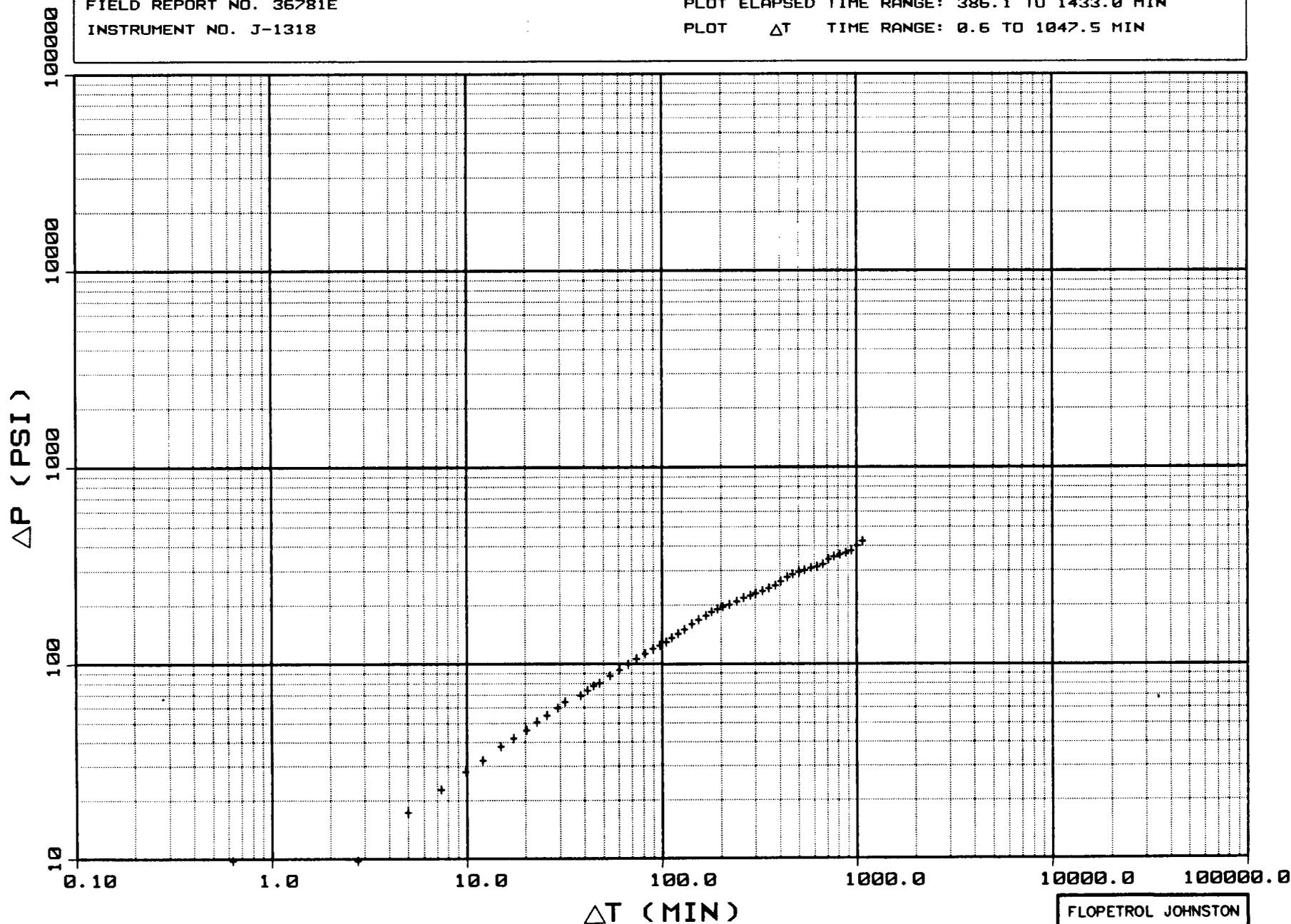
INSTRUMENT NO. J-1318

SHUTIN #1 :

FINAL FLOW PRESSURE (PWF): 1353 PSIA

PLOT ELAPSED TIME RANGE: 386.1 TO 1433.0 MIN

PLOT ΔT TIME RANGE: 0.6 TO 1047.5 MIN



U-52018

FLOPETROL JOHNSTON

Schlumberger

WELL PERFORMANCE TEST REPORT

A Production Systems Analysis (NODAL)
Based On
Drillstem Test Data

Test Date
03-06-85

Report No.:
43027 E

COMPANY

NOVA PETRO. CORP.

WELL

NGC FED 31-20-G

TEST IDENTIFICATION

Test Type CASED HOLE
Test Number 2
Formation CASTLE CREEK
Test Interval 5534 - 5560 FT.
Reference Depth KELLY BUSHING

WELL LOCATION

Field MONUMENT BUTTE
County DUCHESNE
State UTAH
Sec/Twn/Rng S20 TNW4 RNE4
Elevation 6063 FT.

HOLE CONDITIONS

Total Depth (MVD/TVD) 6120 FT.
Hole Size / Deviation Angle 7 7/8"/STRAIGHT
Csg / Liner ID 5 1/2" - 15.5#
Perf'd Interval 5534 - 5560 FT.
Shot Density / Phasing 4 SPF/120°
Gun Type / Perf Cond TBG. CONV./UNDERBAL.

MUD PROPERTIES

Mud Type KCL WATER 2%
Mud Weight 8.4 LB/GAL
Mud Resistivity55 OHM -M @ 58°F
Filtrate Resistivity NA
Filtrate Chlorides 21000 PPM
Filtrate Nitrates NA

INITIAL TEST CONDITIONS

Gas Cushion Type NONE
Surface Pressure NA
Liquid Cushion Type NONE
Height Above DST Valve NA

TEST STRING CONFIGURATION

Pipe Length / ID 5426 FT./2.441 IN.
Collar Length / ID NA
Packer Depth(s) 5501 FT.
BH Choke Size 1/2 IN.

NET PIPE RECOVERY

Volume	Fluid Type	Physical Properties
1.53 BBL	OIL	36.6° API @ 60°F BS&W 14%

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Physical Properties
0.05 SCF	GAS	CORRECTED TO PWF
550 CC	OIL	36.6° API @ 60°F
365 CC	WATER	
Pressure:		GOR: 13.4 GLR: 7.8

INTERPRETATION RESULTS

Reservoir Pressure @Gauge Depth: 2082 PSIA
Gauge Depth 5503 FT.
Hydrostatic Gradient378 PSI/FT
Potentiometric Surface 5367.3 FT.
Effective Permeability to OIL: 4.12 MD.
Transmissibility 7.15 MD.FT./CP.
Skin Factor / Damage Ratio 2.39 /
Omega / Lambda (2φ System) HOMOGENEOUS
Radius of Investigation 17 FT.
Measured Wellbore Storage 2.95E-04

ROCK / FLUID / WELLBORE PROPERTIES

Reservoir Temperature 150°F
Analysis Fluid Type OIL
Formation Volume Factor 1.07 RVB/STB
Viscosity 15.0 CP.
Z-Factor (gas only) --
Net Pay 26 FT.
Porosity 12%
Total System Compressibility 2.0E-05 1/PSI
Wellbore Radius328 FT.
Expected Wellbore Storage --

FLOW RATE DURING DST

MAXIMUM FLOW RATE POTENTIAL AFTER COMPLETION

See Sensitivity Plots

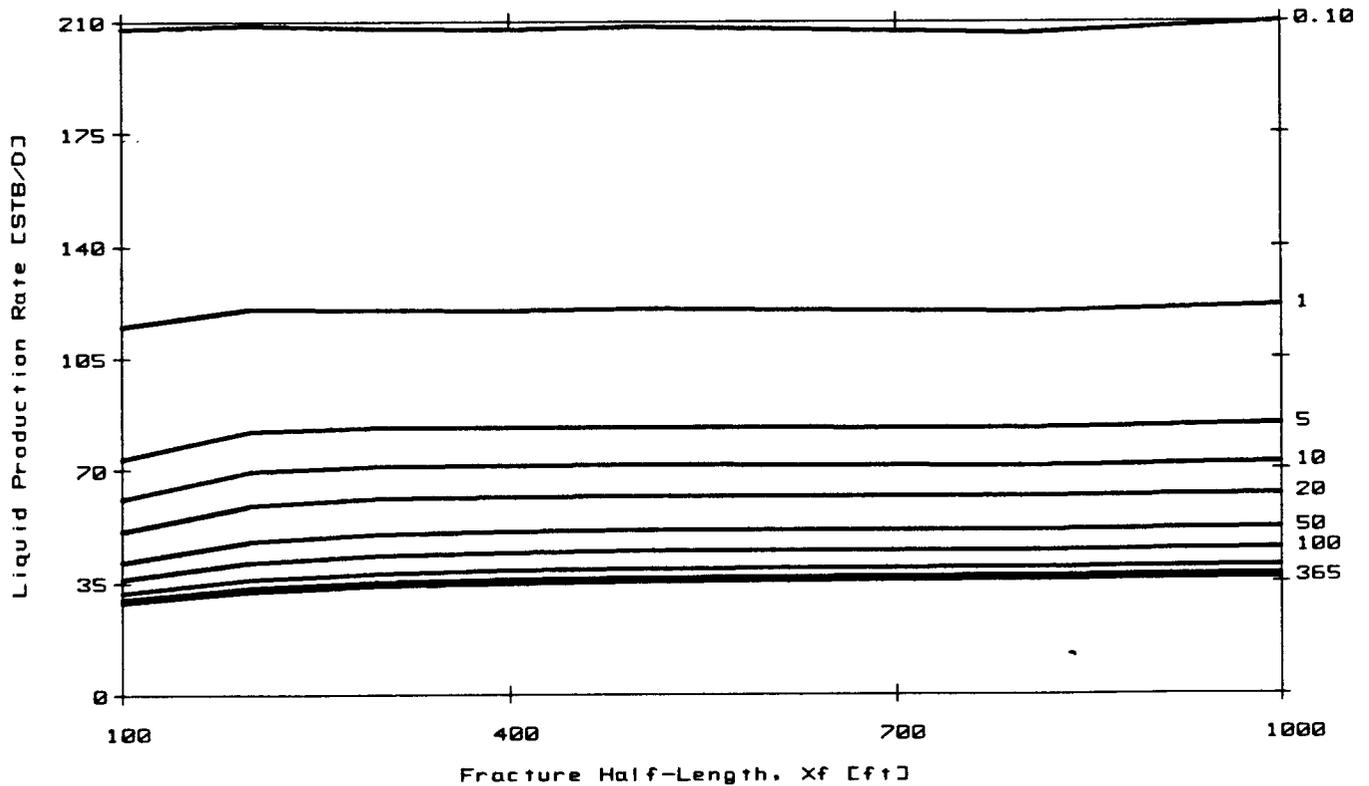
This rate is based on a specific completion design & producing time Call FJS for details

KFW = 1000 MD-FT

WELL TEST INTERPRETATION REPORT #: 43027E		PAGE: 2,
CLIENT : NOVA PETROLEUM CORP.		8-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Rate vs. Xf (vs. Time) ACRE SPACING = 160 ACRES	Field:
DISTRICT: UERNAL		Zone : CASTLE CREEK
BASE : DENUER		Well : NGC FED 31-20
Engr : KLINGENSMITH		Location:

Reservoir Pressure: 2082 psi Gas/Liquid Ratio: 20.0 SCF/STB
Permeability: 4.12 md Tubing Size: 2.441 in (id)
Net Thickness: 26.0 ft Wellhead Pressure: 50.0 psi

Fracture Conductivity, kf*w: 1000 md.ft

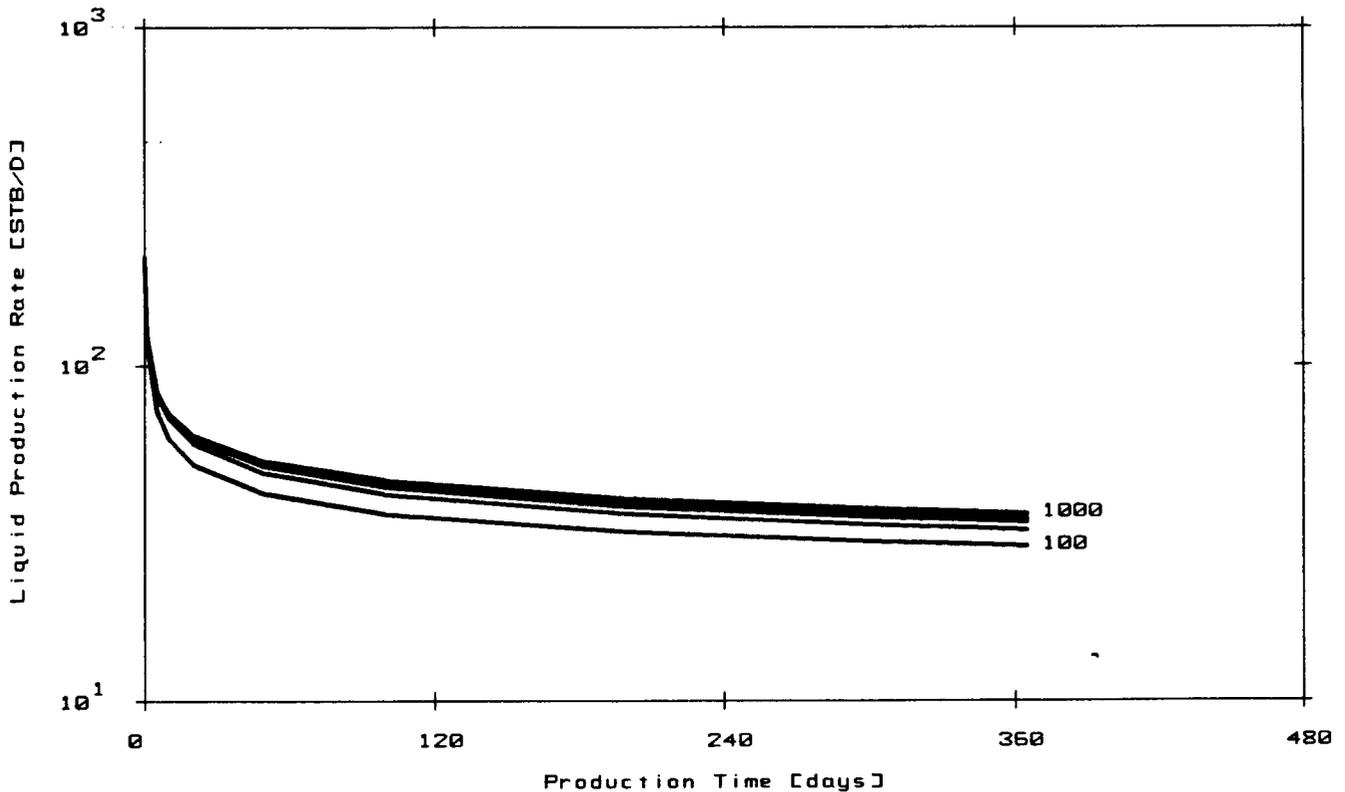


Production Rate vs. Frac. Half-Length, Transient Conditions
0.10 to 365 days : ACRE SPACING = 160 ACRES

WELL TEST INTERPRETATION REPORT #: 43027E		PAGE: 3.
CLIENT : NOVA PETROLEUM CORP.		8-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Rate vs. Time (vs. Xf) ACRE SPACING = 160 ACRES	Field:
DISTRICT: UERNAL		Zone : CASTLE CREEK
BASE : DENVER		Well : NGC FED 31-20
Engr : KLINGENSMITH		Location:

Reservoir Pressure: 2082 psi Gas/Liquid Ratio: 20.0 SCF/STB
 Permeability: 4.12 md Tubing Size: 2.441 in (id)
 Net Thickness: 26.0 ft Wellhead Pressure: 50.0 psi

Fracture Conductivity, $k_f w$: 1000 md.ft

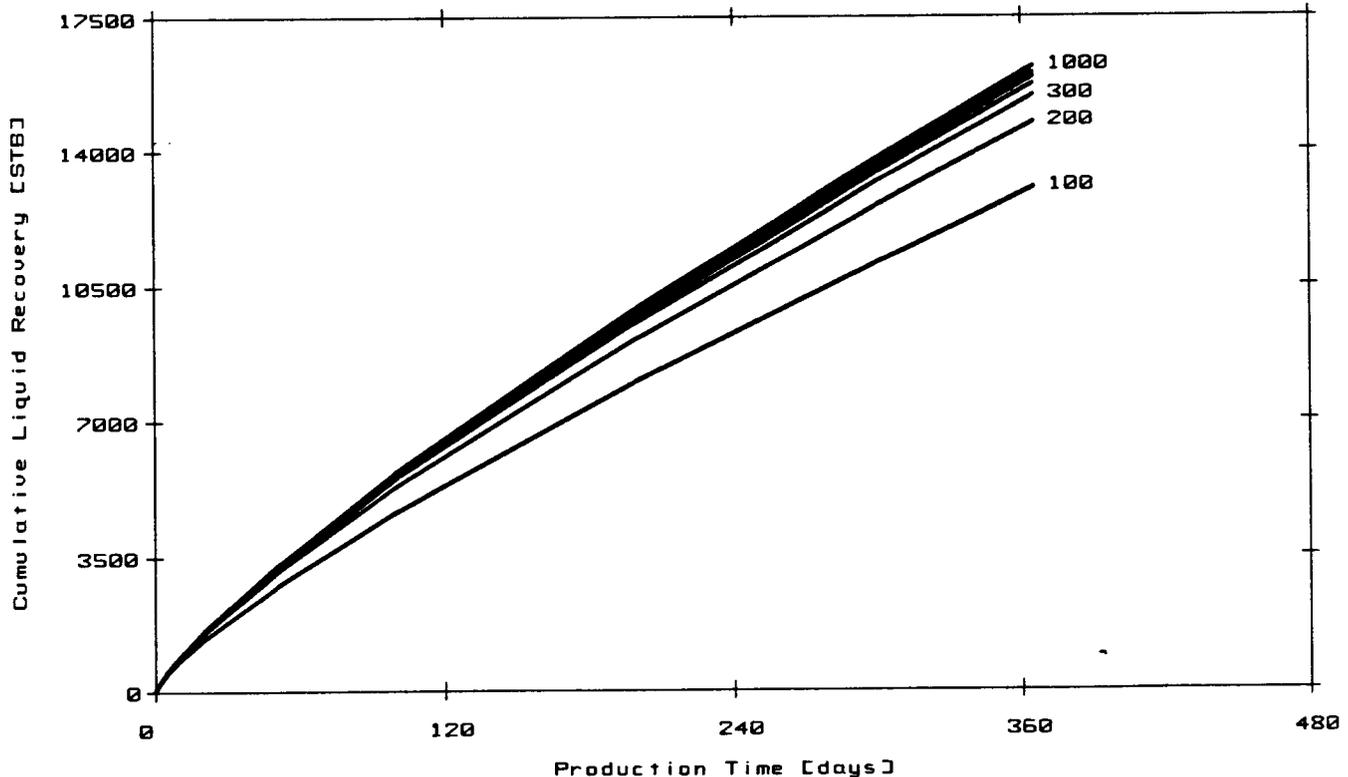


Effect of Time on Production Rate, for Fracture Half-Lengths
 from 100 to 1000 ft : ACRE SPACING = 160 ACRES

WELL TEST INTERPRETATION REPORT #: 43027E		PAGE: 4.
CLIENT : NOVA PETROLEUM CORP.		8-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Recovery vs. Time (vs. Xf) ACRE SPACING = 160 ACRES	Field:
DISTRICT: UERNAL		Zone : CASTLE CREEK
BASE : DENVER		Well : NGC FED 31-20
Engr : KLINGENSMITH		Location:

Reservoir Pressure: 2082 psi Gas/Liquid Ratio: 20.0 SCF/STB
 Permeability: 4.12 md Tubing Size: 2.441 in (id)
 Net Thickness: 26.0 ft Wellhead Pressure: 50.0 psi

Fracture Conductivity, $kf*w$: 1000 md.ft



Effect of Time on Cumulative Recovery, for Fracture Half-Lengths
 from 100 to 1000 ft : ACRE SPACING = 160 ACRES

WELL TEST INTERPRETATION REPORT #: 43027E		PAGE: 5,
CLIENT : NOVA PETROLEUM CORP.		8-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Input Data Summary ACRE SPACING = 160 ACRES	Field:
DISTRICT: UERNAL		Zone : CASTLE CREEK
BASE : DENUER		Well : NGC FED 31-20
Engr : KLINGENSMITH		Location:

Production Time [days]

0.10	1.0	5.0	10.0	20.0
50.0	100.0	200.0	300.0	365.0

Fracture Half-Length, Xf [ft]

100.0	200.0	300.0	400.0	500.0
800.0	1000.			

ISS Report Pages & Data Records

Production Rate vs. Xf (vs. Time) ...	ISS Report Page 2 ;	Data Record 1
Production Rate vs. Time (vs. Xf) ...	ISS Report Page 3 ;	Data Record 2
Cumulative Recovery vs. Xf (vs. Time) ...	ISS Report Page -- ;	Data Record 3
Cumulative Recovery vs. Time (vs. Xf) ...	ISS Report Page 4 ;	Data Record 4
Summary Printout ...	ISS Report Page 5	

Input Data for (Xf) Sensitivity

Produced Fluid & In-Place Fluid Information

Produced Fluid is primarily	Liquid
Producing Gas/Liquid Ratio [SCF/STB]	20.000
Producing Water/Total Liquid Ratio [Water Cut]	0.14000
Reservoir Oil Saturation [So, fraction]	0.7000
Reservoir Water Saturation [Sw, fraction]	0.3000
Reservoir Gas Saturation [Sg, fraction]	0.0000

Fluid Property Data

Water Specific Gravity	1.0700
Water Salinity [ppm]	1000.0
Oil (or Condensate) API Gravity	36.600
Oil Solution GOR & Bub.Pt.Pres. Correlation	Standing
Oil Formation Volume Factor Correlation	Standing
Gas Gravity at Standard Conditions [Air=1.0]	0.6500
Mole % CO2	0.000
Mole % H2S	0.000
Mole % N2	0.000

Flowline, Wellhead, Tubing, and Casing Data

Start at	Wellhead (no Flowline)
Wellhead Temperature [deg F]	60.00
Wellhead Pressure [psig]	50.000
Tubing Inside Diameter [inch]	2.4410
Tubing Absolute Roughness [ft]	5.00000E-05
Tubing Length [ft]	50.000
Tubing Vertical Multiphase Flow Correlation	Hagedorn-Brown
Casing Inside Diameter [inch]	4.8000
Casing-Tubing Packer Depth [measured depth, ft]	50.000
Total Depth [measured depth to mid-formation, ft] ...	50.000
True Vertical Depth [to mid-formation, ft]	50.000

Input Data for (Xf) Sensitivity

Reservoir and Near-Wellbore Data

Initial Reservoir Pressure [Pi, psia] 2082.0
Reservoir Temperature [deg F] 150.00
(Total) Permeability [k, md] 4.1200
(Net Productive) Thickness [h, ft] 26.000
Rock Type Sandstone
Porosity [fraction] 0.12000
Fracture Conductivity [kf*w, md.ft] 1000.0

Reservoir Total (Equivalent Single-Phase) Properties

Total Liquid Viscosity [cp] 15.000
Total Liquid Form.Vol.Factor [bbl/STB] 1.0700
(Vogel) Bub.Pt.Pres. [psia, 0.0=single-phase IPR] ... 126.00
Total Compressibility [1/psi] 2.00000E-05
Wellbore Storage Factor [bbl/psi] 0.00000E+00

Sensitivity Parameter Values

Production Time [days]

0.1000	1.000	5.000	10.00	20.00
50.00	100.0	200.0	300.0	365.0

Fracture Half-Length, Xf [ft]

100.0	200.0	300.0	400.0	500.0
800.0	1000.			

INTAKE Flowrate Range 10 Uneven-Spaced Rates
INTAKE Minimum Liquid Rate [STB/D] 1.0000
INTAKE Maximum Liquid Rate [STB/D] 10000.

Time and Date

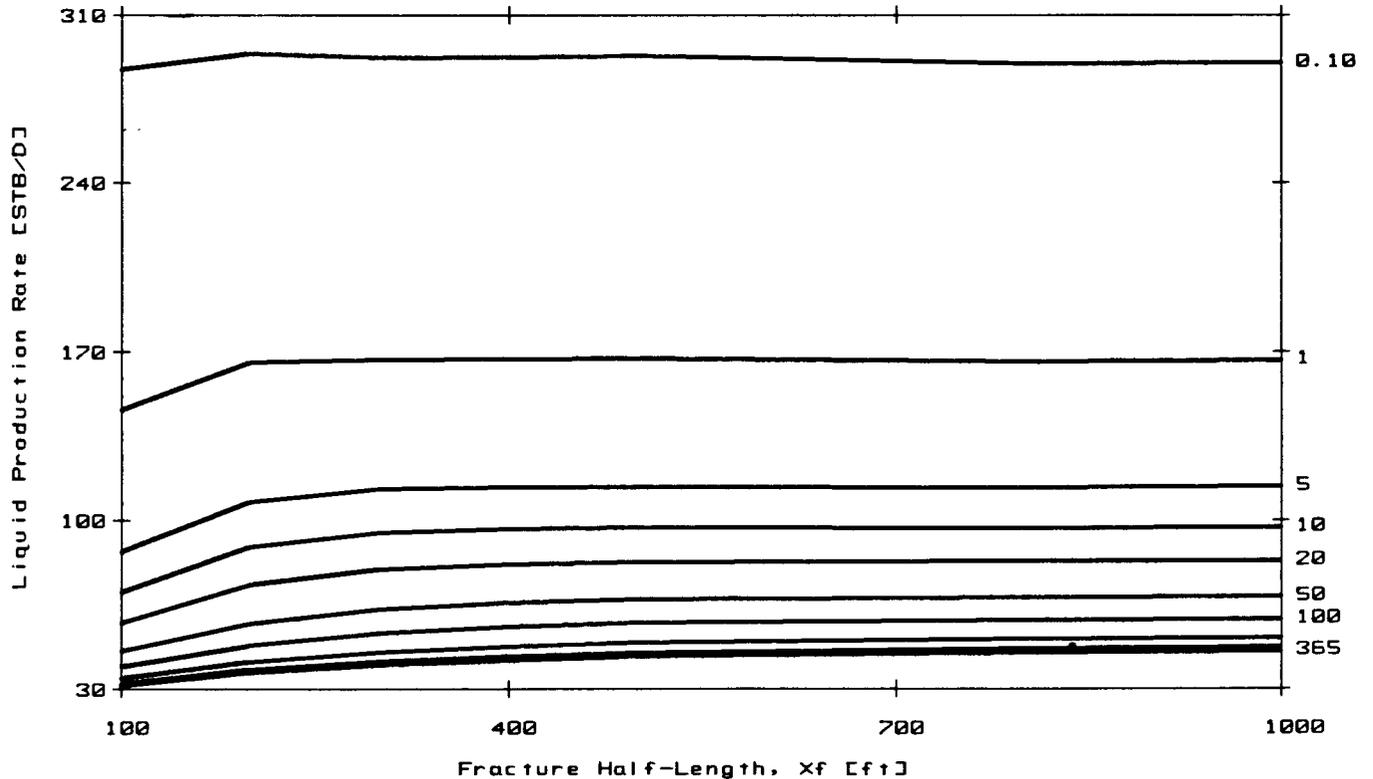
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Data Input required 8 min 16 sec
Data Generation required 2 min 7 sec
Option Execution completed 14:52:23 on 8-MAR-85
Input & Output Page(s) completed 14:54:12 on 8-MAR-85

KFW = 2000 MD-FT

WELL TEST INTERPRETATION REPORT #: 43027E		PAGE: 7,
CLIENT : NOVA PETROLEUM CORP.		8-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Rate vs. Xf (vs. Time) ACRE SPACING = 160 ACRES	Field:
DISTRICT: UERNAL		Zone : CASTLE CREEK
BASE : DENVER		Well : NGC FED 31-20
Engr : KLINGENSMITH		Location:

Reservoir Pressure: 2082 psi Gas/Liquid Ratio: 20.0 SCF/STB
 Permeability: 4.12 md Tubing Size: 2.441 in (id)
 Net Thickness: 26.0 ft Wellhead Pressure: 50.0 psi

Fracture Conductivity, $k_f \cdot w$: 2000 md.ft

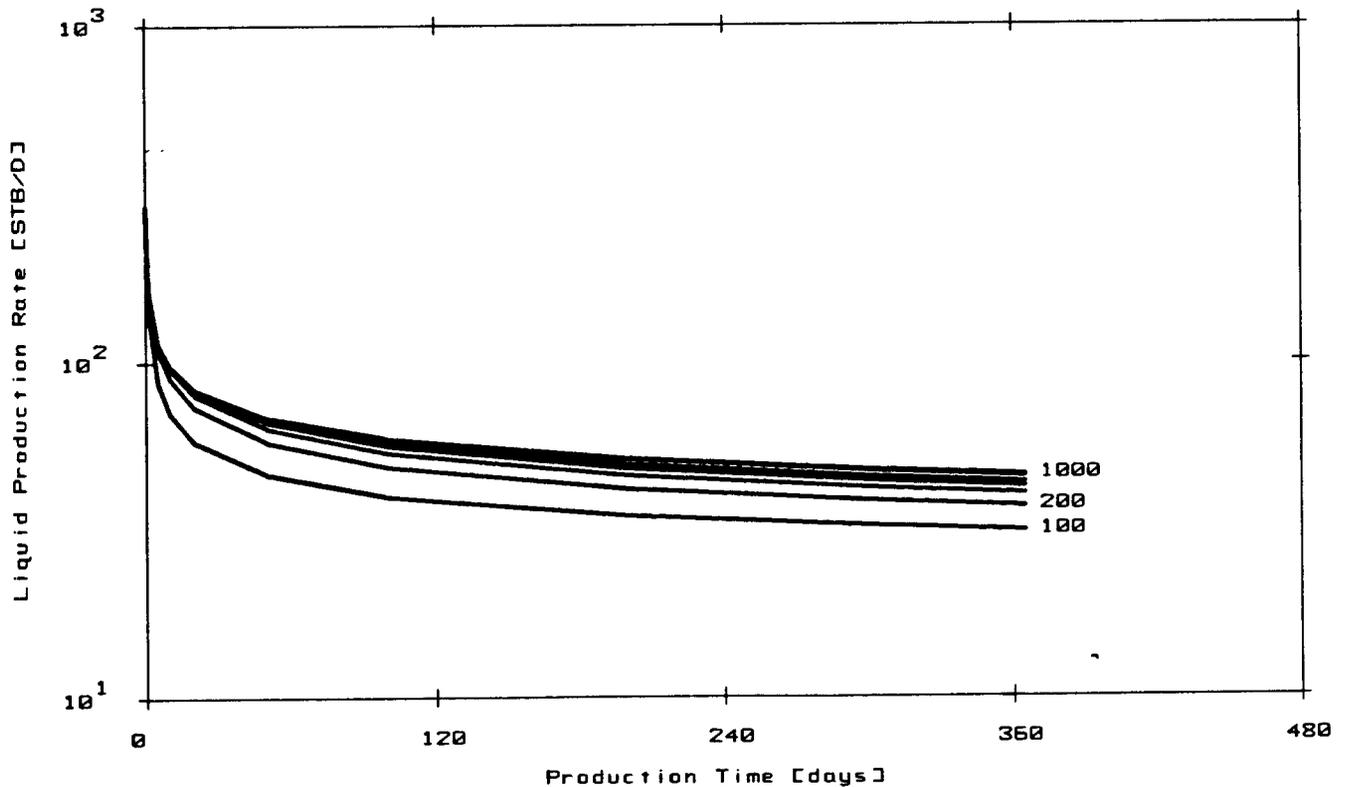


Production Rate vs. Frac. Half-Length, Transient Conditions
 0.10 to 365 days : ACRE SPACING = 160 ACRES

WELL TEST INTERPRETATION REPORT #: 43027E		PAGE: 8,
CLIENT : NOVA PETROLEUM CORP.		8-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Rate vs. Time (vs. Xf) ACRE SPACING = 160 ACRES	Field:
DISTRICT: UERNAL		Zone : CASTLE CREEK
BASE : DENVER		Well : NGC FED 31-20
Engr : KLINGENSMITH		Location:

Reservoir Pressure: 2082 psi Gas/Liquid Ratio: 20.0 SCF/STB
 Permeability: 4.12 md Tubing Size: 2.441 in (id)
 Net Thickness: 26.0 ft Wellhead Pressure: 50.0 psi

Fracture Conductivity, kf^*w : 2000 md.ft

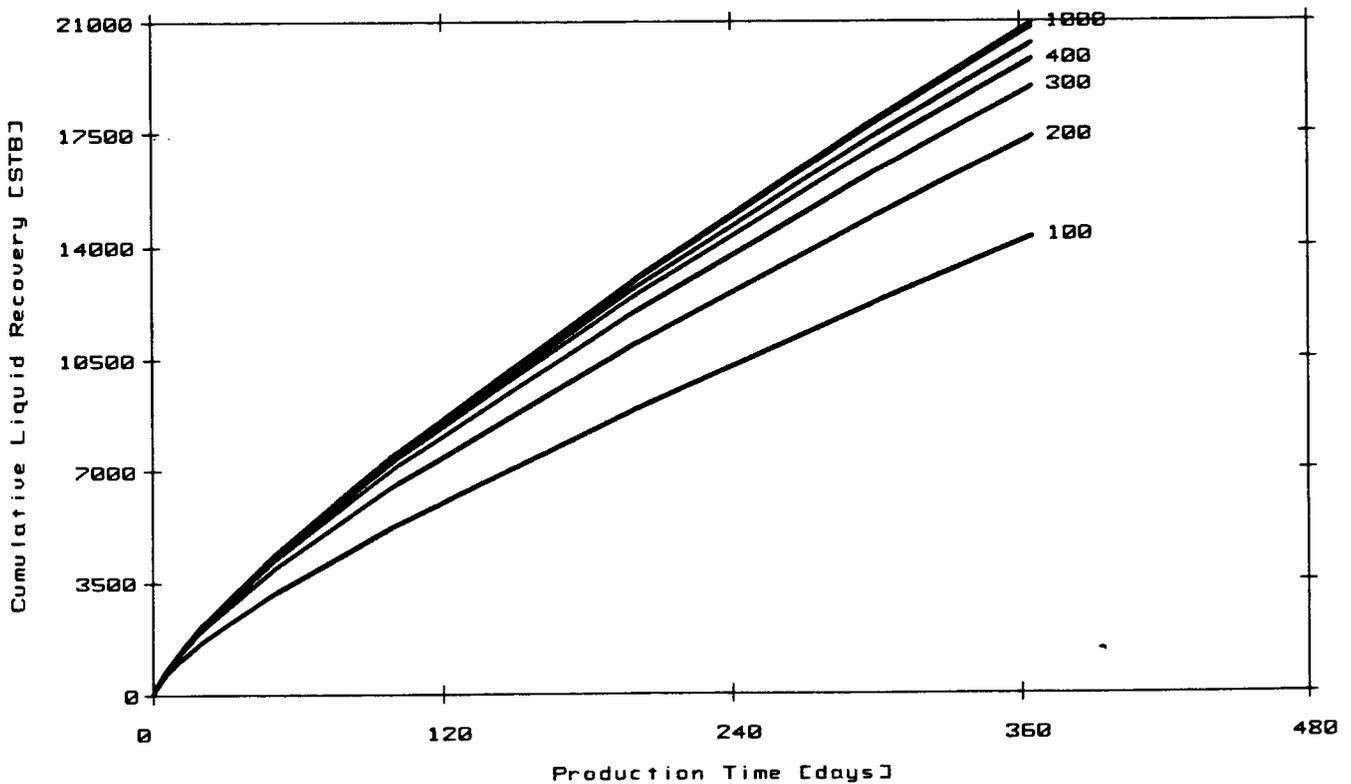


Effect of Time on Production Rate, for Fracture Half-Lengths
 from 100 to 1000 ft : ACRE SPACING = 160 ACRES

WELL TEST INTERPRETATION REPORT #: 43027E		PAGE: 9,
CLIENT : NOVA PETROLEUM CORP.		8-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Recovery vs. Time (vs. Xf) ACRE SPACING = 160 ACRES	Field:
DISTRICT: UERNAL		Zone : CASTLE CREEK
BASE : DENVER		Well : NGC FED 31-20
Engr : KLINGENSMITH		Location:

Reservoir Pressure: 2082 psi Gas/Liquid Ratio: 20.0 SCF/STB
 Permeability: 4.12 md Tubing Size: 2.441 in (id)
 Net Thickness: 26.0 ft Wellhead Pressure: 50.0 psi

Fracture Conductivity, $k_f w$: 2000 md.ft



Effect of Time on Cumulative Recovery, for Fracture Half-Lengths
 from 100 to 1000 ft : ACRE SPACING = 160 ACRES

WELL TEST INTERPRETATION REPORT #: 43027E		PAGE: 10.
CLIENT : NOVA PETROLEUM CORP.		8-MAR-85
REGION : MID-CONT.	SENSITIVITY ANALYSIS Input Data Summary ACRE SPACING = 160 ACRES	Field:
DISTRICT: UERNAL		Zone : CASTLE CREEK
BASE : DENVER		Well : NGC FED 31-20
Engr : KLINGENSMITH		Location:

Production Time [days]

0.10	1.0	5.0	10.0	20.0
50.0	100.0	200.0	300.0	365.0

Fracture Half-Length, Xf [ft]

100.0	200.0	300.0	400.0	500.0
800.0	1000.			

ISS Report Pages & Data Records

Production Rate vs. Xf (vs. Time) ... ISS Report Page 7 ; Data Record 9
Production Rate vs. Time (vs. Xf) ... ISS Report Page 8 ; Data Record 10
Cumulative Recovery vs. Xf (vs. Time) ... ISS Report Page -- ; Data Record 11
Cumulative Recovery vs. Time (vs. Xf) ... ISS Report Page 9 ; Data Record 12

Summary Printout ... ISS Report Page 10

Input Data for (Xf) Sensitivity

Produced Fluid & In-Place Fluid Information

Produced Fluid is primarily Liquid
Producing Gas/Liquid Ratio [SCF/STB] 20.000
Producing Water/Total Liquid Ratio [Water Cut] 0.14000
Reservoir Oil Saturation [So, fraction] 0.7000
Reservoir Water Saturation [Sw, fraction] 0.3000
Reservoir Gas Saturation [Sg, fraction] 0.0000

Fluid Property Data

Water Specific Gravity 1.0700
Water Salinity [ppm] 1000.0
Oil (or Condensate) API Gravity 36.600
Oil Solution GOR & Bub.Pt.Pres. Correlation Standing
Oil Formation Volume Factor Correlation Standing
Gas Gravity at Standard Conditions [Air=1.0] 0.6500
Mole % CO2 0.000
Mole % H2S 0.000
Mole % N2 0.000

Flowline, Wellhead, Tubing, and Casing Data

Start at Wellhead (no Flowline)
Wellhead Temperature [deg F] 60.00
Wellhead Pressure [psig] 50.000
Tubing Inside Diameter [inch] 2.4410
Tubing Absolute Roughness [ft] 5.00000E-05
Tubing Length [ft] 50.000
Tubing Vertical Multiphase Flow Correlation Hagedorn-Brown
Casing Inside Diameter [inch] 4.8000
Casing-Tubing Packer Depth [measured depth, ft] 50.000
Total Depth [measured depth to mid-formation, ft] ... 50.000
True Vertical Depth [to mid-formation, ft] 50.000

Input Data for (Xf) Sensitivity

Reservoir and Near-Wellbore Data

Initial Reservoir Pressure [Pi, psia] 2082.0
 Reservoir Temperature [deg F] 150.00
 (Total) Permeability [k, md] 4.1200
 (Net Productive) Thickness [h, ft] 26.000
 Rock Type Sandstone
 Porosity [fraction] 0.12000
 Fracture Conductivity [kf*w, md.ft] 2000.0

Reservoir Total (Equivalent Single-Phase) Properties

Total Liquid Viscosity [cp] 15.000
 Total Liquid Form.Vol.Factor [bbl/STB] 1.0700
 (Vogel) Bub.Pt.Pres. [psia, 0.0=single-phase IPR] ... 126.00
 Total Compressibility [1/psi] 2.00000E-05
 Wellbore Storage Factor [bbl/psi] 0.00000E+00

Sensitivity Parameter Values

Production Time [days]

0.1000	1.000	5.000	10.00	20.00
50.00	100.0	200.0	300.0	365.0

Fracture Half-Length, Xf [ft]

100.0	200.0	300.0	400.0	500.0
800.0	1000.			

INTAKE Flowrate Range 10 Uneven-Spaced Rates
 INTAKE Minimum Liquid Rate [STB/D] 1.0000
 INTAKE Maximum Liquid Rate [STB/D] 10000.

Time and Date

Option Execution began 14:54:46 on 8-MAR-85
 Data Input required 0 min 41 sec
 Data Generation required 4 min 57 sec
 Option Execution completed 15:00:24 on 8-MAR-85
 Input & Output Page(s) completed 15:02:16 on 8-MAR-85

BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 43027E

COMPANY : NOVA PETROLEUM CORPORATION

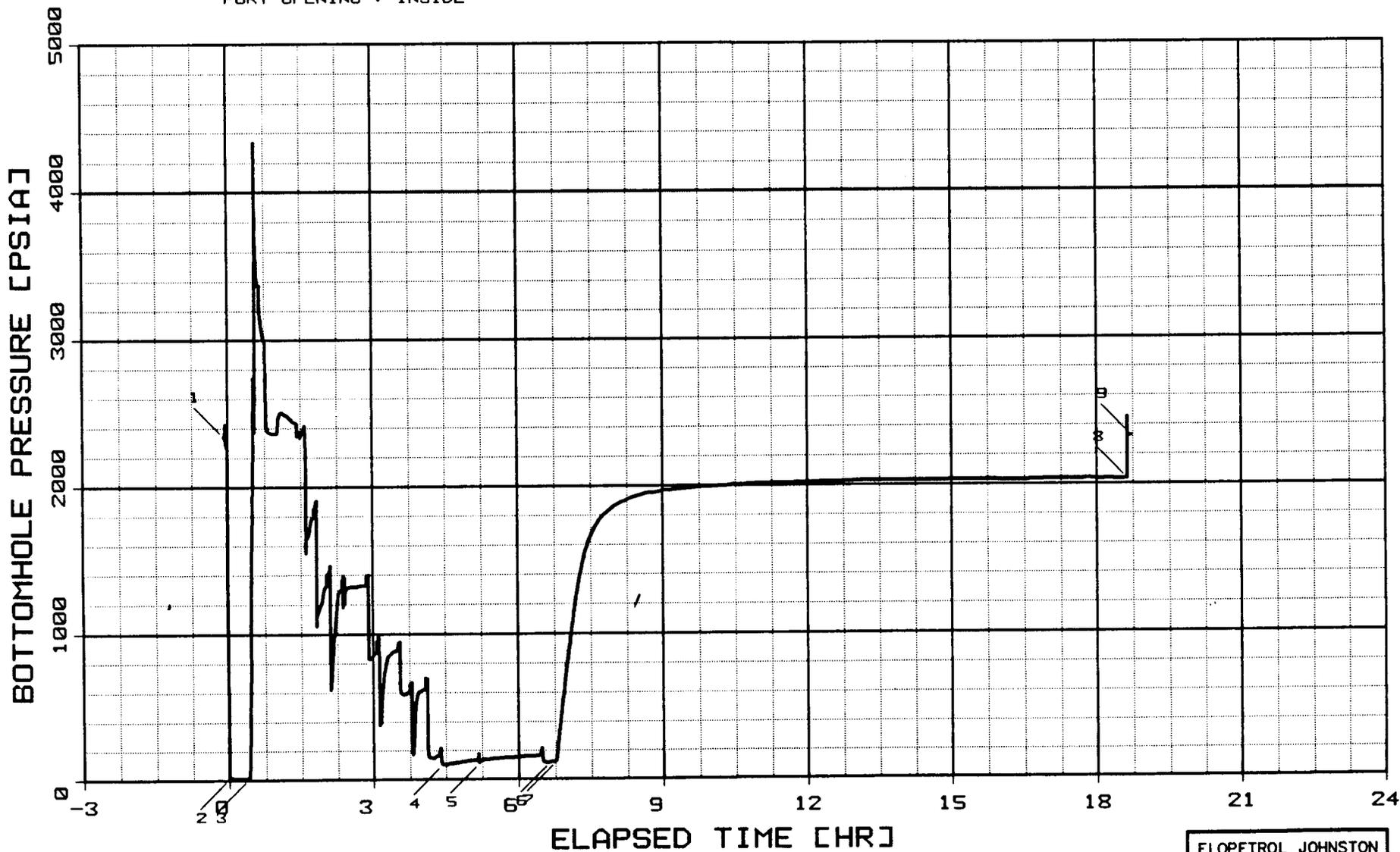
INSTRUMENT NO. J-2000

WELL : NGC FEDERAL 31-20-G

DEPTH : 5503 FT

CAPACITY : 6400 PSI

PORT OPENING : INSIDE



BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 43027E

COMPANY : NOVA PETROLEUM CORPORATION

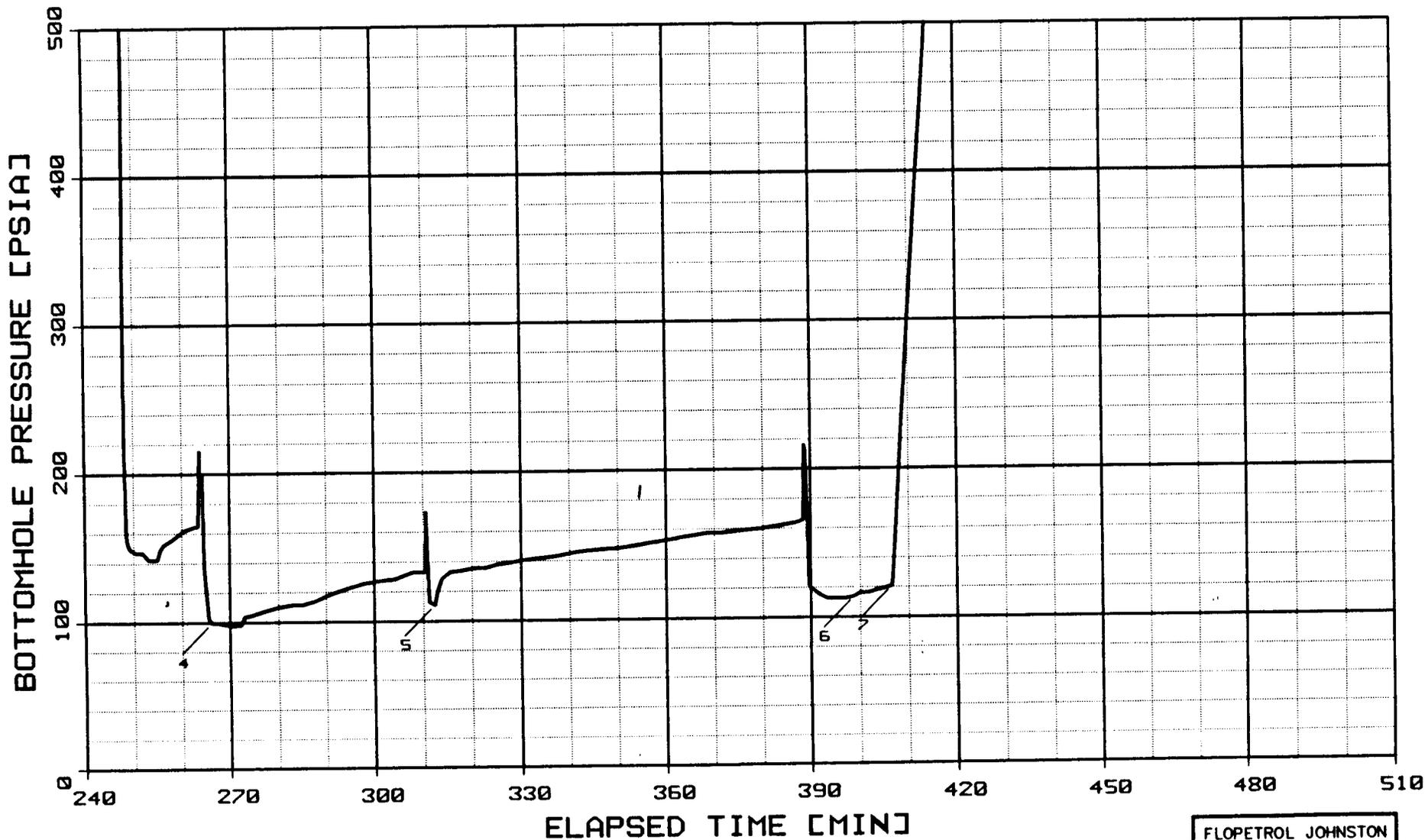
INSTRUMENT NO. J-2000

WELL : NGC FEDERAL 31-20-G

DEPTH : 5503 FT

CAPACITY : 6400 PSI

PORT OPENING : INSIDE



FLOPETROL JOHNSTON

 * WELL TEST DATA PRINTOUT *

FIELD REPORT # : 43027E

INSTRUMENT # : J-2000

CAPACITY [PSI] : 6400.

COMPANY : NOVA PETROLEUM CORPORATION

DEPTH [FT] : 5503.0

WELL : NGC FEDERAL 31-20-G

PORT OPENING : INSIDE

TEMPERATURE [DEG F] : 150.0

LABEL POINT INFORMATION

#	TIME OF DAY		DATE	EXPLANATION	ELAPSED TIME, MIN	BOT HOLE PRESSURE PSIA
	HH:MM:SS	DD-MM				
1	12:06:20	6-MR	HYDROSTATIC MUD	-4.66	2335.13	
2	12:11:00	6-MR	START FLOW	0.00	10.65	
3	12:35:32	6-MR	ACIDIZING	24.54	9.70	
4	16:37:10	6-MR	SWABBING	266.17	99.53	
5	17:23:25	6-MR	SWABBING	312.41	110.60	
6	18:49:43	6-MR	SWABBING	398.72	113.45	
7	18:57:34	6-MR	END FLOW & START SHUT-IN	406.57	120.72	
8	6:49:11	7-MR	END SHUT-IN	1118.19	2031.49	
9	6:54:04	7-MR	HYDROSTATIC MUD	1123.06	2324.38	

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	0.00	406.57	406.57	10.65	120.72

SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	406.57	1118.19	711.62	120.72	2031.49	120.72	406.57

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
12:11: 0	6-MR	0.00	0.00	10.65
12:11:47	6-MR	0.78	0.78	10.65
12:13: 5	6-MR	2.09	2.09	10.65
12:15: 2	6-MR	4.03	4.03	10.02
12:17:15	6-MR	6.25	6.25	9.70
12:19: 6	6-MR	8.10	8.10	9.38
12:23: 7	6-MR	12.11	12.11	9.38
12:26:43	6-MR	15.72	15.72	9.38
12:31: 1	6-MR	20.01	20.01	9.38
12:35:32	6-MR	24.54	24.54	9.70
12:36:16	6-MR	25.27	25.27	48.92
12:36:40	6-MR	25.66	25.66	97.63
12:37: 4	6-MR	26.06	26.06	186.83
12:37:22	6-MR	26.36	26.36	291.84
12:37:46	6-MR	26.76	26.76	459.79
12:38: 4	6-MR	27.06	27.06	571.76
12:38:23	6-MR	27.38	27.38	777.67
12:38:46	6-MR	27.77	27.77	976.31
12:39:14	6-MR	28.24	28.24	1170.83
12:39:31	6-MR	28.52	28.52	1279.01
12:39:51	6-MR	28.85	28.85	1394.77
12:40: 7	6-MR	29.11	29.11	1481.76
12:40:32	6-MR	29.54	29.54	1648.13
12:41: 3	6-MR	30.05	30.05	1827.16
12:41:37	6-MR	30.62	30.62	2059.00
12:42:18	6-MR	31.30	31.30	2288.00
12:42:53	6-MR	31.89	31.89	2737.15
12:43:31	6-MR	32.51	32.51	2387.96
12:43:58	6-MR	32.97	32.97	2366.76
12:44:19	6-MR	33.32	33.32	2716.27
12:45:11	6-MR	34.18	34.18	4331.93
12:45: 6	6-MR	34.10	34.10	3467.80
12:45:15	6-MR	34.25	34.25	3664.54
12:45:20	6-MR	34.34	34.34	3646.51
12:45:35	6-MR	34.59	34.59	3840.09
12:45:47	6-MR	34.79	34.79	3380.50
12:45:58	6-MR	34.97	34.97	3576.61
12:46:17	6-MR	35.28	35.28	3637.34
12:46:53	6-MR	35.88	35.88	3440.60
12:47: 7	6-MR	36.11	36.11	3440.60
12:47:16	6-MR	36.26	36.26	3452.30
12:47:31	6-MR	36.51	36.51	3396.95
12:47:59	6-MR	36.99	36.99	3367.22
12:48:16	6-MR	37.26	37.26	3364.06
12:48:26	6-MR	37.43	37.43	3361.21
12:48:54	6-MR	37.90	37.90	3361.21
12:49: 8	6-MR	38.14	38.14	3367.22
12:50:26	6-MR	39.43	39.43	3368.17
12:50:35	6-MR	39.58	39.58	3253.03

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
12:50:54	6-MR	39.90	39.90	3197.37
12:51:26	6-MR	40.44	40.44	3150.55
12:52:17	6-MR	41.29	41.29	3097.42
12:52:53	6-MR	41.89	41.89	3074.01
12:53:31	6-MR	42.51	42.51	3054.71
12:54:43	6-MR	43.71	43.71	3024.35
12:56: 4	6-MR	45.06	45.06	2997.78
12:57:31	6-MR	46.52	46.52	2972.16
12:58: 4	6-MR	47.06	47.06	2963.94
12:58:11	6-MR	47.18	47.18	2459.44
12:58:16	6-MR	47.26	47.26	2449.00
12:58:38	6-MR	47.63	47.63	2417.37
12:59: 4	6-MR	48.07	48.07	2398.71
12:59:33	6-MR	48.55	48.55	2387.96
13: 0:14	6-MR	49.23	49.23	2377.83
13: 0:46	6-MR	49.77	49.77	2373.41
13: 1:25	6-MR	50.41	50.41	2370.24
13: 2: 2	6-MR	51.03	51.03	2368.03
13: 2:55	6-MR	51.92	51.92	2365.50
13: 4:26	6-MR	53.44	53.44	2362.97
13: 5:28	6-MR	54.47	54.47	2362.65
13: 7:50	6-MR	56.83	56.83	2360.44
13:10:29	6-MR	59.49	59.49	2360.44
13:12:18	6-MR	61.30	61.30	2360.44
13:12:35	6-MR	61.59	61.59	2387.01
13:13: 7	6-MR	62.11	62.11	2452.16
13:13:16	6-MR	62.27	62.27	2454.69
13:13:42	6-MR	62.70	62.70	2462.92
13:15:15	6-MR	64.25	64.25	2470.19
13:15:35	6-MR	64.58	64.58	2487.27
13:15:55	6-MR	64.91	64.91	2494.23
13:16:34	6-MR	65.56	65.56	2500.24
13:17:59	6-MR	66.99	66.99	2502.46
13:19:10	6-MR	68.16	68.16	2502.46
13:20: 9	6-MR	69.15	69.15	2494.55
13:21:13	6-MR	70.22	70.22	2491.70
13:22:20	6-MR	71.34	71.34	2489.49
13:23:22	6-MR	72.37	72.37	2484.43
13:24:22	6-MR	73.37	73.37	2480.31
13:25:24	6-MR	74.40	74.40	2477.15
13:26:26	6-MR	75.43	75.43	2468.30
13:27:46	6-MR	76.76	76.76	2464.50
13:28:47	6-MR	77.78	77.78	2460.39
13:29:52	6-MR	78.86	78.86	2456.59
13:31:10	6-MR	80.17	80.17	2449.63
13:31:41	6-MR	80.69	80.69	2443.31
13:33: 6	6-MR	82.10	82.10	2437.61
13:34:26	6-MR	83.44	83.44	2433.82
13:35:53	6-MR	84.89	84.89	2429.71

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED	DELTA	BOT HOLE PRESSURE
HH:MM:SS	DD-MM	TIME,MIN	TIME,MIN	PSIA
*****	*****	*****	*****	*****
13:36:49	6-MR	85.81	85.81	2426.54
13:37: 1	6-MR	86.01	86.01	2417.69
13:37: 2	6-MR	86.04	86.04	2336.08
13:37:10	6-MR	86.17	86.17	2359.17
13:38:52	6-MR	87.86	87.86	2359.17
13:40:38	6-MR	89.63	89.63	2359.17
13:40:43	6-MR	89.71	89.71	2333.55
13:40:46	6-MR	89.77	89.77	2369.29
13:40:52	6-MR	89.86	89.86	2358.22
13:41: 4	6-MR	90.06	90.06	2326.59
13:41: 9	6-MR	90.15	90.15	2375.30
13:41: 9	6-MR	90.15	90.15	2357.91
13:41:53	6-MR	90.88	90.88	2357.91
13:41:53	6-MR	90.88	90.88	2336.08
13:41:58	6-MR	90.97	90.97	2375.94
13:42: 1	6-MR	91.02	91.02	2358.22
13:43:17	6-MR	92.28	92.28	2362.33
13:44: 5	6-MR	93.08	93.08	2376.57
13:44:13	6-MR	93.21	93.21	2362.02
13:44:37	6-MR	93.61	93.61	2362.02
13:44:40	6-MR	93.66	93.66	2382.58
13:45: 2	6-MR	94.04	94.04	2392.07
13:45:31	6-MR	94.52	94.52	2401.87
13:46:32	6-MR	95.54	95.54	2411.04
13:46:41	6-MR	95.68	95.68	2392.70
13:46:45	6-MR	95.75	95.75	2412.31
13:47:14	6-MR	96.24	96.24	2418.64
13:47:18	6-MR	96.30	96.30	2337.03
13:47:23	6-MR	96.38	96.38	2200.07
13:47:22	6-MR	96.37	96.37	1989.10
13:47:22	6-MR	96.37	96.37	1817.35
13:47:23	6-MR	96.38	96.38	1540.90
13:47:29	6-MR	96.48	96.48	1634.21
13:48: 4	6-MR	97.06	97.06	1634.21
13:48:30	6-MR	97.50	97.50	1640.22
13:50:26	6-MR	99.44	99.44	1664.26
13:51:58	6-MR	100.96	100.96	1685.14
13:53: 7	6-MR	102.11	102.11	1737.01
13:54: 4	6-MR	103.07	103.07	1768.32
13:55:32	6-MR	104.54	104.54	1784.77
13:56:58	6-MR	105.97	105.97	1793.31
13:57:24	6-MR	106.40	106.40	1793.31
13:57:26	6-MR	106.44	106.44	1848.35
13:58: 8	6-MR	107.13	107.13	1843.29
13:58: 8	6-MR	107.13	107.13	1786.99
13:58:23	6-MR	107.39	107.39	1848.66
13:58:50	6-MR	107.84	107.84	1860.68
13:59:31	6-MR	108.52	108.52	1875.55
14: 0: 1	6-MR	109.01	109.01	1899.27

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
14: 0: 9	6-MR	109.15	109.15	1873.02
14: 0:15	6-MR	109.25	109.25	1887.57
14: 0:31	6-MR	109.52	109.52	1887.57
14: 0:41	6-MR	109.69	109.69	1903.38
14: 0:44	6-MR	109.73	109.73	1429.57
14: 0:44	6-MR	109.73	109.73	1229.98
14: 0:38	6-MR	109.64	109.64	1048.43
14: 0:46	6-MR	109.76	109.76	1113.90
14: 1:14	6-MR	110.24	110.24	1117.70
14: 1:55	6-MR	110.92	110.92	1132.88
14: 2:49	6-MR	111.81	111.81	1145.21
14: 3:26	6-MR	112.44	112.44	1150.28
14: 4:15	6-MR	113.25	113.25	1166.09
14: 5:13	6-MR	114.22	114.22	1183.49
14: 6:38	6-MR	115.63	115.63	1205.94
14: 7:50	6-MR	116.84	116.84	1222.71
14: 8:54	6-MR	117.90	117.90	1262.25
14:10:17	6-MR	119.28	119.28	1301.15
14:11:49	6-MR	120.82	120.82	1316.96
14:13:27	6-MR	122.45	122.45	1328.67
14:13:37	6-MR	122.62	122.62	1396.99
14:13:44	6-MR	122.74	122.74	1371.68
14:14:23	6-MR	123.39	123.39	1378.01
14:14:35	6-MR	123.58	123.58	1403.31
14:14:34	6-MR	123.56	123.56	1355.55
14:14:41	6-MR	123.68	123.68	1385.92
14:14:51	6-MR	123.85	123.85	1345.75
14:15: 6	6-MR	124.10	124.10	1388.13
14:15:12	6-MR	124.20	124.20	1404.58
14:15:28	6-MR	124.46	124.46	1391.30
14:15:44	6-MR	124.74	124.74	1410.59
14:15:55	6-MR	124.91	124.91	1379.91
14:15:59	6-MR	124.98	124.98	1395.41
14:16: 7	6-MR	125.12	125.12	1421.34
14:16:15	6-MR	125.25	125.25	1378.01
14:16:26	6-MR	125.43	125.43	1419.45
14:16:29	6-MR	125.48	125.48	1362.20
14:16:42	6-MR	125.70	125.70	1413.44
14:17:31	6-MR	126.51	126.51	1427.35
14:17:40	6-MR	126.67	126.67	1457.40
14:17:39	6-MR	126.65	126.65	619.52
14:17:49	6-MR	126.81	126.81	620.16
14:18:22	6-MR	127.37	127.37	647.99
14:19: 5	6-MR	128.08	128.08	688.79
14:19:36	6-MR	128.60	128.60	719.79
14:20:19	6-MR	129.32	129.32	789.69
14:20:56	6-MR	129.94	129.94	829.55
14:21:43	6-MR	130.72	130.72	911.47
14:22:10	6-MR	131.16	131.16	960.18

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
14:22:19	6-MR	131.32	131.32	952.27
14:22:52	6-MR	131.87	131.87	990.86
14:23:32	6-MR	132.54	132.54	1034.19
14:24:12	6-MR	133.20	133.20	1074.68
14:24:49	6-MR	133.82	133.82	1105.99
14:25:25	6-MR	134.41	134.41	1138.26
14:26:37	6-MR	135.61	135.61	1218.28
14:27:19	6-MR	136.31	136.31	1255.60
14:27:57	6-MR	136.95	136.95	1272.05
14:28:44	6-MR	137.73	137.73	1283.12
14:29:35	6-MR	138.59	138.59	1290.40
14:30:38	6-MR	139.63	139.63	1297.67
14:31:45	6-MR	140.75	140.75	1302.42
14:32:42	6-MR	141.70	141.70	1304.95
14:32:52	6-MR	141.86	141.86	1361.88
14:33:25	6-MR	142.41	142.41	1321.08
14:33:34	6-MR	142.57	142.57	1321.08
14:33:35	6-MR	142.58	142.58	1338.47
14:33:55	6-MR	142.92	142.92	1319.50
14:34: 1	6-MR	143.01	143.01	1384.34
14:33:49	6-MR	142.82	142.82	1178.11
14:34:32	6-MR	143.53	143.53	1388.45
14:34:39	6-MR	143.65	143.65	1200.25
14:35: 1	6-MR	144.02	144.02	1322.03
14:35:29	6-MR	144.48	144.48	1319.81
14:35:39	6-MR	144.65	144.65	1378.33
14:35:25	6-MR	144.42	144.42	1199.30
14:35:44	6-MR	144.74	144.74	1288.81
14:36: 4	6-MR	145.06	145.06	1276.79
14:35:55	6-MR	144.92	144.92	1224.92
14:36:25	6-MR	145.41	145.41	1276.16
14:36:25	6-MR	145.41	145.41	1275.85
14:37: 4	6-MR	146.07	146.07	1285.65
14:37:56	6-MR	146.93	146.93	1303.68
14:39:10	6-MR	148.16	148.16	1310.32
14:41: 8	6-MR	150.14	150.14	1314.43
14:43:53	6-MR	152.88	152.88	1316.65
14:47:23	6-MR	156.39	156.39	1319.18
14:50:42	6-MR	159.70	159.70	1319.81
14:54:32	6-MR	163.53	163.53	1321.08
14:56:56	6-MR	165.94	165.94	1323.61
15: 3: 6	6-MR	172.10	172.10	1325.82
15: 3:17	6-MR	172.29	172.29	1387.50
15: 3:22	6-MR	172.36	172.36	1363.14
15: 3:53	6-MR	172.88	172.88	1365.04
15: 4:19	6-MR	173.31	173.31	1372.63
15: 4:49	6-MR	173.81	173.81	1382.12
15: 5:26	6-MR	174.44	174.44	1391.61
15: 5:52	6-MR	174.87	174.87	1399.84

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
15: 5:38	6-MR	174.64	174.64	829.23
15: 7:53	6-MR	176.89	176.89	829.23
15: 9: 2	6-MR	178.04	178.04	835.24
15:10:49	6-MR	179.81	179.81	842.83
15:12:10	6-MR	181.16	181.16	851.69
15:13:43	6-MR	182.72	182.72	871.93
15:15:47	6-MR	184.78	184.78	882.69
15:15:55	6-MR	184.92	184.92	950.06
15:15:58	6-MR	184.96	184.96	922.86
15:16:14	6-MR	185.24	185.24	924.44
15:17:14	6-MR	186.23	186.23	946.58
15:17:23	6-MR	186.38	186.38	950.37
15:17:27	6-MR	186.45	186.45	914.63
15:17:37	6-MR	186.61	186.61	981.37
15:17:38	6-MR	186.64	186.64	957.96
15:18: 5	6-MR	187.08	187.08	965.56
15:18: 5	6-MR	187.09	187.09	953.85
15:18:26	6-MR	187.44	187.44	979.47
15:18:35	6-MR	187.58	187.58	733.71
15:18:34	6-MR	187.57	187.57	612.57
15:18:55	6-MR	187.92	187.92	375.66
15:19: 8	6-MR	188.14	188.14	372.81
15:19:47	6-MR	188.79	188.79	372.81
15:20:27	6-MR	189.45	189.45	395.27
15:21:16	6-MR	190.27	190.27	461.37
15:21:53	6-MR	190.89	190.89	530.01
15:22:22	6-MR	191.36	191.36	573.98
15:22:55	6-MR	191.92	191.92	610.67
15:24: 5	6-MR	193.08	193.08	682.15
15:25: 6	6-MR	194.10	194.10	732.13
15:25:50	6-MR	194.83	194.83	755.85
15:26:34	6-MR	195.57	195.57	775.78
15:27:32	6-MR	196.53	196.53	798.55
15:28:30	6-MR	197.50	197.50	818.48
15:29:43	6-MR	198.72	198.72	843.15
15:31:26	6-MR	200.43	200.43	855.80
15:32:50	6-MR	201.84	201.84	862.44
15:35:35	6-MR	204.58	204.58	873.83
15:38:10	6-MR	207.16	207.16	880.47
15:41:11	6-MR	210.19	210.19	885.22
15:42:55	6-MR	211.92	211.92	888.06
15:43: 7	6-MR	212.11	212.11	939.30
15:43:10	6-MR	212.17	212.17	923.80
15:44:41	6-MR	213.69	213.69	944.36
15:44:41	6-MR	213.69	213.69	711.25
15:44:46	6-MR	213.77	213.77	631.23
15:45: 7	6-MR	214.11	214.11	597.38
15:45:44	6-MR	214.74	214.74	591.37
15:47:12	6-MR	216.20	216.20	586.31

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
15:49:37	6-MR	218.61	218.61	584.42
15:51:35	6-MR	220.58	220.58	586.95
15:53:44	6-MR	222.73	222.73	596.43
15:56:34	6-MR	225.56	225.56	597.70
15:56:43	6-MR	225.72	225.72	652.10
15:56:44	6-MR	225.74	225.74	627.75
15:56:51	6-MR	225.85	225.85	640.72
15:56:56	6-MR	225.93	225.93	639.14
15:57:56	6-MR	226.94	226.94	652.42
15:57:56	6-MR	226.94	226.94	627.43
15:59: 2	6-MR	228.03	228.03	667.29
15:59:10	6-MR	228.16	228.16	622.37
15:59: 8	6-MR	228.14	228.14	316.51
15:59:37	6-MR	228.61	228.61	186.51
15:59:58	6-MR	228.97	228.97	169.43
16: 0:29	6-MR	229.49	229.49	169.75
16: 0:49	6-MR	229.82	229.82	191.89
16: 1:19	6-MR	230.31	230.31	252.62
16: 1:47	6-MR	230.78	230.78	314.61
16: 2:21	6-MR	231.35	231.35	374.71
16: 3: 9	6-MR	232.15	232.15	443.03
16: 4: 5	6-MR	233.09	233.09	508.50
16: 4:55	6-MR	233.92	233.92	554.05
16: 6: 7	6-MR	235.11	235.11	585.68
16: 7:56	6-MR	236.93	236.93	605.29
16:10: 4	6-MR	239.06	239.06	608.77
16:11:37	6-MR	240.61	240.61	612.88
16:13:37	6-MR	242.61	242.61	617.31
16:16:25	6-MR	245.41	245.41	619.52
16:16:35	6-MR	245.59	245.59	655.90
16:16:34	6-MR	245.57	245.57	699.23
16:16:38	6-MR	245.63	245.63	655.58
16:16:52	6-MR	245.86	245.86	630.28
16:16:56	6-MR	245.94	245.94	658.11
16:16:56	6-MR	245.94	245.94	681.52
16:16:56	6-MR	245.94	245.94	663.49
16:17:13	6-MR	246.21	246.21	663.49
16:17:13	6-MR	246.21	246.21	645.46
16:17:13	6-MR	246.21	246.21	664.12
16:17:22	6-MR	246.37	246.37	664.12
16:17:22	6-MR	246.37	246.37	675.83
16:17:22	6-MR	246.37	246.37	668.87
16:17:35	6-MR	246.59	246.59	668.87
16:17:46	6-MR	246.76	246.76	672.98
16:17:59	6-MR	246.98	246.98	672.98
16:17:59	6-MR	246.98	246.98	670.45
16:18:12	6-MR	247.20	247.20	679.94
16:19: 3	6-MR	248.05	248.05	691.96
16:19:11	6-MR	248.18	248.18	649.26

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
16:19: 5	6-MR	248.08	248.08	498.70
16:19: 5	6-MR	248.09	248.09	284.56
16:19:11	6-MR	248.19	248.19	217.19
16:19:30	6-MR	248.50	248.50	163.74
16:19:43	6-MR	248.71	248.71	155.20
16:19:58	6-MR	248.97	248.97	151.40
16:20:29	6-MR	249.49	249.49	148.87
16:21:38	6-MR	250.64	250.64	146.66
16:22:59	6-MR	251.99	251.99	146.66
16:24:15	6-MR	253.25	253.25	142.23
16:26: 2	6-MR	255.03	255.03	142.23
16:26:11	6-MR	255.18	255.18	142.23
16:26:38	6-MR	255.64	255.64	148.87
16:27:17	6-MR	256.29	256.29	152.03
16:28:43	6-MR	257.72	257.72	154.88
16:30: 7	6-MR	259.11	259.11	158.04
16:31:27	6-MR	260.45	260.45	161.52
16:33:46	6-MR	262.77	262.77	164.05
16:34:32	6-MR	263.54	263.54	164.37
16:34:46	6-MR	263.76	263.76	214.66
16:34:53	6-MR	263.88	263.88	187.46
16:35: 3	6-MR	264.05	264.05	196.95
16:35:17	6-MR	264.29	264.29	185.88
16:35:23	6-MR	264.38	264.38	198.85
16:35:42	6-MR	264.70	264.70	137.80
16:36:36	6-MR	265.60	265.60	102.37
16:37:10	6-MR	266.17	266.17	99.53
16:38: 1	6-MR	267.01	267.01	99.53
16:39:28	6-MR	268.47	268.47	98.90
16:41:12	6-MR	270.20	270.20	97.31
16:43:17	6-MR	272.29	272.29	97.95
16:44: 5	6-MR	273.09	273.09	103.32
16:45:37	6-MR	274.62	274.62	104.59
16:47:53	6-MR	276.88	276.88	106.80
16:50:56	6-MR	279.94	279.94	109.33
16:53:50	6-MR	282.84	282.84	111.23
16:55:58	6-MR	284.97	284.97	111.23
16:58:18	6-MR	287.30	287.30	113.13
17: 1:59	6-MR	290.98	290.98	118.19
17: 5:10	6-MR	294.17	294.17	121.99
17: 9: 5	6-MR	298.09	298.09	125.46
17:13: 8	6-MR	302.14	302.14	127.36
17:15:13	6-MR	304.22	304.22	128.00
17:19: 2	6-MR	308.03	308.03	132.74
17:21:34	6-MR	310.56	310.56	132.74
17:21:43	6-MR	310.71	310.71	173.23
17:22:16	6-MR	311.27	311.27	112.50
17:23:25	6-MR	312.41	312.41	110.60
17:24: 1	6-MR	313.01	313.01	120.09

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED	DELTA	BOT HOLE PRESSURE
HH:MM:SS	DD-MM	TIME,MIN	TIME,MIN	PSIA
*****	*****	*****	*****	*****
17:25: 2	6-MR	314.03	314.03	128.94
17:26:38	6-MR	315.63	315.63	132.74
17:28:38	6-MR	317.63	317.63	133.37
17:30:49	6-MR	319.82	319.82	134.64
17:32:18	6-MR	321.30	321.30	135.59
17:33:53	6-MR	322.88	322.88	135.59
17:35:59	6-MR	324.99	324.99	137.48
17:38:18	6-MR	327.30	327.30	138.43
17:40:52	6-MR	329.86	329.86	140.01
17:43:19	6-MR	332.31	332.31	141.28
17:46:23	6-MR	335.39	335.39	142.23
17:48:56	6-MR	337.93	337.93	143.18
17:52:37	6-MR	341.61	341.61	145.39
17:55: 5	6-MR	344.08	344.08	146.34
17:57:55	6-MR	346.92	346.92	147.29
18: 1:10	6-MR	350.16	350.16	147.92
18: 4:13	6-MR	353.22	353.22	149.19
18: 7:11	6-MR	356.18	356.18	150.77
18:11:17	6-MR	360.28	360.28	152.98
18:15:22	6-MR	364.36	364.36	155.20
18:19:34	6-MR	368.57	368.57	157.09
18:22:24	6-MR	371.40	371.40	157.09
18:26:52	6-MR	375.87	375.87	158.99
18:30:38	6-MR	379.64	379.64	159.63
18:34:45	6-MR	383.75	383.75	161.84
18:38:18	6-MR	387.30	387.30	163.74
18:39:33	6-MR	388.55	388.55	165.32
18:39:43	6-MR	388.72	388.72	215.93
18:39:59	6-MR	388.99	388.99	208.02
18:40:44	6-MR	389.74	389.74	120.40
18:41:31	6-MR	390.52	390.52	118.51
18:42:53	6-MR	391.88	391.88	114.71
18:44:20	6-MR	393.34	393.34	112.50
18:45:56	6-MR	394.93	394.93	112.50
18:48: 1	6-MR	397.01	397.01	112.50
18:49:43	6-MR	398.72	398.72	113.45
18:51: 9	6-MR	400.15	400.15	116.29
18:52:41	6-MR	401.68	401.68	116.29
18:54:10	6-MR	403.16	403.16	117.56
18:55:49	6-MR	404.81	404.81	118.82
18:57:34	6-MR	406.57	406.57	120.72

TEST PHASE : SHUTIN PERIOD # 1
 FINAL FLOW PRESSURE [PSIA] = 120.72
 PRODUCING TIME [MIN] = 406.57

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
18:57:34	6-MR	406.57	0.00	120.72	0.00	
18:58:34	6-MR	407.57	1.00	167.30	46.58	2.610
18:59:34	6-MR	408.57	2.00	222.65	101.93	2.310
19: 0:34	6-MR	409.57	3.00	275.71	154.99	2.135
19: 1:34	6-MR	410.57	4.00	324.39	203.67	2.011
19: 2:34	6-MR	411.57	5.00	373.52	252.80	1.915
19: 3:34	6-MR	412.57	6.00	421.42	300.70	1.837
19: 4:34	6-MR	413.57	7.00	470.13	349.41	1.771
19: 5:34	6-MR	414.57	8.00	518.23	397.51	1.715
19: 6:34	6-MR	415.57	9.00	563.76	443.04	1.664
19: 7:34	6-MR	416.57	10.00	608.91	488.19	1.620
19: 9:34	6-MR	418.57	12.00	699.95	579.23	1.543
19:11:34	6-MR	420.57	14.00	791.77	671.05	1.478
19:13:34	6-MR	422.57	16.00	878.01	757.29	1.422
19:15:34	6-MR	424.57	18.00	962.95	842.23	1.373
19:17:34	6-MR	426.57	20.00	1045.19	924.47	1.329
19:19:34	6-MR	428.57	22.00	1124.73	1004.01	1.290
19:21:34	6-MR	430.57	24.00	1198.45	1077.73	1.254
19:23:34	6-MR	432.57	26.00	1268.41	1147.69	1.221
19:25:34	6-MR	434.57	28.00	1331.08	1210.36	1.191
19:27:34	6-MR	436.57	30.00	1390.17	1269.45	1.163
19:37:34	6-MR	446.57	40.00	1604.30	1483.58	1.048
19:47:34	6-MR	456.57	50.00	1726.29	1605.57	0.961
19:57:34	6-MR	466.57	60.00	1800.72	1680.01	0.891
20: 7:34	6-MR	476.57	70.00	1849.06	1728.34	0.833
20:17:34	6-MR	486.57	80.00	1883.14	1762.42	0.784
20:27:34	6-MR	496.57	90.00	1907.06	1786.34	0.742
20:37:34	6-MR	506.57	100.00	1927.71	1806.99	0.705
20:47:34	6-MR	516.57	110.00	1943.94	1823.22	0.672
20:57:34	6-MR	526.57	120.00	1951.78	1831.06	0.642
21: 7:34	6-MR	536.57	130.00	1960.67	1839.95	0.616
21:17:34	6-MR	546.57	140.00	1968.20	1847.48	0.592
21:27:34	6-MR	556.57	150.00	1973.56	1852.84	0.569
21:37:34	6-MR	566.57	160.00	1979.33	1858.61	0.549
21:47:34	6-MR	576.57	170.00	1983.58	1862.86	0.530
21:57:34	6-MR	586.57	180.00	1988.10	1867.38	0.513
22: 7:34	6-MR	596.57	190.00	1991.78	1871.06	0.497
22:17:34	6-MR	606.57	200.00	1995.72	1875.00	0.482
22:27:34	6-MR	616.57	210.00	1999.54	1878.82	0.468
22:37:34	6-MR	626.57	220.00	2003.01	1882.29	0.455
22:47:34	6-MR	636.57	230.00	2005.22	1884.50	0.442
22:57:34	6-MR	646.57	240.00	2007.64	1886.92	0.430
23: 7:34	6-MR	656.57	250.00	2010.44	1889.72	0.419
23:17:34	6-MR	666.57	260.00	2010.73	1890.01	0.409
23:27:34	6-MR	676.57	270.00	2012.64	1891.92	0.399
23:37:34	6-MR	686.57	280.00	2013.72	1893.00	0.390
23:47:34	6-MR	696.57	290.00	2014.72	1894.00	0.381
23:57:34	6-MR	706.57	300.00	2016.25	1895.53	0.372

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 120.72

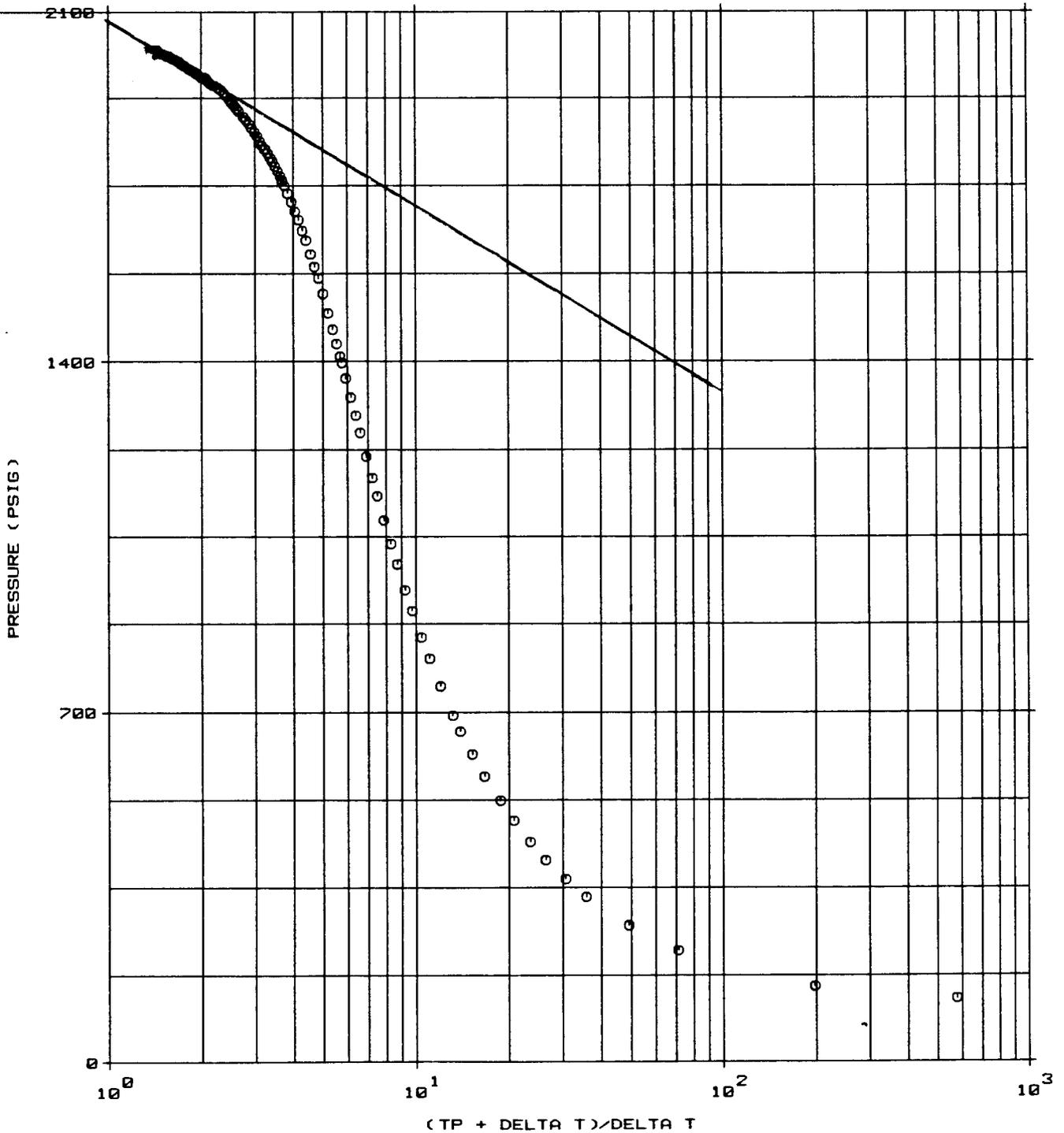
PRODUCING TIME [MIN] = 406.57

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
0: 7:34	7-MR	716.57	310.00	2017.48	1896.76	0.364
0:17:34	7-MR	726.57	320.00	2018.32	1897.60	0.356
0:27:34	7-MR	736.57	330.00	2022.95	1902.23	0.349
0:37:34	7-MR	746.57	340.00	2022.95	1902.23	0.342
0:47:34	7-MR	756.57	350.00	2022.63	1901.91	0.335
0:57:34	7-MR	766.57	360.00	2023.78	1903.06	0.328
1: 7:34	7-MR	776.57	370.00	2024.65	1903.93	0.322
1:17:34	7-MR	786.57	380.00	2027.69	1906.97	0.316
1:27:34	7-MR	796.57	390.00	2028.96	1908.24	0.310
1:37:34	7-MR	806.57	400.00	2027.98	1907.26	0.305
1:47:34	7-MR	816.57	410.00	2027.21	1906.49	0.299
1:57:34	7-MR	826.57	420.00	2026.31	1905.59	0.294
2: 7:34	7-MR	836.57	430.00	2026.11	1905.39	0.289
2:17:34	7-MR	846.57	440.00	2026.11	1905.39	0.284
2:27:34	7-MR	856.57	450.00	2026.81	1906.09	0.280
2:37:34	7-MR	866.57	460.00	2028.32	1907.60	0.275
2:47:34	7-MR	876.57	470.00	2028.32	1907.60	0.271
2:57:34	7-MR	886.57	480.00	2028.97	1908.25	0.266
3: 7:34	7-MR	896.57	490.00	2029.79	1909.07	0.262
3:17:34	7-MR	906.57	500.00	2030.22	1909.50	0.258
3:27:34	7-MR	916.57	510.00	2030.45	1909.73	0.255
3:37:34	7-MR	926.57	520.00	2031.14	1910.42	0.251
3:47:34	7-MR	936.57	530.00	2030.66	1909.94	0.247
3:57:34	7-MR	946.57	540.00	2030.54	1909.82	0.244
4: 7:34	7-MR	956.57	550.00	2030.27	1909.55	0.240
4:17:34	7-MR	966.57	560.00	2029.90	1909.18	0.237
4:27:34	7-MR	976.57	570.00	2029.90	1909.18	0.234
4:37:34	7-MR	986.57	580.00	2029.90	1909.18	0.231
4:47:34	7-MR	996.57	590.00	2031.26	1910.54	0.228
4:57:34	7-MR	1006.57	600.00	2031.73	1911.01	0.225
5: 7:34	7-MR	1016.57	610.00	2033.38	1912.66	0.222
5:17:34	7-MR	1026.57	620.00	2033.38	1912.66	0.219
5:27:34	7-MR	1036.57	630.00	2033.10	1912.38	0.216
5:37:34	7-MR	1046.57	640.00	2033.07	1912.35	0.214
5:47:34	7-MR	1056.57	650.00	2034.74	1914.02	0.211
5:57:34	7-MR	1066.57	660.00	2036.31	1915.59	0.208
6: 7:34	7-MR	1076.57	670.00	2035.30	1914.58	0.206
6:17:34	7-MR	1086.57	680.00	2032.02	1911.30	0.204
6:27:34	7-MR	1096.57	690.00	2032.73	1912.02	0.201
6:37:34	7-MR	1106.57	700.00	2031.96	1911.24	0.199
6:47:34	7-MR	1116.57	710.00	2031.54	1910.82	0.197
6:49:11	7-MR	1118.19	711.62	2031.49	1910.77	0.196

WELL TEST INTERPRETATION REPORT #: 080385080385		PAGE: 1.
CLIENT : NOVA PETROLEUM CORPORATION		8-MAR-85
REGION : MID-CONT	HORNER PLOT	Field:
DISTRICT: UERNAL		Zone : CASTLE CREEK
BASE : DENVER		Well : NGC FED 31-20
Engr : KLINGENSMITH		Location:

M = 371.73 PSI/LOG-CYCLE

P * = 2082.7 PSIG



HORNER PLOT: Production Time = 144.0

LOG LOG PLOT

COMPANY : NOVA PETROLEUM CORPORATION

WELL : NGC FEDERAL 31-20-6

FIELD REPORT NO. 43027E

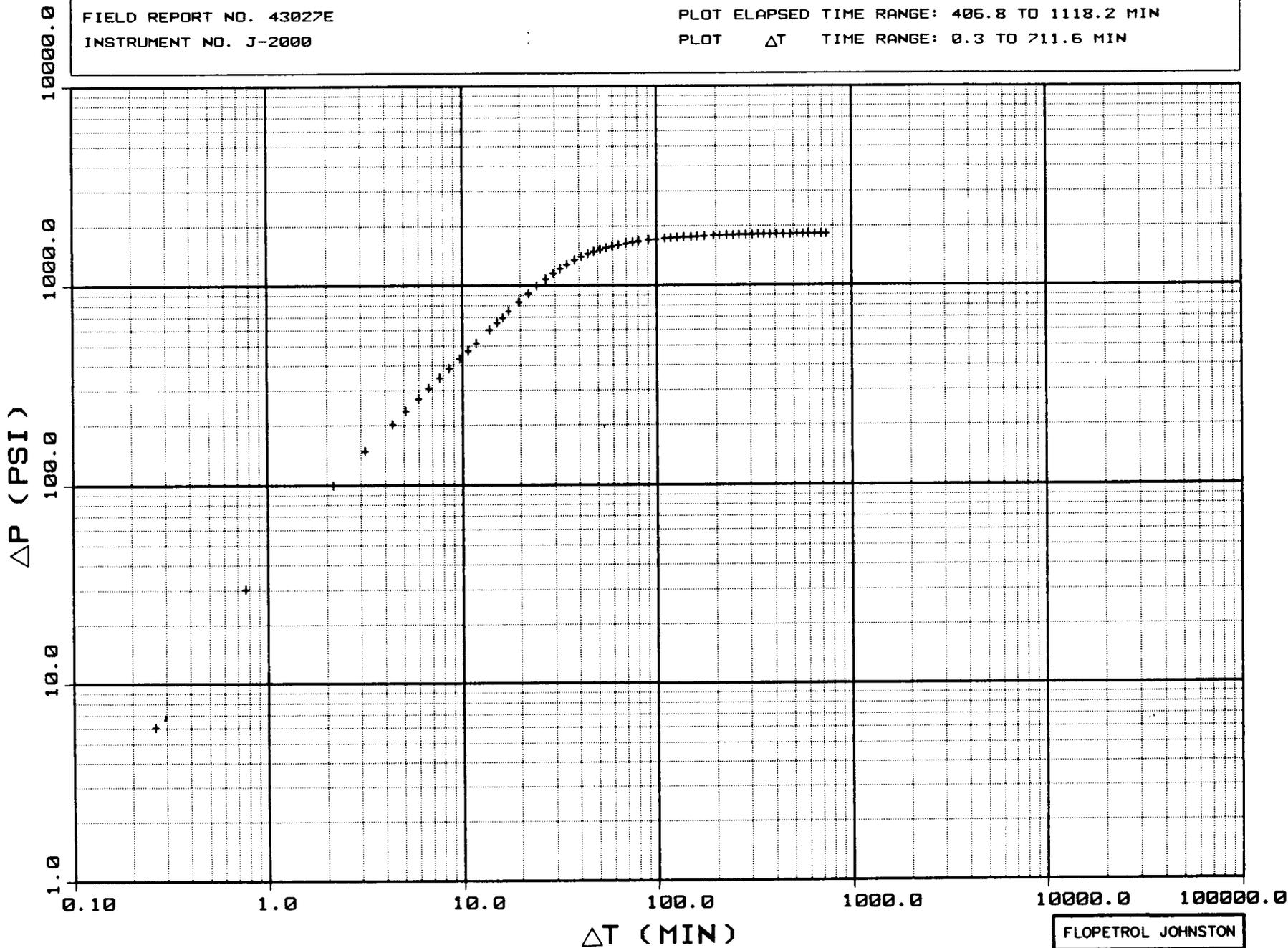
INSTRUMENT NO. J-2000

SHUTIN #1 :

FINAL FLOW PRESSURE (PWF): 120.72 PSIA

PLOT ELAPSED TIME RANGE: 406.8 TO 1118.2 MIN

PLOT ΔT TIME RANGE: 0.3 TO 711.6 MIN



FLOPETROL JOHNSTON

Schlumberger

2-52018

FLOPETROL JOHNSTON
Schlumberger

WELL PERFORMANCE TEST REPORT

A Production Systems Analysis (NODAL)
Based On
Drillstem Test Data

Test Date
03-02-85

Report No.:
42996E

COMPANY
NOVA PETROLEUM

WELL
**NGC FEDERAL
31-20-G**

TEST IDENTIFICATION
Test Type CASED HOLE - TCP
Test Number 1
Formation GREEN RIVER
Test Interval 5530 - 5556 FT.
Reference Depth KELLY BUSHING

WELL LOCATION
Field..... MONUMENT BUTTE
County..... UINTA
State..... UTAH
Sec / Twn / Rng S20 TNW4 RNE4
Elevation..... 6063 FT.

HOLE CONDITIONS
Total Depth (MVD/TVD) 6120 FT.
Hole Size / Deviation Angle NOT GIVEN
Csg / Liner ID 5 1/2" - 15.5#
Perf'd Interval 5530 - 5556 FT.
Shot Density / Phasing 4 SPF/120°
Gun Type / Perf Cond TBG.CONV./UNDERBAL.

MUD PROPERTIES
Mud Type KCL WATER 2%
Mud Weight 8.4 LB/GAL
Mud Resistivity55 OHM -M @ 58°F
Filtrate Resistivity NA
Filtrate Chlorides 21000 PPM
Filtrate Nitrates..... NOT GIVEN

INITIAL TEST CONDITIONS
Gas Cushion Type NONE
Surface Pressure NA
Liquid Cushion Type WATER
Height Above DST Valve 1500 FT.

TEST STRING CONFIGURATION
Pipe Length / ID..... 5426 FT./2.441 IN.
Collar Length / ID NA
Packer Depth(s)..... 5514 FT.
BH Choke Size..... 1/2 IN.

NET PIPE RECOVERY

Volume	Fluid Type	Physical Properties
.006 BBL	OIL	ASSUMED 30° API

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Physical Properties
0.36 SCF	GAS	CORRECTED TO PWF
950 CC	WATER	.4 OHM -M @ 52°F
		3400 PPM CL.
Pressure	NOT GIVEN	GOR: -- GLR: 60

INTERPRETATION RESULTS *SEE NOTE BELOW
Reservoir Pressure @Gauge Depth: 2012 PSIA
Gauge Depth 5320 FT.
Hydrostatic Gradient NA
Potentiometric Surface NA
Effective Permeability to NA
Transmissibility NA
Skin Factor / Damage Ratio..... NA
Omega / Lambda (2φ System)..... NA
Radius of Investigation NA
Measured Wellbore Storage NA

ROCK / FLUID / WELLBORE PROPERTIES
Reservoir Temperature..... 148°F
Analysis Fluid Type..... NA
Formation Volume Factor NA
Viscosity NA
Z-Factor (gas only)..... NA
Net Pay..... NA
Porosity NA
Total System Compressibility..... NA
Wellbore Radius..... NA
Expected Wellbore Storage..... NA

FLOW RATE DURING DST
0.03 BLPD avg. / 3.7 BLPD last rate

MAXIMUM FLOW RATE POTENTIAL AFTER COMPLETION

*NOTE: THIS TEST DATA IS UNANALYZABLE DUE TO THE LACK OF FLUID ENTRY DURING FLOW PERIOD (3 PSI INCREASE AND 1 FT. RECOVERY).

FJS-5 B14059

BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 42996E

COMPANY : NOVA PETROLEUM CORP.

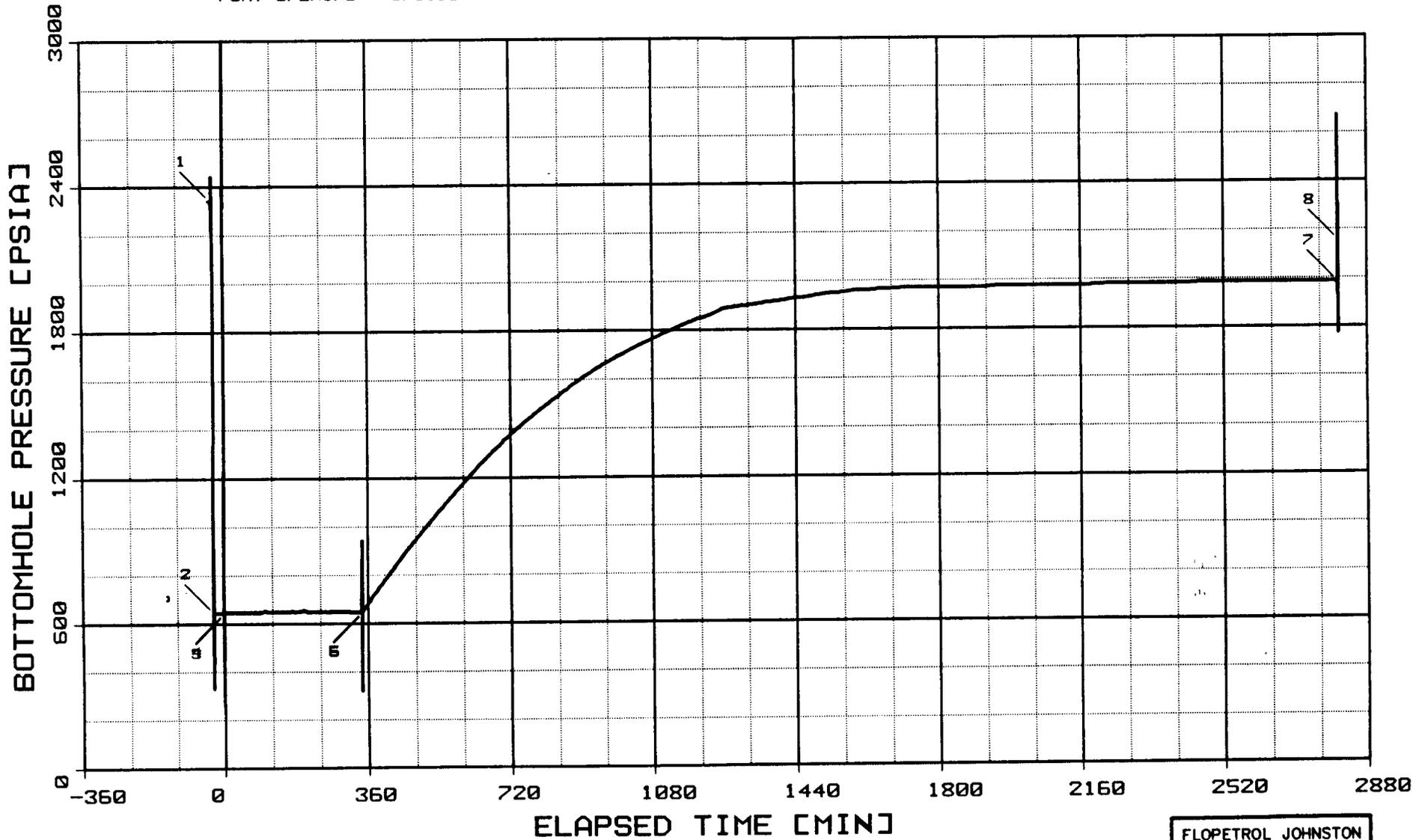
INSTRUMENT NO. J-1401

WELL : NGC FEDERAL #31-20-G

DEPTH : 5320 FT

CAPACITY : 6400 PSI

PORT OPENING : INSIDE



 * WELL TEST DATA PRINTOUT *

FIELD REPORT # : 42996E

INSTRUMENT # : J-1401

COMPANY : NOVA PETROLEUM CORP.
 WELL : NGC FEDERAL #31-20-G

CAPACITY [PSI] : 6400.
 DEPTH [FT] : 5320.0
 PORT OPENING : INSIDE
 TEMPERATURE [DEG F] : 148.0

LABEL POINT INFORMATION

#	TIME OF DAY	DATE	EXPLANATION	ELAPSED TIME, MIN	BOT HOLE PRESSURE PSIA
1	7:44:55	2-MR	HYDROSTATIC MUD	-30.09	2341
2	7:48:37	2-MR	CYCLED TOOL OPEN	-26.38	642
3	8:14: 6	2-MR	FIRED GUNS	-0.90	639
4	8:15: 0	2-MR	START FLOW	0.00	645
5	14: 0:28	2-MR	END FLOW	345.46	648
6	14: 1:15	2-MR	START SHUT-IN	346.25	643
7	7: 0:49	4-MR	END SHUT-IN	2805.82	1984
8	7: 3:10	4-MR	HYDROSTATIC MUD	2808.17	2151

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	0.00	345.46	345.46	645	648

SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	346.25	2805.82	2459.57	643	1984	648	345.46

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
8:15:0	2-MR	0.00	0.00	645
8:20:0	2-MR	5.00	5.00	645
8:25:0	2-MR	10.00	10.00	645
8:30:0	2-MR	15.00	15.00	645
8:35:0	2-MR	20.00	20.00	645
8:40:0	2-MR	25.00	25.00	645
8:45:0	2-MR	30.00	30.00	645
8:50:0	2-MR	35.00	35.00	645
8:55:0	2-MR	40.00	40.00	645
9:0:0	2-MR	45.00	45.00	645
9:5:0	2-MR	50.00	50.00	645
9:10:0	2-MR	55.00	55.00	645
9:15:0	2-MR	60.00	60.00	645
9:20:0	2-MR	65.00	65.00	645
9:25:0	2-MR	70.00	70.00	645
9:30:0	2-MR	75.00	75.00	645
9:35:0	2-MR	80.00	80.00	645
9:40:0	2-MR	85.00	85.00	645
9:45:0	2-MR	90.00	90.00	645
9:50:0	2-MR	95.00	95.00	646
9:55:0	2-MR	100.00	100.00	648
10:0:0	2-MR	105.00	105.00	648
10:5:0	2-MR	110.00	110.00	646
10:10:0	2-MR	115.00	115.00	647
10:15:0	2-MR	120.00	120.00	647
10:20:0	2-MR	125.00	125.00	647
10:25:0	2-MR	130.00	130.00	647
10:30:0	2-MR	135.00	135.00	647
10:35:0	2-MR	140.00	140.00	647
10:40:0	2-MR	145.00	145.00	647
10:45:0	2-MR	150.00	150.00	647
10:50:0	2-MR	155.00	155.00	647
10:55:0	2-MR	160.00	160.00	647
11:0:0	2-MR	165.00	165.00	647
11:5:0	2-MR	170.00	170.00	648
11:10:0	2-MR	175.00	175.00	647
11:15:0	2-MR	180.00	180.00	647
11:20:0	2-MR	185.00	185.00	647
11:25:0	2-MR	190.00	190.00	648
11:30:0	2-MR	195.00	195.00	648
11:35:0	2-MR	200.00	200.00	652
11:40:0	2-MR	205.00	205.00	648
11:45:0	2-MR	210.00	210.00	647
11:50:0	2-MR	215.00	215.00	647
11:55:0	2-MR	220.00	220.00	647
12:0:0	2-MR	225.00	225.00	647
12:5:0	2-MR	230.00	230.00	648
12:10:0	2-MR	235.00	235.00	647
12:15:0	2-MR	240.00	240.00	647

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
12:20:0	2-MR	245.00	245.00	647
12:25:0	2-MR	250.00	250.00	646
12:30:0	2-MR	255.00	255.00	646
12:35:0	2-MR	260.00	260.00	646
12:40:0	2-MR	265.00	265.00	646
12:45:0	2-MR	270.00	270.00	646
12:50:0	2-MR	275.00	275.00	646
12:55:0	2-MR	280.00	280.00	646
13:0:0	2-MR	285.00	285.00	646
13:5:0	2-MR	290.00	290.00	646
13:10:0	2-MR	295.00	295.00	646
13:15:0	2-MR	300.00	300.00	646
13:20:0	2-MR	305.00	305.00	646
13:25:0	2-MR	310.00	310.00	646
13:30:0	2-MR	315.00	315.00	644
13:35:0	2-MR	320.00	320.00	645
13:40:0	2-MR	325.00	325.00	645
13:45:0	2-MR	330.00	330.00	645
13:50:0	2-MR	335.00	335.00	645
13:55:0	2-MR	340.00	340.00	646
14:0:0	2-MR	345.00	345.00	648
14:0:28	2-MR	345.46	345.46	648

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 648

PRODUCING TIME [MIN] = 345.46

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
14:1:15	2-MR	346.25	0.00	643	-5	
14:2:15	2-MR	347.25	1.00	648	0	2.540
14:3:15	2-MR	348.25	2.00	651	3	2.240
14:4:15	2-MR	349.25	3.00	654	6	2.065
14:5:15	2-MR	350.25	4.00	656	8	1.941
14:6:15	2-MR	351.25	5.00	658	10	1.846
14:7:15	2-MR	352.25	6.00	660	12	1.768
14:8:15	2-MR	353.25	7.00	662	14	1.702
14:9:15	2-MR	354.25	8.00	664	16	1.645
14:10:15	2-MR	355.25	9.00	667	19	1.595
14:11:15	2-MR	356.25	10.00	670	22	1.551
14:13:15	2-MR	358.25	12.00	676	28	1.474
14:15:15	2-MR	360.25	14.00	680	32	1.410
14:17:15	2-MR	362.25	16.00	683	35	1.354
14:19:15	2-MR	364.25	18.00	687	39	1.305
14:21:15	2-MR	366.25	20.00	692	44	1.262

TEST PHASE : SHUTIN PERIOD # 1
 FINAL FLOW PRESSURE [PSIA] = 648
 PRODUCING TIME [MIN] = 345.46

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
14:23:15	2-MR	368.25	22.00	697	49	1.223
14:25:15	2-MR	370.25	24.00	703	55	1.187
14:27:15	2-MR	372.25	26.00	710	62	1.155
14:29:15	2-MR	374.25	28.00	713	65	1.125
14:31:15	2-MR	376.25	30.00	716	68	1.097
14:36:15	2-MR	381.25	35.00	729	81	1.036
14:41:15	2-MR	386.25	40.00	740	91	0.984
14:46:15	2-MR	391.25	45.00	751	103	0.938
14:51:15	2-MR	396.25	50.00	762	114	0.898
14:56:15	2-MR	401.25	55.00	773	125	0.862
15: 1:15	2-MR	406.25	60.00	784	136	0.830
15:16:15	2-MR	421.25	75.00	816	168	0.749
15:31:15	2-MR	436.25	90.00	850	202	0.685
15:46:15	2-MR	451.25	105.00	883	235	0.632
16: 1:15	2-MR	466.25	120.00	915	267	0.589
16:16:15	2-MR	481.25	135.00	946	298	0.551
16:31:15	2-MR	496.25	150.00	977	329	0.519
16:46:15	2-MR	511.25	165.00	1006	358	0.490
17: 1:15	2-MR	526.25	180.00	1034	386	0.465
17:16:15	2-MR	541.25	195.00	1064	416	0.443
17:31:15	2-MR	556.25	210.00	1092	444	0.422
17:46:15	2-MR	571.25	225.00	1121	473	0.404
18: 1:15	2-MR	586.25	240.00	1149	501	0.387
18:16:15	2-MR	601.25	255.00	1176	528	0.372
18:31:15	2-MR	616.25	270.00	1205	557	0.358
18:46:15	2-MR	631.25	285.00	1230	582	0.345
19: 1:15	2-MR	646.25	300.00	1258	610	0.333
19:16:15	2-MR	661.25	315.00	1283	635	0.322
19:31:15	2-MR	676.25	330.00	1307	659	0.311
19:46:15	2-MR	691.25	345.00	1330	682	0.301
20: 1:15	2-MR	706.25	360.00	1355	707	0.292
20:16:15	2-MR	721.25	375.00	1377	729	0.284
20:31:15	2-MR	736.25	390.00	1399	751	0.275
20:46:15	2-MR	751.25	405.00	1420	772	0.268
21: 1:15	2-MR	766.25	420.00	1439	791	0.261
21:16:15	2-MR	781.25	435.00	1459	811	0.254
21:31:15	2-MR	796.25	450.00	1479	831	0.247
21:46:15	2-MR	811.25	465.00	1497	849	0.241
22: 1:15	2-MR	826.25	480.00	1516	868	0.235
22:16:15	2-MR	841.25	495.00	1533	885	0.230
22:31:15	2-MR	856.25	510.00	1552	904	0.225
22:46:15	2-MR	871.25	525.00	1571	923	0.220
23: 1:15	2-MR	886.25	540.00	1587	939	0.215
23:16:15	2-MR	901.25	555.00	1604	956	0.210
23:31:15	2-MR	916.25	570.00	1620	972	0.206
23:46:15	2-MR	931.25	585.00	1638	990	0.202
0: 1:15	3-MR	946.25	600.00	1650	1002	0.197
0:16:15	3-MR	961.25	615.00	1665	1017	0.194

TEST PHASE : SHUTIN PERIOD # 1
 FINAL FLOW PRESSURE [PSIA] = 648
 PRODUCING TIME [MIN] = 345.46

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
0:31:15	3-MR	976.25	630.00	1679	1031	0.190
0:46:15	3-MR	991.25	645.00	1693	1045	0.186
1: 1:15	3-MR	1006.25	660.00	1706	1058	0.183
1:16:15	3-MR	1021.25	675.00	1718	1070	0.179
1:31:15	3-MR	1036.25	690.00	1730	1082	0.176
1:46:15	3-MR	1051.25	705.00	1743	1095	0.173
2: 1:15	3-MR	1066.25	720.00	1753	1105	0.170
2:16:15	3-MR	1081.25	735.00	1765	1117	0.167
2:31:15	3-MR	1096.25	750.00	1777	1129	0.165
2:46:15	3-MR	1111.25	765.00	1788	1140	0.162
3: 1:15	3-MR	1126.25	780.00	1799	1151	0.159
3:16:15	3-MR	1141.25	795.00	1809	1161	0.157
3:31:15	3-MR	1156.25	810.00	1821	1173	0.154
3:46:15	3-MR	1171.25	825.00	1831	1183	0.152
4: 1:15	3-MR	1186.25	840.00	1840	1192	0.150
4:16:15	3-MR	1201.25	855.00	1848	1200	0.147
4:31:15	3-MR	1216.25	870.00	1856	1208	0.145
4:46:15	3-MR	1231.25	885.00	1864	1216	0.143
5: 1:15	3-MR	1246.25	900.00	1877	1229	0.141
5:16:15	3-MR	1261.25	915.00	1887	1239	0.139
5:31:15	3-MR	1276.25	930.00	1891	1243	0.137
5:46:15	3-MR	1291.25	945.00	1895	1247	0.135
6: 1:15	3-MR	1306.25	960.00	1898	1250	0.133
6:16:15	3-MR	1321.25	975.00	1901	1252	0.132
6:31:15	3-MR	1336.25	990.00	1903	1255	0.130
6:46:15	3-MR	1351.25	1005.00	1906	1258	0.128
7: 1:15	3-MR	1366.25	1020.00	1912	1264	0.127
7:16:15	3-MR	1381.25	1035.00	1914	1266	0.125
7:31:15	3-MR	1396.25	1050.00	1917	1269	0.124
7:46:15	3-MR	1411.25	1065.00	1921	1272	0.122
8: 1:15	3-MR	1426.25	1080.00	1926	1278	0.121
8:16:15	3-MR	1441.25	1095.00	1928	1280	0.119
8:31:15	3-MR	1456.25	1110.00	1932	1284	0.118
8:46:15	3-MR	1471.25	1125.00	1933	1285	0.116
9: 1:15	3-MR	1486.25	1140.00	1937	1289	0.115
9:16:15	3-MR	1501.25	1155.00	1942	1294	0.114
9:31:15	3-MR	1516.25	1170.00	1945	1297	0.112
9:46:15	3-MR	1531.25	1185.00	1948	1300	0.111
10: 1:15	3-MR	1546.25	1200.00	1949	1301	0.110
10:16:15	3-MR	1561.25	1215.00	1953	1305	0.109
10:31:15	3-MR	1576.25	1230.00	1956	1308	0.108
10:46:15	3-MR	1591.25	1245.00	1959	1311	0.106
11: 1:15	3-MR	1606.25	1260.00	1959	1311	0.105
11:16:15	3-MR	1621.25	1275.00	1959	1311	0.104
11:31:15	3-MR	1636.25	1290.00	1960	1312	0.103
11:46:15	3-MR	1651.25	1305.00	1964	1316	0.102
12: 1:15	3-MR	1666.25	1320.00	1964	1316	0.101
12:16:15	3-MR	1681.25	1335.00	1965	1317	0.100

TEST PHASE : SHUTIN PERIOD # 1
 FINAL FLOW PRESSURE [PSIA] = 648
 PRODUCING TIME [MIN] = 345.46

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
12:31:15	3-MR	1696.25	1350.00	1966	1318	0.099
12:46:15	3-MR	1711.25	1365.00	1969	1321	0.098
13: 1:15	3-MR	1726.25	1380.00	1969	1321	0.097
13:16:15	3-MR	1741.25	1395.00	1969	1321	0.096
13:31:15	3-MR	1756.25	1410.00	1969	1321	0.095
13:46:15	3-MR	1771.25	1425.00	1969	1321	0.094
14: 1:15	3-MR	1786.25	1440.00	1969	1321	0.093
14:16:15	3-MR	1801.25	1455.00	1969	1321	0.093
14:31:15	3-MR	1816.25	1470.00	1969	1321	0.092
14:46:15	3-MR	1831.25	1485.00	1969	1321	0.091
15: 1:15	3-MR	1846.25	1500.00	1969	1321	0.090
15:16:15	3-MR	1861.25	1515.00	1969	1321	0.089
15:31:15	3-MR	1876.25	1530.00	1969	1321	0.088
15:46:15	3-MR	1891.25	1545.00	1969	1321	0.088
16: 1:15	3-MR	1906.25	1560.00	1969	1321	0.087
16:16:15	3-MR	1921.25	1575.00	1969	1321	0.086
16:31:15	3-MR	1936.25	1590.00	1974	1326	0.085
16:46:15	3-MR	1951.25	1605.00	1974	1326	0.085
17: 1:15	3-MR	1966.25	1620.00	1975	1327	0.084
17:16:15	3-MR	1981.25	1635.00	1975	1327	0.083
17:31:15	3-MR	1996.25	1650.00	1975	1327	0.083
17:46:15	3-MR	2011.25	1665.00	1975	1327	0.082
18: 1:15	3-MR	2026.25	1680.00	1975	1327	0.081
18:16:15	3-MR	2041.25	1695.00	1975	1327	0.081
18:31:15	3-MR	2056.25	1710.00	1975	1327	0.080
18:46:15	3-MR	2071.25	1725.00	1975	1327	0.079
19: 1:15	3-MR	2086.25	1740.00	1975	1327	0.079
19:16:15	3-MR	2101.25	1755.00	1975	1327	0.078
19:31:15	3-MR	2116.25	1770.00	1975	1327	0.077
19:46:15	3-MR	2131.25	1785.00	1975	1327	0.077
20: 1:15	3-MR	2146.25	1800.00	1975	1327	0.076
20:16:15	3-MR	2161.25	1815.00	1975	1327	0.076
20:31:15	3-MR	2176.25	1830.00	1975	1327	0.075
20:46:15	3-MR	2191.25	1845.00	1979	1331	0.075
21: 1:15	3-MR	2206.25	1860.00	1979	1331	0.074
21:16:15	3-MR	2221.25	1875.00	1980	1332	0.073
21:31:15	3-MR	2236.25	1890.00	1980	1332	0.073
21:46:15	3-MR	2251.25	1905.00	1980	1332	0.072
22: 1:15	3-MR	2266.25	1920.00	1980	1332	0.072
22:16:15	3-MR	2281.25	1935.00	1980	1332	0.071
22:31:15	3-MR	2296.25	1950.00	1980	1332	0.071
22:46:15	3-MR	2311.25	1965.00	1980	1332	0.070
23: 1:15	3-MR	2326.25	1980.00	1980	1332	0.070
23:16:15	3-MR	2341.25	1995.00	1980	1332	0.069
23:31:15	3-MR	2356.25	2010.00	1980	1332	0.069
23:46:15	3-MR	2371.25	2025.00	1980	1332	0.068
0: 1:15	4-MR	2386.25	2040.00	1980	1332	0.068
0:16:15	4-MR	2401.25	2055.00	1980	1332	0.067

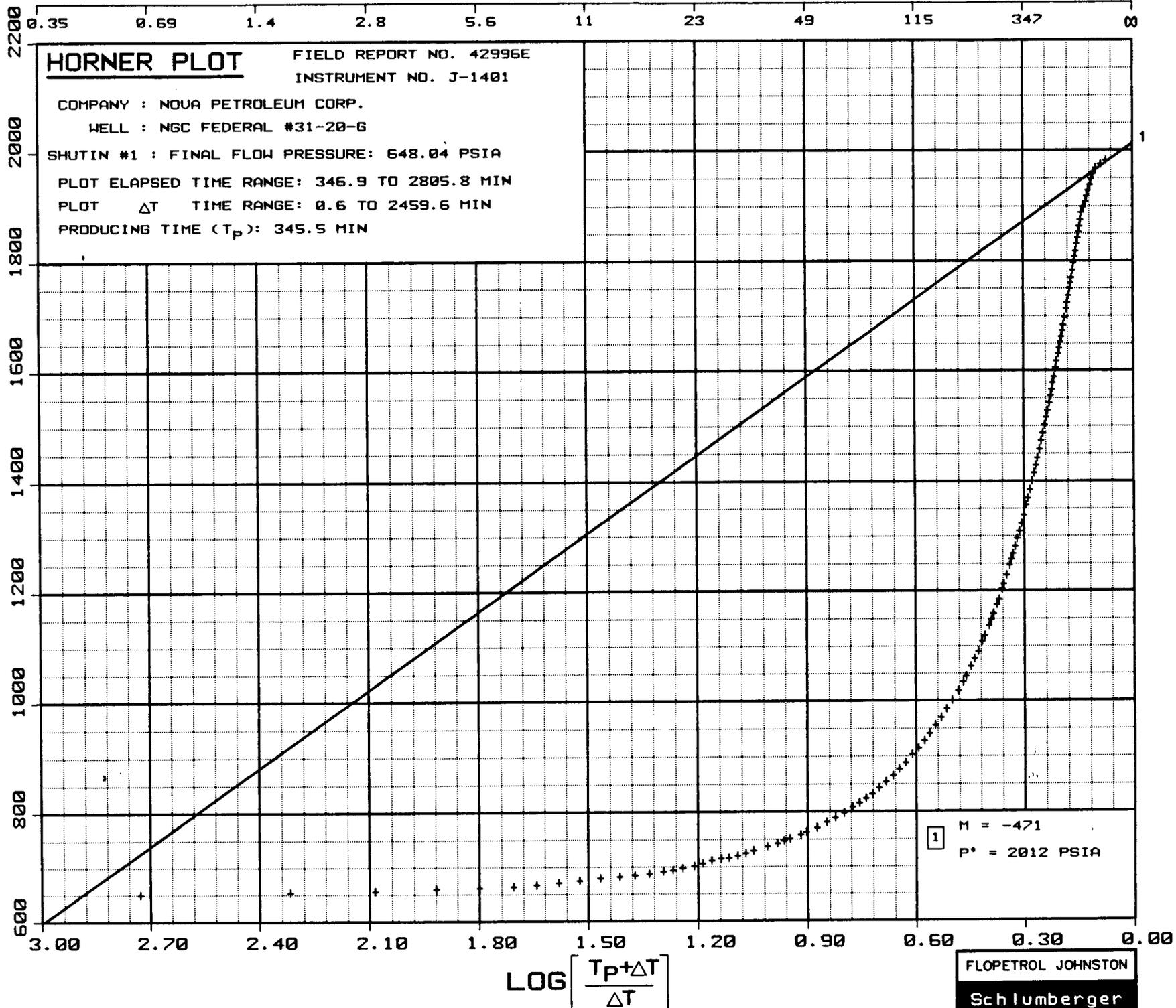
TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 648

PRODUCING TIME [MIN] = 345.46

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
*****	*****	*****	*****	*****	*****	*****
0:31:15	4-MR	2416.25	2070.00	1980	1332	0.067
0:46:15	4-MR	2431.25	2085.00	1980	1332	0.067
1: 1:15	4-MR	2446.25	2100.00	1982	1334	0.066
1:16:15	4-MR	2461.25	2115.00	1984	1336	0.066
1:31:15	4-MR	2476.25	2130.00	1984	1336	0.065
1:46:15	4-MR	2491.25	2145.00	1984	1336	0.065
2: 1:15	4-MR	2506.25	2160.00	1984	1336	0.064
2:16:15	4-MR	2521.25	2175.00	1984	1336	0.064
2:31:15	4-MR	2536.25	2190.00	1984	1336	0.064
2:46:15	4-MR	2551.25	2205.00	1984	1336	0.063
3: 1:15	4-MR	2566.25	2220.00	1984	1336	0.063
3:16:15	4-MR	2581.25	2235.00	1984	1336	0.062
3:31:15	4-MR	2596.25	2250.00	1984	1336	0.062
3:46:15	4-MR	2611.25	2265.00	1984	1336	0.062
4: 1:15	4-MR	2626.25	2280.00	1984	1336	0.061
4:16:15	4-MR	2641.25	2295.00	1984	1336	0.061
4:31:15	4-MR	2656.25	2310.00	1984	1336	0.061
4:46:15	4-MR	2671.25	2325.00	1984	1336	0.060
5: 1:15	4-MR	2686.25	2340.00	1984	1336	0.060
5:16:15	4-MR	2701.25	2355.00	1984	1336	0.059
5:31:15	4-MR	2716.25	2370.00	1984	1336	0.059
5:46:15	4-MR	2731.25	2385.00	1984	1336	0.059
6: 1:15	4-MR	2746.25	2400.00	1984	1336	0.058
6:16:15	4-MR	2761.25	2415.00	1984	1336	0.058
6:31:15	4-MR	2776.25	2430.00	1984	1336	0.058
6:46:15	4-MR	2791.25	2445.00	1984	1336	0.057
7: 0:49	4-MR	2805.82	2459.57	1984	1336	0.057

ΔT (MIN)



FLOPETROL JOHNSTON
Schlumberger

LOG LOG PLOT

COMPANY : NOVA PETROLEUM CORP.

WELL : NGC FEDERAL #31-20-G

FIELD REPORT NO. 42996E

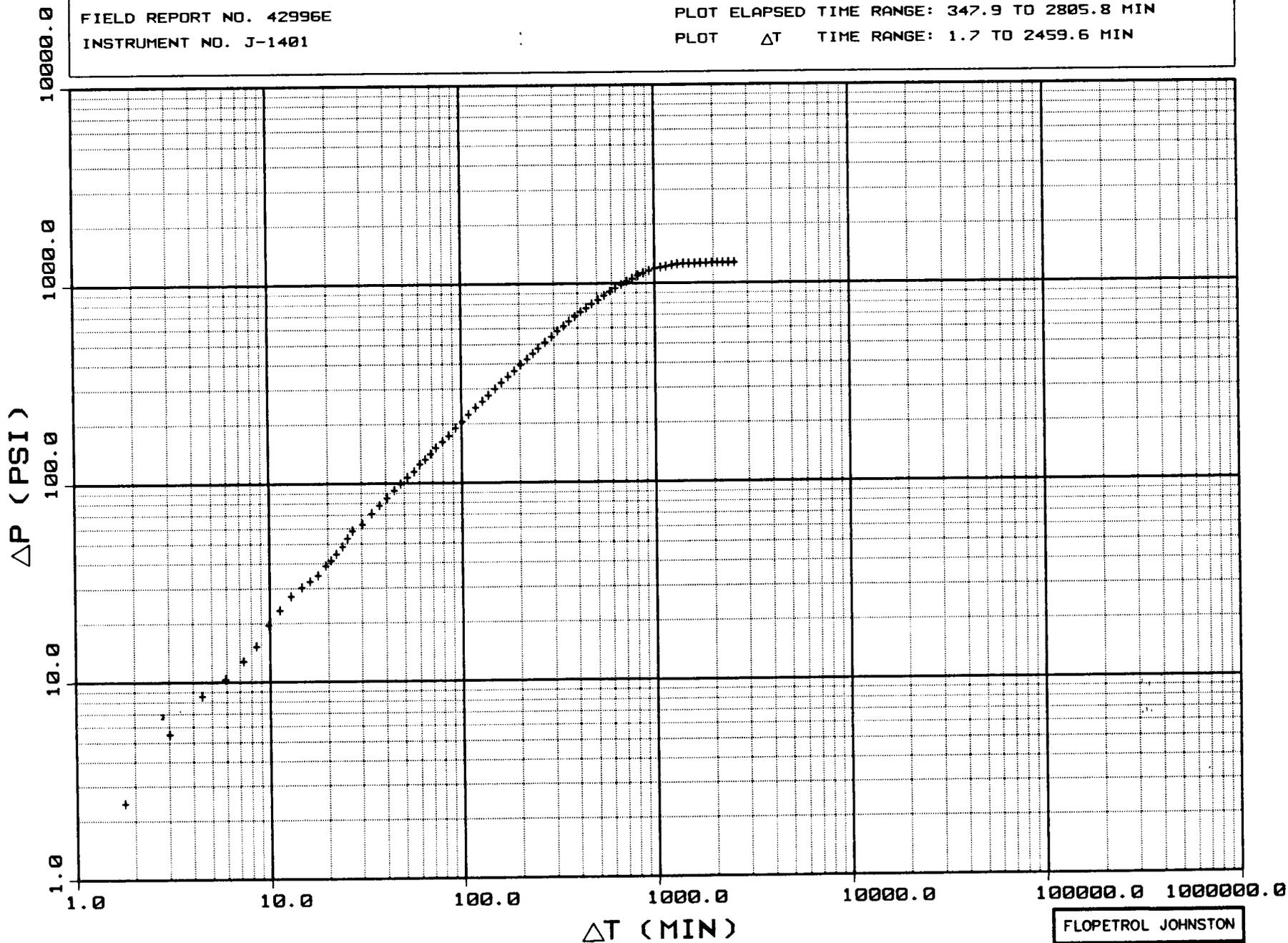
INSTRUMENT NO. J-1401

SHUTIN #1 :

FINAL FLOW PRESSURE (PWF): 648.04 PSIA

PLOT ELAPSED TIME RANGE: 347.9 TO 2805.8 MIN

PLOT ΔT TIME RANGE: 1.7 TO 2459.6 MIN



FLOPETROL JOHNSTON

Schlumberger

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

2

WELL COMPLETION OR RECOMPLETION REPORT

CONFIDENTIAL
RECEIVED
MAY 14 1985

1a. TYPE OF WELL: OIL WELL GAS WELL DRY

b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEP-EN PLUG BACK DIFF. RENVR. Other

2. NAME OF OPERATOR
Nova Petroleum Corporation

3. ADDRESS OF OPERATOR
P.O. Box 11630
Salt Lake City, UT 84147

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)
At surface 1944' FEL 540' FNL, T9S-R16E, SLB&M, Sec 20, 9S, 16E, SLM NW 1/4 NE 1/4
At top prod. interval reported below same
At total depth same

5. LEASE DESIGNATION AND SERIAL NO.
U-52018

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
NGC-Federal

9. WELL NO.
31-20-G

10. FIELD AND POOL, OR WILDCAT
Castle Peak

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
Sec 20, 9S, 16E, SLM NW 1/4 NE 1/4

14. PERMIT NO. 43-013-31071 DATE ISSUED 1/9/85

15. DATE SPUNDED 1/4/85 16. DATE T.D. REACHED 1/18/85 17. DATE COMPL. (Ready to prod.) 4/8/85

18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 6063' KB 19. ELEV. CASINGHEAD 6051' GL

20. TOTAL DEPTH, MD & TVD 6150' 21. PLUG, BACK T.D., MD & TVD 5983' 22. IF MULTIPLE COMPL., HOW MANY* 3 23. INTERVALS DRILLED BY → ROTARY TOOLS yes CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
5534 - 5560, 4760 - 4780, 4692 - 4702 Green River

25. WAS DIRECTIONAL SURVEY MADE
yes

26. TYPE ELECTRIC AND OTHER LOGS RUN
DIL, LDT-CNL, EPT, LSS, GR, SP, ACBL, Temperature Log

27. WAS WELL CORED
No

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8	24	319	12 1/2	250 sacks class H	
5 1/2	15.5	6118	7 7/8	240 sacks Lite & 570 sacks class H	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 7/8	5718'	4636'

31. PERFORATION RECORD (Interval, size and number)

5534-5560, 4/SPF/120°, .35", 104 shots
4760-4780, 4/SPF/120°, .35", 80 shots
4692-4702, 4/SPF/120°, .35", 40 shots

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5534-5560	1263 bbls gel wtr 73500# 20/40 sand
4760-4780	1112 bbls gel wtr 57135# 20/40 sand
4692-4702	581 bbls gel wtr 56000# 20/40 sand

33.* PRODUCTION

DATE FIRST PRODUCTION 4/8/85 PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Pumping, 2 1/2" x 1 1/2" x 16' RWAC WELL STATUS (Producing or shut-in) Producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
4/30/85	24 hours	2"	→	88	62	21	704/1

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
N/A	50 lbs	→	88	62	21	42.6

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)
used for fuel

TEST WITNESSED BY
Dan Williamson

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 Daniel E. Peel TITLE Vice President DATE 5/6/85

*(See Instructions and Spaces for Additional Data on Reverse Side)

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

38. GEOLOGIC MARKERS

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
	4692	4702	Sand - Shale	Delta Facies	3205	
	4760	4780	Sand - Shale	Green Shale Facies	3755	
	5534	5560	Sand - Shale	Green Shale Marker	4160	
				Black Shale	5495	
				Basal Lime	5925	
				Wasatch	6100	

McILNAY-ADAMS & CO., INC.**McILNAY-ADAMS**2305 OXFORD LANE • CASPER, WYOMING 82604
PETROLEUM CONSULTING ENGINEERS & PROPERTY MANAGEMENT**RECEIVED**

REGISTERED PROFESSIONAL ENGINEERS

May 30, 1985

JUN 03 1985State of Utah, Natural Resources
Oil, Gas and Mining
4241 State Office Building
Salt Lake City, UT 84114DIVISION OF OIL
GAS & MINING**CONFIDENTIAL**Re: Gas/Oil Ratio Test
Nova Petroleum Corporation
Federal #31-20G
NW NE Section 20-T9S-R16E
Duchesne County, Utah
Federal Lease No. U-52018

Dear Sir:

On behalf of Nova Petroleum Corporation and in compliance with Rule C-27 "Associated Gas Flaring" (New Well), we are hereby submitting the results of the Official GOR Test conducted on subject well during May, 1985. Date of first production from this well was 4/15/85. Well production did not stabilize to permit testing until the GOR test period indicated below.

<u>DATE</u>	<u>OIL PROD BOPD</u>	<u>GAS PROD MCFD</u>
5/24/85	40	88.8
5/25/85	38	81.2
5/26/85	37	84.5
5/27/85	40	88.5
Totals	155	343.0

$$\text{GOR} = \frac{343,000 \text{ cf}}{155 \text{ bbl}} = 2213 \text{ cf/bbl}$$

The Operator will produce the well for the required 30-day period after which time new gas measurements will be taken to evaluate gas production. At that time the Board will be advised of gas volumes and formal application will be made to flare excess gas if necessary.

Please advise if you have any questions or need additional information.

Very truly yours,

McILNAY-ADAMS & CO., INC.



C. K. Adams, P.E.

CKA/lh

cc: Mr. Bob McDonald - Nova Petroleum
BLM - Vernal District Office

McILNAY-ADAMS & CO., INC.**McILNAY-ADAMS**2305 OXFORD LANE • CASPER, WYOMING 82604
PETROLEUM CONSULTING ENGINEERS & PROPERTY MANAGEMENT

July 10, 1985 RECEIVED REGISTERED PROFESSIONAL ENGINEERS

JUL 15 1985

State of Utah, Natural Resources
Oil, Gas and Mining
4241 State Office Building
Salt Lake City, UT 84114DIVISION OF OIL
GAS & MINING**CONFIDENTIAL**Re: Gas/Oil Ratio Test
Nova Petroleum Corporation
Federal #31-20G
NW NE Section 20-T9S-R16E
Duchesne County, Utah
Federal Lease No. U-52018

Gentlemen:

On behalf of Nova Petroleum Corporation and in compliance with Rule C-27 "Associated Gas Flaring (new well)", we are hereby submitting the results of the Official GOR Test conducted on subject well during July, 1985. Date of first production from this well was 4/15/85. Well production has now stabilized and current production is shown below.

Oil Production (BOPD) - 30

Gas Production (MCFD) - 109

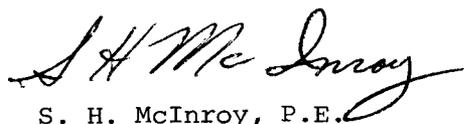
$$\text{GOR} = \frac{109,000 \text{ cf}}{30 \text{ bbl}} = 3633 \text{ cf/bbl}$$

It is requested that the operator, Nova Petroleum Corporation, be allowed to flare gas from the subject well. Currently, there is no market for this gas. The feasibility of bringing a gas sales line into the area is being investigated. Until such time as a gas sales line becomes available for the well, permission is requested to flare this gas.

Please advise if you have any questions or need additional information.

Very truly yours,

McILNAY-ADAMS & CO., INC.



S. H. McInroy, P.E.

SHM/lh

cc: Mr. Bob McDonald - Nova Petroleum
BLM - Vernal District Office



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

August 22, 1985

McIlnay-Adams & Co., Inc.
2305 Oxford Lane
Casper, Wyoming 82604

Gentlemen:

RE: Nova Petroleum Corporation, Well No. Federal 31-20G,
Sec.20, T.9S, R.16E, Duchesne County, Utah.

The Board of Oil, Gas and Mining has recently reviewed your request to vent or flare gas from the above-referenced well. The Board conditionally approved your request at its monthly meeting held on July 25, 1985. Additionally, because the Board wishes to encourage any marketing or beneficial use of associated gas from wells in the subject area, it has established approval for a temporary period of 90-day. The 90-day approval period shall commence from the date of this letter.

The conditions under which Nova may vent or flare associated gas for the subject well are as follows:

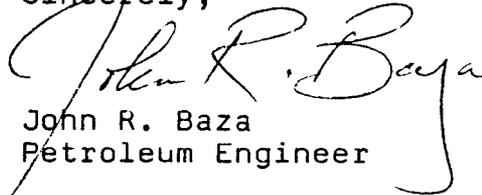
1. The well may be fully produced and associated gas vented or flared as long as the gas oil ratio (GOR) remains 2000:1 or less.
2. If the GOR exceeds 2000:1, the well may be produced on a restricted basis, the restricted rate being equivalent to what a well having a GOR of 2000:1 would produce at 100 percent deliverability. Alternatively, the well may vent or flare up to 100 MCF per day maximum. The operator may vent or flare the greater of either amount.

Please note that if gas gathering facilities become available in the area of the subject well or if gas production significantly increases, the Board may choose to reevaluate your request to flare, and it may require additional justification for continued gas flaring from the well. You will be notified by the Division in the event that more information is necessary.

Page 2
McIlnay-Adams & Co., Inc.
August 22, 1985

Please do not hesitate to contact this office if you have any additional questions. Thank you for your consideration in this matter.

Sincerely,



John R. Baza
Petroleum Engineer

sb
cc: Dianne R. Neilson
R.J. Firth
Well File

0155T-22-23



October 25, 1985

State of Utah
Division of Oil, Gas & Mining
Well Production Records
355 West North Temple
3 Triad Center, Suite #350
Salt Lake City, UT 84180-1203

Re: 31-20-G Federal
NWNE of Section 20
T9S-R16E
Duchesne County, Utah

To Whom It May Concern:

Please allow Larry Skiffington and/or Dixie Peterson access to the confidential well file for the above referenced well, for the sole purpose of preparing a Division Order Title Opinion.

Thank you.

Sincerely,

NOVA PETROLEUM CORP.

A handwritten signature in cursive script that reads 'Daniel E. Peel'.

Daniel E. Peel
Vice President

DEP/tlw



RECEIVED
MAY 01 1989

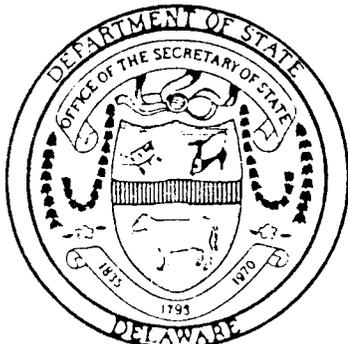
DIVISION OF
OIL, GAS & MINING

Office of Secretary of State

I, MICHAEL HARKINS, SECRETARY OF STATE OF THE STATE OF DELAWARE DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF MERGER OF "NOVA PETROLEUM CORPORATION" A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF COLORADO, MERGING WITH AND INTO "NOVA NATURAL RESOURCES CORPORATION", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE UNDER THE NAME OF "NOVA NATURAL RESOURCES CORPORATION" AS RECEIVED AND FILED IN THIS OFFICE THE NINTH DAY OF OCTOBER, A.D. 1986, AT 10 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE AFORESAID CORPORATION SHALL BE GOVERNED BY THE LAWS OF THE STATE OF DELAWARE.

|||



736282126

Michael Harkins
Michael Harkins, Secretary of State

AUTHENTICATION: 10971504
DATE: 10/10/1986

CERTIFICATE OF MERGER

OF

NOVA PETROLEUM CORPORATION,
a Colorado corporation,

WITH AND INTO

NOVA NATURAL RESOURCES CORPORATION,
a Delaware corporation

Pursuant to the provisions of Section 252 of the General Corporation Law of the State of Delaware, the undersigned Nova Petroleum Corporation, a Colorado corporation ("Nova"), and Nova Natural Resources Corporation, a Delaware corporation (the "Surviving Corporation"), hereby adopt the following Certificate of Merger for the purpose of merging Nova with and into the Surviving Corporation:

FIRST: This Certificate of Merger shall be effective as of September 29, 1986.

SECOND: The authorized capital stock of Nova Petroleum Corporation consists of 90,000,000 shares of common stock, having no par value, and 20,000,000 shares of preferred stock, par value ten cents (\$.10) per share. 26,605,412 shares of Nova common stock have been issued, and 26,576,037 shares are outstanding. No shares of Nova preferred stock have been issued or are outstanding. The authorized capital stock of Nova Natural Resources Corporation, which is the Surviving Corporation, consists of 15,000,000 shares of common stock, par value ten cents (\$.10) per share, and 5,000,000 shares of preferred stock, par value one dollar (\$1.00) per share. 100 shares of the common stock of the Surviving Corporation have been issued and are outstanding. No shares of the Surviving Corporation's preferred stock have been issued or are outstanding.

THIRD: The number of outstanding shares of Nova common stock voted in favor of adoption of the Plan of Merger was 16,133,008. 95,157 shares of the outstanding Nova common stock were voted against adoption of the Plan of Merger. All of the outstanding shares of the common stock of the Surviving Corporation were voted in favor of adoption of the Plan of Merger. No shares of the Surviving Corporation's outstanding common stock were voted against adoption of the Plan of Merger.

FOURTH: Nova Petroleum Corporation is incorporated under the laws of the State of Colorado. Nova Natural Resources Corporation is incorporated under the laws of the State of Delaware.

FIFTH: Both Nova and the Surviving Corporation have approved, adopted, certified, executed and acknowledged an Agreement of Merger in accordance with the requirements of Section 252 (c) of the General Corporation Law of the State of Delaware.

SIXTH: The name of the surviving or resulting corporation shall be Nova Natural Resources Corporation.

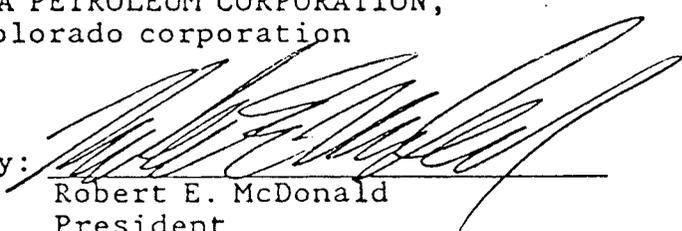
SEVENTH: The Certificate of Incorporation of Nova Natural Resources Corporation, a Delaware corporation, which is the Surviving Corporation, shall be the certificate of incorporation of the surviving or resulting corporation.

EIGHTH: The executed Agreement of Merger adopted by Nova and by the Surviving Corporation is on file at the principal place of business of the Surviving Corporation, which is located at 136 East South Temple Street, Suite 1560, Salt Lake City, Utah 84147.

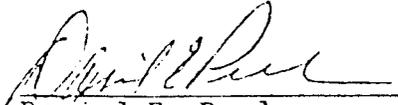
NINTH: A copy of the Agreement of Merger referred to above will be furnished by the Surviving Corporation, on request and without cost, to any stockholder of either Nova or the Surviving Corporation.

IN WITNESS WHEREOF, the undersigned have executed this Certificate of Merger as of the 29 day of Sept., 1986.

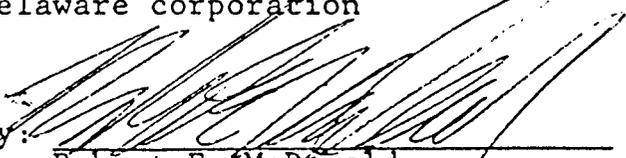
NOVA PETROLEUM CORPORATION,
a Colorado corporation

By: 
Robert E. McDonald
President

ATTEST:


Daniel E. Peel
Secretary

NOVA NATURAL RESOURCES CORPORATION,
a Delaware corporation

By: 
Robert E. McDonald
President

ATTEST:


Daniel E. Peel
Secretary

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On this 29th day of September, 1986, personally appeared before me, Robert E. McDonald, the signer of the foregoing Certificate of Merger, who being by me duly sworn, did say that he is the President of Nova Petroleum Corporation, a Colorado corporation, and that the foregoing instrument was signed on behalf of said corporation by authority of its bylaws or a resolution of its board of directors, and said Robert E. McDonald acknowledged to me that said corporation executed the same.

My Commission Expires:
Aug. 5, 1989

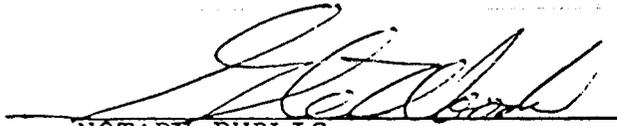

NOTARY PUBLIC
Residing in: SC County, Utah

STATE OF UTAH)
 : ss.
COUNTY OF SALT LAKE)

On this 29th day of September, 1986, personally appeared before me, Robert E. McDonald, the signer of the foregoing Certificate of Merger, who being by me duly sworn, did say that he is the President of Nova Natural Resources Corporation, a Delaware corporation, and that the foregoing instrument was signed on behalf of said corporation by authority of its bylaws or a resolution of its board of directors, and said Robert E. McDonald acknowledged to me that said corporation executed the same.

My Commission Expires:

July 9, 1989


NOTARY PUBLIC

Residing in: SL County Utah

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

15

5. LEASE DESIGNATION & SERIAL NO.
U-52018

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

9. WELL NO.
31-20-G NGC-FEDERAL

10. FIELD AND POOL, OR WILDCAT
Castle Peak

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 20-T9S-R16E-SLM

12. COUNTY
Duchesne

13. STATE
Utah

SUNDRY NOTICES AND REPORTS ON WELLS *22 1990*
(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.)

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
NOVA NATURAL RESOURCES CORPORATION, formerly NOVA PETROLEUM CORP.

3. ADDRESS OF OPERATOR
P.O. BOX 17428, 1621-18th St., Denver, CO 80217

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface Section 20: NW $\frac{1}{4}$ NE $\frac{1}{4}$
At proposed prod. zone Green River

14. API NO.
4301331071

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

18. 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.)
(Other) _____		DATE OF COMPLETION _____	
APPROX. DATE WORK WILL START _____			

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.)

* Must be accompanied by a cement verification report.

Effective December 1, 1989 - All inquiries regarding the above described well will be directed to the newly designated Operator described below:

L & W OIL COMPANY
P.O. Box 88
Vernal, Utah 84078
Phone: (801) 789-5074

1-TAS
MICROFILM
FILE

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

SIGNED *Brian B. Spillane* TITLE *PRES.* DATE *1/18/90*
BRIAN B. SPILLANE PRESIDENT

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

See Instructions On Reverse Side

RECEIVED
FEB 02 1990

DIVISION OF
OIL, GAS & MINING

L & W Oil Company
P. O. Box 88
Vernal, Utah 840878

January 31, 1990

Tammy Searing
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180

To Tammy Searing

We are indeed taking over the ownership of the NGC Fed. 31-20 G.

Effective date was December 1, 1989.

Sincerely

Harold Langley

OIL AND GAS	
DPN	RJF
JRB	CLH
DTS	SLS
1-7AS	
MICROFILM <input checked="" type="checkbox"/>	
FILE <input checked="" type="checkbox"/>	



RECEIVED
FEB 02 1990

DIVISION OF
OIL, GAS & MINING

January 25, 1990

Utah Natural Resources Oil Gas & Mining
355 West North Temple, 3 Triad Center
Suite 350
Salt Lake City, UT 84180-1203

Dear Sir:

This letter will serve as written notice that Nova Natural Resources Corporation no longer operates the #31-20G NGC Federal effective December 1, 1989. The new operator is L & W Oil Company, P.O. Box 88, Vernal, UT 87078, phone #801-789-5074. The contact person at L & W Oil is Harold Langley. Also enclosed is a copy of the Gas Production Report to make it easier for you to find which well I am talking about. If you have any questions please call me at (303)293-2902.

Yours truly,

NOVA NATURAL RESOURCES CORPORATION

Lisa M. Olsen

Lisa M. Olsen
Administrative Assistant

OIL AND GAS	
DPN	RIF
JRB	CLH
DTS	SLS
1-TAS	
MICROFILM <input checked="" type="checkbox"/>	
FILE	

Routing:

1- LCR ✓
2- DISBTS
3- RIF RJP
4- VLC ✓
5- RWM RWM
6- TAS ✓

This form is to be used to track all well operator changes.
 Attach all documentation received by the division regarding this change.

Change of Operator Designation of Operator Designation of Agent

The operator of the well(s) listed below has changed

TO (new operator)	<u>L & W OIL COMPANY</u>	FROM (former operator)	<u>NOVA NATURAL RESOURCES CORP.</u>
(address)	<u>P. O. BOX 88</u>	(address)	<u>P O BOX 17428</u>
	<u>Vernal, UT 84078</u>		<u>Denver, CO 80217</u>
	<u>phone (801) 789-5074</u>		<u>phone (303) 293-2902</u>
	<u>account no. N 0885</u>		<u>account no. N 2205</u>

Well(s) (attach additional page if needed): _____ Additional page attached.

Name: <u>Nova 31-20G NGC Fed.</u>	API: <u>4301331071</u>	Entity: <u>10185</u>	Sec <u>20</u> Twp <u>9S</u> Rng <u>16E</u>	Lease Type: <u>Fed.</u>
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____

Initial when item is completed. Write N/A if item is not applicable.

OPERATOR CHANGE DOCUMENTATION

- 1 (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form).
- 2 (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form).
- * 3 (Indian and Federal wells only) BLM approval of this operator change has been verified (Attach documentation to this form) * *(see comments)* *
- 4 Operator change has been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above.
- 5 Cardex file has been updated for each well listed above.
- 6 Well file labels have been updated for each well listed above.
- 7 The operator change has been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission.
- 8 A folder has been set up for the Operator Change file, and a copy of this page has been placed there for reference during routing and processing of the original documents.

ENTITY REVIEW

- LCF 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) no (If entity assignments were changed, attach copies of Form 6, Entity Action Form). *(single entity well)*
- NA 2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

LEASE INTEREST OWNER NOTIFICATION RESPONSIBILITY (Fee lease wells only)

- NA/DTS 1. (Rule R615-2-10) The former operator/lessee of any fee lease well listed above has been notified by letter dated _____ 19____, of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.

BOND VERIFICATION (Fee wells only)

1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.
2. A copy of this form has been placed in the new and former operators' bond files.
3. The former operator has requested a release of liability from their bond (yes/no) . Today's date _____ 19____. If yes, division response was made by letter dated _____ 19____.

FILMING

- Am 1. All attachments to this form have been microfilmed. Date: Feb 20 1990.

FILING

1. Copies of all attachments to this form have been filed in each well file.
2. The original of this form and the original attachments have been filed in the Operator Change file.

COMMENTS

2-6-90 spoke w/ Benita (Lunar BLM) has not received documentation of chg therefore still holding Anola as operator
TAS/DTS reviewed w/ RIF on 2-14-90; DOTS will make the change in our system; DTS will call Harold Langley of L&W Oil Co. to make sure he knows he must notify BLM of change.
2-14-90 - DTS called Harold Langley (see attached Phone Doc. form).

Division of Oil, Gas and Mining
PHONE CONVERSATION DOCUMENTATION FORM

Route original/copy to:

Well File _____
Nova 31-206 NGC Fed.
(Location) Sec 20 Twp 9S Rng 16E
(API No.) 43-013-31071

Suspense
(Return Date) _____
(To - Initials) _____

Other
Oper Chg. File

1. Date of Phone Call: 2-14-90 Time: 11:05 a.m.

2. DOGM Employee (name) Don Staley (Initiated Call
Talked to:
Name Harold Langley (Initiated Call - Phone No. (1) 789-5074
of (Company/Organization) L & W Oil Company

3. Topic of Conversation: Change of Operator / Notification
to BLM

4. Highlights of Conversation: _____
Told Harold we would proceed with operator change
but wanted to make sure he was aware he needed
to contact the BLM (TAS spoke with BLM - Vernal on
2-6-90 and was told that they had not received any
notification of a change). Harold said he had spoken
with BLM - Salt Lake City office and they sent him the
forms he needed. He is in the process of filling
out the BLM forms.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well Gas Well Other

2. Name of Operator

L & W OIL Co.

3. Address and Telephone No.

P.O. Box 88 Vernal, UT 84078

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

NE 1/4 Sec. 20 - 9S - 16E

5. Lease Designation and Serial No.

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

9. API Well No.

43-013-31071

10. Field and Pool, or Exploratory Area

CASTLE PEAK

11. County or Parish, State

Duchesne, UT

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

Notice of Intent
 Subsequent Report
 Final Abandonment Notice

TYPE OF ACTION

Abandonment
 Recompletion
 Plugging Back
 Casing Repair
 Altering Casing

Change of Plans
 New Construction
 Non-Routine Fracturing
 Water Shut-Off
 Conversion to Injection
 Dispose Water

Other Change of operator

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

13. 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.)*

1. Self-certification statement. Under the Federal regulations in effect as of June 15, 1988, designation of operator forms are no longer required when the operator is not the 100% record title holder. An operator is now required to submit a self-certification statement to the appropriate Bureau office stating that said operator has the right to operate upon the leasehold premises. Said notification may be in the following format:

"Please be advised that L & W OIL Co. is considered to be the operator of Well No. NEC Fed. 31-206 NE 14 14 Section 20, Township 9S, Range 16E; Lease U-52018; Duchesne County, Utah; and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond coverage is provided by Leadox Insurance.

(Pending)

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

Signed Audrey Hooley

Title Secretary

Date June 11, 1992

(This space for Federal or State office use)

Approved by SI HOWARD B. CLEAVINGER II Title

ASSISTANT DISTRICT
MANAGER MINERALS

Date JAN 07 1993

Conditions of approval, if any:

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.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0133
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. Lease Designation and Serial No.

U-52018

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

Federal 31-20-G

9. API Well No.

43-013-310 71

10. Field and Pool, or Exploratory Area

CASTLE PEAK

11. County or Parish, State

Duchesne, Utah

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well Gas Well Other

2. Name of Operator

HOT ROD OIL

3. Address and Telephone No.

3133 NORTH 2050 WEST, VERNAL UT 84078 / (801) 828-7288

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

T 9 SOUTH Range 16 EAST Sec. 20

NE/4

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

- Notice of Intent
- Subsequent Report
- Final Abandonment Notice

- Abandonment
- Recompletion
- Plugging Back
- Casing Repair
- Altering Casing
- Other RESIGNATION OF OPERATOR

- Change of Plans
- New Construction
- Non-Routine Fracturing
- Water Shut-Off
- Conversion to Injection
- Dispose Water

(Note: Report results of multiple completion or Completion or Recompletion Report and Log)

13. 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 azimuths, bearings and measured and true vertical depths for all markers and zones pertinent to this work.)

NEW OPERATOR.

Under the terms and conditions of the lease, Hot Rod Oil is authorized to operate this well.

BOND #UT-0932.

VERNAL DIST.
ENG. _____
GEOL. _____
E.S. _____
PET. _____
A.M. _____

RECEIVED
JAN 31 1994

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

Signed

Mark P. [Signature]

Title

CO-OWNER

Date

1/17/94

(This space for Federal or State official use)

Approved by

Howard B. [Signature]

Title

ASSISTANT DISTRICT
MANAGER MINERALS

Date

MAY 05 1994

Conditions of approval, if any:

0194-07-A

Law Oil Co.
PO Box 88
Vernal, ut. 84078

TO: Lisha

Effective May 5th 1994 Hat Red oil
took over operation of the Fed 31-20-G
owned by Law Oil Co.
Lease # U-52018

Harold Langley

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET

Routing:

1- VLC 7-PL
2- LWP 8-SJ
3- DPS 9-FILE
4-VLC ✓
5-RJF ✓
6-LWP ✓

Attach all documentation received by the division regarding this change.
 Initial each listed item when completed. Write N/A if item is not applicable.

- Change of Operator (well sold) Designation of Agent
 Designation of Operator Operator Name Change Only

The operator of the well(s) listed below has changed (EFFECTIVE DATE: 5-5-94)

TO (new operator)	<u>HOT ROD OIL</u>	FROM (former operator)	<u>L&W OIL COMPANY</u>
(address)	<u>3133 N 2050 W</u>	(address)	<u>PO BOX 88</u>
	<u>VERNAL UT 84078</u>		<u>VERNAL UT 84078</u>
	<u>MARK L PETERSON</u>		<u>HAROLD LANGLEY</u>
	phone (801) <u>789-5698</u>		phone (801) <u>789-5074</u>
	account no. <u>N 9220</u>		account no. <u>N 0885</u>

Well(s) (attach additional page if needed):

Name: <u>NOVA 31-20 G NGC FED</u>	API: <u>43-013-31071</u>	Entity: <u>10185</u>	Sec <u>20</u> Twp <u>9S</u> Rng <u>16E</u>	Lease Type: <u>U52018</u>
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____

OPERATOR CHANGE DOCUMENTATION

- Sec 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form). *(Reg. 5-12-94) (Rec'd 5-12-94)*
- Sec 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form). *(Rec'd 5-11-94) Btm Approval*
- N/A 3. The Department of Commerce has been contacted if the new operator above is not currently operating any wells in Utah. Is company registered with the state? (yes/no) _____ If yes, show company file number: _____
- Sec 4. (For Indian and Federal Wells ONLY) The BLM has been contacted regarding this change (attach Telephone Documentation Form to this report). Make note of BLM status in comments section of this form. Management review of **Federal and Indian** well operator changes should take place prior to completion of steps 5 through 9 below.
- Sec 5. Changes have been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above. *(5-12-94)*
- LWP 6. Cardex file has been updated for each well listed above. *(5-12-94)*
- LWP 7. Well file labels have been updated for each well listed above. *(5/12/94)*
- Sec 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. *(5-12-94)*
- Sec 9. A folder has been set up for the Operator Change file, and a copy of this page has been placed there for reference during routing and processing of the original documents.

ENTITY REVIEW

- Lee 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) no (If entity assignments were changed, attach copies of Form 6, Entity Action Form).
- N/A 2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

BOND VERIFICATION (Fee wells only)

- N/A/ Lee 1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.
2. A copy of this form has been placed in the new and former operators' bond files.
3. The former operator has requested a release of liability from their bond (yes/no) . Today's date 19 . If yes, division response was made by letter dated 19 .

LEASE INTEREST OWNER NOTIFICATION RESPONSIBILITY

- N/A 1. (Rule R615-2-10) The former operator/lessee of any fee lease well listed above has been notified by letter dated 19 , of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.
- 8rj
5/13/94
- N/A 2. Copies of documents have been sent to State Lands for changes involving State leases.

FILMING

- ✓ 1. All attachments to this form have been microfilmed. Date: May 18 1994.

FILING

1. Copies of all attachments to this form have been filed in each well file.
2. The original of this form and the original attachments have been filed in the Operator Change file.

COMMENTS

940512 Btm/Vernal Approved 5-5-94

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry a different reservoir.
Use "APPLICATION FOR PERMIT -" for such proposals

5. Lease Designation and Serial No.

U-52018

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

NA

8. Well Name and No.

NOVA 31-20 G NGC FEDERAL

9. API Well No.

43-013-31071

10. Field and Pool, or Exploratory Area

MONUMENT BUTTE

11. County or Parish, State

DUCHESNE COUNTY, UTAH

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well Gas Well Other

2. Name of Operator

INLAND PRODUCTION COMPANY

3. Address and Telephone No.

410 17TH STREET, SUITE 700, DENVER, COLORADO 80202 (303) 893-0102

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)

0540 FNL 1944 FEL Section 20, T09S R16E

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

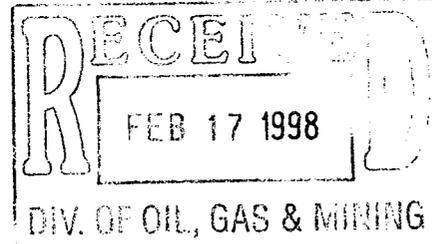
TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> Notice of Intent <input type="checkbox"/> Subsequent Report <input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Abandonment <input type="checkbox"/> Recompletion <input type="checkbox"/> Plugging Back <input type="checkbox"/> Casing Repair <input type="checkbox"/> Altering Casing <input checked="" type="checkbox"/> Other <u>Change of Operator</u>
	<input type="checkbox"/> Change of Plans <input type="checkbox"/> New Construction <input type="checkbox"/> Non-Routine Fracturing <input type="checkbox"/> Water Shut-Off <input type="checkbox"/> Conversion to Injection <input type="checkbox"/> Dispose Water

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

13. 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.)*

Effective December 1, 1997, Inland Production Company will take over operations of the above referenced well. The previous operator was:

Hot Rod Oil
3133 N 2050 West
Vernal, UT 84079



Effective December 1, 1997, Inland Production Company is responsible under the terms & conditions of the leases for operations conducted on the leased lands or a portion thereof under State of Utah Statewide Bond No. 4471291.

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

Signed Shannon Smith Title Engineering Secretary Date 2/11/98

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____

Conditions of approval, if any:

CC: 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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

A. LEASE IDENTIFICATION AND SERIAL NO.
U-52018
B. IF INDIAN, ALLOTTED OR TRIBE NAME

16. TYPE OF WELL: OIL WELL GAS WELL DRY Other

C. UNIT ABBREVIATION NAME

D. TYPE OF COMPLETION:
NEW WELL WORK OVER DEEPEN PLUG BACK REPERFORATE Other

E. NAME OF LEASE NAME

2. NAME OF OPERATOR
Inland Production Company

F. WELL NO.
#31-20-G

3. ADDRESS OF OPERATOR
410 17th Street Suite 700, Denver, CO 80202

G. FIELD AND POOL OR WILDEST
Castle Peak

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)
At surface **NW/NE**

H. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
Sec. 20-T9S-R16E

At top prod. interval reported below **1944' FEL + 540' FNL**
At total depth

I. COUNTY OR PARISH
Duchesne

J. STATE
Utah

14. PERMIT NO. **43-013-31071** DATE ISSUED **1-9-85**

15. DATE SPUNDED **1-4-85** 16. DATE T.D. REACHED **1-18-85** 17. DATE COMPL. (Ready to prod.) **4-8-85** 18. ELEVATIONS (DF, RKB, RT, OR, ETC.)* **6063' KB**

19. TOTAL DEPTH, MD & TVD **6150'** 20. FLUID, BACK Y.D., MD & TVD **5983'** 21. IF MULTIPLE COMPL., HOW MANY? **1** 22. INTERVAL DRILLED BY **ROTARY TOOLS** 23. CABLE TOOLS

24. PRODUCING INTERVAL(S) OF THIS COMPLETION--TOP, BOTTOM, NAME (MD AND TVD)*
Green River

25. TYPE ELECTRIC AND OTHER LOGS R/W
Previously submitted.

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLES SIZE	CEMENTING RECORD	AMOUNT FILLED
Same as previously reported					

27. LINER RECORD 28. TUBING RECORD

SIZE	TOP (MD)	BOTTOM (MD)	BACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					27/8"	5571'	

29. PERFORATION RECORD (Interval, size and number) 30. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

INTERVAL	SIZE	AMOUNT AND KIND OF MATERIAL USED
A Sand- 5082'-92'; 5095'-5105'	4 JS PF	120,300* 20/40 SD in 494 6015 Delta

31. PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping--also and type of pump)	WELL STATUS (Producing or shut in)					
4-8-85	2 1/2" x 1 1/2" x 16' RHAC - Pumping	Producing					
DATE OF TEST	HOURS TESTED	CHOKER SIZE	PROD'N. FOR TEST PERIOD	OIL--BBL.	GAS--SCF.	WATER--BBL.	GAS-OIL-RATIO
14 Day Avg	2-98			17	12	26	.70%
FLOW, TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL--BBL.	GAS--SCF.	WATER--BBL.	OIL GRAVITY-API (CORR.)	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)
Sold and used for fuel.

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 Debbie E. Knight TITLE Permitting Specialist DATE 3-12-98

* (See Instructions and Spaces for Additional Data on Reverse Side)



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Vernal Field Office
170 South 500 East
Vernal, Utah 84078-2799

Phone: (435) 781-4400
Fax: (435) 781-4410

IN REPLY REFER TO:
3162.3
UT08438

March 19, 1998

Inland Production Company
Attn: Cheryl Cameron
P O Box 790233
Vernal, UT 84079

Re: Well No. Nova 31-20G
NWNE, Sec. 20, T9S, R16E
Lease U-52018
Duchesne County, Utah

Dear Cheryl:

This correspondence is in regard to the self-certification statement submitted requesting a change in operator for the referenced well. After a review by this office, the change in operator request is approved. Effective immediately, Inland Production Company is responsible for all operations performed on the referenced well. All liability will now fall under your bond, BLM Bond No. UT0056, for all operations conducted on the referenced well on the leased land.

If you have any other questions concerning this matter, please contact Margie Herrmann or Pat Sutton of this office at (435) 781-4400.

Sincerely,

Howard B. Cleavinger II
Assistant Field Manager,
Minerals Resources

cc: Division of Oil, Gas & Mining
Hot Rod Oil

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

5. Lease Designation and Serial Number:

U1152018

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

8. Well Name and Number:

31-20 N66 Fed

9. API Well Number:

43013310710051

10. Field and Pool, or Wildcat:

1. Type of Well: OIL GAS OTHER:

2. Name of Operator:

Hot Red Oil

3. Address and Telephone Number:

3130 2050W Verona UT 84078 (435) 789-5678

4. Location of Well

Footages:

QQ, Sec., T., R., M.:

20 NWNE 9S 16E

County: Duchesne

State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT
(Submit in Duplicate)

- Abandonment
- Casing Repair
- Change of Plans
- Conversion to Injection
- Fracture Treat
- Multiple Completion
- Other Change of Operator
- New Construction
- Pull or Alter Casing
- Recompletion
- Shoot or Acidize
- Vent or Flare
- Water Shut-Off

Approximate date work will start _____

SUBSEQUENT REPORT
(Submit Original Form Only)

- Abandonment
- Casing Repair
- Change of Plans
- Conversion to Injection
- Fracture Treat
- Other _____
- New Construction
- Pull or Alter Casing
- Shoot or Acidize
- Vent or Flare
- Water Shut-Off

Date of work completion _____

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Please be advised that Hot Red Oil has relinquished operations of the above mentioned well.

13.

Name & Signature:

Mark A. [Signature]

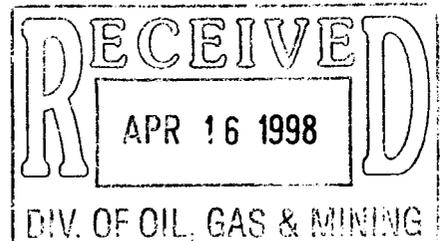
Title:

Co Owner

Date:

3/24/98

(This space for State use only)



1-LEC ✓	6-LEC ✓
2-GLH ✓	7-KAS ✓
3-DTS ✓	8-SI ✓
4-VLD ✓	9-FILE ✓
5-JRB ✓	

OPERATOR CHANGE WORKSHEET

Attach all documentation received by the division regarding this change.
Initial each listed item when completed. Write N/A if item is not applicable.

- Change of Operator (well sold) Designation of Agent
- Designation of Operator Operator Name Change Only

The operator of the well(s) listed below has changed, effective: 12-1-97

TO: (new operator) <u>INLAND PRODUCTION COMPANY</u> FROM: (old operator) <u>HOT ROD OIL</u> (address) <u>PO BOX 1446</u> (address) <u>PO BOX 63</u> <u>ROOSEVELT UT 84066</u> <u>VERNAL UT 84078</u> Phone: <u>(435) 722-5103</u> Phone: <u>(435) 789-</u> Account no. <u>N5160</u> Account no. <u>N9220</u>
--

WELL(S) attach additional page if needed:

Name: <u>NOVA 31-20 G NGC FED</u>	API: <u>43-013-31071</u>	Entity: <u>10185</u>	S <u>20</u>	T <u>9S</u>	R <u>16E</u>	Lease: <u>U52018</u>
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____

OPERATOR CHANGE DOCUMENTATION

- lec 1. (r649-8-10) Sundry or other legal documentation has been received from the **FORMER** operator (attach to this form). *(Reg. 2-18-98) (Reg. 3-24-98) (Reg. 4-10-98) (Rec'd 4-16-98)*
- lec 2. (r649-8-10) Sundry or other legal documentation has been received from the **NEW** operator (Attach to this form). *(Rec'd 2-17-98)*
- N/A 3. The **Department of Commerce** has been contacted if the new operator above is not currently operating any wells in Utah. Is the company **registered with the state?** (yes/no) _____ If yes, show company file number: _____
- lec 4. **FOR INDIAN AND FEDERAL WELLS ONLY.** The BLM has been contacted regarding this change. Make note of BLM status in comments section of this form. BLM approval of **Federal** and **Indian** well operator changes should ordinarily take place prior to the division's approval, and before the completion of **steps 5 through 9** below.
- lec 5. Changes have been entered in the **Oil and Gas Information System** (3270) for each well listed above. *(3-24-98)*
- lec 6. **Cardex** file has been updated for each well listed above. *(3-24-98)*
- lec 7. Well **file labels** have been updated for each well listed above. *(3-24-98)*
- lec 8. Changes have been included on the monthly "Operator, Address, and Account Changes" **memo** for distribution to Trust Lands, Sovereign Lands, UGS, Tax Commission, etc. *(3-24-98)*
- lec 9. A folder has been set up for the **Operator Change file**, and a copy of this page has been placed there for reference during routing and processing of the original documents.

ENTITY REVIEW

- Y 1. (r649-8-7) **Entity assignments have been reviewed** for all wells listed above. Were entity changes made? (yes/no) If entity assignments were changed, attach copies of Form 6, Entity Action Form.
- N/A 2. Trust Lands, Sovereign Lands, Tax Commission, etc., have been **notified** through normal procedures of entity changes.

BOND VERIFICATION - (FEE WELLS ONLY)

- N/A 1. (r649-3-1) The **NEW** operator of any fee lease well listed above has furnished a proper bond.
- 2. A **copy of this form** has been placed in the new and former operator's bond files.
- 3. The **FORMER** operator has requested a release of liability from their bond (yes/no) , as of today's date . If yes, division response was made to this request by letter dated .

LEASE INTEREST OWNER NOTIFICATION OF RESPONSIBILITY

- N/A 1. Copies of documents have been sent on to at Trust Lands for changes involving State leases, in order to remind that agency of their responsibility to review for proper bonding.
- N/A 2. (r649-2-10) The former operator of any fee lease wells listed above has been contacted and informed by letter dated 19 , of their responsibility to notify all interest owners of this change.

FILMING

- 1. All attachments to this form have been **microfilmed**. Today's date: 4-23-98.

FILING

- CHP 1. **Copies** of all attachments to this form have been filed in each **well file**.
- CHP 2. The **original of this form**, and the **original attachments** are now being filed in the Operator Change file.

COMMENTS

980324 Bym/Verna/ Aprv. 3-19-98.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry a different reservoir.
Use "APPLICATION FOR PERMIT -" for such proposals

5. Lease Designation and Serial No.
U-52018

6. If Indian, Allottee or Tribe Name
NA

7. If Unit or CA, Agreement Designation
NA

8. Well Name and No.
NOVA 31-20 G NGC FEDERAL

9. API Well No.
43-013-31071

10. Field and Pool, or Exploratory Area
MONUMENT BUTTE

11. County or Parish, State
DUCHESNE COUNTY, UTAH

SUBMIT IN TRIPLICATE

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
INLAND PRODUCTION COMPANY

3. Address and Telephone No.
475 17TH STREET, SUITE 1500, DENVER, COLORADO 80202 (303) 292-0900

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)
0540 FNL 1944 FEL NW/NE Section 20, T09S R16E

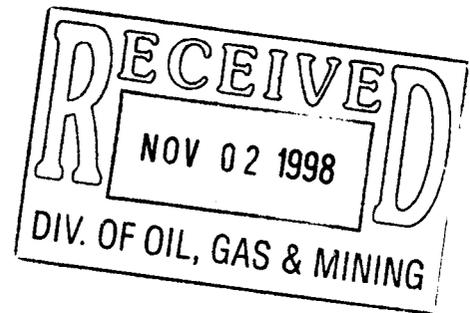
12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input checked="" type="checkbox"/> Other <u>Site Security</u>
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

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

13. 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.)*

Attached please find the site security diagram for the above referenced well.



14. I hereby certify that the foregoing is true and correct
Signed *Debbie E. Knight* Title Manager, Regulatory Compliance Date 10/28/98

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____

Conditions of approval, if any:

CC: UTAH DOGM

Inland Production Company Site Facility Diagram

NGC Federal 31-20G

NW/NE Sec. 20, T9S, 16E

Duchesne County

Sept. 17, 1998

Site Security Plan is held at the
Roosevelt Office, Roosevelt Utah

Production Phase:

- 1) Valves 1, and 3 sealed closed
- 2) Valves 2 and 4 sealed open

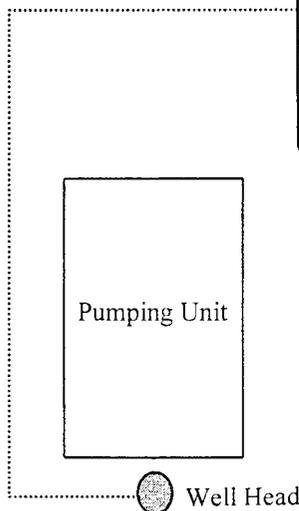
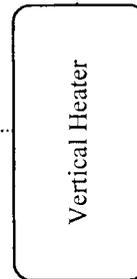
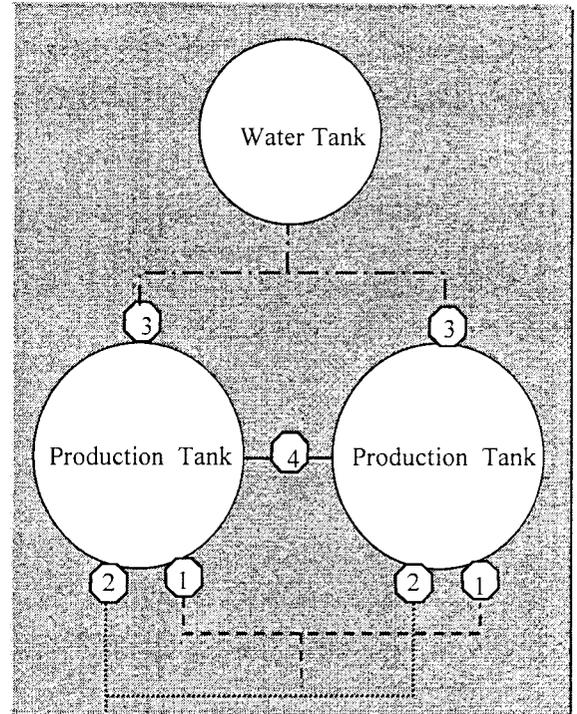
Sales Phase:

- 1) Valves 2, 3, and 4 sealed closed
- 2) Valves 1 open

Draining Phase:

- 1) Valve 3 open

Diked Section →



Legend

Emulsion Line
Load Line	-----
Water Line	- - - - -
Gas Sales	- · - · -

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry a different reservoir.
Use "APPLICATION FOR PERMIT -" for such proposals

5. Lease Designation and Serial No.
U-52018

6. If Indian, Allottee or Tribe Name
NA

7. If Unit or CA, Agreement Designation
NA

8. Well Name and No.
NOVA 31-20 G NGC FEDERAL

9. API Well No.
43-013-31071

10. Field and Pool, or Exploratory Area
MONUMENT BUTTE

11. County or Parish, State
DUCHESNE COUNTY, UTAH

SUBMIT IN TRIPLICATE

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
INLAND PRODUCTION COMPANY

3. Address and Telephone No.
410 17TH STREET, SUITE 700, DENVER, COLORADO 80202 (303) 893-0102

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)
0540 ENL 1944 FEL NW/NE Section 20, T09S R16E

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input checked="" type="checkbox"/> Other Weekly Status
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

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

13. 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.)*

WEEKLY STATUS REPORT FOR THE PERIOD OF 1/25/98 - 2/6/98

Bit & scraper run. Set & test RBP.
 PU N-80 frac string & pkr.
 Perf A sds @ 5082-92' & 5095-5105'.
 Zylene treatments on D & C sds.
 LD Frac string. TIH w/production tbg. Land.
 Swab well. Run rods.
 Place well on production @ 8:30 am, 2/5/98.

*WTC
1-11-99
RTR*

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

Signed Shannon Smith Title Engineering Secretary Date 1/5/99

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____

Conditions of approval, if any:
CC: UTAH DOGM

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.

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry a different reservoir.
Use "APPLICATION FOR PERMIT -" for such proposals

5. Lease Designation and Serial No.
U-52018

6. If Indian, Allottee or Tribe Name
NA

7. If Unit or CA, Agreement Designation
NA

8. Well Name and No.
NOVA 31-20 G NGC FEDERAL

9. API Well No.
43-013-31071

10. Field and Pool, or Exploratory Area
MONUMENT BUTTE

11. County or Parish, State
DUCHESNE COUNTY, UTAH

SUBMIT IN TRIPLICATE

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
INLAND PRODUCTION COMPANY

3. Address and Telephone No.
410 17TH STREET, SUITE 700, DENVER, COLORADO 80202 (303) 893-0102

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)
0540 FNL 1944 FEL NW/NE Section 20, T09S R16E

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input checked="" type="checkbox"/> Other <u>Weekly Status</u>
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

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

13. 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.)*

WEEKLY STATUS REPORT FOR THE PERIOD OF 1/25/98 - 2/6/98

Bit & scraper run. Set & test RBP.
 PU N-80 frac string & pkr.
 Perf A sds @ 5082-92' & 5095-5105'.
 Zylene treatments on D & C sds.
 LD Frac string. TIH w/production tbg. Land.
 Swab well. Run rods.
 Place well on production @ 8:30 am, 2/5/98.

*WTC
1-11-99
RTK*

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

Signed Shannon Smith Title Engineering Secretary Date 1/5/99

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____

Conditions of approval, if any:

CC: UTAH DOGM



Office of the Secretary of State

The undersigned, as Secretary of State of Texas, does hereby certify that the attached is a true and correct copy of each document on file in this office as described below:

Newfield Production Company
Filing Number: 41530400

Articles of Amendment

September 02, 2004

In testimony whereof, I have hereunto signed my name officially and caused to be impressed hereon the Seal of State at my office in Austin, Texas on September 10, 2004.



A handwritten signature in black ink, appearing to read "G. Connor".

Secretary of State

ARTICLES OF AMENDMENT
TO THE
ARTICLES OF INCORPORATION
OF
INLAND PRODUCTION COMPANY

FILED
In the Office of the
Secretary of State of Texas
SEP 02 2004
Corporations Section

Pursuant to the provisions of Article 4.04 of the Texas Business Corporation Act (the "TBCA"), the undersigned corporation adopts the following articles of amendment to the articles of incorporation:

ARTICLE 1 – Name

The name of the corporation is Inland Production Company.

ARTICLE 2 – Amended Name

The following amendment to the Articles of Incorporation was approved by the Board of Directors and adopted by the shareholders of the corporation on August 27, 2004.

The amendment alters or changes Article One of the Articles of Incorporation to change the name of the corporation so that, as amended, Article One shall read in its entirety as follows:

"ARTICLE ONE – The name of the corporation is Newfield Production Company."

ARTICLE 3 – Effective Date of Filing

This document will become effective upon filing.

The holder of all of the shares outstanding and entitled to vote on said amendment has signed a consent in writing pursuant to Article 9.10 of the TBCA, adopting said amendment, and any written notice required has been given.

IN WITNESS WHEREOF, the undersigned corporation has executed these Articles of Amendment as of the 1st day of September, 2004.

INLAND RESOURCES INC.

By: Susan G. Riggs
Susan G. Riggs, Treasurer

UTSL-	15855	61052	73088	76561	
071572A	16535	62848	73089	76787	
065914	16539	63073B	73520A	76808	
	16544	63073D	74108	76813	
	17036	63073E	74805	76954	63073X
	17424	63073O	74806	76956	63098A
	18048	64917	74807	77233	68528A
UTU-	18399	64379	74808	77234	72086A
	19267	64380	74389	77235	72613A
02458	26026A	64381	74390	77337	73520X
03563	30096	64805	74391	77338	74477X
03563A	30103	64806	74392	77339	75023X
04493	31260	64917	74393	77357	76189X
05843	33992	65207	74398	77359	76331X
07978	34173	65210	74399	77365	76788X
09803	34346	65635	74400	77369	77098X
017439B	36442	65967	74404	77370	77107X
017985	36846	65969	74405	77546	77236X
017991	38411	65970	74406	77553	77376X
017992	38428	66184	74411	77554	78560X
018073	38429	66185	74805	78022	79485X
019222	38431	66191	74806	79013	79641X
020252	39713	67168	74826	79014	80207X
020252A	39714	67170	74827	79015	81307X
020254	40026	67208	74835	79016	
020255	40652	67549	74868	79017	
020309D	40894	67586	74869	79831	
022684A	41377	67845	74870	79832	
027345	44210	68105	74872	79833	
034217A	44426	68548	74970	79831	
035521	44430	68618	75036	79834	
035521A	45431	69060	75037	80450	
038797	47171	69061	75038	80915	
058149	49092	69744	75039	81000	
063597A	49430	70821	75075		
075174	49950	72103	75078		
096547	50376	72104	75089		
096550	50385	72105	75090		
	50376	72106	75234		
	50750	72107	75238		
10760	51081	72108	76239		
11385	52013	73086	76240		
13905	52018	73087	76241		
15392	58546	73807	76560		



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155
<http://www.blm.gov>



IN REPLY REFER TO:
3106
(UT-924)

September 16, 2004

Memorandum

To: Vernal Field Office
From: Acting Chief, Branch of Fluid Minerals
Subject: Merger Approval

Attached is an approved copy of the name change recognized by the Utah State Office. We have updated our records to reflect the merger from Inland Production Company into Newfield Production Company on September 2, 2004.

Michael Coulthard
Acting Chief, Branch of
Fluid Minerals

Enclosure

1. State of Texas Certificate of Registration

cc: MMS, Reference Data Branch, James Sykes, PO Box 25165, Denver CO 80225
State of Utah, DOGM, Attn: Earlene Russell, PO Box 145801, SLC UT 84114
Teresa Thompson
Joe Incardine
Connie Seare

OPERATOR CHANGE WORKSHEET

ROUTING

1. GLH
2. CDW
3. FILE

Change of Operator (Well Sold)

Designation of Agent/Operator

X Operator Name Change

Merger

The operator of the well(s) listed below has changed, effective:

9/1/2004

FROM: (Old Operator):
 N5160-Inland Production Company
 Route 3 Box 3630
 Myton, UT 84052
 Phone: 1-(435) 646-3721

TO: (New Operator):
 N2695-Newfield Production Company
 Route 3 Box 3630
 Myton, UT 84052
 Phone: 1-(435) 646-3721

CA No.

Unit:

WELL(S)

NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
WALKER/SAND PASS 14-21R-4-1(REEN	21	040S	010W	4301331069	14300	Fee	NA	P
CODY FEDERAL 2-35 (REENTRY)	35	080S	150E	4301331525	11794	Federal	OW	P
MONUMENT BUTTE FED 14-25	25	080S	160E	4301331531	11805	Federal	OW	P
MONUMENT BUTTE FED 12-25	25	080S	160E	4301331554	11840	Federal	OW	P
MONUMENT BUTTE FED 10-25	25	080S	160E	4301331562	11874	Federal	OW	P
MONUMENT BUTTE FED 16-26	26	080S	160E	4301331517	11814	Federal	OW	P
MONUMENT BUTTE ST 14-36	36	080S	160E	4301331508	11774	State	OW	P
MONUMENT BUTTE ST 10-36	36	080S	160E	4301331551	11822	State	OW	P
MONUMENT BUTTE ST 2-36	36	080S	160E	4301331556	11855	State	OW	P
ASHLEY FEDERAL 10-23	23	090S	150E	4301331519	11775	Federal	OW	P
FEDERAL 41-10Y	10	090S	160E	4301331478	11764	Federal	NA	PA
FEDERAL 21-13Y	13	090S	160E	4301331400	11510	Federal	OW	P
NOVA 31-20 G NGC FEDERAL	20	090S	160E	4301331071	10185	Federal	OW	S
FEDERAL 41-21Y	21	090S	160E	4301331392	11505	Federal	OW	S
FEDERAL 21-25Y	25	090S	160E	4301331394	11530	Federal	OW	S
ALLEN FEDERAL 31-6G	06	090S	170E	4301331442	11642	Federal	GW	S
FEDERAL 41-18	18	090S	170E	4301331399	11536	Federal	NA	PA

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 9/15/2004

2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 9/15/2004

3. The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 2/23/2005

4. Is the new operator registered in the State of Utah: YES Business Number: 755627-0143

5. If **NO**, the operator was contacted contacted on:

6a. (R649-9-2)Waste Management Plan has been received on: IN PLACE
6b. Inspections of LA PA state/fee well sites complete on: waived

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM BIA

8. **Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: n/a

9. **Federal and Indian Communization Agreements ("CA"):**
The BLM or BIA has approved the operator for all wells listed within a CA on: na/

10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 2/23/2005

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database** on: 2/28/2005
2. Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 2/28/2005
3. Bond information entered in RBDMS on: 2/28/2005
4. Fee/State wells attached to bond in RBDMS on: 2/28/2005
5. Injection Projects to new operator in RBDMS on: 2/28/2005
6. Receipt of Acceptance of Drilling Procedures for APD/New on: waived

FEDERAL WELL(S) BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: UT 0056

INDIAN WELL(S) BOND VERIFICATION:

1. Indian well(s) covered by Bond Number: 61BSBDH2912

FEE & STATE WELL(S) BOND VERIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number 61BSBDH2919

2. The **FORMER** operator has requested a release of liability from their bond on: n/a*
The Division sent response by letter on: n/a

LEASE INTEREST OWNER NOTIFICATION:

3. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: n/a

COMMENTS:

*Bond rider changed operator name from Inland Production Company to Newfield Production Company - received 2/23/05

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires January 31, 2004

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.
UTU-52018

6. If Indian, Allottee or Tribe Name.

7. If Unit or CA/Agreement, Name and/or

8. Well Name and No.
NOVA 31-20G NGC FEDERAL

9. API Well No.
4301331071

10. Field and Pool, or Exploratory Area
MONUMENT BUTTE

11. County or Parish, State
DUCHESNE, UT

SUBMIT IN TRIPLICATE - Other Instructions on reverse side

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
NEWFIELD PRODUCTION COMPANY

3a. Address Route 3 Box 3630
Myton, UT 84052

3b. Phone (include are code)
435.646.3721

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
540 FNL 1944 FEL
NWNE Section 20 T9S R16E

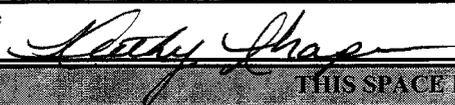
12. CHECK APPROPRIATE BOX(ES) TO INIDICATE NATURE OF NOTICE, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production(Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug & Abandon	<input checked="" type="checkbox"/> Temporarily Abandon	_____
	<input type="checkbox"/> Convert to	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	_____

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Newfield requests a change of status to TA this well. Newfield plans to Re-Complete this well in the near future in the following intervals.
CP4 sands

Accepted by the
Utah Division of
Oil, Gas and Mining
For Record Only

I hereby certify that the foregoing is true and correct (Printed/ Typed) Kathy Chapman	Title Office Manager
Signature 	Date 01/30/2008

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice 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	Office	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious and fraudulent statements or representations as to any matter within its jurisdiction

(Instructions on reverse)

RECEIVED

FEB 06 2008

DIV. OF OIL, GAS & MINING

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-52018
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
1. TYPE OF WELL Oil Well		7. UNIT or CA AGREEMENT NAME: GMBU (GRRV)
2. NAME OF OPERATOR: NEWFIELD PRODUCTION COMPANY		8. WELL NAME and NUMBER: NOVA 31-20 G NGC FEDERAL
3. ADDRESS OF OPERATOR: Rt 3 Box 3630, Myton, UT, 84052		9. API NUMBER: 43013310710000
PHONE NUMBER: 435 646-4825 Ext		9. FIELD and POOL or WILDCAT: MONUMENT BUTTE
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0540 FNL 1944 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 20 Township: 09.0S Range: 16.0E Meridian: S		COUNTY: DUCHESNE
		STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 11/10/2014	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input checked="" type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input checked="" type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input checked="" type="checkbox"/> OTHER	OTHER: <input type="text" value="New Perforations"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The subject well has been converted from a producing oil well to an injection well on 11/04/2014. New intervals perforated, GB6 sands - 4171-4174 & 4178-4181' 3 JSPF. On 11/07/2014 Richard Powell with the State of Utah DOGM was contacted concerning the initial MIT on the above listed well. On 11/10/2014 the casing was pressured up to 1200 psig and charted for 30 minutes with no pressure loss. The well was not injecting during the test. The tubing pressure was 1500 psig during the test. There was not an State representative available to witness the test.

**Accepted by the
Utah Division of
Oil, Gas and Mining**

Date: ~~November 25, 2014~~
By: 

NAME (PLEASE PRINT) Lucy Chavez-Naupoto	PHONE NUMBER 435 646-4874	TITLE Water Services Technician
SIGNATURE N/A	DATE 11/12/2014	

Mechanical Integrity Test Casing or Annulus Pressure Test

Newfield Production Company
Rt. 3 Box 3630
Myton, UT 84052
435-646-3721

Witness: _____ Date 11/10/2014 Time 10:58 am pm

Test Conducted by: Dustin Bennett

Others Present: Hal Richards

Well: Nova N6C Federal 31-206-9-16 Field: Monument Butte
Well Location: NW/4E Sec. 20, T9S, R16E API No: 43-013-31071
Dakota County, Utah

<u>Time</u>	<u>Casing Pressure</u>	
0 min	<u>1200.0</u>	psig
5	<u>1200.0</u>	psig
10	<u>1199.6</u>	psig
15	<u>1200.0</u>	psig
20	<u>1200.0</u>	psig
25	<u>1200.4</u>	psig
30 min	<u>1200.2</u>	psig
35	<u>[blot]</u>	psig
40	_____	psig
45	_____	psig
50	_____	psig
55	_____	psig
60 min	_____	psig

Tubing pressure: 1500 psig

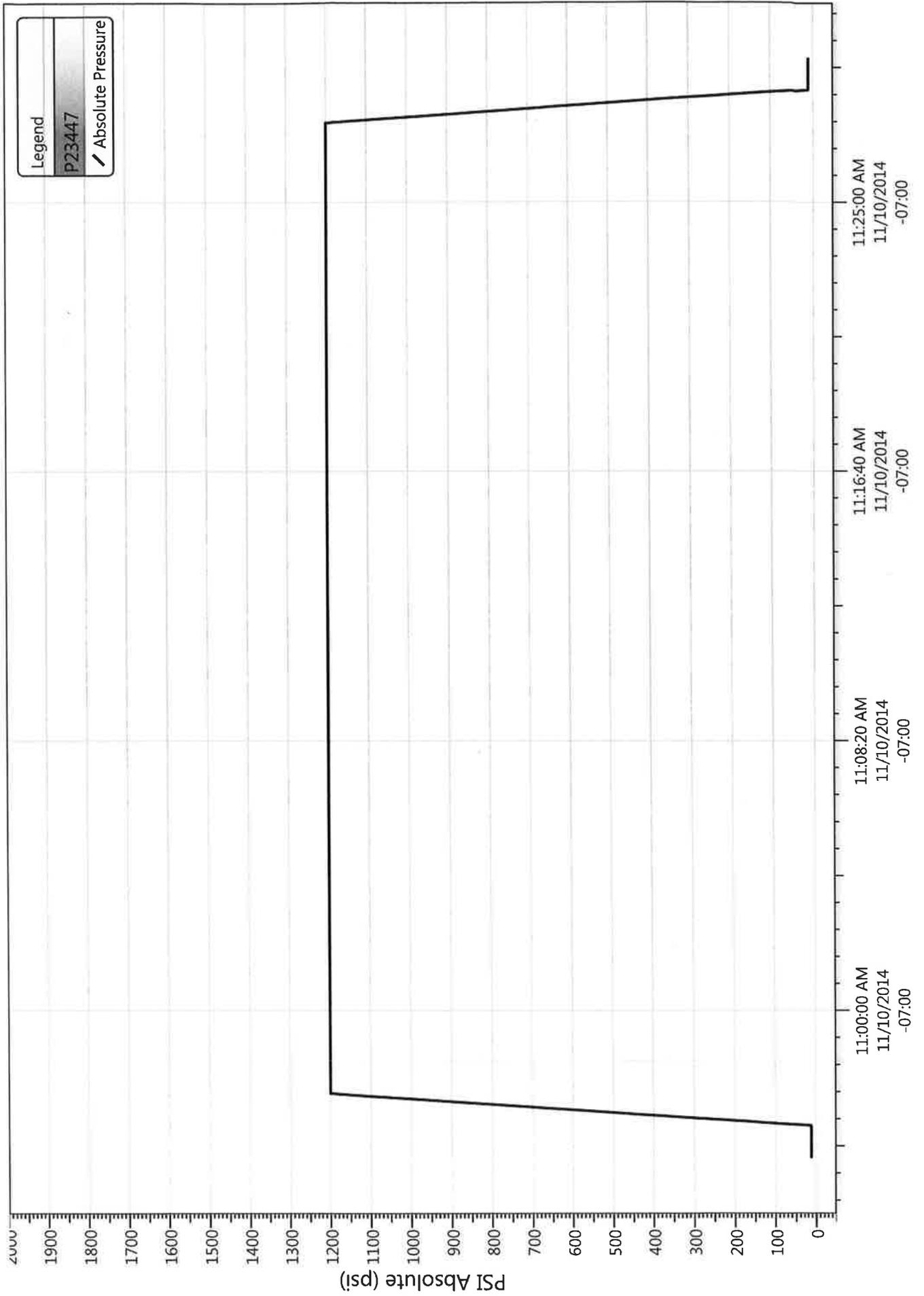
Result: Pass Fail

Signature of Witness: _____

Signature of Person Conducting Test: [Signature]

Nova NGC Federal 32-20g-9-16 (conversion mit 11-10-2014)

11/10/2014 10:53:38 AM



Well Name: Nova 31-20G-9-16

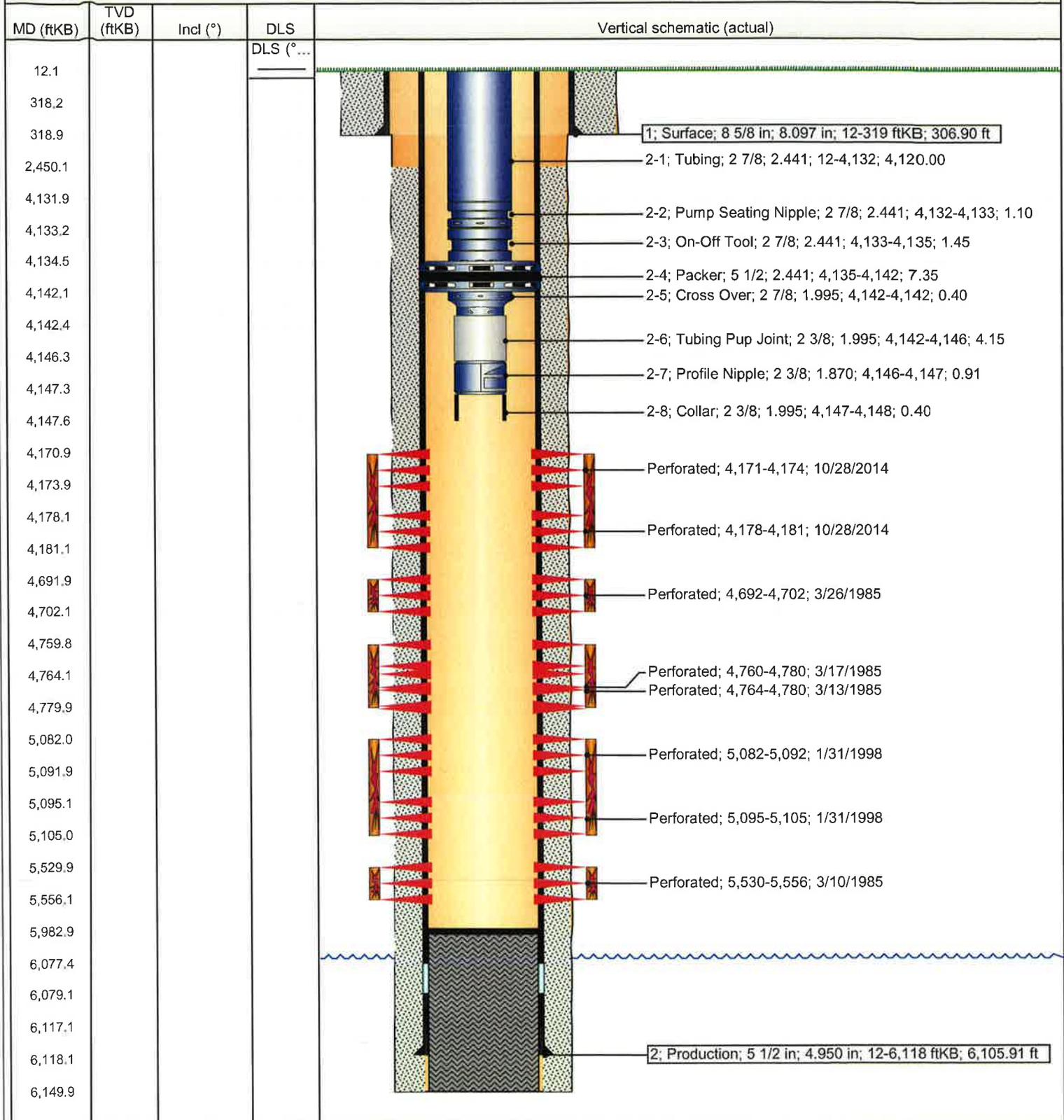
Surface Legal Location 20-9S-16E		API/UWI 43013310710000	Well RC 500151185	Lease	State/Province Utah	Field Name GMBU CTB3	County DUCHESNE
Spud Date	Rig Release Date	On Production Date 4/8/1985	Original KB Elevation (ft) 6,063	Ground Elevation (ft) 6,051	Total Depth All (TVD) (ftKB)	PBD (All) (ftKB) Original Hole - 5,983.0	

Most Recent Job

Job Category Production / Workover	Primary Job Type Conversion	Secondary Job Type OAP	Job Start Date 10/24/2014	Job End Date 11/10/2014
---------------------------------------	--------------------------------	---------------------------	------------------------------	----------------------------

TD: 6,150.0

Vertical - Original Hole, 11/11/2014 11:46:15 AM



NEWFIELD**Newfield Wellbore Diagram Data
Nova 31-20G-9-16**

Surface Legal Location 20-9S-16E		API/UWI 43013310710000		Lease	
County DUCHESNE		State/Province Utah		Basin	
Well Start Date 1/4/1985		Spud Date		Final Rig Release Date	
Original KB Elevation (ft) 6,063		Ground Elevation (ft) 6,051		Total Depth (ftKB) 6,150.0	
				Total Depth All (TVD) (ftKB)	
				PBTD (All) (ftKB) Original Hole - 5,983.0	

Casing Strings

Csg Des	Run Date	OD (in)	ID (in)	Wt/Len (lb/ft)	Grade	Set Depth (ftKB)
Surface	1/4/1985	8 5/8	8.097	24.00	J-55	319
Production	1/18/1985	5 1/2	4.950	15.50	J-55	6,118

Cement**String: Surface, 319ftKB 1/6/1985**

Cementing Company	Top Depth (ftKB) 12.0	Bottom Depth (ftKB) 319.0	Full Return?	Vol Cement Ret (bbl)
Fluid Description	Fluid Type Lead	Amount (sacks) 250	Class H	Estimated Top (ftKB) 12.0

String: Production, 6,118ftKB 1/18/1985

Cementing Company	Top Depth (ftKB) 2,450.0	Bottom Depth (ftKB) 6,150.0	Full Return?	Vol Cement Ret (bbl)
Fluid Description	Fluid Type Lead	Amount (sacks) 240	Class LITE	Estimated Top (ftKB) 2,450.0
Fluid Description	Fluid Type Tail	Amount (sacks) 570	Class H	Estimated Top (ftKB) 4,000.0

Tubing Strings

Tubing Description		Run Date		Set Depth (ftKB)				
Item Des	Jts	OD (in)	ID (in)	Wt (lb/ft)	Grade	Len (ft)	Top (ftKB)	Btm (ftKB)
Tubing	128	2 7/8	2.441	6.50	N-80	4,120.00	12.0	4,132.0
Pump Seating Nipple	1	2 7/8	2.441	6.50	N-80	1.10	4,132.0	4,133.1
On-Off Tool	1	2 7/8	2.441			1.45	4,133.1	4,134.6
Packer	1	5 1/2	2.441			7.35	4,134.6	4,141.9
Cross Over	1	2 7/8	1.995			0.40	4,141.9	4,142.3
Tubing Pup Joint	1	2 3/8	1.995	6.50	N-80	4.15	4,142.3	4,146.5
Profile Nipple	1	2 3/8	1.870	6.50	N-80	0.91	4,146.5	4,147.4
Collar	1	2 3/8	1.995	6.50	N-80	0.40	4,147.4	4,147.8

Rod Strings

Rod Description		Run Date		Set Depth (ftKB)			
Item Des	Jts	OD (in)	Wt (lb/ft)	Grade	Len (ft)	Top (ftKB)	Btm (ftKB)

Perforation Intervals

Stage#	Zone	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Phasing (°)	Nom Hole Dia (in)	Date
5	GB6, Original Hole	4,171	4,174	3	120	0.038	10/28/2014
5	GB6, Original Hole	4,178	4,181	3	120	0.038	10/28/2014
3	B1, Original Hole	4,692	4,702	4			3/26/1985
2	C, Original Hole	4,760	4,780	4			3/17/1985
2	CP2, Original Hole	4,764	4,780	4			3/13/1985
4	A3, Original Hole	5,082	5,092	4			1/31/1998
4	D1, Original Hole	5,095	5,105	4			1/31/1998
1	CP5, Original Hole	5,530	5,556	4			3/10/1985

Stimulations & Treatments

Stage#	ISIP (psi)	Frac Gradient (psi/ft)	Max Rate (bbl/min)	Max PSI (psi)	Total Clean Vol (bbl)	Total Slurry Vol (bbl)	Vol Recov (bbl)
1							
2							
3							
4							
5	1,793	0.86	19.8	5,730			

Proppant

Stage#	Total Prop Vol Pumped (lb)	Total Add Amount
1		Proppant White Sand 150000 lb
2		Proppant White Sand 57135 lb
3		Proppant White Sand 46000 lb
4		Proppant White Sand 120000 lb

NEWFIELD

**Newfield Wellbore Diagram Data
Nova 31-20G-9-16**



Proppant		
Stage#	Total Prop Vol Pumped (lb)	Total Add Amount
5	22,860	Proppant White Sand 22500 lb



Well Name: Nova 31-20G-9-16

Job Detail Summary Report

Jobs		Job Start Date	Job End Date
Primary Job Type Conversion		10/24/2014	11/10/2014
Daily Operations			
Report Start Date		24hr Activity Summary	
10/24/2014	10/25/2014	RU, LD rods	
Start Time	End Time	End Time	Comment
00:00	05:30	05:30	SW/IFN
05:30	06:00	06:00	Crew travel, jsa, jsp
06:00	08:00	08:00	Move rig onto location
08:00	17:30	17:30	Rig Down Pmp Unit, R/U Rod Exp, R/U H/Oiler To Csg, Pmp 50BW @ 250*, Pmp 600psi Durring Flush, Flow Line Plugged W/Oil, Could Not Blow Down Well Do To Blowing Water On Loc, Wait On Flow Tank To Blow Well Down, Set Tank, Blow Well Down, R/U Well To Tank, Pull Pmp Off Seat, Flush Rods & Tbg W/30BW @ 250*, Soft Seat Rod Pmp, Psr Tst Tbg To 3000psi, Good Tst, Pull Pmp Off Seat, POOH W/ Rod String And L/D As Shown-1 1/2X22' Polish Rod, 1-4.6, & 10' 7/8 Ponys, 61-7/8 4 Pers, 101 -3/4 Sicks, 52 -3/4 4 Pers, 4-1 1/2 Wt Bars & 1 Rod Pmp, Flush 4 Times Durring Trip To Clean Oil Off Rods, R/D Rod Exp, R/U Tbg Exp, Ready For N/U Of BOPs
17:30	18:00	18:00	Crew Travel
18:00	00:00	00:00	swifn
Report Start Date		24hr Activity Summary	
10/27/2014	10/26/2014	NU BOP test, POOH breaking collars	
Start Time	End Time	End Time	Comment
00:00	05:30	05:30	SW/IFN
05:30	06:00	06:00	Crew travel, jsa, jsp, start equipment
06:00	18:30	18:30	OWU, N/D W/H-D, Release T/A, RIH W/Pkr, Set Pkr @ 15', Get Off On/Off Tool, LD Jt, N/U BOPs, R/U Tbg Exp, R/U RBS To Psr Tst BOPs, Psr Tst BOPs, All Tst Good, Chart All Tsts, R/D RBS BOP Tst, TOOH W/ 2 7/8 N-80 Tbg String As Shown-172jts Tbg, T/A, 2jts, S/N, 4jt, N/C, T/A Was Sticking First 60' Pulled, Flush W/ 40BW Durring Flush Do To Oil In Tbg, Brake & Dope 131jts Tbg W/Lubon 404G Dope, P/U & RIH W/Stacked Bit & Scraper To Clean Out To Btm Perf, TH W/60jts Tbg
18:30	19:00	19:00	crew travel
19:00	00:00	00:00	sdfn
Report Start Date		24hr Activity Summary	
10/28/2014	10/29/2014	RIH Bit/ Scraper, Perforate new Zone, RIH Plug/ Packer	
Start Time	End Time	End Time	Comment
00:00	06:00	06:00	SW/IFN
06:00	06:30	06:30	Crew travel, JSA, JSP, Start equipment
06:30	07:30	07:30	Finish RIH W/ bit, scraper to 5560
07:30	09:00	09:00	POOH rack back 131 jnts, LD 44 jnts
09:00	13:00	13:00	RU Extreme wireline, RIH corrolate w/ shorter jnt and existing perfs, shoot new perfs @ 4171-74, 78-81,



Well Name: Nova 31-20G-9-16

Job Detail Summary Report

Start Time	13:00	End Time	18:00	Comment
Start Time	18:00	End Time	18:30	PU frac string setting RBP @ 4132, PKR @ 4095, test tools to 3,000, test csg to 1500 psi, move tools to 4227 & 4101, break down zone @ 4000, inject @ 1600 psi 2 bbls, release 3e pkr for night
Start Time	18:30	End Time	00:00	Comment
Report Start Date	10/29/2014	Report End Date	10/30/2014	Comment
Start Time	00:00	End Time	06:30	24hr Activity Summary Wait to Frac Comment
Start Time	06:30	End Time	07:00	SWIFN
Start Time	07:00	End Time	15:00	Comment
Start Time	15:00	End Time	15:30	Crew Travel
Start Time	15:30	End Time	01:00	Comment
Report Start Date	10/30/2014	Report End Date	10/31/2014	Comment
Start Time	00:00	End Time	06:30	24hr Activity Summary Frac Well Comment
Start Time	06:30	End Time	07:00	SWIFN
Start Time	07:00	End Time	13:00	Comment
Start Time	13:00	End Time	15:00	Crew Travel
Start Time	15:00	End Time	17:30	Comment
Start Time	17:30	End Time	19:30	Wait on Halliburton
Start Time	19:30	End Time	20:00	Comment
Start Time	20:00	End Time	00:00	Set Pkr, Ru Halliburton Frac, Hold Safety meeting
Report Start Date	10/31/2014	Report End Date	11/1/2014	Comment
Start Time	00:00	End Time	05:30	24hr Activity Summary RIH Conversion Packer/ test Comment
Start Time	05:30	End Time	06:00	SWIFN
Start Time	06:00	End Time	07:00	Comment
				Crew travel, JSA, JSP, Start Equipment
				Comment
				LD rest of Frac string



Well Name: Nova 31-20G-9-16

Job Detail Summary Report

Start Time	07:00	End Time	20:00	Comment
Start Time	20:00	End Time	20:30	SWIFN, Crew travel
Start Time	20:30	End Time	00:00	SWIFN
Report Start Date	11/3/2014	Report End Date	11/4/2014	24hr Activity Summary
Start Time	00:00	End Time	05:30	SWIFN
Start Time	05:30	End Time	06:00	Crew travel, JSA, JSP, Start equipment
Start Time	06:00	End Time	18:00	Comment 6:00AM OWU, 1400psi On Csg & Tbg, R/U Preferred H/Oiler To Tbg, Pmp 15BW Pad, Drop S/Mive, Fill W/25BW, Psr Tst Tbg To 3000psi, Psr Fell Off To 2800psi @ .67psi Per Min, Then Gained To 2800psi & Held For One Hour, OWU, R/U S/Lne W/Fishing Tool, P/U & RIH W/ S/Lne To Fish S/Mive, Latch Onto S/Mive, Pull Off Seat, POOH W/ S/Lne, L/D & R/D S/Lne, Work To Kill Well, Bull Head 50BW Down Csg, R/U & Bull Head 35BW Down Tbg, Bull Head 50 Down Tbg, Well Would Not Lay Dead, Kept Changing Direction, Circulate 70BW Down Tbg & Up Csg W/Pkr Fluid In It, Well Quit Flowing, Set Pkr In 17K# Tension, R/D Tbg Eqp, R/D Rig Flr, N/D BOPs, L/D 8' Tbg Sub, Well Started Flowing, R/U & NIU Injection Tree, Fill Csg W/15BW, Psr Tst Csg To 1650psi, Psr Bled Off To 1540psi @ 1.3psi Per Min.
Start Time	18:00	End Time	18:30	Comment Crew travel
Start Time	18:30	End Time	00:00	SWIFN
Report Start Date	11/4/2014	Report End Date	11/5/2014	24hr Activity Summary
Start Time	00:00	End Time	06:00	SWIFN
Start Time	06:00	End Time	07:00	Crew travel
Start Time	07:00	End Time	14:00	Comment Check Psr On Csg, Psr @ 1600psi, Call For MIT Hand To Come MIT Well, MIT Hand Bled Psr Off To 1100psi, Psr Raised 20psi In 15min, MIT Hand Wanted To Let It Set, Psr Held 1120psi, Wait On MIT Hand, R/U MIT Hand & MIT Well, R/D & M/O NC#4 @2:00PM
Report Start Date	11/10/2014	Report End Date	11/10/2014	24hr Activity Summary
Start Time	10:55	End Time	11:25	Comment On 11/10/2014 Richard Powell with the State of Utah DOGM was contacted concerning the initial MIT on the above listed well. On 11/10/2014 the casing was pressured up to 1200 psig and charted for 30 minutes with no pressure loss. The well was not injecting during the test. The tubing pressure was 1500 psig during the test. There was not an State representative available to witness the test.

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-52018
SUNDRY NOTICES AND REPORTS ON WELLS		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		7. UNIT or CA AGREEMENT NAME: GMBU (GRRV)
1. TYPE OF WELL Water Injection Well		8. WELL NAME and NUMBER: NOVA 31-20 G NGC FEDERAL
2. NAME OF OPERATOR: NEWFIELD PRODUCTION COMPANY		9. API NUMBER: 43013310710000
3. ADDRESS OF OPERATOR: Rt 3 Box 3630 , Myton, UT, 84052	PHONE NUMBER: 435 646-4825 Ext	9. FIELD and POOL or WILDCAT: MONUMENT BUTTE
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0540 FNL 1944 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 20 Township: 09.0S Range: 16.0E Meridian: S		COUNTY: DUCHESNE
		STATE: UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 1/13/2015	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input checked="" type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input checked="" type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The above reference well was put on injection at 10:45 AM on
01/13/2015

**Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
January 20, 2015**

NAME (PLEASE PRINT) Lucy Chavez-Naupoto	PHONE NUMBER 435 646-4874	TITLE Water Services Technician
SIGNATURE N/A	DATE 1/14/2015	



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

UNDERGROUND INJECTION CONTROL PERMIT

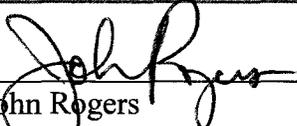
Cause No. UIC-419

Operator: Newfield Production Company
Well: Nova 31-20 G NGC Federal
Location: Section 20, Township 9 South, Range 16 East
County: Duchesne
API No.: 43-013-31071
Well Type: Enhanced Recovery (waterflood)

Stipulations of Permit Approval

1. Approval for conversion to Injection Well issued on April 29, 2014.
2. Maximum Allowable Injection Pressure: 1,769 psig
3. Maximum Allowable Injection Rate: (restricted by pressure limitation)
4. Injection Interval: Green River Formation (3,940' – 5,991')
5. Any subsequent wells drilled within a ½ mile radius of this well shall have production casing cement brought up to or above the top of the unitized interval for the Greater Monument Butte Unit.

Approved by:


John Rogers
Associate Director

Date

1/8/15

JR/MLR/js

cc: Bruce Suchomel, Environmental Protection Agency
Bureau of Land Management, Vernal
SITLA
Jill Loyle, Newfield Production Company, Denver
Newfield Production Company, Myton
Duchesne County
Well File

N:\O&G Reviewed Docs\ChronFile\UIC\Newfield





GARY R. HERBERT
Governor

GREGORY S. BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

April 29, 2014

Newfield Production Company
1001 Seventeenth Street, Suite 2000
Denver, CO 80202

Subject: Greater Monument Butte Unit Well: Nova 31-20G NGC Federal, Section 20, Township 9 South, Range 16 East, SLBM, Duchesne County, Utah, API Well # 43-013-31071

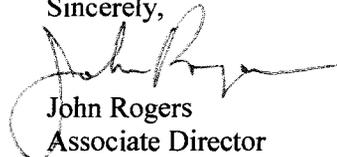
Newfield Production Company:

Pursuant to Utah Admin. Code R649-5-3-3, the Division of Oil, Gas and Mining (the "Division") issues its administrative approval for conversion of the referenced well to a Class II injection well. Accordingly, the following stipulations shall apply for full compliance with this approval:

1. Compliance with all applicable requirements for the operation, maintenance and reporting for Underground Injection Control ("UIC") Class II injection wells pursuant to Utah Admin. Code R649-1 et seq.
2. Conformance with all conditions and requirements of the complete application submitted by Newfield Production Company.
3. A casing\tubing pressure test shall be conducted prior to commencing injection.
4. Pressure shall be monitored between the surface casing and the production casing on a regular basis. Any pressure changes observed shall be reported to the Division immediately.
5. The top of the injection interval shall be limited to a depth no higher than 3,940 feet in the Nova 31-20G NGC Federal well.

A final approval to commence injection will be issued upon satisfactory completion of the listed stipulations. If you have any questions regarding this approval or the necessary requirements, please contact Mark Reinbold at 801-538-5333 or Brad Hill at 801-538-5315.

Sincerely,



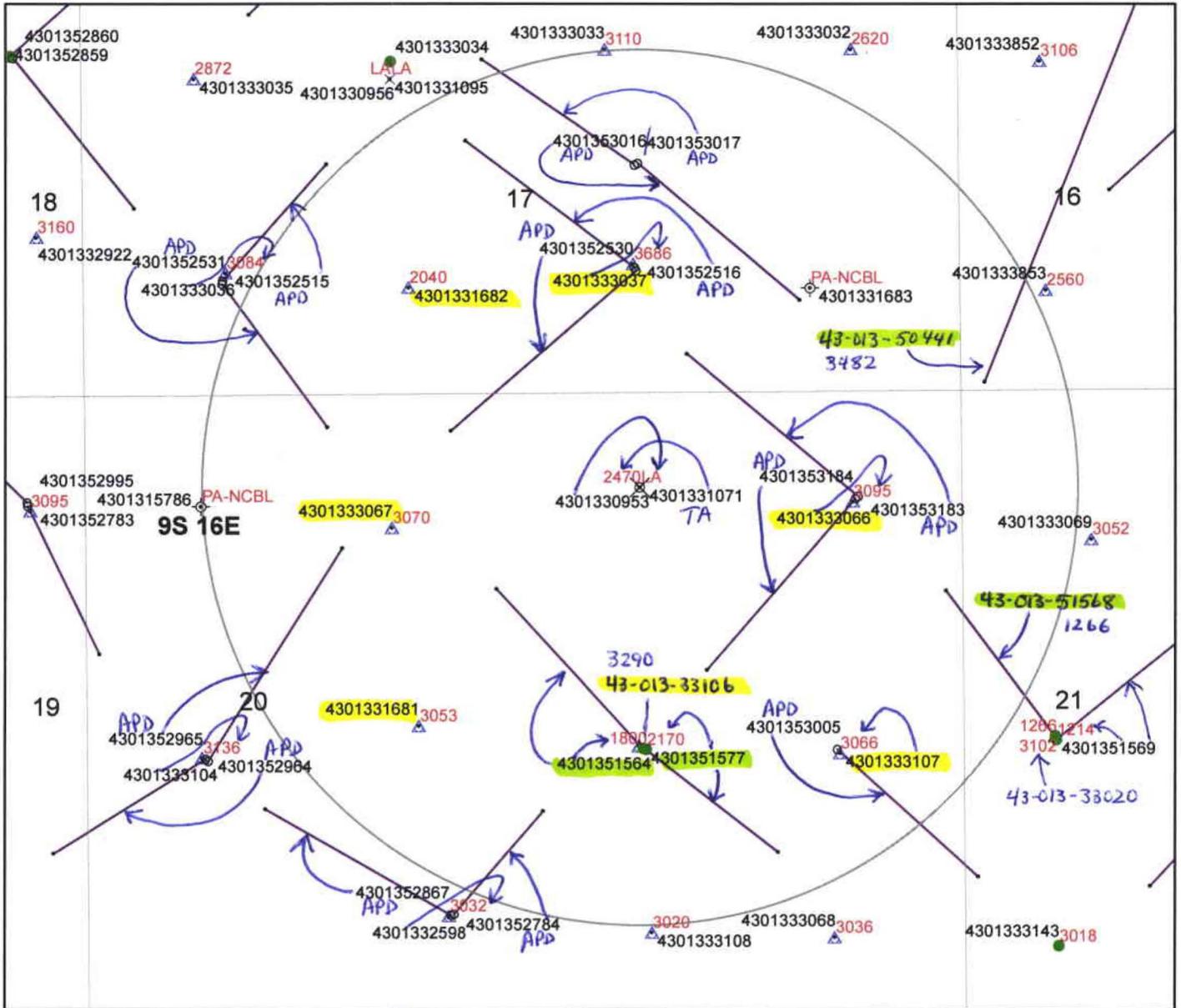
John Rogers
Associate Director

JR/MLR/js

cc: Bruce Suchomel, Environmental Protection Agency
Bureau of Land Management, Vernal
SITLA
Duchesne County
Newfield Production Company, Myton
Well File

N:\O&G Reviewed Docs\ChronFile\UIC





Legend

Oil & Gas Well Type

- APD-Approved Permit
- ⊙ DRL-Spudded (Drilling Commenced)
- ⊗ GIW-Gas Injection Well
- _{GS} GSW-Gas Storage Well
- × LA-Location Abandoned
- LOC-New Location Well
- ⊖ OPS-Drilling Operations Suspended
- ⊙ PA-Pugged & Abandoned
- ⊙ PGW-Producing Gas Well
- POW-Producing Oil Well *in AOR*
- ▲ RET-Returned APD
- ⊙ SGW-Shut-in Gas Well
- SOW-Shut-in Oil Well
- ⊙ TA-Temp Abandoned
- TW-Test Well
- ⊙ WDW-Water Disposal Well
- ▲ WIW-Water Injection Well *in AOR*
- WSW-Water Supply Well

**Cement Bond Tops
Nova 31-20 G NGC Federal
API #43-013-31071
UIC-419.4**

(updated 12/31/2014)



- 4585 Depth to top of suitable cement bond
- Well Bottom Hole Location
- Oil & Gas Wells Hole Directional Path
- Wells-CbtopsMaster 1-31-13
- DNR Oil Gas Wells Buffer
- County Boundaries
- PLSS Sections
- PLSS Townships

**DIVISION OF OIL, GAS AND MINING
UNDERGROUND INJECTION CONTROL PROGRAM
PERMIT
STATEMENT OF BASIS**

Applicant: Newfield Production Company **Well:** Nova 31-20 G NGC Federal

Location: 20/9S/16E **API:** 43-013-31071

Ownership Issues: The proposed well is located on BLM land. The well is located in the Greater Monument Butte Unit. Lands in the one-half mile radius of the well are administered by the BLM and the State of Utah. The Federal Government and the State of Utah are the mineral owners within the area of review (AOR). Newfield and other various individuals hold the leases in the unit. Newfield has provided a list of all surface, mineral and leaseholders in the half-mile radius. Newfield is the operator of the Greater Monument Butte Unit. Newfield has submitted an affidavit stating that all owners and interest owners have been notified of their intent.

Well Integrity: The proposed well has surface casing set at 319 feet and has a cement top at the surface. A 5½ inch production casing is set at 6,118 feet. The cement bond log appears to demonstrate adequate bond in this well up to about 2,470 feet. A 2 7/8 inch tubing with a packer will be set at 4,642 feet. Higher perforations may be opened at a later date. A mechanical integrity test will be run on the well prior to injection. At the time of this revision (11/25/2014), on the basis of surface locations, there are 2 producing wells, 7 injection wells, 1 temporarily abandoned well (the proposed injection well), and 1 P/A well in the AOR. In addition, there is 1 horizontal producing well, with a surface location outside the AOR and a bottom hole location inside the AOR and 1 directionally drilled well with a surface location outside the AOR and a bottom hole location inside the AOR. Finally, there are 3 approved surface locations outside the AOR for directional wells with proposed bottom hole locations inside the AOR and 2 approved surface locations inside the AOR for bottom hole locations outside the AOR. All existing wells within the AOR have evidence of adequate casing and cement for the proposed injection interval.

Ground Water Protection: As interpreted from the Utah Geological Survey's DOE Project-Uinta Basin Water Draft Map (Paul B. Anderson, December 2, 2011), the base of moderately saline water (3000-10,000 mg/l TDS) is at a depth of approximately 2600 feet. Injection shall be limited to the interval between 3,940 feet and 5,991 feet in the Green River Formation. Information submitted by Newfield indicates that the fracture gradient for the 31-20G-9-16 well is 0.81 psi/ft., which was the lowest reported fracture gradient for the injection zone. The resulting minimum fracture pressure for the proposed injection interval is 1,769 psig. The requested maximum pressure is 1,769 psig. The anticipated average injection pressure is 1100 psig. Injection at this pressure should not initiate any new fractures or propagate existing fractures in the adjacent confining intervals. Any groundwater present should be adequately protected.

Nova 31-20 G NGC Federal
page 2

Oil/Gas& Other Mineral Resources Protection: The Board of Oil, Gas & Mining approved the Greater Monument Butte Unit on December 1, 2009. Correlative rights issues were addressed at this time. Previous reviews in this area indicate that other mineral resources in the area have been protected or are not at issue.

Bonding: Bonded with the BLM

Actions Taken and Further Approvals Needed: A notice of agency action has been sent to the Salt Lake Tribune and the Uinta Basin Standard. A casing/tubing pressure test will be required prior to injection. It is recommended that approval of this application be granted.

Note: Applicable technical publications concerning water resources in the general vicinity of this project have been reviewed and taken into consideration during the permit review process.

Reviewer(s): Mark Reinbold

Date: 4/25/2014 (rev. 11/25/2014)

4770 S. 5600 W.
P.O. BOX 704005
WEST VALLEY CITY, UTAH 84170
FED.TAX I.D.# 87-0217663
801-204-6910

The Salt Lake Tribune

MEDIA One
NEWSPAPER AGENCY COMPANY
WWW.M1MEDIAONE.COM

Deseret News
WWW.DESERETNEWS.COM

PROOF OF PUBLICATION

CUSTOMER'S COPY

CUSTOMER NAME AND ADDRESS	ACCOUNT NUMBER	DATE
DIV OF OIL-GAS & MINING, Rose Nolton 1594 W NORTH TEMP #1210 P.O. BOX 145801 SALT LAKE CITY, UT 84114	9001402352	3/7/2014

RECEIVED

MAR 17 2014

ACCOUNT NAME		DIV OF OIL, GAS & MINING	
DIV OF OIL-GAS & MINING,			
TELEPHONE	ADORDER# / INVOICE NUMBER		
8015385340	0000944320 /		
SCHEDULE			
Start 03/07/2014		End 03/07/2014	
CUST. REF. NO.			
Cause No. UIC-419			
CAPTION			
BEFORE THE DIVISION OF OIL, GAS AND MINING DEPARTMENT OF NATURAL RESOURCES			
SIZE			
65	Lines	2.00	COLUMN
TIMES	RATE		
3			
MISC. CHARGES	AD CHARGES		
TOTAL COST			
223.40			

BEFORE THE DIVISION OF OIL, GAS AND MINING
STATE OF UTAH
NOTICE OF AGENCY ACTION
CAUSE NO. UIC-419

IN THE MATTER OF THE APPLICATION OF NEWFIELD PRODUCTION COMPANY FOR ADMINISTRATIVE APPROVAL OF CERTAIN WELLS LOCATED IN SECTIONS 15, 17, and 20, TOWNSHIP 9 SOUTH, RANGE 16 EAST, DUCHESNE COUNTY, UTAH, AS CLASS II INJECTION WELLS.

THE STATE OF UTAH TO ALL PERSONS INTERESTED IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that the Division of Oil, Gas and Mining (the "Division") is commencing an informal adjudicative proceeding to consider the application of Newfield Production Company, 1001 17th Street, Suite 2000, Denver, Colorado 80202, telephone 303-893-0102, for administrative approval of the following wells located in Duchesne County, Utah, for conversion to Class II injection wells:

Greater Monument Butte Unit:
Castle Peak Federal 22-15-9-16 well located in SE/4 NW/4, Section 15, Township 9 South, Range 16 East API 43-013-30634
Castle Peak Federal 24-15-9-16 well located in SE/4 SW/4, Section 15, Township 9 South, Range 16 East API 43-013-30631
Monument Federal 24-17-9-16 well located in SE/4 SW/4, Section 17, Township 9 South, Range 16 East API 43-013-31682
Nova 31-20 G NGC Federal well located in NW/4 NE/4, Section 20, Township 9 South, Range 16 East API 43-013-31071

The proceeding will be conducted in accordance with Utah Admin. R649-10, Administrative Procedures.

Selected zones in the Green River Formation will be used for water injection. The maximum requested injection pressures and rates will be determined based on fracture gradient information submitted by Newfield Production Company.

Any person desiring to object to the application or otherwise intervene in the proceeding, must file a written protest or notice of intervention with the Division within fifteen days following publication of this notice. The Division's Presiding Officer for the proceeding is Brad Hill, Permitting Manager, at P.O. Box 145801, Salt Lake City, UT 84114-5801, phone number (801) 538-5340. If such a protest or notice of intervention is received, a hearing will be scheduled in accordance with the aforementioned administrative procedural rules. Protestants and/or interveners should be prepared to demonstrate at the hearing how this matter affects their interests.

Dated this 5th day of March, 2014.
STATE OF UTAH
DIVISION OF OIL, GAS & MINING
/s/ Brad Hill
Permitting Manager

944320 UPAKLP

AFFIDAVIT OF PUBLICATION

AS NEWSPAPER AGENCY COMPANY, LLC dba MEDIAONE OF UTAH LEGAL BOOKER, I CERTIFY THAT THE ATTACHED ADVERTISEMENT OF BEFORE THE DIVISION OF OIL, GAS AND MINING DEPARTMENT OF NATURAL RESOURCES STATE OF UTAH NOTICE OF AGENCY ACTION CAUSE NO. UIC-419 IN THE MATTER OF THE APPLICA FOR DIV OF OIL-GAS & MINING, WAS PUBLISHED BY THE NEWSPAPER AGENCY COMPANY, LLC dba MEDIAONE OF UTAH, AGENT FOR THE SALT LAKE TRIBUNE AND DESERET NEWS, DAILY NEWSPAPERS PRINTED IN THE ENGLISH LANGUAGE WITH GENERAL CIRCULATION IN UTAH, AND PUBLISHED IN SALT LAKE CITY, SALT LAKE COUNTY IN THE STATE OF UTAH. NOTICE IS ALSO POSTED ON UTAHLEGALS.COM ON THE SAME DAY AS THE FIRST NEWSPAPER PUBLICATION DATE AND REMAINS ON UTAHLEGALS.COM INDEFINATELY. COMPLIES WITH UTAH DIGITAL SIGNATURE ACT UTAH CODE 46-2-101; 46-3-104.

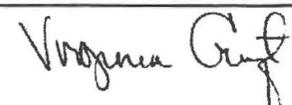
PUBLISHED ON Start 03/07/2014 End 03/07/2014

SIGNATURE 

DATE 3/7/2014

THIS IS NOT A STATEMENT BUT A "PROOF OF PUBLICATION"
PLEASE PAY FROM BILLING STATEMENT

VIRGINIA CRAFT
NOTARY PUBLIC STATE OF UTAH
My Comm. Exp. 01/12/2018
Commission # 512963


NOTARY SIGNATURE

2250 GGOULP... REE/6131

AFFIDAVIT OF PUBLICATION

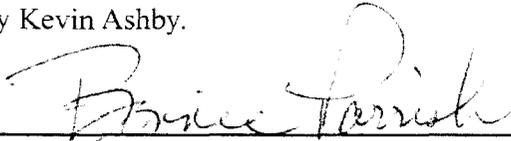
County of Duchesne,
STATE OF UTAH

I, Kevin Ashby on oath, say that I am the PUBLISHER of the Uintah Basin Standard, a weekly newspaper of general circulation, published at Roosevelt, State and County aforesaid, and that a certain notice, a true copy of which is hereto attached, was published in the full issue such newspaper for 1 consecutive issues, and that the first publication was on the 11 day of March, 20 14, and that the last publication of such notice was in the issue of such newspaper dated the 11 day of March, 20 14, and that said notice was published on Utahlegals.com on the same day as the first newspaper publication and the notice remained on Utahlegals.com until the end of the scheduled run.

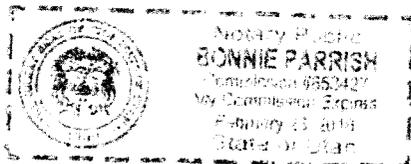


Publisher

Subscribed and sworn to before me on this
11 day of March, 20 14

by Kevin Ashby.


Notary Public



NOTICE OF AGENCY ACTION CAUSE NO. UIC-419

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

IN THE MATTER OF THE APPLICATION OF NEWFIELD PRODUCTION COMPANY FOR ADMINISTRATIVE APPROVAL OF CERTAIN WELLS LOCATED IN SECTIONS 15, 17, and 20, TOWNSHIP 9 SOUTH, RANGE 16 EAST, DUCHESNE COUNTY, UTAH, AS CLASS II INJECTION WELLS.

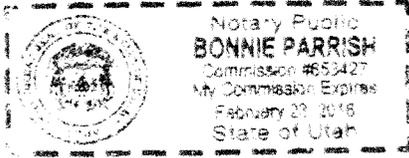
THE STATE OF UTAH TO ALL PERSONS INTERESTED IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that the Division of Oil, Gas and Mining (the "Division") is commencing an informal adjudicative proceeding to consider the application of Newfield Production Company, 1001 17th Street, Suite 2000, Denver, Colorado 80202, telephone 303-893-0102, for administrative approval of the following wells located in Duchesne County, Utah, for conversion to Class II injection wells:

- Greater Monument Butte Unit:
 - Castle Peak Federal 22-15-9-16 well located in SE/4 NW/4, Section 15, Township 9 South, Range 16 East API 43-013-30634
 - Castle Peak Federal 24-15-9-16 well located in SE/4 SW/4, Section 15, Township 9 South, Range 16 East API 43-013-30631
 - Monument Federal 24-17-9-16 well

City, UT 84114-5801, phone number (801) 538-5340. If such a protest or notice of intervention is received, a hearing will be scheduled in accordance with the aforementioned administrative procedural rules. Protestants and/or interveners should be prepared to demonstrate at the hearing how this matter affects their interests. Dated this 5th day of March, 2014. STATE OF UTAH DIVISION OF OIL, GAS & MINING /s/ Brad Hill Permitting Manager Published in the Uintah Basin Standard March 11, 2014.

Bonnie Parrish
Notary Public



phone 303-893-0102,
for administrative
approval of the fol-
lowing wells located
in Duchesne County,
Utah, for conversion
to Class II injection
wells:

Greater Monument
Butte Unit:

Castle Peak
Federal 22-15-9-16
well located in SE/4
NW/4, Section 15,
Township 9 South,
Range 16 East
API 43-013-30634

Castle Peak
Federal 24-15-9-16
well located in SE/4
SW/4, Section 15,
Township 9 South,
Range 16 East
API 43-013-30631

Monument Federal
24-17-9-16 well lo-
cated in SE/4 SW/4,
Section 17, Township
9 South, Range 16
East

API 43-013-31682
Nova 31-20 G
NGC Federal well lo-
cated in NW/4 NE/4,
Section 20, Township
9 South, Range 16
East

API 43-013-31071
The proceeding
will be conducted in
accordance with Utah
Admin. R649-10,
Administrative Proce-
dures.

Selected zones
in the Green River
Formation will be
used for water injec-
tion. The maximum
requested injection
pressures and rates
will be determined
based on fracture
gradient informa-
tion submitted by
Newfield Production
Company.

Any person
desiring to object to
the application or
otherwise intervene
in the proceeding,
must file a written
protest or notice of
intervention with
the Division within
fifteen days following
publication of this
notice. The Division's
Presiding Officer
for the proceeding is
Brad Hill, Permitting
Manager, at P.O. Box
145801, Salt Lake

BEFORE THE DIVISION OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH
NOTICE OF AGENCY ACTION
CAUSE NO. UIC-419

IN THE MATTER OF THE APPLICATION OF NEWFIELD PRODUCTION COMPANY FOR ADMINISTRATIVE APPROVAL OF CERTAIN WELLS LOCATED IN SECTIONS 15, 17, and 20, TOWNSHIP 9 SOUTH, RANGE 16 EAST, DUCHESNE COUNTY, UTAH, AS CLASS II INJECTION WELLS.

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API 43-013-30631

Monument Federal 24-17-9-16 well located in SE/4 SW/4, Section 17, Township 9 South, Range 16 East
API 43-013-31682

Nova 31-20 G NGC Federal well located in NW/4 NE/4, Section 20, Township 9 South, Range 16 East
API 43-013-31071

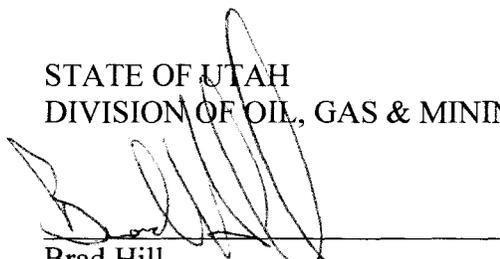
The proceeding will be conducted in accordance with Utah Admin. R649-10, Administrative Procedures.

Selected zones in the Green River Formation will be used for water injection. The maximum requested injection pressures and rates will be determined based on fracture gradient information submitted by Newfield Production Company.

Any person desiring to object to the application or otherwise intervene in the proceeding, must file a written protest or notice of intervention with the Division within fifteen days following publication of this notice. The Division's Presiding Officer for the proceeding is Brad Hill, Permitting Manager, at P.O. Box 145801, Salt Lake City, UT 84114-5801, phone number (801) 538-5340. If such a protest or notice of intervention is received, a hearing will be scheduled in accordance with the aforementioned administrative procedural rules. Protestants and/or interveners should be prepared to demonstrate at the hearing how this matter affects their interests.

Dated this 5th day of March, 2014.

STATE OF UTAH
DIVISION OF OIL, GAS & MINING



Brad Hill
Permitting Manager

Newfield Production Company

**CASTLE PEAK FEDERAL 22-15-9-16, CASTLE PEAK FEDERAL 24-15-9-16,
MONUMENT FEDERAL 24-17-9-16, NOVA 31-20 G NGC FEDERAL**

Cause No. UIC-419

Publication Notices were sent to the following:

Newfield Production Company
1001 17th Street, Suite 2000
Denver, CO 80202

SITLA
675 E 500 S Ste 500
Salt Lake City, UT 84102-2818

Uintah Basin Standard
268 South 200 East
Roosevelt, UT 84066
via e-mail ubs@ubstandard.com

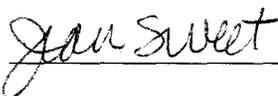
Duchesne County Planning
P O Box 317
Duchesne, UT 84021-0317

Salt Lake Tribune
P O Box 45838
Salt Lake City, UT 84145
via e-mail naclegal@mediaoneutah.com

Bruce Suchomel
US EPA Region 8
MS 8P-W-GW
1595 Wynkoop Street
Denver, CO 80202-1129

Vernal Office
Bureau of Land Management
170 South 500 East
Vernal, UT 84078

Newfield Production Company
Rt 3 Box 3630
Myton, UT 84052





GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

March 5, 2014

Via e-mail: legals@ubstandard.com

Uintah Basin Standard
268 South 200 East
Roosevelt, UT 84066

Subject: Notice of Agency Action – Newfield Production Company Cause No. UIC-419

To whom it may concern:

Enclosed is a copy of the referenced Notice of Agency Action. Please publish the Notice, once only, as soon as possible. Please notify me via e-mail of the date it will be published. My e-mail address is: jsweet@utah.gov.

Please send proof of publication and billing to:

Division of Oil, Gas and Mining
PO Box 145801
Salt Lake City, UT 84114-5801

Sincerely,

Jean Sweet
Executive Secretary

Enclosure



Jean Sweet <jsweet@utah.gov>

Re: Notice of Agency Action - Newfield Production Company Cause No. UIC-419

1 message

UB Standard Legals <ubslegals@ubmedia.biz>
To: Jean Sweet <jsweet@utah.gov>

Wed, Mar 5, 2014 at 3:49 PM

On 3/5/2014 11:12 AM, Jean Sweet wrote:

To whom it may concern:

Enclosed is a copy of the referenced Notice of Agency Action. Please publish the Notice, once only, as soon as possible. Please notify me via e-mail of the date it will be published.

My e-mail address is: jsweet@utah.gov.

Please send proof of publication and billing to:

Division of Oil, Gas and Mining

PO Box 145801

Salt Lake City, UT 84114-5801

Sincerely,

Jean

-

Jean Sweet
Executive Secretary
Utah Division of Oil, Gas and Mining
801-538-5329

Received. It will be published March 11.

Thank you.

Cindy



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

March 5, 2014

VIA E-MAIL naclegal@mediaoneutah.com

Salt Lake Tribune
P. O. Box 45838
Salt Lake City, UT 84145

Subject: Notice of Agency Action – Newfield Production Company Cause No. UIC-419

To whom it may concern:

Enclosed is a copy of the referenced Notice of Agency Action. Please publish the Notice, once only, as soon as possible. Please notify me via e-mail of the date it will be published. My e-mail address is: jsweet@utah.gov.

Please send proof of publication and billing for **account #9001402352** to:

Division of Oil, Gas and Mining
PO Box 145801
Salt Lake City, UT 84114-5801

Sincerely,

Jean Sweet
Executive Secretary

Enclosure

Order Confirmation for Ad #0000944320-01

Client	DIV OF OIL-GAS & MINING	Payor Customer	DIV OF OIL-GAS & MINING
Client Phone	801-538-5340	Payor Phone	801-538-5340
Account#	9001402352	Payor Account	9001402352
Address	1594 W NORTH TEMP #1210,P.O. BOX 145801 SALT LAKE CITY, UT 84114 USA	Payor Address	1594 W NORTH TEMP #1210,P.O. BO: SALT LAKE CITY, UT 84114
Fax	801-359-3940	Ordered By	Acct. Exec
EEmail	juliecarter@utah.gov	Jean	kstowe

Total Amount	\$223.40			
Payment Amt	\$0.00			
Amount Due	\$223.40	Tear Sheets	Proofs	Affidavits
		0	0	1
Payment Method		PO Number	Cause No. UIC-419	
Confirmation Notes:				
Text:	Jean			

Ad Type	Ad Size	Color
Legal Liner	2.0 X 65 Li	<NONE>

Product	Placement	Position
Salt Lake Tribune::	Legal Liner Notice - 0998	998-Other Legal Notices
Scheduled Date(s):	3/7/2014	
Product	Placement	Position
Deseret News::	Legal Liner Notice - 0998	998-Other Legal Notices
Scheduled Date(s):	3/7/2014	
Product	Placement	Position
utahlegals.com::	utahlegals.com	utahlegals.com
Scheduled Date(s):	3/7/2014	

Ad Content Proof Actual Size

**BEFORE THE DIVISION OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH
NOTICE OF AGENCY ACTION
CAUSE NO. UIC-419**

IN THE MATTER OF THE APPLICATION OF NEWFIELD PRODUCTION COMPANY FOR ADMINISTRATIVE APPROVAL OF CERTAIN WELLS LOCATED IN SECTIONS 15, 17, and 20, TOWNSHIP 9 SOUTH, RANGE 16 EAST, DUCHESE COUNTY, UTAH, AS CLASS II INJECTION WELLS.

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API 43-013-30634
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API 43-013-30631
Monument Federal 24-17-9-16 well located in SE/4 SW/4, Section 17, Township 9 South, Range 16 East
API 43-013-31682
Neva 31-20-G NCC Federal well located in NW/4 NE/4, Section 20, Township 9 South, Range 16 East
API 43-013-31071

The proceeding will be conducted in accordance with Utah Admin. R649-10, Administrative Procedures.

Selected zones in the Green River Formation will be used for water injection. The maximum requested injection pressures and rates will be determined based on fracture gradient information submitted by Newfield Production Company.

Any person desiring to object to the application or otherwise intervene in the proceeding, must file a written protest or notice of intervention with the Division within fifteen days following publication of this notice. The Division's Presiding Officer for the proceeding is Brad Hill, Permitting Manager, at P.O. Box 145801, Salt Lake City, UT 84114-5801, phone number (801) 538-5340. If such a protest or notice of intervention is received, a hearing will be scheduled in accordance with the aforementioned administrative procedural rules. Protestants and/or interveners should be prepared to demonstrate at the hearing how this matter affects their interests.

Dated this 5th day of March, 2014.
STATE OF UTAH
DIVISION OF OIL, GAS & MINING
/s/
Brad Hill
Permitting Manager
944320 **UPAXIP**

NEWFIELD



Newfield Exploration Company

1001 17th Street | Suite 2000

Denver, Colorado 80202

PH 303-893-0102 | FAX 303-893-0103

February 28, 2014

Mr. Mark Reinbold
State of Utah
Division of Oil, Gas and Mining
1594 W North Temple
Salt Lake City, Utah 84114-5801

RECEIVED

MAR 03 2014

DIV. OF OIL, GAS & MINING

RE: Permit Application for Water Injection Well
NGC Federal #31-20G-9-16
Monument Butte Field, Lease #UTU-52018
Section 20-Township 9S-Range 16E
Duchesne County, Utah

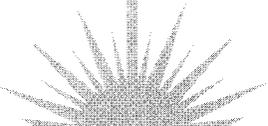
Dear Mr. Reinbold:

Newfield Production Company herein requests approval to convert the NGC Federal #31-20G-9-16 from a producing oil well to a water injection well in the Monument Butte (Green River) Field.

I hope you find this application complete; however, if you have any questions or require additional information, please contact me at (303) 893-0102.

Sincerely,


Jill L. Loyle
Regulatory Associate



NEWFIELD PRODUCTION COMPANY
APPLICATION FOR APPROVAL OF CLASS II INJECTION WELL
NGC FEDERAL #31-20G-9-16
MONUMENT BUTTE FIELD (GREEN RIVER) FIELD
LEASE #UTU-52018
FEBRUARY 28, 2014

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NGC Fed. 31-20G-9-16

Spud Date: 1/04/85
 Put on Production: 4/08/85
 GL: 6051' KB: 6063'

Initial Production: 88 BOPD,
 62 MCFPD, 21 BWPD

Proposed Injection Wellbore Diagram

SURFACE CASING

CSG SIZE: 8-5/8"
 GRADE: K-55
 WEIGHT: 24#
 LENGTH: 7 jts. (319.75')
 DEPTH LANDED: 319'
 HOLE SIZE: 12-1/4"
 CEMENT DATA: 250 sxs Class "H"

PRODUCTION CASING

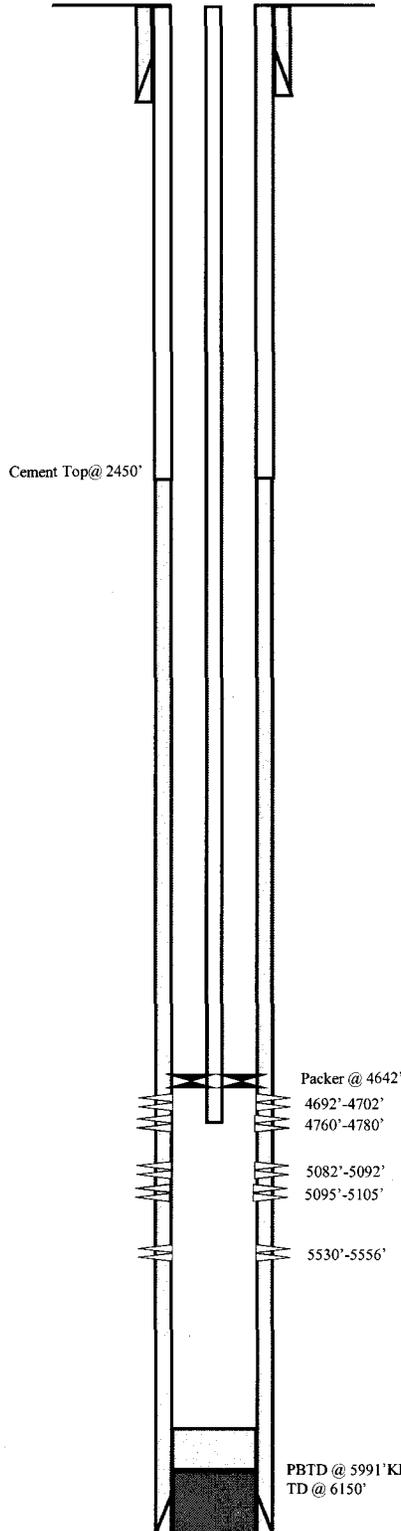
CSG SIZE: 5-1/2" / J-55 LT&C / 15.5#
 LENGTH: 74 jts.
 CSG SIZE: 5-1/2" / K-55 / 15.5#
 LENGTH: 74 jts.
 DEPTH LANDED: 6118'
 HOLE SIZE: 7-7/8"
 CEMENT DATA: 240 sxs Lite, tail w/ 570 sxs Class "H"
 CEMENT TOP AT: 2450' per CBL

TUBING

SIZE/GRADE/WT.: 2-7/8" / N-80 / 6.5#
 NO. OF JOINTS: 172 jts. (5457.93')
 TUBING ANCHOR: 5469.93' KB
 NO. OF JOINTS: 2 jts. (62.00')
 SN LANDED AT: 1.10' x 2 7/8" (5533.03') KB
 NO. OF JOINTS: 1 jt. (31.90')
 TOTAL STRING LENGTH: 5564.93' KB

FRAC JOB

Date	Interval	Fracture Details
3/10/85	5530'-5556'	Fracture zone as follows: 120,000# 20/40 sand + 30,000# 12/20 sand in 1263 bbl gel. Average treating pressure 2800 psi at 20 BPM. ISIP 2500 psi. Calc. flush: 5530 gal. Actual flush: 3654 gal. 3/10/85
3/17/85	4760'-4780'	Fracture zone as follows: 45,000# 20/40 sand + 12,135# 12/20 sand in 1112 bbl gel. Average treating pressure 3100 psi at 20 BPM. ISIP 1800 psi. Calc. flush: 4760 gal. Actual flush: 1260 gal.
3/26/85	4692'-4702'	Fracture zone as follows: 32,000# 20/40 sand + 14,000# 12/20 sand in 581 bbl gel. Average treating pressure 3200 psi at 25 BPM. ISIP 2000 psi. Calc. flush: 4692 gal. Actual flush: 3444 gal.
1/31/98	5082'-5105'	Fracture zone as follows: 120,000# 20/40 sand in 489 bbl gel. Average treating pressure 6600 psi at 24.8 BPM. ISIP 4693 psi. Calc. flush: 1317 gal. Actual flush: 1737 gal.



PERFORATION RECORD

Date	Interval	SPF	Holes
3/02/85	5530'-5556'	4 SPF	104 holes
3/13/85	4764'-4780'	4 SPF	64 holes
3/15/85	4760'-4780'	4 SPF	80 holes
3/23/85	4692'-4702'	4 SPF	40 holes
1/30/98	5082'-5092'	4 SPF	40 holes
1/30/98	5095'-5105'	4 SPF	40 holes

NEWFIELD

NGC Fed. #31-20G-9-16
 540' FNL & 1944' FEL
 NWNE Section 20-T9S-R16E
 Duchesne Co, Utah
 API #43-013-31071; Lease #U-52018

WORK PROCEDURE FOR INJECTION CONVERSION

1. Rig up hot oil truck to casing. Pump water. Unseat pump. Flush rods. Trip out of hole with rods and pump.
2. Trip out of hole with tubing, breaking and doping every connection. Trip in hole with packer and tubing. Rig up water truck to casing. Pump packer fluid. Set packer.
3. Test casing and packer.
4. Rig down and move out.

**REQUIREMENTS FOR INJECTION OF FLUIDS INTO RESERVOIRS
RULE R615-5-1**

1. **Operations to increase ultimate recovery, such as cycling of gas, the maintenance of pressure, the introduction of gas, water or other substances into a reservoir for the purpose of secondary or other enhanced recovery or for storage and the injection of water into any formation for the purpose of water disposal shall be permitted only by order of the Board after notice and hearing.**
2. **A request for agency action for authority for the injection of gas, liquified petroleum gas, air, water or any other medium into any formation for any reason, including but not necessarily limited to the establishment of or the expansion of waterflood projects, enhanced recovery projects, and pressure maintenance projects shall contain:**

2.1 The name and address of the operator of the project.

Newfield Production Company
1001 17th Street, Suite 2000
Denver, Colorado 80202

2.2 A plat showing the area involved and identifying all wells, including all proposed injection wells, in the project area and within one-half mile of the project area.

See Attachment A.

2.3 A full description of the particular operation for approval is requested.

Approval is requested to convert the NGC Federal #31-20G-9-16 from a producing oil well to a water injection well in Monument Butte (Green River) Field.

2.4 A description of the pools from which the identified wells are producing or have produced.

The proposed injection well will inject into the Green River Formation.

2.5 The names, description and depth of the pool or pools to be affected.

The injection zone is in the Green River Formation. For the NGC Federal #31-20G-9-16 well, the proposed injection zone is from Garden Gulch to Wasatch (3940' - 5991'). The confining strata directly above and below the injection zones are the Garden Gulch and the top of the Wasatch Formation or TD, which ever is shallower. The Garden Gulch Marker top is at 3615' and the TD is at 6150'.

2.6 A copy of a log of a representative well completed in the pool.

The referenced log for the NGC Federal #31-20G-9-16 is on file with the Utah Division of Oil, Gas and Mining.

2.7 A statement as to the type of fluid to be used for injection, its source and the estimated amounts to be injected daily.

The primary type and source of fluid to be used for injection will be culinary water commingled with produced water. The average estimated injection of fluids will be at a rate of 300 BPD, and the estimated maximum injection will be at a rate of 500 BPD.

2.8 A list of all operators and surface owners within one-half mile radius of the proposed project.

See Attachment B.

2.9 An affidavit certifying that said operators or owners and surface owners within a one-half mile radius have been provided a copy of the petition for injection.

See Attachment C.

2.10 Any additional information the Board may determine is necessary to adequately review the petition.

Newfield Production Company will supply any additional information requested by the Utah Division of Oil, Gas and Mining.

4.0 Establish recovery projects may be expanded and additional wells placed on injection only upon authority from the Board after notice and hearing or by administrative approval.

This proposed injection well is on a Federal lease (Lease #UTU-52018) in the Monument Butte Federal (Green River) Field, and this request is for administrative approval.

**REQUIREMENTS FOR CLASS II INJECTION WELLS INCLUDING WATER DISPOSAL,
STORAGE AND ENHANCED RECOVERY WELLS
SECTION V – RULE R615-5-2**

- 1. Injection well shall be completed, equipped, operated, and maintained in a manner that will prevent pollution and damage to any USDW, or other resources and will confine injected fluids to the interval approved.**
- 2. The application for an injection well shall include a properly completed Form DOGM-UIC-1 and the following:**

- 2.1 A plat showing the location of the injection well, all abandoned or active wells within a one-half mile radius of the proposed wells, and the surface owner and the operator of any lands or producing leases, respectively, within a one-half mile radius of the proposed injection well.**

See Attachments A and B.

- 2.2 Copies of electrical or radioactive logs, including gamma ray logs, for the proposed well run prior to the installation of casing and indicating resistivity, spontaneous potential, caliper and porosity.**

All logs are on file with the Utah Division of Oil, Gas and Mining.

- 2.3 A copy of a cement bond or comparable log run for the proposed injection well after casing was set and cemented.**

A copy of the cement bond log is on file with the Utah Division of Oil, Gas and Mining.

- 2.4 Copies of logs already on file with the Division should be referenced, but need not be refiled.**

All copies of logs are on file with the Utah Division of Oil, Gas and Mining.

- 2.5 A description of the casing or proposed casing program of the injection well and of the proposed method for testing the casing before use of the well.**

The casing program is 8-5/8", 24# surface casing run to 319' KB, and 5-1/2", 15.5# casing run from surface to 6118' KB. A casing integrity test will be conducted at the time of conversion. See Attachment E.

- 2.6 A statement as to the type of fluid to be used for injection, its source and estimated amounts to be injected daily.**

The primary type and source of fluid to be used for injection will be culinary water commingled with produced water. The estimated average rate of injection will be 300 BPD, and the estimated maximum rate of injection will be 500 BPD.

- 2.7 Standard laboratory analysis of the fluid to be injected, the fluid in the formation into which the fluid is being injected, and the compatibility of the fluids.**

See Attachment F.

2.8 The proposed average and maximum injection pressures.

The proposed average injection pressure will be approximately 1100 psig and the maximum injection pressure will not exceed 1769 psig.

2.9 Evidence and data to support a finding that the proposed injection well will not initiate fractures through the overlying strata or a confining interval that could enable the injected fluid or formation fluid to enter the fresh water strata.

The minimum fracture gradient for the NGC Federal #31-20G-9-16, for existing perforations (4692' - 5556') calculates at 0.81 psig/ft. The maximum injection pressures will be limited so as not to exceed this gradient. A step rate test will be performed periodically to ensure we are below parting pressure. The proposed maximum injection pressure is 1769 psig. We may add additional perforations between 3615' and 6150'. See Attachments G and G-1.

2.10 Appropriate geological data on the injection interval and confining beds, including the geologic name, lithologic description, thickness, depth, and lateral extent.

In the NGC Federal #31-20G-9-16, the proposed injection zone (3940' - 5991') is in the Garden Gulch to the Wasatch of the Green River Formation. The reservoir is a very fine-grained sandstone with minor imbedded shale streaks. The estimated porosity is 13%. The members are composed of porous and permeable lenticular calcareous sandstone and low porosity carbonates and calcareous shale. The porous and lenticular sandstone varies in thickness from 0-31' and is confined to the Monument Butte Federal Field. Outside the Monument Butte Federal Field, the sandstone is composed of tight, very fine, silty, calcareous sandstone, less than 3' thick. The stratum confining the injection zone is composed of tight, moderately calcareous, sandy lacustrine shale. All of the confining strata are impermeable, and will effectively seal off the oil, gas, and water of the injection zone from any strata directly above or below it.

2.11 A review of the mechanical condition of each well within a one-half mile radius of the proposed injection well to assure that no conduit exists that could enable fluids to migrate up or down the wellbore and enter the improper intervals.

See Attachments E through E-12.

Additionally, the injection system will be equipped with high and low pressure shut down devices that will automatically shut in injection waters if a system blockage or leakage occurs. One way check valves will also ensure proper flow management. Relief valves will also be utilized for high-pressure relief.

2.12 An affidavit certifying that a copy of the application has been provided to all operators or owners, and surface owners within a one-half mile radius of the proposed injection well.

See Attachment C.

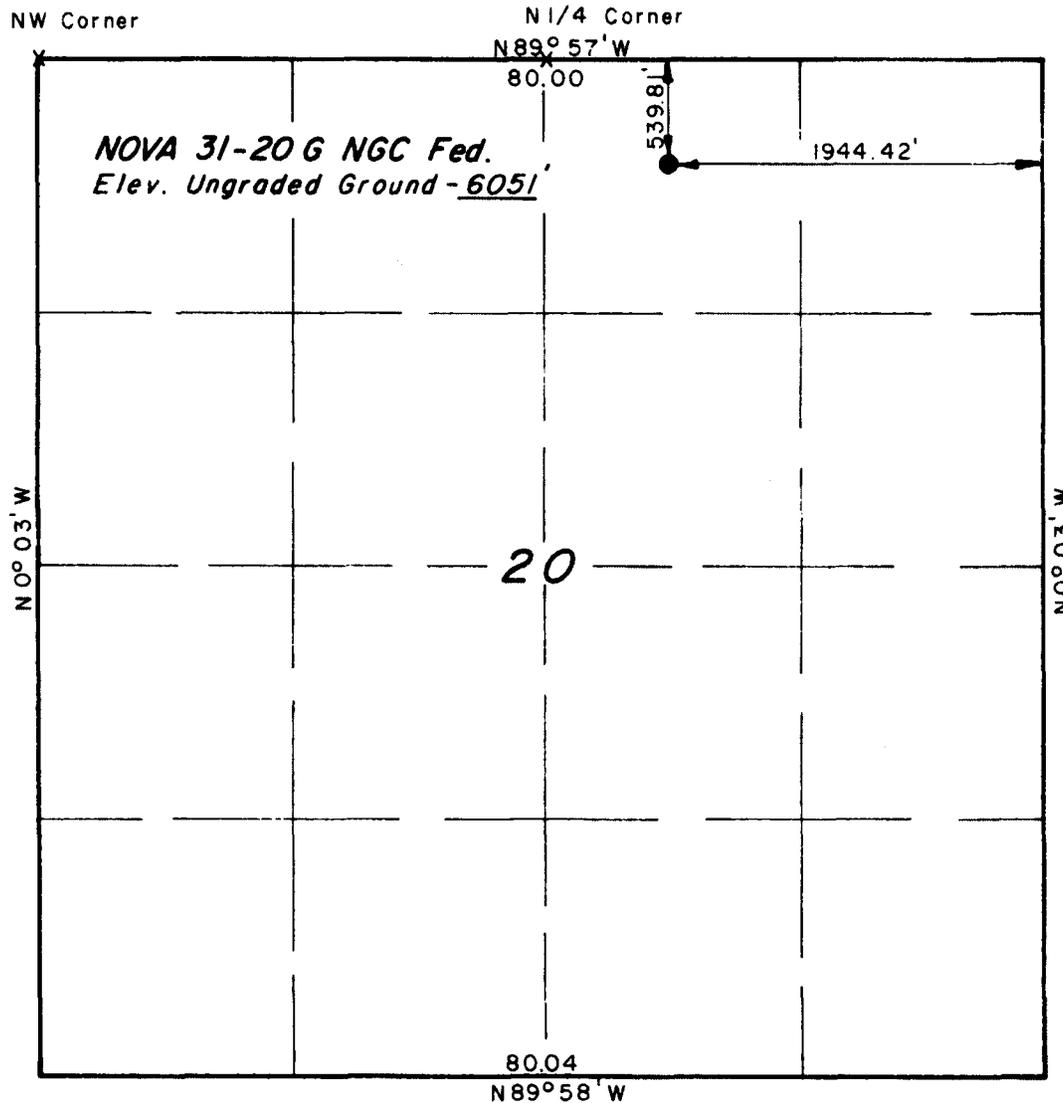
2.13 Any other information that the Board or Division may determine is necessary to adequately review the application.

Newfield Production Company will supply any requested information to the Board or Division.

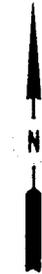
NOVA PETROLEUM CORP.

Well location, *NOVA 31-20 G NGC Fed.*
 located as shown in the NW 1/4 NE 1/4
 Section 20, T9S, R16E, S.L.B. & M.
 Duchesne County, Utah.

T9S, R16E, S.L.B. & M.



X = Section Corners Located



VERIFICATION

I, the undersigned, being a duly qualified and licensed land surveyor, do hereby certify that the foregoing is a true and correct copy of the original survey as shown to me by the owner of the land described herein, and that the same are true and correct to the best of my knowledge and belief.

REGISTERED LAND SURVEYOR
 REGISTRATION NO 2454
 STATE OF UTAH

Revised 12/5/84

UTAH ENGINEERING & LAND SURVEYING P O BOX Q - 85 SOUTH - 200 EAST VERNAL, UTAH - 84078			
SCALE	1" = 1000'	DATE	5/1/84
PARTY	DB CM	PT	REFERENCES GLO
WEATHER	Cold/Windy	FILE	NOVA PETROLEUM

EXHIBIT B

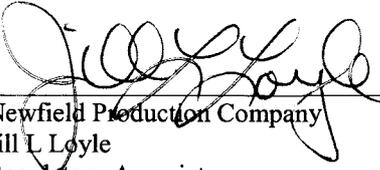
#	Legal Description	Lessor & Expiration	Lessee & Operating Rights	Surface Owner
1	T9S-R16E SLM Section 16: All	State of Utah ML 16532 HBP	Newfield Production Company Newfield RMI LLC QEP Energy Company EL Paso E&P Company, LP Brave River Production Yates Petroleum Corporation OXY USA Inc ABO Petroleum Corp MYCO Industries Inc Isramco Resources Inc Santa Fe Snyder Corporation	State of Utah
2	T9S-R16E SLM Section 17: S2 Section 20: N2	USA UTU-52018 HBP	Newfield Production Company Newfield RMI LLC	USA
3	T9S-R16E SLM Section 8: SWNE, SE Section 9: SWSW Section 17: NE Section 18: E2SW, SE, LOTS 3,4 Section 19: NE, E2NW, LOTS 1,2 Section 21: N2 Section 22: W2NE, SENE, NW	USA UTU-64379 HBP	Newfield Production Company Newfield RMI LLC Yates Petroleum Corp	USA
4	T9S-R16E SLM Section 19: E2SW, SE, LOTS 3, 4 Section 20: S2 Section 29: All Section 30: All	USA UTU-74391 HBP	Newfield Production Company Newfield RMI LLC ABO Petroleum Corp MYCO Industries Inc OXY Y-1 Company Yates Petroleum Corp	USA

ATTACHMENT C

CERTIFICATION FOR SURFACE OWNER NOTIFICATION

RE: Application for Approval of Class II Injection Well
NGC Federal #31-20G-9-16

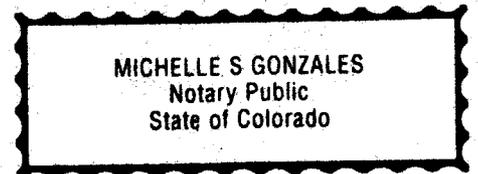
I hereby certify that a copy of the injection application has been provided to all surface owners within a one-half mile radius of the proposed injection well.

Signed: 
Newfield Production Company
Jill L. Loyle
Regulatory Associate

Sworn to and subscribed before me this 28th day of February, 2014.

Notary Public in and for the State of Colorado: 

My Commission Expires: 11/08/2014



NGC Fed. 31-20G-9-16

Spud Date: 1/04/85
 Put on Production: 4/08/85
 GL: 6051' KB: 6063'

Initial Production: 88 BOPD,
 62 MCFPD, 21 BWPD

Wellbore Diagram

SURFACE CASING

CSG SIZE: 8-5/8"
 GRADE: K-55
 WEIGHT: 24#
 LENGTH: 7 jts. (319.75')
 DEPTH LANDED: 319'
 HOLE SIZE: 12-1/4"
 CEMENT DATA: 250 sxs Class "H"

PRODUCTION CASING

CSG SIZE: 5-1/2" / J-55 LT&C / 15.5#
 LENGTH: 74 jts.
 CSG SIZE: 5-1/2" / K-55 / 15.5#
 LENGTH: 74 jts.
 DEPTH LANDED: 6118'
 HOLE SIZE: 7-7/8"
 CEMENT DATA: 240 sxs Lite, tail w/ 570 sxs Class "H"
 CEMENT TOP AT: 2450' per CBL

TUBING

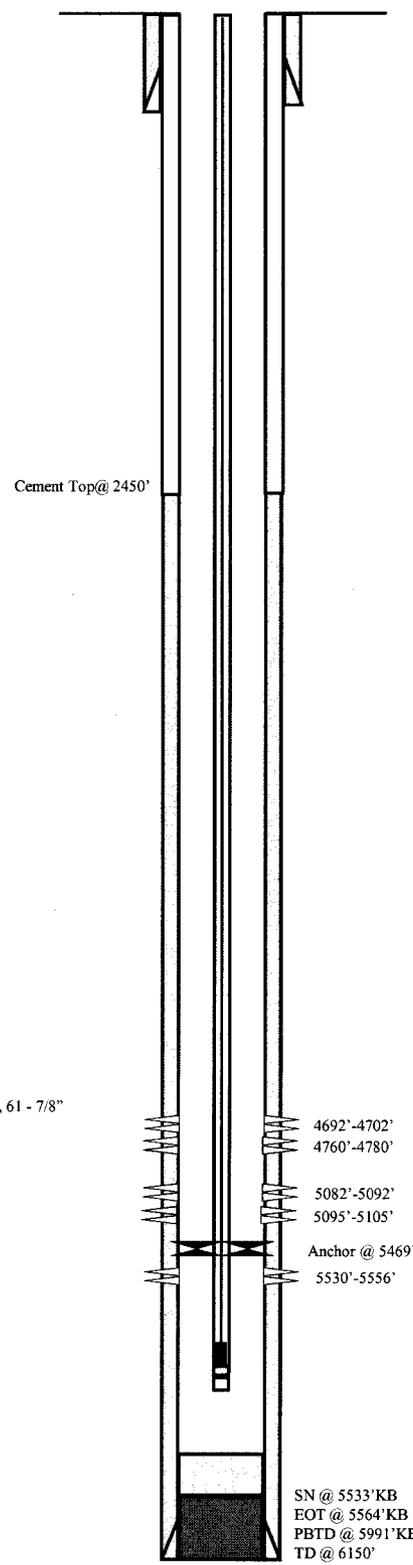
SIZE/GRADE/WT.: 2-7/8" / N-80 / 6.5#
 NO. OF JOINTS: 172 jts. (5457.93')
 TUBING ANCHOR: 5469.93' KB
 NO. OF JOINTS: 2 jts. (62.00')
 SN LANDED AT: 1.10' x 2 7/8" (5533.03') KB
 NO. OF JOINTS: 1 jt. (31.90')
 TOTAL STRING LENGTH: 5564.93' KB

SUCKER RODS

POLISHED ROD: 1-1/4" X 22'
 SUCKER RODS: 4 - 1-1/2" weight rods, 154 - 3/4" slick rods, 61 - 7/8" guided rods, 1-4', 1-6', 1-10' x 7/8" pony rods.
 PUMP SIZE: 2-1/2" x 1-1/2" x 16' RHAC
 STROKE LENGTH:
 PUMP SPEED:
 LOGS: DIL, LDT-CNL, EPT, LSS, GR, SP, ABCL, CBL

FRAC JOB

Date	Depth Range	Frac zone as follows:
3/10/85	5530'-5556'	120,000# 20/40 sand + 30,000# 12/20 sand in 1263 bbl gel. Average treating pressure 2800 psi at 20 BPM. ISIP 2500 psi. Calc. flush: 5530 gal. Actual flush: 3654 gal. 3/10/85
3/17/85	4760'-4780'	Frac zone as follows: 45,000# 20/40 sand + 12,135# 12/20 sand in 1112 bbl gel. Average treating pressure 3100 psi at 20 BPM. ISIP 1800 psi. Calc. flush: 4760 gal. Actual flush: 1260 gal.
3/26/85	4692'-4702'	Frac zone as follows: 32,000# 20/40 sand + 14,000# 12/20 sand in 581 bbl gel. Average treating pressure 3200 psi at 25 BPM. ISIP 2000 psi. Calc. flush: 4692 gal. Actual flush: 3444 gal.
1/31/98	5082'-5105'	Frac zone as follows: 120,000# 20/40 sand in 489 bbl gel. Average treating pressure 6600 psi at 24.8 BPM. ISIP 4693 psi. Calc. flush: 1317 gal. Actual flush: 1737 gal.



PERFORATION RECORD

Date	Depth Range	SPF	Holes
3/02/85	5530'-5556'	4 SPF	104 holes
3/13/85	4764'-4780'	4 SPF	64 holes
3/15/85	4760'-4780'	4 SPF	80 holes
3/23/85	4692'-4702'	4 SPF	40 holes
1/30/98	5082'-5092'	4 SPF	40 holes
1/30/98	5095'-5105'	4 SPF	40 holes

SN @ 5533' KB
 EOT @ 5564' KB
 PBTD @ 5991' KB
 TD @ 6150'



NGC Fed. #31-20G-9-16
 540' FNL & 1944' FEL
 NWN Section 20-T9S-R16E
 Duchesne Co, Utah
 API #43-013-31071; Lease #U-52018

Spud Date: 4/9/08
 Put on Production: 6/18/08
 GL: 5959' KB: 5971'

State 13-16-9-16

Injection Wellbore Diagram

SURFACE CASING

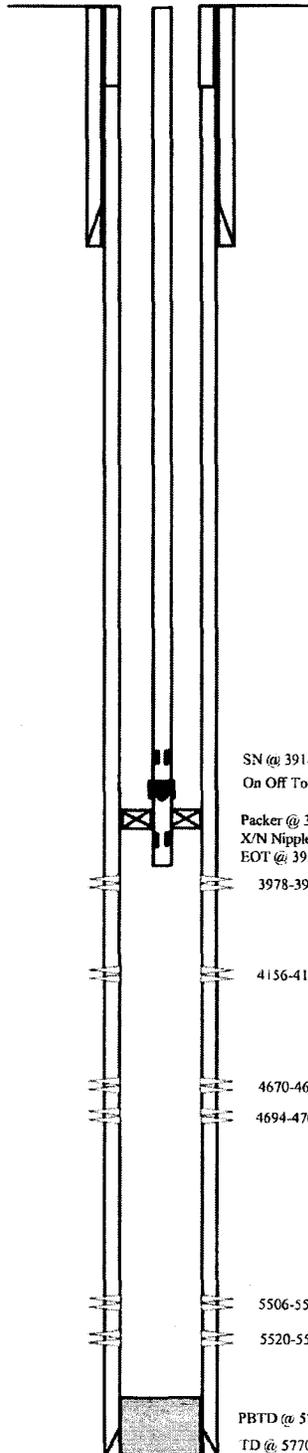
CSG SIZE: 8-5/8"
 GRADE: J-55
 WEIGHT: 24#
 LENGTH: 7jts (313.38')
 DEPTH LANDED: 323.38' KB
 HOLE SIZE: 12-1/4"
 CEMENT DATA: To Surface with 160 sxs Class 'G' cmt

PRODUCTION CASING

CSG SIZE: 5-1/2"
 GRADE: J-55
 WEIGHT: 15.5#
 LENGTH: 126 jts (5750.14') Includes Shoe Jt (20.14')
 HOLE SIZE: 7-7/8"
 DEPTH LANDED: 5763.29' KB
 CEMENT DATA: 275 sxs Premilite II and 400 sxs 50/50 Poz
 CEMENT TOP AT: 46'

TUBING

SIZE/GRADE/WT: 2-7/8" / J-55 / 6.5#
 NO. OF JOINTS: 125 jts (3906.3')
 SEATING NIPPLE: 2-7/8" (1.10')
 SN LANDED AT: 3918.3' KB
 ON/OFF TOOL AT: 3919.4'
 ARROW #1 PACKER CE AT: 3924.63'
 XO 2-3/8 x 2-7/8 J-55 AT: 3928.8'
 TBG PUP 2-3/8 J-55 AT: 3929.3'
 X/N NIPPLE AT: 3933.5'
 TOTAL STRING LENGTH: EOT @ 3935'



FRAC JOB

06-06-08	5506-5528'	Frac C1 sds as follows: 40,770# 20/40 sand in 426 bbls of Lightning 17 fluid. Treated w/ ave pressure of 1994 psi w/ ave rate of 23.8 BPM ISIP 2188 psi. Actual Flush: 4914 gals.
06-06-08	4670-4701'	Frac D2 sds as follows: 40,545# 20/40 sand in 410 bbls of Lightning 17 fluid. Treated w/ ave pressure of 1811 psi w/ ave rate of 23.8 BPM ISIP 1920 psi. Actual Flush: 4120 gals.
06-06-08	4156-4164'	Frac GB6 sds as follows: 50,204# 20/40 sand in 438 bbls of Lightning 17 fluid. Treated w/ ave pressure of 1855 psi w/ ave rate of 24.0 BPM ISIP 1810 psi. Actual Flush: 3692 gals.
06-06-08	3978-3986'	Frac GB2 sds as follows: 30,226# 20/40 sand in 366 bbls of Lightning 17 fluid. Treated w/ ave pressure of 1552 psi w/ ave rate of 15.6 BPM ISIP 1587 psi. Actual Flush: 3893 gals.
1/6/09		Tubing Leak. Updated rod & tubing details.
9/30/09		Tubing Leak. Updated rod & tubing details.
07/24/10		Pump Change. Updated rod & tubing details.
4/19/2011		Tubing Leak. Updated rods & tubing details.
02/06/14		Convert to Injection Well
02/07/14		Conversion MIT Finalized -- update ibg detail

PERFORATION RECORD

3978-3986'	4 JSPF	32 holes
4156-4164'	4 JSPF	32 holes
4670-4680'	4 JSPF	40 holes
4694-4701'	4 JSPF	28 holes
5506-5516'	4 JSPF	40 holes
5520-5528'	4 JSPF	32 holes

NEWFIELD

State 13-16-9-16
 652' FSL & 524' FWL (SW/SW)
 Section 16, T9S, R16E
 Duchesne County, Utah
 API #43-013-33853; Lease # Utah State ML-16532

NEWFIELD

Schematic



Well Name: Federal 10-17-9-16

43-013-33033

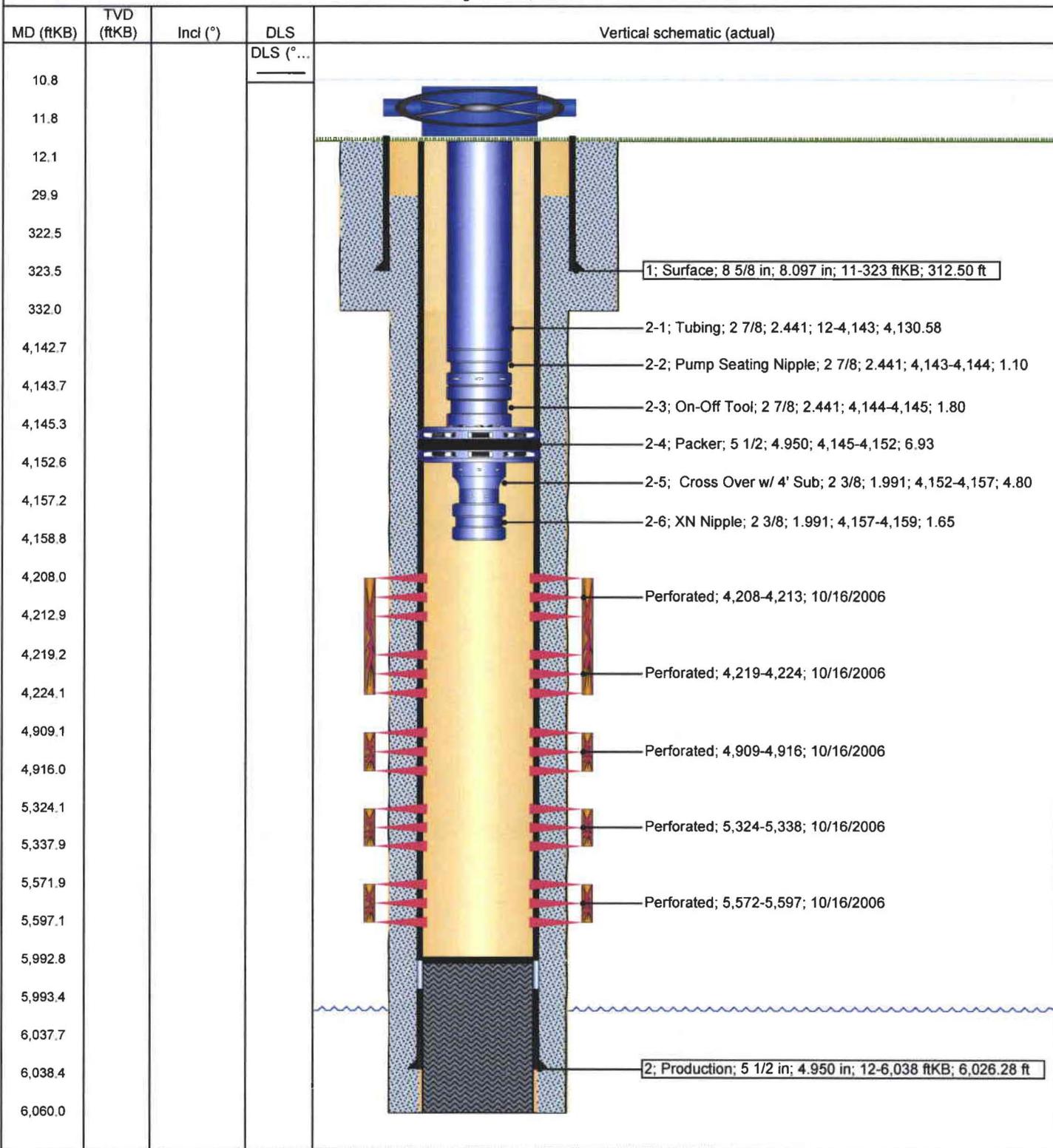
Surface Legal Location 17-9S-16E		API/UWI 43013330330000	Well RC 500155828	Lease	State/Province Utah	Field Name GMBU CTB3	County DUCHESNE
Spud Date 9/1/2006	Rig Release Date	On Production Date 10/20/2006	Original KB Elevation (ft) 6,007	Ground Elevation (ft) 5,995	Total Depth All (TVD) (ftKB)	PBTD (All) (ftKB) Original Hole - 5,992.7	

Most Recent Job

Job Category Production / Workover	Primary Job Type Conversion	Secondary Job Type Basic	Job Start Date 3/18/2014	Job End Date 3/25/2014
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TD: 6,060.0

Vertical - Original Hole, 12/4/2014 2:18:51 PM



Federal 15-17-9-16

Spud Date: 08/18/06
 Put on Production: 10/13/06
 K.B.: 6000, G.L5988

Injection Wellbore Diagram

SURFACE CASING

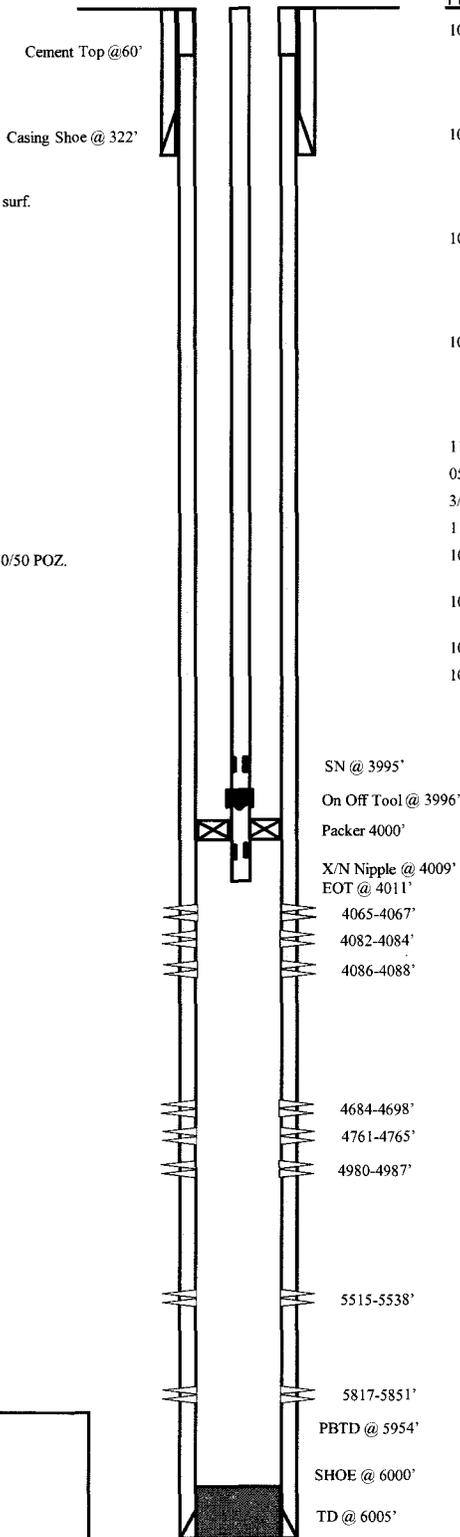
CSG SIZE: 8-5/8"
 GRADE: J-55
 WEIGHT: 24#
 LENGTH: 7 jts. (310.18')
 DEPTH LANDED: 322.03' KB
 HOLE SIZE: 12-1/4"
 CEMENT DATA: 160 sxs Class "G" cmt, est 6 bbls cmt to surf.

PRODUCTION CASING

CSG SIZE: 5-1/2"
 GRADE: J-55
 WEIGHT: 15.5#
 LENGTH: 136 jts. (5986.81')
 DEPTH LANDED: 6000.06' KB
 HOLE SIZE: 7-7/8"
 CEMENT DATA: 325 sxs Prem. Lite II mixed & 450 sxs 50/50 POZ.
 CEMENT TOP: 60'

TUBING

SIZE/GRADE/WT.: 2-7/8" / J-55 / 6.5#
 NO. OF JOINTS: 126 jts (3982.6')
 SEATING NIPPLE: 2-7/8" (1.10')
 SN LANDED AT: 3994.6' KB
 ON/OFF TOOL AT: 3995.7'
 ARROW #1 PACKER CE AT: 4000'
 XO 2-3/8 x 2-7/8 J-55 AT: 4004.7'
 TBG PUP 2-3/8 J-55 AT: 4005.2'
 X/N NIPPLE AT: 4009.4'
 TOTAL STRING LENGTH: EOT @ 4011'



FRAC JOB

10/10/06	5817-5851'	Frac CP5 sands as follows: 89648# 20/40 sand in 681 bbls Lightning 17 frac fluid. Treated @ avg press of 1910 psi w/avg rate 25.3 BPM. ISIP 2250 psi. Calc flush: 5849 gal. Actual flush: 5309 gal.
10/10/06	5515-5538'	Frac CP1 sands as follows: 60364# 20/40 sand in 493 bbls Lightning 17 frac fluid. Treated @ avg press of 1727 psi w/avg rate of 25.1 BPM. ISIP 2120 psi. Calc flush: 5536 gal. Actual flush: 4998 gal.
10/11/06	4980-4987'	Frac A.5 sands as follows: 29934# 20/40 sand 393 bbls Lightning 17 frac fluid. Treated @ avg press of 2320 psi w/avg rate of 25 BPM. ISIP 2500 psi. Calc flush: 4985 gal. Actual flush: 4473 gal.
10/11/06	4684-4698'	Frac D3 sands as follows: 87753# 20/40 sand in 610 bbls Lightning 17 frac fluid. Treated @ avg press of 1960 psi w/avg rate of 25 BPM. ISIP 2250 psi. Calc flush: 4696 gal. Actual flush: 4578 gal.
11/30/06		Pump Change- Updated rod and tubing detail
05/02/08		Stuck Pump - Tubing detail updated.
3/19/10		Pump change. Updated rod and tubing detail.
11/24/2011		Pump Change. Updated rod & tubing detail.
10/11/12	4761-4765'	Frac C sands as follows: 32336# 20/40 sand in 409 bbls Lightning 17 frac fluid.
10/12/12	4065-4088'	Frac GB4 sands as follows: 30940# 20/40 sand in 340 bbls Lightning 17 frac fluid.
10/15/12		Convert to Injection Well
10/18/12		Conversion MIT Finalized - update tbg detail

PERFORATION RECORD

Date	Depth Range	Number of JSPF	Number of Holes
10/05/06	5817-5851'	2 JSPF	68 holes
10/10/06	5515-5538'	4 JSPF	92 holes
10/11/06	4980-4987'	4 JSPF	28 holes
10/11/06	4684-4698'	4 JSPF	56 holes
10/09/12	4761-4765'	3 JSPF	12 holes
10/09/12	4086-4088'	3 JSPF	6 holes
10/09/12	4082-4084'	3 JSPF	6 holes
10/09/12	4065-4067'	3 JSPF	62 holes



Federal 15-17-9-16
 810' FSL & 1961' FEL
 SW/SE Section 17-T9S-R16E
 Duchesne Co, Utah
 API #43-013-33037; Lease #UTU-52018

NEWFIELD



Schematic

43-013-31682

Well Name: Mon 24-17-9-16

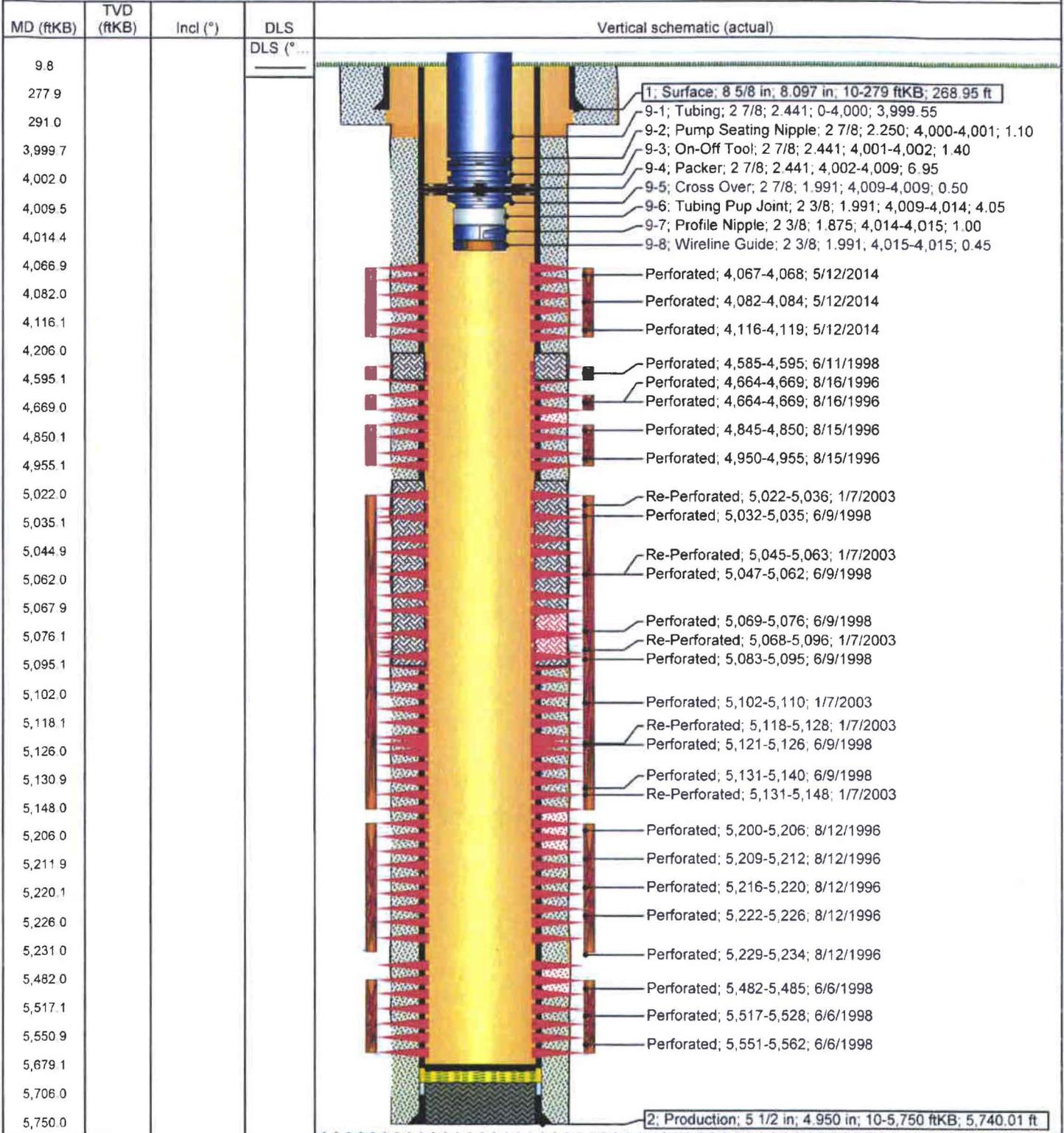
Surface Legal Location 660' FSL & 1980' FWL (SESW) SECTION 17-T9S-R16E				API/UWI 43013316820000	Well RC 500150890	Lease	State/Province Utah	Field Name GMBU CTB3	County DUCHESNE
Spud Date 7/18/1996	Rig Release Date 7/25/1996	On Production Date 8/30/1996	Original KB Elevation (ft) 6,018	Ground Elevation (ft) 6,008	Total Depth All (TVD) (RKB)			PBD (All) (RKB) Original Hole - 5,679.0	

Most Recent Job

Job Category Production / Workover	Primary Job Type Conversion	Secondary Job Type OAP	Job Start Date 5/9/2014	Job End Date 5/20/2014
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TD: 5,750.0

Vertical - Original Hole, 5/21/2014 2:13:08 PM



FEDERAL 1-20-9-16

Spud Date: 05/16/07
 Put on Production: 07/25/07
 GL: 6038' KB: 6050'

Injection Wellbore Diagram

SURFACE CASING

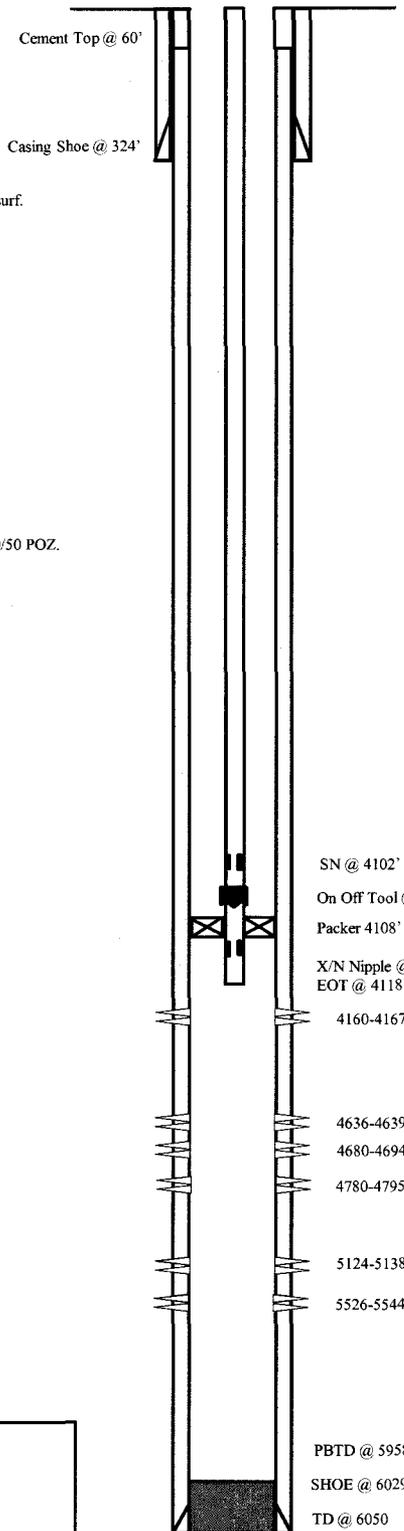
CSG SIZE: 8-5/8"
 GRADE: J-55
 WEIGHT: 24#
 LENGTH: 7 jts. (312.36')
 DEPTH LANDED: 324.21' KB
 HOLE SIZE: 12-1/4"
 CEMENT DATA: 160 sxs Class "G" cmt, est 7 bbls cmt to surf.

PRODUCTION CASING

CSG SIZE: 5-1/2"
 GRADE: J-55
 WEIGHT: 15.5#
 LENGTH: 137 jts. (6015.83')
 DEPTH LANDED: 6029.08' KB
 HOLE SIZE: 7-7/8"
 CEMENT DATA: 325 sxs Prem. Lite II mixed & 425 sxs 50/50 POZ.
 CEMENT TOP: 60'

TUBING

SIZE/GRADE/WT.: 2-7/8" / J-55 / 6.5#
 NO. OF JOINTS: 133 jts (4089.7')
 SEATING NIPPLE: 2-7/8" (1.10')
 SN LANDED AT: 4102' KB
 ON/OFF TOOL AT: 4102.8'
 ARROW #1 PACKER CE AT: 4107.75'
 XO 2-3/8 x 2-7/8 J-55 AT: 4111.6'
 TBG PUP 2-3/8 J-55 AT: 4112.1'
 X/N NIPPLE AT: 4116.5'
 TOTAL STRING LENGTH: EOT @ 4118'



FRAC JOB

07/10/07	5526-5544'	Frac CP1 sands as follows: 40327# 20/40 sand in 416 bbls Lightning 17 frac fluid. Treated @ avg press of 2186 psi w/avg rate of 24.7 BPM. ISIP 2165 psi. Calc flush: 5524 gal. Actual flush: 5002 gal.
07/19/07	5124-5138'	Frac LODC sands as follows: 60273# 20/40 sand in 510 bbls Lightning 17 frac fluid. Treated @ avg press of 2674 psi w/avg rate of 24.8 BPM. ISIP 2760 psi. Calc flush: 5122 gal. Actual flush: 4582 gal.
07/19/07	4780-4795'	Frac C sands as follows: 60060# 20/40 sand in 510 bbls Lightning 17 frac fluid. Treated @ avg press of 1833 psi w/avg rate of 24.8 BPM. ISIP 1800 psi. Calc flush: 4778 gal. Actual flush: 4288 gal.
07/19/07	4680-4694'	Frac D2 sands as follows: 79938# 20/40 sand in 623 bbls Lightning 17 frac fluid. Treated @ avg press of 1860 psi w/avg rate of 24.8 BPM. ISIP 1960 psi. Calc flush: 4678 gal. Actual flush: 4120 gal
07/20/07	4160-4167'	Frac GB6 sands as follows: 25213# 20/40 sand in 335 bbls Lightning 17 frac fluid. Treated @ avg press of 2145 psi w/avg rate of 24.3 BPM. ISIP 2025 psi. Calc flush: 5503 gal. Actual flush: 4914 gal
1/26/09		Pump Change. Updated r & t details.
10/08/12	4636-4639'	Frac D1 sands as follows: 12260# 20/40 sand in 178 bbls Lightning 17 frac fluid.
10/09/12		Convert to Injection Well
10/12/12		Conversion MIT Finalized - update tbg detail

PERFORATION RECORD

07/10/07	5526-5544'	4 JSPF	72 holes
07/19/07	5124-5138'	4 JSPF	56holes
07/19/07	4780-4795'	4 JSPF	60 holes
07/19/07	4680-4694'	4 JSPF	56 holes
07/19/07	4160-4167'	4 JSPF	28 holes
10/05/12	4636-4639'	3 JSPF	9 holes



NEWFIELD

FEDERAL 1-20-9-16

617'FNL & 652' FEL

NE/NE Section 20-T9S-R16E

Duchesne Co, Utah

API #43-013-33066; Lease # UTU-52018

Federal 3-20-9-16

Spud Date: 5-23-07

Put on Production: 8-10-07

GL: 6063' KB: 6075'

Injection Wellbore Diagram

SURFACE CASING

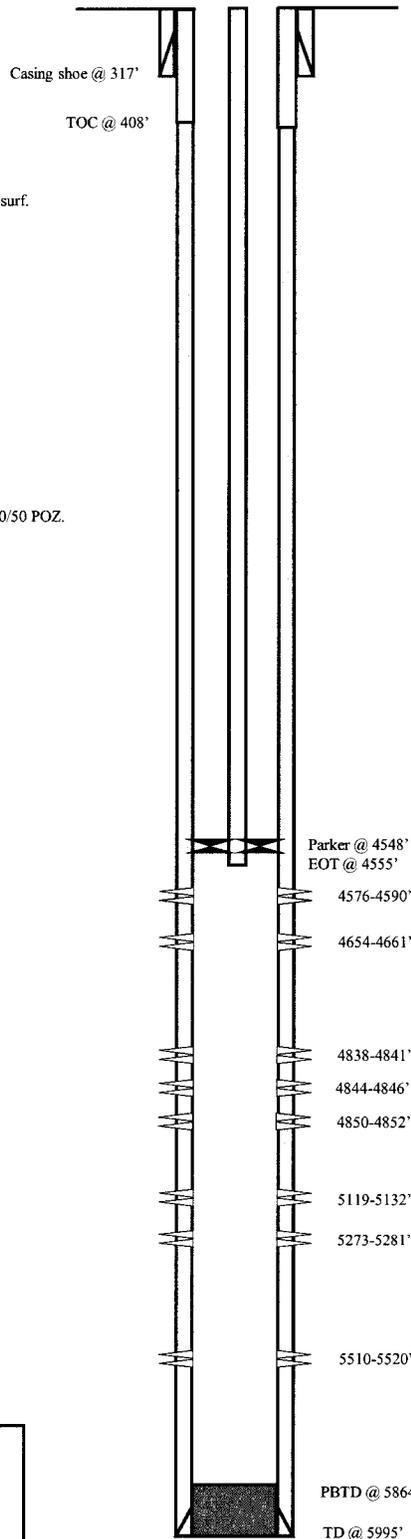
CSG SIZE: 8-5/8"
 GRADE: J-55
 WEIGHT: 24#
 LENGTH: 7 jts (304.72')
 DEPTH LANDED: 316.57' KB
 HOLE SIZE: 12-1/4"
 CEMENT DATA: 160 sxs Class "G" cmt, est 7 bbls cmt to surf.

PRODUCTION CASING

CSG SIZE: 5-1/2"
 GRADE: J-55
 WEIGHT: 15.5#
 LENGTH: 156 jts. (5962.76')
 DEPTH LANDED: 5976.01' KB
 HOLE SIZE: 7-7/8"
 CEMENT DATA: 300 sxs Prem. Lite II mixed & 425 sxs 50/50 POZ.
 CEMENT TOP AT: 408'

TUBING

SIZE/GRADE/WT.: 2-7/8" / J-55 / 6.5#
 NO. OF JOINTS: 144 jts (4529.6')
 SEATING NIPPLE: 2-7/8" (1.10')
 SN LANDED AT: 4541.6' KB
 ON/OFF TOOL AT: 4542.7'
 PACKER CE @ 4547.8'
 XO AT: 4548.9'
 TBG PUP 2-3/8" J-55 AT: 4549.4'
 XN NIPPLE AT: 4553.6'
 TOTAL STRING LENGTH: EOT @ 4555' KB



FRAC JOB

08-07-07 5510-5520' **Frac CPI sands as follows:**
 28247# 20/40 sand in 420 bbls Lightning 17 frac fluid. Treated @ avg press of 2334 psi w/avg rate of 24.8 BPM. ISIP 2280 psi. Calc flush: 5508 gal. Actual flush: 5040 gal.

08-07-07 5273-5281' **Frac LODC sands as follows:**
 14530# 20/40 sand in 286 bbls Lightning 17 frac fluid. Treated @ avg press of 2660 psi w/avg rate of 24.8 BPM. ISIP 2050 psi. Calc flush: 5271 gal. Actual flush: 4788 gal.

08-07-07 5119-5132' **Frac LODC sands as follows:**
 45312# 20/40 sand in 447 bbls Lightning 17 frac fluid. Treated @ avg press of 2162 psi w/avg rate of 26.2 BPM. ISIP 1900 psi. Calc flush: 5117 gal. Actual flush: 4578 gal.

08-07-07 4654-4661' **Frac D2 sand as follows:**
 25097# 20/40 sand in 345 bbls Lightning 17 frac fluid. Treated @ avg press of 1686 w/avg rate of 24.8 BPM. ISIP 1760 psi. Calc flush: 4652 gal. Actual flush: 4200 gal.

08-07-07 4576-4590' **Frac D1 sand as follows:**
 77698# 20/40 sand in 604 bbls Lightning 17 frac fluid. Treated @ avg press of 1939 w/avg rate of 24.8 BPM. ISIP 2122 psi. Calc flush: 4574 gal. Actual flush: 4536 gal.

08/16/07 **Pump Change.** Rod & Tubing detail updated.
 12/30/08 **Pump Change.** Updated r & t details.
 8/20/09 **Pump Maintenance.** Updated rod & tubing detail.

11-09-10 4838-4852' **Frac B2 sands as follows:** 48449# 20/40 sand in 430 bbls Lightning 17 fluid.
Re-Completion - updated details
Convert to Injection Well
Conversion MIT Finalized - update tbg detail

PERFORATION RECORD

Date	Interval	Tool	Holes
08-01-07	5510-5520'	4 JSPF	40 holes
08-07-07	5273-5281'	4 JSPF	32 holes
08-07-07	5119-5132'	4 JSPF	52 holes
08-07-07	4654-4661'	4 JSPF	28 holes
08-07-07	4576-4590'	4 JSPF	56 holes
11-09-10	4850-4852'	3 JSPF	6 holes
11-09-10	4844-4846'	3 JSPF	6 holes
11-09-10	4838-4841'	3 JSPF	9 holes

NEWFIELD



Federal 3-20-9-16

785' FNL & 1826' FWL
 NE/NW Section 20-T9S-R16E
 Duchesne Co, Utah

API # 43-013-33067; Lease # UTU-52018

Federal 7-20-9-16

Spud Date: 6-6-07
 Put on Production: 8-12-05
 GL: 6078' KB: 6090'

Injection Wellbore Diagram

SURFACE CASING

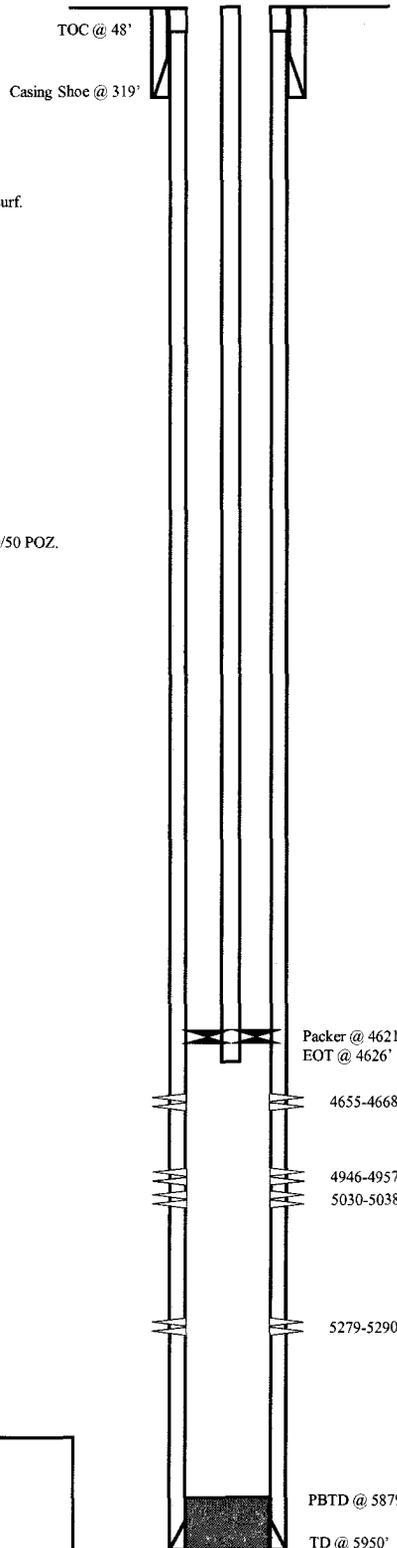
CSG SIZE: 8-5/8"
 GRADE: J-55
 WEIGHT: 24#
 LENGTH: 7 jnts (306.9')
 DEPTH LANDED: 318.75' KB
 HOLE SIZE: 12-1/4"
 CEMENT DATA: 160 sxs Class "G" cmt, est 3 bbls cmt to surf.

PRODUCTION CASING

CSG SIZE: 5-1/2"
 GRADE: J-55
 WEIGHT: 15.5#
 LENGTH: 1343 jts (5918.61')
 DEPTH LANDED: 5931.86' KB
 HOLE SIZE: 7-7/8"
 CEMENT DATA: 300 sxs Prem. Lite II mixed & 425 sxs 50/50 POZ.
 CEMENT TOP AT: 48'

TUBING

SIZE/GRADE/WT.: 2-7/8" / J-55 / 6.5#
 NO. OF JOINTS: 146 jts (4605')
 SEATING NIPPLE: 2-7/8" (1.10')
 SN LANDED AT: 4617' KB
 ARROW #1 PKR CE @ 4621.42'
 TOTAL STRING LENGTH: EOT @ 4626'



FRAC JOB

7-9-07	5279-5290'	Frac LODC, sands as follows: 29,554# 20/40 sand in 370 bbls Lightning 17 frac fluid. Treated @ avg press of 1987 psi w/avg rate of 24.7 BPM. ISIP 2284 psi. Calc flush: 5277 gal. Actual flush: 4746 gal.
7-9-07	5030-5038'	Frac LODC sands as follows: 24,274# 20/40 sand in 368 bbls Lightning 17 frac fluid. Treated @ avg press of 2044 psi w/avg rate of 24.7 BPM. ISIP 2143 psi. Calc flush: 5028 gal. Actual flush: 4557 gal.
7-9-07	4946-4957'	Frac A3 sands as follows: 40,017# 20/40 sand in 427 bbls Lightning 17 frac fluid. Treated @ avg press of 1862 psi w/avg rate of 24.7 BPM. ISIP 2238 psi. Calc flush: 4944 gal. Actual flush: 4389 gal.
7-9-07	4655-4668'	Frac D3 sands as follows: 48,763# 20/40 sand in 450 bbls Lightning 17 frac fluid. 24.8 BPM. Calc flush: 4653 gal. Actual flush: 4578 gal.
6/9/09		Stuck Pump. Updated rod & tubing details.
5/26/11		Pump Change. Updated rod and tubing detail.
01/30/12		Parted rods. Updated rod and tubing detail
3/12/12		Pump change: Updated rod & tubing detail
5/9/12		Conversion to Injection Well
5/11/12		Conversion MIT Finalized - update tbg detail

PERFORATION RECORD

7-3-07	5279-5290'	4 JSPF	44 holes
7-9-07	5030-5038'	4 JSPF	32 holes
7-9-07	4946-4957'	4 JSPF	44 holes
7-9-07	4655-4668'	4 JSPF	52 holes

NEWFIELD



Federal 7-20-9-16

2098' FNL & 1961' FEL

SW/NE Section 20-T9S-R16E

Duchesne Co, Utah

API #43-013-33106; Lease #UTU-52018

Attachment E-D

NEWFIELD

Schematic

43-013-33107

Well Name: Federal 8-20-9-16

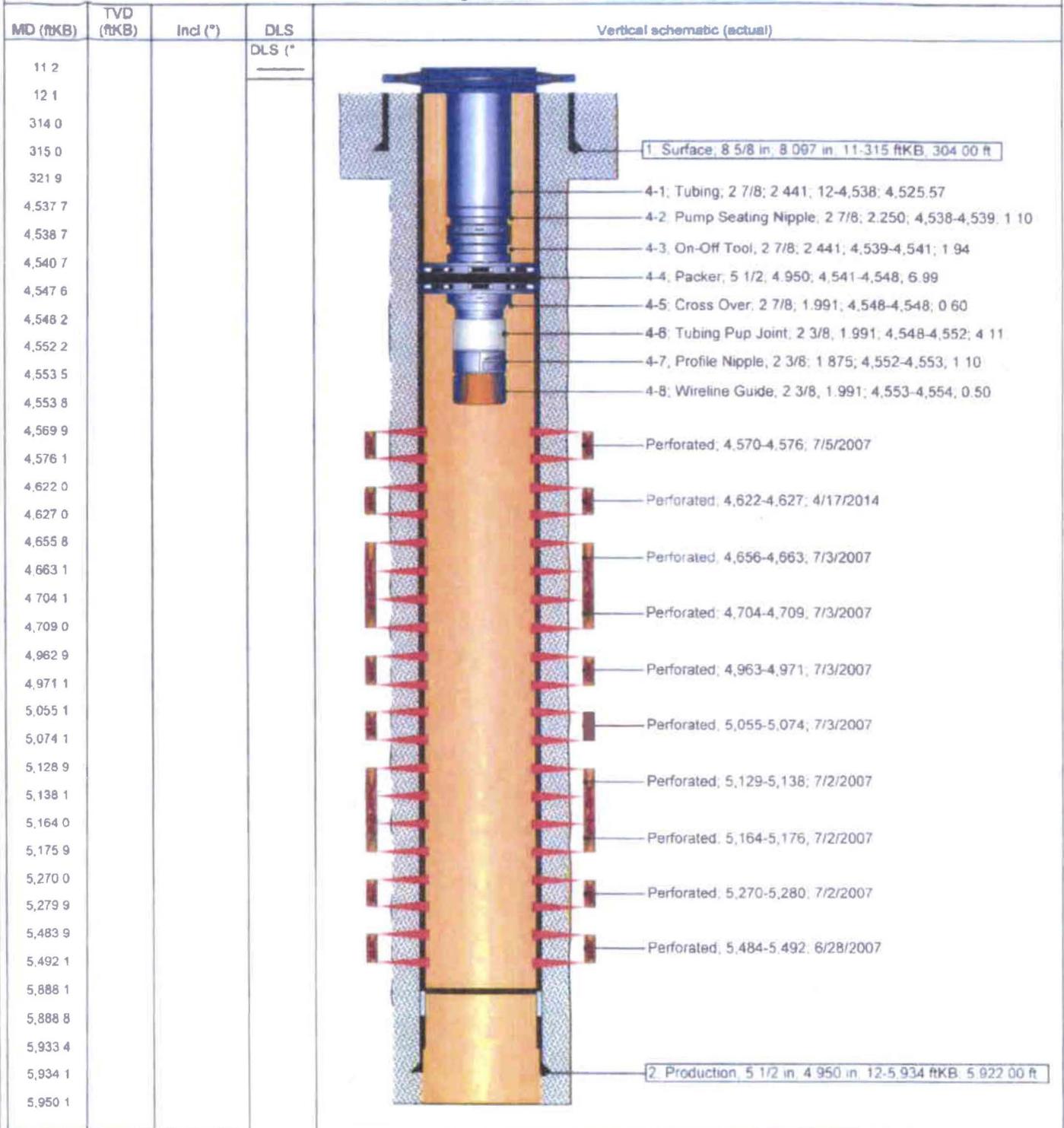
Surface Legal Location 20-9S-16E	APRUWI 43013331070000	Well RC 500159233	Lease	State/Province Utah	Field Name GMBU CTB3	County DUCHESNE
Spud Date 6/5/2007	Rig Release Date 8/16/2007	On Production Date 7/9/2007	Original KB Elevation (ft)	Ground Elevation (ft)	Total Depth All (TVD) (ftKB)	PBTD (All) (ftKB) Original Hole: 5 888 0

Most Recent Job

Job Category Production / Workover	Primary Job Type Conversion	Secondary Job Type OAP	Job Start Date 4/15/2014	Job End Date 4/29/2014
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TD: 5,950.0

Vertical - Original Hole, 9/15/2014 3:55:07 PM



NEWFIELD



Schematic

43-013-33108

Well Name: Federal 10-20-9-16

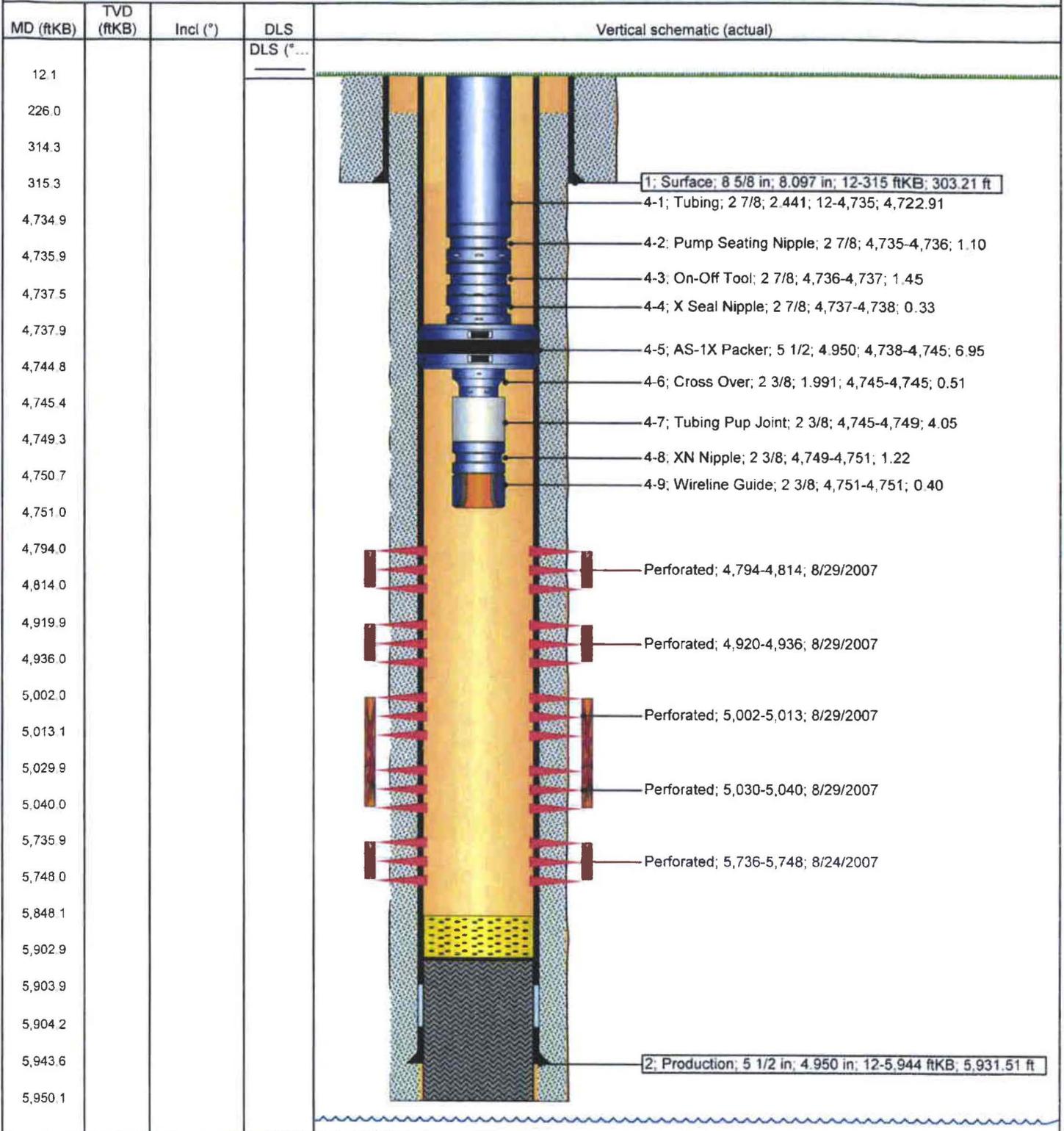
Surface Legal Location 20-9S-16E		API/UMI 43013331080000	Well RC 500159199	Lease	State/Province Utah	Field Name GMBU CTB3	County DUCHESNE
Spud Date	Rig Release Date	On Production Date 8/31/2007	Original KB Elevation (ft) 6,117	Ground Elevation (ft) 6.105	Total Depth All (TVD) (ftKB)	PBTD (All) (ftKB) Original Hole - 5,903.0	

Most Recent Job

Job Category Production / Workover	Primary Job Type Conversion	Secondary Job Type Basic	Job Start Date 6/2/2014	Job End Date 6/5/2014
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TD: 5,950.0

Vertical - Original Hole, 6/9/2014 12:02:30 PM



Put on Production: 09/11/1996
 K.B.: 6107' G.L.: 6097'

Monument Federal 22-20-9-16

Injection Wellbore Diagram

SURFACE CASING

CSG SIZE: 8-5/8"
 GRADE: J-55
 WEIGHT: 24#
 LENGTH: 7 jts (253.07')
 DEPTH LANDED: 263.07' KB
 HOLE SIZE: 12-1/4"
 CEMENT DATA: 160 sxs Class "G"

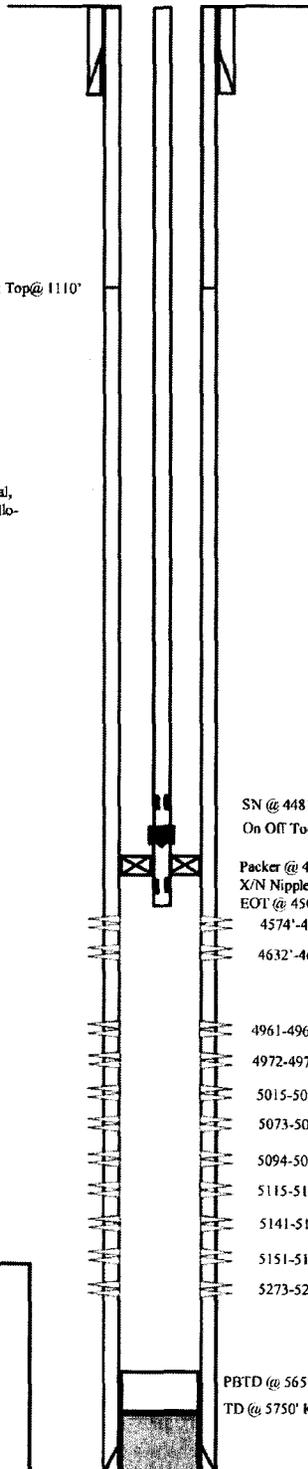
PRODUCTION CASING

CSG SIZE: 5-1/2"
 GRADE: J-55
 WEIGHT: 15.5#
 LENGTH: (5696.5')
 DEPTH LANDED: 5706.5'
 HOLE SIZE: 7-7/8"
 CEMENT DATA: 181 sxs super "G", 3% salt, 2% gel, 2#/sk Kol-seal, 1/4#/sk Cello-flake, Tail w/ 400 sxs 50/50 POZ, 2% gel, 1/4#/sk Cello-flake, 2#/sk Kol-seal
 CEMENT TOP AT: 1110'

TUBING

SIZE/GRADE/WT: 2-7/8" / J-55 / 6.5#
 NO. OF JOINTS: 143 jts (4477.4')
 SEATING NIPPLE: 2-7/8" (1.10')
 SN LANDED AT: 4487.4' KB
 ON/OFF TOOL AT: 4488.5'
 "X" SEAL NIPPLE 1.875" @ 4490'
 ARROW #1 PACKER CE AT: 4493.62'
 XO 2-3/8 x 2-7/8 J-55 AT: 4497.3'
 TBG POP 2-3/8 J-55 AT: 4497.8'
 X/N NIPPLE AT: 4501.8'
 TOTAL STRING LENGTH: EOT @ 4503.4'

Cement Top @ 1110'



ACID JOB / BREAKDOWN

8/20/96	5273'-5277'	BJ Services: 2058 gal 2% KCL water w/ 32 ball sealers Ball action but no ball off. ATP= 3000 psi, ATR= 3.5 bpm, ISP= 1920 psi
8/22/96	4861'-4965' 4972'-4977'	BJ Services: 1806 gal 2% KCL water w/ 28 ball sealers Balled off. ATP= 2200 psi, ATR= 4.0 bpm, ISP= 1500 psi
8/22/96	5015'-5025'	BJ Services: 2100 gal 2% KCL water w/ 40 ball sealers Balled off. ATP= 2600 psi, ATR= 3.6 bpm, ISP= 1500 psi
8/22/96	5073'-5076' 5094'-5098' 5115'-5119'	BJ Services: 2394 gal 2% KCL water w/ 44 ball sealers Balled off. ATP= 2500 psi, ATR= 4.0 bpm, ISP= 1300 psi
8/22/96	5141'-5148' 5151'-5153'	BJ Services: 2436 gal 2% KCL w water w/ 36 ball sealers. Balled off. ATP= 3600 psi, ATR= 3.4 bpm, ISP= 2100 psi
8/29/96	4574'-4576'	BJ Services: 1554 gal 2% KCL water w/ 8 ball sealers Balled off. ATP= 2700 psi, ATR= 4.2 bpm, ISP= 1550 psi
8/29/96	4632'-4638'	BJ Services: 1722 gal 2% KCL water w/ 20 ball sealers Ball action but no ball off. ATP= 3000 psi, ATR= 3.8 bpm, ISP= 1400 psi

FRAC JOB

8/21/96	5273'-5277'	BJ Services: 11,214 gal 2% KCL water w/ 5700# 20/40 sand & 10,000# 16/30 sand ATP= 3500 psi, ATR= 19.8 bpm, ISIP= 2430 psi, 5 min= 2150 psi, 10 min= 2090 psi, 15 min= 2020 psi, 30 min= 1910 psi.
8/23/96	4961'-5153'	BJ Services: 52,626 gal 2% KCL water w/ 52,200# 20/40 sand & 119,780# 16/30 sand ATP= 2800 psi, ATR= 55.8 bpm, ISIP= 2110 psi, 5 min= 1758 psi, 10 min= 1630 psi, 15 min= 1560 psi, 30 min= 1450 psi.
8/30/96	4574'-4576' 4632'-4638'	BJ Services: 13,398 gal 2% KCL water w/ 36,400# 16/30 sand. ATP= 3500 psi, ATR= 29.8 bpm, ISIP= 1870 psi, 5 min= 1600 psi, 10 min= 1430 psi, 15 min= 1330 psi, 30 min= 1090 psi.

Convert to Injection Well

02/04/14
 02/05/14
 Conversion MIT Finalized - update (bg detail)

PERFORATION RECORD

8/20/96	Schlumberger	5273'-5277'	4 SPF
8/22/96	Schlumberger	4961'-4965' 4972'-4977' 5015'-5025' 5073'-5076' 5094'-5098' 5115'-5119' 5141'-5148' 5151'-5153'	2 SPF 2 SPF 2 SPF 2 SPF 2 SPF 2 SPF 2 SPF
8/29/96	Schlumberger	4574'-4576' 4632'-4638'	4 Holes 10 Holes

NEWFIELD

Monument Federal 22-20-9-16
 1980' FNL & 1980' FWL
 SE/NW Section 20-T9S-R16E
 Duchesne Co. Utah
 API #43-013-31681; Lease #UTU-52018

NEWFIELD



Schematic

43-013-33069

Well Name: Federal 4-21-9-16

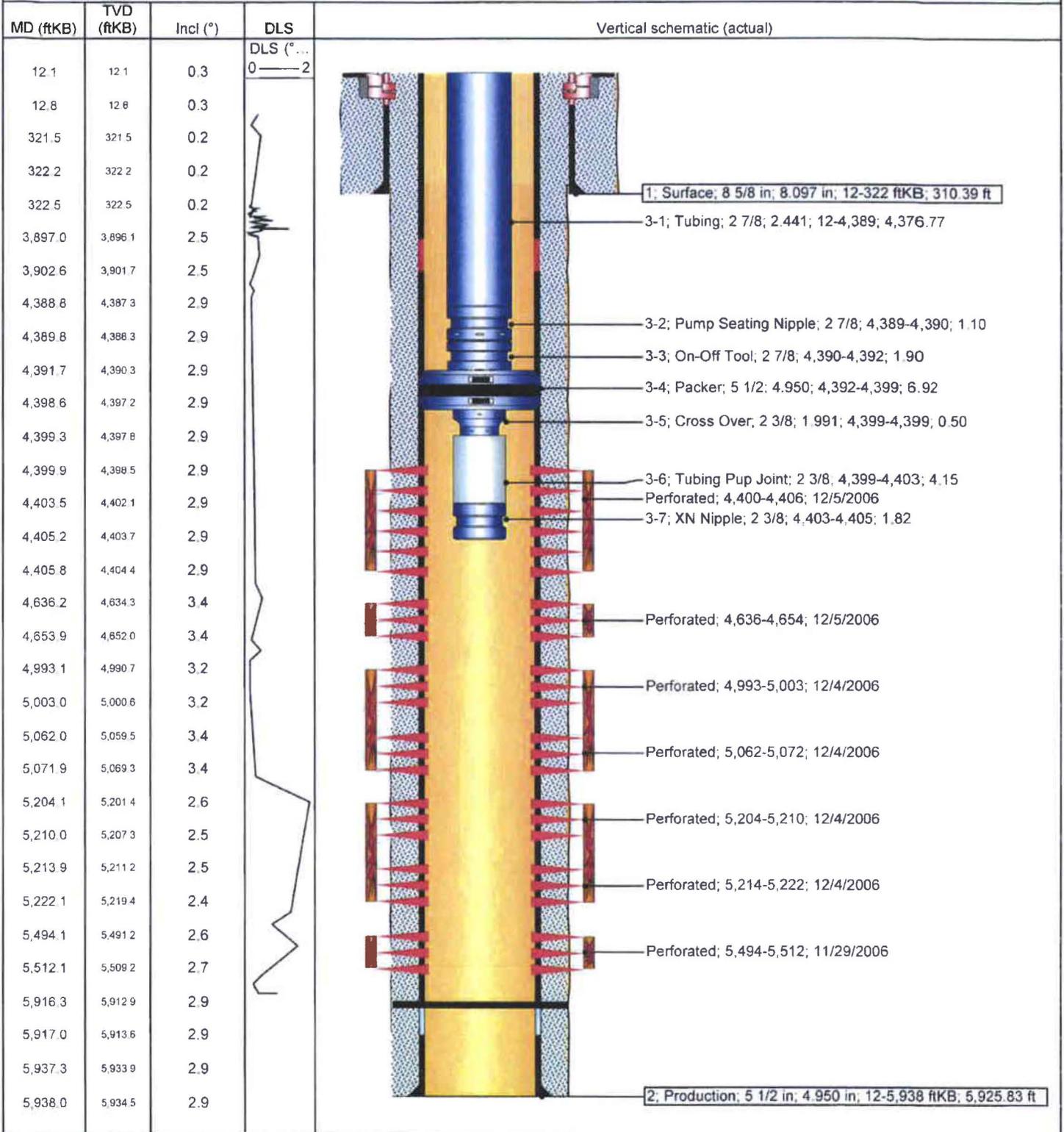
Surface Legal Location 21-9S-16E		API/UWI 43013330690000	Well RC 500159238	Lease	State/Province Utah	Field Name GMBU CTB5	County DUCHESNE
Spud Date 10/25/2006	Rig Release Date	On Production Date 12/12/2006	Original KB Elevation (ft)	Ground Elevation (ft)	Total Depth All (TVD) (ftKB)	PBD (All) (ftKB) Original Hole - 5,916.4	

Most Recent Job

Job Category Production / Workover	Primary Job Type Conversion	Secondary Job Type Basic	Job Start Date 3/31/2014	Job End Date
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TD: 5,937.8

Vertical - Original Hole, 5/14/2014 10:11:54 AM



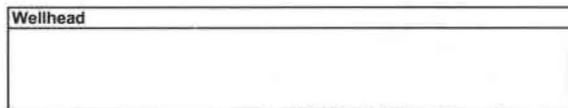
ATTACHMENT E-12

GMB 3-16-9-16H

Wellbore Diagram



Surface Location: NE/NW, Sec 16, T9S R16E
 County/State: Greater Monument Butte, Duchesne County, Utah
 Elevation: 5847' GL + 12' KB API: 43-013-50441



8-5/8" Casing Shoe
1,025

Casing Detail	Size	Wt.	Grade	Conn.	Top	Bottom	Burst	Collapse	ID	Drift	bbf/ft	Hole	TOC
Surface	8-5/8"	24#	J-55	LTC	0	1,025							Surface
Production	5-1/2"	17#	M-80	LTC	0	5,993	7,740	7,020	4.892	4.767	0.0233	7-7/8"	Port Collar:
Production	4-1/2"	11.6#	P-110	LTC	5,993	10,249	7,774	8,510	4.000	3.875	0.0155	6-1/8"	5,654' md to Surface
					TVD	6,011	burst & collapse values are book, no additional safety factors have been applied						

Tubing Detail

Size	Wt.	Grade	Conn.	Length	Top	Bottom	Joints
TBG DETAIL: sand drain valve, 3 jts 2 7/8" tbg., Cavins De-sander, 2 7/8" sub, 1 jt 2 7/8" tbg., SN, 1 jt 2 7/8" tbg., 5 1/2" TAC, 187 jts 2 7/8" tbg and tbg hanger. TA @ 5,870'. SN @ 5,903'. EOT @ 6,052' NOTE on Tubing Anchor: TA (shortened inner springs & beveled outer springs--4.625" OD)							

WELLBORE FLUIDS
 Lateral section fluid= +-8.4 ppg "clean" brine

Rod Detail

Size	Grade	Count	Length	Top	Bottom
Pump and Rod Detail: Weatherford MacGyver 1 3/4" x 28' rod pump, stabilizer sub, on/off tool, stabilizer sub, SE 4 Co-rod, 1- 8', 6', 4', 2' x 7/8" pony rods, 1 1/2" x 26' polished rod NOTE on Pump: with CoRod, must have Clutch (on/off tool) installed.					

Proposed Frac Data	Top		Bottom		Packers Plus 12 Stage StackFrac HD Stimulation Liner							Prop type/ size	Prop Vol (lbs)	Total Clean Vol (bbbls)	
	Top	Bottom	Depth	Ball OD (in.)	Seat ID (in.)	Vol. to Seat (bbl)	Actual Vol. (bbl)	Difference (bbl)	Ball Action (ΔP)						
Toe Section	10,249	10,249	Packers Plus 4-1/2" Toe Circulating Sub w/1,000" Seat for 1.250" SF2 High Pressure Ball (Actuated at 1,068 psi). And Open Hole TD												
Stage 1	10,087	10,249	Dual Hydraulic Frac Port:	Depth 10,160	Ball OD (in.) NA	Seat ID (in.) NA	Vol. to Seat (bbl) 204.33	Actual Vol. (bbl) NA	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 0				
OH Anchor/Packer	10,080	10,087	Packer Plus 7" x 4-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,268psi)											1,993	
Mechanical Packer 1	10,002	10,007	FracPort 1:	Depth 9,841	Ball OD (in.) 2.125	Seat ID (in.) 2.000	Vol. to Seat (bbl) 199.39	Actual Vol. (bbl) 0.00	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 34,144		2,342		
Stage 2	9,682	10,002	FracPort 2:	Depth 9,517	Ball OD (in.) 2.250	Seat ID (in.) 2.125	Vol. to Seat (bbl) 194.37	Actual Vol. (bbl) 0.00	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 36,389		2,775		
Mechanical Packer 2	9,677	9,682	Packer Plus 7" x 4-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,268psi)												
Stage 3	9,354	9,677	FracPort 3:	Depth 9,193	Ball OD (in.) 2.375	Seat ID (in.) 2.250	Vol. to Seat (bbl) 189.36	Actual Vol. (bbl) 0.00	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 7,548		2,718		
Mechanical Packer 3	9,354	9,359	Packer Plus 7" x 4-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,268psi)												
Stage 4	9,030	9,354	FracPort 4:	Depth 8,899	Ball OD (in.) 2.500	Seat ID (in.) 2.375	Vol. to Seat (bbl) 184.35	Actual Vol. (bbl) 0.00	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 28,177		4,116		
Mechanical Packer 4	9,030	9,035	Packer Plus 7" x 4-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,268psi)												
Stage 5	8,710	9,030	FracPort 5:	Depth 8,564	Ball OD (in.) 2.625	Seat ID (in.) 2.500	Vol. to Seat (bbl) 179.32	Actual Vol. (bbl) 0.00	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 37,277		3,907		
Mechanical Packer 5	8,705	8,710	Packer Plus 7" x 4-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,268psi)												
Stage 6	8,386	8,705	FracPort 6:	Depth 8,220	Ball OD (in.) 2.750	Seat ID (in.) 2.625	Vol. to Seat (bbl) 174.30	Actual Vol. (bbl) 0.00	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 32,229		2,784		
Mechanical Packer 6	8,381	8,386	Packer Plus 7" x 4-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,268psi)												
Stage 7	8,061	8,381	FracPort 7:	Depth 7,901	Ball OD (in.) 2.875	Seat ID (in.) 2.750	Vol. to Seat (bbl) 169.37	Actual Vol. (bbl) 0.00	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 35,076		3,708		
Mechanical Packer 7	8,061	8,066	Packer Plus 7" x 4-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,268psi)												
Stage 8	7,738	8,061	FracPort 8:	Depth 7,577	Ball OD (in.) 3.000	Seat ID (in.) 2.875	Vol. to Seat (bbl) 164.35	Actual Vol. (bbl) 0.00	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 30,308		2,777		
Mechanical Packer 8	7,738	7,743	Packer Plus 7" x 4-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,268psi)												
Stage 9	7,413	7,738	FracPort 9:	Depth 7,252	Ball OD (in.) 3.125	Seat ID (in.) 3.000	Vol. to Seat (bbl) 159.32	Actual Vol. (bbl) 0.00	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 25,505		1,896		
Mechanical Packer 9	7,413	7,418	Packer Plus 7" x 4-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,268psi)												
Stage 10	6,768	7,413	FracPort 10:	Depth 6,601	Ball OD (in.) 3.250	Seat ID (in.) 3.125	Vol. to Seat (bbl) 154.29	Actual Vol. (bbl) 0.00	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 37,884		2,804		
Mechanical Packer 10	7,088	7,093	Packer Plus 7" x 4-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,268psi)												
Stage 11	6,763	7,088	FracPort 11:	Depth 6,445	Ball OD (in.) 3.375	Seat ID (in.) 3.250	Vol. to Seat (bbl) 149.26	Actual Vol. (bbl) 0.00	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 31,284		2,755		
Mechanical Packer 11	6,763	6,768	Packer Plus 7" x 4-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,268psi)												
Stage 12	6,445	6,763	FracPort 12:	Depth 6,372	Ball OD (in.) 3.500	Seat ID (in.) 3.375	Vol. to Seat (bbl) 144.23	Actual Vol. (bbl) 0.00	Difference (bbl)	Ball Action (ΔP)	100 mesh sand 21,198				
Mechanical Packer 12	6,438	6,445	Packer Plus 7" x 4-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,268psi)												
OH Anchor/Packer	5,451	5,456	Packer Plus 8-5/8" x 5-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,946psi)												
Rockseal II Packer	5,372	5,377	Packer Plus 8-5/8" x 5-1/2" RockSeal II 10K Hydraulic Set Open Hole Packer (Actuated at 2,946psi)												

Lat Length 3,804
 Total Stim. Lateral 3,804
 Avg. Stage Length 317 *between packers

Sand Total	100 mesh sand	335,921
580,309	30/50 mesh sand	244,388
	# sand per foot of lateral	153

6.5" x 4.5" XO 5,993



MD TD 10,259
 TVD TD 6,011

Well Name: **GMBU H-20-9-16**

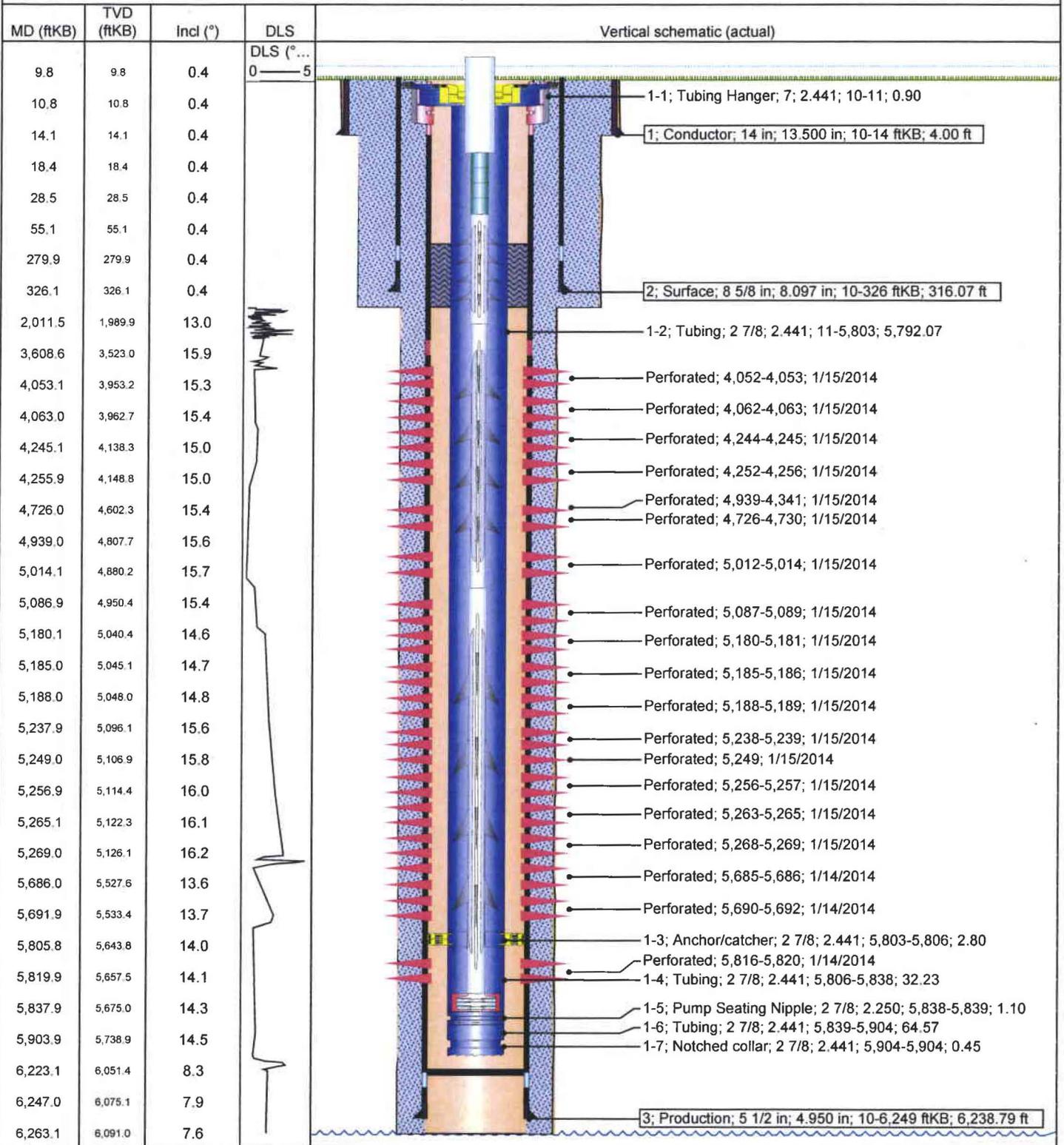
Surface Legal Location SWNE 2110 FNL 1934 FEL Sec 20 T9S R16E Mer SLB			API/UWI 43013515640000	Well RC 500335202	Lease UTU52018	State/Province Utah	Field Name GMBU CTB3	County Duchesne
Spud Date 12/7/2013	Rig Release Date 12/25/2013	On Production Date 1/25/2014	Original KB Elevation (ft) 6,093	Ground Elevation (ft) 6,083	Total Depth All (TVD) (ftKB) Original Hole - 6,090.9	PBTD (All) (ftKB) Original Hole - 6,223.1		

Most Recent Job

Job Category Initial Completion	Primary Job Type Fracture Treatment	Secondary Job Type P&P	Job Start Date 1/14/2014	Job End Date 1/22/2014
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TD: 6,263.0

Slant - Original Hole, 3/3/2014 6:49:29 AM



Well Name: GMBU J-20-9-16

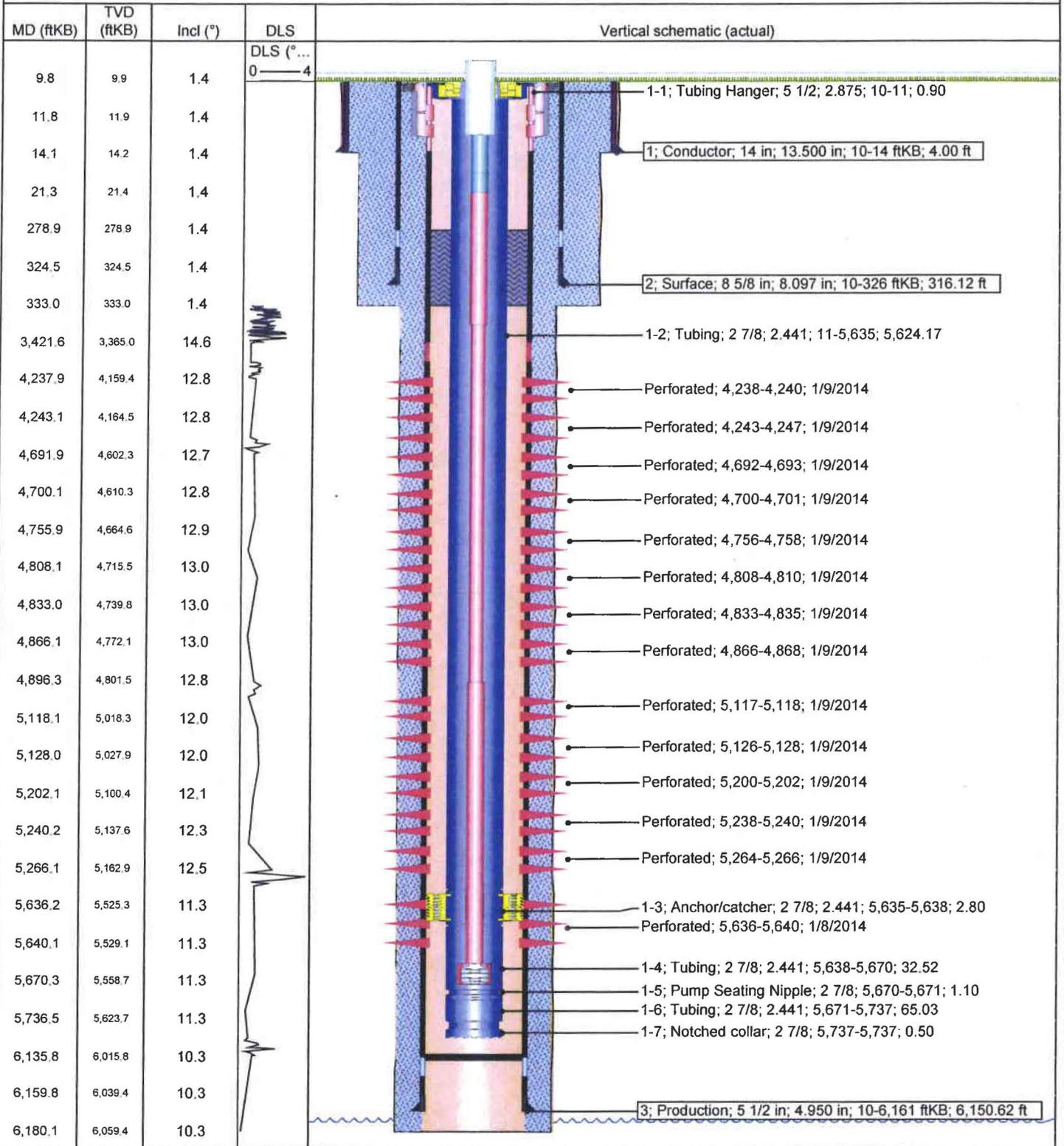
Surface Legal Location SWNW 2041 FNL 553 FWL Sec 21 T9S R16E Ser SLB		API/UWI 43013515680000	Well RC 500335147	Lease UTU64379	State/Province Utah	Field Name GMBU CTB5	County Duchesne
Spud Date 12/3/2013	Rig Release Date 12/18/2013	On Production Date	Original KB Elevation (ft) 6,050	Ground Elevation (ft) 6,040	Total Depth All (TVD) (ftKB) Original Hole - 6,059.3	PBTD (All) (ftKB) Original Hole - 6,135.8	

Most Recent Job

Job Category Initial Completion	Primary Job Type Fracture Treatment	Secondary Job Type P&P	Job Start Date 1/8/2014	Job End Date 1/16/2014
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TD: 6,180.0

Slant - Original Hole, 3/3/2014 6:55:06 AM



Well Name: GMBU L-20-9-16

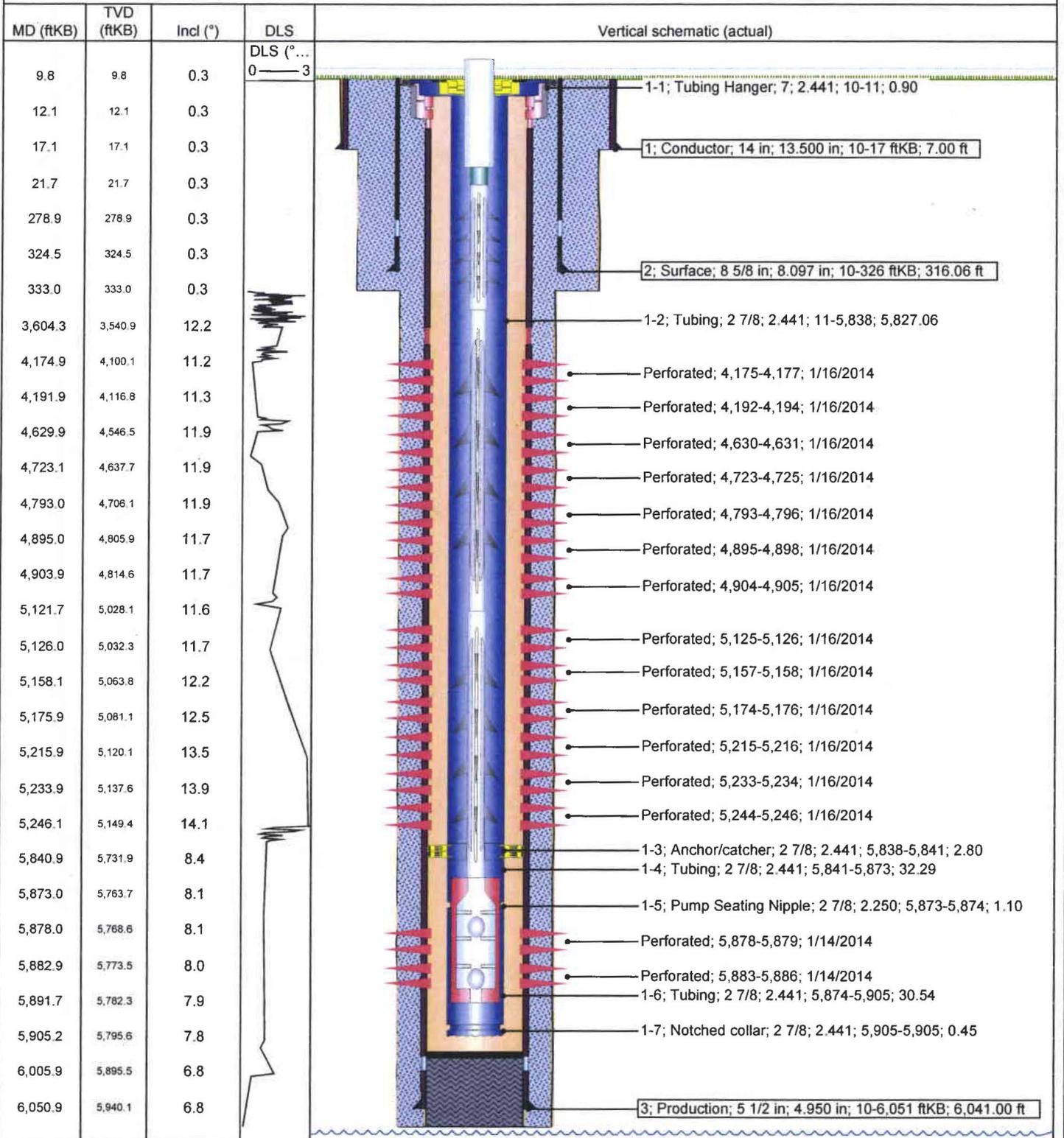
Surface Legal Location		API/UWI		Well RC		Lease		State/Province		Field Name		County	
SWNE 2117 FNL 1914 FEL Sec 20 T9S R16E Mer SLB		43013515770000		500335200		UTU52018		Utah		GMBU CTB3		Duchesne	
Spud Date		Rig Release Date		On Production Date		Original KB Elevation (ft)		Ground Elevation (ft)		Total Depth All (TVD) (ftKB)		PBTD (All) (ftKB)	
12/8/2013		12/29/2013		1/25/2014		6,093		6,083		Original Hole - 5,954.2		Original Hole - 6,004.0	

Most Recent Job

Job Category		Primary Job Type		Secondary Job Type		Job Start Date		Job End Date	
Initial Completion		Fracture Treatment		P&P		1/14/2014		1/25/2014	

TD: 6,065.0

Slant - Original Hole, 2/28/2014 9:53:40 AM



ATTACHMENT F

1 of 6

multi-chem

A HALLIBURTON SERVICE

Multi-Chem Analytical Laboratory

1553 East Highway 40

Vernal, UT 84078

Units of Measurement: **Standard**

Water Analysis Report

Production Company: **NEWFIELD PRODUCTION**

Well Name: **GMBU 31-20G-9-18**

Sample Point: **Well**

Sample Date: **11/4/2013**

Sample ID: **WA-257838**

Sales Rep: **Michael McBride**

Lab Tech: **Gary Winegar**

Scaling potential predicted using ScaleSoftPitzer from
Brine Chemistry Consortium (Rice University)

Sample Specifics		Analysis @ Properties in Sample Specifics			
Test Date:	11/12/2013	Cations		Anions	
		mg/L		mg/L	
System Temperature 1 (°F):	120	Sodium (Na):	8006.00	Chloride (Cl):	16000.00
System Pressure 1 (psig):	60	Potassium (K):	55.00	Sulfate (SO4):	432.00
System Temperature 2 (°F):	210	Magnesium (Mg):	24.00	Bicarbonate (HCO3):	14300.00
System Pressure 2 (psig):	60	Calcium (Ca):	97.00	Carbonate (CO3):	
Calculated Density (g/ml):	1.022	Strontium (Sr):	18.00	Acetic Acid (CH3COO)	
pH:	7.80	Barium (Ba):	6.40	Propionic Acid (C2H5COO)	
Calculated TDS (mg/L):	39006.33	Iron (Fe):	24.00	Butanoic Acid (C3H7COO)	
CO2 in Gas (%):		Zinc (Zn):	0.29	Isobutyric Acid ((CH3)2CHCOO)	
Dissolved CO2 (mg/L):	0.00	Lead (Pb):	0.14	Fluoride (F):	
H2S in Gas (%):		Ammonia NH3:		Bromine (Br):	
H2S in Water (mg/L):	10.00	Manganese (Mn):	0.70	Silica (SiO2):	42.80

Notes:

B=39 Al=24 Li=4.8

(PTB = Pounds per Thousand Barrels)

Temp (°F)	PSI	Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
210.00	60.00	2.81	84.75	0.87	3.30	4.51	9.09	4.91	17.45	0.00	0.00	0.00	0.00	0.00	0.00	8.25	0.15
200.00	60.00	2.75	84.73	0.90	3.32	4.48	9.09	4.86	17.45	0.00	0.00	0.00	0.00	0.00	0.00	8.33	0.15
190.00	60.00	2.69	84.69	0.92	3.35	4.47	9.09	4.80	17.45	0.00	0.00	0.00	0.00	0.00	0.00	8.41	0.15
180.00	60.00	2.63	84.66	0.95	3.38	4.45	9.09	4.74	17.45	0.00	0.00	0.00	0.00	0.00	0.00	8.49	0.15
170.00	60.00	2.58	84.63	0.98	3.41	4.44	9.09	4.68	17.45	0.00	0.00	0.00	0.00	0.00	0.00	8.59	0.15
160.00	60.00	2.52	84.59	1.02	3.45	4.44	9.09	4.62	17.45	0.00	0.00	0.00	0.00	0.00	0.00	8.69	0.15
150.00	60.00	2.47	84.55	1.06	3.48	4.45	9.09	4.56	17.45	0.00	0.00	0.00	0.00	0.00	0.00	8.80	0.15
140.00	60.00	2.43	84.50	1.11	3.52	4.46	9.09	4.50	17.45	0.00	0.00	0.00	0.00	0.00	0.00	8.92	0.15
130.00	60.00	2.38	84.45	1.17	3.55	4.48	9.09	4.44	17.45	0.00	0.00	0.00	0.00	0.00	0.00	9.04	0.15
120.00	60.00	2.34	84.40	1.23	3.58	4.50	9.09	4.38	17.45	0.00	0.00	0.00	0.00	0.00	0.00	9.18	0.15

Multi-Chem Analytical Laboratory
 1553 East Highway 40
 Vernal, UT 84078

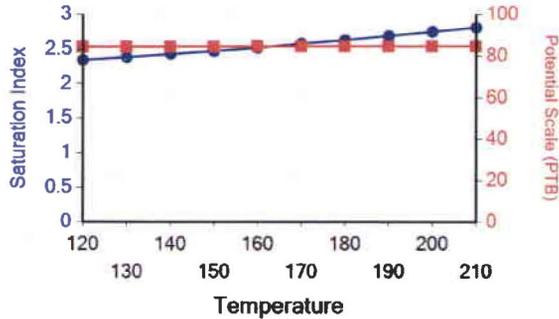
Water Analysis Report

Temp (°F)	PSI	Hemihydrate CaSO ₄ ·0.5H ₂ O		Anhydrate CaSO ₄		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
210.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	1.92	0.19	9.00	0.06	4.98	43.64	2.94	25.70	14.05	18.67
200.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84	0.19	9.14	0.06	4.49	42.26	2.65	25.16	13.69	18.67
190.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	0.19	9.30	0.06	4.00	40.48	2.36	24.40	13.33	18.67
180.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	1.65	0.19	9.46	0.06	3.50	38.21	2.07	23.36	12.98	18.66
170.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	0.19	9.63	0.06	2.99	35.34	1.77	21.95	12.62	18.66
160.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	0.19	9.81	0.06	2.48	31.74	1.47	20.06	12.26	18.66
150.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34	0.19	10.01	0.06	1.96	27.28	1.18	17.60	11.91	18.66
140.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	0.18	10.21	0.06	1.45	21.82	0.88	14.47	11.57	18.66
130.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.18	10.44	0.06	0.93	15.23	0.59	10.61	11.22	18.66
120.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.18	10.67	0.06	0.41	7.44	0.29	6.00	10.89	18.66

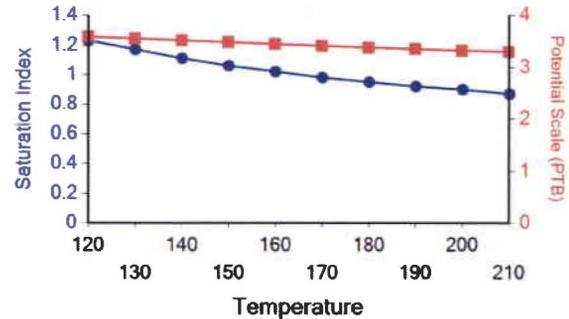
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

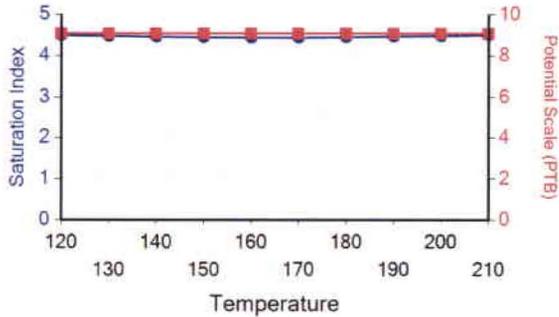
Calcium Carbonate



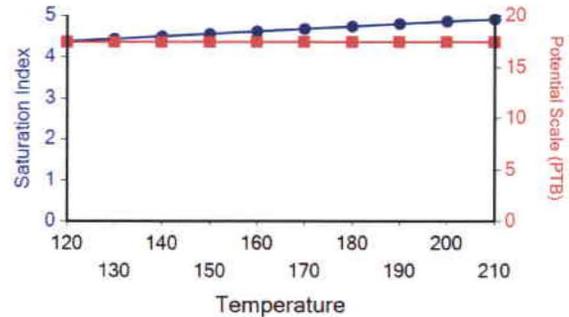
Barium Sulfate



Iron Sulfide

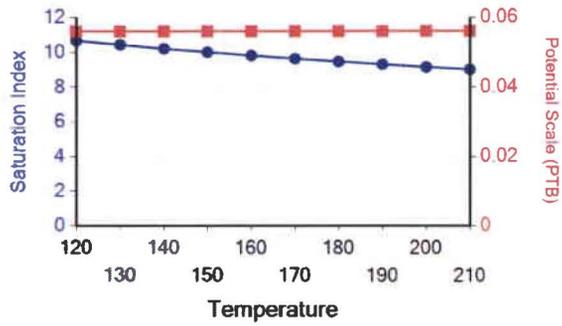


Iron Carbonate

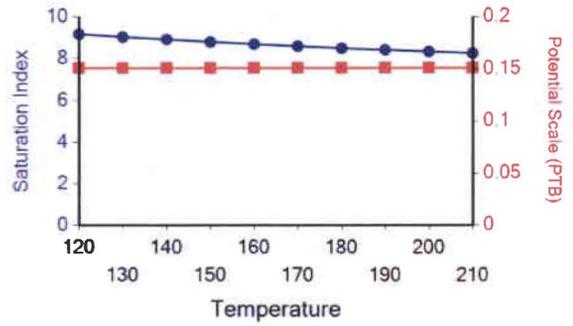


Water Analysis Report

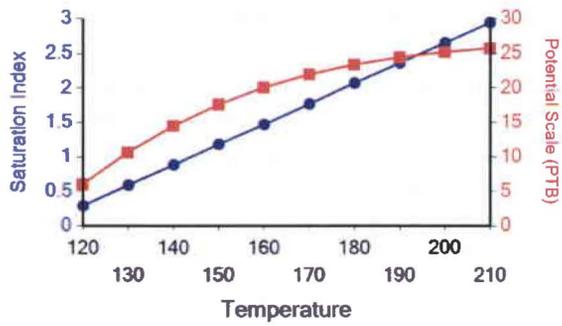
Lead Sulfide



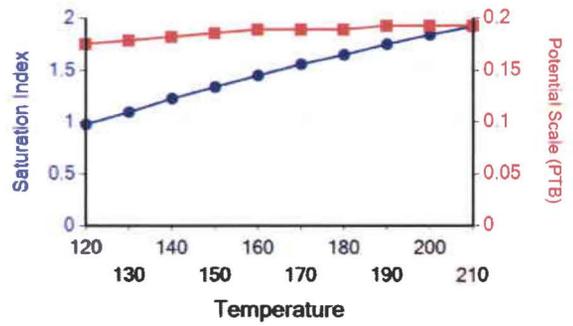
Zinc Sulfide



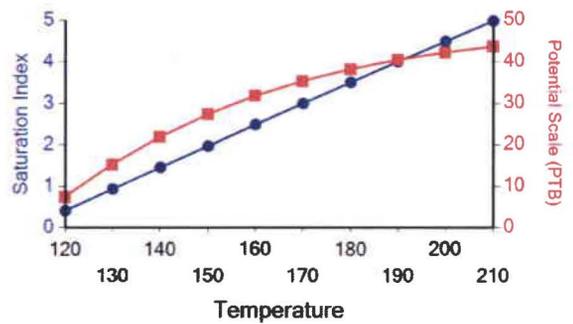
Ca Mg Silicate



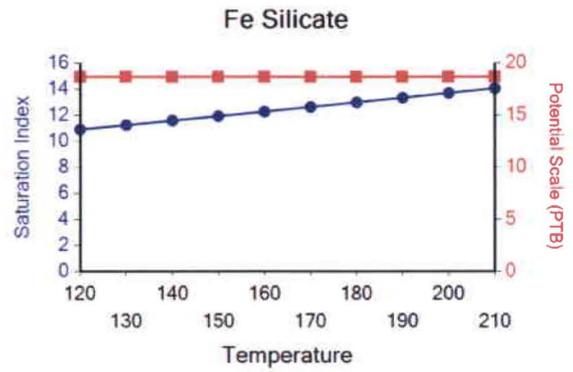
Zinc Carbonate



Mg Silicate



Water Analysis Report



Units of Measurement: **Standard**

Water Analysis Report

Production Company: **NEWFIELD PRODUCTION**
Well Name: **WELLS DRAW INJ FACILITY**
Sample Point: **Commingled After Filter**
Sample Date: **11/18/2013**
Sample ID: **WA-259493**

Sales Rep: **Jacob Bird**
Lab Tech: **Gary Winegar**

Scaling potential predicted using ScaleSoftPitzer from
Brine Chemistry Consortium (Rice University)

Sample Specifics		Analysis @ Properties in Sample Specifics			
		Cations		Anions	
		mg/L		mg/L	
Test Date:	11/26/2013	Sodium (Na):	141.00	Chloride (Cl):	1000.00
System Temperature 1 (°F):	120	Potassium (K):	39.00	Sulfate (SO4):	41.00
System Pressure 1 (psig):	2000	Magnesium (Mg):	24.00	Bicarbonate (HCO3):	1122.00
System Temperature 2 (°F):	210	Calcium (Ca):	41.00	Carbonate (CO3):	
System Pressure 2 (psig):	2000	Strontium (Sr):	0.70	Acetic Acid (CH3COO)	
Calculated Density (g/ml):	0.999	Barium (Ba):	0.00	Propionic Acid (C2H5COO)	
pH:	6.50	Iron (Fe):	0.11	Butanoic Acid (C3H7COO)	
Calculated TDS (mg/L):	2413.76	Zinc (Zn):	0.03	Isobutyric Acid ((CH3)2CHCOO)	
CO2 in Gas (%):		Lead (Pb):	0.00	Fluoride (F):	
Dissolved CO2 (mg/L):	24.00	Ammonia NH3:		Bromine (Br):	
H2S in Gas (%):		Manganese (Mn):	0.00	Silica (SiO2):	4.92
H2S in Water (mg/L):	0.00				

Notes:

B=4 Al=18 Li=0

(PTB = Pounds per Thousand Barrels)

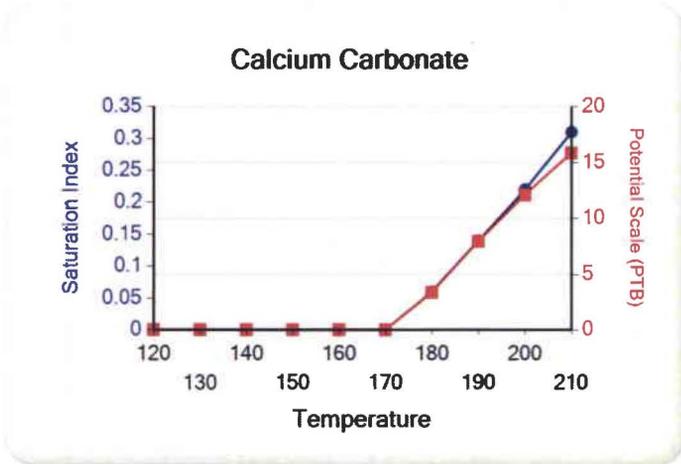
Temp (°F)	PSI	Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
210.00	2000.00	0.31	15.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	2000.00	0.22	12.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
190.00	2000.00	0.14	7.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.00	2000.00	0.06	3.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Water Analysis Report

Temp (°F)	PSI	Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
210.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
190.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate

These scales have positive scaling potential under final temperature and pressure:



Attachment "G"

**NGC Federal 31-20G-9-16
Proposed Maximum Injection Pressure**

Frac Interval (feet)		Avg. Depth (feet)	ISIP (psi)	Calculated Frac Gradient (psi/ft)	Pmax
Top	Bottom				
5530	5556	5543	2500	0.89	2464
4760	4780	4770	1800	0.81	1769 ←
4692	4702	4697	2000	0.86	1970
5082	5105	5094	4693	1.36	4660
				Minimum	<u>1769</u>

Calculation of Maximum Surface Injection Pressure
 $P_{max} = (\text{Frac Grad} - (0.433 \times 1.015)) \times \text{Depth of Top Perf}$
 where pressure gradient for the fresh water is .433 psi/ft and
 specific gravity of the injected water is 1.015.

$$\text{Frac Gradient} = (\text{ISIP} + (0.433 \times \text{Top Perf.})) / \text{Top Perf.}$$

Please note: These are existing perforations; additional perforations may be added during the actual conversion procedure.

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 2/26/85 PBTB 5,991' Present Operation: Moving in Completion Rig
Rode Gibson Rig #51 to location. Rig up. Shut down
for night. Daily Cost = \$1,670 Cumulative cost = \$1,670
- 2/27/85 PBTB 5,991' Present Operation: Running in Hole
Rig up Welex. Ran Gamma Ray, Cement Bond Log, Variable
Density Log, Casing Collar Locator Log, and Base Temper-
ature Log. Bottom Hole Temperature = 180°. Good
Bond throughout. Nipple Up Blow Out Preventer. Shut
down for night. Daily Cost = \$8,486.50 Cumulative
cost = \$10,156.50
- 2/28/85 PBTB 5,991' Present Operation: Perforating and Testing
Run in hole with bit and scraper. Total tubing tally -
5,786'. Circulate hole with 200 bbls of 2% KCL.
Trip out of hole, lay down bit and scraper. Pressure
tested casing to 4,400 lbs. for 15 minutes. Tested
good. Shut down for night. Daily cost = \$16,721
Cumulative Cost = \$26,877.50
- 3/1/85 PBTB 5,991' Present Operation: Perforating and Testing
Rig up Schlumberger Johnson Flo-Patrol. Pick up drill
collars and start tripping in to hole. Reached testing
interval to late in the afternoon to perforate and
swab zone in for testing. Shut down for night. Will
perforate tomorrow morning, 3/2/85. Daily cost =
\$18,963 Cumulative Cost = \$45,840.50
- 3/2/85 PBTB 5,991' Present Operation: Shut In for
Pressure Build-up
Set packer, rig up Johnson Flo-Patrol. Pressure up
tubing to 1,000 lbs. Perforate 5530-56 with 4 shots
per foot, total 104 shots. Recorded a 3" blow decreasing
to a slight blow after 10 minutes. Shut in 45 minutes.
Opened tool with 4-6" blow decreasing to 1/2" blow
after 6 hours. Shut in well for pressure build-up.
Daily cost = \$1,601 Cumulative Cost = \$47,441.50
- 3/3/85 PBTB 5,991' Present Operation: Shut In for
Pressure Build-up
Well shut in for pressure build-up. Will pull tool
on Monday morning.

NGC-FEDERAL 31-20-G
 T9S-R16E
 Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
 Duchesne County, Utah

Operator: Nova Petroleum Corp.
 Contractor: Gibson

COMPLETION REPORT

3/4/85 PBDT 5,991' Present Operation: Testing
 Tubing Pressure = 0 lbs. Casing Pressure = 0 lbs.
 Trip out of hole with tubing and test tools. Laid
 down Flopetrol Johnston tools. Oil in last stand
 of tubing. 75 lbs. pressure in sample chamber. Waiting
 on interpretation from Flopetrol. Daily Cost = \$1,601
 Cumulative Cost = \$49,254.50

3/5/85 PBDT 5,991' Present Operation: Shut In
 Evaluating Data
 Daily Cost = \$1,582 Cumulative Cost = \$50,836.50

3/6/85 PBDT 5,991' Present Operation: Pulling Test Tool
 Laid down drill collar. Waiting on Flopetrol Johnston
 Schlumberger. Pick up test tools. Go in hole. Circulate
 for breakdown. Set packer at 5,495'. Pressure up
 annulus to 2,000 lbs. Held good. Load tubing with
 31 bbls+ 2% KCL. Break formation down at 2,200 lbs.
 Treated at 4 to 5 bbls per minute at 1,700 lbs. Pumped
 27 bbls+. End of formation (Total 58 bbls) Shut in
 with 1,000 lbs pressure. After 5 minutes, pressure
 was 750 lbs. Flow back and swab 4 bbls. Swab total =
 36 bbls water, 3 bbls oil. Shut in 30 minutes. Opened
 up. Had 3,500 feet of gas, 200 feet of oil for fluid
 entry. Shut well in for pressure buildup. Daily
 Cost = \$5,426.50 Cumulative Cost = \$56,263

3/7/85 PBDT 5,991' Present Operation: Doing Pump In &
 Flow Back Test
 Tubing Pressure = 0 lbs. Casing Pressure = 0 lbs.
 Released packer. Trip out of hole with tubing and
 test tool. Tubing is gassing. Recovered 496' of
 fluid, 80' of oil, 416' of slight oil cut of KCL water.
 77 lbs. pressure on sample chamber. .01 cubic feet
 of gas, 550 cc of oil, 365 cc of KCL water. Laid
 down test tools. Trip in hole with tubing. Landed
 at 5,510'. Shut down for night.

Additional information:
 Test results of DST run on 3/4/85:
 3 lbs. flowing pressure
 2,200 lbs. shut in pressure.

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 3/8/85 Slight blow on tubing. 0 lbs casing pressure. Circulate hole with 200 bbls. of 2% KCL (casing on vacuum for 35 bbls) Fair show of gas and oil. Pump in perfs - 1/2 bbl at 5 bbls per minute - 1,000 lbs casing pressure, 900 lbs tubing pressure. Pump 15 bbls at 5 bbls per minute - 800 lbs tubing pressure, 800 lbs casing pressure. Bled to 0 lbs in 40 minutes. No flow back. Pump 15 bbls at 5 bbls per minute - 1,300 lbs casing pressure, 1,000 lbs tubing pressure (initial pressure). After 5 minutes - 900 lbs casing pressure, 900 lbs tubing pressure. After 30 minutes - 200 lbs casing pressure, 100 lbs tubing pressure. Flow back - too small to measure. Pump 35 bbls at 5 bbls per minute - 1,412 lbs casing pressure, 1,200 lbs tubing pressure. After 30 minutes - 1,100 lbs casing pressure, 850 lbs tubing pressure. Open well went to 0 lbs pressure. Flow back - too small to measure. Swabbed tubing - recovered 130 bbls. Shut down for night. Daily cost = \$2,512
Cumulative Cost = \$61,144
- 3/9/85 Swab down hole. 1,000 feet of fluid entry overnight - 500 feet of oil, 500 feet of KCL water. Made 2 more swab runs - 600 feet of entry. Rig up Western Company for Mini Frac. Treat with 400 bbls of gel at 2,400 lbs pressure. Flush with 2% KCL. Monitor well for 4 hours. Rig up Petrolog. Tool malfunctions. Rig down Petrolog. Rig up Oil Well Perforators. Run hot and cold Gamma Ray. Measured fracture height - 36 to 40 feet. Shut down for night. Daily Cost = \$9,837.33
Cumulative Cost = \$70,981.33
- 3/10/85 Rig down Oil Well Perforator. Rig up Western Company. Gel up tanks. Held safety meeting. Pressure test lines to 5,000 lbs. Circulate hole with gel. Pull out of hole with 6 stands and one single. Pick up blast joint and sublanded tubing at 5,112 KB. Frac started at 12:45 p.m. Pumped 43,500 lbs of 20/40 sand, 30,000 lbs of 12/20 sand, and 1,263 bbls of fluid. Treated at 2,800 lbs at 20 bbls per minute. Initial Shut In Pressure - 2,500 lbs. 1,900 lbs at 5 minutes, 1,800 lbs at 10 minutes, 1,750 lbs at 15 minutes. Rig down Western. Attempt to run pressure bomb. Would not go. Shut down for night. Will open well at 2:00 p.m. on 3/11/85. Daily Cost = \$35,339.94
Cumulative Cost = \$106,321.27

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 3/11/85 PBSD 5,991' Present Operation: Swabbing & Flowing Back
1,300 lbs tubing pressure 1,300 lbs casing pressure
Opened well at 1:00 p.m. on 10/64" choke. Flow back
at 15 to 20 bbls per hour. Flowing back gas cut frac
fluid with trace of oil. Recovered +150 bbls load
plus 5 bbls of oil, 1,113 bbls load to recover. Daily
Cost = \$3,499.50 Cumulative Cost = \$109,820.77
- 3/12/85 PBSD 5,991' Present Operation: Tripping Out of Hole
250 lbs tubing pressure. 300 lbs casing pressure.
No sand. 110 bbls of oil cut fluid flowed overnight.
Recovered a total of +260 bbls of fluid. Swabbed
100 bbls - 40% of oil cut was very gassey. Total
frac fluid recovered to date = 335 bbls. Total oil
recovered to date = +50 bbls. 893 bbls load to recover.
Trip in hole with rest of tubing to 5,700'. No sand.
Trip out of hole. Pick up bridge plug. Trip in hole
with 78 stands of tubing. Set packer at 4,848' KB.
Pressure tested to 4,400 PSI for 15 minutes - held
good. Circulate hole with 200 bbls of 2% KCL. Shut
down for night. Daily Cost = \$2,680.14 Cumulative
Cost = \$112,500.91
- 3/13/85 PBSD 5,991' Present Operation: Tripping Out of Hole
with Guns & Test Tools
Trip out of hole with tubing. Pick up guns and test
tools. Trip in hole. Correlate with Gamma Ray for
perforation. Set packer. Pressure up to 1,000 PSI -
guns fired. Slight blow for 5 minutes. Rig up.
Rig pump for breakdown. Zone would not break down.
Will attempt to acidize morning of 3/14/85. Daily
Cost = \$8,450.84 Cumulative Cost = \$120,951.75
- 3/14/85 PBSD 5,991' Present Operation: Shut In
Rig up Western Company to acidize. Packer set at
4,670'. Open Flopetrol tool. Rig up to check entry.
Swab back 60'. Pump 6 bbls 7-1/2% HCL + 15 bbls 2%
KCL - Flush. Pressure to 4,500 PSI - would not pump.
Drop bar - would not reverse out. Swab tubing. Trip
out of hole. Pick up packer. Trip in hole with 15
stands of tubing. Shut down for night. (Perforation
gun misfired on bottom 9' of zone. Will re-perforate
and test Friday morning, 3/15/85.) Daily Cost = \$2,116.66
Cumulative Cost = \$123,068.41

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

3/15/85 PBSD 5,991' Present Operation: Testing

Trip out of hole with 15 stands of tubing. 350 lbs casing pressure, 350 lbs tubing pressure. Made back 12 bbls oil, mud, & gas overnight. Pick up. Trip in hole with guns and test tools. Set packer. Pressure up to 1,200 PSI. Guns fired. Slight blow - died in 3 minutes. Rig up Western Company. Load tubing with 250 gallons of 7 1/2% HCL. Formation broke at 4,350'. Pump KCL at 3.7 bbls per minute, acid at 1 bbl per minute. Flushed with 2 bbls KCL. Pumped 40 bbls in formation at 2,300 lbs treating pressure. Initial shut in pressure - 1,200 lbs, 5 minutes - 1,000 lbs. Rig down Western Company. Flowed back and blow down. Made 2 swab runs - KCL, 3rd & 4th run - KCL & gas, 5th run - gas & oil cut water, 6th run - gas & water, 7th run - oil & gas. Shut down. Rig up head and manifold - 58 lbs to 555 lbs flowing tubing pressure, 12" - 18" blow to 0. 6 hours flow time. Shut in. Shut down for night. Daily Cost = \$8,009.75 Cumulative Cost = \$131,078.16

3/16/85 PBSD 5,991' Present Operation: Well Shut In

Release packer. Reverse circulate oil & gas. Trip out of hole. Laid down test tools. 575 lbs sample chamber pressure - 1.34 SCF of gas, 1,200 cc total fluid recovered - 750 oil, 450 KCL water. Pick up packer. Trip in hole to 4,730'. Set packer. Pressure tested to 2,000 PSI. Shut in. Shut down for night. Daily Cost = \$4,942.50 Cumulative Cost = \$136,020.66

3/17/85 PBSD 5,991' Present Operation: Flowing Back

Rig up Western Company for pump-in and flow-back tests. Pumped 150 bbls total KCL at 5 bbls per minute. Recovered 37.5 bbls. Pull packer. Trip in hole to 4,350'. Rig up to frac. Would not pump. Reset packer at 4,848'. Treated at 20 bbls per minute at 2,800 to 4,200 lbs pressure - average 3,100 lbs. Initial shut in pressure - 1,800 lbs, 5 minutes - 1,400 lbs, 10 minutes - 1,400 lbs, 15 minutes - 1,375 lbs. Treated with 1,112 bbls of gel, 45,000 lbs of 20/40 sand and 12,135 lbs 12/20 sand. Rig down Western Company. Shut in at 9:00 p.m. Shut down for night. Daily Cost = \$28,075.20 Cumulative Cost = \$164,095.86

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 3/18/85 PBTB 5,991' Present Operation: Circulate sand
out of hole
300 lbs tubing pressure, 300 lbs casing pressure.
Blow well down. Recovered 20 bbls fluid. 1,092 bbls
load to recover. Rig up to tag sand. Circulate sand
out of hole. Shut down for night. Daily Cost = \$4,536
Cumulative Cost = \$168,631.86
- 3/19/85 PBTB 5,991' Present Operation: Swabbing
50 lbs tubing pressure, 0 lbs casing pressure. Circulate
hole. Wash 600' to plug at 4,780'+ Pull up packer
to 4,662'. Shut down for night. Daily Cost = \$2,851
Cumulative Cost = \$171,482.86
- 3/20/85 PBTB 5,991' Present Operation: Trip Out of Hole
125 lbs tubing pressure, 125 lbs casing pressure.
Blow well down. Rig up to swab. Fluid at surface.
Recovered 110 bbls fluid. Fluid at 2,500'. Waited
30 minutes. Fluid entry at 500' per hour. Swabbed
until 6:00 p.m. Recovered 98 bbls fluid, 50% oil
and gas cut. Recovered for day - 148 bbls frac fluid,
60 bbls oil, 944 bbls load to recover. Shut down
for night. Daily Cost = \$2,290.50 Cumulative Cost
= \$173,773.36
- 3/21/85 PBTB 5,991' Present Operation: Trip In Hole with
Perforating Guns
& Test Tools
300 lbs tubing pressure, 300 lbs casing pressure.
Blow well down. Flowed 11 bbls oil & gas. Rig up
to circulate. Sand very hard. Wax plugged tubing.
Trip out of hole to inspect retrieving head. Lay
down pressure bombs. Trip in hole. Wash through
sand to plug. Circulate hole clean. Trip out of
hole. Shut down for wind. Daily Cost = \$2,938 Cumulative
Cost = \$176,711.36

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 3/22/85 PBTB 5,991' Present Operation: Testing
Finish trip out of hole. Laid down plug. Trip in hole with new plug. Set at 4,730'. Pressure tested - would not hold. Reset at 4,740'. Pressure tested to 4,400 PSI for 15 minutes - held good. Circulate hole with 160 bbls of 2% KCL. Trip out of hole. Pick up test tool and perforating gun. Trip in hole. Rig up Welex to correlate Gamma Ray. Landed test tool at 5:00 p.m., too late to perforate. Shut down for night. Daily Cost = \$2,471 Cumulative Cost = \$179,182.36
- 3/23/85 PBTB 5,991' Present Operation: Testing
Set test tool in Open position. Pressure up annulus to 800 PSI. Guns fired. Slight blow - 1/4" to 1/2" in 5 minutes. Rig up to break down. Load tubing with 21 bbls of KCL. Pump 35 bbls into formation. Broke at 800 lbs at 1/2 bbl per minute. Treated at 4-1/2 bbls per minute at 2,000 PSI. Initial shut in pressure - 1,200 lbs, 5 minutes - 900 lbs. Rig up to flow back. Flowed 14 bbls. Rig up to swab. Recovered 36 bbls fluid at 1,700' oil & gas cut. Left open 2-1/2 hours, flowed gas at 15 lbs tubing pressure. Rig up to swab. Fluid level at 1,300'. Recovered 500' oil and 1,000' gas cut water. Pulled from 1,700'. Recovered 700' of oil, 1,000' of gas cut water. Pulled from 2,100'. Recovered 1,500' of fluid, 400' of oil, 1,100' of gas cut water. Pulled from 2,200'. Recovered 700' of oil, 700' of gas cut water. Rig up flowline - 5" blow in bucket, 10 to 25 lbs tubing pressure. Shut in at 6:00 p.m. Shut down for night. Daily Cost = \$2,248.84 Cumulative Cost = \$181,431.20
- 3/24/85 PBTB 5,991' Present Operation: Well Shut In -
Evaluating Data
for Frac
190 lbs tubing pressure, 0 lbs casing pressure. Trip out of hole. Fluid at surface. Tubing blew out. (Unloaded) Attempt to reverse circulate. Drop bar. Swap ends with pump. Could not pump. Swab down tubing. Trip out of hole. Laid down test tools. Trip in hole with packer. Set at 4,630'. Pressure test to 2,000 lbs. Shut down for night. 750 lbs sample chamber pressure. 1.6 SCF of gas. Recovered 1,335 cc of fluid, 835 cc of oil, 500 cc of KCL water. Bottom hole temperature - 139°. Flowing pressure - 495 lbs. Daily Cost = \$1,872.50 Cumulative Cost = \$183,303.70

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 3/25/85 Well shut in. Frac Tuesday morning, 3/26/85. Battery and pad construction today. Daily Cost = \$812 Cumulative Cost = \$184,115.70
- 3/26/85 50 lbs tubing pressure, 0 lbs casing pressure. Rig up Western Company to pump and flow back. Blow down tubing. Pumped 50 bbls of KCL at 5 bbls per minute at 2,350 lbs. Initial shut in pressure - 1,950 lbs. Closure at 1,750 lbs. Pumped 50 bbls at 5 bbls per minute at 2,600 lbs. Initial shut in pressure - 2,000 lbs. Flow back at 1 bbl per minute. Closure at 1,800 lbs. Pumped 50 bbls at 5 bbls per minute at 2,600 lbs. Shut in for decline to 1,800 lbs. Pumped 50 bbls at 5 bbls per minute at 2,600 lbs. Initial shut in pressure - 2,000 lbs. Flow back at 1/2 bbl per minute. Closure at 1,750 lbs. Rig down Western Company. Hole gassing abundantly. Circulate hole. Trip out of hole. Laid down packer. Pick up pressure recorders. Trip in hole with tubing. Land tubing at 3,800'. Pick up last joint. Shut pipe rams. Pressure test line to 5,000 lbs. Rig up Western Company. Safety meeting. Circulate KCL up tubing with gelled fluid (60 bbls). Start pumping pad. Pumped 10,000 gallons. Pumped 1,000 gals of 1 lb 20/40 sand. Pumped 1,000 gals of 2 lb 20/40 sand. Pumped 2,000 gals of 3 lb 20/40 sand. Pumped 2,000 gals of 4 lb 20/40 sand. Pumped 3,000 gals of 5 lb 20/40 sand. Pumped 1,000 gals of 6 lb 12/20 sand. Pumped 1,000 gals of 8 lb 12/20 sand. Pumped 3,445 gals of flush. Pumped a total of 46,000 lbs of sand (32,000 lbs of 20/40 sand, 14,000 lbs of 12/20 sand). Pumped 581 bbls of recoverable fluid. Treated at 25 bbls per minute at 3,200 lbs. Initial shut in pressure - 2,000 lbs. At 5 minutes - 1,700 lbs, 10 minutes - 1,700 lbs, 15 minutes - 1,625 lbs, 20 minutes - 1,600 lbs, 25 minutes - 1,575 lbs, 30 minutes - 1,575 lbs. Rig down Western Company. Shut well in. Shut down for night. Will flow back tomorrow, 3/27/85. Daily Cost = \$25,249.02 Cumulative Cost = \$209,364.72
- 3/27/85 300 lbs tubing pressure, 350 lbs casing pressure. Opened well in afternoon. Flowed back 20 bbls KCL. Swabbed back 125.5 bbls of mostly KCL and gelled fluid. Fair show of gas on final two runs. Slight trace of oil. Fair oil show on final run. Set production tanks and line heater. Will hot oil and transfer oil from flat bottom tank to production tank on Thursday, 3/28/85. Daily Cost = \$1,646.16 Cumulative Cost = \$211,010.88

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 3/28/85 100 lbs tubing pressure. 100 lbs casing pressure. Flowed back 5 bbls oil, very gassy. Rig up swab. Swabbed and flowed back 120 bbls of fluid, 20% oil cut. Run in hole with swab. Tag sand 18' above retrievable bridge plug. Continued swabbing. Cut 10-20% oil. Recovered for day - 140 bbls water, 20 bbls oil, 300 bbls left to recover. Shut well in. Shut down for night. Daily Cost = \$4,116 Cumulative Cost = \$215,126.88
- 3/29/85 Rig up swab. Swab 110 bbls fluid - 50% oil cut, very gassy. Wash down to plug. Plug moving down hole 120'. Latch on to plug. Pull above perms. Shut down for night. Recovered 80 bbls frac fluid, 30 bbls oil. 220 bbls load water recovered to date, 50 bbls oil, 361 bbls load to recover. Daily Cost = \$2,909.78 Cumulative Cost = \$218,036.66
- 3/30/85 Finish trip out of hole. Did not have plug. Trip in hole, went down on plug, can't catch plug. Trip out of hole for inspection of retrieving head. Shut down for night. Daily Cost = \$3,075.40 Cumulative Cost = \$221,112.06
- 3/31/85 Shut down. Daily Cost = \$252 Cumulative Cost = \$221,364.06
- 4/1/85 Finish trip out of hole. Bridge plug on tubing. Trip in hole with perf sub and production string. Tag fill at 5,350'. Trip out of hole to pick up notch collar. Trip in hole. Tag fill. Pull up 1 stand. Rig up circulating lines. Shut down for night. Daily Cost = \$18,347 Cumulative Cost = \$239,711.06
- 4/2/85 Rig up to wash and start circulating. Wash to 5,718'. Pick up 1 joint of 2-7/8" tubing - 1 4-foot perf sub - 1 seat nipple - 31 joints of 2-7/8" tubing - 1 tubing anchor - 145 joints of 2-7/8" tubing. Land anchor at 4,636'. Seat nipple at 5,600'. Shut down for night. Will swab morning of 4/3/85. Run rods and pump in p.m. of 4/3/85. Daily Cost = \$2,762.50 Cumulative Cost = \$242,473.56
- 4/3/85 0 lbs tubing pressure, casing pressure on vacuum. Run in to 5,718'. No fill. Pull up to 5,600'. Rig up swab. Swab 138 bbls. Fluid level at 2,500'. Rig down swab. Rig down floor. Nipple down blow out preventer. Set tubing anchor. Rig up well head assembly. Shut down for night. Bbls load water to recover = 3,181 bbls. Bbls load water recovered to date = 1,021 bbls + 125 bbls oil. Daily Cost = \$3,443.90 Cumulative Cost = \$245,917.46

NGC-FEDERAL 31-20-G
T9S-R16E
Section 20: NE $\frac{1}{4}$ NW $\frac{1}{4}$
Duchesne County, Utah.

Operator: Nova Petroleum Corp.
Contractor: Gibson

COMPLETION REPORT

- 4/4/85 Rig up to pick up sucker rods. Displace 30 bbls hot KCL. Run pump and rods (very windy) Transfer 70 bbls oil from flat bottom tank to production tank. Release rig. 200 lbs casing pressure, 180 lbs tubing pressure. Daily Cost = \$11,268.25 Cumulative Cost = \$257,185.71
- 4/5/85 Rig down Gibson #51. Move rig off location. Build base - set pad. Start construction of pumping unit. Lay lines and trace system. Windy - slowing construction. Daily Cost = \$28,722 Cumulative Cost = \$285,907.71
- 4/6/85 Construction of Drain Pit. Daily Cost = \$400 Cumulative Cost = \$286,307.71
- 4/7/85 Shut down for Sunday. Cumulative Cost = \$286,307.71
- 4/8/85 Battery construction. Pumping unit turned on at 2:30 p.m. Running on natural gas. 300 lbs casing pressure, 0 lbs tubing pressure. Daily Cost = \$6,672.50 Cumulative Cost = \$292,980.21
- 4/9/85 Unit down. Backside - 0 lbs. Start on Butane. Made 50 bbls fluid (42 bbls KCL, 8 bbls oil) in 6 to 7 hrs. Daily Cost = \$1,457.41 Cumulative Cost = \$294,437.62
- 4/10/85 Unit down 8+ hours (loaded up). Pumped 98.37 bbls fluid, 73.4 bbls oil, 24.5 bbls water. Flowing casing pressure - 70 lbs. Daily Cost = \$14,333 Cumulative Cost = \$308,770.62

ATTACHMENT H

WORK PROCEDURE FOR PLUGGING AND ABANDONMENT

1. Set CIBP @ 4642'
2. Plug #1 Set 100' plug on top of CIBP using 12 sx Class "G" cement
3. Plug #2 180' balance plug using 22 sx Class "G" cement 50' above Trona-Bird's Nest extending 50' below base of Mahogany Oil Shale
4. Perforate 4 JSPF @ 1619'
5. Plug #3 120' plug covering Uinta/Green River formation using 25sx Class "G" cement pumped under CICR and out perforations. Follow using 7 sx Class "G" cement pumped on top of CICR
6. Perforate 4 JSPF @ 369'
7. Plug #4 Circulate 105 sx Class "G" cement down 5 1/2" casing and up the 5-1/2" x 8-5/8" annulus

The approximate cost to plug and abandon this well is \$42,000.

NGC Fed. 31-20G-9-16

Spud Date: 1/04/85
 Put on Production: 4/08/85
 GL: 6051' KB: 6063'

Initial Production: 88 BOPD,
 62 MCFPD, 21 BWPD

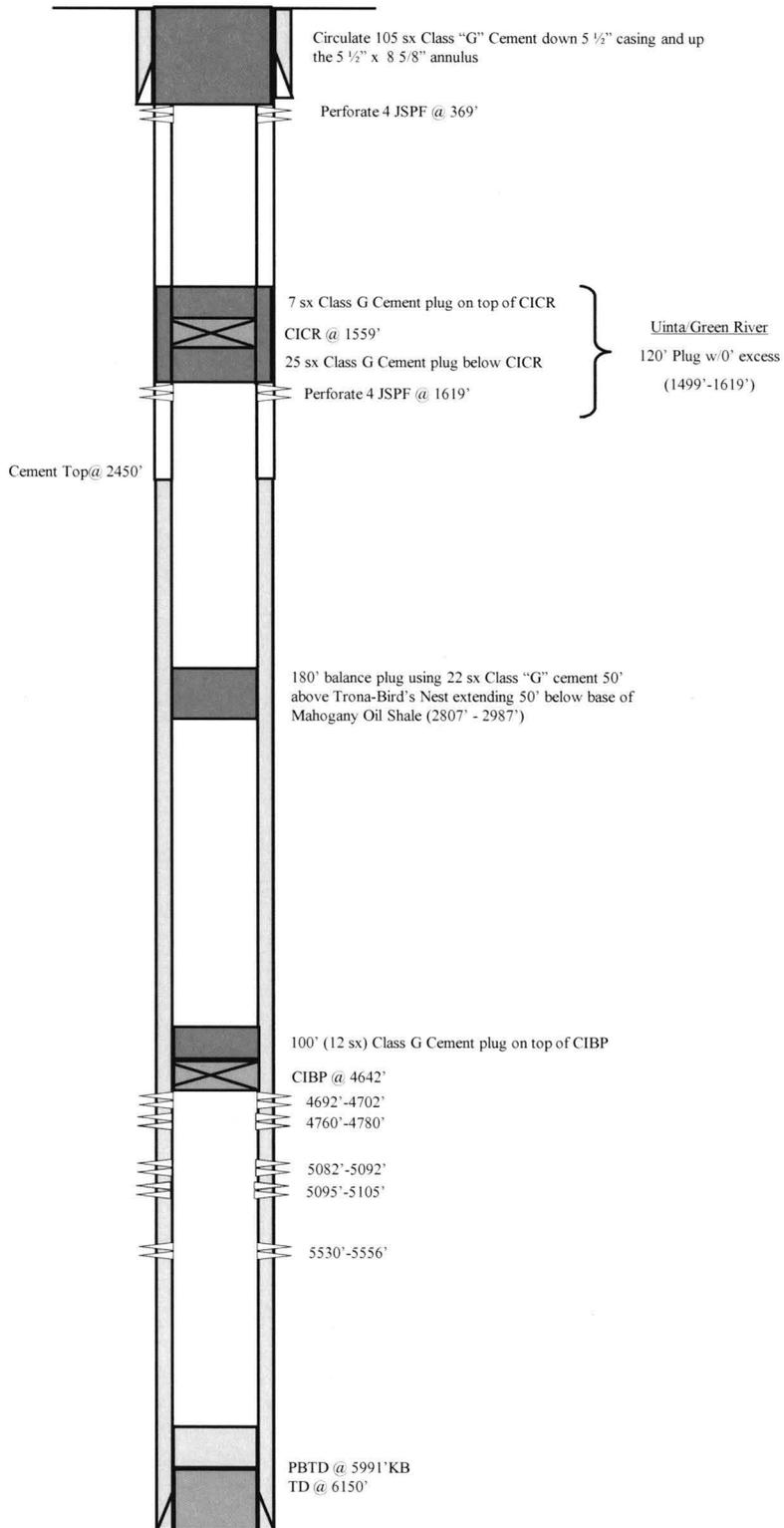
Proposed P & A Wellbore Diagram

SURFACE CASING

CSG SIZE: 8-5/8"
 GRADE: K-55
 WEIGHT: 24#
 LENGTH: 7 jts. (319.75')
 DEPTH LANDED: 319'
 HOLE SIZE: 12-1/4"
 CEMENT DATA: 250 sxs Class "H"

PRODUCTION CASING

CSG SIZE: 5-1/2" / J-55 LT&C / 15.5#
 LENGTH: 74 jts.
 CSG SIZE: 5-1/2" / K-55 / 15.5#
 LENGTH: 74 jts.
 DEPTH LANDED: 6118'
 HOLE SIZE: 7-7/8"
 CEMENT DATA: 240 sxs Lite, tail w/ 570 sxs Class "H"
 CEMENT TOP AT: 2450' per CBL



NGC Fed. #31-20G-9-16
 540' FNL & 1944' FEL
 NWNE Section 20-T9S-R16E
 Duchesne Co, Utah
 API #43-013-31071; Lease #U-52018