

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

CONFIDENTIAL

2. NAME OF OPERATOR
Diversified Operating Corporation

3. ADDRESS OF OPERATOR
1600 Stout Street, Suite 1900 Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements*)
 At surface 584' FWL & 690' FSL
 At proposed prod. zone Same SWSW

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
41.5 miles south of Emery, Utah

10. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit linc, if any) 584'

16. NO. OF ACRES IN LEASE WITHIN 1/4 MILE RADIUS 1400

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

19. PROPOSED DEPTH 3600' *White Rim*

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
5791' GL & 5801' KB

5. LEASE DESIGNATION AND SERIAL NO.
U-57807

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Federal Rockwash

9. WELL NO.
13-35

10. FIELD AND POOL, OR WILDCAT
Wildcat (ool)

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 35 T25S R6E

12. COUNTY OR PARISH
Emery

13. STATE
Utah

20. ROTARY OR CABLE TOOLS
Rotary

22. APPROX. DATE WORK WILL START*
Early September

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	36	150'	100 sacks Class "G" w/ additives
8-3/4"	5-1/2"	15.5	3600'	200 sacks 50/50 poz w/ additives

- Drill 12-1/4" hole and set 9-5/8" surface casing to 150'.
- Log B.O.P. checks in daily drilling report and drill 8-3/4" hole to 3600'.

EXHIBITS ATTACHED

- "A" - Location and Elevation Plat
- "B" - Conditions of Approval
- "C" - Blowout Preventer
- "D" - Thirteen Point Surface Use Plan
- "E" - Access Roads
- "F" - One Mile Radius
- "G" - Cross Sections
- "G₁" - Rig Layout Sheet
- "H" - Proposed Production Facilities

PLEASE KEEP INFORMATION CONFIDENTIAL

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 Terry O. Cannon TITLE Manager of Operations DATE August 22, 1989

(This space for Federal or State office use)

PERMIT NO. 43-015-30233 APPROVAL DATE _____
APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY: _____ DATE: 9-26-89
BY: John R. Day
WELL SPACING: R/L 15-3-2

*See Instructions On Reverse Side

EXHIBIT "A"

T25S, R6E, S.L.B.&M.

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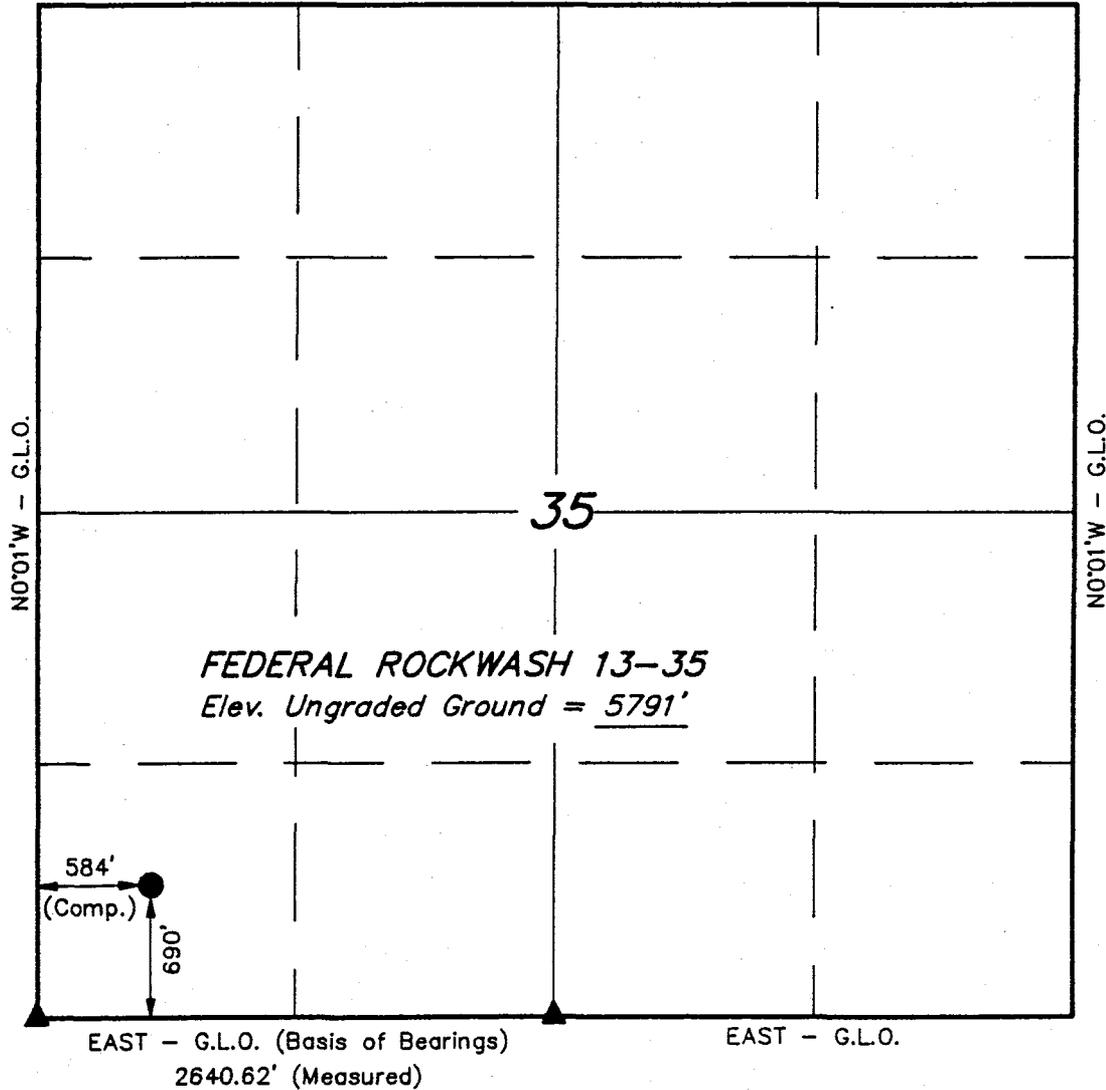
Well location, FEDERAL ROCKWASH 13-35, located as shown in the SW 1/4 SW 1/4 of Section 35, T25S, R6E, S.L.B.&M. Emery County, Utah.

DIVISION OF
OIL, GAS & MINING

S89°58'W - 79.98 (G.L.O.)

BASIS OF ELEVATION

SPOT ELEVATION ON A HILL TOP IN THE SE 1/4 NE 1/4 OF SECTION 2, T26S, R6E, S.L.B.&M. TAKEN FROM THE SALVATION CREEK QUADRANGLE, UTAH EMERY COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP). PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5875 FEET.



CERTIFICATE
 REGISTERED LAND SURVEYOR
 No. 5709
 STATE OF UTAH

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

UNTAH ENGINEERING & LAND SURVEYING
 P. O. BOX 1758 - 85 SOUTH - 200 EAST
 VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 5-9-89
PARTY R.K. D.A. J.R.S.	REFERENCES G.L.O. PLAT
WEATHER HOT	FILE DIVERSIFIED OPERATING CORP.

▲ = SECTION CORNERS LOCATED. (BRASS CAPS)

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

SUBMIT IN TRIPLICATE
(Other instructions
verse side)

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. <input type="checkbox"/> OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER		<div style="border: 2px solid black; padding: 5px; display: inline-block;"> RECEIVED AUG 28 1989 DIVISION OF OIL, GAS & MINING </div>	5. LEASE DESIGNATION AND SERIAL NO. U-57807
2. NAME OF OPERATOR Diversified Operating Corporation			6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR 1600 Stout Street, Suite 1900 Denver, CO 80202			7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 690' FSL & 584' FWL SWSW			8. FARM OR LEASE NAME Federal Rockwash
14. PERMIT NO.	15. ELEVATIONS (Show whether DF, BT, GR, etc.) 5791' GR	9. WELL NO. #13-35	10. FIELD AND POOL, OR WILDCAT <input checked="" type="checkbox"/> Wildcat
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec 35, T25S R6E	12. COUNTY OR PARISH Emery
		13. STATE Utah	

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

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

I hereby certify that Diversified Operating Corporation is authorized by proper lease owners and interest owners to conduct lease operations with this application. Bond coverage for lease activities is provided by the operator, Diversified Operating Corporation with a certificate of deposit. This CD is for \$10,000.00 and covers lease U-57807.

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

SIGNED Terry J. Cammon TITLE Manager of Operations DATE Aug. 22, 1989
 (This space for Federal or State office use)

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

*See Instructions on Reverse Side

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EXHIBIT "B"

CONDITIONS OF APPROVAL FOR NOTICE TO DRILL

DIVISION OF
OIL, GAS & MINING

Diversified Operating Corporation
1600 Stout, Suite 1900
Denver, CO 80202

WELL NAME: Federal Rockwash #13-35

LEASE NO.: U-57807

LOCATION: 584' FWL & 660' FSL
Sec 35 T25S R6E
Emery County, Utah

ONSITE INSPECTION DATE:

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:

<u>Estimated Tops</u>	<u>Depth (KB)</u>	<u>Datam Sea Level</u>
Carmel	0'	+5790
Navajo	494'	+5306
Kayenta	1545'	+4255
Wingate	1683'	+4117
Chinle	2039'	+3761
Shinarump	2373'	+3427 Potential Oil
Moenkopi	2423'	+3377 Potential Oil
Sinbad	3079'	+2721 Potential Oil
Black Dragon	3191'	+2609
Kaibab	3315'	+2485 Oil Target
White Rim	3485'	+2315 Potential Oil
T.D.	3600'	+2200

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

<u>Expected Oil Zones:</u>	<u>Formation</u>	<u>Depth</u>	<u>Subsea</u>
	Shinarump	2373'	+3427'
	Moenkopi	2423'	+3377'
	Kaibab	3315'	+2485'
	White Rim	3485'	+2315'

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EXHIBIT "B"
Page 2

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Expected Water Zones: None

Expected Mineral Zones: None

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:

A BOP schematic diagram is shown on Exhibit "C".

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.

Pressure control equipment: 11" BOP Series 3000 psig wp, 7.0 gallons to open and close blind rams, 7.0 gallons to open and close pipe rams.

- a. Volume of fluid required to close all BOP functions:
14 X 2 = 28 gal required.
- b. Nominal accumulator capacity: 80 gallon accumulator will be used.
- c. The location of the accumulator: Base of dog house.
- d. The location of the choke manifold: Edge of reserve pit, roughly 50' from substructure.
- e. Number and location of BOP control systems (including handwheels and all remote units): No handwheels, controls located on accumulator.
- f. Drill pipe, blowout preventer, and surface casing will be pressure tested to 1000 psig for ten minutes with rig pumps prior to drilling out surface casing.

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:

a. Drilling equipment: Full opening valve

b. Casing program:

<u>Hole Size</u>	<u>Interval</u>	<u>Casing</u>	<u>Wt & Grade</u>
12-1/4"	0' - 150'	9-5/8"	36# J-55 LT&C
8-3/4"	150' - 3600'	5-1/2"	15.5# J-55 ST&C or LT&C
	0' - 3600'	2-7/8"	6.5# EUE 8 rd J-55

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Federal Rockwash #13-35
EXHIBIT "B"
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c. Cement program:

Surface: 9-5/8" - 100 sks Class "G" (150% excess) with 3% CaCl₂, 3% CFR-3, 1/4 sk flocele. Verify cement is circulated to surface, and does not drop from ground level.

Production: 5-1/2" - Preflush w/ 25 bbls 2% KCl water ahead. Cement w/ 200 sks 50/50 pozmix containing 2% gel, 10% NaCl, .75% CFR-3, and 10#/sk gilsonite. Anticipated cement tops on production string of 2450'.

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:

Blooiie line will be misted to reduce fugitive dust when air drilling. No mud use is designed. Drilling will be done with air or air mist. Fresh water mud system will be used. MW \pm 9.5 ppg; vis = 35 - 40 cp; PV = 11 - 16; YP = 12 - 18; pH = 9.5 - 9.8, WL \pm 15 ml/30 minutes.

No chromate additives will be used in the mud system on Federal Indian lands.

6. Coring, Logging and Testing Program:

No coring is anticipated.

A DST may be run if mud drilling is required, no DST w/ air.

Logging: Surface - TD, SP, DLL

Surface - TD, Formation Density, Caliper, GR

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:

From regional control in the area, the Kaibab is anticipated to be encountered @ +2485 subsea or TVD of 3315' with an average bhp of \pm 1400 psig. Assuming a typical mud weight of 9.5 ppg, the mud column would exert: rho (denisty of fluid) X .052 X feet = (9.5 X .052 X 3315 = 1638) or 238 psig overbalanced. Pressure testing of 1000 psig would give a safety factor in excess of 11.9 or 1238 psig, far in excess of necessary safety measures.

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B. Anticipated Starting Dates and Notifications of Operations:

Location Construction: Early September

Spud Date: As soon as BLM approval and rig availability allow.

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 work 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 3160-6 "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 Minerals Management Service, Production Accounting Div.,

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 Manager, 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 Manager.

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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 Manager and approval received, for any venting/flaring of gas beyond the initial 30 day or 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 hydrocarbons storage tanks will be effectively sealed in accordance with 43 CFR 3162.7-4.

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

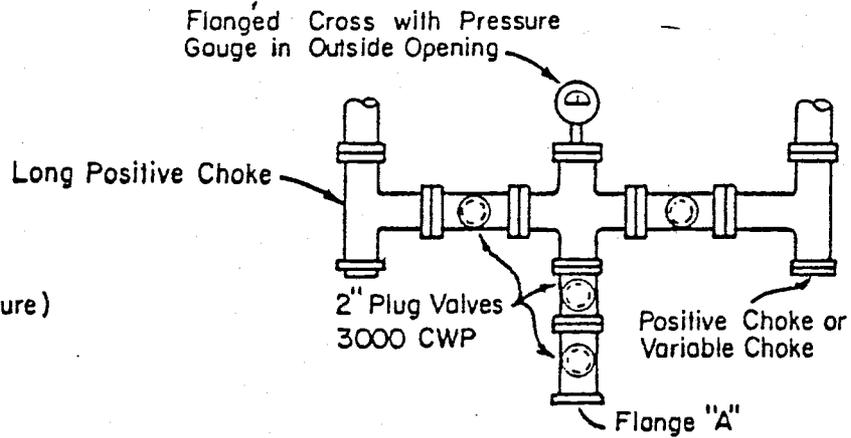
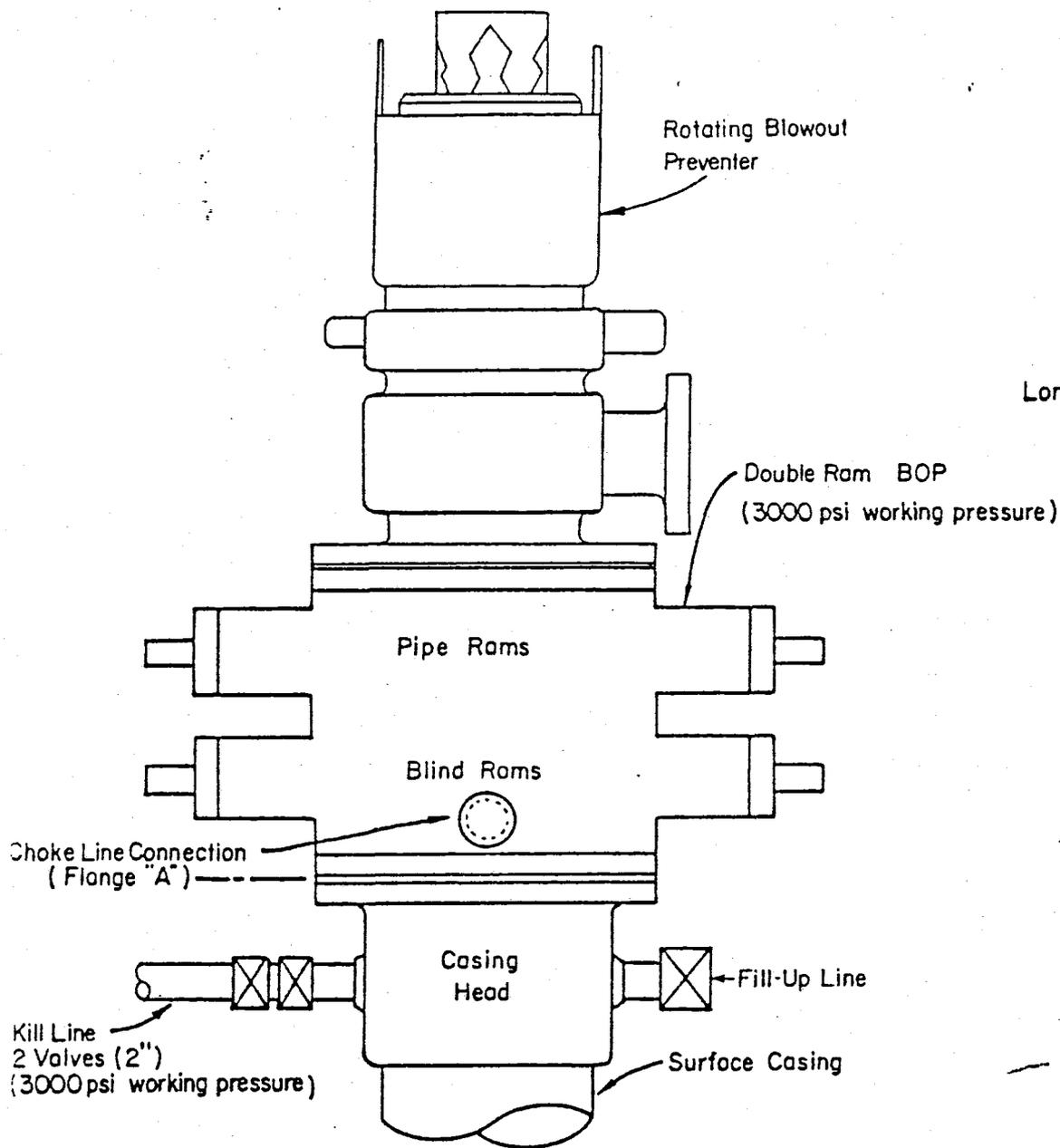
No well abandonment operations will be commenced without the prior approval of the AO. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the AO. A "Subsequent Report of Abandonment" Form 3160-5, will be filed with the AO within 30 days 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 are applicable to operations on Federal or Indian lands.



Terry J. Gannon
Manager of Operations
Diversified Operating Corporation

Exhibit "C"

Air Drilling Schematic



PLAN VIEW-CHOKE MANIFOLD

TESTING REQUIREMENTS

- PIPE RAMS: OPERATED DAILY
- BLIND RAMS: OPERATED AND CLOSED EVERY OPPORTUNITY
- ACCUMULATION: CHECKD DAILY

RECORDED
AUG 28 1980

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EXHIBIT "D"
SURFACE USE PLAN

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Diversified Operating Corporation
1600 Stout Street, Suite 1900
Denver, Colorado 80202

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Federal Rockwash #13-35
584' FWL & 660' FSL
Sec 35 T25S R6E
Emery County, Utah

1. Existing Roads (See Exhibit "E")

- A. Vehicles will travel only on designated travel ways approved by the Forest Service. These routes are shown on Exhibit "E". Location of proposed well in relation to town or other reference point: Exit I-70 at Utah Highway 10, south and east on gravel road 2.5 miles, south 5 miles to Willow Springs Wash road junction, east 15 miles to rig road, north 5 miles to location, approximately 41.5 miles south of Emery, Utah.
- B. All equipment and vehicles must be confined to the access roads and pad shown in Exhibit "E" and accompanying plat.
- C. Existing improved county roads and BLM roads will be maintained as requested by the BLM and Emery and Seviere County Road Departments. Vehicles associated with this drilling operations will not impede normal public traffic on these roads. Upgrades of existing roads will require improving low water crossings.

2. Access Roads to be Constructed and Re-constructed (See Exhibit "E" and accompanying plat.)

- A. Maximum total disturbed width will be 16 feet.
- B. Maximum grade will be $\leq 10\%$ except pitch grades, not exceeding 100-150' in length.
- C. Turnouts will be constructed as needed, but are to be flagged by BLM A.O.
- D. Centerline of access road as shown in Exhibit "E" will be flagged.
- E. Drainage required will be low water crossings.
- F. Surface materials will be material existing on disturbed route or private sources.
- G. Surface disturbance and vehicular travel will be limited to the approved location and access road. Any additional area needed will be approved by the area manager in advance.

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3. Location of Existing Wells (See Exhibit "F")

Exhibit "F" shows all wells within a one mile radius.

4. Location of Existing and/or Proposed Facilities if Well is Productive.

The APD is for exploration. In case of a producing well, the BLM will be immediately notified. A site plan describing production facilities, roads, painting requirements, will be developed.

5. Location and Type of Water Supply (See Exhibit "E")

- A. Water will be provided from Birch Springs NE/NE Sec 15 T26S R5E, Seviere County, Utah. Access roads used for hauling water are identified in Exhibit "E". If conditions are too wet for water truck travel an alternative method will be used to provide water, such as water lines or storage tanks. Water used will be to prohibit fugitive dust releases while air drilling, unless conditions dictate a change to mud drilling.
- B. A temporary water use permit for this operation will be obtained from the Utah State Engineer, Mark Paige.
- C. There are no permanent or intermittent surface waters within one-half mile of the proposed drilling site.

6. Construction Materials

Pad construction material will be obtained from onsite disturbed area or private land.

7. Method of Handling Waste Disposal:

The reserve pit will not be lined unless determined necessary during construction of the reserve pit. Bentonite mud will be the sealing material, if needed.

Three sides of the reserve pit will be fenced with 4 strand barbed wire before drilling starts. The fourth side will be fenced as soon as the drilling is completed. The fence will be kept in good repair while the pit is drying.

All trash must be contained in a wire mesh cage and disposed of in an approved sanitary landfill.

Produced waste water will be confined to the above reserve pit for a period not to exceed ninety (90) days after initial production. During the ninety (90) day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).

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8. Ancillary Facilities:

Camp facilities will be required. They will be located within the platted and disturbed drill site.

9. Well Site Layout:

The reserve pit will be located on the west side of the location. The top 6 inches of soil material will be removed from the location and stockpiled separately. Topsoil along the access road will be reserved in place adjacent to the road. The topsoil off the access road will be "windrowed" to the upper side of the road. Access to the well pad will be from the south.

10. Plans for Restoration of Surface:

Immediately upon completion of drilling, the location and surrounding area will be cleared of all remaining debris, materials, trash and junk not required for production. Before any dirt work to restore the location takes place, the reserve pit must be completely dry. All disturbed areas will be recontoured to the approximate natural contours. The stockpiled topsoil will be evenly distributed over the disturbed contours. 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 BLM. If broadcast, a harrow or some other implement will be dragged over the seeded area to assure seed coverage. October - December are the preferred months for reseeding. The following seed mixture will be specified by the area resource A.O. 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:

Surface location and minerals are U.S.A. Access roads will require crossing Utah state lands, Emery and Severe County lands.

12. Other Information:

The rathole and mousehole will be filled in immediately after the drilling rig is removed.

There will be no deviation from the proposed drilling and/or workover program without prior approval from the District Manager. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned, will be identified in accordance with 43 CFR 3164.

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

EXHIBIT "G" and G₁"

DIVERSIFIED OPERATING CORP.

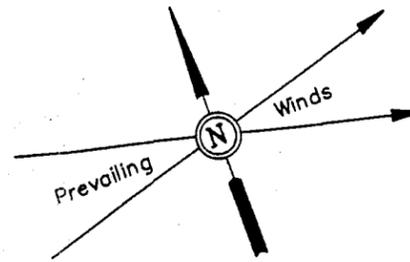
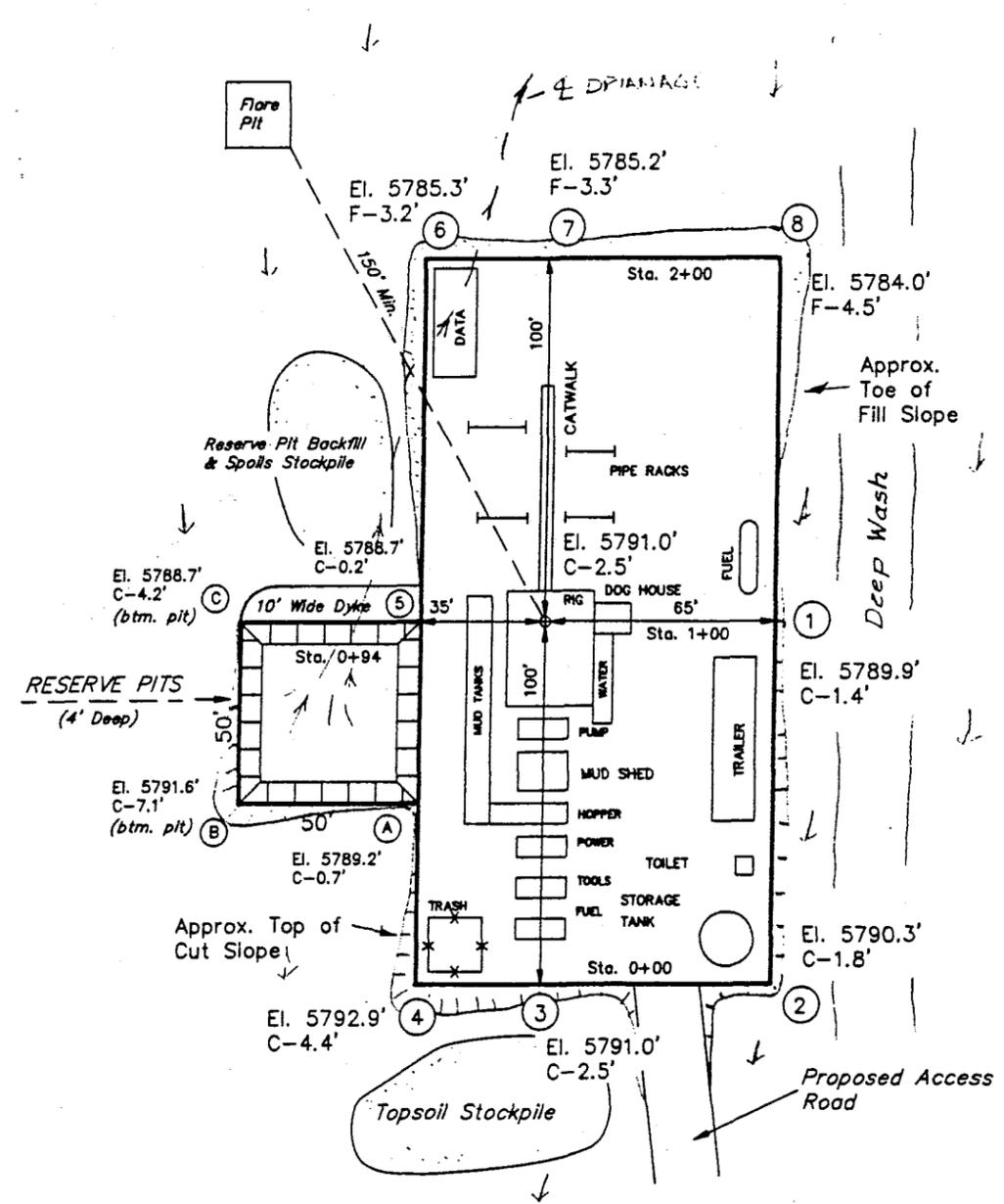
LOCATION LAYOUT FOR

FEDERAL ROCKWASH 13-35

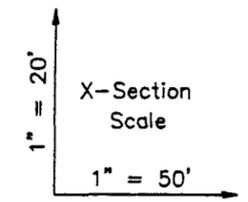
SECTION 35, T25S, R6E, S.L.B.&M.

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DIVISION OF OIL, GAS & MINING

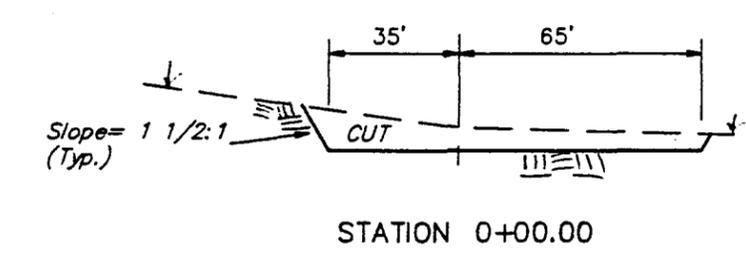
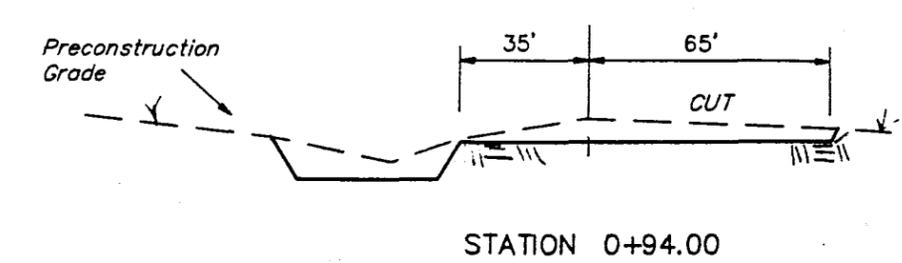
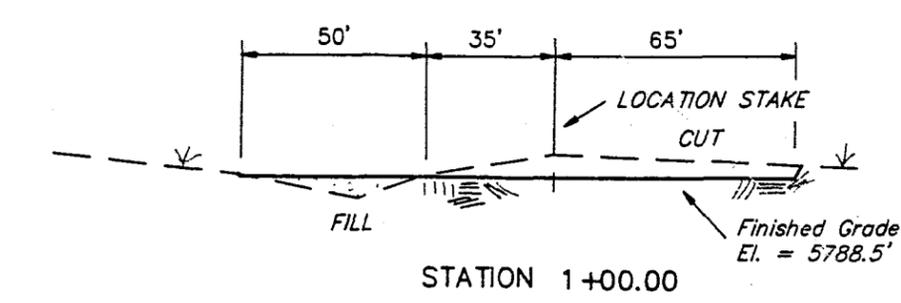
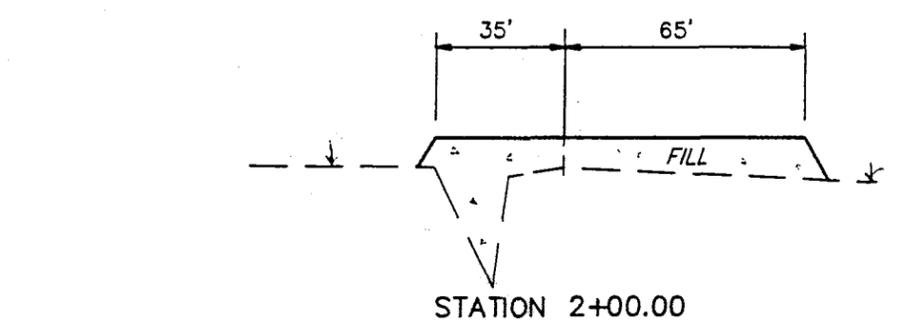


SCALE: 1" = 50'
DATE: 5-9-89



TYP. LOCATION LAYOUT

TYP. CROSS SECTIONS



APPROXIMATE YARDAGES

CUT			
(6") Topsoil Stripping	=	417 Cu. Yds.	
Pit Volume (Below Grade)	=	286 Cu. Yds.	
Remaining Location	=	875 Cu. Yds.	
TOTAL CUT	=	1,578 CU.YDS.	
FILL	=	964 CU.YDS.	

EXCESS MATERIAL AFTER 5% COMPACTION	=	563 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	=	560 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation)	=	3 Cu. Yds.

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

A cultural resource clearance has been performed. If any cultural resources are found during construction, all work will stop and the Area Manager will be notified.

This permit will be valid for a period of one (1) 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: Terry J. Cammon
1600 Stout Street, Suite 1900
Denver, Colorado 80202
(303) 595-3957 Office
(303) 421-3148 Home

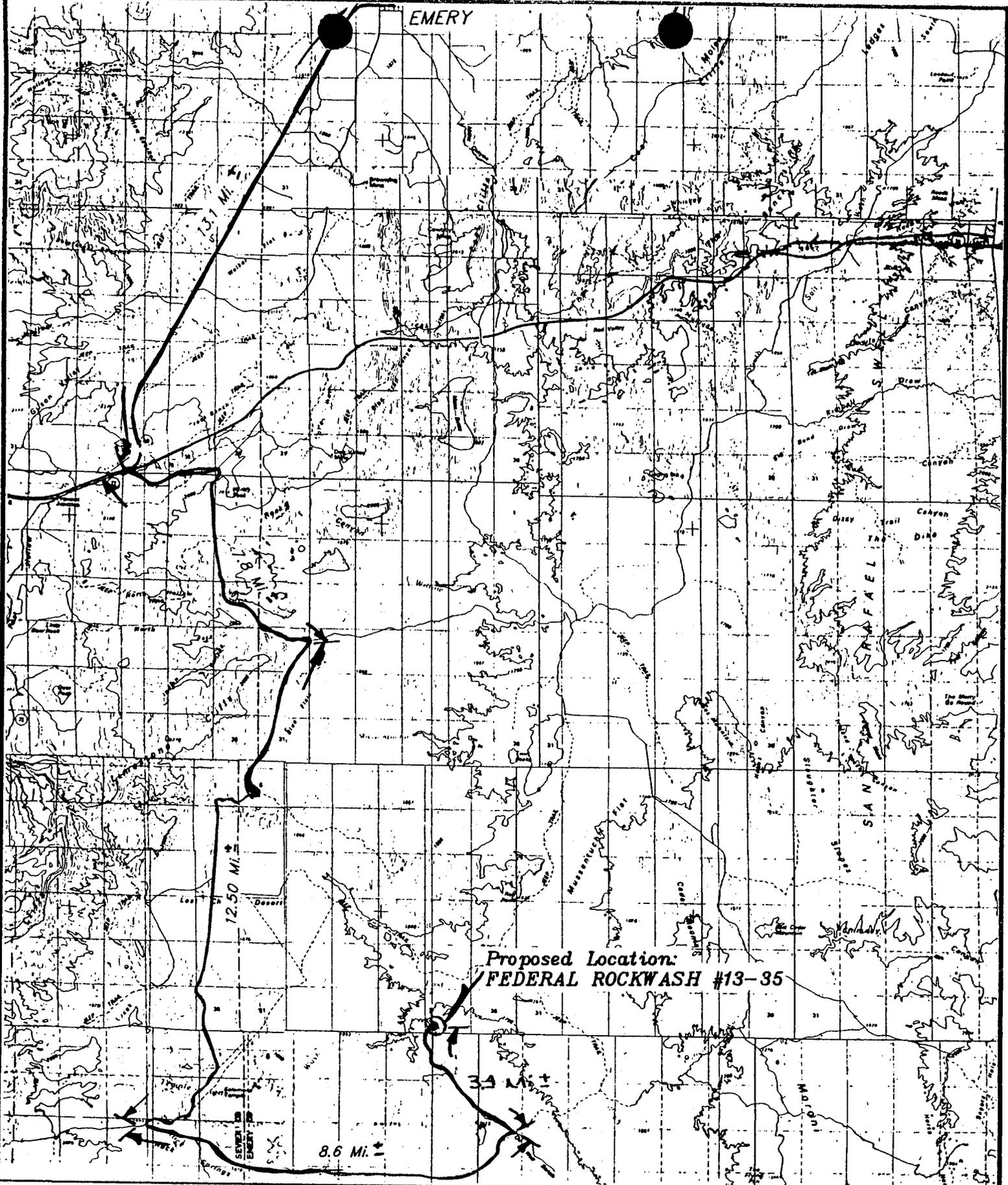
Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site 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 operations proposed herein will be performed by Diversified Operating Corporation 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.

August 22, 1989



Terry J. Cammon,
Manager of Operations
Diversified Operating Corporation



Proposed Location:
FEDERAL ROCKWASH #13-35

EXHIBIT "E"
 TOPOGRAPHIC
 MAP "A"

RECEIVED
 AUG 28 1989

DIVERSIFIED OPERATING CORP.

FEDERAL ROCKWASH 13-35
 SECTION 35, T25S, R6E, S.L.B.&M.

DIVISION OF
 OIL, GAS & MINING

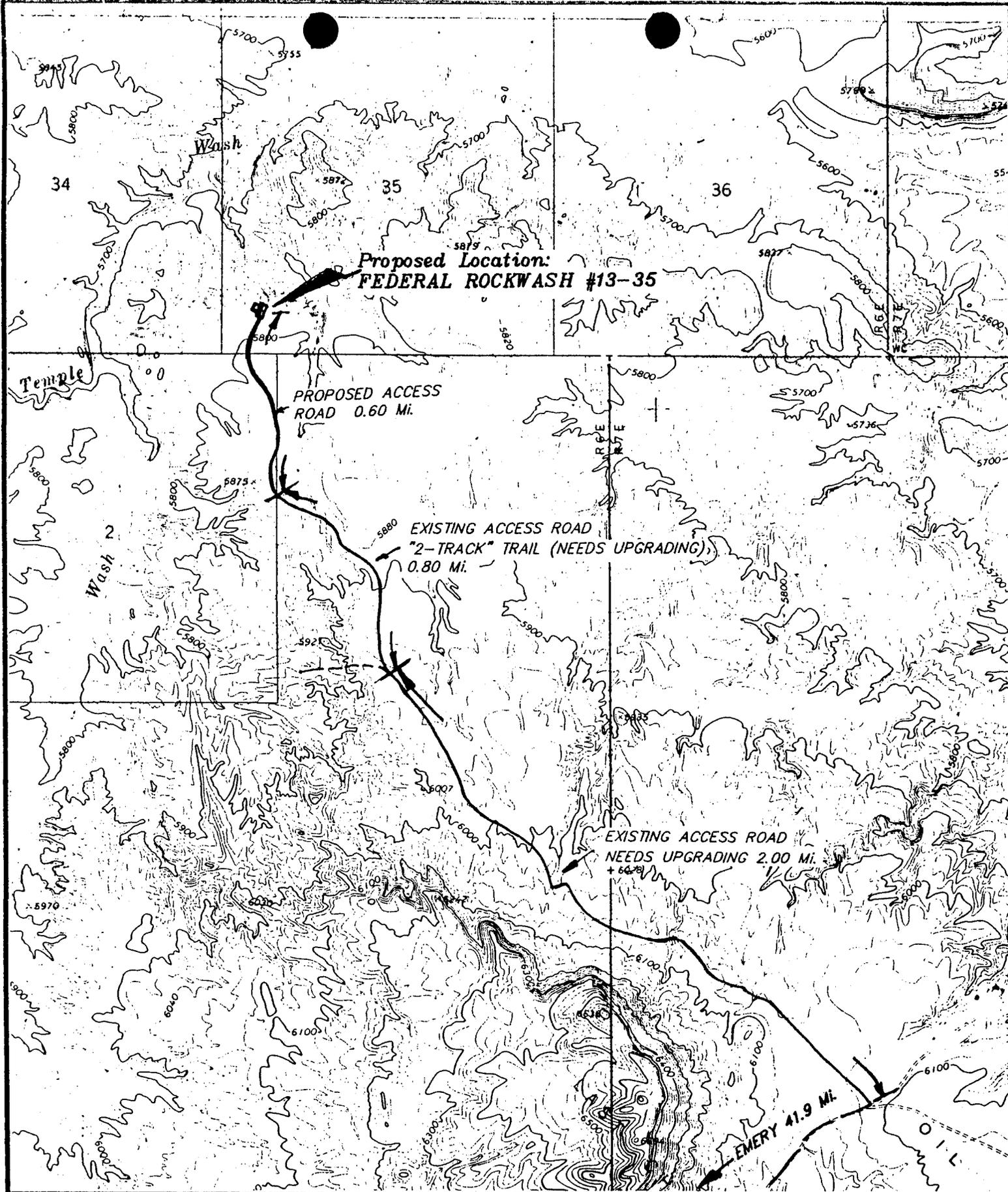


EXHIBIT "E₂"

TOPOGRAPHIC
MAP "B"

SCALE: 1" = 2000'

RECEIVED
AUG 28 1989

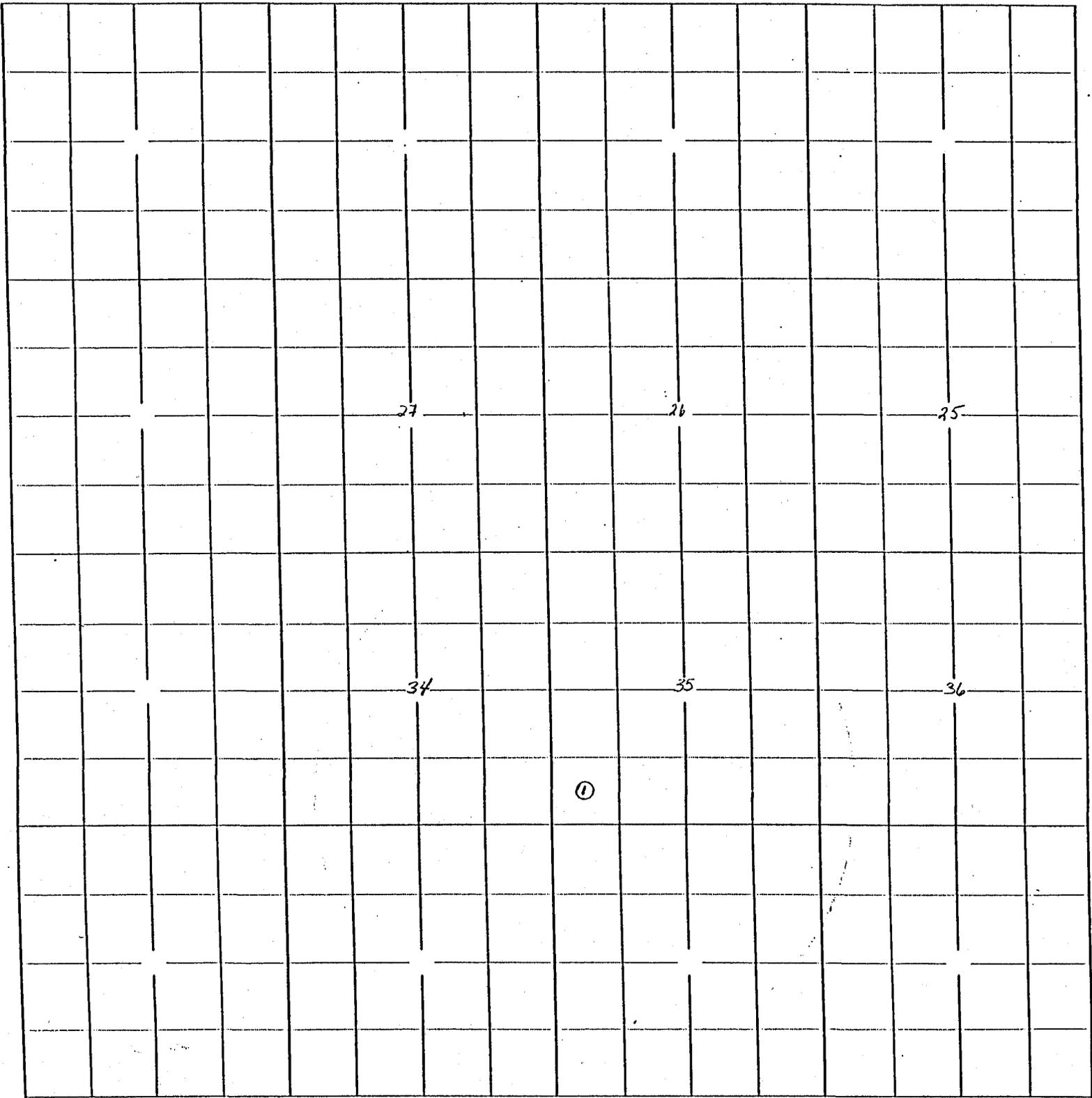
DIVISION OF
OIL, GAS & MINING

DIVERSIFIED OPERATING CORP.

FEDERAL ROCKWASH 13-35
SECTION 35, T25S, R6E, S.L.B.&M.

RECEIVED
AUG 28 1989

TOWNSHIP 25 S, RANGE 6 E, COUNTY Emery, STATE UTAH
DIVISION OF OIL, GAS & MINES



1. DOC Federal Rockwash #13-35
- No other wells in one mile radius

RECEIVED

AUG 28 1989

DIVISION OF
CLERK & RECORDS

EXHIBIT "H"

Federal Rockwash #13-35
SW/SW Sec 35, T25S, R6E
Emery County, Utah

Proposed production facilities for the above referenced well will be made immediately available to the BLM, if the Federal Rockwash #13-35 well is successfully completed as a producing well.

Lisha

STATE ACTIONS

Mail to:
RDCC Coordinator
116 State Capitol
Salt Lake City, Utah 84114

- 1. ADMINISTERING STATE AGENCY
OIL, GAS AND MINING
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203
- 2. STATE APPLICATION IDENTIFIER NUMBER:
(assigned by State Clearinghouse)
- 3. APPROXIMATE DATE PROJECT WILL START:
Early September

4. AREAWIDE CLEARING HOUSE(S) RECEIVING STATE ACTIONS:
(to be sent out by agency in block 1)
Southeastern Utah Association of Governments

5. TYPE OF ACTION: Lease Permit License Land Aquisition
 Land Sale Land Exchange Other _____

6. TITLE OF PROPOSED ACTION:
Application for Permit to Drill

7. DESCRIPTION:
Diversified Operating Corporation proposes to drill a wildcat well, the Federal Rockwash #13-35, on federal lease number U-57807 in Emery County, Utah. This action is being presented to RDCC for consideration of resource issues affecting state interests. The U.S. Bureau of Land Management is the primary administrative agency in this case and must issue approval to drill jointly with DOGM before operations can commence.

8. LAND AFFECTED (site location map required) (indicate county)
SW/4, SW/4, Section 35, Township 25 South, Range 6 East, Emery County, Utah

9. HAS THE LOCAL GOVERNMENT(S) BEEN CONTACTED?
Unknown

10. POSSIBLE SIGNIFICANT IMPACTS LIKELY TO OCCUR:
Degree of impact is based on the discovery of oil or gas in commercial quantities.

11. NAME AND PHONE NUMBER OF DISTRICT REPRESENTATIVE FROM YOUR AGENCY NEAR PROJECT SITE, IF APPLICABLE:
Jim Thompson, Salt Lake City, 538-5340

12. FOR FURTHER INFORMATION, CONTACT: 13. SIGNATURE AND TITLE OF AUTHORIZED OFFICIAL

John Baza
PHONE: 538-5340


DATE: 9/1/89
Petroleum Engineer

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
Diversified Operating Corporation

3. ADDRESS OF OPERATOR
1600 Stout Street, Suite 1900 Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)
At surface 584' FWL & 690' FSL
At proposed prod. zone Same *SWSW*

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
41.5 miles south of Emery, Utah

10. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
584'

16. NO. OF ACRES, IN LEASE
1400

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.

19. PROPOSED DEPTH
3600' *White Rim*

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
5791' GL & 5801' KB

22. APPROX. DATE WORK WILL START*
Early September

23. PROPOSED CASING AND CEMENTING PROGRAM

5. LEASE DESIGNATION AND SERIAL NO.
U-57807
6. IF INDIAN, ALLOTTEE OR TRIBE NAME
7. UNIT AGREEMENT NAME
8. FARM OR LEASE NAME
Federal Rockwash
9. WELL NO.
13-35
10. FIELD AND POOL, OR WILDCAT
Wildcat (ool)
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 35 T25S R6E
12. COUNTY OR PARISH
Emery
13. STATE
Utah

RECEIVED
AUG 28 1989
DIVISION OF

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 Terry J. Cannon TITLE Manager of Operations DATE August 22, 1989

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

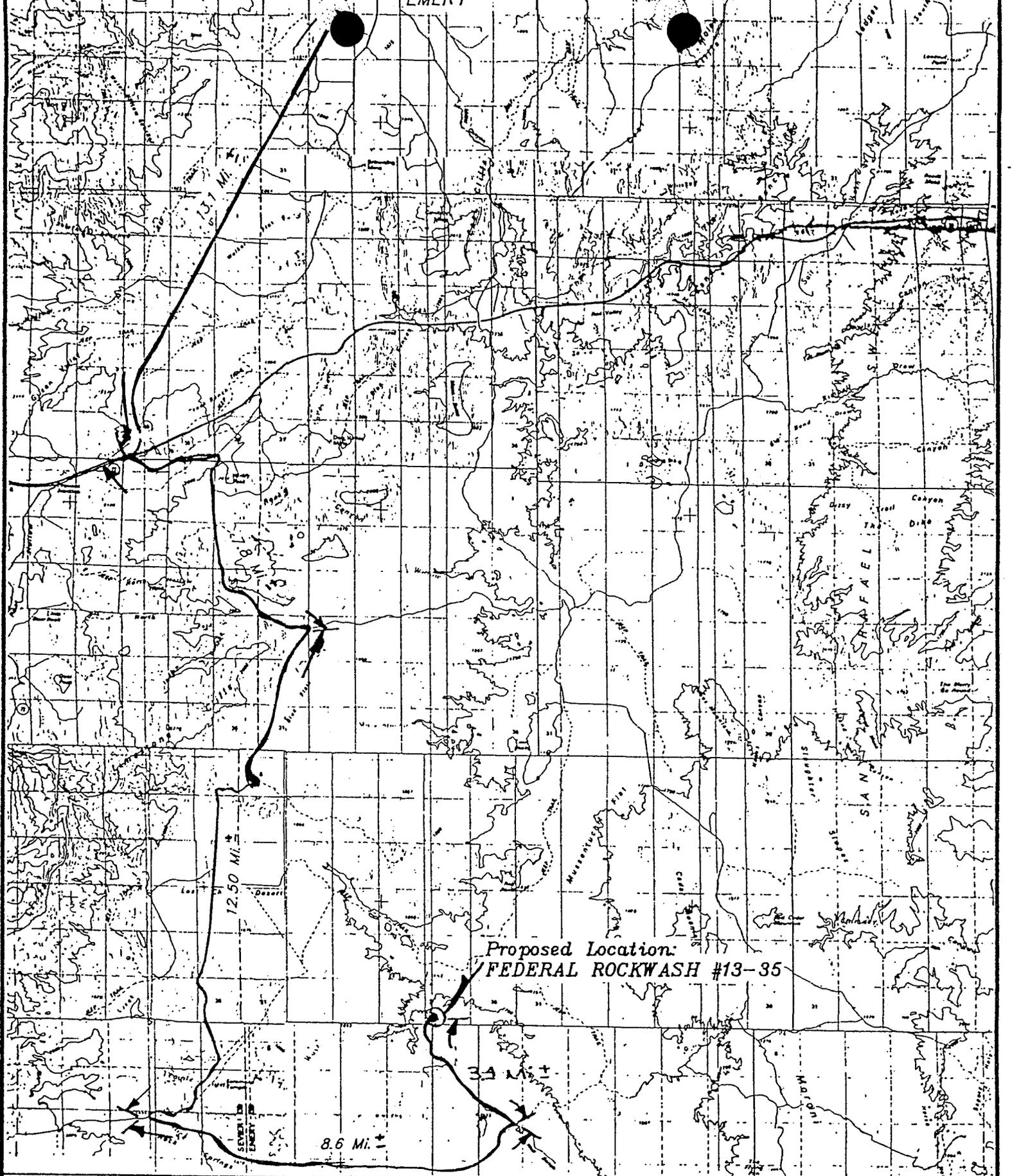
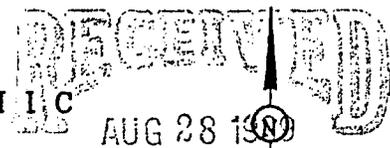


EXHIBIT "E"
 TOPOGRAPHIC
 MAP "A"

AUG 28 1950



DIVERSIFIED OPERATING CORP.

FEDERAL ROCKWASH 13-35
 SECTION 35, T25S, R6E, S.L.B.&M.

DEPARTMENT OF
 THE BUREAU OF LAND MANAGEMENT

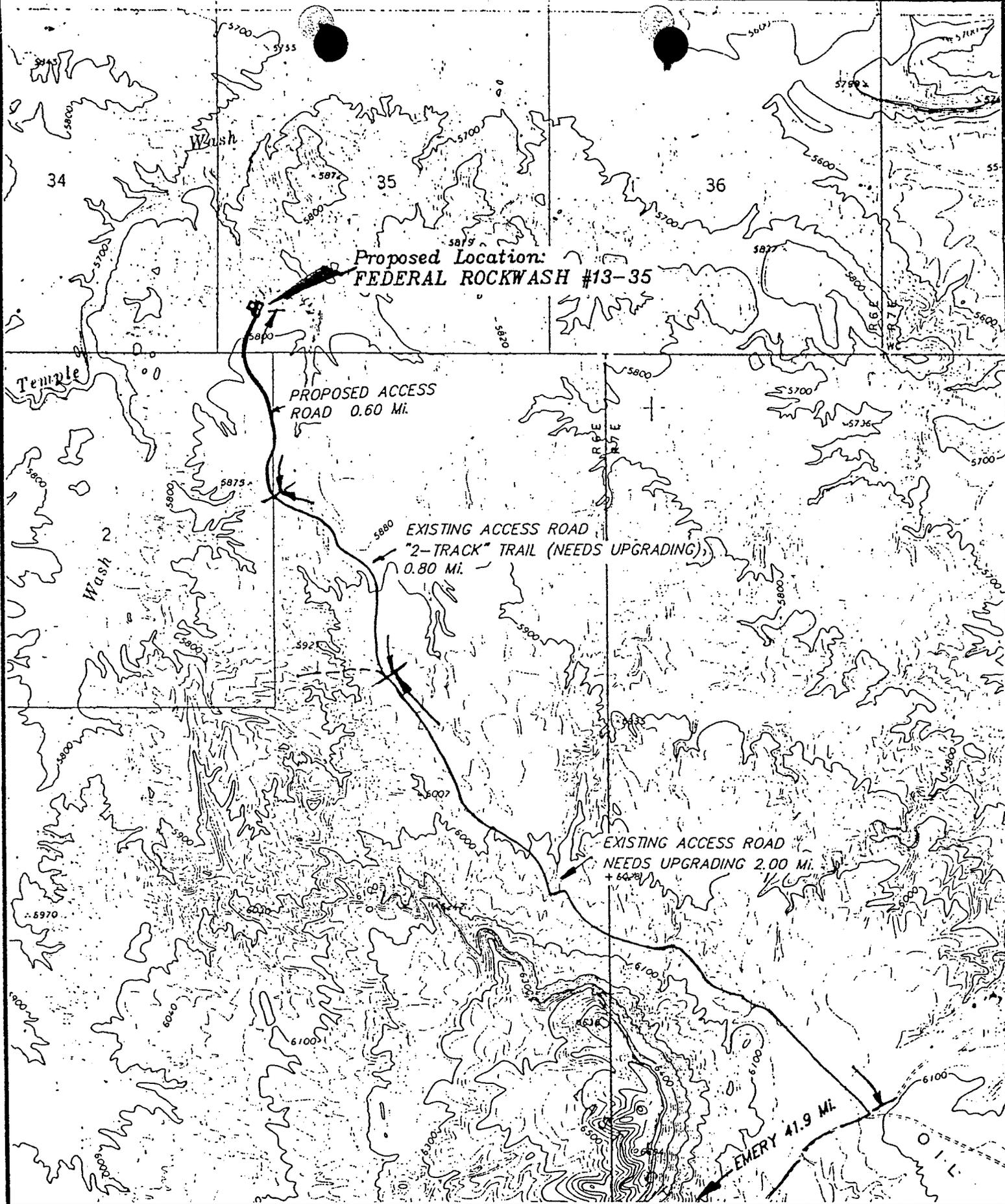


EXHIBIT "E₂"

TOPOGRAPHIC
MAP "B"

SCALE: 1" = 2000'

RECEIVED
AUG 28 1989
DIVISION OF
GIL GAS & MIN

DIVERSIFIED OPERATING CORP.

FEDERAL ROCKWASH 13-35
SECTION 35, T25S, R6E, S.L.B.&M.

CONFIDENTIAL

OPERATOR Diversified Operating Corp. DATE 8-28-89

WELL NAME Fed. Rockwash 13-35

SEC SWSW 35 T 25S R 6E COUNTY Emery

43-015-30233
API NUMBER

Federal
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

No other well within 920'
Need Water Permit
RDC 8-29-89 / Process 9-15-89

APPROVAL LETTER:

SPACING: R615-2-3 N/A R615-3-2
UNIT

N/A R615-3-3
CAUSE NO. & DATE

STIPULATIONS:

1. Water Permit

CONFIDENTIAL
PERIOD
EXPIRED
ON 3-17-91



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangertter

Governor

Dee C. Hansen

Executive Director

Dianne R. Nielson, Ph.D.

Division Director

355 West North Temple

3 Triad Center, Suite 350

Salt Lake City, Utah 84180-1203

801-538-5340

September 21, 1989

Diversified Operating Corporation
1600 Stout Street, Suite 1900
Denver, Colorado 80202

Gentlemen:

Re: Fed. Rockwash 13-35 - SW SW Sec. 35, T. 25S, R. 6E - Emery County, Utah
690' FSL, 584' FWL

Approval to drill the referenced well is hereby granted in accordance with Rule R615-3-2, Oil and Gas Conservation General Rules, subject to the following stipulation:

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

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

1. Spudding notification within 24 hours after drilling operations commence.
2. Submittal of an Entity Action Form within five working days following spudding and whenever a change in operations or interests necessitates an entity status change.
3. Submittal of the Report of Water Encountered During Drilling, Form 7.
4. Prompt notification if it is necessary to plug and abandon the well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or Jim Thompson, Lead Inspector, (Home) 298-9318.
5. Compliance with the requirements of Rule R615-3-20, Gas Flaring or Venting, Oil and Gas Conservation General Rules.

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

The API number assigned to this well is 43-015-30233.

Sincerely,



R. J. Firth
Associate Director, Oil & Gas

lcr
Enclosures
cc: Bureau of Land Management
D. R. Nielson
J. L. Thompson
WE14/1-2



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER RIGHTS

RECEIVED
OCT - 2 1989

Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Robert L. Morgan
State Engineer

1636 West North Temple, Suite 220
Salt Lake City, Utah 84116-3156
801-538-7240

September 29, 1989

Diversified Operating Corporation
1600 Stout Street, Suite 1900
Denver, CO 80202

Dear Applicant:

RE: TEMPORARY APPLICATION
NUMBER 94-1846 (T64239)

Enclosed is a copy of approved Temporary Application Number 94-1846 (T64239). This is your authority to construct your works and to divert the water for the uses described.

While this approved application does give you our permission to divert and use water, it does not grant easements through public or private lands in order to gain access to the source nor to convey the water to the place of use, nor does this approval eliminate the need for such other permits as may be required by this Division or any other agency in implementing your diversion.

This application will expire September 29, 1990, and it is expected that no diversion or use of the water will be done after that date unless another proposal has been made and approved.

Your contact with this office, should you need it, is with the Area Engineer, Mark Page. The telephone number is (801)637-1303.

Sincerely,

Robert L. Morgan, P.E.
State Engineer

RLM:rc

Encl.: Copy of Approved Temporary Application

SOUTHEASTERN UTAH ASSOCIATION OF LOCAL GOVERNMENTS

HAROLD JACOBS
Chairman
WILLIAM D. HOWELL
Executive Director

P.O. Drawer A1 • Price, Utah 84501 • Telephone 637-5444

AREAWIDE CLEARINGHOUSE A-95 REVIEW

NOI ___ Preapp ___ App ___ State Plan ___ State Action X Subdivision ___ (ASP # 9-96-7)

Other (indicate) _____ SAI Number UT

Applicant (Address, Phone Number):

Oil, Gas and Mining
355 west North temple
3 Triad Center, Suite 350
84180-1203

Federal Funds:

Requested: _____

Title:

APPLICATION FOR PERMIT TO DRILL (Diversified Oper. Corp.)

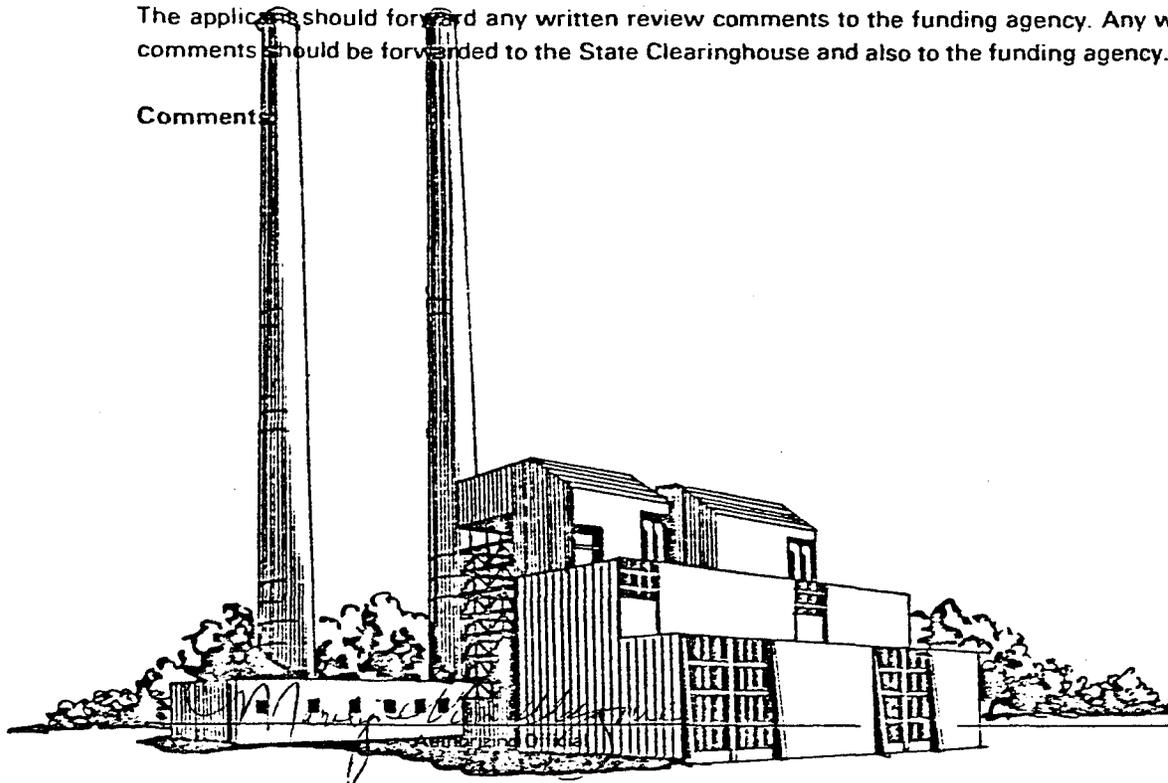
Fed. Rockwash 13-35

43-015-30233

- No comment
- See comments below
- No action taken because of insufficient information
- Please send your formal application to us for review. Your attendance is requested

The applicant should forward any written review comments to the funding agency. Any written response to those comments should be forwarded to the State Clearinghouse and also to the funding agency.

Comments



10-2-89

Date

REGIONAL CLEARINGHOUSE

TEMPORARY

FILING FOR WATER IN THE STATE OF UTAH

SEP 26 1989

SEP 25 1989

REC'D Rec. by VP
Fee Rec. 3000
Receipt # 276999
Microfilmed _____
TS Roll # _____

APPLICATION TO APPROPRIATE WATER PRICE

SALT LAKE

For the purpose of acquiring the right to use a portion of the unappropriated water of the State of Utah, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of Title 73, Chapter 3 of the Utah Code Annotated (1953, as amended).

* WATER RIGHT NO. 94 — 1846

* APPLICATION NO. A T64239

1. *PRIORITY OF RIGHT: September 25, 1989 * FILING DATE: September 25, 1989

2. OWNER INFORMATION

Name(s): Diversified Operating Corporation * Interest: 100 %
Address: 1600 Stout Street, Suite 1900
City: Denver State: Colorado Zip Code: 80202
Is the land owned by the applicant? Yes _____ No X BLM
(If "No", please explain in EXPLANATORY section.)

3. QUANTITY OF WATER: _____ cfs and/or 0.464 ac-ft

4. SOURCE: Rock Springs * DRAINAGE: _____

which is tributary to _____
which is tributary to _____

POINT(S) OF DIVERSION: _____ COUNTY: Sevier
S. 1690 ft. & W. 1500 ft. from NE Cor. Sec. 15, T26S, R5E, SLB&M

Description of Diverting Works: Portable pump and tank truck to place of use
* COMMON DESCRIPTION: 2 miles SW of Solomons Temple Solomons Temple Quad

5. POINT(S) OF REDIVERSION

The water will be rediverted from _____ at a point:

Description of Rediverting Works: _____

6. POINT(S) OF RETURN

The amount of water consumed will be _____ cfs or 0.464 ac-ft

The amount of water returned will be _____ cfs or _____ ac-ft

The water will be returned to the natural stream/source at a point(s): _____

7. STORAGE

Reservoir Name: _____ Storage Period: from _____ to _____

Capacity: _____ ac-ft. Inundated Area: _____ acres

Height of dam: _____ feet

Legal description of inundated area by 40 acre tract(s): _____

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

TEMPORARY

Appropriate

8. List any other water rights which will supplement this application _____

9. NATURE AND PERIOD OF USE

Irrigation:	From _____	to _____
Stockwatering:	From _____	to _____
Domestic:	From _____	to _____
Municipal:	From _____	to _____
Mining:	From _____	to _____
Power:	From _____	to _____
Other: Oil and Gas Drilling	From 9-25-89	to 9-24-90

10. PURPOSE AND EXTENT OF USE

Irrigation: _____ acres. Sole supply of _____ acres.
 Stockwatering (number and kind): _____
 Domestic: _____ Families and/or _____ Persons
 Municipal (name): _____
 Mining: _____ Mining District in the _____ Mine
 Ores mined: _____
 Power: Plant name: _____ Type: _____ Capacity: _____
 Other (describe): Drilling oil and gas well.

11. PLACE OF USE

Legal description of place of use by 40 acre tract(s): _____
Federal DOC Rockwash #13-35 Well:
N. 690 ft. & E. 584 ft. from SW Cor. Sec. 35, T25S, R6E, SLB&M (SW $\frac{1}{4}$ SW $\frac{1}{4}$).
43-015-30233

12. EXPLANATORY

The following is set forth to define more clearly the full purpose of this application. (Use additional pages of same size if necessary): The required water will be for drilling and completion fluids. Projected depth of the well is a maximum of 4100 ft. The well will be air drilled unless downhole conditions force well to be converted to a mud system. Anticipated water requirements: 2 loads/day X 90 bbl/day X 20 days equals 3600 bbls.
3600 bbl X 5.6146 ft.³ X 1 AF = 0.464 Acre Feet

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

Terry J. Cannon
 Signature of Applicant(s)
 Terry J. Cannon, Manager of Operations
 Diversified Operating Corporation

TEMPORARY

STATE ENGINEER'S ENDORSEMENT

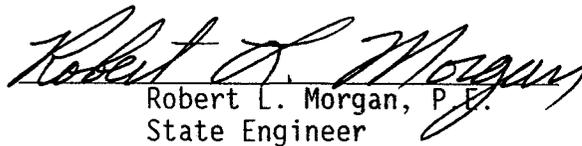
WATER RIGHT NUMBER: 94 - 1846

APPLICATION NO. T64239

1. September 25, 1989 Application received by MP.
 2. September 25, 1989 Application designated for APPROVAL by MP and KLJ.
 3. Comments:
-
-

Conditions:

This application is hereby APPROVED, dated September 29, 1989, subject to prior rights and this application will expire on September 29, 1990.


Robert L. Morgan, P. E.
State Engineer

DOC

Diversified Operating Corporation

RECEIVED
OCT 16 1989

October 13, 1989

DIVISION OF
OIL, GAS & MINING

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

RE: Federal Rockwash #13-35
SW/SW Sec 35, T25S R6E
Emery County, Colorado

Dear Gentlemen:

In accordance with the first stipulation for the approval by the Division of Oil and Gas and Mining, for the above referenced well, attached is a copy of the temporary application for water use, approved by the Department of Natural Resources, Division of Water Rights.

Sincerely,

DIVERSIFIED OPERATING CORPORATION

Mollie Bee Dozier

Mollie Bee Dozier
Secretary to Terry J. Cammon
Manager of Operations

:mbd
attachments

Confidential

API # 43-013-30233

Form 3150-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPlicate
(Other instructions on
reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

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 MULTIPLE ZONE

2. NAME OF OPERATOR
Diversified Operating Corporation

3. ADDRESS OF OPERATOR
1600 Stout Street, Suite 1900 Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
At surface 584' FWL & 560' FSL

At proposed prod. zone Same
Per Mollie Dasier Diversified Operating Corporation

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
41.5 miles south of Emery, Utah

10. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)
584'

16. NO. OF ACRES IN LEASE
1400

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.

19. PROPOSED DEPTH
3600'

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
5791' GL & 5801' KB

22. APPROX. DATE WORK WILL START*
Early September

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	36	150'	100 sacks Class "G" w/ additives
8-3/4"	5-1/2"	15.5	3600'	200 sacks 50/50 poz w/ additives

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 Terry O. Cannon TITLE Manager of Operations DATE August 22, 1989

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE OCT 11 1989
APPROVED BY /s/ Gene Nodine TITLE DISTRICT MANAGER

CONDITIONS OF APPROVAL, IF ANY:

FLARING OR VENTING OF GAS IS SUBJECT TO NTL 4-A

CONDITIONS OF APPROVAL ATTACHED
*See Instructions On Reverse Side

SUBJECT TO RIGHT OF WAY
SUBJECT TO RIGHT OF WAY
APPROVAL

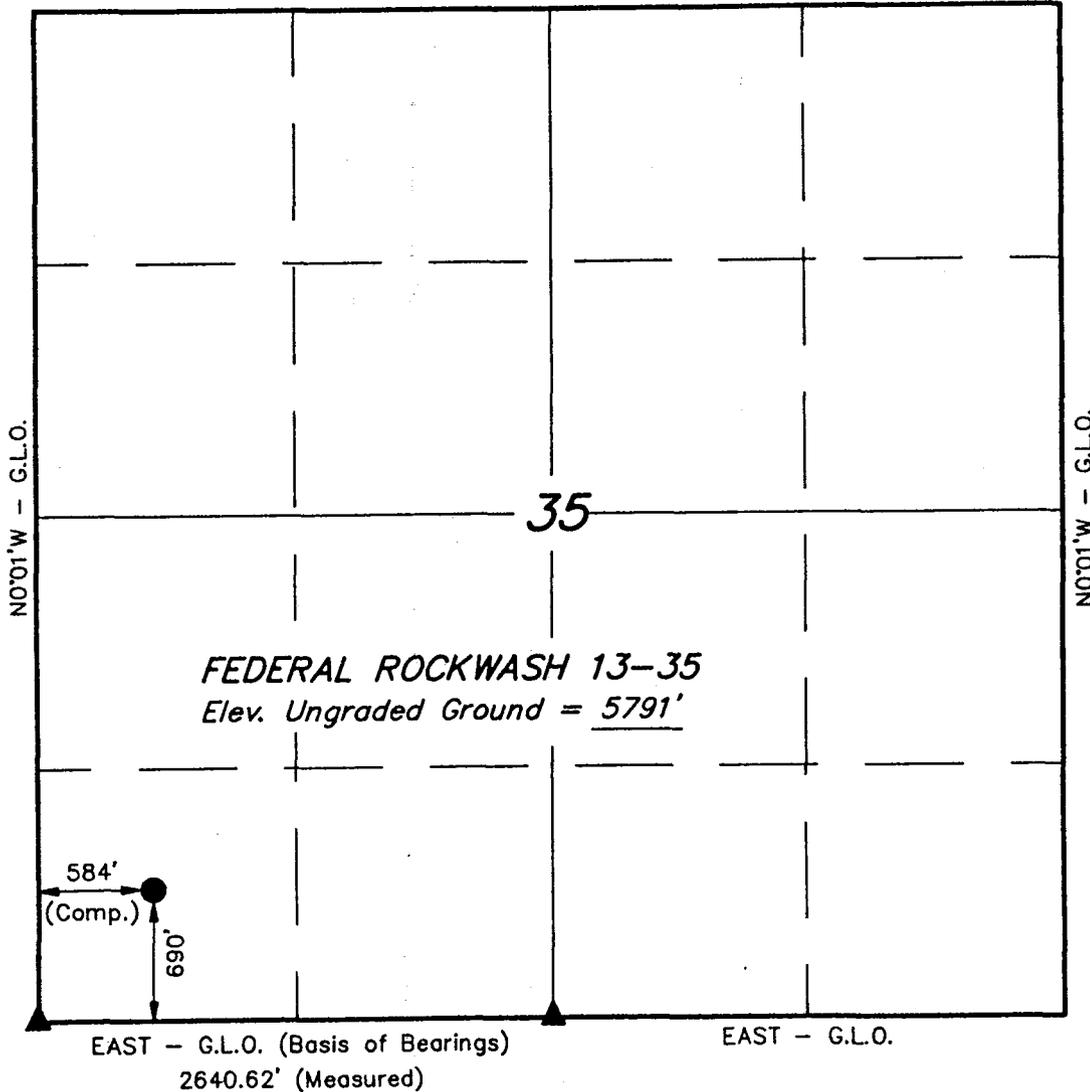
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

DJGM

EXHIBIT "A"

T25S, R6E, S.L.B.&M.

S89°58'W - 79.98 (G.L.O.)



▲ = SECTION CORNERS LOCATED. (BRASS CAPS)

DIVERSIFIED OPERATING CORP.

Well location, FEDERAL ROCKWASH 13-35, located as shown in the SW 1/4 SW 1/4 of Section 35, T25S, R6E, S.L.B.&M. Emery County, Utah.

BASIS OF ELEVATION

SPOT ELEVATION ON A HILL TOP IN THE SE 1/4 NE 1/4 OF SECTION 2, T26S, R6E, S.L.B.&M. TAKEN FROM THE SALVATION CREEK QUADRANGLE, UTAH EMERY COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP). PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5875 FEET.

RECEIVED
 OCT 16 1989
 DIVISION OF
 OIL, GAS & MINING

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Robert L. Key
 REGISTERED LAND SURVEYOR
 REGISTRATION NO. 5709
 STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING		
P. O. BOX 1758 - 85 SOUTH - 200 EAST		
VERNAL, UTAH - 84078		
SCALE 1" = 1000'	DATE 5-9-89	
PARTY R.K. D.A. J.R.S.	REFERENCES G.L.O. PLAT	
WEATHER HOT	FILE DIVERSIFIED OPERATING CORP.	

Diversified Operating Corporation
Well No. Federal Rockwash 13-35
SWSW Sec. 35, T. 25 S., R. 6 E.
Emery County, Utah
Lease U-57807

CONDITIONS OF APPROVAL

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

Be advised that Diversified Operating Corporation is considered to be the operator of the above well and is responsible under the terms and conditions of the lease for the operations conducted on the leased lands.

Bond coverage for this well is provided by UT0732. (Principal - Diversified Operating Corporation) as provided for in 43 CFR 3104.1.

This office will hold the aforementioned operator and bond liable until the provisions of 43 CFR 3106.7-2 continuing responsibility are met.

A. DRILLING PROGRAM

All lease operations will be conducted in full compliance with applicable regulations (43 CFR 3100), Onshore Oil and Gas Order No. 1, Onshore Oil and Gas Order No. 2 and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions and the approved plan will be made available to the field representative to insure compliance.

1. If unconsolidated rock is encountered, conductor shall be set ten (10) feet unto underlying bedrock with cement circulated to surface.
2. Production casing shall be set with cement circulated to surface.
3. Required verbal notifications are summarized in Table 1, attached. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the District Office within twenty-four (24) hours after spudding. If the spudding occurs on a weekend or holiday, the written report will be submitted on the following regular work day.
4. Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6.

The following minimum information will be permanently placed on the marker with a plate, cap, or beaded-on with a welding torch:

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

B. SURFACE USE PLAN

SPECIAL STIPULATIONS

1. The holder shall construct waterbars on the roads as specified by the authorized officer. Waterbars are to be constructed to: (1) simulate the imaginary contour lines of the slope (ideally with a grade of one or two percent); (2) drain away from the disturbed area; and (3) begin and end in vegetation or rock whenever possible.
2. Road grades shall not exceed 10 percent.
3. A 1' berm would be constructed around the well pad as required by the authorized officer.
4. Reclamation on the well site shall be graded using slopes of 5 percent or less where possible and the site graded to collect water for revegetation as directed by the authorized officer.

STANDARD STIPULATIONS

1. The holder shall designate a representative(s) who shall have the authority to act upon and to implement instructions from the authorized officer. The holder's representative shall be available for communication with the authorized officer within a reasonable time when construction or other surface disturbing activities are underway.
2. The holder shall contact the authorized officer at least 5 days prior to the anticipated start of construction and/or any surface disturbing activities. The authorized officer may require and schedule a preconstruction conference with the holder prior to the holder's commencing construction and/or surface disturbing activities. The holder and/or his representative shall attend this conference. The holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the permit/right-of-way, shall also attend this conference to review the stipulations of the grant including the plan(s) of development.
3. Operations shall be located so as to reduce erosion and improve opportunity for revegetation.
4. Low-water crossing shall be constructed in a manner that will prevent any blockage or restriction of the existing channel. Material removed shall be stockpiled for use in rehabilitation of the crossings.

5. Drainages shall be promptly cleared of all debris or other obstructions placed therein or caused by construction activities.
6. The holder shall furnish and apply water or use other means satisfactory to the authorized officer for dust control.
7. All persons in the area who are associated with the project will be informed by the holder that they will be subject to prosecution for disturbing archaeological sites or collecting artifacts. If subsurface cultural material is exposed during construction, work at that spot will stop immediately and the BLM, San Rafael Resource Area Office will be contacted (phone 801-637-4584). The holder will be responsible for the cost of evaluation of the discovery and proper mitigation measures. Any decision as to proper mitigation shall be made by the authorized officer after consulting with the holder.
8. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of two inches deep, the soil shall be deemed too wet to adequately support construction equipment.
9. Prior to termination of the right-of-way, the holder shall contact the authorized officer to arrange a pretermination conference. This conference will be held to review the termination provisions of the grant.
10. The following seed mixture shall be used at a rate of 5 1/2 pounds per acre. The seeding shall be done between October 1 and November 30.

<u>Grasses/Species</u>		<u>Pounds Per Acre</u>
Indian ricegrass	<u>Oryzopsis hymenoides</u>	2
Curly grass	<u>Hilaria jamesii</u>	1
<u>Shrubs and Forbes/Species</u>		
Fourwing saltbush	<u>Atriplex canescens</u>	1
Torrey Mormon tea	<u>Ephedra torreyana</u>	1/2
Winterfat	<u>Eurotia lanata</u>	1
		Total 5 1/2

11. If the drilling results in a dry hole, this right-of-way is automatically terminated when the BLM issues a notification of satisfactory rehabilitation.

Additional Requirements According To Onshore Oil and Gas Order No. 2

- 3000 psi BOP & BOPE:

Drilling spool, or blowout preventer with 2 side outlets (choke side shall be a 3-inch minimum diameter, kill side shall be at least 2-inch diameter)

A minimum of 2 choke line valves (3-inch minimum),

3 inch diameter choke line,

2 kill line valves, one of which shall be a check valve (2 inch minimum),

2 chokes (refer to diagram in Attachment 1)

Upper kelly cock valve with handle available,

Safety valve and subs to fit all drill strings in use,

All BOPE connections subjected to well pressure shall be flanged, welded, or clamped,

Fill-up line above the uppermost preventer,

- If repair or replacement of the BOPE is required after testing, this work shall be performed prior to drilling out the casing shoe, and
- When the BOPE cannot function to secure the hole, the hole shall be secured using cement, retrievable packer or bridge plug packer, bridge plug or other acceptable approved methods to assure safe well conditions.

- Choke Manifold Equipment:

All choke lines shall be straight lines unless turns use tee blocks or are targeted with running tees, and shall be anchored to prevent whip and reduce vibration.

All valves (except chokes) in the kill line, choke manifold and choke line shall be a type that does not restrict the flow (full opening) and that allows a straight through flow.

Pressure gauges in the well control system shall be a type designed for drilling fluid service.

- 3000 psi system - Accumulator Equipment:

Accumulator shall have sufficient capacity to open the hydraulically controlled choke line valve (if so equipped), close all rams plus the annual preventer, and retain a minimum of 200 psi above precharge on the closing manifold without the use of the closing unit pumps. This is a minimum requirement. The fluid reservoir capacity shall be double the accumulator capacity and fluid level maintained at manufacturer's recommendations. The 3M system shall have 2 independent power sources to close the preventers. Nitrogen bottles (3 minimum) may be 1 of the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

Accumulator precharge pressure test: This test shall be conducted prior to connecting the closing unit to the BOP stack and at least once every 6 months. The accumulator pressure shall be corrected if the measure precharge pressure is found to be above or below the maximum limit specified within Onshore Order Number 2.

Power for the closing unit pumps shall be available to the unit at all times so that the pumps shall automatically start when the closing unit manifold pressure has decreased to a pre-set level.

Each BOP closing unit shall be equipped with sufficient number and sizes of pumps so that, with the accumulator system isolated from service, the pumps shall be capable of opening the hydraulically-operated gate valve (if so equipped), plus closing the annular preventer on the smallest size drill pipe to be used within 2 minutes, and obtain a minimum of 200 psi. above specified accumulator precharge pressure.

A manual locking device (i.e., hand wheels) or automatic locking devices shall be installed on all systems of 2M or greater. A valve shall be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative.

Remote controls shall be readily accessible to the driller. Remote controls for all 3M or greater systems shall be capable of closing all preventers.

- BOP Testing:

Ram type preventers and associated equipment shall be tested to approved stack working pressure if isolated by test plug or to 70 percent of internal yield pressure of casing if BOP stack is not isolated from casing. Pressure tests on ram type preventers shall be maintained for at least 10 minutes or until requirements of test are met, whichever is longer. If a test plug is utilized, no bleed off of pressure is acceptable. For a test not utilizing a test plug, if a decline in pressure of more than 10 percent in 30 minutes occurs, the test shall be considered to have failed. Valve on casing head below test of BOP stack.

Annular BOP pressure tests shall be tested to 50 percent of rated working pressure. Pressure shall be maintained at least 10 minutes or until provisions of test are met, whichever is longer.

As a minimum, the above tests shall be performed:

**When initially installed;

**Whenever any seal subject to test pressure is broken;

**Following related repairs; and

**At 30 day intervals.

Valves shall be tested from working pressure side during BOPE tests with all down stream valves open.

When testing the kill line valve(s), the check valve shall be held open or the ball removed.

Annular preventers shall be functionally operated at least weekly. Pipe and blind rams shall be activated each trip, however, this function need not be performed more than once a day.

A BOPE pit level drill shall be conducted weekly for each drilling crew.

Pressure tests shall apply to all related well control equipment.

All of the above described tests and/or drills shall be recorded in the drilling log.

- Casing and Cementing:

All waiting on cement times shall be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

All casing, except the conductor casing, shall be new or reconditioned and tested used casing that meets or exceeds API standards for new casing.

All of the above described tests shall be recorded in the drilling log.

All indications of usable water shall be reported to the authorized officer prior to running the next string of casing or before plugging orders are requested, whichever occurs first.

Surface casing shall have centralizers on at least the bottom three joints depending on severity of hole inclination.

Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a suitable preflush fluid, inner string cement method, etc. shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

All casing strings below the conductor shall be pressure tested to 0.22 psi/ft. of casing string length or 1500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.

- Mud Program Requirements:

The characteristics, use and testing of drilling mud and the implementation of related drilling procedures shall be designed to prevent the loss of well control. Sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring well control.

-Record slow pump speed on daily drilling report after mudding up.

-Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume.

-A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

-All flare systems shall be designed to gather and burn all gas. The flare line(s) discharge shall be located not less than 100 feet from the well head, having straight lines unless turns are targeted with running tees, and shall be positioned downwind of the prevailing wind direction and shall be anchored. The flare system shall have an effective method for ignition. Where non-combustible gas is likely or expected to be vented, the system shall be provided supplemental fuel for ignition and to maintain a continuous flare.

- Drill Stem Testing Requirements:

Initial opening of drill stem test tools shall be restricted to daylight hours unless specific approval to start during other hours is obtained from the authorized officer. However, DSTs may be allowed to continue at night if the test was initiated during daylight hours and the rate of flow is stabilized and if adequate lighting is available (i.e., lighting which is adequate for visibility and vapor-proof for safe operations). Packers can be released, but tripping shall not begin before daylight, unless prior approval is obtained from the authorized officer. Closed chamber DSTs may be accomplished day or night.

-A DST that flows to the surface with evidence of hydrocarbons shall be either reversed out of the testing string under controlled surface conditions, or displaced into the formation prior to pulling the test tool. This would involve providing some means for reverse circulation.

-Separation equipment required for the anticipated recovery shall be properly installed before a test starts.

-All engines within 100 feet of the wellbore that are required to "run" during the test shall have spark arresters or water cooled exhausts.

- Special Drilling Operations:

In addition to the equipment already specified elsewhere in Onshore Order No. 2 , the following equipment shall be in place and operational during air/gas drilling:

-Properly lubricated and maintained rotating head;

-Spark arresters on engines or water cooled exhaust;

-Blooie line discharge 100 feet from well bore and securely anchored;

-Straight run on blooie line unless otherwise approved;

-Deduster equipment;

-All cuttings and circulating medium shall be directed into a reserve or blooie pit;

-Float valve above bit;

-Automatic igniter or continuous pilot light on the blooie line;

-Compressors located in the opposite direction from the blooie line a minimum of 100 feet from the well bore;

-Mud circulating equipment, water, and mud materials (does not have to be premixed) sufficient to maintain the capacity of the hole and circulating tanks or pits.

RECEIVED
OCT 16 1989

DIVISION OF
OIL, GAS & MINING

TABLE 1

NOTIFICATIONS

Notify Neil Simmons of the San Rafael Resource Area, at
(801) 637-4584 for the following:

- 2 days prior to commencement of dirt work, construction or reclamation;
- 1 day prior to spudding;
- 1 day prior to running and cementing surface casing;
- 1 day prior to pressure testing of surface casing.

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

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

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

Home Phone: (801) 259-6239

Eric Jones, Petroleum Engineer Office Phone: (801) 259-6111

Home Phone: (801) 259-2214

If unable to reach the above individuals including weekends, holidays, or after hours, please call the following:

Lynn Jackson, Chief, Branch of Fluid Minerals

Office Phone: (801) 259-6111

Home Phone: (801) 259-7990

24 HOURS ADVANCE NOTICE IS REQUIRED FOR ALL ABANDONMENTS.

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

SUBMIT IN TRIPLICATE
(Other instructions on
reverse side)

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. U-57807																				
2. NAME OF OPERATOR Diversified Operating Corporation		6. IF INDIAN, ALLOTTEE OR TRIBE NAME _____																				
3. ADDRESS OF OPERATOR 1600 Stout Street, Suite 1900 Denver, CO 80202		7. UNIT AGREEMENT NAME _____																				
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 690' FSL & 584' FWL		8. FARM OR LEASE NAME Federal Rockwash																				
14. PERMIT NO. _____		9. WELL NO. 13-35																				
15. ELEVATIONS (Show whether DF, RT, OR, etc.) 5791'		10. FIELD AND POOL, OR WILDCAT Wildcat																				
16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec 35 T25S R6E																				
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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.)*		13. STATE Utah																				

See Attachments

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

SIGNED Terry J. Cammon

TITLE Manager of Operations

DATE November 28, 1989

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____

DATE _____

*See Instructions on Reverse Side

Federal Rockwash #13-35
SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec 35 T25S R6E
Emery County, Utah

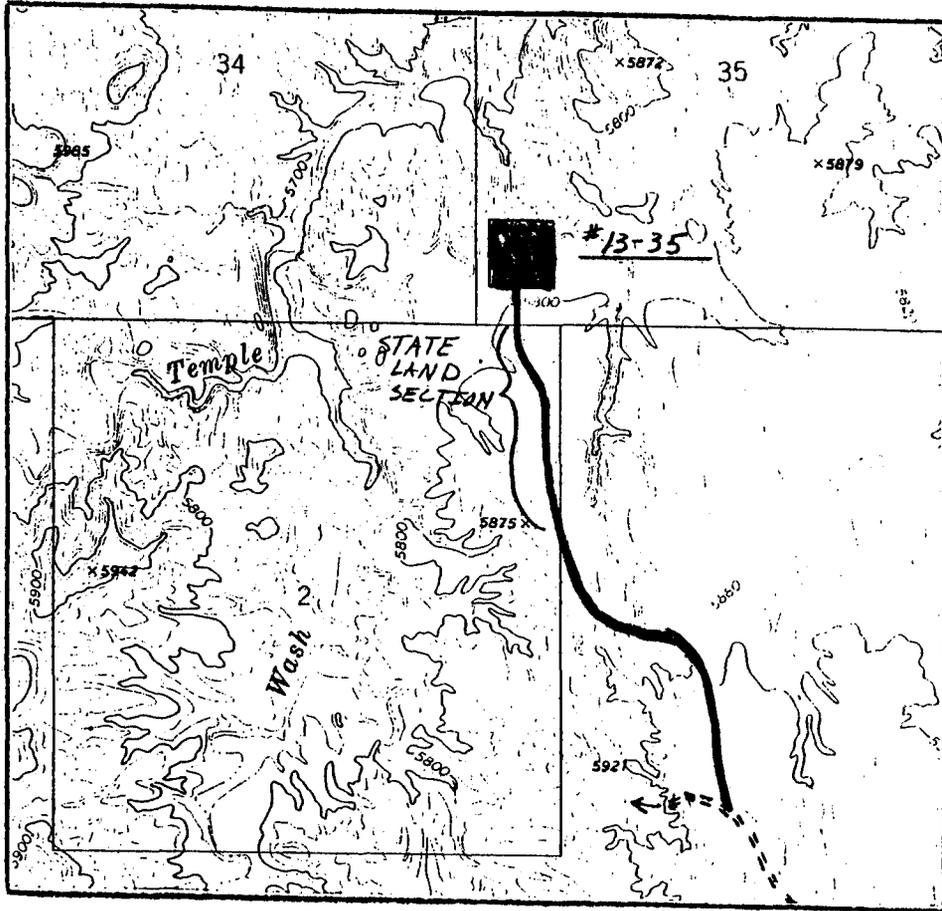
I am submitting this sundry notice to request the changes in location dimensions as shown in Exhibit II. The archaeology clearance was for a 750' radius, also attached, therefore any changes will be well within the cleared area. The pad will be expanded to 230' X 150' with the expansions to the south and west.

The rig selected to drill the well was not available. Due to Blu-H #3 rig's unavailability, currently on location in Nevada, and Yates Petroleum farmout expiration of December 1, 1989, I elected to contract Veco Rig #4.

I was not informed that the Veco Rig #4, although a trailer/tire mounted rig, could not fit on the permitted location size of 200' X 100'. (See Exhibits I and II) On November 20th I received the facsimile copy of the Veco Rig #4 layout requiring a 275' X 150' rig layout.

Rock was encountered 18" below ground level, thus the trailers will be placed on a level, flat area directly south of the location.

I apologize for the delay in the request, due to the Thanksgiving holiday, and poor field communications indicating what changes would actually be required.



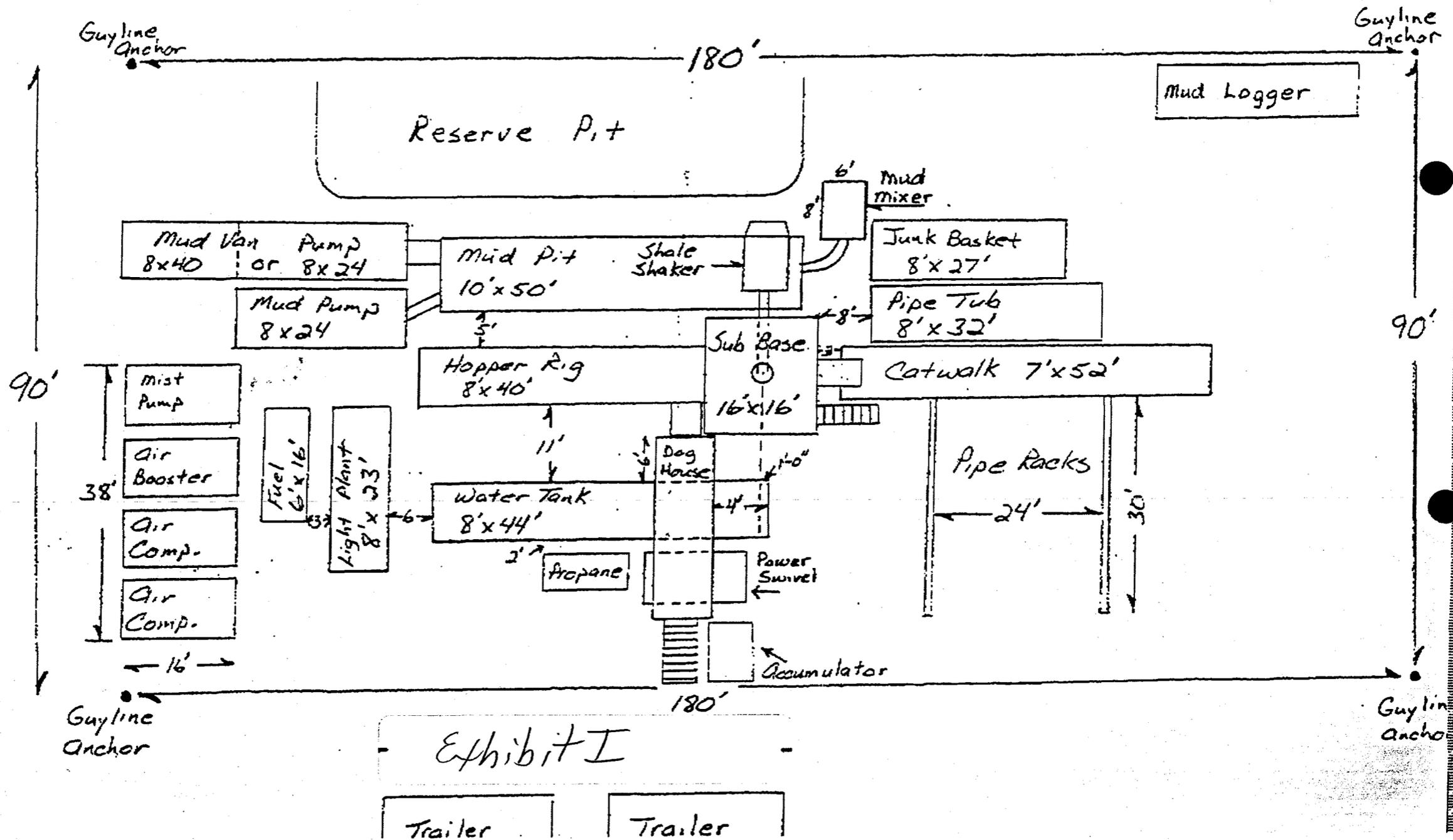
Salvation Creek Quadrangle
 Utah--Emery County
 1968
 USGS 7.5' series (topographic)
 Scale 1:24000
 Contour interval 20 feet

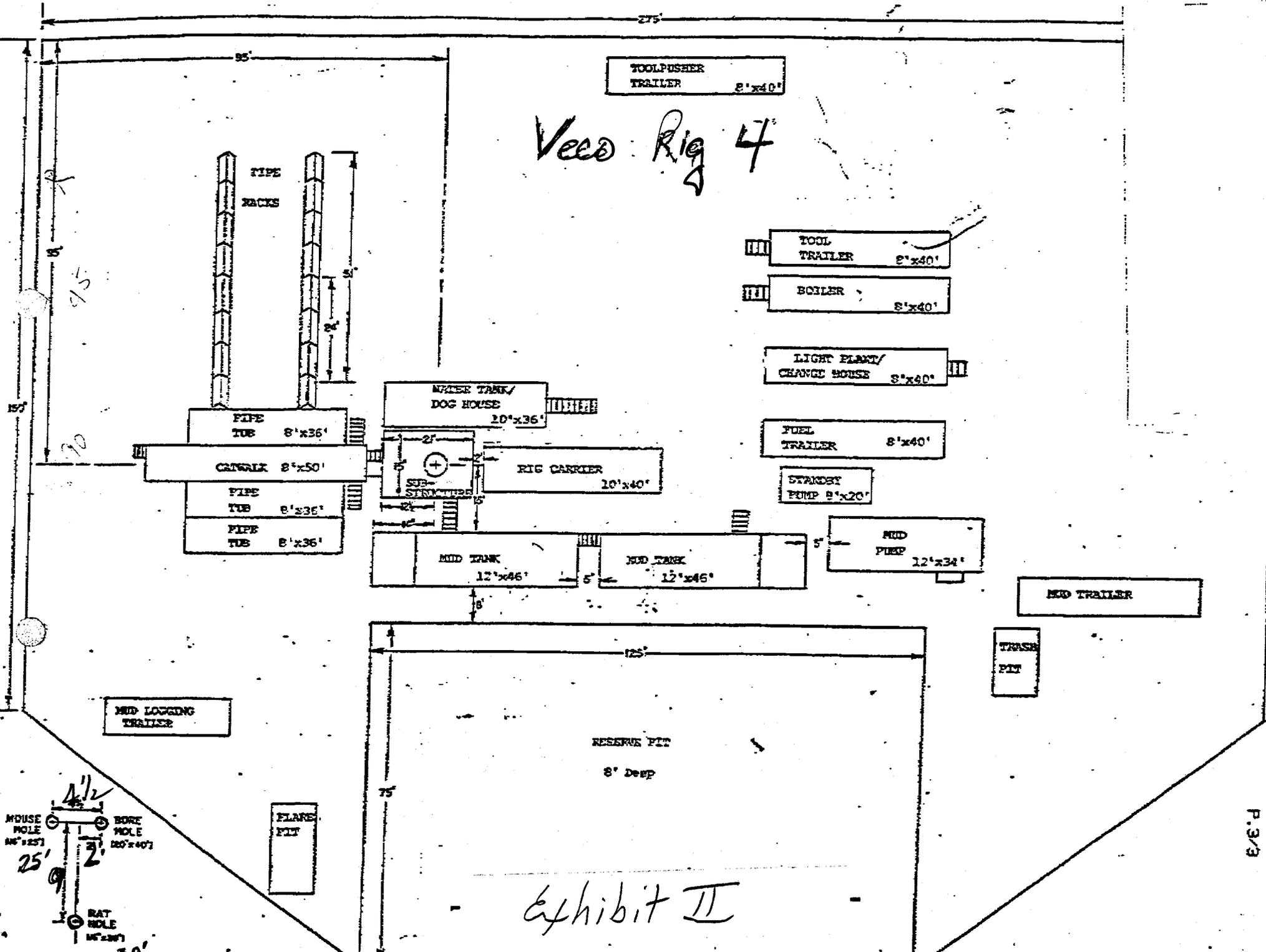
T. 25S. and T. 26S., R. 6E., S. L. P. M.

Cultural resource inventory of the proposed Rockwash Federal #13-35 well location and related new access road in Emery County, Utah, for Diversified Operating Corporation. Areas surveyed for cultural resources are highlighted. [GRI Project No. 8906, 5/13/89]

Scale - 1" = 16'

BLU H WELL SERVICE RIG # 3





XEROX TELECOPIER 495 : 20-11-69; 3:14PM

11/20/89 03:25

2 303 245 9551

VECO DRILLING P.02

3038250357; # 2

P.3/3

DIVISION OF OIL, GAS AND MINING

API NO. 43-015-30233

SPUDDING INFORMATION

NAME OF COMPANY: DIVERSIFIED OPERATING CORPORATION

WELL NAME: FEDERAL ROCKWASH 13-35

SECTION SWSW 35 TOWNSHIP 25S RANGE 6E COUNTY EMERY

DRILLING CONTRACTOR VECO

RIG # 4

SPUDED: DATE 12/1/89

TIME 2100 hrs

HOW ROTARY

DRILLING WILL COMMENCE 12/1/89

REPORTED BY MOLLY DOZIER

TELEPHONE # 303-595-3957

DATE 12/4/89 SIGNED TAS TAKEN BY: VLC

RECEIVED
 DEC 08 1989

OPERATOR Diversified Operating Corp.
 ADDRESS 1600 Stout St., Ste. 1900
Denver, CO 80202

OPERATOR ACCT. NO. N 9000

CONFIDENTIAL

DIVISION OF
 OIL, GAS & MINING

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
A	99999	11043	43-015- 0 30233	Federal Rockwash #13-35	SWSW	35	25S	6E	Emery	12-1-89	
WELL 1 COMMENTS: New well, spudded 12-1-89 <i>Federal-Lease Field-wildcat Unit-N/A</i> <i>Proposed Zone w/perm (will produce into its own tank battery. Assign new entity 11043 on 12-19-89. Lee)</i>											
WELL 2 COMMENTS:											
WELL 3 COMMENTS:											
WELL 4 COMMENTS:											
WELL 5 COMMENTS:											

- ACTION CODES** (See instructions on back of form)
- A - Establish new entity for new well (single well only)
 - B - Add new well to existing entity (group or unit well)
 - C - Re-assign well from one existing entity to another existing entity
 - D - Re-assign well from one existing entity to a new entity
 - E - Other (explain in comments section)

TJ Gammon
 Signature
 Manager of Operations 12-1-89
 Title Date
 Phone No. (303) 595-3957

NOTE: Use COMMENT section to explain why each Action Code was selected.
 (3/89)

Confidential

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

RECEIVED
DEC 15 1989

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
Diversified Operating Corporation

3. ADDRESS OF OPERATOR
1600 Stout St., Ste. 1900 Denver, CO 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface 690' FSL & 584' FWL
At proposed prod. zone Same

5. LEASE DESIGNATION & SERIAL NO.
U-57807

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Federal Rockwash

9. WELL NO.
13-35

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec 35 T25S R6E

14. API NO.
43-015-30233

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5791' GR

12. COUNTY
Emery

13. STATE
Utah

CONFIDENTIAL

DIVISION OF
OIL, GAS & MINING

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON

CHANGE PLANS

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other) Change of Plan from APD

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

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

APPROX. DATE WORK WILL START _____

DATE OF COMPLETION _____

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.

Attached are copies of sundry notices sent to the BLM regarding the above referenced well. Due to a change in drilling contractors, changes had to be made in location dimensions and in the hole and casing design.

OIL AND GAS	
DRN	RJF
JRB	GLH
DTS	SLS
1-LCR	
2-TAS	
MICROFILM	
FILE	

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

SIGNED Terrell J. Cannon

TITLE Manager of Operations

DATE December 13, 1989

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:

Special approval of this action is required before commencing operations. (3/89)

See Instructions On Reverse Side

ACCEPTED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING

DATE: 12-20-89
BY: John R. Bya

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPlicate
(Other instructions on
reverse side)

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

RECEIVED

DEC 15 1989

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		DIVISION OF OIL, GAS & MINING		7. UNIT AGREEMENT NAME
2. NAME OF OPERATOR Diversified Operating Corporation				8. FARM OR LEASE NAME Federal Rockwash
3. ADDRESS OF OPERATOR 1600 Stout Street, Suite 1900 Denver, CO 80202				9. WELL NO. 13-35
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 690' FSL & 584' FWL				10. FIELD AND POOL, OR WILDCAT Wildcat
14. PERMIT NO.		15. ELEVATIONS (Show whether OF, RT, OR, etc.) 5791'		11. SEC., T., E., N., OR BLK. AND SUBV. OR AREA SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec 35 T25S R6E
				12. COUNTY OR PARISH Emery
				13. STATE Utah

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF <input type="checkbox"/>	FULL 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 checked="" type="checkbox"/>	(Other) <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 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.)

Change in hole and casing design:

Due to the last minute change in drilling contractors, from Blu-H #3 (3-1/2" drillpipe) to Veco #4 (4-1/2" drillpipe) the casing design must be changed. Sixty feet of 16" O.D. conductor will be set, 175' of 10-3/4" O.D. 40.50#/ft. H-40 surface casing will be set and cemented to surface. The surface casing size will allow an 8-5/8" 24# intermediate string to be set if required and a 5-1/2" production string to be set. Attached are the pages of the original APD that required changing numbers due to the casing size changes mentioned above.

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

SIGNED Terry J. Cannon

TITLE Manager of Operations

DATE November 28, 1989

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____

DATE _____

*See Instructions on Reverse Side

SUBMIT IN TRIPLE
(Other Instructions on
reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
DEC 15 1989
DIVISION OF
OIL, GAS & MINING

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

2. NAME OF OPERATOR
Diversified Operating Corporation

3. ADDRESS OF OPERATOR
1600 Stout Street, Suite 1900 Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface: 584' FWL & 660' FSL
At proposed prod. zone: Same * *Per Mollie Doster - Diversified Operating Corporation*

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE
41.5 miles south of Emery, Utah

16. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit lde, if any)
584'

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
3600'

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
5791' GL & 5801' KB

5. LEASE DESIGNATION AND SERIAL NO.
U-57807

6. INDIAN, ALLOTTEE OR TRIBE NAME

7. LEASE AGREEMENT NAME

8. FARM OR LEASE NAME
Federal Rockwash

9. WELL NO.
13-35

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T. R., M., OR DIR. AND SURVEY OR AREA
Sec 35 T25S R6E

12. COUNTY OR PARISH
Emery

13. STATE
Utah

17. NO. OF ACRES ASSIGNED TO THIS WELL
40

20. ROTARY OR CABLE TOOLS
Rotary

22. APPROX. DATE WORK WILL START
Early September

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8" 10# 3/4"	36 40.50	150' 175'	100 sacks Class "G" w/ additives
8-3/4"	5-1/2"	15.5	3600'	200 sacks 50/50 poz w/ additives

1. Drill 12-1/4" hole and set 9-5/8" surface casing to 150'.
2. Log B.O.P. checks in daily drilling report and drill 8-3/4" hole to 3600'.

EXHIBITS ATTACHED

- "A" - Location and Elevation Plat
- "B" - Conditions of Approval
- "C" - Blowout Preventer
- "D" - Thirteen Point Surface Use Plan
- "E" - Access Roads
- "F" - One Mile Radius
- "G" - Cross Sections
- "G," - Rig Layout Sheet
- "H" - Proposed Production Facilities

PLEASE KEEP INFORMATION CONFIDENTIAL

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.

SIGNED Terry O. Cammott TITLE Manager of Operations DATE August 22, 1989

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY [Signature] TITLE Acting District Manager DATE 10/18/89

FLARING OR VENTING OF GAS IS SUBJECT TO NTL 4-A
Dated 1/1/80

CONDITIONS OF APPROVAL ATTACHED
SUBJECT TO RIGHT OF WAY

*See Instructions On Reverse Side

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

Expected Water Zones: None

Expected Mineral Zones: None

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:

A BOP schematic diagram is shown on Exhibit "C".

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.

Pressure control equipment: 11" BOP Series 3000 psig wp, 7.0 gallons to open and close blind rams, 7.0 gallons to open and close pipe rams.

- a. Volume of fluid required to close all BOP functions:
14 X 2 = 28 gal required.
- b. Nominal accumulator capacity: 80 gallon accumulator will be used.
- c. The location of the accumulator: Base of dog house.
- d. The location of the choke manifold: Edge of reserve pit, roughly 50' from substructure.
- e. Number and location of BOP control systems (including handwheels and all remote units): No handwheels, controls located on accumulator.
- f. Drill pipe, blowout preventer, and surface casing will be pressure tested to 1000 psig for ten minutes with rig pumps prior to drilling out surface casing.

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:

a. Drilling equipment: Full opening valve

b. Casing program:

Hole Size	Interval	Casing	Wt & Grade
12-1/4"	0' - 150' 175'	9-5/8" 10-3/4"	36# J-55 LT&C 40.50# H-40
8-3/4"	175' 150' - 3600'	5-1/2"	15.5# J-55 SI&C or LT&C
	0' - 3600'	2-7/8"	6.5# EUE 8rd J-55

- c. Cement program: 10-3/4" 300%
Surface: 9-5/8" - 100 sks Class "G" (150% excess) with 3% CaCl₂, 3% CFR-3, 1/4 sk flocele. Verify cement is circulated to surface, and does not drop from ground level.
- Production: 5-1/2" - Preflush w/ 25 bbls 2% KCl water ahead. Cement w/ 200 sks 50/50 pozmix containing 2% gel, 10% NaCl, .75% CFR-3, and 10#/sk gilsonite. Anticipated cement tops on production string of 2450'.

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:

Bloole line will be misted to reduce fugitive dust when air drilling. No mud use is designed. Drilling will be done with air or air mist. Fresh water mud system will be used. MW \pm 9.5 ppg; vis = 35 - 40 cp; PV = 11 - 16; YP = 12 - 18; pH = 9.5 - 9.8, WL \pm 15 ml/30 minutes.

No chromate additives will be used in the mud system on Federal Indian lands.

6. Coring, Logging and Testing Program:

No coring is anticipated.

A DST may be run if mud drilling is required, no DST w/ air.

Logging: Surface - TD, SP, DLL

Surface - TD, Formation Density, Caliper, GR

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:

From regional control in the area, the Kaibab is anticipated to be encountered @ +2485 subsea or TVD of 3315' with an average bhp of \pm 1400 psig. Assuming a typical mud weight of 9.5 ppg, the mud column would exert: rho (denisty of fluid) X .052 X feet = (9.5 X .052 X 3315 = 1638) or 238 psig overbalanced. Pressure testing of 1000 psig would glve a safety factor in excess of 11.9 or 1238 psig, far in excess of necessary safety measures.

Diversified Operating Corporation
Well No. Federal Rockwash 13-35
SWSW Sec. 35, T. 25 S., R. 6 E.
Emery County, Utah
Lease U-57807

CONDITIONS OF APPROVAL

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

Be advised that Diversified Operating Corporation is considered to be the operator of the above well and is responsible under the terms and conditions of the lease for the operations conducted on the leased lands.

Bond coverage for this well is provided by UT0732. (Principal - Diversified Operating Corporation) as provided for in 43 CFR 3104.1.

This office will hold the aforementioned operator and bond liable until the provisions of 43 CFR 3106.7-2 continuing responsibility are met.

A. DRILLING PROGRAM

All lease operations will be conducted in full compliance with applicable regulations (43 CFR 3100), Onshore Oil and Gas Order No. 1, Onshore Oil and Gas Order No. 2 and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions and the approved plan will be made available to the field representative to insure compliance.

1. If unconsolidated rock is encountered, conductor shall be set ten (10) feet unto underlying bedrock with cement circulated to surface.

~~2. Production casing shall be set with cement circulated to surface.~~

3. Required verbal notifications are summarized in Table 1, attached. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the District Office within twenty-four (24) hours after spudding. If the spudding occurs on a weekend or holiday, the written report will be submitted on the following regular work day.

4. Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6.

The following minimum information will be permanently placed on the marker with a plate, cap, or beaded-on with a welding torch:

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

RECEIVED
JAN 11 1998

COMPANY Diversified Operating Co.	WELL D.O.C. Federal Rockwash 13-35
CUSTOMER Same	FIELD Wild Cat
COUNTY Emery	STATE Utah
DIVISION OF <input type="checkbox"/> THIS TEST ONLY <input checked="" type="checkbox"/> ALL TESTS ON THIS WELL	
FJ/S HAS BEEN REQUESTED TO FURNISH THE FOLLOWING COMPANIES WITH TECHNICAL REPORTS AS SHOWN AT LEFT	

DIVISION OF OIL, GAS & MINING

CONFIDENTIAL

Diversified Operating Co.
1600 Stout St., #1900
Denver, CO 80202
Attn: Terry J. Cammon

3

Yates Petroleum Corp.
105 S. Fourth St.
Artesia, NM 88210
Attn: Steve Speer

2

San Rafael Resource Area
P. O. Box A.B.
Price, UT 84501
Attn: Neil Simmons

1

Goolsby Brothers
1645 Court Place, #303
Denver, CO 80202
Attn: Matt Goolsby

1

Bureau of Land Management
82 East Dogwood, Box 970
Moab, UT 84532

2

M. J. Harvey
1625 Broadway, Suite 580
Denver, CO 80202

1

Division of Oil & Gas
355 West North Temple
3 Triad Center
Salt Lake City, UT 84180

1

M. J. Harvey
P. O. Box 12705
Dallas, TX 75225

1

COMPANY Diversified Operating Co.	WELL D.O.C. Federal Rockwash 13-35
CUSTOMER Same	FIELD Wild Cat
COUNTY Emery	STATE Utah
<input type="checkbox"/> THIS TEST ONLY <input checked="" type="checkbox"/> ALL TESTS ON THIS WELL	
FJ/S HAS BEEN REQUESTED TO FURNISH THE FOLLOWING COMPANIES WITH TECHNICAL REPORTS AS SHOWN AT LE	

John Penn Lee
5151 North Palm, Ste. 170
Eresno, CA 93704

1

Donald Santarelli
1155 Connecticut Ave., NW
Suite 900
Washington, DC 20036

1

Palace Exploration 502 Park Ave., 28th Floor
New York, NY 10022
Attn: Richard Siegal

1

Joseph Brown C/o Valley Bank Plaza
300 S. 4th Street, Ste. 700
Las Vegas, NV 89101

1

Ed Sneed c/o Provident Bank
655 Metro Place South
Dublin, OH 43017

1

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JAN 11 1990

STARTM

Schlumberger

REPORT NO. 113886
PAGE NO. 1
TEST DATE: 15-DEC-1989

A Schlumberger Transient Analysis Report

Q-avg of Schlumberger Drillstem Test

API 43-05-30033

Company: DIVERSIFIED OPERATING COMPANY Well: D.O.C. FEDERAL ROCKWASH 13-35

TEST IDENTIFICATION
Test Type MFE OH DST
Test No. 1
Formation KAIBAB
Test Interval (ft) ... 3206 - 3257
Reference Depth KELLY BUSHING

WELL LOCATION
Field WILD CAT
County EMERY
State UTAH
Sec/Twn/Rng S35T25SR6E
Elevation (ft) 5801

HOLE CONDITIONS
Total Depth (MD/TUD)(ft) . 3257
Hole Size (in) 8 3/4
Casing/Liner I.D. (in) ...
Perf'd Inter./Nt Pay(ft). -- / 51
Shot Density/Diameter(in).

MUD PROPERTIES
Mud Type GEL CHEM
Mud Weight (lb/gal) 8.8
Mud Resistivity (ohm.m) .. 2.6 @ 60 DEG. F.
Filtrate Resistiv.(ohm.m). 2.0 @ 60 DEG. F.
Filtrate Chlorides (ppm) . 2500

INITIAL TEST CONDITIONS
Initial Hydrostatic (psi). 1524
Gas Cushion Type NONE
Surface Pressure (psi) ... --
Liquid Cushion Type NONE
Cushion Length (ft) --

TEST STRING CONFIGURATION
Pipe Length (ft)/I.D.(in). 2796 / 3.8
Collar Length ft/I.D.(in). 365 / 2.3
Packer Depths (ft) 3206
Bottomhole Choke Size(in). 1.0
Gauge Depth (ft)/Type 3211 / MECHANICAL

NET PIPE RECOVERY

Volume	Fluid Type	Properties
300 FT.	SOC MUD	RW=2.6@60D/2500 PPM
1093 FT.	WATER	RW=1.5@60D/5000 PPM

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Properties
0.15 SCF	GAS	
TRACE	OIL	
2340 CC	WATER	RW=1.5@60DEG.F. 5000 PPM CL.
Press. 380	GOR:	GLR:

VALIDATION RESULTS
Model of Behavior
Fluid Type Used
Reservoir Pressure (psi) .
Transmissivity (md.ft/cp)
Permeability (md)
Skin Factor/Damage Ratio .
Storativity Ratio
Interporosity Flow Coeff..
Distance to Anomaly (ft).
Investigation Radius (ft).
Potentiometric Surf. (ft).

ROCK/FLUID/WELLBORE PROPERTIES
Oil Density (deg. API) ...
Basic Solids (%)
Gas Gravity
Water Cut (%) 100
Viscosity (cp)
Tot. Compress. (1/psi) ...
Porosity (%) 2
Reservoir Temperature (F). 102
Form. Vol. Factor (bbl/STB).

PRODUCTION RATE DURING TEST: 288 BWPD Q-Avg.

COMMENTS:

SEQUENCE OF EVENTS

Schlumberger

EVENT NO.	DATE	TIME (HR:MIN)	DESCRIPTION	ELAPSED TIME (MIN)	BHP (PSIA)	WHP (OZ.)
1	15-DEC	0656	SET PACKERS	-2.24	1524	
2		0700	OPENED TOOL-1/8" BUBBLHOSE	0.00	129	BTM. BUCKT
		0705				12.5 OZ.
		0710				14 OZ.
3		0715	CLOSED FOR INITIAL SHUT-IN	15.08	295	13.5 OZ.
4		0745	FINISHED SHUT-IN	45.43	905	
5		0748	RE-OPENED TOOL	47.50	300	2" BLOW
		0753				6 OZ.
		0758				8.5 OZ.
		0803				8.5 OZ.
		0818				8.5 OZ.
		0828				6.5 OZ.
		0838				6 OZ.
6		0848	CLOSED FOR FINAL SHUT-IN	105.88	624	6 OZ.
7		1148	FINISHED SHUT-IN	288.20	909	
8		1156	PULLED PACKERS LOOSE	290.38	1526	
			NOTE: 8 FT. FILL ON BTM.			
			LOST 70 FT. MUD DURING			
			DST.			

BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 113886

COMPANY : DIVERSIFIED OPERATING CORPORATION

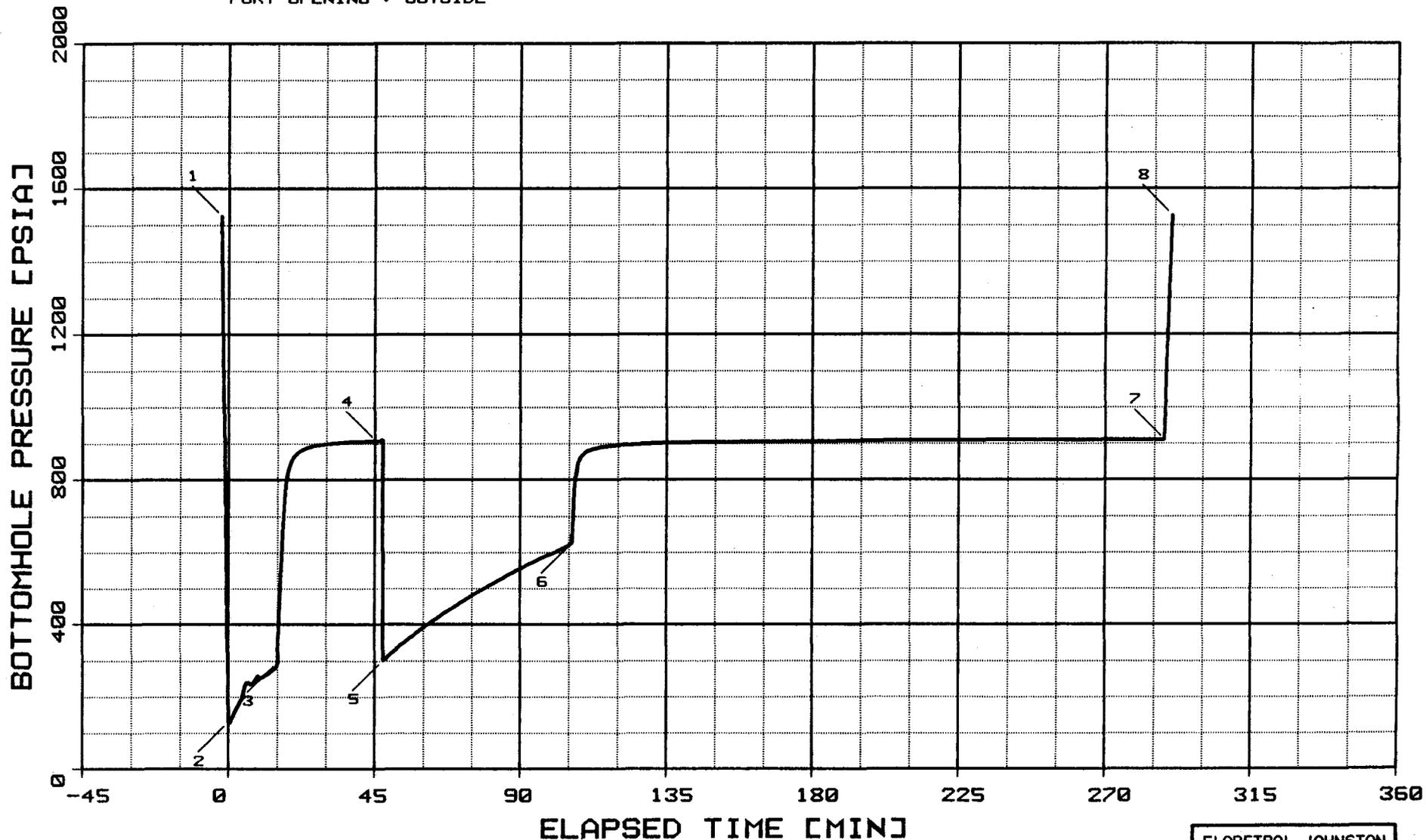
INSTRUMENT NO. 1867

WELL : FEDERAL ROCKWASH # 13-35

DEPTH : 3211 FT

CAPACITY : 2800 PSI

PORT OPENING : OUTSIDE



FLOPETROL JOHNSTON

Schlumberger

 * WELL TEST DATA PRINTOUT *

FIELD REPORT # : 113886

COMPANY : DIVERSIFIED OPERATING CORPORATION
 WELL : FEDERAL ROCKWASH # 13-35

INSTRUMENT # : 1867
 CAPACITY [PSI] : 2800.
 DEPTH [FT] : 3211.0
 PORT OPENING : OUTSIDE
 TEMPERATURE [DEG F] : 102.0

LABEL POINT INFORMATION

#	TIME OF DAY HH:MM:SS	DATE DD-MM	EXPLANATION	ELAPSED TIME,MIN	BOT HOLE PRESSURE PSIA
***	*****	*****	*****	*****	*****
1	6:57:46	15-DC	HYDROSTATIC MUD	-2.24	1524
2	7: 0: 0	15-DC	START FLOW	0.00	129
3	7:15: 5	15-DC	END FLOW & START SHUT-IN	15.08	295
4	7:45:26	15-DC	END SHUT-IN	45.43	905
5	7:47:30	15-DC	START FLOW	47.50	300
6	8:45:53	15-DC	END FLOW & START SHUT-IN	105.88	624
7	11:48:12	15-DC	END SHUT-IN	288.20	909
8	11:50:23	15-DC	HYDROSTATIC MUD	290.38	1526

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME,MIN	END ELAPSED TIME,MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
*****	*****	*****	*****	*****	*****
1	0.00	15.08	15.08	129	295
2	47.50	105.88	58.38	300	624

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	15.08	45.43	30.35	295	905	295	15.08
2	105.88	288.20	182.32	624	909	624	73.46

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
7: 0: 0	15-DC	0.00	0.00	129
7: 5: 0	15-DC	5.00	5.00	226
7:10: 0	15-DC	10.00	10.00	252
7:15: 0	15-DC	15.00	15.00	293
7:15: 5	15-DC	15.08	15.08	295

TEST PHASE : SHUTIN PERIOD # 1
 FINAL FLOW PRESSURE [PSIA] = 295
 PRODUCING TIME [MIN] = 15.08

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	*****	*****	*****	*****	*****
7:15: 5	15-DC	15.08	0.00	295	0	
7:16: 5	15-DC	16.08	1.00	534	240	1.206
7:17: 5	15-DC	17.08	2.00	719	424	0.931
7:18: 5	15-DC	18.08	3.00	812	517	0.780
7:19: 5	15-DC	19.08	4.00	844	549	0.679
7:20: 5	15-DC	20.08	5.00	862	567	0.604
7:21: 5	15-DC	21.08	6.00	872	577	0.546
7:22: 5	15-DC	22.08	7.00	879	584	0.499
7:23: 5	15-DC	23.08	8.00	883	588	0.460
7:24: 5	15-DC	24.08	9.00	886	591	0.427
7:25: 5	15-DC	25.08	10.00	889	594	0.399
7:27: 5	15-DC	27.08	12.00	894	599	0.353
7:29: 5	15-DC	29.08	14.00	896	601	0.317
7:31: 5	15-DC	31.08	16.00	899	604	0.288
7:33: 5	15-DC	33.08	18.00	900	605	0.264
7:35: 5	15-DC	35.08	20.00	901	606	0.244
7:37: 5	15-DC	37.08	22.00	903	608	0.227
7:39: 5	15-DC	39.08	24.00	904	609	0.212
7:41: 5	15-DC	41.08	26.00	904	609	0.199
7:43: 5	15-DC	43.08	28.00	904	609	0.187
7:45: 5	15-DC	45.08	30.00	905	610	0.177
7:45:26	15-DC	45.43	30.35	905	610	0.175

TEST PHASE : FLOW PERIOD # 2

TIME OF DAY	DATE	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT-HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
7:47:30	15-DC	47.50	0.00	300
7:52:30	15-DC	52.50	5.00	338
7:57:30	15-DC	57.50	10.00	373
8: 2:30	15-DC	62.50	15.00	405
8: 7:30	15-DC	67.50	20.00	436
8:12:30	15-DC	72.50	25.00	465
8:17:30	15-DC	77.50	30.00	492
8:22:30	15-DC	82.50	35.00	517
8:27:30	15-DC	87.50	40.00	541
8:32:30	15-DC	92.50	45.00	565
8:37:30	15-DC	97.50	50.00	587
8:42:30	15-DC	102.50	55.00	607
8:45:53	15-DC	105.88	58.38	624

TEST PHASE : SHUTIN PERIOD # 2
 FINAL FLOW PRESSURE [PSIA] = 624
 PRODUCING TIME [MIN] = 73.46

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	*****	*****	*****	*****	*****
8:45:53	15-DC	105.88	0.00	624	0	
8:46:53	15-DC	106.88	1.00	793	169	1.872
8:47:53	15-DC	107.88	2.00	847	223	1.577
8:48:53	15-DC	108.88	3.00	864	241	1.406
8:49:53	15-DC	109.88	4.00	873	249	1.287
8:50:53	15-DC	110.88	5.00	878	254	1.196
8:51:53	15-DC	111.88	6.00	881	257	1.122
8:52:53	15-DC	112.88	7.00	884	260	1.060
8:53:53	15-DC	113.88	8.00	886	262	1.008
8:54:53	15-DC	114.88	9.00	888	265	0.962
8:55:53	15-DC	115.88	10.00	890	266	0.921
8:57:53	15-DC	117.88	12.00	892	268	0.853
8:59:53	15-DC	119.88	14.00	894	270	0.796
9: 1:53	15-DC	121.88	16.00	895	271	0.748
9: 3:53	15-DC	123.88	18.00	896	272	0.706
9: 5:53	15-DC	125.88	20.00	897	273	0.670
9: 7:53	15-DC	127.88	22.00	898	274	0.637
9: 9:53	15-DC	129.88	24.00	898	275	0.609
9:11:53	15-DC	131.88	26.00	899	275	0.583
9:13:53	15-DC	133.88	28.00	900	276	0.559
9:15:53	15-DC	135.88	30.00	900	277	0.538
9:20:53	15-DC	140.88	35.00	901	277	0.491
9:25:53	15-DC	145.88	40.00	902	278	0.453
9:30:53	15-DC	150.88	45.00	902	278	0.420
9:35:53	15-DC	155.88	50.00	902	279	0.393

TEST PHASE : SHUTIN PERIOD # 2
 FINAL FLOW PRESSURE [PSIA] = 624
 PRODUCING TIME [MIN] = 73.46

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
*****	*****	*****	*****	*****	*****	*****
9:40:53	15-DC	160.88	55.00	903	279	0.368
9:45:53	15-DC	165.88	60.00	904	280	0.347
9:50:53	15-DC	170.88	65.00	904	280	0.328
9:55:53	15-DC	175.88	70.00	904	281	0.312
10: 0:53	15-DC	180.88	75.00	905	281	0.297
10: 5:53	15-DC	185.88	80.00	905	282	0.283
10:10:53	15-DC	190.88	85.00	906	282	0.271
10:15:53	15-DC	195.88	90.00	906	282	0.259
10:20:53	15-DC	200.88	95.00	906	283	0.249
10:25:53	15-DC	205.88	100.00	907	283	0.239
10:30:53	15-DC	210.88	105.00	907	283	0.230
10:35:53	15-DC	215.88	110.00	907	284	0.222
10:40:53	15-DC	220.88	115.00	907	284	0.215
10:45:53	15-DC	225.88	120.00	908	284	0.207
10:50:53	15-DC	230.88	125.00	908	284	0.201
10:55:53	15-DC	235.88	130.00	908	285	0.195
11: 0:53	15-DC	240.88	135.00	908	285	0.189
11: 5:53	15-DC	245.88	140.00	909	285	0.183
11:10:53	15-DC	250.88	145.00	909	285	0.178
11:15:53	15-DC	255.88	150.00	909	285	0.173
11:20:53	15-DC	260.88	155.00	909	285	0.168
11:25:53	15-DC	265.88	160.00	909	285	0.164
11:30:53	15-DC	270.88	165.00	909	285	0.160
11:35:53	15-DC	275.88	170.00	909	285	0.156
11:40:53	15-DC	280.88	175.00	909	285	0.152
11:45:53	15-DC	285.88	180.00	909	285	0.149
11:48:12	15-DC	288.20	182.32	909	285	0.147

ΔT (MIN)

0.048 0.085 0.15 0.27 0.49 0.90 1.7 3.3 7.0 19 00

HORNER PLOT

FIELD REPORT NO. 113886

INSTRUMENT NO. 1867

COMPANY : DIVERSIFIED OPERATING CORPORATION

WELL : FEDERAL ROCKWASH # 13-35

SHUTIN #1 : FINAL FLOW PRESSURE: 294.96 PSIA

PLOT ELAPSED TIME RANGE: 15.2 TO 45.4 MIN

PLOT ΔT TIME RANGE: 0.1 TO 30.4 MIN

PRODUCING TIME (T_p): 15.1 MIN

SHUTIN PRESSURE [PSIA]

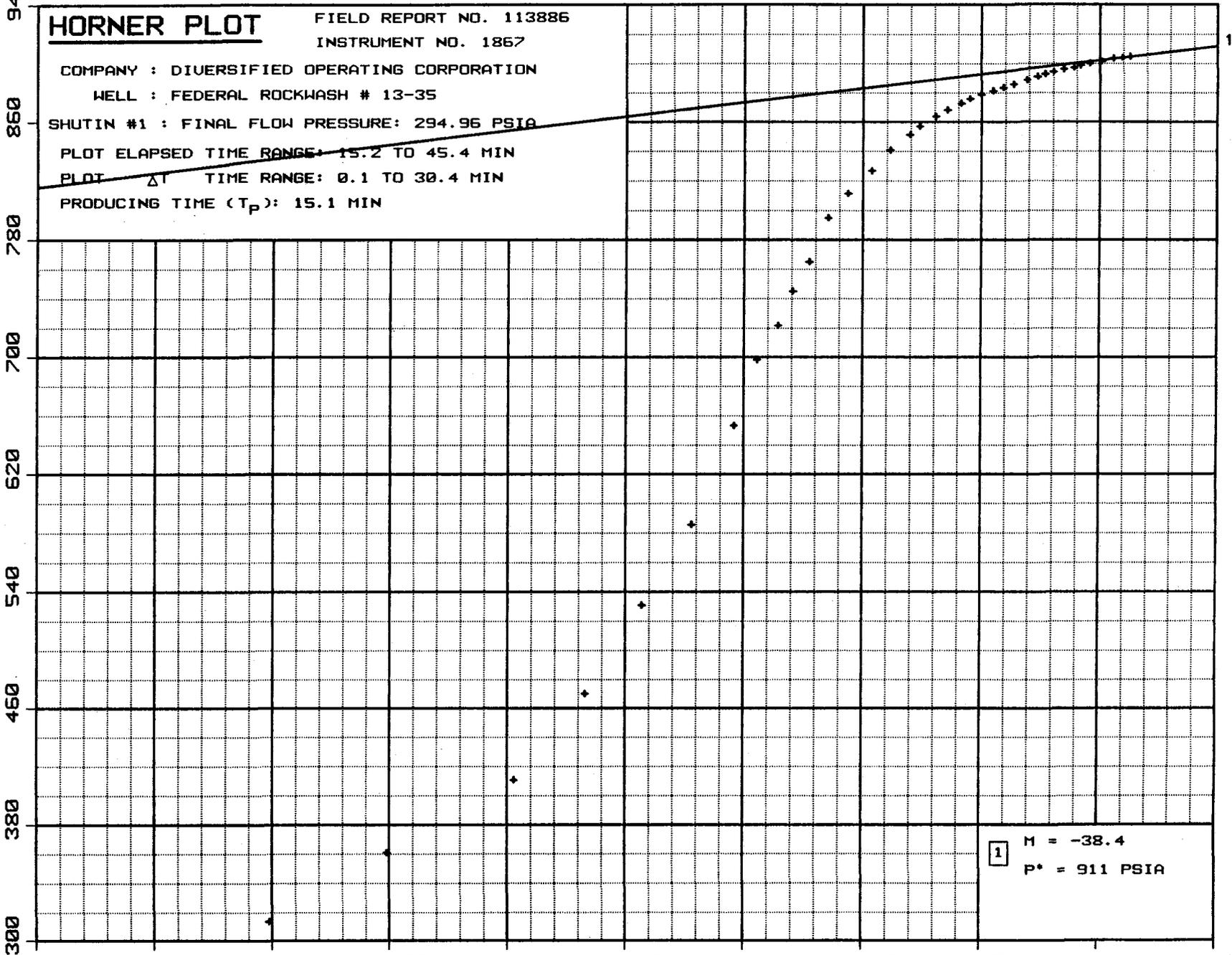
940
860
780
700
620
540
460
380
300

2.50 2.25 2.00 1.75 1.50 1.25 1.00 0.75 0.50 0.25 0.00

$$\text{LOG} \left[\frac{T_p + \Delta T}{\Delta T} \right]$$

1 M = -38.4
P* = 911 PSIA

FLOPETROL JOHNSTON
Schlumberger



LOG LOG PLOT

COMPANY : DIVERSIFIED OPERATING CORPORATION

WELL : FEDERAL ROCKWASH # 13-35

FIELD REPORT NO. 113886

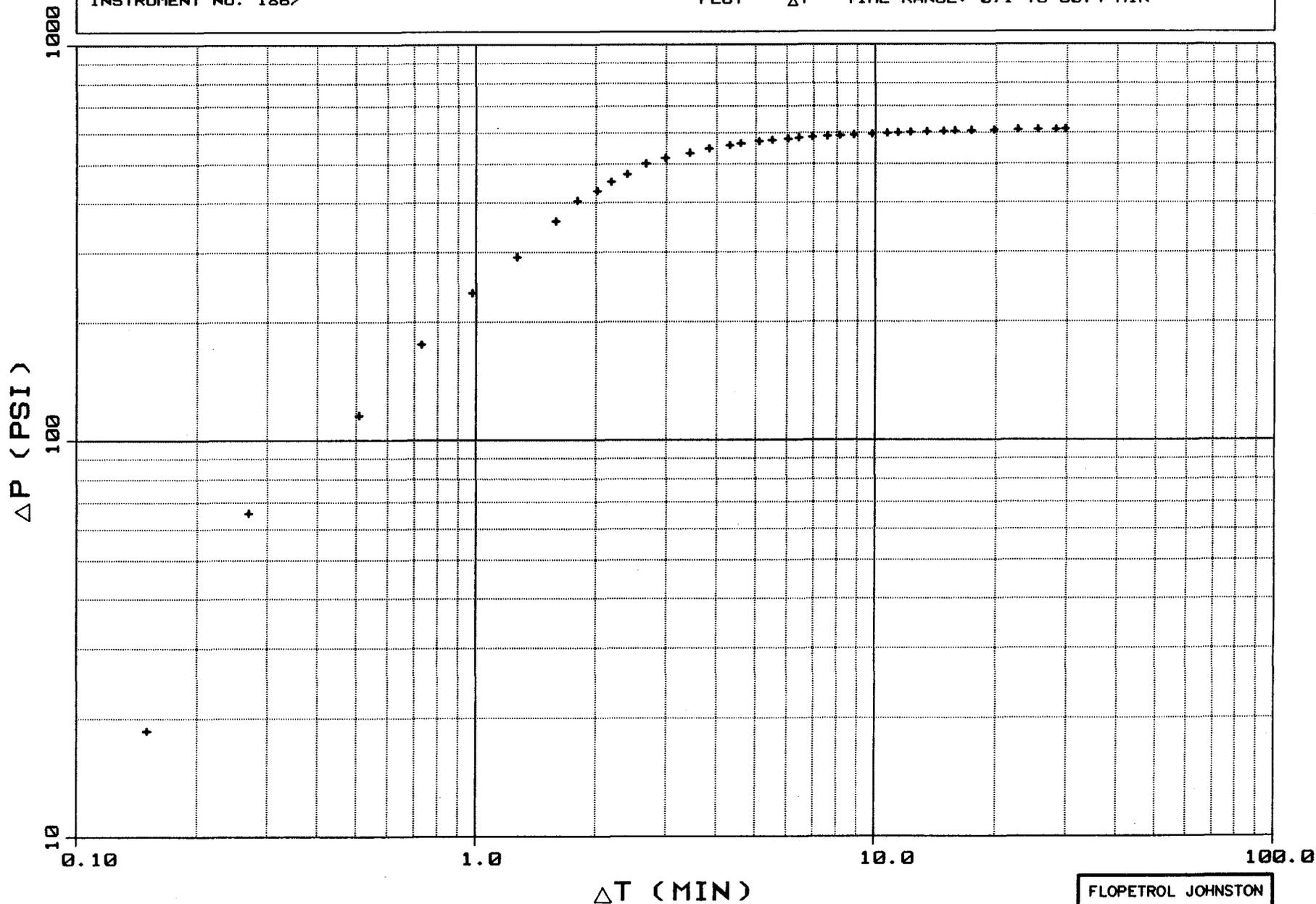
INSTRUMENT NO. 1867

SHUTIN #1 :

FINAL FLOW PRESSURE (PWF): 294.96 PSIA

PLOT ELAPSED TIME RANGE: 15.2 TO 45.4 MIN

PLOT ΔT TIME RANGE: 0.1 TO 30.4 MIN



FLOPETROL JOHNSTON
Schlumberger

ΔT (MIN)

0.074 0.15 0.29 0.59 1.2 2.4 4.9 10.58 24 73 00

HORNER PLOT

FIELD REPORT NO. 113886

INSTRUMENT NO. 1867

COMPANY : DIVERSIFIED OPERATING CORPORATION

WELL : FEDERAL ROCKWASH # 13-35

SHUTIN #2 : FINAL FLOW PRESSURE: 623.63 PSIA

PLOT ELAPSED TIME RANGE: 106.0 TO 288.2 MIN

PLOT ΔT TIME RANGE: 0.2 TO 182.3 MIN

PRODUCING TIME (T_p): 73.5 MIN

SHUTIN PRESSURE [PSIA]

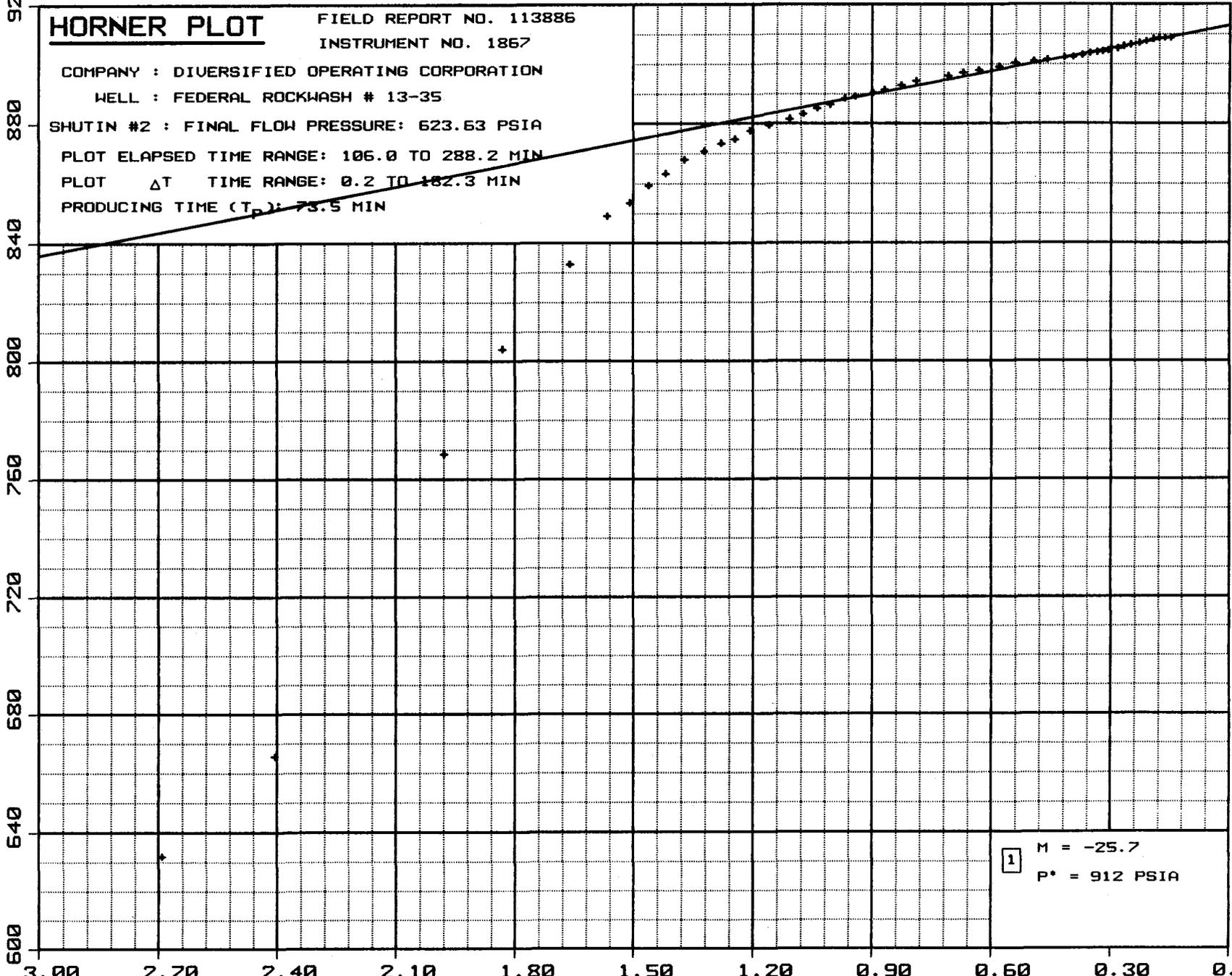
920
880
840
800
760
720
680
640
600

3.00 2.70 2.40 2.10 1.80 1.50 1.20 0.90 0.60 0.30 0.00

$$\text{LOG} \left[\frac{T_{P+\Delta T}}{\Delta T} \right]$$

1
M = -25.7
P* = 912 PSIA

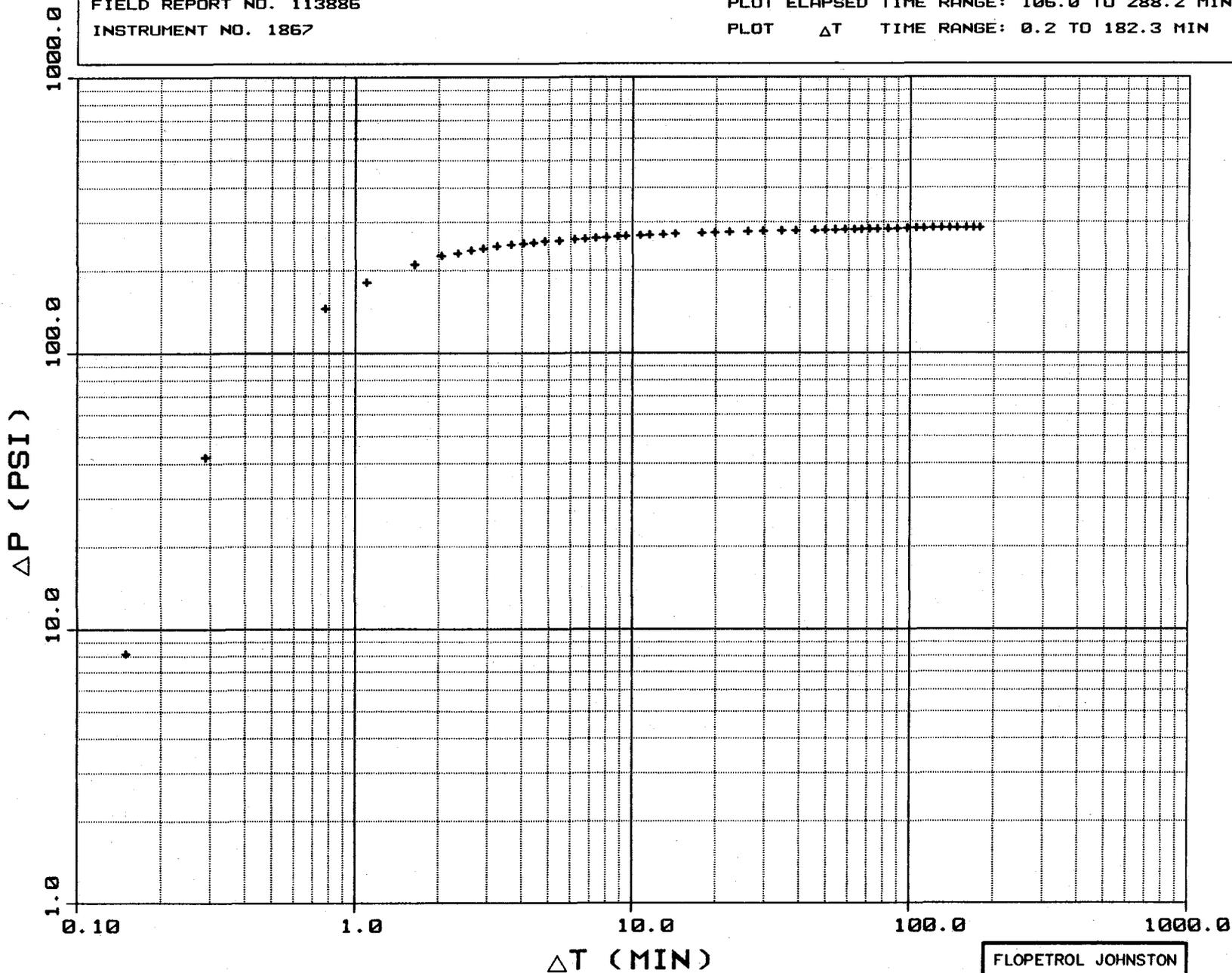
FLOPETROL JOHNSTON
Schlumberger



LOG LOG PLOT

COMPANY : DIVERSIFIED OPERATING CORPORATION
WELL : FEDERAL ROCKWASH # 13-35
FIELD REPORT NO. 113886
INSTRUMENT NO. 1867

SHUTIN #2 :
FINAL FLOW PRESSURE (PWF): 623.63 PSIA
PLOT ELAPSED TIME RANGE: 106.0 TO 288.2 MIN
PLOT ΔT TIME RANGE: 0.2 TO 182.3 MIN



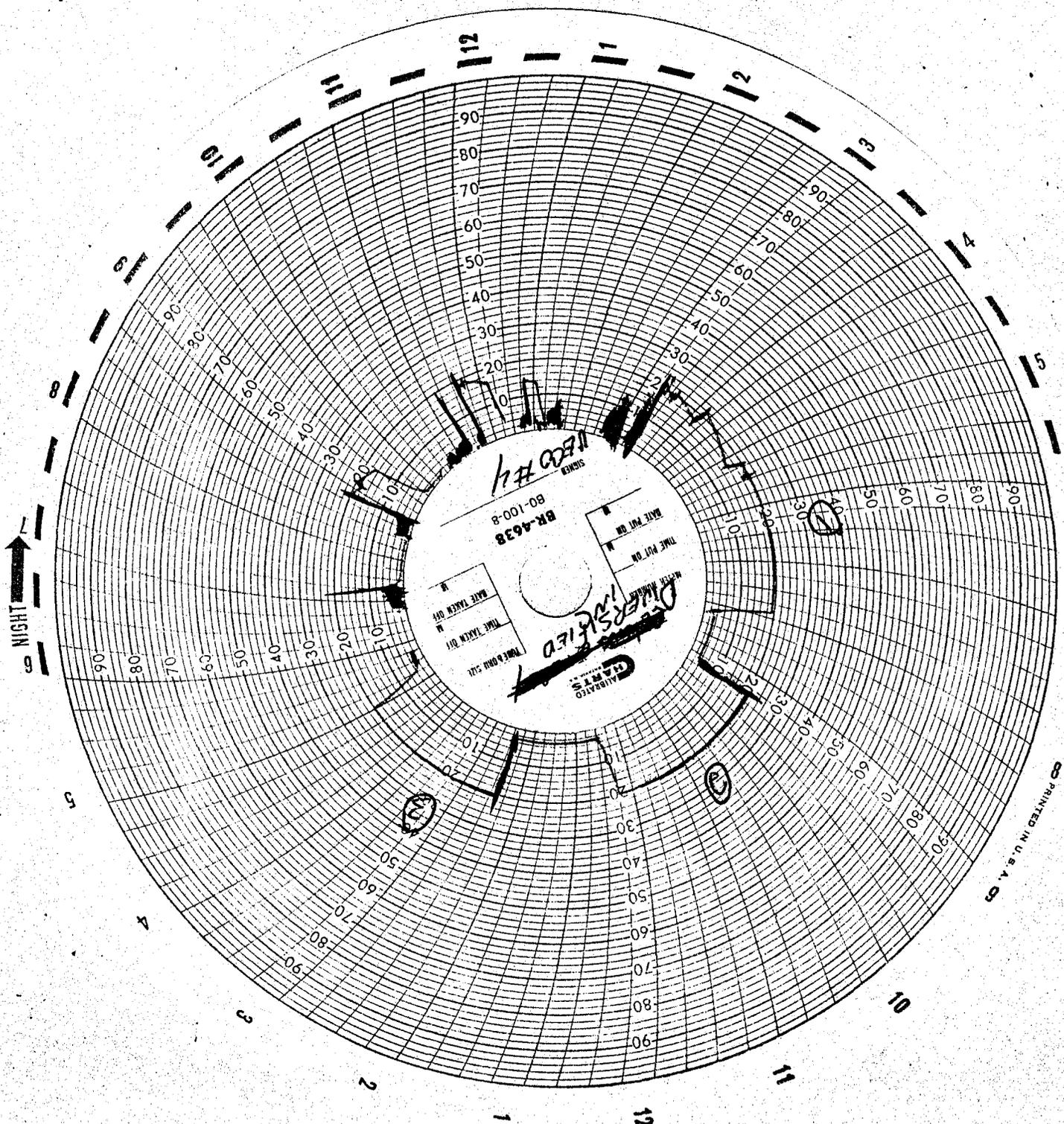
FLOPETROL JOHNSTON
Schlumberger

Diversified Operating Inc.
Federal Rockwash 13-35
Section 35
Township 25S
Emery County, Utah
Veco Drilling Rig #4
11/05/89
Tested by Allen Smith

QUICK TEST INC.
OFFICE (801) 789-8159

Diversified Operating Inc.
Federal Rockwash 13-35
11/05/89

TEST #	ITEM TESTED	PRESSURE	MIN. HELD	RESULTS
1	Pipe rams, 1st choke, 1st kill	2000	10	No visible leaks
2	Blind rams, 1st three valves on choke manifold	2000	10	No visible leaks
3	Blind rams, both manual choke valves	2000	10	No visible leaks



PRINTED IN U.S.A.

DOC

Diversified Operating Corporation

January 11, 1990

RECEIVED
JAN 16 1990

DIVISION OF
OIL, GAS & MINING

Division of Oil and Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84701

RE: Federal Rockwash #13-35
SW/SW Sec 35, T25S R6E
Emery County, Utah

Dear Sirs:

Attached please find a copy of the completion report on the above referenced well, along with a copy of the Drill Stem Test.

Sincerely,

DIVERSIFIED OPERATING CORPORATION

Mollie Bee Dozier

Mollie Bee Dozier
Secretary to Terry J. Cammon
Manager of Operations

OIL AND GAS	
DRN	RJF
JRB	GLH
DTS	SLS
1-TAS	
MICROFILM	
2.	FILE

:mbd
attachments

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE

Other Instructions on reverse side

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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

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

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

2. NAME OF OPERATOR
Diversified Operating Corporation

3. ADDRESS OF OPERATOR
1600 Stout St., Suite 1900 Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface 690' FSL & 584' FWL

At top prod. interval reported below

At total depth Same

RECEIVED
JAN 16 1990

CONFIDENTIAL

5. LEASE DESIGNATION AND SERIAL NO.

U-57807

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal Rockwash

9. WELL NO.

13-35

10. FIELD AND POOL, OR WILDCAT

Wildcat

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

SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec 35 T25S R6E

14. PERMIT NO. 43 015 30233 DATE ISSUED 10-11-89

12. COUNTY OR PARISH Emery

13. STATE Utah

15. DATE SPUDDED 12-1-89 16. DATE T.D. REACHED 12-16-89 17. DATE COMPL. (Ready to prod.) N/A PAd 12/17/89 see inspection report 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 5791' GR 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 3398' 21. PLUG, BACK T.D., MD & TVD N/A 22. IF MULTIPLE COMPL. HOW MANY* 1/3/0 23. INTERVALS DRILLED BY all 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* N/A 25. WAS DIRECTIONAL SURVEY MADE no

26. TYPE ELECTRIC AND OTHER LOGS RUN
Dual Induction/SFL, CNL, LDT

27. WAS WELL CORED
no

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

CASINO SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
10-3/4"	40.5#	183' KB	12-1/4"	100 sacks class "G" 3% CaCl 1/4#/sk Flocele, 3/4% of CFR-3	

29. LINER RECORD N/A

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)

N/A

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. N/A

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.* PRODUCTION

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

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

TEST WITNESSED BY

35. LIST OF ATTACHMENTS

DST report

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Terry J. Cannon

TITLE Manager of Operations

DATE 1-11-90

*(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
DST #1	3206	3257	Open 15 min, closed 30 min, Open 56 min, closed 183 min. IH: 1524, FH: 1526 IF: 129-295, ISI 905 FF: 300-624, FSI 909 recovered 300 ft. SOC MUD 1093 ft. WATER	Navajo Kayenta Wingate Chinle Shinarump Moenkopi Sinbad Black Dragon Kaibab White Rim Loggers TD	404' 1429' 1558' 1890' 2256' 2304' 2937' 3080' 3210' 3356' 3398'	+5393' +4372' +4243' +3911' +3545' +3497' +2864' +2721' +2591' +2445'



CONSULTING GEOLOGISTS TO THE ENERGY INDUSTRY
Oil & Gas-Cool

1645 Court Place, Suite 303
Denver, CO 80202
(303) 893-1718

GEOLOGICAL WELLSITE REPORT

DIVERSIFIED OPERATING CORPORATION

Federal Rockwash #13-35
SW SW Section 35, T25S, R6E
Emery County, Utah

Consulting Geologist
Mathew D. Goolsby

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Geologic Strip Log.....	Rear Pocket

SUMMARY

The Federal Rockwash #13-35 was spudded for Diversified Operating Corporation on December 1, 1989. Veco's rig #4 reached a total depth in the White Rim of 3398 feet 15 days later.

The Rockwash Federal #13-35 was designed to test the concept of a hydrodynamically displaced oil accumulation in the Kaibab, off the north side of the Last Chance Anticline. Due to local sample and log shows, the Sinbad Limestone and the White Rim Sand were designated secondary targets, the conclusion being that the same hydrodynamic conditions would influence trapping in these zones as well.

A Kaibab sample top was noted at 3210' and drilling ceased at 3257' for DST #1 (3206'-3257'). Overlying the unconformable Kaibab top was a well developed "lag sand" (3202'-3210'). Most of the samples were unconsolidated due to drilling with an air-charged mud system, but good sample shows were noted in both the sand and dolomite chips recovered. Shows consisted of mostly even dark brown to black oil staining and yellow fluorescence with instantaneous streaming yellow cuts. The samples exuded a strong petro odor and a light scum of oil was circulated to the pits. Unfortunately, DST #1 recovered 300 feet of slightly oil cut mud and 1093 feet of slightly gas cut water.

The White Rim Sand was topped at 3356'. Patchy oil staining and log calculations (see Log Analysis, this report) indicated the sand was water saturated.

A lack of porosity and only rare shows condemned the Sinbad Limestone, and no other potentially commercial zones were noted in the well. The Federal Rockwash #13-35 was plugged to abandon on December 17, 1989.

WELL DATA

OPERATOR: Diversified Operating Corp.

WELL NAME: Federal Rockwash #13-35

LOCATION: 584' FWL, 690' FSL
(SW SW) Section 35, T25S, R6E
Emery County, Utah

FIELD: Wildcat; Prospect: Last Chance

ROAD DIRECTIONS: Exit I-70 @ exit #89, South and East
on gravel road 2 mi, South 20 miles,
East 8.5 mi, then South 4 miles to
location.

ELEVATION: 5791' GL, 5801' KB

SPUD DATE: 12/01/89

DATE TD REACHED: 12/16/89

CONTRACTOR: Veco, Rig #4
TOOLPUSHER: Glenn Ross

HOLE SIZE: 12 1/4" to 199', 8 3/4" to TD

SURFACE CASING: 5 Jts 10 3/4" Set @ 183' KB

MUD VENDOR: Davis Mud of the Rockies
ENGINEER: Dave Thompson
PROGRAM: Air and Aerated mud to 3257', Polymer/
Gel to TD

AIR DRILLING: Air Drilling Specialties (Duchesne, UT)

GEOLOGICAL SUPERVISION: Goolsby Brothers & Associates, Inc.
GEOLOGIST: Mathew D. Goolsby

DRILLSTEM TESTS: Flopetrol Johnston (Vernal, UT)
TESTER: Scott Pitts
DST #1, 3206'-3257' (Kaibab)

LOGGING COMPANY: Schlumberger (Vernal)
ENGINEER: Jeff Bond
PROGRAM: DIL, LDT-CNL

TOTAL DEPTH: 3398' Driller, 3398' Logger

BOTTOM HOLE FORMATION: White Rim

SAMPLE PROGRAM: 30' intervals 1700'-2000'
10' intervals 2000'-TD

WELL STATUS: Plugged and Abandoned on 12/17/89.

DAILY CHRONOLOGY

<u>DATE</u>	<u>7 AM DEPTH</u>	<u>ROTATING HOURS, PREVIOUS DAY</u>
12/02/89	158	9
12/03/89	199	6 1/2 (wait on casing)
12/04/89	199	0 (Nipple Up)
12/05/89	199	0 (Nipple Up)
12/06/89	619	10 1/4
12/07/89	1506	20 1/4
12/08/89	1996	22 3/4
12/09/89	2424	21 1/2
12/10/89	2797	21 1/4
12/11/89	3056	22 1/2
12/12/89	3257	16
12/13/89	3257	0 (Condition Hole, Mud Up)
12/14/89	3257	0 (Condition Hold, Mud Up)
12/15/89	3257	0 (DST #1)
12/16/89	3348	16
12/17/89	3398 (TD)	7
Total Rotating Hours =		173

BIT RECORD

<u>#</u>	<u>MAKE</u>	<u>TYPE</u>	<u>SIZE</u>	<u>DEPTH OUT</u>	<u>FOOTAGE</u>	<u>HOURS RUN</u>	<u>REMARKS</u>
1	STC	SDGH	12 1/4	199	139	15 1/2	
2	STC	DGJ	8 3/4	991	792	19 1/4	
3	STC	F3	8 3/4	3398	2401	141 3/4	

DRILLING FUNCTIONS

<u>DEPTH</u>	<u>WOB</u>	<u>RPM</u>	<u>PP</u>
158	10K	100	120 (Air)
199	10K	100	120 (Air)
619	20K	60/70	140 (Air)
1500	25K	65	200 (Air/Mist)
1996	25K	65	210 (Air/Mist)
2424	25K	60	400 (Air/Mist)
2797	25K	60	---
3056	25K	60	(Aerated Mud)
3257	25K	50/60	400/600 (Aerated Mud)
3348	28/30K	60	500 (Polymer/Gel)

MUD RECORD

<u>DEPTH</u>	<u>WT</u>	<u>VIS</u>	<u>WL</u>	<u>PV</u>	<u>YP</u>	<u>GEL</u>	<u>PH</u>	<u>CHLOR</u>	<u>SOLIDS %</u>
-- Drilled with Air and Air Mist to 3000' --									
-- Begin converting to Aerated Mud --									
3060	8.4	28	--	--	--	---	9.0	4200	0.5
-- Mud Up f/ DST @ 3257' --									
3257	8.8	34	32	7	6	3/7	9.0	4000	3.1
3257	8.5	41	15.0	7	9	2/4	9.0	2500	1.5
3257	8.5	37	16.6	6	5	1/5	10.0	2000	1.5
3350	9.1	44	14.6	12	10	3/10	8.5	2000	5.6

DEVIATION SURVEYS

<u>DEPTH</u>	<u>DRIFT</u>
135'	0°
951'	1 1/2°
1362'	1 3/4°
1888'	2 1/4°
2373'	3/4°
3398'	1 1/4°

FORMATION TOPS

Measured from a KB elevation of 5801 feet.

<u>FORMATION</u>	<u>LOG TOP</u>	<u>SUBSEA</u>
Navajo	404'	+ 5393
Kayenta	1429'	+ 4372
Wingate	1558'	+ 4243
Chinle	1890'	+ 3911
Shinarump	2256'	+ 3545
Moenkopi	2304'	+ 3497
Sinbad	2937'	+ 2864
Black Dragon	3080'	+ 2721
Kaibab	3210'	+ 2591
White Rim	3356'	+ 2445
Total Depth	3398'	-----

LOG ANALYSIS

White Rim

$F = 1/\phi^2,$

$R_w = .36,$

Grain Density = 2.71 g/cc

<u>Depth</u>	<u>Rdil</u>	<u>ϕ_{n-d}</u>	<u>Sw%</u>	<u>BVW *</u>	<u>Remarks</u>
3358	80	.13	52	.067	Trace shows
3363	65	.13	56	.073	Trace shows
3365	68	.13	56	.072	Patchy shows
3373	87	.12	53	.063	Patchy shows

Kaibab

$F = 1/\phi^2,$

$R_w = .36,$

Grain Density = 2.71 g/cc

<u>Depth</u>	<u>Rdil</u>	<u>ϕ_{n-d}</u>	<u>Sw%</u>	<u>BVW *</u>	<u>Remarks **</u>
Lag Sand					
3206	60	.18	43	.077	Good shows
3208	52	.18	46	.083	Good shows
Dolomite					
3211	36	.22	49	.107	Good shows
3213	40	.22	43	.093	Good shows
3215	55	.19	42	.079	Good shows
3217	56	.15	53	.079	Good shows
3223	95	.14	44	.061	
3237	85	.17	38	.065	
3239	70	.17	42	.071	
3245	100	.15	40	.060	

* BVW = Bulk Volume Water ($\phi \times Sw$);
 < .060 indicates pay,
 .1 to .060 indicates transition zone shows,
 > .1 indicates wet zone

** DST 3206-3257, recovered 300' SOCM, 1093' SGCW

SAMPLE DESCRIPTIONS

- (1700) 99% SS CRM/ CLR, UNCONSL, VFG, TR FG, SB RD, SOME FROST, NSFOC
- (1730) 100% SS CRM/ LT ORNG, VFG, RDD TO SB RD, UNCONSL, NSFOC
- (1760) 99% SS AA, VF TO FG W/ 1% LS WH, MICXL, TITE, NSFOC
- (1790) SS CRM/ LT ORNG, VFG/ SCAT FG, RDD TO SB RD, UNCONSL, NSFOC
- (1820) SAME
- (1850) SS AA, INC FG
- (1880) SS CLR/ LT ORNG, FG, SOME VFG, M SRTD, SB RD/ RDD, SLI CONSL, EST Ø, NSFOC, V P CMTD
- CHINLE SAMPLE TOP @ 1888
- (1910) SH GY/ GY GREEN, RED ORNG, SLI SLTY, SOME DOLIC, FIRM, BLKY/ PLTY
- (1940) SH AA W/ 40% SLTST RED BRN, V SLI DOLIC
- (1970) SH MOT RED BRN TO BRN TO GY GREEN, SLI SLTY, BLKY, SLI DOLIC W/ 15% SLTST, AA
- (2000) DOLIC SH AA W/ SS CRM/ LT ORNG, VF TO FG, UNCONSL (POSS CAVING) NO SHOWS
- BEGIN 10' SAMPLES @ 2000' --
- START LAGGED SAMPLES W/ INITIAL LAG 15 MINUTES --
- (2010) 2004 SH GY GRN/ GY, SLTY & DOLIC W/ FREQ UNCONSL SS CAVINGS
- (2020) 2014 SH BRI GREEN TO GY, SLTY, W/ OCC SLTST BRN/ RED BRN
- (2030) 2023 NO CHANGE
- (2040) 2033 SH RED ORNG/ GREEN/ GY, SLI TO V SLTY, OCC SDY W/ F TO M QTZ SAND
- (2050) 2043 AA W/ FREQ SLTST BRICK RED, BRIT, SLI SDY
- (2060) 2054 SLTST BRK RED, SLI SDY W/ FREQ RED SH WASHING THRU SAMPLE

- (2070) 2062 SLTST GY BRN TO BRICK RED, SOME GRDG TO SLI SLTY SH; 25% SS WH/ CLR, VF TO FG, M TO P SRTD, FREQ WH CLY FL, SB RD TO RD, EST 10-13% Ø, 20% PALE YEL FLOR, NO VIS CUT
- (2080) 2073 SH YEL BRN, V SLTY, BLKY, SLI DOLIC, FIRM W/ 10% SS AA
- (2090) 2083 SH YEL BRN/ TAN, SLI TO V SLTY, SLI DOLIC
- (2100) 2093 SH YEL BRN/ YEL TAN, WASHES OUT OF SAMPLE, SLTY, SLI DOLIC
- (2110) 2102 SH YEL/ YEL TAN, SLI SLTY, DOLIC, FIRM
- (2120) 2112 SH BCMG RED BRN/ YEL, SOME MOT, V SLI DOLIC, SLI SLTY
- (2130) 2120 SH AA, SOME PNK
- (2140) 2128 NO CHANGE
- (2150) 2136 SHINARUMP CONGLOMERATE
SH AA W/ INC SS OFF WH, CLR, VF TO CG, RDD, FREQ FROST, CONGLOMIC, V P SRTD, MOST UNCONSL, POROSITY?, NSFOC
- (2160) 2143 SH MOT YEL TO MAR, BRICK RED, SLI DOLIC W/ 25% SS WH/ CLR, VF TO CG, MOST UNCONSL, TR CONSL W/ 14-20% Ø, NSFOC
- NOTE: GOOD SLUG OF GILSONITE TO THE PITS, NOT SEEN IN SAMPLES
- (2170) 2152 60% SH, PRED BRICK RED W/ 40% SS AA
- (2180) 2160 SH LT TO DK BRICK RED, SLI DOLIC W/ 30% SS WH/ CLR, UNCONSL, F TO CG, MOST RDD, FREQ FROST, NSFOC, CONGLOMIC
- (2190) 2171 SH VARICOL PURP GY TO RED, BLKY, WXY, OCC SLI DOLIC W/ DECR SS
- SAMPLE LAG = 20 MINUTES
- (2200) 2182 SH LT GY TO PURP GY, BRICK RED, V SLI DOLIC W/ 20% UNCONSL SS

(2210) 2192 SH LT GY TO GY GRN TO PURP, BLKY, SB WXY W/ 20% SS WH, VF TO FG, M SRTD, SB RD, DOLIC CMT W/ 14% Ø, NSFOC

(2220) 2202 SH AA & INC GRN, SLI DOLIC, SOME WXY W/ 15% SS AA, FREQ UNCONSL

(2230) 2320 SH GY TO GRN TO BRICK RED, BLKY, SLI DOLIC, V FIRM

(2240) 2329 SH AA

(2250) 2337 SH AA, SOME BRICK RED & MIC-MICA, SOME V SLTY

(2260) 2348 SH GREEN/ GY/ RED, SOME SLTY & SLI DOLIC W/ 25% SLTST BRICK RED, SLI MIC-MICA

(2270) 2360 SH & SILT AA, MINOR AMTS UNCONSL SS

(2280) 2373 SH PURP, YEL, GREEN, RED, SLI SLTY TO WXY, FIRM W/ OCC STRINGERS OF SDY SH

(2290) 2285 SH AA W/ OCC DOL CRM/ YEL/ GREEN, MICXL, HD, TITE, NSFOC

(2300) 2292 VARICOL SH AA W/ TR DOL LT ORNG/ CRM

(2310) 2302 SH VARICOL GREEN/ YEL/ PURP/ RED, DOLIC, SB WXY, TR SLTY

(2320) 2312 SH AA, SCAT SDY STRINGERS

(2330) 2322 SH VARICOL, NO CHANGE

(2340) 2331 SH VARICOL GREEN/ YEL/ RED/ PURP, OCC SLI DOLIC

(2350) 2341 SH AA, TR SDY

(2360) 2351 SH MOST GY GREEN & RED BRN, SOME PURP & YEL

(2370) 2361 NO CHANGE

(2380) 2372 SH AA W/ 5% SLTST BRICK RED, SLI SDY

(2390) 2382 SH BRICK RED, GRN, OCC PURP & YEL, SMOOTH

(2400) 2392 SH W/ 10% SLTST BRICK RED, SHLY TO SLI SDY

(2410) 2402 SH VARICOL BRICK RED, GREEN & PURP W/ MINOR AMTS SLTST

SAMPLE LAG = 27 MINUTES

(2420) 2411 SLI INC SLTST RED ORNG, SDY, SOME GRDG TO LVFG SS,
TITE, NSFOC

(2430) 2420 60% SH VARICOL RED TO GY GREEN W/ SLTST PRED RED
ORNG TO RED BRN, SLI TO V SDY

(2440) 2431 70% SH RED TO GREEN, OCC PURP & YEL W/ 30% SLTST,
AA

(2450) 2441 SH DK PURP TO RED, GY GRN, BLKY, FIRM, SB WXY W/
SCAT SS OFF WH/ LT GRN, VF TO FG, P SRTD, SILIC
CMT, SB ANG, EST 15% Ø, NSFOC

(2460) 2451 SH PURP TO BRICK RED, PLTY/ BLKY, SB WXY, FIRM

(2470) 2460 VARICOL SH, AA

(2480) 2470 SH BRICK RED/ PURP/ GREEN, OCC SLTY, FIRM

(2490) 2479 NO CHANGE

(2500) 2488 SH MAR/ PURP/ GY GREEN, SB PLTY, SLI SLTY

(2510) 2498 SH AA, OCC YEL

(2520) 2510 VARICOL SH, AA

(2530) 2520 SH INC PURP, ALSO BRICK RED & GREEN, PLTY TO BLKY,
FIRM

(2540) 2530 SH, AA

(2550) 2539 SH PURP TO DK RED BRN, GY GREEN

(2560) 2550 SH AA, SMOOTH TO SB WXY

(2570) 2560 SH PRED RED BRN & PURP, SB PLTY/ BLKY, SMOOTH, FIRM

(2580) 2571 SAME

(2590) 2580 SH AA, SOME MOT RED/ GREEN

(2600) 2592 SH PURP, BRICK RED, GREEN, SB PLTY, SMOOTH

(2610) 2602 SH PURP, BRICK RED & GREEN, BLKY, SB WXY TO SLTY

(2620) 2612 SH AA & 20% SLTST ORNG, SDY, BRIT

(2630) 2620 SH VARICOL AA, MINOR AMTS SLTST

(2640) 2629 SH LT GREEN, PURP, RED BRN, SOME WXY, FIRM

(2650) 2638 SH AA, OCC DOL ORNG, SHLY, MICXL, V FIRM, TITE

(2660) 2648 SH PURP TO GREEN, BRICK RED

(2670) 2660 NO CHANGE

(2680) 2671 SH W/ MINOR AMTS SH ORNG BRN, V DOLIC, HD, BLKY

(2690) 2683 SH VARICOL PURP, GREEN, RED BRN W/ SH MOT LT TO DK ORNG BRN, V DOLIC, V FIRM

(2700) 2693 NO CHANGE

(2710) 2702 SH LAV, PURP, GREEN & RED, SMOOTH TO WXY, FIRM

(2720) 2712 SH AA & TR DOL LT GY/ CRM, MICXL, LMY, HD, TITE

(2730) 2723 TR LMY DOL AA, OCC LT GRN & VFXL W/ VARICOL SH

(2740) 2732 SH INC GREEN & LAV, SB WXY, BLKY, FIRM

(2750) 2739 SH AA, PRED GREEN

(2760) 2749 SH W/ TR DOL OFF WH/ V LT GREEN, CRYPTOXL, V FIRM

(2770) 2762 SH GREEN TO LAV TO RED ORNG, SMOOTH/ WXY, BLKY, FIRM

(2780) 2772 SAME

(2790) 2783 SH AA W/ TR LS WH TO SMOKY GY, TRNSLUCNT, CRYPTOXL, SOME DNS, HD, TITE

(2800) 2793 SH VARICOL RED BRN/ GREEN/ LAV W/ RARE LS AA

(2810) 2802 SH GY GRN/ LAV/ RED BRN, BLKY, SMOOTH

(2820) 2812 SH AA, INC DK PURP

SAMPLE LAG = 32 MINUTES

(2830) 2820 SH AA, SOME V SLTY & GRDG TO SLTST

(2840) 2829 SH AA W/ FREQ SS WH/ CLR, VF TO MG, M/ P SRTD, SB ANG, MOST UNCONSL, SOME P CMTD W/ 13-16% Ø, NSFOC

NOTE: THIS SAND PROBABLY REPRESENTS THE MOENKOPI GAS SAND
FURTHER UP ON THE STRUCTURE

- (2850) 2839 TR SS AA, MOST VFG & M SRTD, NSFOC W/ SH DK RED
BRN/ PURP/ GY GREEN, BLKY FIRM
- (2860) 2849 SH INC GY/ GY GREEN, BLKY/ PLTY, SMOOTH
- (2870) 2860 SH AA W/ 10% SH RED ORNGE, V DOLIC & GRDG TO DOL,
MICXL, HD, TITE
- (2880) 2871 15% DOL LT ORNGE/ RED ORNGE, MICXL, FLKY TO BLKY, V
FIRM, TITE W/ VARICOL SH, AA
- (2890) 2878 SH RED, GREEN, PURP, BLKY, SLI MOT, OCC DOLIC
- (2900) 2887 SH, AA, PRED GREEN, OCC YEL
- (2910) 2898 SH VARICOL W/ MINOR AMTS DOL RED BRN, VF TO MICXL,
HD, TITE
- (2920) 2908 SH VARICOL GREEN, PURP, RED BRN, SOME RED ORNG &
DOLIC, FIRM, BLKY
- (2930) 2920 SH AA, INC PNK TO RED BRN & DOLIC, V FIRM
- (2940) 2932 DOLIC SH AA
- SINBAD MEMBER
- (2950) 2941 AA W/ DOL PNK TO CRM, CRYPTO TO MICXL, HD, DNS,
TITE W/ SH, RED BRN & DOLIC, NO SHOWS
- (2960) 2952 TR DOL CRM TO OFF WH, PNK, MICXL, HD, TITE, SOME
LMY, NSFOC
- (2970) 2963 SH VARICOL W/ DOL WH TO LT GREEN, CRM, LMY, MICXL,
OCC VFXL, TITE, NSFOC
- SAMPLE LAG = 40 MINUTES
- (2980) 2973 10% DOL WH/ OFF WH, MLKY GY, MICXL, SOME LMY, HD,
TITE, NSFOC
- (2990) 2982 SLI INC DOL WH/ MLKY WH & GY, MICXL, SLI TO V LMY,
FIRM, HD, TITE, NSFOC
- (3000) 2993 5% LS WH TO MLKY GY, SLI MOT, MICXL, OCC CHKY, SB
PLTY, RARE PIN PT DEAD OIL SPECKS W/ MLKY YEL CUTS,
PRED NO SHOWS

(3010) 3003 20% DOL LT GY, OCC CRM, MIC-VFXL, FIRM, NO VIS Ø, TR SPTY DEAD SURFACE STN W/ GOOD STRMG CUT IN SOLVENT, NO DRY FLOR, PRED NO SHOWS

(3020) 3014 DECR DOL W/ LS WH/ V LT GY, MICXL, HD, TITE, TR DEAD PIN PT STAIN, MOST W/ NO SHOW

(3030) 3024 INC LS AA

(3040) 3034 LS WH/ CRM, MLKY, INC DOLIC, MICXL TO VFXL, NO VIS Ø, RARE SPTY DEAD O STN, NO DRY FLOR, WKLY STRMG YEL CUTS

(3050) 3043 LS AA, SOME CRYPTOXL, DNS & HD

(3060) 3054 LS WH/ MLKY GY, SOME DOLIC, CRYPTO TO MICXL, RARE DEAD OIL SPTS, NO VIS Ø, PRED NO SHOWS

(3070) 3062 INC LS CRM/ WH/ V LT GY, AA, SLI DOLIC, HD, TITE, NSFOC

(3080) 3070 BLACK DRAGON SHALE
SCAT LS & DOL W/ SH GY GREEN TO RED BRN, SOME DK BRN, OCC MIC-MICA, SLTY, BLKY, FIRM

(3090) 3079 NO SAMPLE

(3100) 3090 SH MOST RED/ RED BRN, SLTY, MICA, FIRM

(3110) 3098 SH RED BRN, MAR, SLI SLTY, TR MICA, SOME GY TO DK GY

(3120) 3110 SH AA & INC GY, ERTHY, OCC SLTY

(3130) 3129 SLTST RED BRN, FIRM W/ SH RED BRN/ GY, SB WXY TO SLTY

(3140) 3130 MOSTLY RED BRN & GY SH, OCC ANHYDRIC, BLKY, SLTY, V FIRM

(3150) 3139 SH PRED GY, SMOOTH, BLKY, FIRM

(3160) 3152 SH GY, LT TO DK RED BRN, BLKY, FIRM

(3170) 3161 SH AA W/ MINOR AMTS DOLIC, V FIRM

(3180) 3171 SH PRED RED BRN TO BRN, SOME SLTY, FIRM

(3190) 3182 SH W/ 10% LS MLKY WH/ GY, MICXL, SLI MOT, V FIRM, TITE, NSFOC

(3200) 3190 SH VARICOL W/ LS, AA

(3210) 3196 SH LT PURP TO RED BRN, GY, SLTY, BLKY, FIRM

(3220) 3204 SH PURP TO MAR, MOT WH W/ ANHY, V FIRM, BLKY

NOTE: LAG = 42 MINUTES

FIRST KAIBAB SAMPLE

(3225) 3216 TR SS CLR/ LT GY, F TO CG, P SRTD, MOST UNCONSL, EST 16-17% Ø, SLI SPTTY DK BRN/ BLK O STN, EVEN YEL FLOR W/ INSTANT STRMG CUT, ALSO TR DOL WH/ GY/ BRN, VF TO FXL, SUCROSIC, PRED EVEN DK BRN STN, EVN YEL ORNG FLOR W/ INSTANT STRMG CUT, EST 13-15% Ø

NOTE: STRONG PETRO ODOR FR/ SAMPLES. CIRCULATED SCUM OF DK BRN OIL TO THE PITS

(3230) 3222 PRED CAVINGS W/ TR DOL AA, SOME VFXL, SUCROSIC W/ EVN DK BRN STN & YEL/ ORNG FLOR, FAST STRMG CUT, 13% Ø

(3240) 3230 TR DOL V LT GY, MICXL TO VFXL, V CHTY W/ MLKY WH CHT, SCAT VUGGY & INTXL Ø, PRED EVEN BRN/ BLK STN WHEN Ø, GOOD CUTS FR/ STN

(3250) 3239 TR DOL AA, BCMG VF TO FXL, DECR CHT, PRED GROUND V FINE BY BIT, FREQ FREE DOL XTALS SUGGESTING VUGGY Ø, GOOD STAINING & CUTS WHERE Ø

CIRCULATE F/ DST @ 3257

(30") 3254 DOL AA, INC INTXL & VUGGY Ø, SLI SPTTY DK BRN STN BUT EVEN YEL FLOR & FAST STRMG YEL CUTS

NOTE: SAMPLES OF DOL ARE GROUND VERY FINE, MAKING IT DIFFICULT TO EVALUATE; STILL CIRCULATING A FAIR SCUM OF OIL TO THE PITS

(3270) 3266 DOL OFF WH, VFXL TO MICXL, SLI SUCROSIC, PRED TITE, PHOSPHATIC, TR PIN PT VUGS W/ PIN PT LIVE DK BRN STN, MOST W/ NO SHOW

(3280) 3276 DOL AA, OCC CHT W/ CLR TO MLKY WH CHT

- (3290) 3286 DOL OFF WH, VFXL, SLI SUCROSIC, SCAT PHOSPHATIC, TR INTXL Ø & VUG Ø, SCAT OIL STN, PRED NO SHOWS
- (3300) 3292 DOL AA, QTZIC W/ FREQ QTZ XTALS, SOME DIHEDRAL QTZ, RARE OIL STN
- (3310) 3305 DOL VFXL, OFF WH, TITE, CHTY W/ CLR TO MLKY WH CHT, SCAT SPTTY DK BRN/ BLK O STN W/ BRI YEL FLOR & STRMG CUTS, REMAINDER W/ NO SHOW & YEL MIN FLOR
- (3320) 3317 DOL AA, V CHTY, AS MUCH AS 50% CHT, RARE OIL SPOTS, AA
- (3330) 3326 DOL OFF WH/ CRM, VFXL, V CHTY, TR HVY BLK MIN, RARE SPTTY LIVE DK BRN OIL STN (SURFACE STAIN)
- (3340) 3337 DOL, AA
- (3350) 3348 DOL WH/ CRM, MIC/ VFX, TR SUCROSIC, TITE, V CHTY W/ MLKY WH CHT, V RARE OIL SPECKS, YEL MIN FLOR
- (3360) 3354 DOL AA W/ 10% DOL GY/ GY BRN, MICXL, V ARG, SLI BRIT, SOME GRDG TO DOLIC SH
- (3370) 3363 FIRST WHITE RIM SAMPLE
TR SS WH/ V LT GY, VFG, ANG, M SRTD, DOLIC CMT, EST 10% Ø, TR BRN OIL SPOTS - V PATCHY, TR YEL FLOR W/ STRMG CUT, MOST W/ NO SHOW
- (3380) 3373 SS AA, SLI INC Ø, EST 12%, 25% W/ PATCHY BRN OIL STN & YEL FLOR, GOOD STRMG CUT FR STN
- (3390) 3386 25% SS WH, VFG, ANG, M SRTD, DOLIC CMT, EST 13% Ø, MOST W/ NO SHOW BUT 15% W/ PATCHY SHOW, AA
- (3398) 3393 50% SS WH, VF TO FG, M SRTD, DOLIC CMT, EST 13-14% Ø, 10% W/ PATCHY DK BRN/ BLK LIVE STN, GOOD YEL FLOR & STRMG CUT FR STN, SLI ODOR IN SAMPLE
- NOTE: STAIN IS PATCHY ON CHIPS W/ CONSISTENT Ø, PROBABLY WET
- CIRCULATE F/ LOGS @ 3398
- (30") 3397 70% SS WH, VF TO MG, BCMG P SRTD, Ø VARIES 10-16%, STILL PATCHY STN ON 10% OF SAND CHIPS, SLI PETRO ODOR
- (60") 3398 SS AA, 5% W/ PATCHY OIL SHOW

APPENDIX I

Drillstem Test #1

REPORT NO.
113886

PAGE NO. 1

TEST DATE:
15-DEC-1989

STAR™

A Schlumberger Transient Analysis Report Of A Schlumberger Drillstem Test

Schlumberger

Company: **DIVERSIFIED OPERATING COMPANY**

Well: **D.O.C. FEDERAL ROCKWASH 13-35**

TEST IDENTIFICATION

Test Type MFE OH DST
Test No. 1
Formation KAIBAB
Test Interval (ft) ... 3206 - 3257
Reference Depth KELLY BUSHING

WELL LOCATION

Field WILD CAT
County EMERY
State UTAH
Sec/Twn/Rng S35T25SR6E
Elevation (ft) 5801

HOLE CONDITIONS

Total Depth (MD/TUD)(ft) . 3257
Hole Size (in) 8 3/4
Casing/Liner I.D. (in) ...
Perf'd Interv./Nt Pay(ft). -- / 51
Shot Density/Diameter(in).

MUD PROPERTIES

Mud Type GEL CHEM
Mud Weight (lb/gal) 8.8
Mud Resistivity (ohm.m) .. 2.6 @ 60 DEG. F.
Filtrate Resistiv.(ohm.m). 2.0 @ 60 DEG. F.
Filtrate Chlorides (ppm) . 2500

INITIAL TEST CONDITIONS

Initial Hydrostatic (psi). 1524
Gas Cushion Type NONE
Surface Pressure (psi) ... --
Liquid Cushion Type NONE
Cushion Length (ft) --

TEST STRING CONFIGURATION

Pipe Length (ft)/I.D.(in). 2796 / 3.8
Collar Length ft/I.D.(in). 365 / 2.3
Packer Depths (ft) 3206
Bottomhole Choke Size(in). 1.0
Gauge Depth (ft)/Type 3211 / MECHANICAL

NET PIPE RECOVERY

Volume	Fluid Type	Properties
300 FT.	SOC MUD	RW=2.6@60D/2500 PPM
1093 FT.	WATER	RW=1.5@60D/5000 PPM

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Properties
0.15 SCF	GAS	
TRACE	OIL	
2340 CC	WATER	RW=1.5@60DEG.F. 5000 PPM CL.
Press. 380	GOR:	GLR:

VALIDATION RESULTS

Model of Behavior
Fluid Type Used
Reservoir Pressure (psi) .
Transmissivity (md.ft/cp)
Permeability (md)
Skin Factor/Damage Ratio .
Storage Ratio
Interporosity Flow Coeff..
Distance to Anomaly (ft).
Investigation Radius (ft).
Potentiometric Surf. (ft).

ROCK/FLUID/WELLBORE PROPERTIES

Oil Density (deg. API) ...
Basic Solids (%)
Gas Gravity
Water Cut (%) 100
Viscosity (cp)
Tot. Compress. (1/psi) ...
Porosity (%) 2
Reservoir Temperature (F). 102
Form.Vol.Factor (bbl/STB).

PRODUCTION RATE DURING TEST: 288 BHPD Q-Aug.

COMMENTS:

REPORT NO.
113886

PAGE NO. 2

SEQUENCE OF EVENTS

Schlumberger

EVENT NO.	DATE	TIME (HR:MIN)	DESCRIPTION	ELAPSED TIME (MIN)	BHP (PSIA)	WHP (OZ.)
1	15-DEC	0656	SET PACKERS	-2.24	1524	
2		0700	OPENED TOOL-1/8" BUBBLHOSE	0.00	129	BTM. BUCKT
		0705				12.5 OZ.
		0710				14 OZ.
3		0715	CLOSED FOR INITIAL SHUTIN	15.08	295	13.5 OZ.
4		0745	FINISHED SHUT-IN	45.43	905	
5		0748	RE-OPENED TOOL	47.50	300	2" BLOW
		0753				6 OZ.
		0758				8.5 OZ.
		0803				8.5 OZ.
		0818				8.5 OZ.
		0828				6.5 OZ.
		0838				6 OZ.
6		0848	CLOSED FOR FINAL SHUT-IN	105.88	624	6 OZ.
7		1148	FINISHED SHUT-IN	288.20	909	
8		1156	PULLED PACKERS LOOSE	290.38	1526	
			NOTE: 8 FT. FILL ON BTM.			
			LOST 70 FT. MUD DURING			
			DST.			

BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 113886

COMPANY : DIVERSIFIED OPERATING CORPORATION

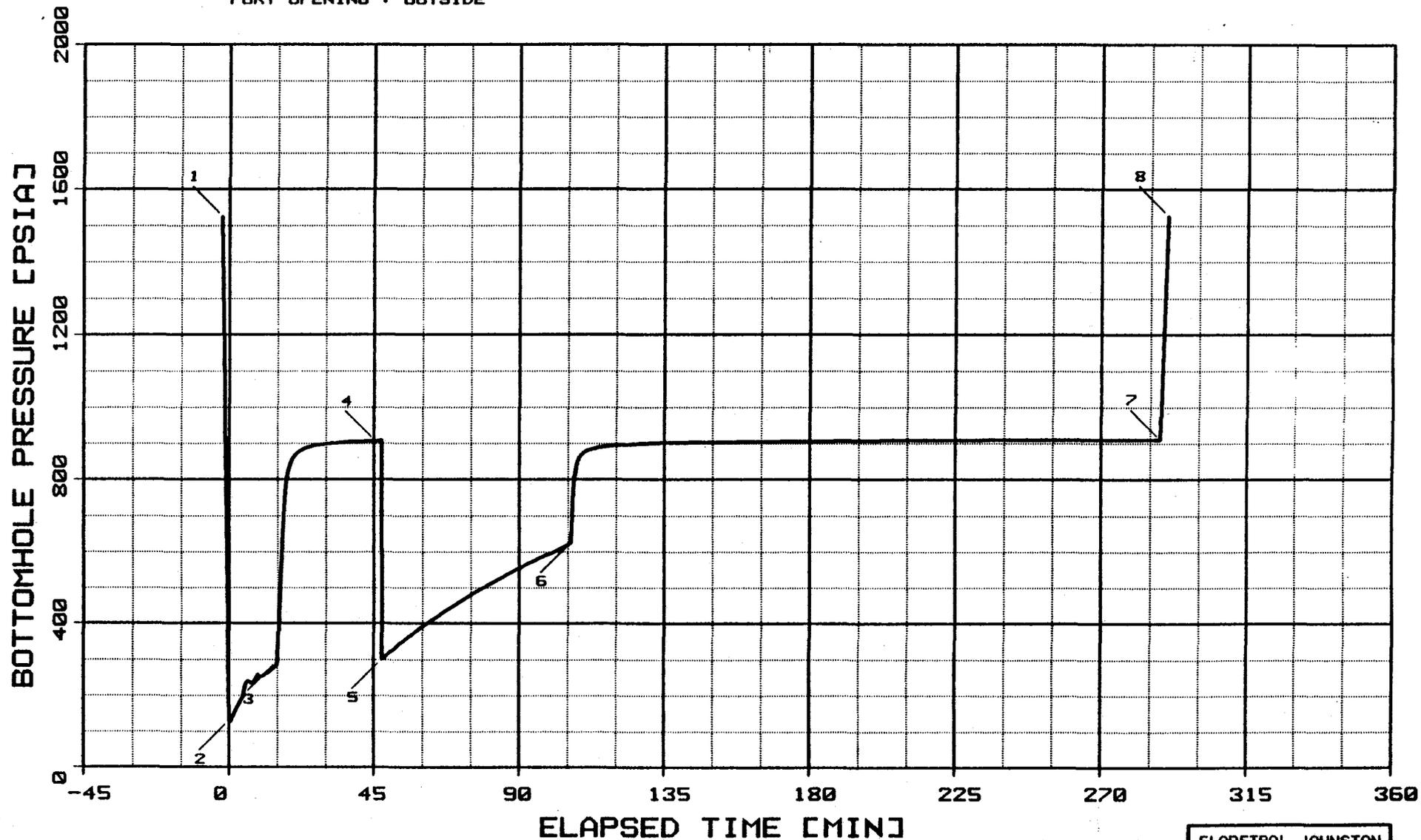
INSTRUMENT NO. 1867

WELL : FEDERAL ROCKWASH # 13-35

DEPTH : 3211 FT

CAPACITY : 2800 PSI

PORT OPENING : OUTSIDE



FLOPETROL JOHNSTON

Schlumberger

 * WELL TEST DATA PRINTOUT *

FIELD REPORT # : 113886

COMPANY : DIVERSIFIED OPERATING CORPORATION
 WELL : FEDERAL ROCKWASH # 13-35

INSTRUMENT # : 1867
 CAPACITY [PSI] : 2800.
 DEPTH [FT] : 3211.0
 PORT OPENING : OUTSIDE
 TEMPERATURE [DEG F] : 102.0

LABEL POINT INFORMATION

#	TIME OF DAY	DATE	EXPLANATION	ELAPSED TIME, MIN	BOT HOLE PRESSURE PSIA
***	*****	*****	*****	*****	*****
1	6:57:46	15-DC	HYDROSTATIC MUD	-2.24	1524
2	7: 0: 0	15-DC	START FLOW	0.00	129
3	7:15: 5	15-DC	END FLOW & START SHUT-IN	15.08	295
4	7:45:26	15-DC	END SHUT-IN	45.43	905
5	7:47:30	15-DC	START FLOW	47.50	300
6	8:45:53	15-DC	END FLOW & START SHUT-IN	105.88	624
7	11:48:12	15-DC	END SHUT-IN	288.20	909
8	11:50:23	15-DC	HYDROSTATIC MUD	290.38	1526

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
*****	*****	*****	*****	*****	*****
1	0.00	15.08	15.08	129	295
2	47.50	105.88	58.38	300	624

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	15.08	45.43	30.35	295	905	295	15.08
2	105.88	288.20	182.32	624	909	624	73.46

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
7: 0: 0	15-DC	0.00	0.00	129
7: 5: 0	15-DC	5.00	5.00	226
7:10: 0	15-DC	10.00	10.00	252
7:15: 0	15-DC	15.00	15.00	293
7:15: 5	15-DC	15.08	15.08	295

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 295
 PRODUCING TIME [MIN] = 15.08

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	*****	*****	*****	*****	*****
7:15: 5	15-DC	15.08	0.00	295	0	
7:16: 5	15-DC	16.08	1.00	534	240	1.206
7:17: 5	15-DC	17.08	2.00	719	424	0.931
7:18: 5	15-DC	18.08	3.00	812	517	0.780
7:19: 5	15-DC	19.08	4.00	844	549	0.679
7:20: 5	15-DC	20.08	5.00	862	567	0.604
7:21: 5	15-DC	21.08	6.00	872	577	0.546
7:22: 5	15-DC	22.08	7.00	879	584	0.499
7:23: 5	15-DC	23.08	8.00	883	588	0.460
7:24: 5	15-DC	24.08	9.00	886	591	0.427
7:25: 5	15-DC	25.08	10.00	889	594	0.399
7:27: 5	15-DC	27.08	12.00	894	599	0.353
7:29: 5	15-DC	29.08	14.00	896	601	0.317
7:31: 5	15-DC	31.08	16.00	899	604	0.288
7:33: 5	15-DC	33.08	18.00	900	605	0.264
7:35: 5	15-DC	35.08	20.00	901	606	0.244
7:37: 5	15-DC	37.08	22.00	903	608	0.227
7:39: 5	15-DC	39.08	24.00	904	609	0.212
7:41: 5	15-DC	41.08	26.00	904	609	0.199
7:43: 5	15-DC	43.08	28.00	904	609	0.187
7:45: 5	15-DC	45.08	30.00	905	610	0.177
7:45:26	15-DC	45.43	30.35	905	610	0.175

TEST PHASE : FLOW PERIOD # 2

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT-HOLE PRESSURE PSIA
*****	*****	*****	*****	*****
7:47:30	15-DC	47.50	0.00	300
7:52:30	15-DC	52.50	5.00	338
7:57:30	15-DC	57.50	10.00	373
8: 2:30	15-DC	62.50	15.00	405
8: 7:30	15-DC	67.50	20.00	436
8:12:30	15-DC	72.50	25.00	465
8:17:30	15-DC	77.50	30.00	492
8:22:30	15-DC	82.50	35.00	517
8:27:30	15-DC	87.50	40.00	541
8:32:30	15-DC	92.50	45.00	565
8:37:30	15-DC	97.50	50.00	587
8:42:30	15-DC	102.50	55.00	607
8:45:53	15-DC	105.88	58.38	624

TEST PHASE : SHUTIN PERIOD # 2
 FINAL FLOW PRESSURE [PSIA] = 624
 PRODUCING TIME [MIN] = 73.46

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNERS TIME
*****	*****	*****	*****	*****	*****	*****
8:45:53	15-DC	105.88	0.00	624	0	
8:46:53	15-DC	106.88	1.00	793	169	1.872
8:47:53	15-DC	107.88	2.00	847	223	1.577
8:48:53	15-DC	108.88	3.00	864	241	1.406
8:49:53	15-DC	109.88	4.00	873	249	1.287
8:50:53	15-DC	110.88	5.00	878	254	1.196
8:51:53	15-DC	111.88	6.00	881	257	1.122
8:52:53	15-DC	112.88	7.00	884	260	1.060
8:53:53	15-DC	113.88	8.00	886	262	1.008
8:54:53	15-DC	114.88	9.00	888	265	0.962
8:55:53	15-DC	115.88	10.00	890	266	0.921
8:57:53	15-DC	117.88	12.00	892	268	0.853
8:59:53	15-DC	119.88	14.00	894	270	0.796
9: 1:53	15-DC	121.88	16.00	895	271	0.748
9: 3:53	15-DC	123.88	18.00	896	272	0.706
9: 5:53	15-DC	125.88	20.00	897	273	0.670
9: 7:53	15-DC	127.88	22.00	898	274	0.637
9: 9:53	15-DC	129.88	24.00	898	275	0.609
9:11:53	15-DC	131.88	26.00	899	275	0.583
9:13:53	15-DC	133.88	28.00	900	276	0.559
9:15:53	15-DC	135.88	30.00	900	277	0.538
9:20:53	15-DC	140.88	35.00	901	277	0.491
9:25:53	15-DC	145.88	40.00	902	278	0.453
9:30:53	15-DC	150.88	45.00	902	278	0.420
9:35:53	15-DC	155.88	50.00	902	279	0.393

TEST PHASE : SHUTIN PERIOD # 2
 FINAL FLOW PRESSURE [PSIA] = 624
 PRODUCING TIME [MIN] = 73.46

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
*****	*****	*****	*****	*****	*****	*****
9:40:53	15-DC	160.88	55.00	903	279	0.368
9:45:53	15-DC	165.88	60.00	904	280	0.347
9:50:53	15-DC	170.88	65.00	904	280	0.328
9:55:53	15-DC	175.88	70.00	904	281	0.312
10: 0:53	15-DC	180.88	75.00	905	281	0.297
10: 5:53	15-DC	185.88	80.00	905	282	0.283
10:10:53	15-DC	190.88	85.00	906	282	0.271
10:15:53	15-DC	195.88	90.00	906	282	0.259
10:20:53	15-DC	200.88	95.00	906	283	0.249
10:25:53	15-DC	205.88	100.00	907	283	0.239
10:30:53	15-DC	210.88	105.00	907	283	0.230
10:35:53	15-DC	215.88	110.00	907	284	0.222
10:40:53	15-DC	220.88	115.00	907	284	0.215
10:45:53	15-DC	225.88	120.00	908	284	0.207
10:50:53	15-DC	230.88	125.00	908	284	0.201
10:55:53	15-DC	235.88	130.00	908	285	0.195
11: 0:53	15-DC	240.88	135.00	908	285	0.189
11: 5:53	15-DC	245.88	140.00	909	285	0.183
11:10:53	15-DC	250.88	145.00	909	285	0.178
11:15:53	15-DC	255.88	150.00	909	285	0.173
11:20:53	15-DC	260.88	155.00	909	285	0.168
11:25:53	15-DC	265.88	160.00	909	285	0.164
11:30:53	15-DC	270.88	165.00	909	285	0.160
11:35:53	15-DC	275.88	170.00	909	285	0.156
11:40:53	15-DC	280.88	175.00	909	285	0.152
11:45:53	15-DC	285.88	180.00	909	285	0.149
11:48:12	15-DC	288.20	182.32	909	285	0.147

ΔT (MIN)

0.048 0.085 0.15 0.27 0.49 0.90 1.7 3.3 7.0 19 00

HORNER PLOT

FIELD REPORT NO. 113886

INSTRUMENT NO. 1867

COMPANY : DIVERSIFIED OPERATING CORPORATION

WELL : FEDERAL ROCKWASH # 13-35

SHUTIN #1 : FINAL FLOW PRESSURE: 294.96 PSIA

PLOT ELAPSED TIME RANGE: 15.2 TO 45.4 MIN

PLOT ΔT TIME RANGE: 0.1 TO 30.4 MIN

PRODUCING TIME (T_p): 15.1 MIN

SHUTIN PRESSURE [PSIA]

940
860
780
700
620
540
460
380
300

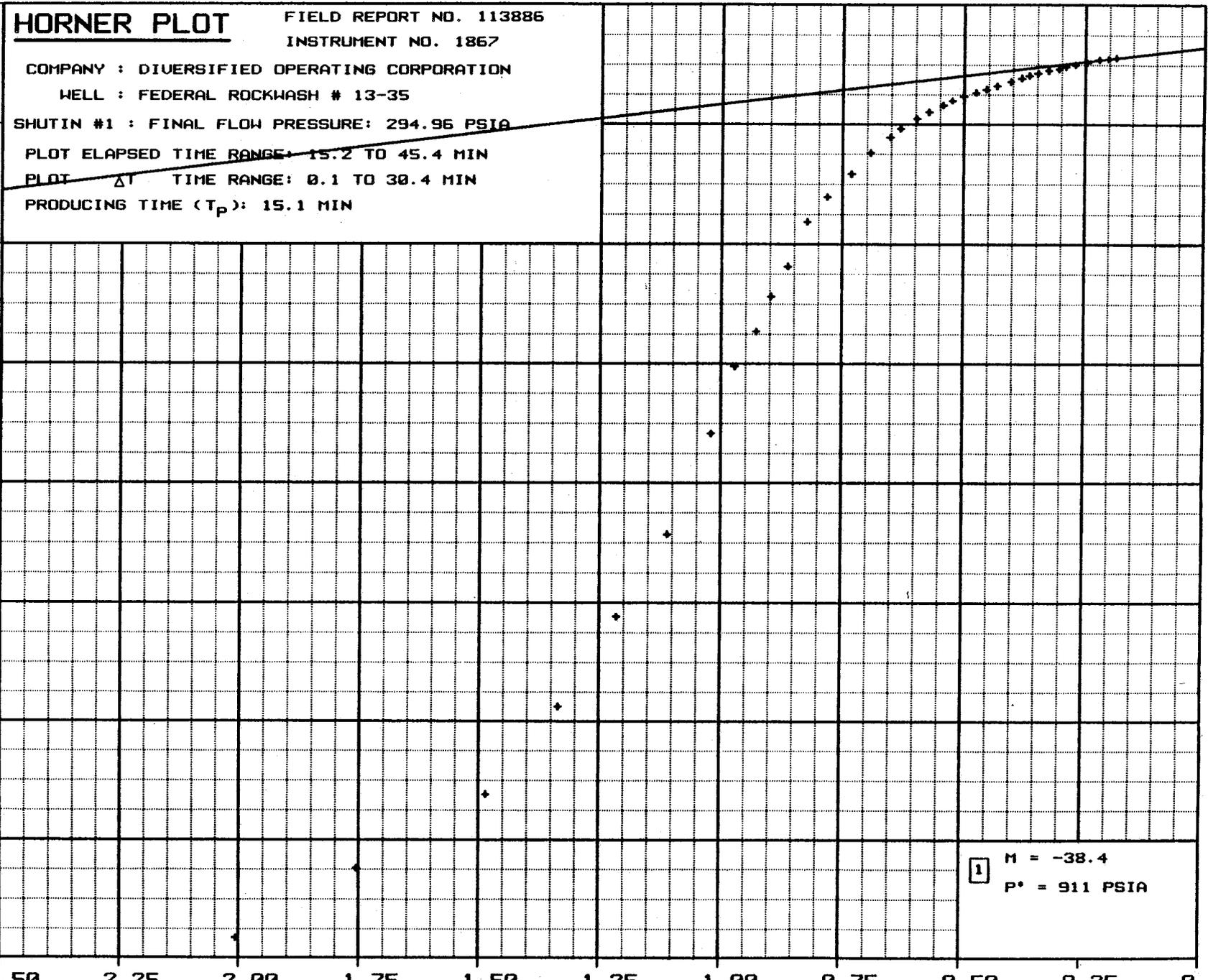
2.50 2.25 2.00 1.75 1.50 1.25 1.00 0.75 0.50 0.25 0.00

$$\text{LOG} \left[\frac{T_p + \Delta T}{\Delta T} \right]$$

1 M = -38.4
P* = 911 PSIA

FLOPETROL JOHNSTON
Schlumberger

1



LOG LOG PLOT

COMPANY : DIVERSIFIED OPERATING CORPORATION

WELL : FEDERAL ROCKWASH # 13-35

FIELD REPORT NO. 113886

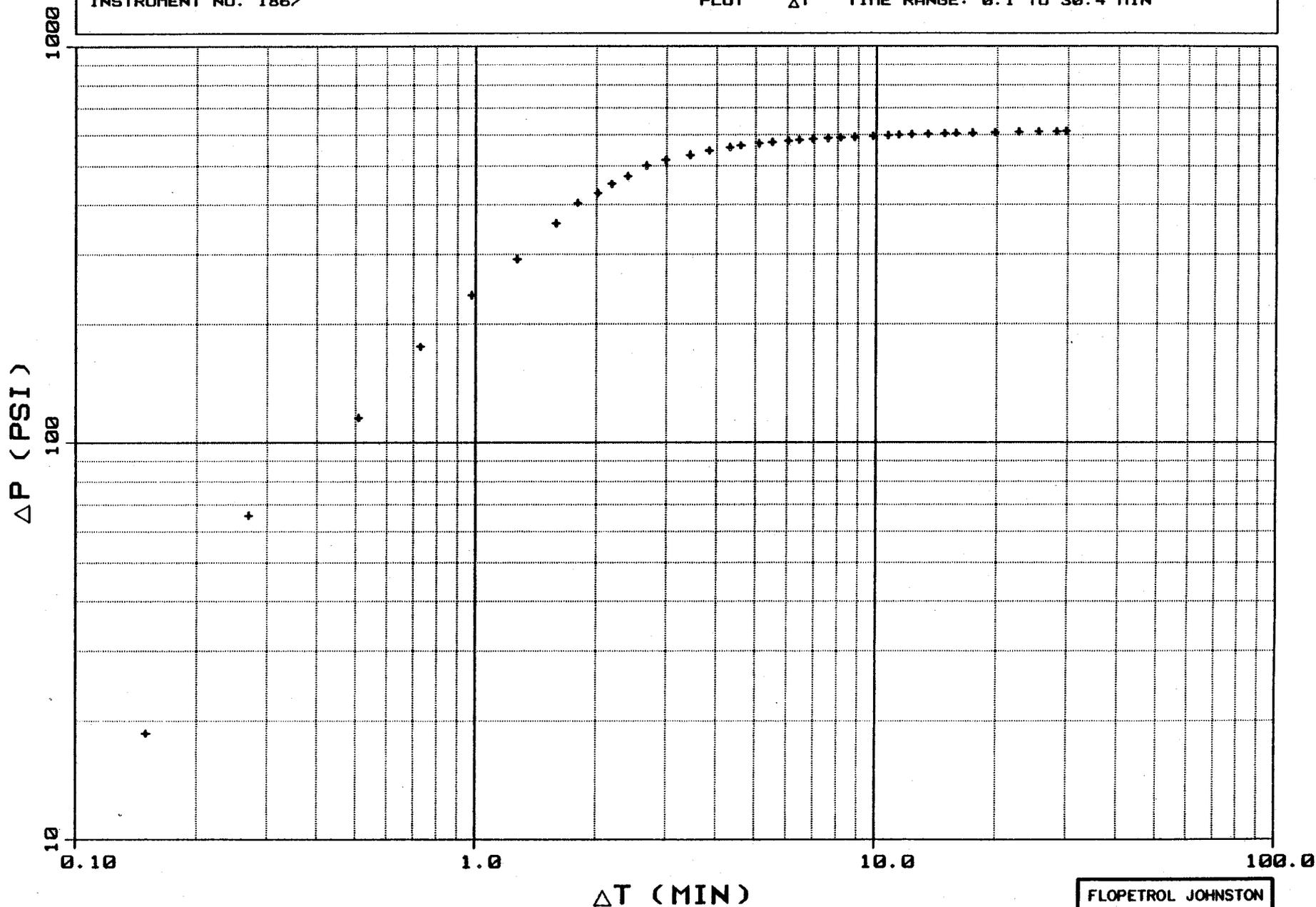
INSTRUMENT NO. 1867

SHUTIN #1 :

FINAL FLOW PRESSURE (PWF) : 294.96 PSIA

PLOT ELAPSED TIME RANGE : 15.2 TO 45.4 MIN

PLOT ΔT TIME RANGE : 0.1 TO 30.4 MIN



FLOPETROL JOHNSTON
Schlumberger

ΔT (MIN)

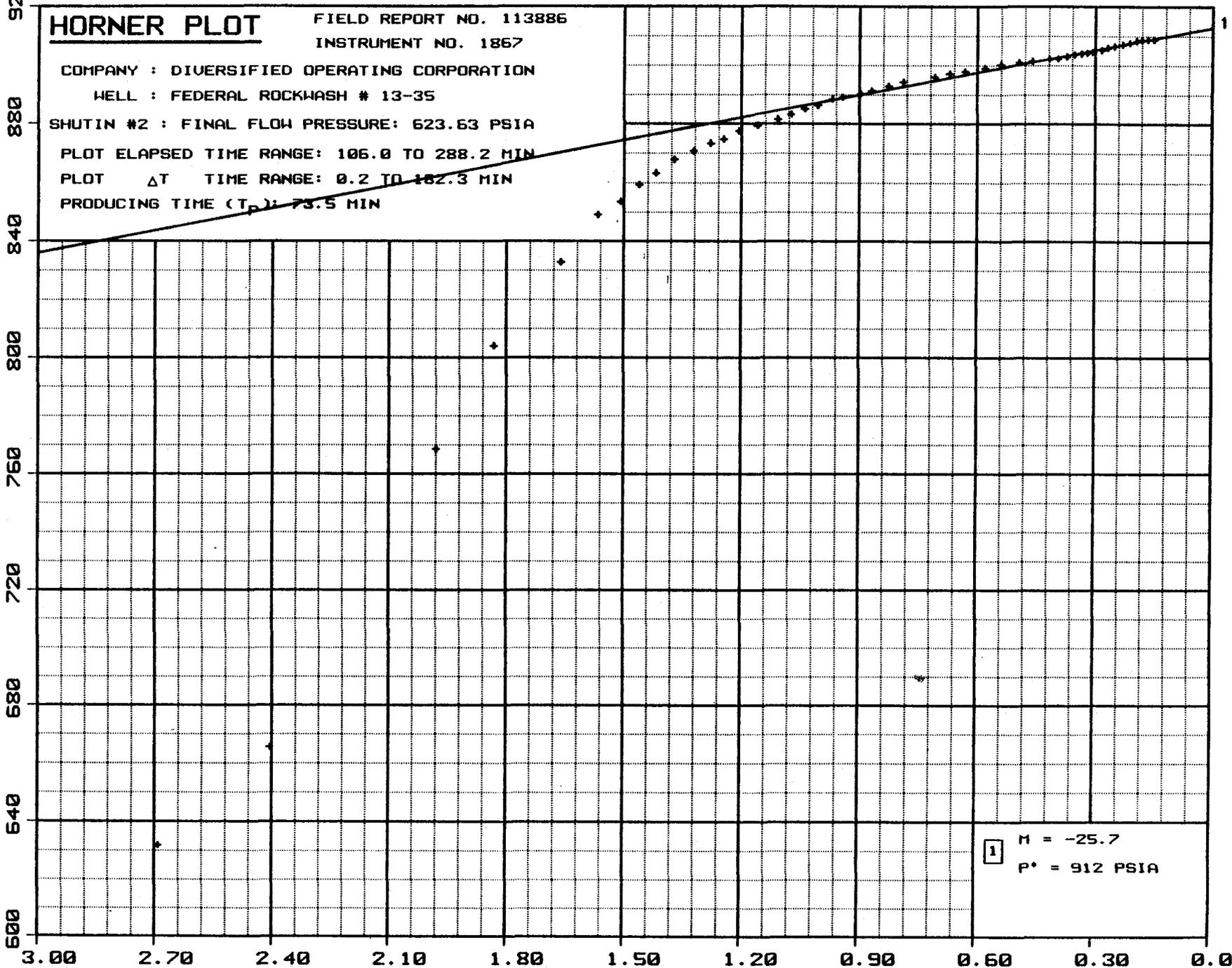
0.074 0.15 0.29 0.59 1.2 2.4 4.9 10.58 24 73 00

HORNER PLOT

FIELD REPORT NO. 113886
INSTRUMENT NO. 1867

COMPANY : DIVERSIFIED OPERATING CORPORATION
WELL : FEDERAL ROCKWASH # 13-35
SHUTIN #2 : FINAL FLOW PRESSURE: 623.63 PSIA
PLOT ELAPSED TIME RANGE: 106.0 TO 288.2 MIN
PLOT ΔT TIME RANGE: 0.2 TO 182.3 MIN
PRODUCING TIME (T_p): 73.5 MIN

SHUTIN PRESSURE [PSIA]



1
M = -25.7
P* = 912 PSIA

$$\text{LOG} \left[\frac{T_p + \Delta T}{\Delta T} \right]$$

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Schlumberger

LOG LOG PLOT

COMPANY : DIVERSIFIED OPERATING CORPORATION

WELL : FEDERAL ROCKWASH # 13-35

FIELD REPORT NO. 113886

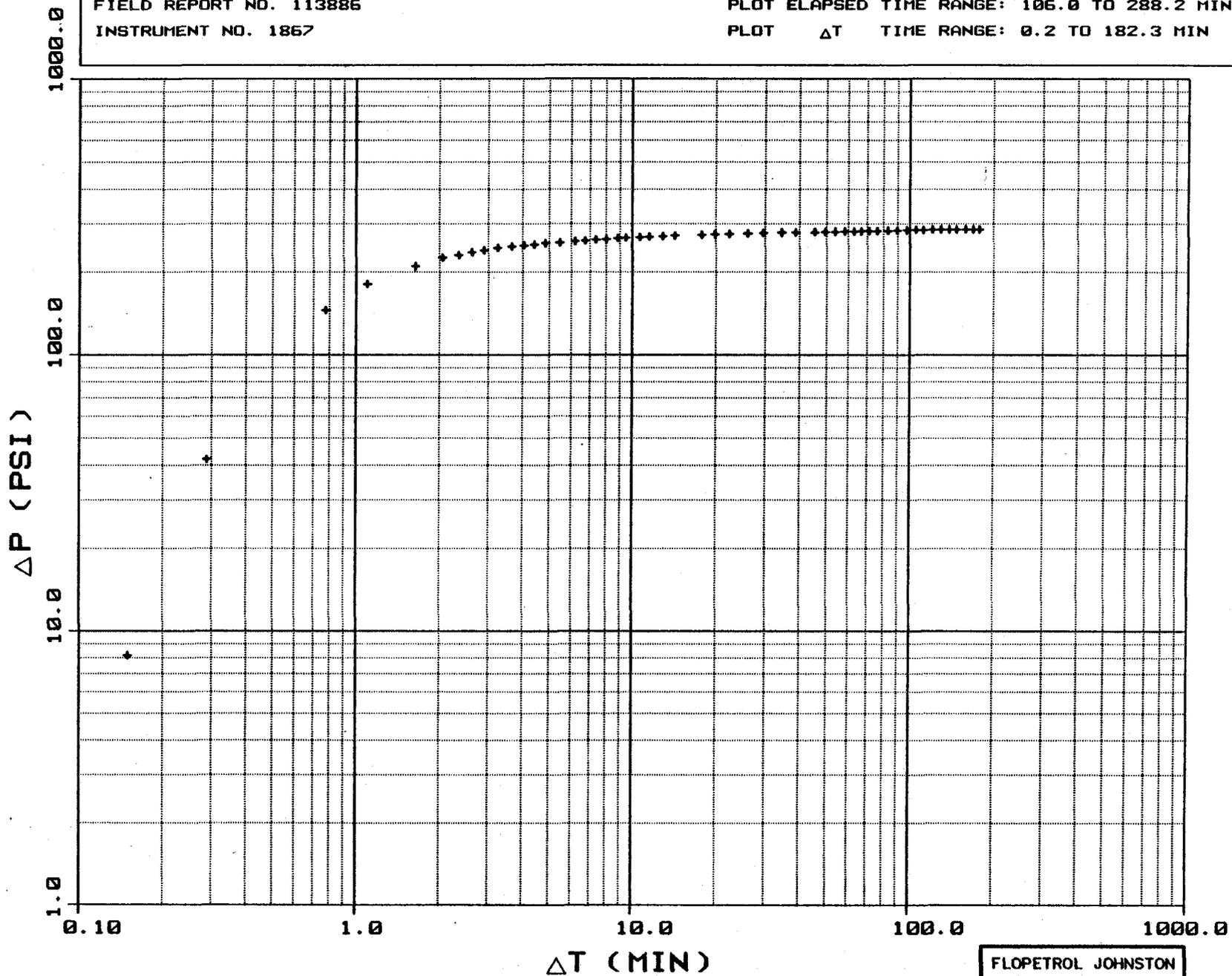
INSTRUMENT NO. 1867

SHUTIN #2 :

FINAL FLOW PRESSURE (PWF): 623.63 PSIA

PLOT ELAPSED TIME RANGE: 106.0 TO 288.2 MIN

PLOT ΔT TIME RANGE: 0.2 TO 182.3 MIN



FLOPETROL JOHNSTON

Schlumberger

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE
(Other instructions reverse side)

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

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 <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> Dry Hole		6. LEASE DESIGNATION AND SERIAL NO. U-57807	
2. NAME OF OPERATOR Diversified Operating Corporation		7. IF INDIAN, ALLOTTEE OR TRIBE NAME	
3. ADDRESS OF OPERATOR 1600 Stout Street, Suite 1900 Denver, Colorado 80202		8. UNIT AGREEMENT NAME	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 690' FSL & 584' FWL		9. FARM OR LEASE NAME Federal Rockwash	
14. PERMIT NO. 43 015 30233		10. WELL NO. 13-35	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5791' GR		11. FIELD AND POOL, OR WILDCAT Wildcat	
		12. COUNTY OR PARISH Emery	
		13. STATE Utah	

RECEIVED
JAN 22 1990
DIVISION OF OIL, GAS & MINERALS

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

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

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.)

The above referenced well was plugged with six plugs as per Dale Manchester, BLM-Moab:

- Plug #1 - 3152-3252' 40 sacks
- Plug #2 - 1835-1935' 40 sacks
- Plug #3 - 1300-1400' 40 sacks
- Plug #4 - 340- 440' 40 sacks
- Plug #5 - 133- 233' 45 sacks
- Plug #6 - 0- 50' 25 sacks

Plugged with 9.1 lb./gal mud between all plugs.

OIL AND GAS	
DRN	RWF
JRB	GLH
DTS	SLS
I-TAS	
MICROFILM	
2. FILE	

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

SIGNED Terry J. Cammon TITLE Manager of Operations DATE January 17, 1990
(This space for Federal or State office use)

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

*See Instructions on Reverse Side

HALLIBURTON SERVICES

P.O. BOX 751046
DALLAS, TX 75375-1046

INVOICE

A Halliburton Company

RESERVED
JAN 22 1990

INVOICE NO.	DATE
841418	12/17/1989

WELL LEASE NO./PLANT NAME		WELL/PLANT LOCATION		STATE	WELL/PLANT OWNER	
ROCK WASH FED 13-95		EMERY		UT	SAME	
SERVICE LOCATION		CONTRACTOR	DIVISION/JOB PURPOSE		TICKET DATE	
VERNAL, UT.		VECO	OIL GAS & MINING PLUG TO ABANDON		12/17/1989	
ACCT. NO.	CUSTOMER AGENT	VENDOR NO.	CUSTOMER P.O. NUMBER	SHIPPED VIA	FILE NO.	
238596	MATHEW D GOOLSBY			COMPANY TRUCK	87762	

DIVERSIFIED OPERATING CORP
1600 STOUT ST STE 1900
DENVER, CO 80202

DIRECT CORRESPONDENCE TO:
410 17TH ST.
SUITE 900
DENVER, CO 80202-0000

PRICE REF. NO.	DESCRIPTION	QUANTITY	U/M	UNIT PRICE	AMOUNT
000-117	PRICING AREA - ROCKY MOUNTAIN MILEAGE	220	MI	2.20	484.00
009-019	PLUGGING BK SPOT CEMENT OR MUD	3250	FT	1,382.50	1,382.50
504-043	PREMIUM CEMENT	230	SK	8.02	1,844.60
500-207	BULK SERVICE CHARGE	230	CFT	.95	218.50
500-314	MILEAGE	2378.2	MI	.75	1,783.65
INVOICE SUBTOTAL					5,713.25
*--UTAH STATE SALES TAX					195.95
*--VERNAL CITY SALES TAX					34.85
INVOICE TOTAL - PLEASE PAY THIS AMOUNT					\$5,944.05

699

TERMS INVOICES PAYABLE NET BY THE 20TH OF THE FOLLOWING MONTH AFTER DATE OF INVOICE UPON CUSTOMER'S DEFAULT IN PAYMENT OF CUSTOMER'S ACCOUNT BY THE LAST DAY OF THE MONTH FOLLOWING THE MONTH IN WHICH THE INVOICE IS DATED. CUSTOMER AGREES TO PAY INTEREST THEREON AFTER DEFAULT AT THE HIGHEST LAWFUL CONTRACT RATE APPLICABLE BUT NEVER TO EXCEED 18% PER ANNUM IN THE EVENT IT BECOMES NECESSARY TO EMPLOY AN ATTORNEY TO ENFORCE COLLECTION OF SAID ACCOUNT. CUSTOMER AGREES TO PAY ALL COLLECTION COSTS AND ATTORNEY FEES IN THE AMOUNT OF 20% OF THE AMOUNT OF THE UNPAID ACCOUNT.

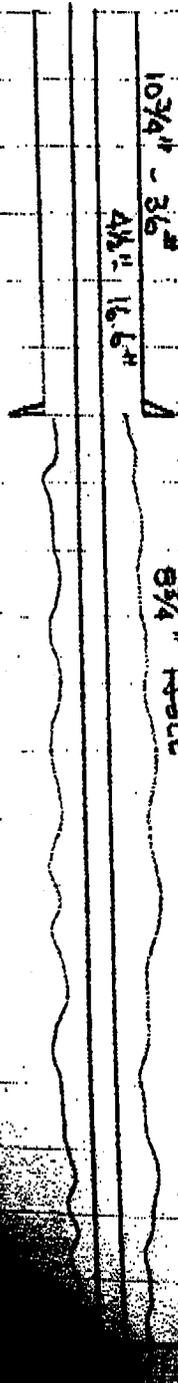
$8\frac{3}{4}" \text{ Hole} = .0744 - 13.4454$

$4\frac{1}{2}" - 16.6" = .01422 - 70.32$

$4\frac{1}{2}" + 8\frac{3}{4}" = .0547 \text{ BBL/FT} - 18.2804 \text{ FT/BBL}$

$4\frac{1}{2}" + 10\frac{3}{4}" = \frac{(D^2 - d^2)}{D^2 - d^2} \cdot 0.0009714 = \text{BBL/FT}$
 $= \frac{1029.4}{D^2 - d^2} = \text{FT/BBL}$

D = INSIDE DIA OF CG
 d = OUTSIDE DIA OF DP



PLUG #1 3152' - 3252' 40 SACKS

$40 \times .1781 \times 1.15 = 8.2 \text{ BBL SWABY}$

$(40 \times 50) \div 42 = 4.7 \text{ BBL MIX H}_2\text{O}$

$8.2 \times 13.4454 = 110' \text{ H.O.C. D.P. OUT}$

$3252' - 110' = 3142' \text{ T.O.C. D.P. OUT}$

$.01422 + .0547 = .06892 \text{ BBL/FT}$

$8.2 \div .06892 = 119 \text{ FT H.O.C. D.P. IN}$

$3252' - 119 = 3133' \text{ T.O.C. D.P. IN}$

5.2 to 1 Ratio -

$3133 - 70.32 = 3062.68$

$3062 \times .01422 = 43.5 \text{ BBLs MUD}$

- 1) 5.2 H₂O AHEAD
- 2) 8.2 BBL CMT
- 3) 1 BBL H₂O
- 4) 43.5 BBLs MUD

PLUG #2 1835' - 1935'

$1935 - 110 = 1825' \text{ T.O.C. D.P. OUT}$

$1935 - 119 = 1816' \text{ T.O.C. D.P. IN}$

$1816 - 70.32 = 1745'$

$1745 \times .01422 = 24.8 \text{ BBLs MUD}$

PLUG # 3 1300' - 1400'

1400 - 110 = 1290' T.O.C. D.P. OUT

1400 - 119 = 1281 T.O.C. D.P. IN

1281 - 70.32 = 1211

1211 x .01422 = 17.2 BBLs

PLUG # 4 340' - 440'

440 - 110 = 330

440 - 119 = 321'

321 - 70 = 251

251 x .01422 = 3.5 BBL MUD

PLUG # 5 133' - 233'

10³/₄" + 4¹/₂" = .0801293 BBL/FT - 12.479316 FT/BBL

8³/₄" + 4¹/₂" = .0547 BBL/FT - 18.2804 FT/BBL

8³/₄" HOLE .0744 BBL/FT 13.4454 FT/BBL

10³/₄" CCG .0998 BBL/FT 10.02 FT/BBL

45 x .1781 x 1.15 = 9.2 BBLs SLURRY

50' x .0744 = 3.72 BBLs

9.2 - 3.7 = 5.5 ÷ .0998 = 55.1 + 50 = 105

233 - 105 = 128 T.O.C. DP OUT

.01422 + .0547 = .06892

50 x .06892 = 3.446 9.2 - 3.4 = 5.8 BBLs

.01422 + .0801293 = .0943493 BBL/FT

5.8 ÷ .0943493 = 61.5' + 50 = 111.5'

111.5 - 70 = 41.5 x .01422 = .6 BBLs

1) 5.6 AHEAD 2) CMT 3) 1 BEHIND 4) .6 MUD

$10\frac{3}{4} - 0998 \text{ BBL/FT}$ $I.D = 10.136''$ $O.D = 4.5''$

$$\left(\frac{10.136^2 - 4.5^2}{102.73849 - 20.25} \right) \cdot 0009714 = 0001293 \text{ BBL/FT}$$

$$\frac{1029.4}{(10.136^2 - 4.5^2)} = \frac{1029.4}{82.48849} = 12.479316 \text{ FT/BBL}$$