

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

5. LEASE DESIGNATION AND SERIAL NO.  
US-52653

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME  
Alkali Federal

9. WELL NO.  
25-31

10. FIELD AND POOL, OR WILDCAT  
Wildcat UNDESIGNATED

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
25 37S, 23E

12. COUNTY OR PARISH | 13. STATE  
San Juan | UT

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  
 Bass Enterprises Production Co. (303) 292-1314

3. ADDRESS OF OPERATOR  
 1099 18th St., Suite 1600, Denver, CO 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface  
 1980 FSL 1980 FEL                      NW SE Section 25, T37S, R23E S.L.M.  
 At proposed prod. zone  
 Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 15 miles southeast of Blanding, Utah

15. DISTANCE FROM PROPOSED\* 660' to West drilling LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)                      unit line

16. NO. OF ACRES IN LEASE  
 320

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.                      NA

19. PROPOSED DEPTH  
 6600 *idk*

20. ROTARY OR CABLE TOOLS  
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 5779 GL (Ungraded)

22. APPROX. DATE WORK WILL START\*  
 May 1, 1987

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13 1/2	9-5/8 (New)	36# K55STC	2300	1410 sacks Light & CI 'G'
7-7/8	5 1/2 (New)	15.5# K55STC	6600	*

\*volume to be determined from pay zone and calculated caliper log

**RECEIVED**  
 MAR 31 1987

DIVISION OF  
 OIL, GAS & MINING

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

24. SIGNED Ken More TITLE Production Foreman DATE 3/30/87

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_

APPROVAL DATA APPROVED BY THE STATE  
 OF UTAH DIVISION OF  
 OIL, GAS, AND MINING

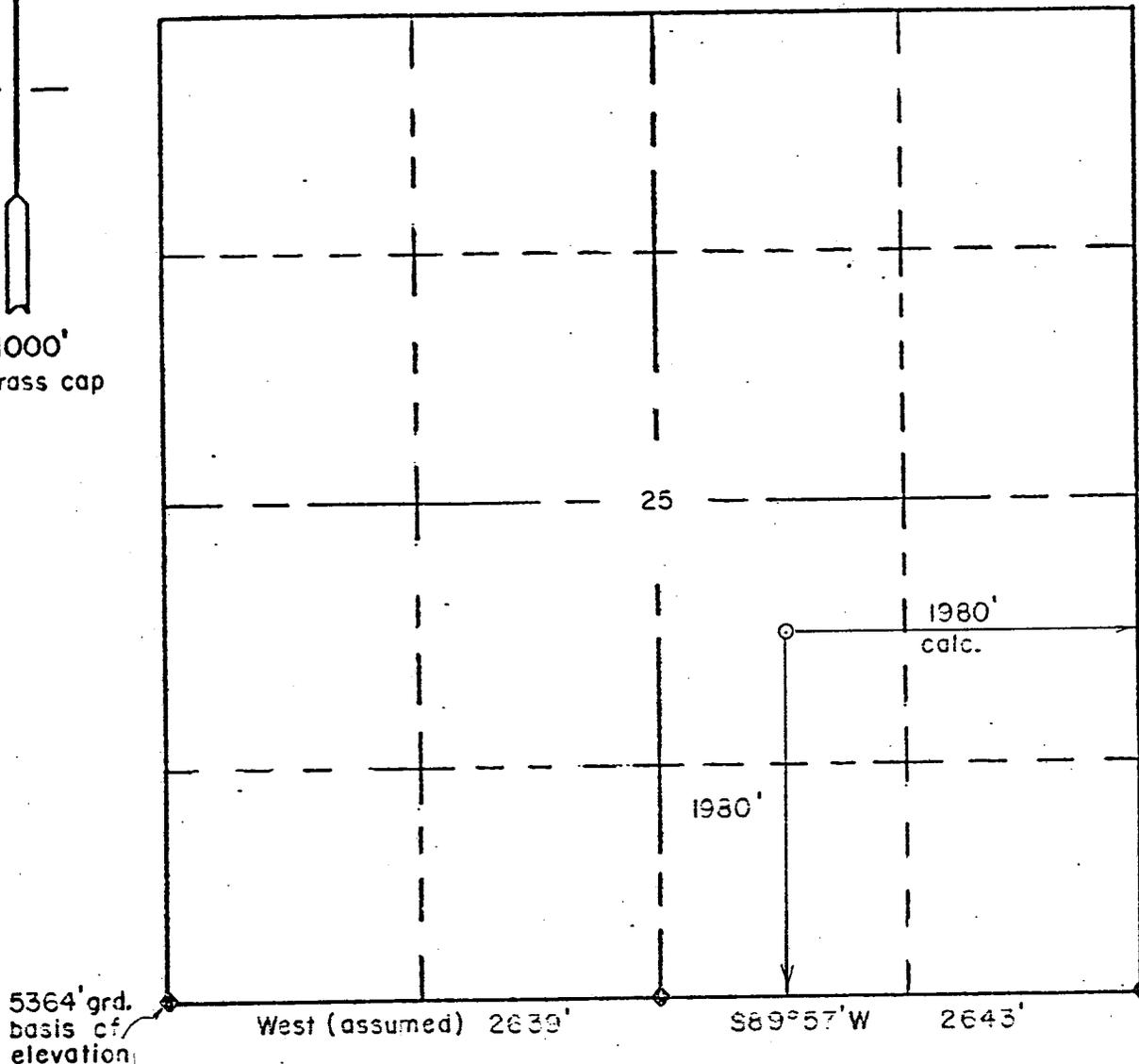
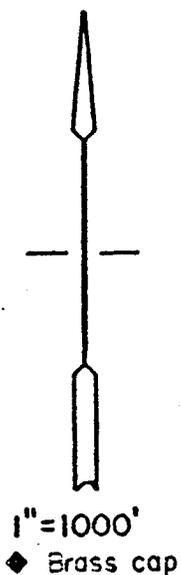
APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_

DATE: 4-8-87  
 BY: John R. Day  
 WELL SPACING: 302

CONDITIONS OF APPROVAL, IF ANY:

WELL LOCATION FLAT

**EXHIBIT I**



WELL LOCATION DESCRIPTION:

BASS ENTERPRISES  
 Alkali Federal 25-31  
 1980' FSL & 1980' FEL  
 Section 25, T.37 S., R.23 E., SLM  
 5779' ground elevation  
 San Juan County, Utah  
 References: 200' North 5782'  
 200' East 5773'

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

03-21-'87

*Gerald G. Huddleston*  
 Gerald G. Huddleston, LS

REGISTERED LAND SURVEYOR  
 No. 5705  
 GERALD G. HUDDLESTON  
 STATE OF UTAH

**EIGHT POINT PROGRAM**

**ALKALI FEDERAL #25-31**  
 1980' FSL and 1980' FEL  
 NW SE Section 25, T37S, R23E  
 San Juan County, Utah

**POINT 1: Surface formation and estimated formation tops:**  
 The surface formation is Burro Canyon.  
 For formation tops (See No. 2 Below)

**POINT 2: WATER, OIL, GAS AND/OR MINERAL BEARING FORMATIONS**

<u>FORMATION</u>	<u>DRILLING DEPTH</u>	<u>SUBSEA</u>	
Burro Canyon	Surface	+5765	
Entrada	950	+4815	Water
Base Wingate	2300	+3465	Water
Honaker Trail	4930	+ 835	
Paradox	5800	- 35	
Ismay	6015	- 250	Oil/Gas
Hovenweep	6170	- 405	
L. Ismay	6190	- 425	Oil/Gas
Gothic	6250	- 485	
Desert Creek	6270	- 505	Oil/Gas
Chimney Rock	6380	- 615	
Akah	6400	- 635	
Salt	6440	- 675	
TD	6520	- 755	

**POINT 3: CASING PROGRAM**

<u>TYPE</u>	<u>INTERVAL</u>	<u>PURPOSE</u>	<u>CONDITION</u>
9-5/8", 36# K55 STC	0-2300	Surface	New
5-1/2", 15.5 K55 LTC	0-TD	Production	New

Test pressure shall not exceed the internal yield pressure of the casing. The casing string will be tested to 0.2 psi/ft of casing setting depth or 1,000 psi, (whichever is greater) at the time of installation and at least every 30 days while drilling.

The anticipated cement top if completed as a producing well will be 5000' in the Honaker Trail formation. The resource area, if required, will be notified 1 day in advance when running the surface and production strings. The surface casing will be cemented to the surface.

**EIGHT POINT PROGRAM**  
**Alkali Federal #25-31**

**POINT 4: PRESSURE CONTROL EQUIPMENT (SEE ATTACHED EXHIBIT A)**

The BOP shown in Exhibit A will be used. The BOP stack will consist of an 11" 5000 psi W.P. double ram hydraulic preventer from 2300' to TD. All fill, kill, and choke lines will be tested to the working pressure of the BOP stack. The annular may be tested to 50% of the full rated working pressure. All ram-type preventers and related control equipment will be tested at the rated working pressure of the stack assembly, or at 70 percent of the minimum internal yield pressure of the casing, whichever is less. All tests must be done at the time in installation, prior to drilling out, and at least every 30 days. The BOP stack will be checked daily, or halfway through each trip. If required the resource area will be notified 2 days in advance of pressure tests.

**POINT 5: MUD PROGRAM**

<u>DEPTH</u>	<u>MW (ppg)</u>	<u>PV</u>	<u>YP</u>	<u>WL</u>	<u>pH</u>
0 -5800	8.4 - 9.0	NC	NC	NC	8-9

It is intended to drill this interval with fresh water and native mud with sufficient viscosity to clean the hole and run and set surface casing.

<u>DEPTH</u>	<u>MW (ppg)</u>	<u>PV</u>	<u>YP</u>	<u>WL</u>	<u>pH</u>
5800-TD	9.2-9.8	10-16	8-12	10-15cc	9.5

The system will be shut-in and a 10 cc waterloss with 45 vis will be obtained prior to reaching TD. A waterloss of 10-15 cc will be maintained through the above interval with sufficient viscosity to obtain adequate samples.

**POINT 6: TECHNICAL STAGES OF OPERATION**

**A. Testing:**

Drill stem tests (DST's) will be run in the Upper Ismay and Desert Creek formations.

**B. Logging:**

GR-IES, GR-BHC from TD to base of surface casing. LDT-CNL from TD to Ismay plus any show zones in Honaker Trail.

**C. Coring:**

Two 60' cores will be taken from the Upper Ismay and one 60' core taken from the Desert Creek formations.

**D. Cement:**

<u>Interval</u>	<u>SX</u>	<u>Fill</u>	<u>Type</u>	<u>Gal Wtr</u>	<u>PPG</u>	<u>ft3/sk</u>
Surface lead	980	1100	Light+2% CaCl +.5% Halad 4 +10#/sk Gilsonite	7.7	13.1	1.7
Surface tail	430	1200	Class G+2%CaCl +.5% Halad 4 +10#/sk Gilsonite	5.4	14.7	1.36
Prod. lead	150	1000	Light+.6% Halad 322 +1/4#sk flocele	7.7	13.6	1.54
Prod. tail	290	1500	Class G+.6% Halad 322 322+1/4#/sk flocele	5.2	15.6	1.18

**E. Completion Program:**

The completion program will basically consist of perforating and acidizing the well and setting production facilities.

**3EIGHT POINT PROGRAM**  
**Alkali Federal #25-31**

**POINT 7: ANTICIPATED RESERVOIR CONDITIONS**

There are no abnormal conitions expected, including H<sub>2</sub>S on this well.

Anticipated BHP is: 2800 PSI  
Anticipated BHT is: 150<sup>o</sup>F

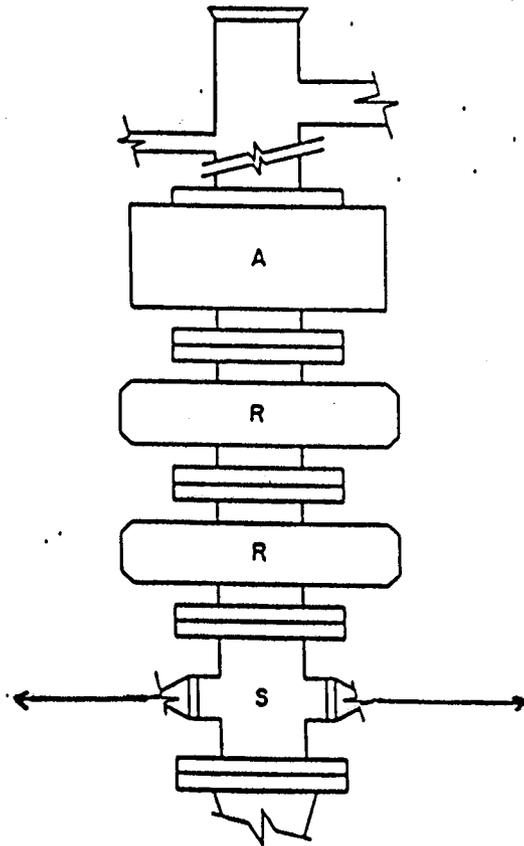
**POINT 8: OTHER PERTINENT INFORMATION**

**A. Anticipated Starting Date:**

The anticipated starting date is May 1, 1987. Bass will contact the Moab Resource Area office at 801-259-6111, 48 hours prior to commencing location dirt work and 24 hours prior to spudding.

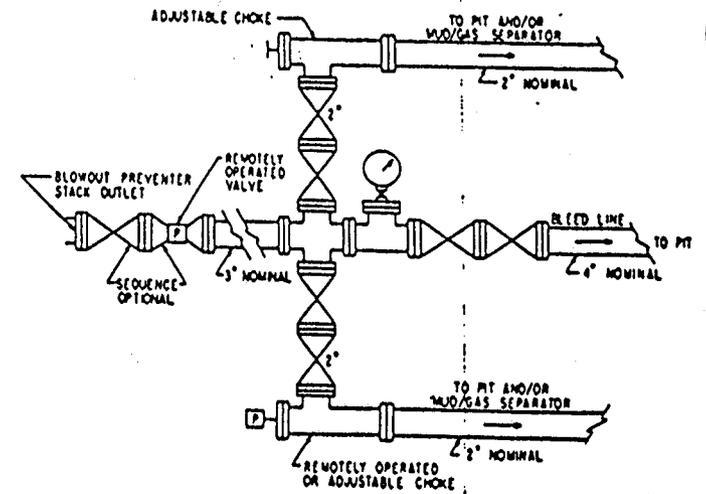
EXHIBIT "A"

THE CLOSING UNIT WILL CONFORM TO THE RECOMMENDATION GIVEN BY API  
 RP53 (FIRST EDITION, FEBRUARY 1976), PARAGRAPHS 5.A.2 AND 5.A.10



BLOWOUT PREVENTOR ARRANGEMENT SRAA FOR 5M RATED WORKING PRESSURE  
 (DUAL SINGLE RAM ARRANGEMENT SRDA OPTIONA)

COMPONENT CODES CONFORM TO API RP 53



MANIFOLD DESIGN FOR 5M RATED WORKING PRESSURE

**MULTI - POINT SURFACE USE PLAN**

**OPERATOR:** BASS ENTERPRISES PRODUCTION CO.  
1099 18th Street - Suite 1600  
Denver, Colorado 80202

**WELL NAME:** ALKALI FEDERAL #25-31  
**LEGAL DESCRIPTION:** NW 1/4 SE 1/4, SECTION 25, T37S, R23E  
San Juan County, Utah

**POINT 1: EXISTING ROADS**

**A. Proposed Well Site Location:**

The proposed well site was staked under the direction of a registered land surveyor. The ungraded elevation at ground line of the proposed well bore is 5,779 feet. See Exhibit I.

**B. Planned Access Route: (See Exhibit II)**

The planned access route begins in Blanding Utah, travel south on Highway 191 a distance of 1 mile, turn east on county road for 1.1 miles then south and east on road 206 for 13.9 miles to road 204. Go north on road 204 a distance of 2 miles to beginning of well access. The final access to the well will be flagged under the direction of the B.L.M. at the time of the on-site inspection.

**C. Existing Roads:**

All roads to the well are county maintained and gravelled except the final well access.

**POINT 2: PLANNED NEW ACCESS ROUTE**

**A. Route Location: (See Exhibit II)**

The planned new access route was selected to provide the least amount of environmental damage.

**MULTI-POINT SURFACE USE PLAN**  
**Alkali Federal #25-31**

**POINT 2: PLANNED NEW ACCESS ROUTE (CONTINUED)**

**B. Width:**

The average width of the new road surface shall be 20 feet.

**C. Maximum Grade:**

The maximum grade will not exceed 10%.

**D. Turnouts:**

None are planned.

**E. Culverts:**

The necessary culverts will be installed if the well proves productive after the rig moves off location.

**F. Surface Material:**

A scratch bladed road will be utilized while drilling and until the well disposition is finalized. Upon completion of a producing well the access road will be crowned and ditched and topped with a locally available surfacing material.

**G. Cattleguards:**

No cattleguards are necessary.

**POINT 3: LOCATION OF EXISITING WELLS**

**A. Producing Wells:**

McCracken Springs #2-31  
2050 FSL, 500 FEL  
Section 31, T37S, R24E  
McCracken Springs #1-31  
2140 FNL, 940 FEL  
Section 31, T37S, R24E

**Dry Holes:**

McCracken Springs #1-32  
SW NW SW Section 32, T37S, R24E

**MULTI-POINT SURFACE USE PLAN**  
**Alkali Federal #25-31**

**POINT 4: PROPOSED PRODUCTION FACILITIES**

See exhibit V for proposed production facilities. All production facilities and structures will be painted desert tan within 6 months of the wells completion.

Dikes will be installed around the tanks, treaters and pits of sufficient size to contain 1 1/2 times the capacity of each.

The site security guidelines of 43 CFR 3162.7 will be adhered to.

All Federal requirement relating to storage, measurement and transporation will be strictly adhearded to.

**POINT 5: LOCATION AND TYPE OF WATER SUPPLY**

**A. Location and Type of Water Supply:**

The water used for drilling will be purchased from a private source. It is know as the Gore Pit located in Section12 of T38S, R24E. The state permit number is 09156. A temporary water use permit has been obtained from the state engineers office.

**B Water Transportation System:**

The water will be trucked to the location.

**C. Water Wells:**

There are no know water wells within a 1 mile radius.

**POINT 6: SOURCE OF CONSTRUCTION MATERIALS**

**A. Materials; Location and Access Road:**

Construction materials will consist of soil encountered within the boundaries of the site. Topsoil, as it is available on the site, shall be stripped to a depth of six inches and stockpiled in an area not to be disturbed by continuing construction.

**B. Land Ownership:**

The drillsite and access road are contained on lands administered by the Department of the Interior, Bureau of Land Management and will conform to all federal regulations pertaining to these lands.

**MULTI-POINT SURFACE USE PLAN**  
**Alkali Federal #25-31**

**POINT 7: METHODS FOR HANDLING WASTE MATERIAL**

**A. Cuttings:**

Cuttings will be contained in the reserve pit.

**B. Drilling Fluids:**

Drilling fluids will be contained in the reserve pit.

**C. Produced Fluids:**

No substantial production of water is expected during drilling. The amount of hydrocarbon or other fluids fluid that may be produced during testing will be retained in test tanks. Prior to cleanup operations, any hydrocarbon material in the reserve pit will be removed by skimming or burning as the situation would dictate.

**D. Sewage:**

Pits will be dug and portable toilets will be used on the well pad.

**E. Garbage:**

A burn pit will be constructed as shown on the well site layout. The pit will be fenced with small mesh wire. The small volume of refuse in the pit shall be burned. That portion which does not burn shall be buried during restoration operations.

**F. Cleanup of Well Site:**

Upon release of the drilling rig, the surface of the drilling pad will be graded to accommodate a completion rig if testing indicates potential productive zones. In any case, the "mouse" hole and "rat" hole will be covered. The reserve pit will be fenced and the fence maintained until the pit is backfilled. Reasonable cleanup will be performed prior to final restoration of the site.

**G. Reserve Pit:**

The reserve pit will not be lined unless gravel or porous rock is encountered during construction. If this occurs, Bentonite will be brought in for the lining material. The pit will be fenced on three sides with barbed wire while drilling.

**H. Produced Waste Water:**

All rules goverened by NTL-2B will be adhered to.

**MULTI-POINT SURFACE USE PLAN**  
**Alkali Federal #25-31**

**POINT 8: ANCILLARY FACILITIES**

None required.

**POINT 9: WELL SITE LAYOUT**

**A. Cross-sections of the Drill Pad:**

See Exhibits III and IV.

**B. Locations of Pits and Access Road:**

See Exhibits III and V.

**C. Rig Orientation and Layout:**

The dimensions and equipment orientation shown is representative of a drilling rig normally used for this depth of bore hole. Actual dimensions and orientations will depend upon the rig selected to perform the work. See Exhibit VI.

**POINT 10: PLANS FOR RESTORATION OF THE SURFACE**

**A. Reserve Pit Cleanup:**

The pit will be fenced prior to rig release and shall be maintained until the pit is backfilled. Previous to backfill operations, any hydrocarbon material on the pit surface shall be removed. The fluids and solids contained in the pit shall be backfilled with soil excavated from the site and with soil adjacent to the reserve pit. The restored surface of the pit shall be contoured to prevent impoundment of surface water flow. Waterbars will be constructed as needed to prevent excessive erosion. Topsoil, as available, shall be placed over the restored surface in a uniform layer. The area will be seeded according to BLM stipulations during the appropriate season following restoration.

**B. Restoration Plans - Production Developed:**

The reserve pit will be backfilled and restored as described above under Item A. In addition, those areas not required for production will be graded to blend with the surrounding topography. Topsoil, as available, will be placed upon those areas and seeded. The portion of the site required for production will be graded to minimize erosion and provide access during inclement conditions. Following depletion and abandonment of the site, restoration procedures will be those that follow under Item C.

**MULTI-POINT SURFACE USE PLAN**  
**Alkali Federal #25-31**

**POINT 10: PLANS FOR RESTORATION OF THE SURFACE (CONTINUED)**

**C. Restoration Plans - No Production Developed:**

The reserve pit will be restored as described above. With no production developed, the entire surface disturbed by construction of the well site will be restored. The site will be contoured to blend with the surrounding topography and provide drainage of surface water. The topsoil, as available, shall be replaced in a uniform layer and seeded according to BLM stipulations.

**D. Rehabilitations Timetable:**

Upon completion of drilling operations the initial cleanup of the site will be performed as soon as weather and site conditions allow economic execution of the work.

E. Bass will contact the Moab resource area 48 hours prior to any reclamation work and upon completion of restoration.

**POINT 11: SURFACE AND MINERAL OWNERSHIP**

SURFACE: Federal Government  
MINERAL: Bass 80%  
Federal Government 12-1/2%  
Tenneco 7-1/2% O.R.R.

**POINT 12: OTHER INFORMATION**

**A. Surface Description:**

The drill site lies on a canyon rim and supports pinon trees, sage brush and native grasses. The topography is typical south east Utah canyon county with many intermittent drainages that run during snow melt and runoff but are normally dry most of the year. The nearest full running river is the San Juan which lies approximately 20 miles to the south.

**POINT 13: OPERATOR'S FIELD REPRESENTATIVE AND CERTIFICATION:**

Mr. Michael Brewer  
Bass Enterprises Production Co.  
1099 18th Street, Suite 1600  
Denver, Colorado 80202  
Phone: (303) 292-1314  
Home: (303) 694-1426

**MULTI-POINT SURFACE USE PLAN**  
**Alkali Federal #25-31**

**POINT 13: CERTIFICATION**

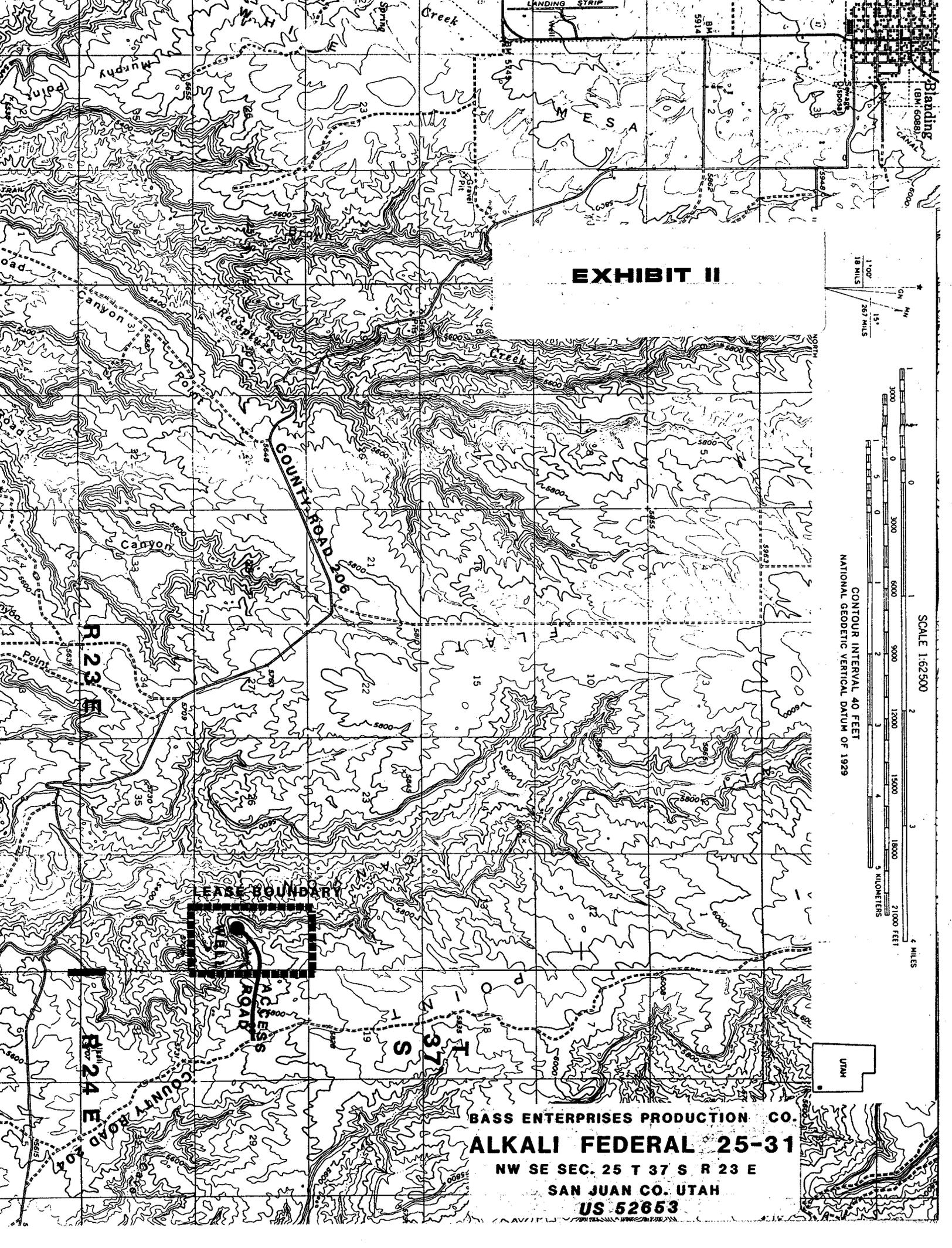
I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Bass Enterprises Production Co. 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.

3-27-87

Date

Mike Brewer

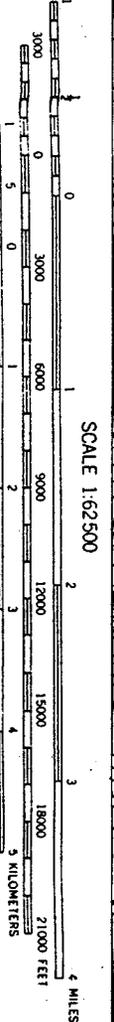
Mike Brewer  
Senior Engineer



Blading  
BM 6088

# EXHIBIT II

1"=100'  
267 METERS



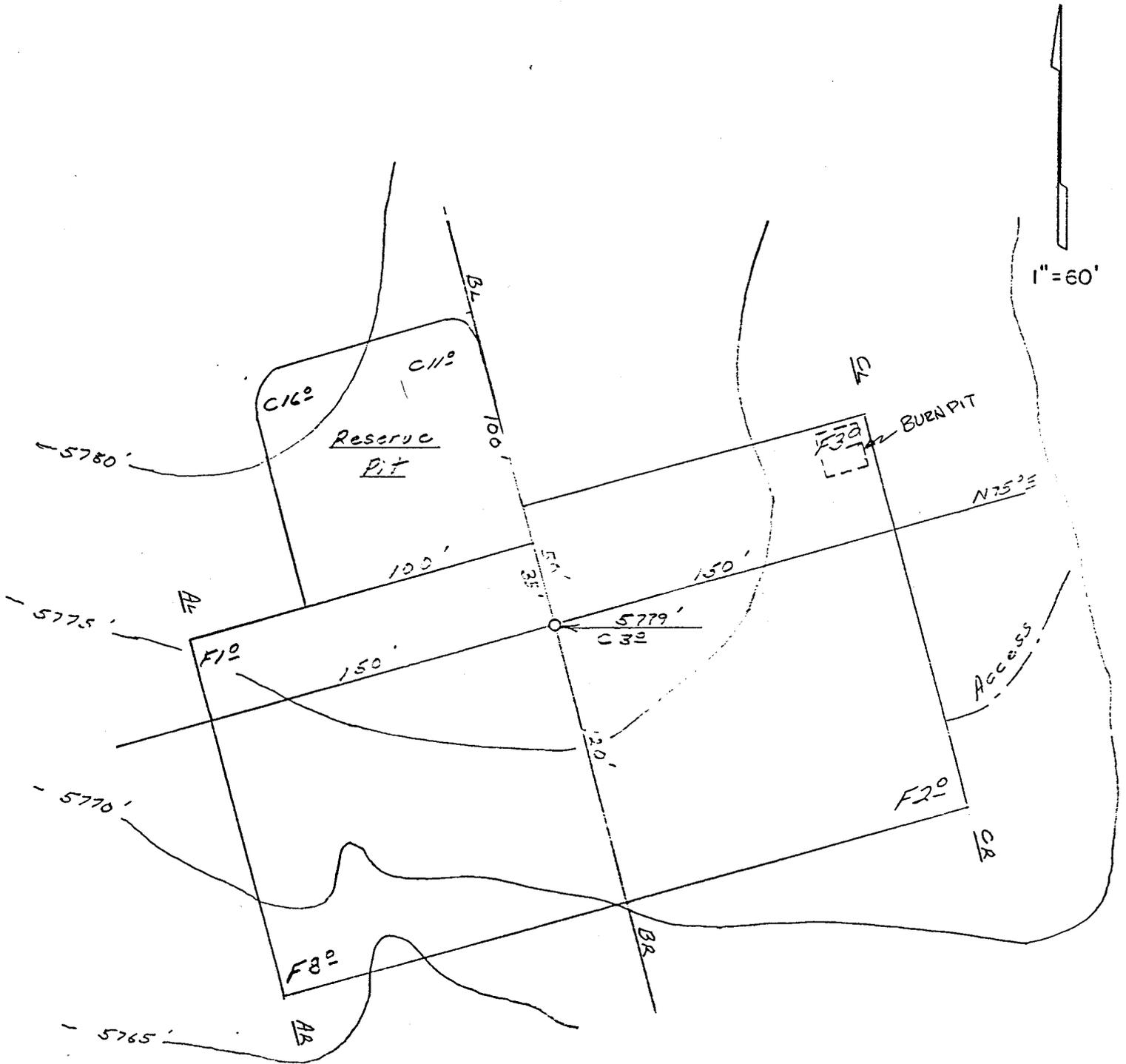
SCALE 1:62500  
CONTOUR INTERVAL 40 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM

BASS ENTERPRISES PRODUCTION CO.  
**ALKALI FEDERAL 25-31**  
NW SE SEC. 25 T 37 S R 23 E  
SAN JUAN CO. UTAH  
**US 52653**

# EXHIBIT III

Fad Planview  
Alkali Federal 25-31



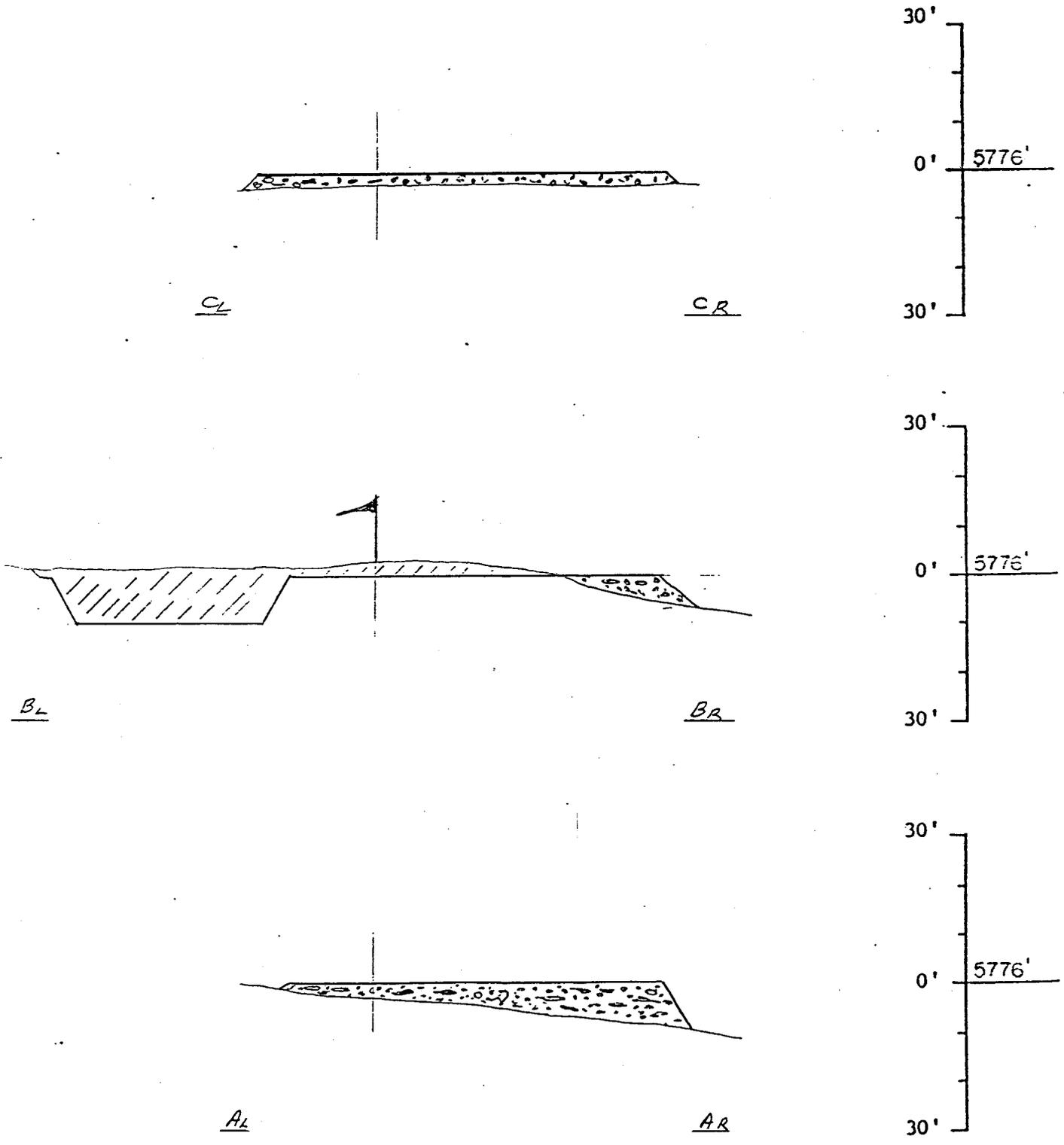
WELL PAD CROSS-SECTION

**EXHIBIT IV**

Alkali Federal 25-31

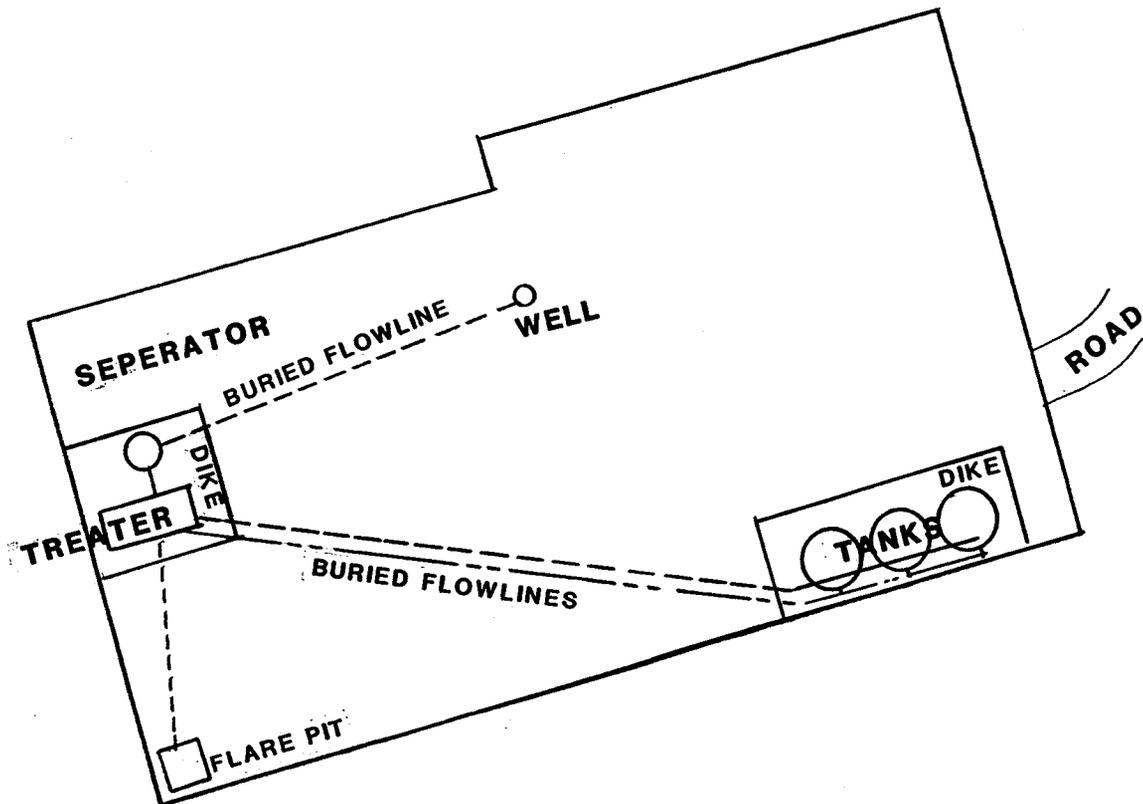
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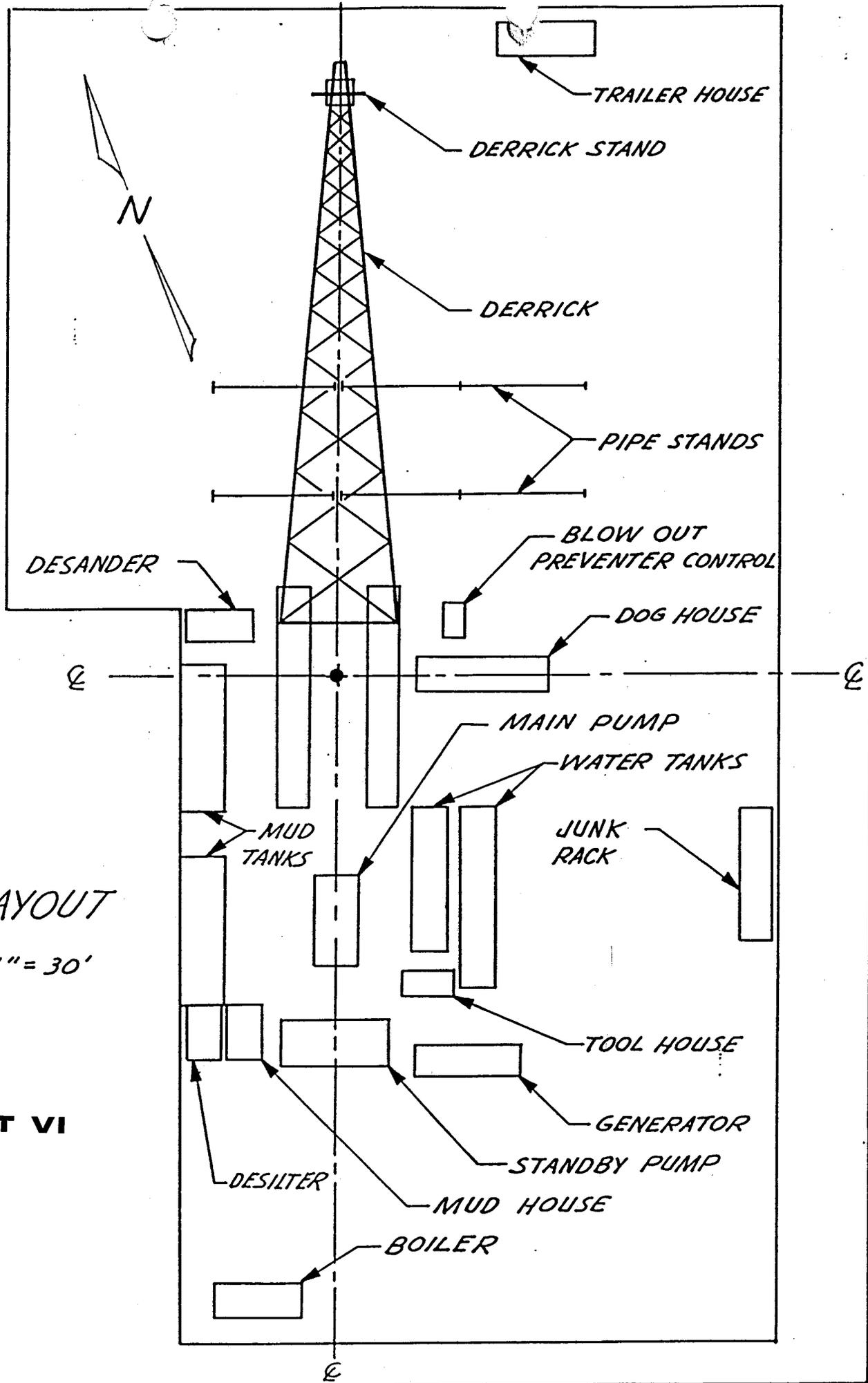
Scales: 1" = 60' H.  
1" = 30' V.



PROPOSED PRODUCTION FACILITY

ALKALI FEDERAL 25-31





RIG LAYOUT

SCALE: 1" = 30'

EXHIBIT VI

040914

OPERATOR Bass Enterprise Prod. Co. DATE 4-3-87

WELL NAME Alkali Fed. 25-31

SEC NWSE 25 T 37S R 23E COUNTY San Juan

43-037-31315  
API NUMBER

Fed  
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

No other well in Sec. 25.  
Water - #09-1512 (T-62395)

APPROVAL LETTER:

SPACING:  203 \_\_\_\_\_ UNIT

302

\_\_\_\_\_ CAUSE NO. & DATE

302.1

STIPULATIONS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

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

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

April 8, 1987

10465  
Bass Enterprises Production Company  
1099 18th Street, Suite 1600  
Denver, Colorado 80202

Gentlemen:

Re: Alkali Federal 25-31 - NW SE Sec. 25, T. 37S, R. 23E  
1980' FSL, 1980' FEL - San Juan County, Utah

Approval to drill the referenced well is hereby granted in accordance with Rule 302, Oil and Gas Conservation General Rules.

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

1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.
4. Compliance with the requirements and regulations of Rule 311.3, Associated Gas Flaring, Oil and Gas Conservation General Rules.
5. Prior to commencement of the proposed drilling operations, plans for toilet facilities and the disposal of sanitary waste at the drill site shall be submitted to the local health department having jurisdiction. Any such drilling operations and any subsequent well operations must be conducted in accordance with applicable state and local health department regulations. A list of all local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 533-6163.

Page 2  
Bass Enterprises Production Company  
Alkali Federal 25-31  
April 8, 1987

6. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31315.

Sincerely,



R. J. Firth  
Associate Director, Oil & Gas

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

RECEIVED  
APR 13 1987  
RECEIVED  
APR 13 1987

# FILING FOR WATER IN THE STATE OF UTAH

*file* *Dug*  
042204

Rec. by DLT  
Fee Paid \$ 15.00  
Platted # 22083  
Microfilmed \_\_\_\_\_  
Roll # \_\_\_\_\_

## APPLICATION TO APPROPRIATE WATER

**DIVISION OF OIL & GAS MINING**  
For the purpose of acquiring the right to use a portion of the unappropriated water of the State of Utah, Application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of the Laws of Utah.

43-037-31315

WATER USER CLAIM NO. 09 - 1512

APPLICATION NO. T62395

1. PRIORITY OF RIGHT: April 3, 1987

FILING DATE: April 3, 1987

2. OWNER INFORMATION

Name: Bass Enterprises Production Company  
Address: 1099 18th Street, Suite 1600, Denver, CO 80202  
The land is not owned by the applicant(s), see explanatory.

3. QUANTITY OF WATER: 4.0 acre feet (Ac. Ft.)

4. SOURCE: Pond - Gore Property    DRAINAGE: San Juan River    COUNTY: San Juan  
POINT(S) OF DIVERSION:

(1) S. 2450 feet, W. 500 feet, from the NE Corner of Section 12,  
Township 38 S, Range 24 E, SLB&M  
Source: Gore Pond

Description of Diverting Works: Portable pump and tank trucks  
COMMON DESCRIPTION: 7.5 mi. No. Hatch Trading Post

5. NATURE AND PERIOD OF USE

Oil Exploration From May 1 to June 30.

6. PURPOSE AND EXTENT OF USE

Oil Exploratio: Oil well drilling

EXPLANATORY

Land is BLM. Bass Enterprises is the operator of the oil and gas lease. The water will be used for drilling and completing oil well. The well to be drilled is the Alkali Federal 25-31 located in NW4SE4 Sec. 25, T37S, R23E, SLB&M.

\*\*\*\*\*

The applicant hereby acknowledges he/they are a citizen(s) of the United States or intends to become such a citizen.

\*\*\*\*\*

The quantity of water sought to be appropriated is limited to that which can be beneficially used for the purpose herein described.

\*\*\*\*\*

The undersigned hereby acknowledges that even though he/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 therein, at the time of filing, rests with the applicant(s).

---

Signature of Applicant

STATE ENGINEER'S ENDORSEMENT

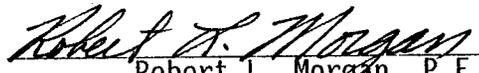
WATER RIGHT NUMBER: 09 - 1512

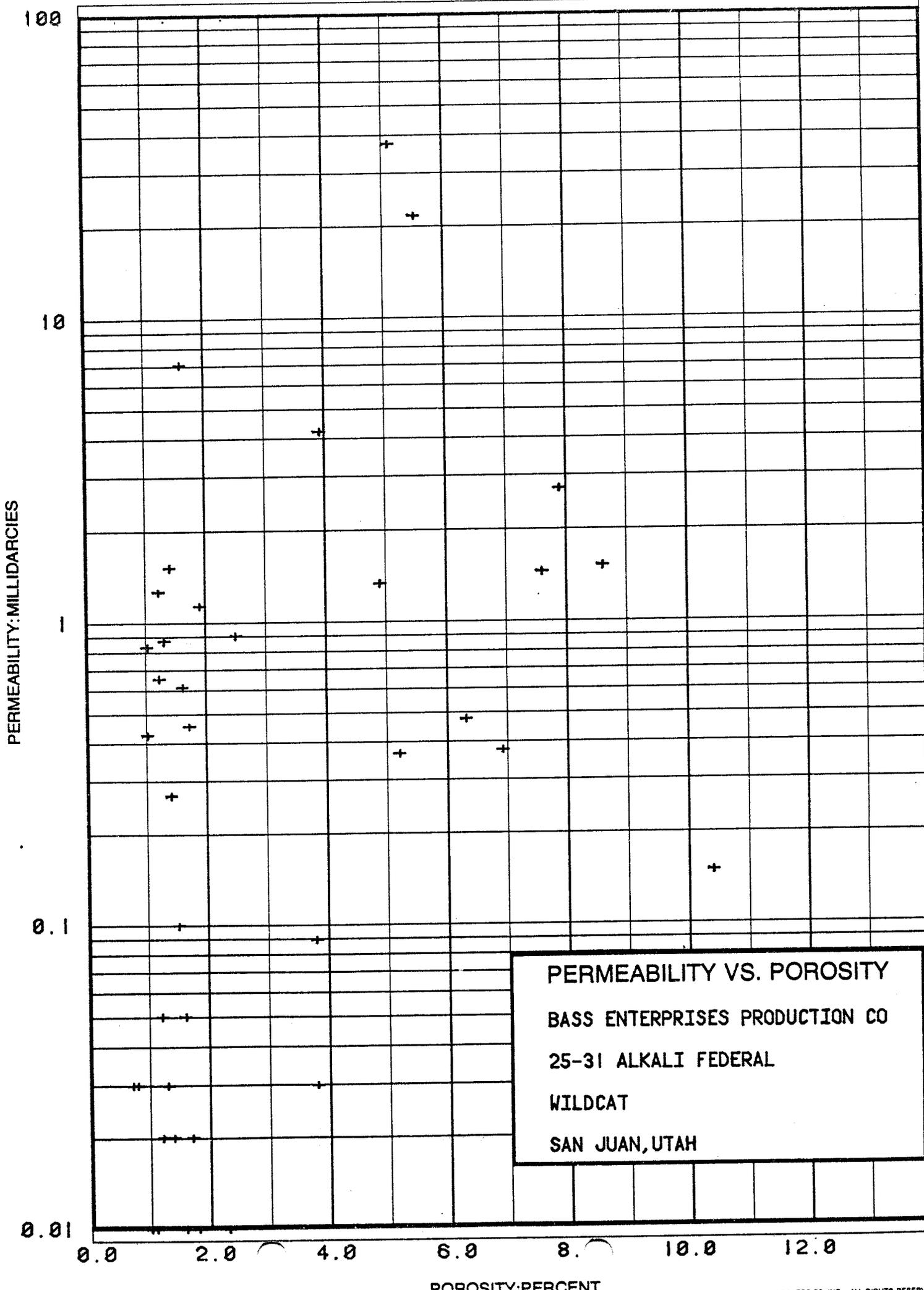
APPLICATION NO. T62395

1. April 3, 1987      Application received by MP.
  2. April 3, 1987      Application designated for APPROVAL by MP and SG.
  3. Comments:
- 
- 

Conditions:

This application is hereby APPROVED, dated April 10, 1987, subject to prior rights and this application will expire on April 10, 1988.

  
\_\_\_\_\_  
Robert L. Morgan, P.E.  
State Engineer



**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*  
 DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: BASS ENTERPRISES PRODUCTION CO      WELL                   : 25-31 ALKALI FEDERAL  
 FIELD   : WILDCAT                               COUNTY, STATE: SAN JUAN, UTAH

AIR PERMEABILITY : MD.           ( HORIZONTAL    ) RANGE USED   0.000 TO   40.  
 POROSITY           : PERCENT   (   HELIUM       ) RANGE USED   0.0    TO 46.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS                   : 6155.0 - 6194.0      INTERVAL LENGTH :       39.0  
 FEET ANALYZED IN ZONE       :       39.0            LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

POROSITY AVERAGE	PERMEABILITY AVERAGES		
	ARITHMETIC	HARMONIC	GEOMETRIC
3.0	2.3	0.04	0.24

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

5. LEASE DESIGNATION AND SERIAL NO.  
US-52653

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME  
**042106**

8. FARM OR LEASE NAME  
Alkali Federal

9. WELL NO.  
25-31

10. FIELD AND POOL, OR WILDCAT  
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
25 37S, 23E

12. COUNTY OR PARISH | 13. STATE  
San Juan | UT

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  
Bass Enterprises Production Co.

3. ADDRESS OF OPERATOR  
1099 18th St., Suite 1600, Denver, CO 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
At surface  
1980 FSL 1980 FEL NW SE Section 25, T37S, R23E S.L.M.  
At proposed prod. zone  
Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
15 miles southeast of Blanding, Utah

15. DISTANCE FROM PROPOSED\* 660' to West drilling LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) unit line

16. NO. OF ACRES IN LEASE  
320

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. NA

19. PROPOSED DEPTH  
6600

20. ROTARY OR CABLE TOOLS  
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
5779 GL (Ungraded)

22. APPROX. DATE WORK WILL START\*  
May 1, 1987

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13 1/2	9-5/8 (New)	36# K55STC	2300	1410 sacks Light & C1 'G'
7-7/8	5 1/2 (New)	15.5# K55STC	6600	*

\*volume to be determined from pay zone and calculated caliper log

**RECEIVED**  
APR 17 1987

DIVISION OF  
OIL, GAS & MINING

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

24. SIGNED Lon Horv TITLE Production Foreman DATE 3/30/87

(This space for Federal or State office use)

PERMIT NO. 43-037-31315 APPROVAL DATE \_\_\_\_\_  
APPROVED BY /s/ GENE NODINE TITLE DISTRICT MANAGER DATE APR 14 1987

CONDITIONS OF APPROVAL, IF ANY:

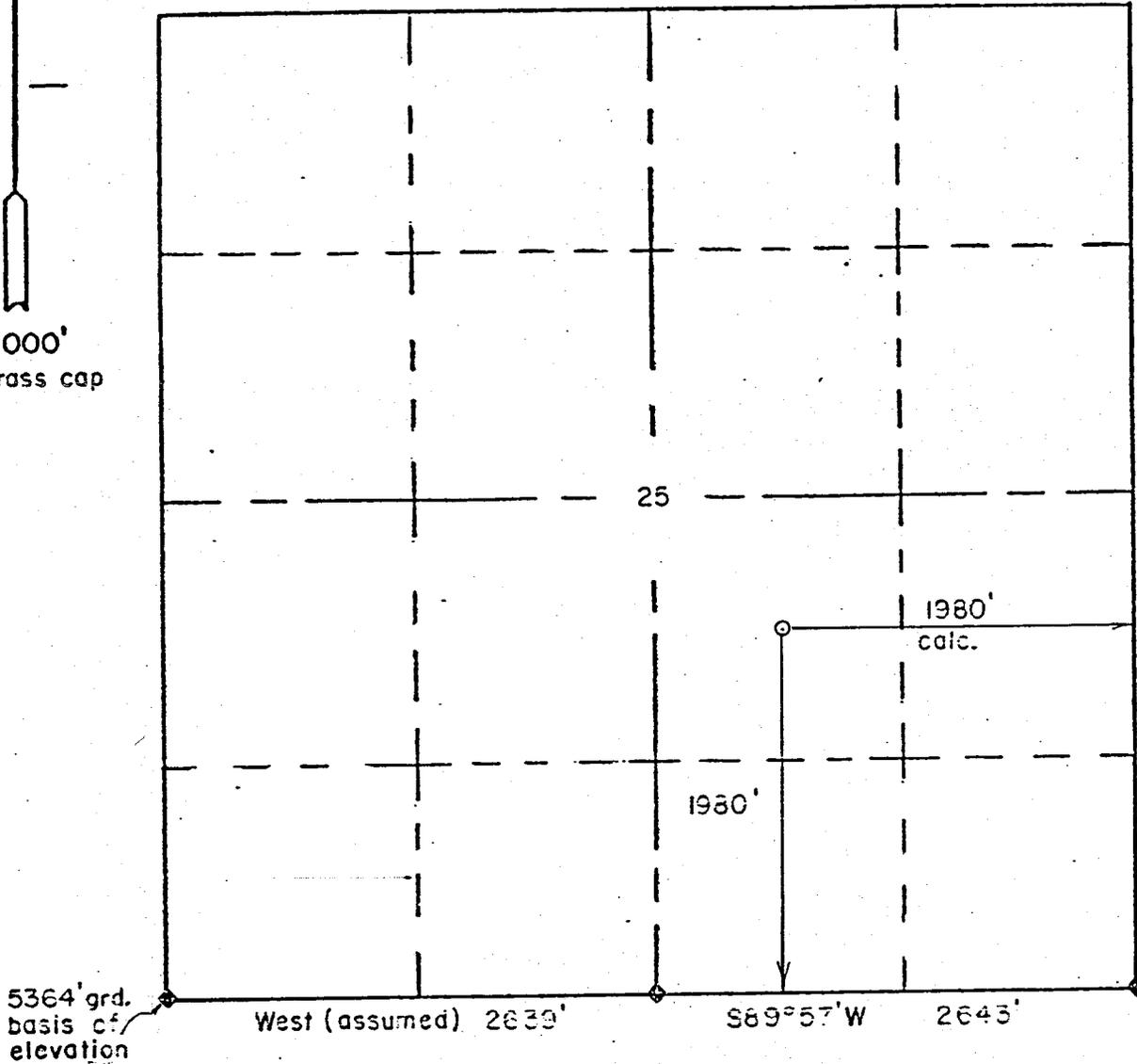
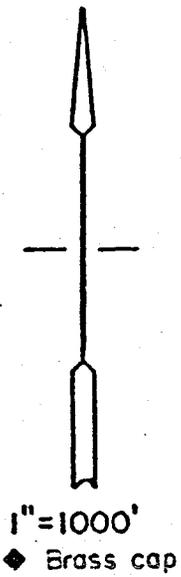
FLARING OR VENTING OF GAS IS SUBJECT OF NTL 4-A DATED 1/1/80

CONDITIONS OF APPROVAL ATTACHED

SUBJECT TO RIGHT OF WAY APPROVAL

WELL LOCATION PLAT

**EXHIBIT I**



WELL LOCATION DESCRIPTION:

BASS ENTERPRISES  
 Alkali Federal 25-31  
 1980' FSL & 1980' FEL  
 Section 25, T.37 S., R.23 E., SLM  
 5779' ground elevation  
 San Juan County, Utah  
 References: 200' North 5782'  
 200' East 5773'

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

03-21-'87

*Gerald C. Huddleston*  
 Gerald C. Huddleston, LS

REGISTERED LAND SURVEYOR  
 No. 5705  
 GERALD C. HUDDLESTON  
 STATE OF UTAH

Bass Enterprises Production Company  
Well No. Alkali Federal 25-31  
Sec. 25, T. 37 S., R. 23 E.  
San Juan County, Utah  
Lease U-52653

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.

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

A. DRILLING PROGRAM

All lease operations will be conducted in full compliance with applicable regulations (43 CFR 3100), Onshore Oil and Gas Order 1, 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.

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 District Office. If operations are to be suspended, prior approval of the District Office will be obtained and notification given before resumption of operations.

The spud date will be reported orally to the District Office within a minimum of 24 hours prior to spudding. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the District Office within 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.

In accordance with Onshore 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 continued each month until the well is plugged and abandoned. This report will be sent to the District Office, P.O. Box 970, Moab, Utah 84532.

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

If a replacement rig is needed for completion operations, a Sundry Notice (Form 3160-5) to that effect will be filed for prior approval from the District Office, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig. In emergency situations verbal approval to bring on a replacement rig will be approved through the District Office.

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 to the District Office not later than thirty (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 Moab District Manager.

If the well is to be completed for production the Area Office is to be contacted in order to set up a pre-production conference. When the well is placed in a producing status the District Office is to be notified by telegram or other written communication within five working days.

Approval to vent/flare gas during initial well evaluation will be obtained from the District Office. This preliminary approval will not exceed 30 days. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.

No well abandonment operations will be commenced without the prior approval of the District Office. In the case of newly-drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the District Office. A Subsequent Report of Abandonment (Form 3160-5) will be sent to the District Office 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 Area Office, or the appropriate surface managing agency. Upon completion of approved plugging a dry hole marker will be erected in accordance with 43 CFR 3162.6. The top of the marker will be closed or capped. The following minimum information will be permanently placed on the marker; "Fed" or "Ind", as applicable, "Lease number", "Well number", location of well by 1/41/4 section, township, and range.

B. THIRTEEN POINT SURFACE USE PLAN

1. Existing Roads:

An encroachment permit will be obtained from the San Juan County Road Dept., (801) 587-2231, ext. 43.

2. Planned Access Roads:

- a. The maximum total disturbed width will be 30 feet for 1 1/4 miles.
- b. Surface Materials: If access is utilized during wet winter weather, road surfacing may be required to prevent road maintenance problems.
- c. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance by the San Juan Area Manager.

The access road will be water barred or brought to Class III Road Standards within 60 days of dismantling of the drill rig. If this time frame cannot be met, the San Juan Area Manager will be notified so that temporary drainage control can be installed along the access road.

The Class III Road Standards which ensure drainage control over the entire road through the use of natural, rolling topography; ditch turnouts; drainage dips; outsloping; crowning; low water crossings; and culverts will be determined at the appropriate field inspection.

3. Location of Tank Batteries and Production Facilities:

All permanent (on site for 6 months or longer) above ground facilities (including pump jacks) will be painted a flat, nonreflective, earthtone color to match the standard environmental colors, as determined by the Rocky Mountain 5-State Interagency Committee. All facilities will be painted within 6 months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded.

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

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

Gas meter runs for each well will be located within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and 500 feet downstream of the meter run or any production facilities. Meter runs will be housed and/or fenced.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place before any deliveries. Tests for meter accuracy will be conducted monthly for the first 3 months on new meter installations and at least quarterly thereafter. The San Juan Area Manager will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the San Juan Area Manager. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

4. Methods of Handling Waste Disposal:

A burning permit is required for burning trash between May 1 and October 31. This can be acquired by contacting the San Juan County Sheriff.

5. Well Site Layout:

The reserve pit will be located: on the northwest end.

The top 2-3 inches of soil material will be removed from the location and stockpiled with the trees in the corner between the pit and pad. Topsoil along the access will be reserved in place.

Access to the well pad will be from the east.

6. Reclamation:

- a. All disturbed areas will be recontoured to blend as nearly as possible with the natural topography. This includes removing all berms and refilling all cuts.
- b. The stockpiled topsoil will be spread evenly over the disturbed area. All disturbed areas will be ripped 12 inches deep with the contour.
- c. Seed will be broadcast between October 1 and February 28 with the following prescription. A harrow or similar implement will be dragged over the area to assure seed cover.

6 lbs/acre crested wheatgrass (Agropyron desertorum)  
2 lbs/acre Fourwing saltbush (Atriplex canescens)  
2 lbs/acre Cliffrose (Cowania mexicana)  
1 lb/acre Yellow sweet clover

- d. After seeding is complete, the stockpiled trees will be scattered evenly over the disturbed areas. The access will be blocked to prevent vehicular access.
- e. The reserve pit and that portion of the location and access road not needed for production or production facilities will be reclaimed as described in the reclamation section. Enough topsoil will be kept to reclaim the remainder of the location at a future date. This remaining stockpile of topsoil will be seeded in place using the prescribed seed mixture.

7. Other Information:

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

"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.

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

If subsurface cultural materials are exposed during construction, construction, work in that spot will stop immediately and the San Juan Resource Area Office will be contacted. All people who are in the area will be informed by the operator/holder that they are subject to prosecution for disturbing archaeological sites or picking up artifacts. Salvage or excavation of identified archaeological sites will be done by a BLM approved archaeologist only if damage occurs.

This permit will be valid for a period of one year from the date of approval. After permit termination a new application will be filed for approval for any future operations.



050404

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API #43-037-31315

NAME OF COMPANY: Bass Enterprises

WELL NAME: Alkali Federal 25-31

SECTION NW SE 25 TOWNSHIP 37S RANGE 23E COUNTY San Juan

DRILLING CONTRACTOR Coleman

RIG # 4

SPUDED: DATE 4-27-87

TIME 12:00 Midnight

HOW Rotary

DRILLING WILL COMMENCE \_\_\_\_\_

REPORTED BY Ken Moore

TELEPHONE # (303) 292-1314

DATE 4-30-87 SIGNED AS

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

TRIPPLICATE\*  
(Other instructions on reverse side)

*Duly*

**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. US-52653	
2. NAME OF OPERATOR Bass Enterprises Production Co.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME <b>051413</b>	
3. ADDRESS OF OPERATOR 1099 18th St., Suite 1600 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 1980 FSL 1980 FEL NW SE Section 25, T37S, R23E S.L.M.		8. FARM OR LEASE NAME Alkali Federal	
14. PERMIT NO. 43-037-31315		9. WELL NO. 25-31	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5779 GL (Ungraded)		10. FIELD AND POOL, OR WILDCAT Wildcat	
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA 25-37S-23E	
		12. COUNTY OR PARISH San Juan	13. STATE UT

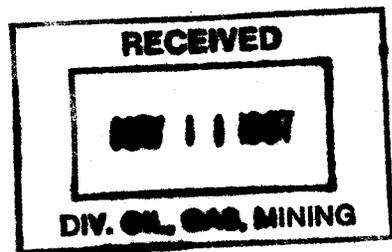
16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

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) <u>Surface Casing</u> <input checked="" type="checkbox"/>	
(Other) <input type="checkbox"/>		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

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

Set additional 376' 13-3/8" 48# J55 STC conductor pipe. Cmt w/100 sx 'G' 2% CaCl<sub>2</sub> 10#/sx gilsonite. Fill annulus w/Pea gravel and top with cmt.

Set 2260' 9-5/8" 36# K55 STC. Cmt to surface with 405 sx Howco Lite 2% CaCl<sub>2</sub>, 10#/sx gilsonite, .5% Halad 4 and 290 sx Class 'G', 10#/sx gilsonite, .5% Halad 4.



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

SIGNED *[Signature]* TITLE Division Engineer DATE May 7, 1987

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY**

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

Form approved.  
Budget Bureau No. 42-R355.5.

061103

5. LEASE DESIGNATION AND SERIAL NO.

US-52653

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Alkali Federal

9. WELL NO.

25-31

10. FIELD AND POOL, OR WILDCAT

wildcat

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

25 37S, 23E

12. COUNTY OR PARISH

San Juan

13. STATE

UT

19. ELEV. CASINGHEAD

**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.  Other \_\_\_\_\_

2. NAME OF OPERATOR  
Bass Enterprises Production Co.

3. ADDRESS OF OPERATOR  
1099 18th St., Ste. 1600, Denver, CO 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*  
At surface  
1980 FSL 1980 FEL NW SE Sec. 25 T37S, R23E, S.L.M.  
At top prod. interval reported below  
same  
At total depth  
same

14. PERMIT NO. 43-037-31315  
DATE ISSUED 4-14-87

15. DATE SPUNDED 4-27-87  
16. DATE T.D. REACHED 5-15-87  
17. DATE COMPL. (Ready to prod.) P & A  
18. ELEVATIONS (DF, REB, RT, GR, ETC.)\*  
19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 6444'  
21. PLUG, BACK T.D., MD & TVD  
22. IF MULTIPLE COMPL., HOW MANY\*  
23. INTERVALS DRILLED BY → All  
ROTARY TOOLS  
CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*  
25. WAS DIRECTIONAL SURVEY MADE  
Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN  
DLL, LDT-CNL, MOP, BHC 11-19-87  
27. WAS WELL CORED  
Yes

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8	48#	376	14 3/4	100 C1 G	none
9 5/8	36#	2260	12 1/4	695 C1 G	none

29. LINER RECORD

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

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

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

33.\* PRODUCTION

DATE FIRST PRODUCTION \_\_\_\_\_ PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) \_\_\_\_\_ WELL STATUS (Producing or shut-in) P & A

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF	WATER—BBL.	GAS-OIL RATIO

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

**RECEIVED**  
JUN 09 1987  
TEST WITNESSED BY

35. LIST OF ATTACHMENTS  
Logs

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

SIGNED [Signature] TITLE PRODUCTION FOREMAN DATE 6-4-87

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

# INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on Items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

**Item 4:** If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

**Item 18:** Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

**Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

**Item 29:** "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

**Item 33:** Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

**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 LINED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Entrada	1042'		
Carmel	1190'		
Navajo	1260'		
Kayenta	1714'		
Wingate	1872'		
Chinle	2160'		
Shinarump	2850'		
Cutler Group-			
Hoskinini	2920'		
DeChelly	3140'		
Rico	3800'		
Honaker Trail	5075'		
Upper Ismay	6056'		
Hovenweep	6194'		
Lower Ismay	6220'		
Gothic	6274'		
Desert Creek	6303'		
Chimney Rock	6386'		
Akah	6414'		
Salt	6441'		

**38. GEOLOGIC MARKERS**

NAME	TOP	
	MEAS. DEPTH	TRUE VEERT. DEPTH

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

EXPIRES AUGUST 31, 1985  
SUBMIT IN REPLICABLE  
(Other instructions on re-  
verse side)

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.)

5. LEASE DESIGNATION AND SERIAL NO.

US-52653

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Alkali Federal

9. WELL NO.

25-31

10. FIELD AND POOL, OR WILDCAT

wildcat

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

25 37S, 23E

12. COUNTY OR PARISH

San Juan

13. STATE

UT

OIL WELL  GAS WELL  OTHER

2. NAME OF OPERATOR

Bass Enterprises Production Co.

3. ADDRESS OF OPERATOR

1099 18th St., Ste. 1600, Denver, CO 80202

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

At surface

1980 FSL 1980 FEL NW SE Sec. 25, T37S, R23E, S.L.M.

14. PERMIT NO.

43-037-31315

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

5779 GL (ungraded)

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON\*

CHANGE PLANS

P & A

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

(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.)\*

Intend to plug well as follows per BLM:

Plug #1	6200 to 6000'	100 SX	Cl G
Plug #2	2300 to 2200'	50 SX	Cl G
Plug #3	100 to 0'	50 SX	Cl G

RECEIVED  
JUN 09 1987

DIVISION OF  
OIL, GAS & MINING

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

SIGNED

*[Signature]*

TITLE

PRODUCTION FOREMAN

6-4-87

DATE

6-4-87

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

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

DATE: 6-18-87

BY: *[Signature]*

Federal approval of this action is required before commencing operations.

\*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.

**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*  
 DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: BASS ENTERPRISES PRODUCTION CO  
 FIELD : WILDCAT

WELL : 25-31 ALKALI FEDERAL  
 COUNTY, STATE: SAN JUAN, UTAH

GROUPING BY POROSITY RANGES

POROSITY RANGE	FEET IN RANGE	AVERAGE POROSITY	AVERAGE PERM.		FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
			(GEOM.)	(ARITH)		
0.0 - 2.0	24.0	1.3	0.123	0.652	61.5	61.5
2.0 - 4.0	5.0	3.3	0.160	1.1	12.8	74.4
4.0 - 6.0	4.0	5.2	4.5	15.	10.3	84.6
6.0 - 8.0	4.0	7.2	0.925	1.3	10.3	94.9
8.0 - 10.0	1.0	8.6	1.5	1.5	2.6	97.4
10.0 - 12.0	1.0	10.4	0.150	0.150	2.6	100.0

TOTAL NUMBER OF FEET = 39.0

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: BASS ENTERPRISES PRODUCTION CO  
 FIELD : WILDCAT

WELL : 25-31 ALKALI FEDERAL  
 COUNTY, STATE: SAN JUAN, UTAH

GROUPING BY PERMEABILITY RANGES

PERMEABILITY RANGE	FEET IN RANGE	AVERAGE PERM. (GEOM.)	AVERAGE PERM. (ARITH)	AVERAGE POROSITY	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.010 - 0.020	5.0	0.010	0.010	1.6	12.8	12.8
0.020 - 0.039	7.0	0.025	0.026	1.6	17.9	30.8
0.039 - 0.078	2.0	0.050	0.050	1.4	5.1	35.9
0.078 - 0.156	3.0	0.111	0.113	5.2	7.7	43.6
0.156 - 0.312	1.0	0.270	0.270	1.4	2.6	46.2
0.312 - 0.625	6.0	0.450	0.457	3.8	15.4	61.5
0.625 - 1.250	5.0	0.873	0.886	1.6	12.8	74.4
1.250 - 2.500	5.0	1.4	1.4	4.7	12.8	87.2
2.500 - 5.000	2.0	3.4	3.5	5.9	5.1	92.3
5.- 10.	1.0	7.2	7.2	1.6	2.6	94.9
20.- 40.	2.0	29.	30.	5.3	5.1	100.0

TOTAL NUMBER OF FEET = 39.0

**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*  
 DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: BASS ENTERPRISES PRODUCTION CO      WELL                    : 25-31 ALKALI FEDERAL  
 FIELD : WILDCAT                                    COUNTY, STATE: SAN JUAN, UTAH

POROSITY-FEET OF STORAGE CAPACITY LOST FOR SELECTED POROSITY CUT OFF

POROSITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	ARITH MEAN	MEDIAN
0.0	0.0	0.0	39.0	100.0	3.0	
2.0	24.0	27.5	15.0	72.5	5.6	5.3
4.0	29.0	41.5	10.0	58.5	6.8	6.5
6.0	33.0	59.2	6.0	40.8	8.0	
8.0	37.0	83.7	2.0	16.3	9.5	10.0
10.0	38.0	91.1	1.0	8.9	10.4	
12.0	39.0	100.0	0.0	0.0		

TOTAL STORAGE CAPACITY IN POROSITY-FEET =            116.9

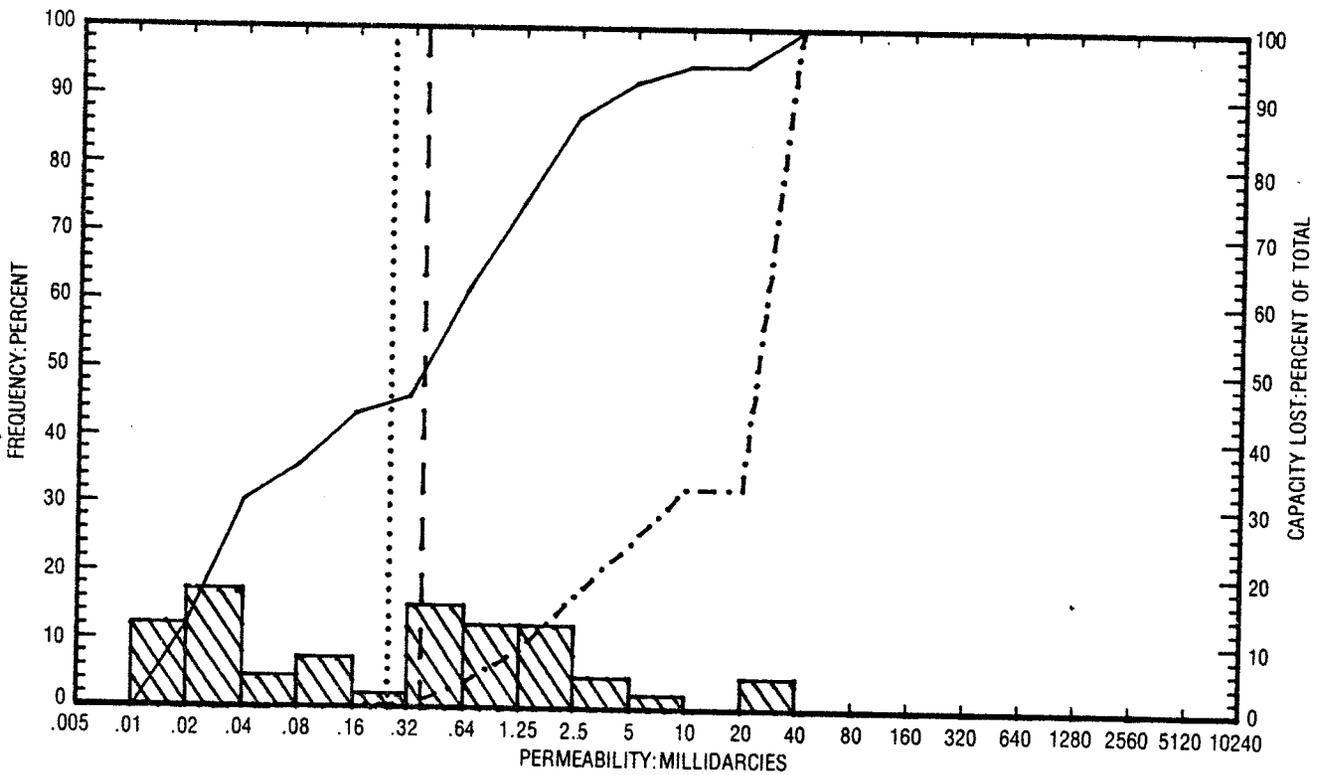
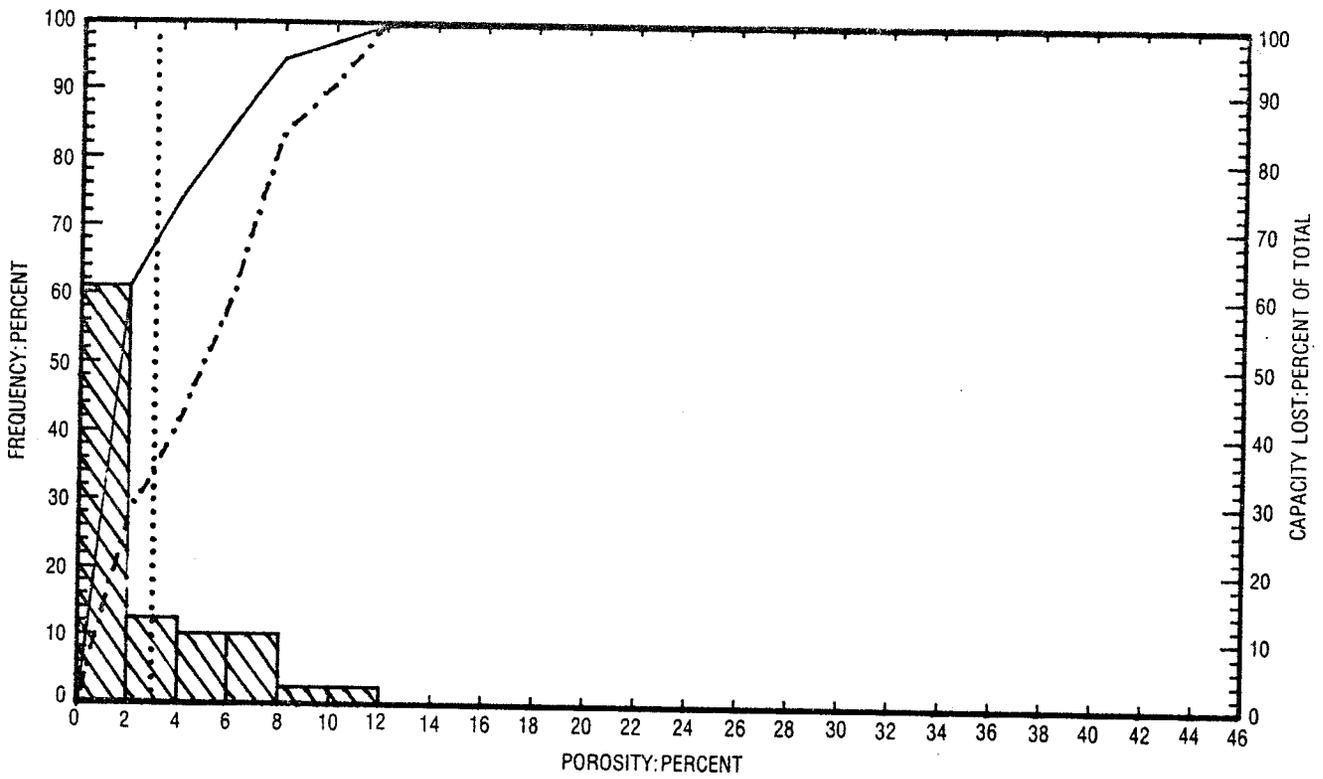
STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: BASS ENTERPRISES PRODUCTION CO      WELL                    : 25-31 ALKALI FEDERAL  
 FIELD    : WILDCAT                                    COUNTY, STATE: SAN JUAN, UTAH

MILLIDARCY-FEET OF FLOW CAPACITY LOST FOR SELECTED PERMEABILITY CUT OFF

PERMEABILITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	GEOM MEAN	MEDIAN
0.005	0.0	0.0	39.0	100.0	0.24	0.37
0.010	0.0	0.0	39.0	100.0	0.25	0.37
0.020	5.0	0.1	34.0	99.9	0.39	0.50
0.039	12.0	0.3	27.0	99.7	0.79	0.77
0.078	14.0	0.4	25.0	99.6	0.98	0.88
0.156	17.0	0.7	22.0	99.3	1.32	1.09
0.312	18.0	1.1	21.0	98.9	1.43	1.17
0.625	24.0	4.1	15.0	95.9	2.26	1.77
1.250	29.0	9.1	10.0	90.9	3.64	2.50
2.500	34.0	17.0	5.0	83.0	9.31	7.07
5.	36.0	24.9	3.0	75.1	18.17	23.78
10.	37.0	32.9	2.0	67.1	28.91	
20.	37.0	32.9	2.0	67.1	28.91	
40.	39.0	100.0	0.0	0.0		

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET (ARITHMETIC) = 89.41

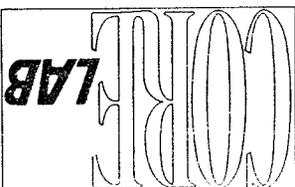


PERMEABILITY AND POROSITY HISTOGRAMS

BASS ENTERPRISES PRODUCTION CO  
 25-31 ALKALI FEDERAL  
 WILDCAT  
 SAN JUAN, UTAH

LEGEND  
 ARITHMETIC MEAN POROSITY .....  
 GEOMETRIC MEAN PERMEABILITY .....  
 MEDIAN VALUE -----  
 CUMULATIVE FREQUENCY \_\_\_\_\_  
 CUMULATIVE CAPACITY LOST -.-.-.-

**CORE LABORATORIES, INC.**



*Petroleum Reservoir Engineering*

COMPANY: BASS ENTERPRISES PRODUCTION COMPANY  
 WELL: 25-31 ALKALI FEDERAL  
 FIELD: WILDGAT  
 COUNTY: SAN JUAN  
 STATE: UTAH  
 DRLG. FLD.: WBM  
 CORES: \_\_\_\_\_  
 DATE: 14-MAY-87  
 FORMATION: PARADOX  
 ELEV.: 5793 KB  
 ENGRS: DS:SF  
 FILE NO.: 43806-3463

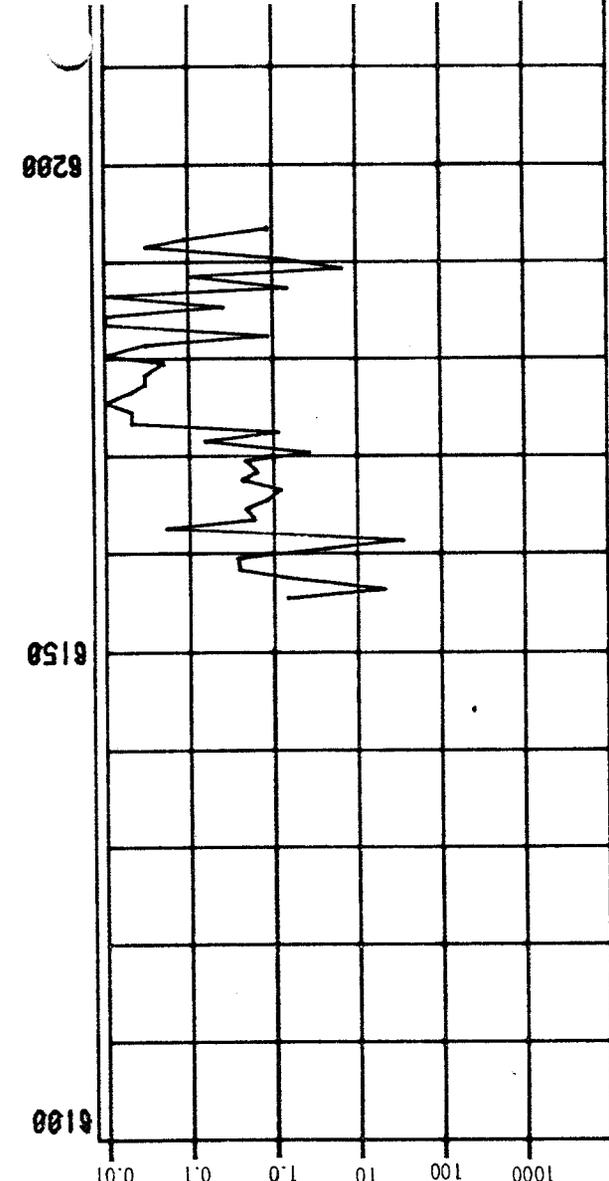
**COres Log**  
**CORE and RESISTIVITY EVALUATION**

These analyses depend on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations of opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted). Core Laboratories, Inc. and its officers and employees assume no responsibility and make no warranty or representation as to the productivity, operation, or performance of any oil, gas or other mineral well or sand in connection with which such report is used or read upon.

RESISTIVITY PARAMETERS:  $a = 1.0$ ,  $m = 2.0$ ,  $n = 2.0$ ;  $a = 1.0$ ,  $m = 2.0$ ,  $n = 2.0$ .  
 Depths 6155.0 to 6194.0  
 Depths \_\_\_\_\_ to \_\_\_\_\_

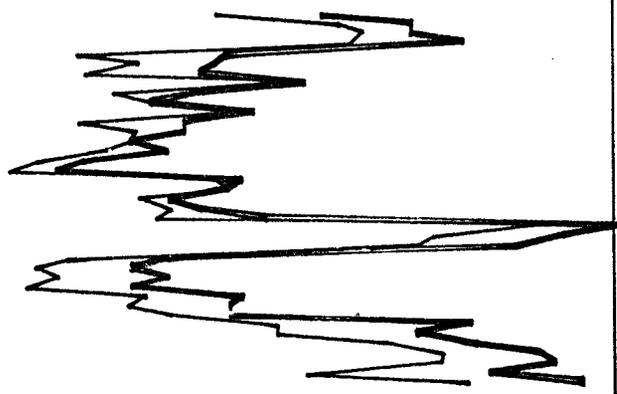
CORE ANALYSIS CALCULATED RESISTIVITY  
 $R_0$  = OHM-METERS AT 100%  $S_w$   
 $R_{mp}$  = OHM-METERS AT CRITICAL  $S_w$

PERMEABILITY MILLIDARCIES



← ONE OHM-METER REFERENCE FOR  $R_w = 0.01$

ISMAY ZONE



**CORE LABORATORIES, INC.**



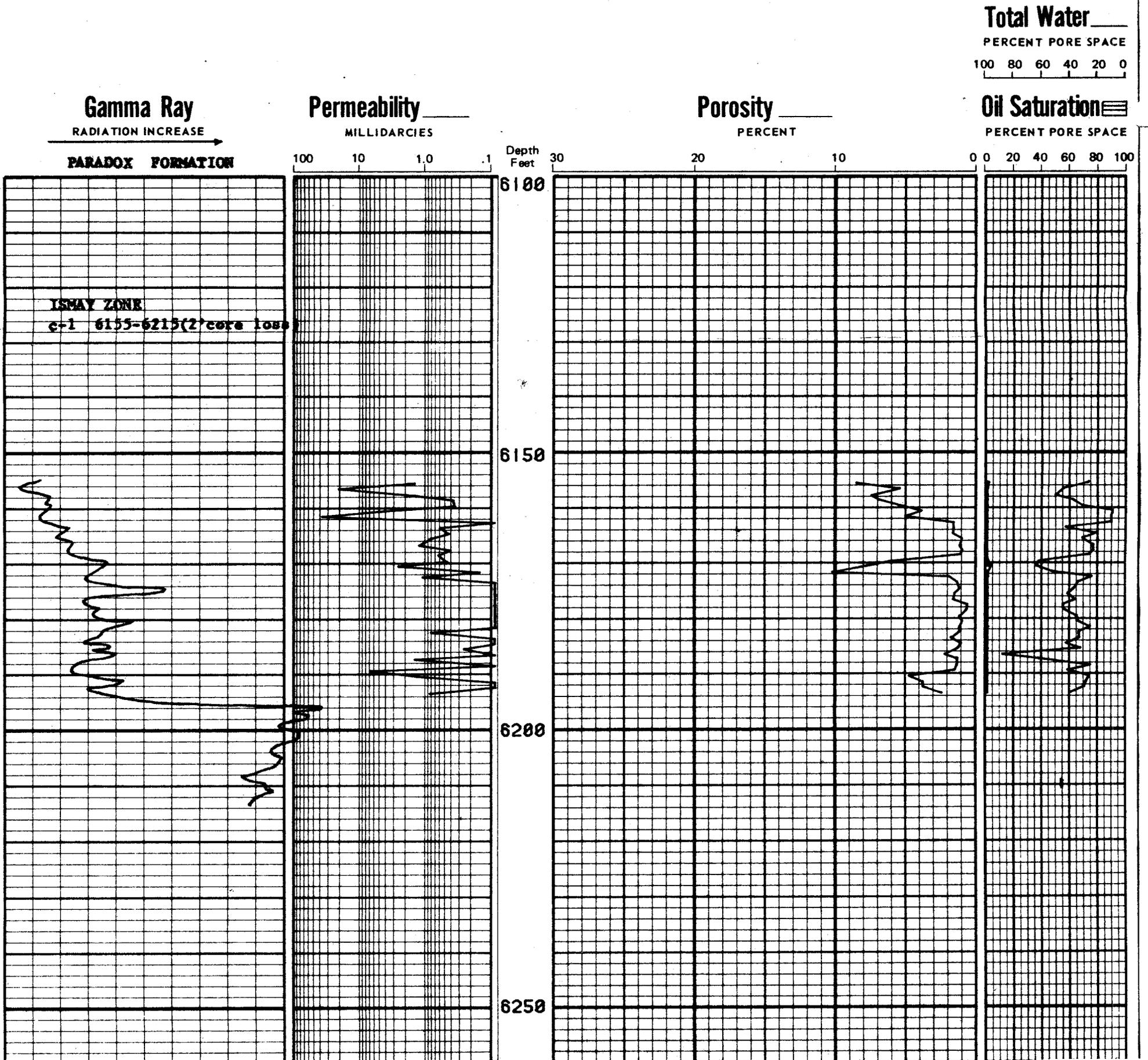
*Petroleum Reservoir Engineering*

COMPANY BASS ENTERPRISES PRODUCTION CO FILE NO. 43806-3463  
WELL 25-31 ALKALI FEDERAL DATE 14-MAY-87  
FIELD WILDCAT FORMATION PARADOX ELEV. 5793 KB  
COUNTY SAN JUAN STATE UTAH DRLG. FLD. WBM CORES \_\_\_\_\_  
LOCATION NW, SE SEC. 25-T379-R23E

# CORRELATION COREGRAPH

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

VERTICAL SCALE: 5" = 100'



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

US-52653

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

070727

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Alkali Federal

9. WELL NO.

25-31

10. FIELD AND POOL, OR WILDCAT

wildcat

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

25 37S, 23E

12. COUNTY OR PARISH

San Juan

13. STATE

UT

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  
Bass Enterprises Production Co.

3. ADDRESS OF OPERATOR  
1099 18th St., Ste. 1600, Denver, CO 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\* See also space 17 below.)  
At surface  
1980 FSL 1980 FEL NW SE Sec. 25, T37S, R23E, S.L.M.

14. PERMIT NO. 43-037-31315

15. ELEVATIONS (Show whether DF, RT, GR, etc.)  
5779 GL (ungraded)

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) _____	(Other) _____

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

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

Plugged well as follows per BLM on 5/16/87

Plug #1	6200 to 6000'	100 SX	C1 G
Plug #2	2300 to 2200'	50 SX	C1 G
Plug #3	100 to 0'	50 SX	C1 G

RECEIVED  
JUN 22 1987

DIVISION OF  
OIL, GAS & MINING

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

SIGNED

*Ken Harr*

TITLE

PRODUCTION FOREMAN

DATE

6-18-87

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

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

DATE: 6-29-87

BY: *[Signature]*

\*See Instructions on Reverse Side

COMPANY: BASS ENTERPRISES UT ACCOUNT # 10465 SUSPENSE DATE: \_\_\_\_\_

WELL NAME: ALKALI 25-31

TELEPHONE CONTACT DOCUMENTATION

API #: 430373/315

CONTACT NAME: CANDY SEC, TWP, RNG: 25 37S 23E

CONTACT TELEPHONE NO.: 1-303-292-1314

SUBJECT: REQUEST LOGS -

DLL

LDT-CNL

MOP

BHC

(Use attachments if necessary)

RESULTS: WILL HAVE TO REQUEST COPIES FROM SKUMBERGE (sp?)

AND WILL SEND TO US ASAP.

*need 11-19-87*

(Use attachments if necessary)

CONTACTED BY: VC

DATE: 11-17-87

*Please request  
Core report  
and logs  
please.*

*OKM Ada*

COMPANY: BASS ENTERPRISES UT ACCOUNT # N0465 SUSPENSE DATE: \_\_\_\_\_

WELL NAME: ALKALAI 25-31

TELEPHONE CONTACT DOCUMENTATION

API #: 430373/315

CONTACT NAME: CANDY SEC, TWP, RNG: 25 375 23E

CONTACT TELEPHONE NO.: 1-303-292-1314

SUBJECT: NEED CORE REPORT

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Use attachments if necessary)

RESULTS: WILL SEND

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Use attachments if necessary)

CONTACTED BY: VC

DATE: 11-19-87

CORE LABORATORIES, INC.  
*Petroleum Reservoir Engineering*  
DALLAS, TEXAS

CORE ANALYSIS REPORT

FOR

BASS ENTERPRISES PRODUCTION CO

25-31 ALKALI FEDERAL  
WILDCAT  
SAN JUAN, UTAH

PA  
43-037-31315

120126

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DIVISION OF  
OIL, GAS & MINING

**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*

DALLAS, TEXAS

BASS ENTERPRISES PRODUCTION CO  
 25-31 ALKALI FEDERAL  
 WILDCAT  
 SAN JUAN, UTAH

DATE : 14-MAY-87  
 FORMATION : PARADOX  
 DRLG. FLUID: WBM  
 LOCATION : NW,SE SEC. 25-T37S-R23E

FILE NO : 43806-3463  
 ANALYSTS : DS,SP  
 ELEVATION: 5793 KB

FULL DIAMETER ANALYSIS-BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	AIR (MD) 90 DEG	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
ISMAY ZONE CORE # 1 6155-6215									
1	6155.0-56.0	1.53	1.02	8.6	1.2	27.4	2.85	DOL LTBRN VFXLN ANHY	
2	6156.0-57.0	22.	5.41	5.5	0.0	44.1	2.88	DOL LTBRN VFXLN ANHY	**
3	6157.0-58.0	1.46	1.10	7.6	0.0	50.9	2.85	DOL LTBRN VFXLN ANHY	**
4	6158.0-59.0	0.38	0.32	6.9	0.0	38.2	2.86	DOL LTBRN VFXLN ANHY	
5	6159.0-60.0	0.37	0.36	5.2	0.0	30.5	2.88	DOL LTBRN VFXLN ANHY	
6	6160.0-61.0	4.25	2.39	3.9	0.0	10.2	2.89	DOL LTBRN VFXLN ANHY	**
7	6161.0-62.0	38.	0.83	5.1	0.0	11.3	2.88	DOL LTBRN VFXLN ANHY	**
8	6162.0-63.0	0.05	0.04	1.6	0.0	10.8	2.85	DOL LTBRN VFXLN ANHY	
9	6163.0-64.0	0.62	0.30	1.6	0.0	44.0	2.86	DOL LTBRN VFXLN ANHY SL/CALC	**
10	6164.0-65.0	0.46	0.36	1.7	0.0	21.3	2.85	DOL LTBRN VFXLN ANHY SL/CALC	**
11	6165.0-66.0	0.84	0.56	1.0	0.0	31.9	2.82	LM GRY VFXLN ANHY SL/DOL	**
12	6166.0-67.0	1.27	0.26	1.2	0.0	24.2	2.84	LM GRY VFXLN ANHY SL/DOL	**
13	6167.0-68.0	0.43	0.38	1.0	0.0	24.2	2.82	LM GRY VFXLN ANHY SL/DOL	**
14	6168.0-69.0	0.66	0.43	1.2	0.0	26.9	2.83	LM GRY VFXLN ANHY SL/DOL	**
15	6169.0-70.0	0.48	0.10	6.3	1.9	63.5	2.87	DOL LTBRN VFXLN ANHY	**
16	6170.0-71.0	2.75	1.25	7.9	2.8	64.9	2.82	DOL BRN VFXLN ANHY SL/CALC	**
17	6171.0-72.0	0.15	0.06	10.4	0.9	53.0	2.84	DOL BRN VFXLN ANHY SL/CALC	
18	6172.0-73.0	1.14	0.10	1.9	0.0	25.2	2.78	DOL DKGRY VFXLN ANHY SL/CALC	**
19	6173.0-74.0	0.02	0.01	1.4	0.0	35.0	2.75	LM GRY VFXLN ANHY SL/DOL	
20	6174.0-75.0	0.02	0.01	1.2	0.0	38.0	2.73	LM GRY VFXLN SL/ANHY FOSS	
21	6175.0-76.0	0.01	0.01	1.6	0.0	42.2	2.74	LM GRY VFXLN SL/ANHY FOSS	
22	6176.0-77.0	0.02	0.01	1.7	0.0	36.2	2.73	LM GRY VFXLN SL/ANHY FOSS	
23	6177.0-78.0	0.03	0.03	0.7	0.0	45.7	2.76	LM GRY VFXLN SL/ANHY FOSS	
24	6178.0-79.0	0.03	0.03	0.8	0.0	44.4	2.74	LM GRY VFXLN SL/ANHY FOSS	
25	6179.0-80.0	0.05	0.03	1.2	0.0	35.2	2.74	LM GRY VFXLN SL/ANHY FOSS	

**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*

DALLAS, TEXAS

BASS ENTERPRISES PRODUCTION CO  
 25-31 ALKALI FEDERAL

DATE : 14-MAY-87  
 FORMATION : PARADOX

FILE NO : 43806-3463  
 ANALYSTS : DS/SP

FULL DIAMETER ANALYSIS-BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO MAXIMUM	AIR (MD) 90 DEG	POR. He	FLUID OIL	SATS. WTR	GRAIN DEN	DESCRIPTION	
26	6180.0-81.0	0.01	0.01	1.0	0.0	35.5	2.73	LM GRY VFXLN FOSS	
27	6181.0-82.0	0.03	0.01	1.3	0.0	26.3	2.73	LM GRY VFXLN FOSS	
28	6182.0-83.0	0.88	0.01	1.3	0.0	34.1	2.74	LM GRY VFXLN FOSS	**
29	6183.0-84.0	0.01	0.01	1.8	0.0	34.3	2.74	LM GRY VFXLN FOSS	
30	6184.0-85.0	0.01	0.01	1.1	0.0	44.1	2.75	LM GRY VFXLN FOSS	
31	6185.0-86.0	0.27	0.01	1.4	0.0	33.1	2.74	LM GRY VFXLN FOSS	**
32	6186.0-87.0	0.01	0.01	2.3	0.0	89.2	2.76	LM GRY VFXLN SL/ANHY	
33	6187.0-88.0	1.52	0.43	1.4	0.0	62.5	2.74	LM GRY VFXLN SL/ANHY	**
34	6188.0-89.0	0.10	0.05	1.5	0.0	25.9	2.79	LM GRY VFXLN SL/ANHY SL/DOL	
35	6189.0-90.0	7.17	3.44	1.6	0.0	42.6	2.79	LM GRY VFXLN SL/ANHY SL/DOL	**
36	6190.0-91.0	1.35	0.32	4.9	0.0	27.4	2.77	LM GRY VFXLN SL/ANHY SL/DOL	**
37	6191.0-92.0	0.03	0.02	3.8	0.0	29.3	2.72	LM GRY VFXLN SL/SHY	
38	6192.0-93.0	0.09	0.05	3.8	0.0	31.3	2.71	LM GRY VFXLN SL/SHY	
39	6193.0-94.0	0.91	0.06	2.5	0.0	41.4	2.72	LM GRY VFXLN SL/SHY	**
	6194.0-13.0							SHALE -- NO ANALYSIS	
	6213.0-15.0							CORE LOSS	

\*\* DENOTES FRACTURE PERMEABILITY

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

CORE LABORATORIES, INC.  
Petroleum Reservoir Engineering

DALLAS, TEXAS

BASS ENTERPRISES PRODUCTION CO  
25-31 ALKALI FEDERAL

DATE : 14-MAY-87  
FORMATION : PARADOX

FILE NO. : 43806-3463  
ANALYSTS : DS:SF

\*\*\* CORE SUMMARY AVERAGES FOR 1 ZONE \*\*\*

DEPTH INTERVAL: 6155.0 TO 6194.0

FEET OF CORE ANALYZED : 39.0 FEET OF CORE INCLUDED IN AVERAGES: 39.0

--- SAMPLES FALLING WITHIN THE FOLLOWING RANGES WERE AVERAGED ---

PERMEABILITY MAXIMUM RANGE (MD.) : 0.00 TO 40. (UNCORRECTED FOR SLIPPAGE)  
HELIUM POROSITY RANGE (%) : 0.0 TO 100.0  
OIL SATURATION RANGE (%) : 0.0 TO 100.0  
WATER SATURATION RANGE (%) : 0.0 TO 100.0

SHALE SAMPLES EXCLUDED FROM AVERAGES.

AVERAGES FOR DEPTH INTERVAL: 6155.0 TO 6194.0

AVERAGE PERMEABILITY (MILLIDARCIES)

ARITHMETIC PERMEABILITY : 2.3  
GEOMETRIC PERMEABILITY : 0.24  
HARMONIC PERMEABILITY : 0.04  
GEOMETRIC MAXIMUM & 90 DEG PERM. : 0.15

PRODUCTIVE CAPACITY (MILLIDARCY-FEET)

ARITHMETIC CAPACITY : 89.  
GEOMETRIC CAPACITY : 9.5  
HARMONIC CAPACITY : 1.7  
GEOMETRIC MAXIMUM & 90 DEG CAPACITY: 6.0

AVERAGE POROSITY (PERCENT) : 3.0

AVERAGE TOTAL WATER SATURATION : 39.4  
(PERCENT OF PORE SPACE)

AVERAGE RESIDUAL OIL SATURATION : 0.5  
(PERCENT OF PORE SPACE)

AVERAGE CONNATE WATER SATURATION \*\* : 39.4  
(PERCENT OF PORE SPACE)

\*\* ESTIMATED FROM TOTAL  
WATER SAUTRATION.

