



GEOLOGICAL WELL REPORT

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CHANDLER & ASSOCIATES, INC.
SOUTHWEST RANGELY FEDERAL 12-34-1N-3
NW SW SEC. 34-T1N-R103W
RIO BLANCO COUNTY, COLORADO

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November 17, 1989

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SOUTHWEST RANGELY FEDERAL 12-34-1N-3
NW SW SEC. 34-T1N-R103W
RIO BLANCO COUNTY, COLORADO**

ELEVATIONS: KB 5713', GL 5701'

SURVEY: 1290' FSL, 1133' FWL

SPUD DATE: November 5, 1989

SURFACE CASING: Set 8-5/8" at 396' KB with 285 sacks of cement.

DRILLING FLUID: Air/mist with 2% KCl water to 3389';
KCl mud to TD.

CORES: None

TESTS: DST #1 in the lower Mancos "B" sand.

LOG SURVEYS: Atlas Wireline DIL/GR and CNL Densilog/GR.

TOTAL DEPTH: 4565' Driller and Logger.

STATUS: Plugged and abandoned November 14, 1989.

CONTRACTOR: Chandler Drilling Corp., Rig 7;
TP Darrel Fladeland.

GEOLOGIST: Pleas Stringer

<u>LOG TOPS:</u>	<u>DEPTH:</u>
Rimrock ss	2788'
Mancos sh	2881'
Castlegate ss	3116'
Mancos "B" ss	
Transition zone	4218'
Upper Sand zone	4296'
Main Porosity zone	4332'
Base of Mancos "B"	4407'

SAMPLES: Disposed of at the drillsite.

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SUMMARY OF FLARE AND FLUID DATA

<u>DEPTH</u>	<u>OPERATION</u>	<u>FLARE AND WATER FLOWS (6" Flow Line)</u>
1294'	Connection	Small momentary flare. First water flow.
1326' to 2032'	Connections	10-foot flares for 2 - 3 mins. while unloading the hole.
2063'	Connection	12-15-foot flares for 10 mins. while unloading the hole following a 30 min. survey. Water flow increased to an estimated 50 BPH.
2246'	Connection	8-10-foot flares for a few seconds while unloading the hole.
2650'	Drilling	Water flow increased to an estimated 85 BPH.
2760'	Connection	5-foot flares for a few seconds while unloading the hole
3036'	Connection	5-foot flares for a few seconds while unloading the hole.
3068'	Connection	2-3-foot flares for a few seconds while unloading the hole.
3389'	Drilling	Water flow increased to an estimated 125 BPH.

DRILLING PROGRESS SUMMARY

11- 5-89		Spudded at midnight.
11- 6-89	Ø 142'.	Ran surface casing.
11- 7-89	Depth 410'. Testing BOP.	
11- 8-89	Ø 1605'.	
11- 9-89	Ø 2731'.	
11-10-89	Prep to mud up at 3389'.	
11-11-89	Ø 3652'.	
11-12-89	Ø 4154'.	
11-13-89	TD 4565'. Conditioning hole for logs.	Ran logs.
11-14-89	TD 4565'. Running DST #1.	Plugged and abandoned.

SAMPLE LITHOLOGIC DESCRIPTION

Depths are adjusted to the electric logs.

- 2750-2788' Sandstone: light gray, very fine grained, well sorted, angular, clay filled, scattered carbonaceous material, firm, poor porosity, no shows;
Sandstone: medium gray, very fine grained, well sorted, angular, shaly, firm, poor porosity, no shows.

RIMROCK SS

- 2788-2848' Sandstone: light gray, very fine - medium grained, poorly sorted, angular - subangular, some clay filling, scattered carbonaceous material, friable, good porosity, no shows.
- 2848-2854' Limestone: buff, very fine crystalline, scattered carbonaceous material, sandy, firm, tight, no shows.
- 2854-2881' Sandstone: light gray, very fine - medium grained, poorly sorted, angular - subangular, some clay filling, scattered carbonaceous material, friable, good porosity, no shows.

MANCOS SH

- 2881-2910' Shale: dark gray, calcareous, firm, fissile;
Siltstone: dark gray, firm.
- 2910-3116' Shale: dark gray, calcareous, firm, fissile.

CASTLEGATE SS

- 3116-3140' Sandstone: light gray, very fine grained, well sorted, angular, partly clay filled, scattered shale fragments and carbonaceous material, hard - firm, tight - poor porosity, no shows.

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- 3140-3166' Sandstone: medium gray, very fine grained, well sorted, angular, partly clay filled, shaly, rare glauconite, firm - friable, poor porosity, no shows.
- 3166-3229' Siltstone: medium gray, some shale laminations, some carbonaceous material, hard.
- 3229-3260' Shale: dark gray, calcareous, firm, fissile.
- 4150-4218' Shale: dark gray, calcareous, firm, fissile;
Siltstone: dark gray, hard.

MANCOS "B" TRANSITION ZONE

- 4218-4272' Siltstone: medium gray, some shale laminations, clay filled, scattered carbonaceous material, hard.
- 4272-4296' Sandstone: light gray, very fine - fine grained, poorly sorted, angular - subangular, clay filled, scattered carbonaceous material, hard, tight, no shows.

UPPER SAND ZONE

- 4296-4300' Sandstone: light gray, very fine - fine grained, poorly sorted, angular - subangular, clay filled, scattered carbonaceous material, firm, tight, no shows.
- 4300-4307' Sandstone: light gray, very fine - fine grained, poorly sorted, angular - subangular, clay filled, scattered carbonaceous material and shale fragments, occasional glauconite, firm, tight, no shows.
- 4307-4323' Sandstone: light gray, very fine grained, well sorted, angular, clay filled, scattered carbonaceous material, friable, poor porosity, no shows.

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4323-4332' Sandstone: light - medium gray, very fine grained, well sorted, angular, clay filled, shaly in part, scattered carbonaceous material, even dull gold mineral fluorescence, hard, tight, no shows.

MAIN POROSITY ZONE

4332-4340' Sandstone: light gray, very fine grained, well sorted, angular, clay filled, scattered carbonaceous material, occasional glauconite, firm, poor porosity, no shows.

4340-4350' Sandstone: as above, no shows;
Bentonite: light gray.

4350-4374' Sandstone: light gray, very fine grained, well sorted, angular, clay filled, scattered carbonaceous material, rare glauconite, hard - friable, tight - fair porosity, no shows.

4374-4407' Sandstone: light gray, very fine grained, well sorted, angular, clay filled, scattered carbonaceous material, some shale laminations, hard - friable, tight - poor porosity, no shows.

4407-4565' Shale: dark gray, calcareous, firm, fissile.

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DRILLSTEM TEST DATA

DST #1 4305-4565'. Conventional test by Scott Pitt, Schlumberger
Testing Co.

Open 30 mins, - SI 60 mins. - open 90 mins. -
SI 172 mins.

First Open: 2" blow increased to 8" in 10
mins. then gradually decreased to 3" in 30 mins.
Blow died 12 mins. after tool shut-in.

Second Open: 1" blow increased to 1-1/2" in 10
mins, decreased to 1/4" in 70 mins, to a surface
blow in 80 mins. and continued a surface blow
until tool was shut-in. Blow then died immediately.

Pipe Recovery: 31 ft. mud.

Sampler Recovery: Trace of mud with .25 cu. ft.
of gas. Pressure in sample chamber: 20 ppsi.
BHT: 118°.

Pressures: IHP 2212#
IFP 100-91#
ISIP 152#
FFP 85-90#
FSIP 171#
FHP 2169#

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BIT RECORD

<u>BIT NO.</u>	<u>SIZE</u>	<u>MAKE</u>	<u>TYPE</u>	<u>DEPTH OUT</u>	<u>FEET</u>	<u>HOURS</u>
1	12 $\frac{1}{4}$ "	Reed	Y-13	410'	398'	12 $\frac{1}{2}$
2	7-7/8"	Reed	HPSM	3389'	2979'	65
3	7-7/8"	Reed	HP-52	4565'	1176'	58

MUD RECORD

Mud checks made by Craig Hart, Mustang Drilling Fluids.
 Mudded up at 3389' with KCl mud.

<u>DEPTH</u>	<u>WT</u>	<u>FV</u>	<u>PV</u>	<u>YP</u>	<u>GS</u>	<u>PH</u>	<u>WL</u>	<u>FC</u>	<u>CHLORIDES</u>
3389'	8.7	36	11	5	1/2	10.8	12.0	2/32	15,000
3720'	8.7	38	11	11	2/4	10.1	9.2	2/32	15,600
4196'	9.1	38	12	11	2/5	9.2	9.4	2/32	12,800
4565'	9.4	51	18	15	6/13	9.0	9.4	2/32	15,000

SURVEY RECORD

<u>DEPTH</u>	<u>DEVIATION</u>
396'	1 $\frac{1}{4}$ °
2022'	2°
4525'	3 $\frac{1}{2}$ °

PLUGGING RECORD

45 sacks - 4415-4565'
 35 sacks - 3050-3150'
 35 sacks - 350- 450'
 25 sacks - at the surface with a marker.

Respectfully submitted,

Pleas Stringer

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