



RICHARD B. OLESON  
530 Midland Savings Bldg.  
Denver, Colorado 80202

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OCT 31 1977  
COLORADO OIL & GAS CONS. COM. CO.

GEOLOGICAL REPORT

Bronco Oil & Gas Company

No. 28-14 Crow  
C-SE-SW Section 28 - T9N-R54W  
Logan County, Colorado

DVR	
FJP	
HHM	✓
JAM	✓
JJD	✓
RLS	
CGM	

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DATA SHEET

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COLO. OIL & GAS CONS. COMM.

OPERATOR: Bronco Oil & Gas Company

WELL: No. 28-14 Crow

LOCATION: C-SE-SW Section 28 - T9N-R54W

COUNTY: Logan

STATE: Colorado

AREA: Arford Field

ELEVATION: 4365 GL; 4375 KB (Powers)

CONTRACTOR: Toltek Drilling Company, Denver, Colorado  
PUSHER: L. D. Temple

EQUIPMENT: RIG NO.: 1  
TYPE: N-4 Brewster  
PUMP: Oil Well 218-D  
DERRICK: L. C. Moore  
PIPE: 4-1/2" hole  
COLLARS: 6-1/4" O. D. (14)

COMMENCED: October 18, 1977 Spud 10:15 A. M.

SURFACE PIPE: Set 176' 8-5/8" casing at 188' K. B. with 175 sacks

DRILLING FLUID: Chem-Gel

SAMPLES: 30' samples 4000-5000'  
10' samples 5000-5180'  
5' samples 5180-T. D.

GEOLOGIST: Richard B. Oleson, Denver, Colorado

CORES: No cores taken.

DRILL STEM TESTS: DST J<sub>1</sub> Sand - Liberty Testers, Sterling, Colorado

LOGGING: Dresser-Atlas (Induction Electrolog and Compensated Densilog with Caliper)

TOTAL DEPTH: 5323 Driller; 5320 Logger

STATUS: Plugged and abandoned.

COMPLETED DRILLING: October 24, 1977

FORMATION TOPS

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<u>Formation</u>	<u>Log Top</u>	<u>KB Datum</u>
Niobrara	4333	+ 42
Carlile	4722	-347
Greenhorn	4922	-547
"D" Sand	5176	-801
"J" Sand	5284	-909

BIT RECORD

<u>No.</u>	<u>Size</u>	<u>Make</u>	<u>Type</u>	<u>Footage</u>
1	7-7/8	Reed	Y11J	3720'
2	7-7/8	Smith	DTJ	970'
3	7-7/8	Smith	DTJ	408'
4	7-7/8	Rerun		12'
5	7-7/8	Reed	Y21GJ	18'

WELL HISTORY

<u>Date</u>	<u>Depth (7:00 A. M.)</u>	<u>Remarks</u>
10-18-77		Moving in rotary. Spud 10:15 A. M. Ran 5 joints 8-5/8" casing at 188' KB with 175 sacks.
10-19-77	188'	WOC
10-20-77	2589'	Drilling
10-21-77	3915'	Drilling
10-22-77	4880'	Drilling
10-23-77	5293'	Trip for bit No. 4.
10-24-77	5305'	Trip for bit No. 5. Ran DST in J <sub>1</sub> Sand. Prep to log and plug.

STRAIGHT HOLE TESTS

<u>Date</u>	<u>Depth</u>	<u>Deviation</u>
10-21-77	3915'	1°
10-22-77	4885'	1/4°
10-23-77	5293'	1/2°

DRILL STEM TEST RECORD

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DST No. 1 5292-5305 (J Sand)

COLORADO &amp; SOUTHERN OIL CO. COMM.

Tool open 30 minutes; Shut in 30 minutes, Open 60 minutes, Shut in 80 minutes.  
Gas to surface 10-1/2 minutes maximum 80 MCFGPD and decreased to no  
blow in 60 minutes.

Recovered: 60' water cut mud and 604' water.

IFP<sub>1</sub> 89#      FFP<sub>1</sub> 196#      IFP<sub>2</sub> 237#      FFP<sub>2</sub> 249#

SIP<sub>1</sub> 267#      SIP<sub>2</sub> 267#

I Hydro 2887#      F Hydro 2832#

SAMPLE DESCRIPTION

<u>Depth</u>	<u>Lithology</u>
5110	100% black shale.
5120	100% black shale.
5130	100% black shale.
5140	100% black shale.
5150	100% black shale.
5160	100% black shale.
5170	100% black shale.
5180	100% black shale.
5185	100% black shale.
5190	90% black shale, 10% sandstone, white to light tan, fine grained (subrounded quartz grains), fair porosity and permeability, no show, appear wet.
5195	80% black shale, 20% sandstone, white to light tan, fine grained (subrounded quartz grains), fair porosity and permeability, no show, appear wet.
5200	80% black shale, 20% sandstone, white to light tan, fine grained, (subrounded quartz grains), fair porosity and permeability, no show, appear wet.
5205	70% black shale, 30% sandstone.
5210	80% black shale, 20% sandstone.
5215	90% black shale, 10% sandstone.
5220	80% black shale, 20% sandstone.
5225	90% black shale, 10% sandstone.
5230	100% black shale.
5235	100% black shale.
5240	100% black shale.
5245	100% black shale.
5250	100% black shale.
5255	100% black shale.
5260	100% black shale.
5265	100% black shale.
5270	100% black shale.
5275	100% black shale.

SAMPLE DESCRIPTION (Cont'd)

<u>Depth</u>	<u>Lithology</u>
5280	100% black shale.
5285	100% black shale.
5290	100% black shale.
5293	100% black shale.
5293	Circulating sample
15 min.	90% black shale, 10% sandstone, light grey, glauconitic, fine grained, clay filled, no show.
5300	90% black shale, 10% sandstone, white, fine grained, clay filled, water bearing.
5305	90% black shale, 10% sandstone, white, fine grained, clay filled, water bearing, (Bentonite cavings).
5305	Circulating samples
15 min.	80% black shale, 20% sandstone, white to light tan, fine grained, soft, wet, clay filled.
30 min.	80% black shale, 20% sandstone, white to light tan, fine grained, soft, wet, clay filled (Bentonite cavings)
5323	100% black shale (lost circulation, recovered no circulating cuttings).

GEOLOGICAL COMMENTS

The Bronco No. 28-14 Crow encountered the prospective J Sand gas pay zone structurally low. The well tested uncommercial gas and water. The test was plugged in accordance with orders issued by the Colorado Oil and Gas Commission.

*Richard B. Oleson*  
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