GEOLOGIC REPORT

ON

BWAB INCORPORATED'S

STEHLE WELL NO. 14 - 32

SW 1/4, NE 1/4, SEC. 14, T7N, R91W

MOFFAT COUNTY, COLORADO

BY

JOHN S. WILLIAMS, GEOLOGIST

GRAND JUNCTION, COLORADO 81503

JOHN S. WILLIAMS, GEOLOGIST

Operator: BWAB Incorporated. Well: Stehle No. 14-32.

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WELL SUMMARY

OPERATOR:	BWAB Incorporated.
WELL:	Stehle Number 14 - 32.
LOCATION:	SW 1/4, NE 1/4, (1981 FNL, 2002 FEL), Sec. 14, T7N, R91W.
COUNTY:	Moffat.
STATE:	Colorado.
ELEVATION:	Est 6691, KB; est. 6675, GL; 6673 ungraded ground.
SPUDDED:	20 October, 1985, 5:00 A. M.
COMPLETED:	2 November, 1985.
TOTAL DEPTH:	4700 ft., driller; 4700 ft, loggers.
SUPERVISION:	C. W. Stockman, Fruita, Colorado.
DRILLING CONTRACTOR:	Shelby Drilling, Inc., Rig No. 11.
TOOL PUSHER:	Luther Bullington, Jim Stark.
HOLE SIZE:	12 1/4", 16 - 344 ft. 7 7/8", 344 - 4700 ft.
CASING:	8 5/8", 24-lb., ST&C, J-55 at 339 ft.
DRILL COLLARS:	6 1/4" x 2 3/8".
DRILL PIPE:	4 1/2" X-hole.
GEOLOGIST:	John S. Williams, Grand Junction, Colorado.
HYDROCARBON LOGGING:	Analex, Inc., Denver, Colorado, Unit 149G. Forrest Smouse, Unit Manager. James L. Peterson.
DRILLING MUD:	Newpark Drilling Fluids, Casper, Wyoming. Mud type: LCP.
MUD ENGINEER:	John McLemore.
DRILL STEM TESTS:	Halliburton, Vernal, Utah, Doc McMillan, tester.
WIRELINE LOGS:	Schlumberger, Vernal, Utah, Michael Lea, engineer. DIL-SFL-GR, 4694-338 ft. FDC-CNL, 4694-1500 ft. BHC, 4664-338 ft. HDT, 4300-2200 ft. Cyberlook, 4700-3200 ft.
STATUS:	Plugged and abandoned.

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WELL CHRONOLOGY

DATE	MIDNIGHT DEPTH	FOOTAGE DRILLED	HOURS DRILLED	OPERATIONS
20 Oct.,	344	328	3 3/4	RURT. Fld pits, mxd mud. Spdd at 5:00 A. M. Drld. Srvy. Drld. Srvy. Drld. Circ. Shrt trip. Circ. POH. RU&R 8 jts 8 5/8". 24-lb, ST&C, J-55 csg. Cmtd csg at 339 ft w/220 sx Cl H cmt w/3% $CaCl_2$ & 1/4 sk Cello-seal. WOC. WOB, all; 10,000. RPM, 180. SPM, 25; 50. PSI, 100.
21 Oct.	1361	1017	11	Bkd off lndg jt, instld wlhd, npld up. P-tstd pipe & blind rams, Hydril at 1500 psi, OK. Tstd HRC, choke mnfld. RIH w/ bit #2. Drld cmt. Drld. Srvy. Drld. Srvy. Drld. LC at 760 ft, 750 bbl. Rgnd circ. Drld. POH. RIH w/bit #3. Drld. Srvy. Drld. WOB, 10,000; 15,000; 20,000. RPM, 120; 150. SPM, 60. PSI, 1100.
22 Oct.	2348	987	17 1/4	Drld. Srvy. Drld. POH. RIH w/ bit #4. Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld. POH, stk at 1062 ft. Wrkd stk pipe. WOB, 20,000; 15,000; 20,000; 10,000. RPM, 150; 140; 160. SPM, 60; 40. PSI, 1100; 1150; 1350.
23 Oct.	2786	438	16 3/4	Wrkd stk pipe, came free. POH, chgd swvl pkg. RIH. Circ, cond mud. Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld.WOB, 6,000; 8,000; 10,000; 12,000; 15,000. RPM, 160. SPM, 60. PSI, 1350.
24 Oct.	3400	614	14 3/4	Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld. POH. RIH w/biy #6. Drld. Srvy. Drld. WOB, 15,000; 12,000; 15,000; 25,000; 12,000; 15,000; 8,000; 10,000; 12,000; 8,000. RPM, 160. SPM, 60. PSI, 1350.

25 Oct.	3478	78	12 1/2	Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld. Pmpd slug. Srvy. POH, PU IBS, jars. RIH, hole tt at 876. PU kly, rmdthru brdg. RIH, hole tt at 1058, 1122. Wshd, rmd hole. WOB, 5,000; 4,000; 8,000. RPM, 160. SPM, 60. PSI, 1350.
26 Oct.	3906	428	14	RIH, wshd, rmd to btm. Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld. Srvy. Drld. Circ, srvy. Drld. WOB, 8,000; 10,000; 20,000; 25,000; 15,000; 20,000; 8,000; 10,000. RPM, 140; 150; 160. SPM, 60. PSI, 1350; 1100; 1400.
27 Oct.	3989	83	4	Drld. Circ, srvy. Drlg hd lkg, found leak, circ. POH. Npld dn stk, wlhd. WO new wlhd flnge. Npld up. RIH, wshd, rmd 60 ft to btm. Drld. Circ, srvy. Drld. WOB, 8,000; 10,000; 7,000; 9,000. RPM, 160; 140. SPM, 60. PSI, 1350; 1400; 1350; 1400.
28 Oct.	4129	140	14	Drld. Circ, srvy. Drld. Circ, srvy. Drld. Srvy. Circ, wrkd pipe, cond hole for DST. POH to dc's, wtd 30 min. RIH, rmd 60 ft to btm. Circ, wrkd pipe, cond hole. Shrt trp, 15 stds. Circ, wrkd pipe, cond hole. POH, ld dn jars, IBS. PU tst tls. WOB, 10,000; 12,000; 20,000; 15,000; 20,000. RPM, 140. SPM, 60. PSI, 1350.
29 Oct.	4166	37	1 1/2	RIH. DST no. 1. POH, ld dn tst tls. RIH, 15 ft fill. Drld. Circ. Shrt trp, brdgs at 3882-3913. Circ. POH, ld dn jars, IBS. WOB, 20,000. RPM, 140. SPM, 54. PSI, 1350.
30 Oct.	4343	177	9 1/4	PU tst tls. RIH, 15 ft fill. DST no. 2, tls plgd. POH, ld dn tst tls. RIH, circ btms up. Drld. Srvy. Brk dn tst tls. Drld. Srvy. Drld. Circ, srvy. POH, ld dn jars, IBS. WOB, 20,000. RPM, 140; 120; 140. SPM, 55. PSI, 1300.
31 Oct.	4644	301	17 1/4	RIH, rmd 3759-3790, 30 ft to btm. Drld. Srvy. Drld. Srvy.

				Drld. WOB, 18,000; 20,000. RPM, 110; 120. SPM, 55; 56. PSI, 1300; 1350.
1 Nov.	4700	56	3 1/2	Drld. Circ, cond hole. Shrt trp, rmd brdg at 4281. Circ, cond hole. POH. RU lgrs. Lgd hole. Rgd dn lgrs. WOB, 20,000. RPM, 110. SPM, 55. PSI, 1350.
2 Nov.	4700	0	0	RIH. WOO. POH, SLM, lyd dn dc's. RIH, opn-endd. Circ, prep to plug hole.

Bit Record

Operator BWAB Incorporated Well Stehle 14-32

BIT NO.	SIZE	MFR.	TYPE	DEPTH		FEET	HOURS	FT./HR.
				IN	OUT			
1	12 1/4"	Hughes	J1 (RR)	16	344	328	5 1/4	62.5
2	7 7/8"	Hughes	R1 (RR)	344	915	571	5 3/4	99.3
3	7 7/8"	Smith	FDT	915	1605	690	9 1/2	72.6
4	7 7/8"	Hughes	R1	1605	2349	744	13 1/2	55.1
5	7 7/8"	Smith	FDT	2349	3209	860	19 1/2	44.1
6	7 7/8"	Smith	FDT	3209	3478	269	20	13.5
7	7 7/8"	Hughes	R2	3478	3912	434	14 1/4	30.5
8 *	7 7/8"	Smith	FDT	3912	4129	217	10 1/2	20.7
8 RR	7 7/8"	Smith	FDT	4129	4166	37	1 1/2	24.7
8 RR	7 7/8"	Smith	FDT	4166	4343	177	9 1/4	19.1
9	7 7/8"	Smith	FDT	4343	4700	357	22 1/4	16.0
* 8 cumulative				3912	4343	431	21 1/4	20.3

JOHN S. WILLIAMS, GEOLOGIST

Deviation Surveys

Operator BWAB incorporated Well Stehle 14-32

DEPTH	DEVI-ATION	DEPTH	DEVI-ATION	DEPTH	DEVI-ATION	DEPTH	DEVI-ATION
109	1/4°	3517	2 1/2				
264	1/2	3547	2				
447	1/2	3609	2				
629	1	3669	misrun				
1200	1 1/2	3729	3				
1512	1 1/4	3790	3 1/2				
1812	1 1/2	3852	3 1/2				
1930	1	3912	misrun				
2298	3 3/4	3944	2 3/4				
2393	3 3/4	4008	3				
2486	3 1/2	4070	3				
2548	3 1/4	4131	2 1/4				
2609	3 1/4	4189	2 3/4				
2672	3 1/2	4250	2				
2733	3 1/4	4343	1 1/4				
2797	3	4428	2				
2860	3	4490	2 3/4				
2953	3	4521	2 1/4				
3107	3 1/2						
3201	3 3/4						
3261	4 1/4						
3324	3 3/4						
3386	4 1/4						
3417	3 3/4						
3447	3 1/2						
3478	2 3/4						

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FORMATION TOPS

Formation	Prognosis	Sample Top	Electric Log Top	Sea Level Datum	Reference to Offset Well*
Fort Union Fm.	Surface	--	--	--	--
Lance Fm.	1416	1431	1233	+5458	-955
Lewis Shale	2691	2630	2101	+4590	-538
Mesaverde Gp. (Williams Fork Fm.)	4800	4200	4202	+2489	-564

* Offset well was the Carter Oil Company No. 1 Government, located in Section 18, T7N, R91W, 3.9 miles west of the Stehle well.

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Show Report

Show Number 1 Date 28 October, 1985

Operator BWAB Incorporated

Well Stehle No. 14-32 Location Sec. 14, T7N, R91W, Moffat Cnty, CO

Interval: From 4104 To 4114* Formation Lewis Shale

DATA:

	Drill Rate (Min/Ft)	Hotwire Gas (Units)	Chromatograph Gas (ppm)					
			C-1	C-2	C-3	C-4	C-5	Other
Above	1.3	30	1980	57	0	0	---	---
Through	0.6	78	6470	76	41	85	---	---
Below	1.9	40	3400	76	41	85		

Flourescence:

Type None

Color _____ % in show lithology _____

Stain:

Type None % in show lithology _____

Cut

Quality Fair Description Yellow, residual

Porosity

Estimated % 10 Description Very low intergranular

Lithology: SS (40% of smpl), wh, s&p, fg, msrt, sbrndd-sbang, w-mcmt, calc, cly-fld, tf ip; Qtz, Mic, FeMg. sample quality Fair

Show logged by Forrest Smouse, Analex

Notified John Williams, Geologist Time 8:45 A. M. Date 28 Oct.

Remarks Trace oil film at possum belly.

Show interval corrected after pipe strapped on trip for DST.

JOHN S. WILLIAMS, GEOLOGIST

Show Report

Show Number 2 Date 29 October, 1985

Operator BWAB Incorporated

Well Stehle No. 14-32 Location Sec. 14, T7N, R91W, Moffat Cnty, CO

Interval: From 4140 To 4150 Formation Lewis Shale

DATA:

	Drill Rate (Min/Ft)	Hotwire Gas (Units)	Chromatograph Gas (ppm)					
			C-1	C-2	C-3	C-4	C-5	Other
Above	2.6	30	1780	25	0	0	---	---
Through	1.5	106	7292	67	68	70	---	---
Below	1.7	113	9490	61	32	33	---	---

Flourescence:

Type Spotty

Color Yellow-green % in show lithology 1%

Stain:

Type None % in show lithology

Cut

Quality Poor Description Yellow, residual

Porosity

Estimated % 10 Description Low intergranular

Lithology: SS (40% of smpl), wh, s&p, vfg, msrt, sbrndd-sbang, w-mcmt, calc, cly-fld; Qtz, Mic, FeMg sample quality

Show logged by Jim Peterson, Analex

Notified John S. Williams, Geologist Time 2:00 P. M. Date 29 Oct.

Remarks

JOHN S. WILLIAMS, GEOLOGIST

Operator: BWAB Incorporated. Well: Stehle No. 14-32.

DRILL STEM TEST REPORT

DST No. 1 Date 29 October, 1985 Tester Halliburton, Doc McMillan

Formation Lewis Shale Interval 4070-4129 Cushion None

Hole Size 7 7/8" Packer Size 7" DP Size 4½" Cap .01422 bbl/ft

Drl Clr Size 6¼ x 2 3/8" Cap .0055 bbl/ft Drlg Cont Shelby Drlg, Rig 11

Mud Filtrate: ppm Nitrate --- ppm Chlorides 900/mud engr

	Minutes Duration		
Preflow	15	Gas to Surface --- min.	Rate ---
Initial Shutin	60	Fluid to Surface --- min.	Rate ---
Final Flow	90	Mud -- min. Water -- min.	Oil -- min.
Final Shutin	180		

Test Description: Opened with small blow, increased to steady at bottom of bucket, guage pressure increased from 1 oz. to 8 oz. Shut tool. On final flow, opened with 2 oz. pressure, built to 13 oz., declined to 9 oz. Shut tool in.

Pressure records (Field Readings): Bomb Depth 4126 BHT 120° F.

Preflow			Final Flow		
IHP 1998.1	IFP 100.3	FFP 300.7	ISIP 1778.9	IFP 300.7	FFP 781.6
				FSIP 1778.9	FHP 1998.1

Sampler Cap. 2240 cc. Sampler Press. 340 psi Resist. 2.09 Temp. 68° F.

Cu. Ft. Gas 0.0014 Cc Oil 0 Cc Water 2100 Cc Other 0

ppm Nitrate --- ppm Chlorides 3100

Drill Pipe Recovery 1430 ft: 120 ft gas-cut mud, 1310 ft gas-cut water

Problems None

Remarks Successful test. Show depth corrected by pipe strap to 4104-4114.

JOHN S. WILLIAMS, GEOLOGIST

Operator: BWAB Incorporated. Well: Stehle No. 14-32.

DRILL STEM TEST REPORT

DST No. 2 Date 30 October, 1985 Tester Halliburton, Doc McMillan

Formation Lewis Shale Interval 4130-4166 Cushion None

Hole Size 7 7/8" Packer Size 7" DP Size 4 1/2" Bbl/ft 0.01422

DC Size 6 1/4 x 2 3/8" Bbl/ft 0.0055 Drlg Contrctr Shelby Drlg, Rig 11

Mud Filtrate: ppm Nitrate --- ppm Chlorides 900/mud engr

	Minutes Duration			
Preflow	22	Gas to Surface --- min.	Rate ---	
Initial Shutin	60	Fluid to Surface --- min.	Rate ---	
Final Flow	18	Mud --- min.	Water --- min.	Oil --- min.
Final Shutin	15			

Test Description: Had 15 feet fill, tools slid to bottom. Opened with very weak blow at top of bucket, died.

Pressure Records (Field Readings): Bomb Depth 4105 BHT 122° F.

	Preflow			Final Flow		
IHP 2016.8	IFP 56.2	FFP 75	ISIP 1681.6	IFP 56.2	FFP 56.2	
				FSIP 1123.0	FHP 2016.8	

Sampler Cap. 2240 cc. Sampler Press. 10 psi Resist. 1.04 Temp. 68° F.

Cu. Ft. Gas --- Cc Oil --- Cc Water --- Cc Other 2100, mud

ppm Nitrate --- ppm Chlorides 4700

Drill Pipe Recovery 160 - 180 feet mud

Problems Had 15 feet of fill at bottom of hole, tools slid 15 feet when opened. Tools plugged

Remarks Unsuccessful test. Decision made to drill ahead.

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SAMPLE DESCRIPTIONS

INTERVAL	ROCK TYPE	PER CENT	DESCRIPTION
344 - 800	NO SAMPLES. MUD LOGGERS NOT ON LOCATION.		
800 - 840	SH	70	Ltgy-gy, frm, blky.
	SLTST	20	Gy-sl gngy, frm, blky, sl carb.
	SS	10	Gy, vf-fg, wsrt, ang-sbrndd, wcmt, tt, pyrc, no vis por; Qtz.
	COAL	Tr	Bk, blky, brtl, dl-sl vit.
840 - 870	SS	80	Gy-ltgy, ip sl s&p, m-f & cg, m-psrt, sbang-ang & sbrndd, wcmt, tt, calc, ark, pyrc, loc carb, no vis por; Qtz, Fspr, FeMg, Mic.
	SH	10	Aa.
	SLTST	10	Aa.
870 - 900	SS	70	Aa, bcmg ip vcg-cglc; Cht.
	SLTST	20	Aa.
	SH	10	Aa.
900 - 930	SLTST	40	Aa.
	SS	30	Ltgy-gy, mg-cglc, psrt, sbang-ang & sbrndd, wcmt, tt, calc, ark, loc carb, no vis por; Qtz, Fspr, FeMg, Mic.
	SH	30	Aa.
930 - 960	SS	60	Aa.
	SLTST	30	Aa.
	SH	10	Aa.
960 - 1190	SAMPLES LOST		
1190 - 1220	SH	70	Gy-ltgy, frm, blky, loc carb, sl calc.
	SS	30	Ltgy-gy, m-cg, msrt, ang-sbang, wcmt, tt, calc, carb, pyrc ip, no vis por; Qtz, Flspr, FeMg, Mic.
1220 - 1250	SH	80	Aa.
	SLTST	10	Aa.
	SS	10	Aa.
1250 - 1280	SH	50	Aa.
	SS	20	Gy-ltgy, sl s&p, m-f & loc cg, msrt, sbang-sbrndd, ip ang, wcmt, tt, calc, ark, no vis por; Qtz, Fspr, Mic, FeMg, tr Pyr.
	SLTST	10	Aa.
	LS	10	Tn, ltgybn, gy, dns, hd, micxln-micrtc; tr yl-wh mass Calc.

1280 - 1310	SH	70	Aa.
	SLTST	10	Aa.
	SS	10	Aa.
	LS	10	Aa.
1310 - 1370	SH	70	Aa.
	SS	20	Aa.
	SLTST	10	Aa.
1370 - 1400	SH	50	Aa.
	SS	20	Ltgy-gy & wh, sl s&p, f-mg w/s/cg, m-wsrt, ang-sbrndd, wcmt, tt, calc, sl carb, vlo intgran por; Qtz, Mic, Fspr.
	SLTST	20	Aa.
	COAL	10	Bk, blky, brtl, vit-dl.
1400 - 1430	LS	40	Bf-gybf, vf-micxln, cpt, mhd, arg.
	SS	30	Wh-ltgy, m-c & fg, msrt, ang-sbrndd, wcmt, tt, calc, sl ark, loc vpyrc, vlo intgran por; Qtz, Pyr, Mic, Fspr.
	SH	20	Aa.
	SLTST	10	Aa.
1430 - 1460	SH	70	Gy, frm, blky, calc.
	SS	20	Ltgy-gy, f-vf & mg, msrt, sbang-sbrndd, wcmt, tt, calc, vlo intgran por; Qtz, Mic, Pyr.
	LS	10	Aa.
1460 - 1490	SH	40	Gy-dkgy, frm, blky, sl calc, ip slty & carb.
	COAL	30	Bk, blky, brtl, vit-dl.
	SS	20	Ltgy-gy, f-vf & loc mg, w-msrt, sbang-sbrndd, tt, calc, vlo intgran por; Qtz, Mic, tr Pyr.
	SLTST	10	Gy, frm, blky, calc, carb.
1490 - 1550	SH	50	Aa.
	SLTST	20	Aa.
	COAL	20	Aa.
	SS	10	Aa.
1550 - 1610	SH	50	Aa.
	COAL	30	Aa.
	SS	20	Aa.
1610 - 1640	COAL	80	Aa.
	SS	20	Ltgy-wh, sl s&p, c-fg, p-msrt, sbrndd-sbang, wcmt, tt, calc, ark, vlo intrgran por; Qtz, Fspr, Apatite, Mic, FeMg.
	SH	Tr	Aa.
1640 - 1670	SH	80	Ltgy-gy, frm, blky-sbplty, sl slty loc, sl calc ip, sl carb.
	SLTST	10	Gy, frm, blky, sl calc, carb.
	SS	10	Aa.
1670 - 1700	SH	50	Aa.
	SLTST	20	Aa.
	SS	20	Gy-ltgy, m-fg, wsrt, sbrndd-sbang, wcmt, tt,

			calc, sl ark, vlo intgran por; Qtz, Fspr, Mic, FeMg, tr Pyr.
	COAL	10	Bk, blky, brtl, vit-dl.
1700 - 1730	SH	40	Gy, s/bngy, frm, blky-sbplty, sl carb, ip calc.
	SS	30	Ltgy-gy, s&p, m-c & fg, m-psrt, sbang-sbrndd, loc ang, wcmt, gnrly tt, calc-sl calc, ark, vlo intgran por; Qtz, Cht, Mic, Fspr, Pyr, FeMg.
	COAL	20	Aa.
	SLTST	10	Aa.
1730 - 1760	NO SAMPLE		
1760 - 1790	COAL	80	Bk, blky, brtl, vit.
	SS	10	Ltgy-gy, ip s&p, m-vfg, msrt, sbrndd-sbang, wcmt, tt, sl calc, sl carb, ark, vlo intgran por; Qtz, Fspr, Mic, FeMg.
	SH	10	Gy, frm, blky, sl carb, sl calc, ip slty.
1790 - 1820	SS	80	Ltgy, s&p, m-f & cg, m-psrt, sbang-sbrndd, wcmt, ark, vlo-lo intgran por; Qtz, Fspr, FeMg, Mic, Pyr.
	SLTST	10	Gy-ltgy, frm, blky, calc, sl carb.
	COAL	10	Aa.
1820 - 1850	COAL	40	Aa.
	SH	30	Gy, frm, blky-sbplty, sl slty.
	SLTST	20	Aa.
	SS	10	Gy, f-mg, wsrt, sbrndd-sbang, wcmt, tt, calc, no vis por; Qtz, Cht; tr SS, aa.
1850 - 1880	SS	40	Ltgy, s&p, f-m & vfg, s/c free Qtz, w-msrt, sbang-sbrndd, s/ang, m-wcmt, loc tt, calc, pyrc, ark, vlo-lo intgran por; Qtz, FeMg, Mic.
	SH	30	Gy-dkgy, frm, blky-sbplty, carb, ip slty.
	COAL	20	Aa.
	SLTST	10	Aa.
1880 - 1910	NO SAMPLE		
1910 - 1940	SLTST	80	Ltgy, frm, sbplty, calc, sl carb, grdg loc to vfg SS.
	SH	20	Gy-dkgy, frm, sbplty-blky, ip carb.
1940 - 1970	SLTST	40	Aa.
	SH	30	Aa.
	SS	30	Ltgy-gy, s&p, f-vf & mg, msrt, sbang-sbrndd, wcmt, tt, calc, pyrc, vis por vlo-nil; Qtz, FeMg, Mic.
1970 - 2000	SLTST	40	Aa.
	SH	40	Aa.
	SS	20	Aa.
2000 - 2030	SLTST	50	Ltgy, frm, blky-sbplty, sl carb, sl calc.

	SH	30	Aa.
	SS	20	Aa.
2030 - 2090	SH	40	Aa.
	SLTST	30	Aa.
	SS	30	Aa.
2090 - 2120	SH	70	Gy-loc dkgy, frm, sbplty-blky, sl carb, sl slty ip.
	SLTST	20	Aa.
	SS	10	Aa.
2120 - 2150	SLTST	70	Aa.
	SH	30	Aa.
2150 - 2180	SH	80	Gy-dkgy, frm, blky-sbplty, sl carb, sl calc, ip slty.
	SLTST	20	Aa.
2180 - 2210	SH	70	Dkgy-gy, frm, blky, carb, slty, calc.
	SLTST	20	Aa.
	SS	10	Ltgy-gy, s&p, f-vf & loc mg, w-msrt, sbang-sbrndd, wcmt, tt, calc, vis por vlo-nil,intgran; Qtz, Mic, FeMg, Pyr.
2210 - 2240	SH	70	Aa.
	SLTST	30	Aa.
2240 - 2270	SH	70	Aa.
	SLTST	20	Aa.
	SS	10	Ltgy-gy, sl s&p, f-vf & loc mg, w-msrt, sbang-sbrndd, wcmt, tt, sl calc, no vis por; Qtz, FeMg, Pyr. Prob occurs as lam in SH &/or SLTST.
2270 - 2360	SH	80	Aa.
	SLTST	20	Aa.
2360 - 2430	SH	80	Aa, ip sl fssl.
	SLTST	10	Aa.
	SS	10	Ltyg, f-vfg, wsrt, sbrndd-sbang, wcmt, tt, calc; Qtz.
2430 - 2440	SH	40	Aa.
	SLTST	40	Aa.
	SS	20	Ltgy-gy, aa.
2440 - 2460	SLTST	70	Aa.
	SH	20	Aa.
	SS	10	Aa.
2460 - 2480	POOR SAMPLES - ABN LCM. PROB		
	SH	60	Aa.
	SLTST	30	Aa.
	SS	10	Aa.
2480 - 2500	SLTST	60	Ltgy-gy, frm, blky-sbplty, calc, ip carb.

	SH	40	Aa.
2500 - 2560	SH	60	Aa.
	SLTST	40	Aa.
2560 - 2610	SH	80	Aa.
	SLTST	20	Aa.
2610 - 2630	SH	100	Aa.
	BENT	Trs	Ltgy, msft, plty.
2630 - 2700	SH	100	Dkgy, frm, blky-sbplty, sl slty, sl calc.
2700 - 2790	SH	100	Aa, tr Calc frac fill.
2790 - 2830	SH	70	Dkgy-gy, frm, sbplty-blky, sl slty, sl calc.
	SS	20	Ltgy-ltbn, ip dkgy, sl s&p, vf-fg, wsrt, sbang-sbrndd, s/ang, wcmt, tt, calc, ark, vis por vlo-nil; Qtz, FeMg, Fspr, Mic.
	SLTST	10	Ltgy, frm, sbplty-blky, calc, sl carb, ip grdg to vfg SS.
	CAL	Trs	Clr, bn, prob as frac fill.
		Trs	Shell frag.
2830 - 2850	SH	80	Aa.
	SLTST	10	Aa.
	SS	10	Aa.
2850 - 2900	SH	100	Gy-dkgy, frm, sbplty-blky, slty, sl calc.
2900 - 2920	SLTST	60	Gy, frm, blky-sbplty, carb, sl calc, grdg loc to fg SS.
	SH	30	Aa.
	SS	10	Ltgy-dkgy, s&p, vf-fg, wsrt, sbang-sbrndd, wcmt, tt, calc, ark, vlo intgran por-nil; Qtz, FeMg, Mic, Fspr.
2920 - 2960	SLTST	50	Aa.
	SH	40	Aa.
	SS	10	Aa.
2960 - 2980	SH	60	Aa.
	SLTST	30	Aa.
	SS	10	Aa.
2980 - 3000	SH	50	Aa, bcmg dkgy.
	SLTST	30	Aa.
	SS	20	Aa, pred ltgy.
3000 - 3020	SH	60	Aa.
	SLTST	30	Aa.
	SS	10	Aa.
3020 - 3040	SH	70	Aa.
	SLTST	30	Aa.

3040 - 3060	SH	80	Aa.
	SLTST	20	Aa.
3060 - 3120	SH	100	Dkgy, frm, sbplty-blky, slty, sl calc.
3120 - 3260	SH	100	Dkgy-gy, aa, sl carb.
3260 - 3280	SH	90	Aa.
	SS	10	Gy-dkgy & wh, vf-fg, wsrt, sbang-sbrndd, wcmt, tt, calc, carb whr dkgy, Gwke-O-Qtz, no vis por; Qtz, FeMg. Tr disc c-vc Qtz, Cht.
3280 - 3300	SH	80	Aa.
	SS	20	Aa, tr Pyr whr O-Qtz.
3300 - 3330	SH	100	Aa.
	SS	Trs	Aa.
3330 - 3360			Aa, s/Qtz euh; trs Pyr.
3360 - 3380			Aa, tr shell frag.
3380 - 3410	SH	90	Aa.
	SS	10	Varic (wh, bn, ylbn), c-vcg, srtg indet, sbang-sbrndd & ang, uncons - disc Gr Qtz (ip euh), Cht.
		Trs	Pyr, shell frag.
3410 - 3420	SH	90	Aa.
	SS	10	Ltgy-gy, m-fg, msrt, ang-sbrndd, m-wcmt, calc whr vf-fg, ark,vis por mod whr mg, vlo-nil whr vf-fg; Fspr, Qtz; trs disc Qtz, Cht, aa.
3420 - 3450	SH	100	Aa.
		Trs	SS, aa; Qtz, Cht, aa; shell frag.
3450 - 3460	SH	90	Aa.
	SS	10	Aa, w/Qtz, Cht, aa.
3460 - 3470	SH	80	Aa.
	SS	20	Aa.
3470 - 3480	SH	100	Aa.
3480 - 3490	SH	80	Aa.
	SLTST	10	Gy, frm, blky, calc, sl carb.
	SS	10	Dkgy-gy, vf-fg, wsrt, sbang-sbrndd, wcmt, tt, sl calc, Gwke; Qtz.
3490 - 3500	SH	90	Aa.
	SLTST	10	Aa.
	SS	Tr	Aa.
3500 - 3510	SMPL LGLY LCM. PROB AA.		
3510 - 3540	SH	100	Dkgy, frm, blky, sl calc, ip slty.

	SLTST	Trs	Gy, frm, blky, calc.
	SS	Trs	Ltgy-gy, s&p, vf-fg, wsrt, sbang-sbrndd, wcmt, tt, calc, no vis por; Qtz, FeMg.
		Trs	Shell frag.
3540 - 3630	SH	100	Aa.
3630 - 3640	SH	100	Aa.
	SLTST	Tr	Ltgy-gy, frm, plty, calc.
3640 - 3800	SH	100	Aa, tr nac shell frag.
	BENT	Trs	Tn, ltgy, sft, wxy, mic.
3800 - 3810	SH	90	Aa.
	SS	10	Ltgy, sl s&p, vf-fg, wsrt, sbang-sbrndd, wcmt, tt, sl calc, no vis por; Qtz, FeMg, tr Pyr; tr c-vc sbang-ang free Qtz.
3810 - 3830	SH	90	Aa.
	SLTST	10	Ltgy, frm, blky, calc, sl carb.
	QTZ	Trs	Free, aa.
3830 - 3840	SH	100	Aa.
	SLTST	Tr	Aa.
3840 - 3850	SH	80	Aa.
	SLTST	10	Aa.
	SS	10	Ltgy-gy, f-vfg, wsrt, sbang-sbrndd, wcmt, tt, sl calc, no vis por; Qtz; tr free Qtz.
3850 - 3870	SH	100	Aa.
3870 - 3890	SH	100	Aa.
		Trs	Free Qtz, Cht.
3890 - 3910	SH	100	Aa.
	DOL	Trs	Bn, mic-vfxln, dns, hd, sl slty, sl pyrc.
		Trs	Free Qtz, Cht.
3910 - 3920			Aa, tr nac shell frag.
3920 - 3930	SH	100	Aa.
	CHT	Tr	Ltbn-bn, dns, hd, trnsl-op.
3930 - 3940	SH	90	Dkgy, frm, blky, loc sl slty.
	DOL	10	Bn-sl gybn, mic-vfxln, dns, hd, sl slty.
3940 - 3960	SH	100	Aa.
	DOL	Trs	Aa.
	TF	Trs	Ltgy, frm-hd, calc.
3960 - 3970	SH	100	Aa.
		Trs	DOL, aa; free Qtz; nac shell frag.
3970 - 4000	SH	100	Aa.
	DOL	Trs	Aa.

4000 - 4010	SH	100	Aa, incr slty, mic.
	DOL	Trs	Aa.
		Trs	Nac shell frag.
4010 - 4030	SH	50	Aa.
	TF	40	Ltgy, hd, blky, grdg to vfg tf SS.
	DOL	10	Aa.
4030 - 4050	SH	70	Aa.
	TF	20	Aa.
	DOL	10	Aa.
4050 - 4060	SH	80	Aa.
	DOL	10	Aa.
	TF	10	Aa.
	BENT	Trs	Tn-ltgy, msft-mfrm, plty, mic, sl calc.
4060 - 4070	SH	90	Aa.
	TF	10	Aa.
	BENT	Tr	Aa.
4070 - 4080	SH	100	Aa.
	TF	Tr	Aa.
	DOL	Tr	Ltbn, vfxln, hd.
4080 - 4100	SH	70	Dkgy-gy, frm, blky-sbplty, slty, mic, sl calc.
	TF	20	Aa.
	SS	10	Ltgy-wh, s&p, vfg, wsrt, sbrndd-sbang, wcmt, tt, sl calc, tf, no vis por; Qtz, Mic, FeMg.
	BENT	Trs	Wh-ltgy, msft, blky, tf, mic, sl calc.
		Trs	Qtz, Cht, vc-cg, disc.
4100 - 4110	SH	100	Dkgy-gy, aa.
		Trs	Tf, Bent, Ss, aa.
4110 - 4120	SH	70	Aa.
	SS	20	Wh-gy & ltbn, vf-f & loc mg, w-msrt, sbang-sbrndd, wcmt, ip mcmt whr mg, calc, cly-fld whr mg, tf, vis por vlo-nil; Qtz, Mic, FeMg. GAS SHOW AT CORRECTED INTERVAL 4108-4118. TRACE OIL FILM AT POSSUM BELLY.
	TF	10	Aa.
	LS	Tr	Bn, f-vfxln, cpt-dns, hd, dolc.
4120 - 4130	SH	90	Aa.
	SS	10	Aa, pred f-mg, msrt.
4130 - 4140	SS	60	Wh-ltbn & ltgy, s&p, f-vf & loc mg, w-msrt, sbang-sbrndd, wcmt, tt, calc, carb, ark no vis por; Qtz, Mic, FeMg, Fspr, Cht.
	SH	40	Aa.
4140 - 4150	SS	50	Aa, vis por vlo-nil, tr Jasp. GAS SHOW.
	SH	50	Aa.
4150 - 4180	SH	100	Aa.

		Trs	Ss, Tf, aa.
4180 - 4200	SH	90	Aa.
	TF	10	Ltgy, hd, blky, mic, bent, grdg to vf-fg tf Ss.
4200 - 4220	SS	70	Wh-ltbn & ltgy, sl s&p, f-vf & mg, msrt, sbang-sbrndd, s/ang loc, wcmt, tt, calc, ark, ip cly-fld, vis intgran por vlo-nil; Qtz, Fspr, FeMg. Tr disc vc-c Qtz.
	SH	20	Aa, s/carb.
	TF	10	Aa.
4220 - 4230	SS	70	Aa.
	SH	30	Aa.
4230 - 4240	SS	80	Aa.
	SH	20	Aa.
4240 - 4250	SS	70	Aa.
	SH	30	Aa.
4250 - 4260	SS	60	Aa, decr mg.
	SH	40	Aa.
4160 - 4170	SS	80	Aa.
	SH	20	Aa.
4170 - 4180	SH	70	Aa.
	SS	30	Aa.
4280 - 4300	SS	90	Ltbn-ltgybn, vf-fg, tr mg, wsrt, sbang-sbrndd, wcmt, tt, calc, ark, no vis por; Qtz, Fspr, FeMg.
	SH	10	Aa.
4300 - 4310	SS	90	Wh-ltgy & ltbn, s&p, f-vf & mg, m-wsrt, sbang-sbrndd & ang, wcmt, tt, calc, ark, vis intgran por vlo-nil; Qtz, FeMg, Fspr.
	SH	10	Aa.
4310 - 4330	SS	70	Aa.
	SH	20	Aa.
	TF	10	Gy, frm-hd, blky, mic, loc bent, sl calc.
4330 - 4340	SS	60	Aa.
	SH	30	Aa.
	TF	10	Aa.
4340 - 4360	SH	80	Dkgy-gy, frm, blky, ip carb, loc slty, sl calc.
	SS	10	Ltgy-wh, s&p, vf-fg, wsrt, sbang-sbrndd, wcmt, tt, calc, ark, no vis por; Qtz, FeMg, fspr.
	TF	10	Gy-ltgy, hd-frm, blky, mic.
4360 - 4370	SH	100	Aa.
		Trs	Ss, Tf, aa.
4370 - 4380	COAL	100	Bk, blky, brtl, vit.

		Trs	Sh, aa; Calc, clr-nac, plty.
4380 - 4390	SH	60	Gy-dkgy, frm, blky-sbplty, s/slty, loc carb, calc.
	SS	30	Ltbn-ltgy & wh, f-vfg, wsrt, sbang-sbrndd, wcmt, tt, calc, ark, no vis por; Qtz, Fspr, FeMg.
	COAL	10	Aa.
4390 - 4400	SS	60	Aa.
	SH	40	Aa.
	COAL	Tr	Aa.
4400 - 4410	SH	70	Dkgy-gy & bk, frm, blky-sbplty, loc slty, ip calc, carb.
	SS	30	Aa.
4410 - 4420	COAL	80	Bk, blky, brtl, vit.
	SH	10	Aa.
	SS	10	Aa.
4420 - 4430	SH	60	Gy-ltgy & dkgy, frm, blky-sbplty, ip calc, sl carb.
	SS	40	Aa.
4430 - 4440	SS	60	Ltbn, s&p, f-vf & mg, m-wsrt, sbang-sbrndd, wcmt, calc, ark, vis por lo-nil; Qtz, Fspr, FeMg.
	SH	30	Aa.
	COAL	10	Aa.
4440 - 4450	SS	80	Aa.
	SH	10	Aa.
	COAL	10	Aa.
4450 - 4460	SS	50	Aa.
	SH	50	Aa.
	CALC	Tr	Bn, op-trnsl, shell frag.
4460 - 4490	SS	70	Aa.
	SH	30	Aa.
4490 - 4500	SH	60	Aa.
	COAL	40	Bk, blky, brtl, dl-vit.
	SS	Tr	Aa.
4500 - 4510	SH	70	Dkgy-gy, frm, blky, slty, carb, sl calc.
	COAL	20	Aa.
	SS	10	Aa.
	BENT	Tr	Tn-ltgy & wh, msft, plty, mic, sl calc.
4510 - 4520	SH	80	Aa.
	COAL	10	Aa, pred vit.
	SS	10	Aa.
	BENT	Tr	Aa.

4520 - 4540	COAL	100	Aa, vit.
4540 - 4550	SH	70	Gy-bngy & dkgy, frm, blky, carb, slty ip, sl calc.
	COAL	20	Aa.
	SS	10	Ltgy, f-vfg, wsrt, sbang-sbrndd, wcmt, tt, calc, carb, no vis por; Qtz, FeMg.
	DOL	Tr	Bn, micxln, dns, hd.
	TF	Tr	Ltgy, hd-frm, blky, mic, calc.
4550 - 4560	COAL	80	Aa.
	SS	20	Ltbn-wh & ltgy, s&p, f-vfg, grdg loc to SLTST, wsrt, sbang-sbrndd & loc ang, wcmt, tt, calc, ark, s/carb, no vis por; Qtz, Fspr, FeMg.
	TF	Tr	Aa.
4560 - 4570	COAL	100	Aa.
4570 - 4580	SS	70	Ltbn-ltgy & wh, s/s&p, vf-fg, wsrt, sbang-sbrndd, wcmt, tt, calc, no vis por; Qtz, minor FeMg.
	COAL	20	Aa.
	SH	10	Gy-dkgy, frm, blky, carb, s/slty, sl calc.
4580 - 4600	SH	70	Aa.
	SS	10	Aa.
	COAL	10	Aa.
	SLTST	10	Ltgy, frm, blky, calc, tf.
4600 - 4610	SS	60	Ltbn, s/ltgy, sl s&p, f-vfg, wsrt, sbang-sbrndd, wcmt, tt, calc; Qtz, minor FeMg.
	SH	40	Aa.
4610 - 4620	SH	70	Aa.
	SS	30	Aa.
4620 - 4640	SH	80	Aa.
	SS	20	Aa.
4640 - 4650	SS	60	Aa.
	SH	40	Aa.
4650 - 4660	SH	70	Aa.
	SS	30	Aa.
4660 - 4670	SS	60	Aa.
	SH	30	Aa.
	COAL	10	Bk, blky, brtl, vit.
4670 - 4690	COAL	100	Aa.
4690 - 4700	SS	40	Ltbn, ltgy, s&p, f-vfg, wxrt, sbang-sbrndd, wcmt, tt, calc, carb, no vis por; Qtz, FeMg.
	SH	40	Dkgy-gy, frm, blky, slty, carb, calc.
	COAL	20	Aa.

LAST SAMPLE

JOHN S. WILLIAMS, GEOLOGIST

Operator: BWAB Incorporated. Well: Stehle No. 14-32.

GEOLOGIC SUMMARY

BWAB Incorporated's Stehle well number 14-32 was spudded in continental-to-littoral sedimentary rocks of the Paleocene Fort Union Formation. No samples were caught abovethe depth - 344 feet - to which the surface hole was drilled. Eight and five-eighths-inch casing was set at 339 feet. Because of a failure in communications, the hydrocarbon logging unit did not arrive on location until after drilling had started below the surface casing. The drilling crews were asked to catch samples, but that stop-gap procedure was haphazard, and some of the samples were lost.

Lithologically, the observed Fort Union rocks comprised shales, sandstones, and siltstones. The shales were light gray to gray, firm, blocky, locally carbonaceous, and slightly calcareous. Sandstones were gray and light gray, locally salt-and-pepper, and arkosic. Grain size ranged from medium to coarse and conglomeratic, less commonlyto fine. Sorting was moderate to poor, and degree of rounding ranged from subangular to angular and locallv subrounded. Calcareous cement and clay filling reduced original intergrain porosity to nil. Quartz was the main mineral component, with varying amounts of feldspars, ferromagnesians, chert, mica, and pyrite. Siltstones were commonly gray, firm to hard, blocky, carbonaceous in the upper part, and calcareous near the base of the formation. No indications of oil or gas, other than coal gas were noted in the Fort Union. The lower Fort Union, in general, represents a higher-energy environment than the upper part of the formation. Evidence of this lies in the conglomeratic nature of the sandstones, and the freshness of feldspars, micas, and ferromagnesian minerals. Traces of coal in the upper samples, supported by rate-of-penetration data, suggest a quieter, more paludal, environment of deposition for the younger part of the formation penetrated here.

The Lance Formation, which was entered at 1233 feet, consisted of an irregularly mixed sequence of shales, sandstones, siltstones, coals, and minor limestones. Shales were typically gray to locally dark gray, firm, blocky becoming subplaty in the lower part, calcareous, and locally silty and - near coal seams - carbonaceous. Sandstones showed a marked change within the Lance, from coarser-grained and arkosic at the top to finer grained orthoquartzites to graywackes in the middle and lower parts of the formation. The upper sands of the Lance were gray to light gray and white, slightly salt-and-pepper, medium to fine and coarse grained arkosic sandstones; sorting was moderate to good; grains were subangular to angular and subrounded, and well cemented, with calcareous cementing most common; visible intergrain porosity ranged from very low to nil; quartz was the predominant mineral component, with mica, ferromagnesians, feldspars, and pyrite as minor constituents. Lower in the formation the sandstones became light gray to gray, salt-and-pepper, fine to medium and very fine grained, well to moderately well sorted, subangular to subrounded, generally well cemented with calcareous cement, quartz sandstones; visible intergranular porosith was very low to nil and locally low; minerals included quartz as the major component, mica, pyrite, and minor ferromagnesians. Siltstones tended to be gray to light gray, firm to hard, blocky, and calcareous. Coals were black, blocky, and brittle, commonly with a vitreous appearance and sub-

conchoidal fracture. Minor light brown limestones present in the upper part of the formation were hard, dense, and microcrystalline to micritic. No shows of oil or gas were recorded in the Lance. The general aspect of the Lance is one of a change from relatively quiet, fluvial to paludal conditions represented in the lower and middle portions of the formation to the beginnings of greater tectonic activity in the neighboring areas of sediment supply, as indicated by the appearance of coarser, arkosic, sandstones in the upper two hundred feet.

Beneath the Lance, the Lewis Shale, with its top at 2101 feet, consisted of predominantly marine shales, with siltstones, sandstones, and minor tuffs and dolomites. The shales were gray to dark gray, firm, blocky to subplaty, and to varying degrees calcareous, carbonaceous, and silty. Siltstones, most common in the upper part of the formation, were gray to light gray, firm, blocky, calcareous, in part carbonaceous, and locally gradational into very fine grained sandstones. Most of the sandstones in the Lewis were light gray to gray and locally dark gray and light brown, in part salt-and-pepper. Grain size ranged from very fine to fine and locally medium, sorting was good to moderate, cementation, which was calcareous, was good; visible intergranular porosity was primarily very low to nil; mineral content included quartz, mica, pyrite, and ferromagnesians. Several arkosic sandstones were present between 2790 and 3420 feet; light to dark gray in color, they were very fine to fine grained, well sorted, subangular to subrounded, well cemented, tight, and calcareous; visible porosity was very low to nil; mineral content included quartz, ferromagnesians, mica, and feldspar. Tuffs, which were present below 4000 feet, were light gray, hard, micaceous and bentonitic, and graded into very fine grained tuffaceous sandstones. Minor amounts of brown, very fine crystalline, hard, dense dolomite were noted below 3900 feet. Two gas shows were recorded from sandstones in the basal part of the Lewis, from 4104 to 4114 and 4140 to 4150. The sandstone in the upper zone was white to gray and light brown, very fine to fine and locally medium grained, well to moderately well sorted, subangular to subrounded, well to moderately cemented, calcareous, tuffaceous, and clay-filled; visible intergranular porosity was very low to nil. A drill stem test of that interval produced gas-cut mud and water. Pressure readings indicated low porosity and permeability. The lower zone lithology was white to light brown and light gray, salt-and-pepper, arkosic sandstone; grain size was fine to very fine and medium, sorting was good to moderate; grains were subangular to subrounded and well cemented with calcareous cement; visible porosity was very low to nil; mineral content included quartz, mica, ferromagnesians, feldspar, chert, and some carbonaceous material. A drill stem test of this lower zone was attempted, but was unsuccessful due to plugging of the tools.

The contact between the Lewis Shale and the underlying Williams Fork Formation of the Upper Cretaceous Mesaverde Group, at 4204 feet, was at first thought to be faulted, but later study tends to support a non-faulted relationship. That part of the Williams Fork penetrated in the Stehle well can be considered as composed of an upper non-carbonaceous section and a lower carbonaceous section. The upper part, approximately one-third of the total footage, was predominantly sandstone, with shales and minor amounts of tuff. The sandstones were white to light brown and light gray, salt-and-pepper, fine to very fine and medium grained, moderately well to well sorted, subangular to subrounded, well cemented, calcareous, and arkosic; visible porosity, which was intergranular, was very low to nil; mineral content in-

cluded quartz, feldspars, and ferromagnesians. Shales were dark gray to gray, firm, blocky to subplaty, silty, micaceous, slightly calcareous, and locally carbonaceous. Tuffs were light gray, hard, micaceous, bentonitic, and gradational into very fine grained tuffaceous sandstones. Shale and sandstone were nearly equal components of the lower two-thirds of the Williams Fork in this well. No significant differences existed between the lower shales and the upper ones. In the sandstones, a gradual change from arkose to orthoquartzite took place with depth; other than the disappearance of feldspars there was no great change in the sands. Coals in the lower two-thirds were black, blocky, brittle, and vitreous in appearance. No tuffs were noted in the lower part of the formation. There were no shows of oil or gas in the Williams Fork. In general, the Mesaverde rocks demonstrate a change from a quieter, more paludal environment in the lower section to a later more active time, with the appearance of arkosic sandstones, and tuffs indicating volcanic activity in windward directions.

It is regrettable that the Stehle well was drilled in the manner it was. The emphasis on "making hole" led to physical problems in the operation, such as dog-legging between 2000 and 3500 feet, and excessive sloughing of shales in the upper part of the hole after the drilling mud was watered back. Frequent - and in some cases extreme - variation in weight on the bit essentially negated rate of penetration as a tool for geologic interpretation in much of the hole. Those criticisms aside, I think that the support operations in the drilling of the well were conducted competently.

Respectfully submitted

John S. Williams

Operator: BWAB Incorporated. Well: Stehle No. 14-32.

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