Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

RECEIVED
JAN 17 1986
BUREAU OF LAND MANAGEMENT
FARMINGTON RESOURCE AREA

JAN 28 1986
OIL CON. DIV.
DIST. 3

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: DUGAN PRODUCTION CORP.

3. ADDRESS OF OPERATOR: P O Box 208, Farmington, NM 87499

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 1980' FSL - 1980' FWL

5. LEASE DESIGNATION AND SERIAL NO.: NM 22044

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Gold Medal

9. WELL NO.: 2

10. FIELD AND POOL, OR WILDCAT: South Bisti-Gallup

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec.33,T24N,R10W,NMPM

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6640' GL; 6652' RKB

12. COUNTY OR PARISH: San Juan

13. STATE: NM

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) Response to BLM letter of 1-6-86 NM-22044 (GC)			[X]
(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.)*

The subject letter of 1-6-86 requested that a copy of either a temperature or cement bond log be provided to the BLM in order to verify our reported top of cement behind the 4½" casing. Dugan Production did not run a temperature survey or cement bond log in the subject well since the cement job had preceded as designed and an adequate cement volume was utilized to circulate cement to the surface based upon a detailed analysis of the open hole caliper log. In addition, our final displacing pressure of 750 psi just prior to bumping the plug confirmed that the cement was fairly close to the surface. As reported in our sundry of 11-28-85, a total cement slurry of 1224 cf was used on the second stage with the lead cement being 65/35 B-Poz w/12% gel & ¼# flocele, which would have been the blend of cement located at 296'. Because of the nature of the 65/35/12 cement, determining the top of cement by means of a cement bond log is interpretive at best. This, added to the fact that the formation at the depth of interest is most likely very soft and unconsolidated, it is our opinion that a cement bond log would be of no use in determining the top of the 65/35/12 cement. In addition, considering that 65/35 B-Poz with 12% gel generates a minimum amount of heat during the chemical reaction that results in the cement setting, combined with the fact that at 296' the static temperature will be approximately 64.6°F, which compared to the mud temperature at surface conditions of 56° (reference is made to temperatures recorded on the Gearhart Gamma Ray-Induction log of 11-26-85), it is our belief that a temperature anomaly would not exist at the top of cement if it was at 296'. For these reasons Dugan Production did not run a temperature survey or cement bond log. Attached for your review, is data in support of our calculated top of cement.

(Continued on attached page)

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

SIGNED John D. Roe TITLE Petroleum Engineer DATE 1-15-86

John D. Roe

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Attachment No. 1 presents the cement requirements as determined from the caliper log which was run in conjunction with the Compensated Density Log dated 11-26-85. A copy of this log has previously been furnished to the BLM. As can be seen, the computed annular volume (cement requirements) from the DV tool depth of 3825' to the surface was 1222 cf. 1224 cf of cement was utilized for the second stage and should have circulated to the surface based upon our experience in other wells in this area. As you may be aware, the Gold Medal #2 was the 23rd Gallup well that Dugan Producton has drilled in this immediate vicinity, and of the 22 previous wells, we have encountered very little problem in satisfactorily cementing the production casing to surface. The total slurry volume with 1224 cf represents an overall excess of 40% with the percentage ranges from 9% to 62%.

Attachment No. 2 is a copy of the pressure chart from Halliburton's pump truck utilized during the cement job of the Gold Medal #2. The area of the chart that is of importance is identified with pertinent comments presented on Attachment No. 2. This chart is presented in support of the fact that the final displacing pressure was 750-800 psi. Also, the gradual and continual rise in pressure (between points J & L) supports our belief that the cement was being raised in the annulas with no lost circulation problems.

Attachment No. 3 is a copy of an analysis of the theoretical cement job as designed which was generated by Halliburton Service's District Engineer. Attachment No. 3 consists of 3 pages. The first page presents a summary of the well bore hole size as determined from the open hole caliper logs (this data is presented in detail on Attachment No. 1). Page 2 presents the properties for the four different fluids involved during the cement job. Fluid number one is the thinned mud that was in the annular space ahead of the cement, while fluid 2 is the 65/35/12 cement mixed at 11.8 ppg. Fluid 3 is the 50/50/2 mixed at 13.4 ppg and fluid 4 is the fresh water that was utilized inside the casing to displace the second stage closing plug to the DV Tool. At the bottom portion of page number 2 is a presentation of the computed cement tops that theoretically would exist given the data presented on pages 1 and the upper part of page 2. As can be seen, based upon Halliburton's calculations, the top of the 65/35/12 cement theoretically should be at 64', given ideal conditions. With reference to page 3 of Attachment No. 3, a schedule of the anticipated surface pumping pressure throughout the second stage job is presented at the rate of ½ BPM which represents the actual rate that existed during the last 1½ bbls of displacement, having slowed the pumps from 8 BPM in anticipation of seating the closing plug on the DV tool and closing the DV tool in completion of the second stage cement job. As can be seen, at the bottom of the third column, with all cement in place, the surface treating pressure was computed to be 926 psi and from page 2 the theoretical top of cement should be 64' from surface. As reported on our sundry notice of 11-28-85 and also supported by Attachment No. 2, the final displacing pressure was actually only 750 psi. The difference between 750 and 926 psi (176 psi) represents approximately 287 ft of hydrostatic head considering only the lighter of the two blends of cement (65/35/12, averaging 0.613 psi/ft). Thus, based upon Halliburton's job analysis, and based upon the actual final displacing pressure of 750 psi, the indicated top of cement utilizing this data would be 287 feet lower than the calculated top of 64' or at approximately 351' below the surface. The difference between 351' indicated by Halliburton's analysis and the 296' reported on our sundry notice reflects an improved analysis of the fluid properties utilizing Halliburton's computer facilities at their research center in Duncan, Oklahoma. The difference between 296' and 351' represents a relatively minor difference with both calculations indicating that the top of cement covers all known oil and gas zones. The Gold Medal #2 was perforated and fracture stimulated in the Gallup formation on December 6, 1985, having tested the casing to 4000 psi prior to perforating. The well was completed for production on December 18, 1985, and pumping equipment was installed in the well on December 26 and 27, 1985.

Should the data not prove satisfactory in verifying the top of cement in the Gold Medal #2, and Dugan Production be required to record a cement bond log in the subject well, it will be necessary to pull the rods and tubing from the well, set a bridge plug in the casing and load the casing above the bridge plug with water. This will result in a fairly substantial cost to Dugan Production and will not likely provide a better determination of the cement top than already exists. It is also a possibility that we could encounter problems running or retrieving the bridge plug and that the well productivity could be damaged during this operation. You are probably aware, these wells are commercial wells, however out of the 23 wells Dugan Production has placed on production, there are no big wells in this general area and the economics of a particular well could easily be made marginal with a minor amount of additional expenses. It is our belief that the top of cement is above 351' and likely between 296' and 351'. We request that the BLM accept this information in lieu of the cement bond log or temperature survey requested in your letter.

ATTACHMENT NO. 1
Hole Volume Analysis
Dugan Production's Gold Medal No. 2
South Bisti-Gallup Field
NE SW 33, T-24N, R-10W, NMPM
San Juan County, NM

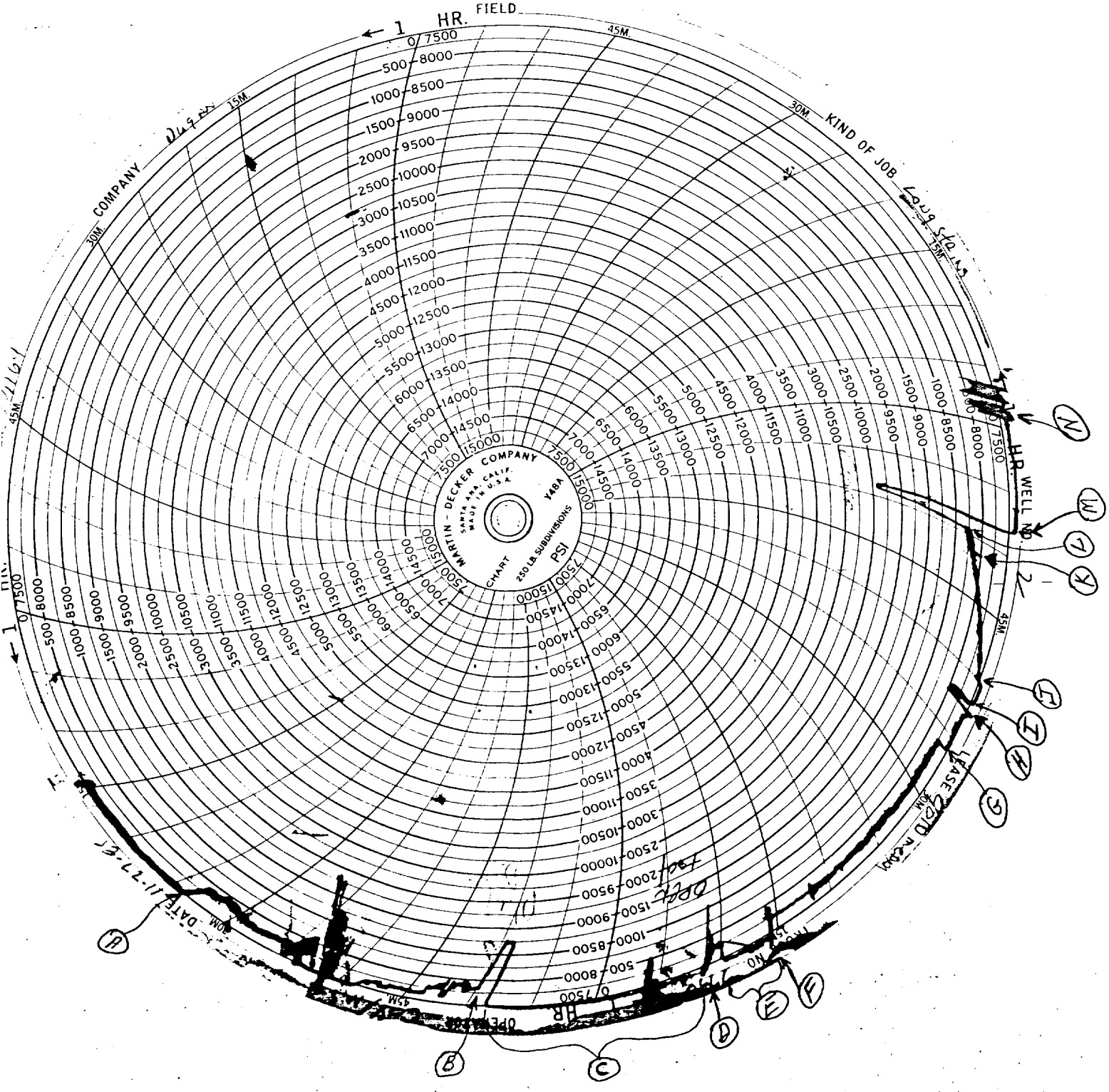
Log Interval	Ft.	Annular Volume-cf (A)	Total Vol-cf	Average cf/ft	% of Gauge Hole	Remarks
3825-3735	90	29	29	0.322	141	Est. 8-7/8" hole
3735-3624	111	40	69	0.360	158	From Caliper
3624-3340	284	100	169	0.352	155	From Caliper
3340-2740	600	199	368	0.332	146	Est. 9" hole
2740-1825	915	252	620	0.275	121	From Caliper
1825-1230	595	183	803	0.308	135	Est. 8-3/4" hole
1230-1035	195	62	865	0.318	140	From Caliper
1035-209	826	305	1170	0.369	162	Est. 9-3/8" hole
209-surface	209	52	1222	0.247	109	8-5/8"-24#x4½" csg

Theoretical Annular Volume, Assuming Gauge Hole from 3825' to surface = 875.4 cf
Computed Annular Volume from 3825' to Surface = 1222 cf
Overall Average Annular Volume = 140% of Gauge

(A) Volume between hole & 4½" production casing

Attachment No. 2

Pressure chart from Halliburton's Pump Truck while Cementing 4½" Casing in Dugan Production's Gold Medal No. 2 11-27-85



ATTACHMENT NO. 2
Description of Noted Events
Halliburton's Pressure Chart
While Cementing Dugan's Gold Medal #2

Note

A. Started 1st stage mud flush followed by 45.2 bbls of cement slurry followed by displacement consisting of 14.0 bbls of water & 63.0 bbls of mud.

B. 1st stage plug down

C. Dropped plug to open DV tool and waited for plug to fall to DV tool.

D. Pressured casing to 1000 psi to open DV tool.

E. Chart out of service while circulating 2 hrs with mud and rig pumps, waiting for 1st stage to set up.

F. Started 2nd stage mud flush followed by 217.9 bbls of cement slurry @ 8½-12 BPM

G. Cement slurry pumped. Shut down to drop displacing plug.

H. Wash out Halliburton's surface lines to insure as little as possible cement on top of displacing plug.

I. Start displacement consisting of 61.1 bbls of water @ 8 BPM

J. Caught cement (which was falling inside casing due to Hydrostatic head) with displacement. Slowed pumps to 6 BPM.

K. Slowed pumps to ½ BPM, anticipating the displacing plug to seat on DV tool.

L. Displacing plug seated & closed DV tool. Pressured casing to insure tool closed. Note: Final pressure prior to bumping plug=750 to 800 psi.

M. Released pressure & checked for backflow - none. Tool closed & held OK. Job complete.

N. Halliburton washing up surface lines & tub.

ATTACHMENT #3

(pg #1 of 3)

HALLIBURTON SLURRY-FLO PLAN -- VERSION 5-20-83

DUGAN PRODUCTION

GOLDMEDAL #2

JOHN ROE

1/13/86

- - - - - DEPTHS AND DIAMETERS OF WELL SECTORS - - - - -

SECTOR NO.	DEPTH FT	HOLE OR CSG. ID IN (A)	CASING, DRILL PIPE OR LINER OD - IN	CASING, DRILL PIPE OR LINER ID - IN	
1	0 - 209.	8.097	4.500	4.000	ID of 8 5/8"-24# Surf. csg.
2	209-1035.	9.375	4.500	4.000	} - Hole Size from caliper log -
3	1035'-2740.	8.750	4.500	4.000	
4	2740-3825.	9.000	4.500	4.000	

(A) Refer to Attachment #1 - Hole Size Averaged over Similar interval Sizes.

Attachment #3

Pg #2 of 3

- - - - - - - - - - - FLUID PROPERTIES - - - - - - - - - - -

FLUID NO.	DESCRIPTION
1	MUD *in casing-hole annulas.*
2	CEMENT 65/35/12% GEL,1/4 LB/SK FLOCELE
3	CEMENT 50/50/2% GEL,1/4 LB/SK FLOCELE
4	FRESH H2O

FLUID NO.	N'	K'	*Actual* SLURRY DENSITY LBS/GAL	SLURRY YIELD CU FT/SK	HYDROSTATIC GRADIENT PSI/FT
1	0.963	0.00156	8.50	0.0	0.442
2	0.140	0.70260	11.80	2.21	0.613
3	0.180	0.37390	13.40	1.27	0.696
4	1.000	0.00009	8.33	0.0	0.433

FLOW RATE REQUIRED TO ACHIEVE REYNOLDS NO. = 3000.
IN ANNULAR SECTOR 4

FLUID NO.	BPM
1	18.8
2	51.9
3	38.8
4	1.3

- - - - - - - - - - ANNULAR FILL - - - - - - - - - -

FLUID NO.	DEPTH OF FL. TOPS FT	ANNULAR FILL FT	SACKS OF CEMENT	BBLS FLUSH OR SPACER
1	0.	64.		0.
2	64.	3569.	525.	
3	3633.	192.	50.	
TD =	3825.			

Halliburton's theoretical cement Top

Attachment #3 (pg #3 of 3)

- - - - - - - - - - - - JOB CALCULATIONS - - - - - - - - - - - -

CALCULATIONS BASED ON PUMP RATE OF 0.5 BPM (-Rate prior to Bumping plug)

TOTAL BBLS FLUID PUMPED	FLUID BEING PUMPED AT SURFACE	SURFACE PRESSURE PSI	BOTTOM HOLE PRESSURE PSI	ANNULAR FLUID AT TD	BBLS OF DISPLACEMENT FLUID (NO. 4) PUMPED
0.0	1	7.*	1690.	1	0.0
13.9	2	ON VAC	1690.	1	0.0
27.7	2	ON VAC	1690.	1	0.0
41.6	2	ON VAC	1690.	1	0.0
55.5	2	ON VAC	1690.	1	0.0
69.4	2	ON VAC	1729.	2	0.0
83.2	2	ON VAC	1784.	2	0.0
97.1	2	ON VAC	1838.	2	0.0
111.0	2	ON VAC	1893.	2	0.0
124.8	2	ON VAC	1948.	2	0.0
138.7	2	ON VAC	2008.	2	0.0
152.6	2	46.	2068.	2	0.0
166.4	2	106.	2128.	2	0.0
180.3	2	166.	2189.	2	0.0
194.2	2	226.	2249.	2	0.0
208.1	3	276.	2309.	2	0.0
221.9	4	281.	2364.	2	4.0
235.8	4	414.	2412.	2	17.8
249.7	4	548.	2460.	2	31.7
263.5	4	681.	2507.	2	45.6
277.4	4	926. (B)	2581.	3	59.5

*EST. SURFACE PRESSURE WITH MUD ONLY CIRCULATING

FRACTURE GRADIENT = 1.000 PSI/FT AT 3825. FT
FINAL HYDROSTATIC GRADIENT = 0.614 PSI/FT AT 3825. FT

FINAL FLUID PRESSURE GRADIENTS
FLOWING AT 0.5 BPM

DEPTH FT	GRADIENT PSI/FT
209.	0.6178
1035.	0.6578
2740.	0.6710
3825.	0.6747

MAXIMUM SURFACE PRESSURE = 926. PSI

MAXIMUM HYDRAULIC HORSEPOWER = 11. HP

(B) - Theoretical final surface displacing pressure, assuming cement Top @ 64' as indicated on pg #2.