

P-W

DUVAL CORPORATION #21 SANTA FE NO PERMIT  
NW NW Sec. 26-T20N-R27E APACHE COUNTY 1-13

1-13

County Apache

Area Holbrook Basin

Lease No. \_\_\_\_\_

Well Name Duval Corporation #21 Santa Fe

Location NW NW Sec 26 Twp 20N Range 27E Footage 660' FNL - 660' FWL

Elev 5760' Gr \_\_\_\_\_ KB Date 2-26-64 ~~Completed~~ Abandon 3-1--64 Total Depth 1978'

*5445GR + 5750KB from USGS 7 1/2' gual*  
Contractor \_\_\_\_\_

Casing Size 4-1/2" Depth 1711' Cement \_\_\_\_\_  
Drilled by Rotary \_\_\_\_\_  
Cable Tool \_\_\_\_\_

Production Horizon \_\_\_\_\_

Initial Production \_\_\_\_\_

REMARKS This hole drilled as a potash test.

See file for Core Lithology. (Footage 1713'-1880.5')

Elec Logs Sonic Log; Induction-Electrical Log; Gamma Ray - Neutron Sample Log \_\_\_\_\_  
Applic. Plugging Completion \_\_\_\_\_ Sample Descript. \_\_\_\_\_  
to Plug \_\_\_\_\_ Record x Report x Sample Set P-1320  
Core Analysis \_\_\_\_\_  
DSTs \_\_\_\_\_

Water well accepted by \_\_\_\_\_

Bond Co. & No. None

Bond Am't \$ \_\_\_\_\_ Canceled \_\_\_\_\_ Date \_\_\_\_\_ Organization Report None

Filing Receipt None Dated \_\_\_\_\_ Well Book x Plat Book x

API No. 02-001-05079 Loc. Plat \_\_\_\_\_ Dedication None (Stat)

Permit Number None Date Issued \_\_\_\_\_

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### WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION:

New Well  Work-Over  Deepen  Plug Back  Same Reservoir  Different Reservoir  Oil  Gas  Dry

DESCRIPTION OF WELL AND LEASE

Operator Duval Corporation Address 4715 E FT Lowell Rd. Tucson, Arizona  
 Lease Name \_\_\_\_\_ Well Number 21 Field & Reservoir \_\_\_\_\_

Location 4620 FSL & 660 FWL S 26 T20N R27E Sec.—TWP—Range or Block & Survey

County Apache Permit number \_\_\_\_\_ Date issued \_\_\_\_\_ Previous permit number \_\_\_\_\_ Date issued \_\_\_\_\_

Date spudded 2/26/64 Date total depth reached \_\_\_\_\_ Date completed, ready to produce 3/11/64 Elevation (DF, RKB, RT or Gr.) \_\_\_\_\_ Elevation of casing hd. flange \_\_\_\_\_ feet

Total depth 1978 P.B.T.D. \_\_\_\_\_ Single, dual or triple completion? \_\_\_\_\_ If this is a dual or triple completion, furnish separate report for each completion.

Producing interval (s) for this completion \_\_\_\_\_ Rotary tools used (interval) \_\_\_\_\_ Cable tools used (interval) \_\_\_\_\_

Was this well directionally drilled? \_\_\_\_\_ Was directional survey made? \_\_\_\_\_ Was copy of directional survey filed? \_\_\_\_\_ Date filed \_\_\_\_\_

Type of electrical or other logs run (check logs filed with the commission) Gamma Ray - Neutron, Sonic Log, Induction Electric Log Date filed \_\_\_\_\_

CASING RECORD

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled

TUBING RECORD			LINER RECORD				
Size in.	Depth set ft.	Packer set at ft.	Size in.	Top ft.	Bottom ft.	Sacks cement	Screen (ft.)

PERFORATION RECORD			ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD	
Number per ft.	Size & type	Depth Interval	Amt. & kind of material used	Depth Interval

INITIAL PRODUCTION

Date of first production \_\_\_\_\_ Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:)

Date of test	Hrs. tested	Choke size	Oil prod. during test bbls.	Gas prod. during test MCF	Water prod. during test bbls.	Oil gravity ° API (Corr)

Tubing pressure	Casing pressure	Cal'ed rate of Production per 24 hrs.	Oil bbls.	Gas MCF	Water bbls.	Gas-oil ratio

Disposition of gas (state whether vented, used for fuel or sold):

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the \_\_\_\_\_ of the \_\_\_\_\_ (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date \_\_\_\_\_ Signature \_\_\_\_\_

**STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION**  
 Well Completion or Recompletion Report and Well Log  
 Form No. P-7 File two copies



Hole No.

21

Interval (feet)

Formation or Member

Ground elevation 5760'  
C-100 (approx.)  
100-280  
280-365  
365-400  
400-  
765 (GAN log)  
1105-1325  
1325-1500  
1500-  
1676

Dune Sand  
Bidahochi  
Upper Petrified Forest  
Sonsela  
Lower Petrified Forest  
Top of greenish-grey unit  
Lower Nupatki  
Coconino  
Supai  
Top of 1st marker Anhydrite

22(A)

Ground elevation 5510'  
C-10  
10-  
70-  
375-  
436-581  
581-900  
900-  
1022

Dune Sand  
Lower Petrified Forest  
Top of greenish-grey unit  
Shinarump  
Lower Nupatki  
Coconino  
Supai  
Top of 1st marker Anhydrite.

23

Ground elevation 5940'  
C-60  
60-390  
390-  
985  
1525-  
1550-1668  
1668-~~2068~~ 2068

Dune Sand  
Bidahochi  
Upper Petrified Forest  
Top of greenish-grey unit  
Shinarump  
Lower Nupatki  
Coconino

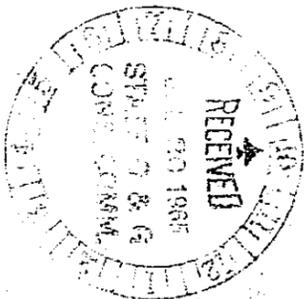
(Hole abandoned at 2068')

2068

24

Ground elevation 5530'  
C-  
425-  
477-647  
647-980  
980-  
1061

Chinle, near or below top of  
greenish-grey unit  
Shinarump  
Lower Nupatki  
Coconino  
Supai  
Top of 1st marker Anhydrite



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FORM 159

DUVAL CORPORATION  
INTER-OFFICE MEMORANDUM

1-73

FROM Navajo, Arizona

DATE March 30, 1964

TO Emeranza

ATTENTION B.G. Messer

SUBJECT: Duval # 21 Santa Fe

Location: 4620 FSL, 0660 FSL, S.26, T.20N., R.27E.  
Date Started: February 26, 1964  
Date Completed: March 11, 1964  
Elevation, G.L.: 5760  
T.D.: 1973  
Casing: 1102  
Elevation Top Coconino: 4435  
Elevation Top Halite: 4004 (None below fault @ 3997).  
Elevation Top Sylvite: None

5760  
2004  
1973

5760  
4435  
-----  
1325  
x

DUVAL SULPHUR & POTASH COMPANY  
POTASH DIVISION  
CARLSBAD, NEW MEXICO

WHILE WE BELIEVE THIS INFORMATION TO BE  
CORRECT WE MAKE NO REPRESENTATION WITH  
RESPECT TO NOR DO WE ACCEPT ANY LIABILITY  
FOR THE ACCURACY THEREOF.  
DUVAL CORPORATION

CORE LITHOLOGY

WELL NO. 21

DEPTH (Feet)		INTERVAL Feet	ESTIM. %		DESCRIPTION	
From	To		Shale	SA		
Abbreviations:					H - Halite	Gyp - Gypsum
					A - Anhydrite	C-S - Clay Silt
					P - Polyhalite	med. g. - medium grained
					S - Sylvite	clr - clear
					C - Carnallite	occ - occasional
					f.g. - fine grained	V - Very
					c.g. - Coarse grained	incr - increasing
					incl - inclusions	decr - decreasing
					irreg - irregular	brn - brown
1713	0				STARTED CORING	
1713	0	1713 4	0 4	10 90	A, wh.; large brn C-S incls in upper third.	
1713	4	1714 4	1 0	97 3	C-S, tan, hard; V few med. white A blebs.	
1714	4	1716 4	1 2	10 90	A, lt. gray; 1/2 in C-S, brn band of 1715.7 ft., 30% zone in bot. 0.2 ft.	
1716	4	1731 5	15 1	98 2	C-S, tan-brn, little gray; 0.5 ft. zone of 30% A, gray C 1720.5, 0.4 ft. 40% zone C 1722.3 ft. (6 ft. core lost).	
1731	5	1732 0	0 5	100	A, wh.	
1732	0	1750 4	18 4	98 2	C-S, brn, hard-med soft; 0.1 ft. A, gray bands at 1734.5 & 1736.0 ft., few irreg med. white blebs. (9 ft. core lost)	
1750	4	1754 3	3 9	100	A, gray-tan.	
1754	3	1755 3	1 0	58 42	C-S, tan, hard & A, gray decr down from 80% at top to 5% at base.	
1755	3				TOP OF SALT	
1755	3	1755 6	0 3	30 20	H, med-c.g.; 0.2 ft. zone of 40% brn C-S, & 25% A wh. c.g. at top.	
1755	6	1756 3	0 7	70 30	C-S, brn, hard; some large irreg wh. A bands & blebs.	
1756	3	1770 4	14 1	97 3	C-S, tan-brn, hard; few irreg wh. A blebs & stringers. (2 ft. core lost)	
1770	4	1780 5	10 1	97 3	C-S, brn, hard; few small to large white A blebs & stringers in bot. half.	

DUVAL SULPHUR & POTASH COMPANY  
POTASH DIVISION  
CARLSBAD, NEW MEXICO

CORE LITHOLOGY

WELL NO. 21

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DEPTH (Feet)		INTERVAL		ESTIM. %		DESCRIPTION
From	To	Feet	Shale	KA		
1780	5	1783	3	2	8	70 30 C-S, brn, hard and some irreg A, gray bands & blebs
1783	3	1799	4	16	1	96 4 C-S, brn, hard to med soft; 2 ft. zone 30% A wh., med-c.g. blebs @ 1789.5 ft.
						(3 ft. core lost)
1799	4	1801	3	1	9	100 A, gray.
1801	3	1806	1	4	8	95 5 C-S, brn, hard; some med. wh. A blebs in top 2.0 ft. & bot. 0.7 ft.
1806	1	1806	8	0	7	100 A, gray.
1806	8	1813	8	7	0	80 15 C-S, brn, med. hard; many med-occ large gray A blebs.
1813	8	1814	6	0	8	6 94 A, gray; 1/2 brn C-S band at 1814.1 ft.
1814	6	1830	4	15	8	98 2 C-S, brn, little gray, hard; few irreg white A stringers in top two-thirds.
1830	4	1833	7	3	3	100 C-S, gray, med. hard.
1833	7	1837	0	3	3	2 98 A, gray; 10% C-S brn in bottom 0.7 ft.
1837	0	1837	5	0	5	95 5 C-S, tan, hard; few med. wh. A blebs.
1837	5	1839	0	1	5	10 90 A, gray; 20% C-S, brn in lower 0.7 ft.
1839	0	1839	6	0	6	100 C-S, brn hard.
1839	6	1842	5	2	9	100 A, gray, banded.
1842	5	1845	0	2	5	92 8 C-S, brn, med. hard; 0.8 ft. zone, 20% A, white, med-c.g. @ 1843.7 ft.
1845	0	1848	0	3	0	98 2 C-S, gray, hard; V few large irreg gray A blebs.
1848	0	1852	1	4	1	100 C-S, brn, hard.
1852	1	1852	8	0	7	95 5 C-S, top half gray, rest brn, hard; 10% white A stringers in lower half.
1852	8	1869	4	16	6	99 1 C-S, brn, hard-med. soft; few irreg V lge. wh. A blebs in lower half.
1869	4	1870	3	0	9	100 C-S, tan-gray; V hard. (Sandstone)
1870	3	1871	3	1	0	100 A, gray.
1871	3	1880	5	9	2	70 30 C-S, brn-gray, hard; many med to V lge. white A blebs, 0.1 ft. band at top, 1877.2 ft. & 1878.0 ft. 0.2 ft. band @ 1878.5 ft.

