P-W

DUVAL CORPORATION #30 SANTA FE NO PERMIT
SW SW Sec. 19-T19N-R27E APACHE COUNTY/-68

1-68

County Apache

Area Holbrook Basin

Lease No.

Well Name Duval Corporation #30 Santa Fe

Location SW SW Sec 19 Twp 19N Range 27E Footage 660' FSL - 660' FWL

Elev 6040' Gr KB Spud Date 4-13-64 ~~Completed~~ Abandon 4-22-64 Total Depth 1890'?

Contractor

Drilled by Rotary
Cable Tool

Casing Size	Depth	Cement
7"	808'	
4-1/2"	1734'	

Production Horizon

Initial Production

REMARKS This hole drilled as a potash test.

See file for Core Lithology. (Footage 1735' - 1888.5')

Elec Logs Gamma Ray-Neutron; Sonic Log;

Applic. to Plug ___ Plugging Record x Completion Report x

Sample Log
Sample Descript.
Sample Set P-1312
Core Analysis
DSTs

Water well accepted by

Bond Co. & No. None

Bond Am't $ Cancelled Date Organization Report None

Filing Receipt None Dated Well Book x Plat Book x

API No. 02-001-05110 ~~None~~ Loc. Plat ___ Dedication None (Strat)

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: 30 — Field & Reservoir
Location: 660 FWL & 760 FSL Sec 19 T19N R27E	Sec.—TWP-Range or Block & Survey

County	Permit number	Date Issued	Previous permit number	Date Issued
Apache				

Date spudded	Date total depth reached	Date completed, ~~ready~~ to ~~produce~~	Elevation (DF, RKB, RT or Gr.) feet	Elevation of casing hd. flange feet
4/13/64		4/22/64		

Total depth	P.B.T.D.	Single, dual or triple completion?	If this is a dual or triple completion, furnish separate report for each completion.
1878			

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)	Date filed
Gamma Ray-Neutron, Sonic Log	

CASING RECORD

Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)

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	Am't. & 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'ted 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

PLUGGING RECORD

Operator: Duval Corporation	Address: 4715 E Ft Lowell Rd. Tucson, Arizona
Name of Lease	Well No.: 30 — Field & Reservoir
Location of Well: 660 FWL & 760 FSL	Sec-Twp-Rge or Block & Survey: Sec 19 T19N R27E — County: Apache
Application to drill this well was filed in name of	Has this well ever produced oil or gas — Character of well at completion (initial production): Oil (bbls/day) / Gas (MCF/day) / Dry?
Date plugged:	Total depth: 1878 — Amount well producing when plugged: Oil (bbls/day) / Gas (MCF/day) / Water (bbls./day)

Name of each formation containing oil or gas. Indicate which formation open to wellbore at time of plugging	Fluid content of each formation	Depth interval of each formation	Size, kind & depth of plugs used Indicate zones squeeze cemented, giving amount cement.

CASING RECORD

Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped etc)	Packers and shoes

Was well filled with mud-laden fluid, according to regulations?

Indicate deepest formation containing fresh water.

NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE

Name	Address	Direction from this well:

In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.

Use reverse side for additional detail
File this form in duplicate with the State of Arizona Oil & Gas Conservation Commission

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

Plugging Record — File two copies

Form No. P-15

1-68

FORM 159

DUVAL CORPORATION

INTER-OFFICE MEMORANDUM

FROM Navajo, Arizona DATE April 23, 1964

TO Esperanza ATTENTION B.G. Hasser

SUBJECT: Duval # 30 Santa Fe

Location: 660 FWL, 760 FSL, sec. 19, T.19N., R.27E.
Date Started: 4/13/64
Date Completed: 4/22/64
Elevation, G.L.: 6040
Casing Point: 802
Depth, Top Coconino: 1347 (4693)
Depth, Top Halite: 1778 (4262)
Depth, Top Sylvite: 1815 (4225)
T.D.: 1878

Hole No.	Interval (feet)	Formation or Member
29	Ground elevation 5410'	
	0-	Lower Petrified Forest
	258	Top of greenish-grey unit
	376-	Shinarump
	400-711	Lower Wupatki
	711-1165	Coconino
	1165-	Supai
	1245	Top of 1st marker Anhydrite
30	Ground elevation 6040'	
	0-19	Dune Sand
	19-196	Bidahochi
	196-	Upper Petrified Forest
	560-	Lower Petrified Forest
	633	Top of greenish-grey unit
	1149-	Shinarump
	1224-1347	Lower Wupatki
	1347-1672	Coconino
	1672-	Supai
	1746	Top of 1st marker Anhydrite
31	Ground elevation 5300'	
	0-52	Dune Sand
	52-90	Moqui
	90-130	Upper Wuptki
	130-291	Lower Wuptki
	291-700	Coconino
	700-	Supai
	787	Top of 1st marker Anhydrite
32	Ground elevation 6140'	
	0-185	Bidahochi
	185-	Upper Petrified Forest
	452-	Lower Petrified Forest
	840	Top of greenish-grey unit
	1020-	Shinarump
	1110-1242	Lower Wupatki
	1242-1540	Coconino
	1540-	Supai
	1658	Top of 1st marker Anhydrite

RECEIVED
JUL 30 1965
STATE O & G
CONS. COMM.

1-68

Form 3
2M Sheets 5-54

DUVAL SULPHUR & POTASH COMPANY
POTASH DIVISION
CARLSBAD, NEW MEXICO

BELIEVE THIS INFORMATION TO BE CORRECT. WE MAKE NO REPRESENTATION WITH RESPECT TO, NOR DO WE ASSUME ANY LIABILITY FOR, THE CONSEQUENCES THEREOF.
DUVAL CORPORATION

CORE LITHOLOGY

WELL NO. 30

DEPTH (Feet) From		DEPTH (Feet) To		INTERVAL Feet		ESTIM. % Shale	ESTIM. % HA	DESCRIPTION
				Abbreviations:				H - Halite; G - 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
1735	0							STARTED CORING
1735	0	1739	9	4	9	99	1	C-S, brn, little gray; V few small G stringers.
1739	9	1740	0	0	1	-	100	A, lt. gray.
1740	0	1743	5	3	5	99	2	C-S, brn, hd.; V few irreg small A/G stringers.
1743	5	1743	8	0	3	-	100	A, lt. gray-white.
1743	8	1745	5	1	7	95	5	C-S, brn; few A blebs, 0.2' 30% zone at 1744.0'.
1745	5	1746	0	0	5	5	95	A, gray; some C-S brn in top 0.1'.
1746	0	1748	0	2	0	99	1	C-S, brn; V few white A stringers.
1748	0	1748	4	0	4	-	100	A, gray.
1748	4	1750	3	1	9	99	1	C-S, brn; few irreg white G stringers.
1750	3	1751	6	1	3	-	100	A, gray-white.
1751	6	1752	0	0	4	70	30	C-S, brn; 60% zone of white A in lower half.
1752	0	1754	9	2	9	99	1	C-S, brn; V few irreg white A stringers.
1754	9	1768	5	13	6	1	99	A, gray; 10% brn C-S zone top 0.1'.
1768	5	1774	0	5	5	99	1	C-S, brn, top 0.1' gray V hd., 0.7' V soft zone at 1768.9'; 1" white A band at 1771.1'.
1774	0	1775	1	1	1	1	99	A, gray; some brn C-S incls in top inch.
1775	1	1781	6	6	5	99	1	C-S, red-brn, med soft, little hd. gray; occ white G stringer.
1781	6	1782	2	0	6	-	100	A, gray.
1782	2							TOP OF SALT
1782	2	1787	8	5	6	-	90	A, gray, few small med V irreg H,clr blebs.
1787	8	1788	3	0	5	-	-	H, clr, V c.g.

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2M Sheets 5-54

DUVAL SULPHUR & POTASH COMPANY
POTASH DIVISION
CARLSBAD, NEW MEXICO

CORE LITHOLOGY

WELL NO. 30

DEPTH (Feet) From		To		INTERVAL Feet		ESTIM. % Shale	% A	DESCRIPTION
1788	3	1791	1	2	8	1	2	H, clr, c.g.; few med.g. A/P gray-red stringers & blebs; V few med brn C-S incls grading out down.
1791	1	1793	0	1	9	98	-	C-S, brn, hard; few irreg small H blebs.
1793	0	1794	1	1	1	60	-	C-S, brn, hard, small to V large irreg and H, med-c.g.
1794	1	1798	0	3	9	20	2	H, med; some small-lg. brn C-S incls; few small white A blebs grading in down.
1798	0	1801	0	3	0	2	1	H, med; few small-med brn C-S incls; V few small white A blebs.
1801	0	1805	1	4	1	2	1	H, c.g., top 0.2' clr; few small brn C-S incls; occ A bleb and ¼" band at base.
1805	1	1806	8	1	7	-	1	H, clr, c.g.; few irreg tan A/P blebs; occ V small brn C-S incls.
1806	8	1807	5	0	8	50	-	C-S brn irreg bands and H, f.g.
1807	5	1810	5	3	0	8	1	H, med; some small-lg. irreg brn C-S incls; V few small gray A blebs.
1810	5	1812	5	2	0	15	1	H, med-c.g.; some med to lg. irreg brn C-S incls & stringers; V few small white A blebs.
1812	5	1813	3	0	8	10	-	H, med; few med-lg. brn C-S incls.
1813	3	1813	6	0	3	70	-	C-S, brn; many med irreg H blebs.
1813	6	1816	1	2	5	12	-	H, med; some med-lg. brn C-S incls decr down from 20% at top to 5% at base.
1816	1	1816	4	0	3	-	2	H, clr, med-c.g.; few small pink A/P blebs.
1816	4	1816	7	0	3	95	-	C-S, brn; few small H blebs.
1816	7	1818	9	2	2	30	1	H, med; many med-lg. med soft brn C-S incls grading out down from 60% at top; few V small tan-pink A/P blebs.
1818	9	1820	0	1	1	-	-	H, clr, med.
1820	00							TOP OF SAMPLES
1820	00	1821	25	1	25	3	1	H, clr med; few small brn C-S incls & stringers; V few small lt. gray A stringers & red S blebs. Est. K_2O/S - 1%

Form 3
Al Sheets 5-54

DUVAL SULPHUR & POTASH COMPANY
POTASH DIVISION
CARLSBAD, NEW MEXICO

CORE LITHOLOGY

WELL NO. 30

DEPTH (Feet) From		To		INTERVAL Feet		ESTIM. % Shale	A	DESCRIPTION
1821	25	1822	20	0	95	7	1	H, clr-dull lwr. half, med-c.g. few small-lg. brn C-S incls incr down from 4 to 10%; V few small white A stringers & occ V small red S bleb. Est. K_2O/S - 0%
1822	20	1823	85	1	65	2	8	H, clr, c.g.; several small to lg. gray A & tan A/P stringers, 0.1' 80% zone at 1823.0'; few small brn C-S incls & occ small red S bleb. Est. K_2O/S - Less than 1%
1823	85	1825	00	1	15	-	2	H, V clr, c.g.; some small-lg. red-rimmed milky S blebs, decr down from 50% at top to 5% at base, few small lt. gray A stringers. Est. K_2O/S - 16%
1825	00	1825	65	0	65	-	15	H, V clr, med-c.g.; some lg. lt. gray A stringers, irreg ½" band at top & thin parting at 1825.5' few small milky S blebs, part. red-rimmed. Est. K_2O/S - 11%
1825	65	1826	60	0	95	-	70	A, gray; few small-lg. H intergrowths grading out down; few red-milky S blebs grading out in top 0.4'. Est. K_2O/S - 4%
1826	60	1827	95	1	35	-	3	H, V clr, c.g.; few lg. irreg gray A stringers, irreg ½" parting at 1827.0'; few small red S blebs. Est. K_2O/S - 3%
1827	95	1828	20	0	25	40	-	H, clr, c.g.; few V lg. brn C-S incls & red-rimmed milky S blebs. Est. K_2O/S - 20%
1828	20	1829	50	1	30	8	-	H, f.g.-med; some red-rimmed S blebs; several hd. brn C-S incls. Est. K_2O/S - 19%
1829	50	1830	15	0	65	4	2	H, med; few small brn C-S incls & red-clr S blebs, V few lt. gray A blebs. Est. K_2O/S - 6%

Sheets 5-54

DUVAL SULPHUR & POTASH COMPANY
POTASH DIVISION
CARLSBAD, NEW MEXICO

CORE LITHOLOGY

WELL NO. 30

DEPTH (Feet) From		DEPTH (Feet) To		INTERVAL Feet		ESTIM. % Shale	ESTIM. % K	DESCRIPTION
1830	15	1831	35	1	20	1	3	H, tan, med.g.; few small gray A & tan A/P stringers & blebs; few small red S blebs; V few brn C-S incls. Est. K_2O/S - 3%
1831	35	1832	30	0	95	1	1	H, V. clr, med-c.g., V few brn C-S incls & tan A/P blebs; occ V small red S bleb. Est. K_2O/S - minus 1%
1832	30	1833	30	1	00	-	2	H, V clr, c.g., V few gray A stringers, thin parting at 1832.90'; occ V small red S bleb. Est. K_2O/S - 0%
1833	30	1834	15	0	85	-	3	H, clr, med-f.g.; few small gray A & tan A/P stringers. Est. K_2O/S - 0%
1834	15	1836	6	2	45	65	-	C-S, brn, med soft; many irreg small-lg. H blebs.
1826	6	1838	0	1	4	25	-	H, med-f.g.; some small-lg. irreg brn C-S incls.
1838	0	1839	4	1	4	35	-	H, med; some small-V lg. brn C-S incls, 0.2' 80% zone at top, 0.2' band at 1838.5'.
1839	4	1841	0	1	6	1	1	H, clr c.g.; V few small brn C-S incls & tan A blebs.
1841	0	1842	0	1	0	3	-	H, med; few med brn C-S incls.
1842	0	1846	9	4	9	1	1	H, clr, c.g.; V few small irreg brn C-S incls & med gray A stringers.
1846	9	1849	9	3	0	-	2	H, clr, V c.g.; few irreg med gray A stringers.
1849	9	1854	0	4	1	60	-	C-S, brn; many med irreg H blebs.
1854	0	1855	1	1	1	4	-	H, f.g.; few small brn C-S incls & stringers.
1855	1	1859	6	4	5	1	1	H, clr c.g.; few small brn C-S incls grading out in upper half; V few med white A blebs in lower half.
1859	6	1862	8	3	2	4	-	H, med-c.g.; few small irreg brn C-S incls.
1862	8	1864	4	1	6	-	1	H, V. Clr, med-c.g.; few med white A stringers in mid. third.
1864	4	1867	0	2	6	60	-	C-S, brn, med soft and H, f.-med.g. irreg zones & thin bands.
1867	0	1868	1	1	1	5	-	H, med; few small brn C-S incls, ¼" stringer at 1867.9'.

Sheets 5-54

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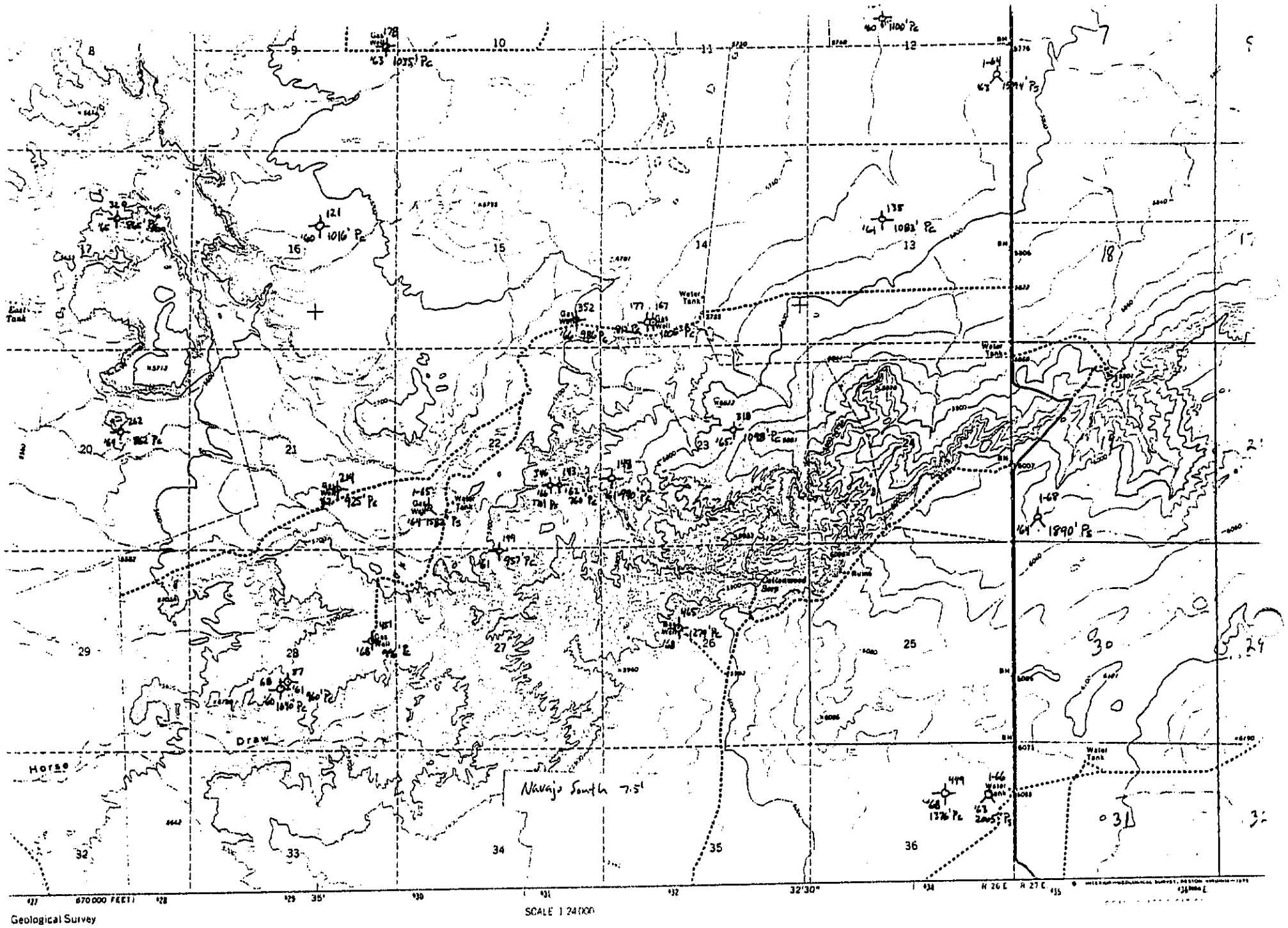
POTASH DIVISION
CARLSBAD, NEW MEXICO

CORE LITHOLOGY

WELL NO. 30

DEPTH (Feet) From	DEPTH (Feet) To	INTERVAL Feet	ESTIM. % Shale	ESTIM. % RA	DESCRIPTION
1871 1	1872 2	1 1	2	-	H, clr med; few V irreg small-med brn C-S incls.
1872 2	1873 7	1 5	1	2	H, clr, c.g.; 0.2' 10% zone of med tan A blebs at top; V few small brn C-S incls.
1873 7	1877 3	3 6	-	-	H, V. Clr, med; occ med white A stringer.
1877 3	1878 3	1 0	-	16	H, clr, med; one inch gray A bands at 1877.6' and 1878.0'.
1878 3	1879 3	1 0	-	80	A, gray; some H, med intergrowths in mid. section.
1879 3	1880 9	1 6	95	-	C-S, brn, med hd.; few irreg H, f.g. zones.
1880 9	1887 1	6 2	3	1	H, med; few small-lg. irreg brn C-S incls; V few med gray A stringers.
1887 1	1888 5	1 4	-	30	H, V clr, V c.g.; 0.5' zone 50% white A at 1887.3' and 0.3' zone 60% at 1888.0'.
1888 5					TOTAL DEPTH

LOGGED BY B. F. McGuire
B. F. McGuire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Draw
Navajo South 7.5'
Water Tank
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Geological Survey