P-W

DUVAL CORPORATION #5 1-28 NO PERMIT
NW SE Sec. 1-T17N-R26E APACHE COUNTY

1-28

County Apache

Area Holbrook Basin

Lease No. [redacted]

Well Name Duval Corporation #5

Location NW SE Sec 1 Twp 17N Range 26E Footage 1445' FSL - 1685' FEL

Elev 5959' GL ~~Gx~~ KB Spud Date 11-12-63 ~~Completed~~ Abandon 12-5-63 Total Depth 1905'

Contractor

Drilled by Rotary
Cable Tool

Casing Size	Depth	Cement
2-7/8"	1467'	

Production Horizon

Initial Production

REMARKS Drilled as a potash test.

See file for Core Lithology. (Footage 1465-1893.7) 1905

Elec Logs Gamma-Ray Neutron;

Applic. to Plug ___ Plugging Record x Completion Report x

Sample Log
Sample Descript.
Sample Set P-1336
Core Analysis
DSTs

Water well accepted by

Bond Co. & No. None

Bond Am't $ Cancelled Date Organization Report none

Filing Receipt Dated Well Book x Plat Book x

API No. 02-001-05027 ~~None~~ Loc. Plat ___ Dedication None

Permit Number None Date Issued

1-28

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: 5 — Field & Reservoir:

Location: Sec 1 T17N R26E — Sec.—TWP-Range or Block & Survey: N 2 NE

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
		12/5/63		

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.
1905'			

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	

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	Address
Duval Corporation	4715 E Ft Lowell Rd. Tucson, Arizona

Name of Lease	Well No.	Field & Reservoir
	5	

Location of Well	Sec-Twp-Rge or Block & Survey	County
Sec 1 T17N R26E		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	Amount well producing when plugged: Oil (bbls/day)	Gas (MCF/day)	Water (bbls./day)
	1905'			

Name of each formation containing oil or gas. Indicate which formation open to well-bore 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

1-28

FORM 159

DUVAL CORPORATION

INTER-OFFICE MEMORANDUM

FROM NAVAJO

DATE 1/16/64

TO TUCSON

ATTENTION B.G. MESSER

SUBJECT: DUVAL #5

DATE STARTED

DATE COMPLETED 12/5/63

G.L. ELEV. 5959

T.D. 1905

CASING - - 1467

ELEV. COCO 4879

ELEV. TOP SALT 4460±

ELEV KCl

TOP COCO > A

388'

Hole No.	Interval (feet)	Formation or Member
5	Ground elevation 5959'	
	0-7	Dune Sand
	7-38	Bidahochi
	38-	Upper Petrified Forest
	512-	Lower Petrified Forest
	730-	Top of greenish-grey unit
	870-	Shinarump
	930-1077	Lower Wupatki
	1077-1393	Coconino
	1393-	Supai
	1465	Top of 1st marker Anhydrite
6	Ground elevation 5526'	
	0-	Upper Petrofied Forest
	130-	Lower Petrofied Forest
	602-	Shinarump
	623-788	Lower Wupatki
	788-1096	Coconino
	1096-	Supai
	1214-	Top of 1st marker Anhydrite
7	Ground elevation 5868'	
	0-5	Dune Sand
	5-45	Bidahochi basal cong.(?)
	45-	Upper Petrified Forest
	556-	Lower Petrofied Forest
	680-	Top of greenish-grey unit
	978-1020	Lower Wupatki
	1020-1146	Kaibab
	1146-1387	Coconino
	1387-	Supai
	1491-	Top of 1st marker Anhydrite
8	Ground elevation 5390'	
	0-	Lower Petrified Forest
	184-333	Lower Wupatki
	333-622	Coconino
	622-	Supai
	764-	Top of 1st marker Anhydrite

Form 3
2M Sheets 5-54

DUVAL SULPHUR & POTASH COMPANY
POTASH DIVISION
CARLSBAD, NEW MEXICO

DUVAL CORPORATION
WHILE WE BELIEVE THIS INFORMATION TO BE CORRECT, WE TAKE NO REPRESENTATION WITH RESPECT TO ITS ACCURACY OR RESPONSIBILITY FOR ITS USE BY OTHERS.

December 19, 1963

CORE LITHOLOGY

WELL NO. 5

DEPTH (Feet) From		DEPTH (Feet) To		INTERVAL Feet		ESTIM. % Shale	ESTIM. % P	DESCRIPTION
				Abbrevations:				H - Halite K - Kieserite
								A - Anhydrite Le- Leonite
								P - Polyhalite K - Kainite
								S --Sylvite L - Langbeinite
								C - Carnallite V - Very
								f.g.-fine grained med. g.- medium grained
								c.g.-course grained clr. - clear
								incl.-inclusions occ. occasional
								irreg.- irregular
1465	0							Started Coring:
1465	0	1479	3	14	3	-	100	A, gray, f. to med. g.
1479	3	1481	0	1	7	85	15	Clay-silt, brn., soft; top 0.2' partly gray, somewhat A indurated, 0.1' irreg. dark gray A band 0.1' above base.
1481	0	1483	0	2	0	60	40	Clay, soft, brn.; 0.3' irreg. A band with some med. soft brn. clay incls. in the band. Clay at top & base of material recovered. (about 1.4' core missing.)
1483	0	1484	9	1	9	2	98	A, gray; few small tan clay-silt incls., grading out in top 0.2'.
1484	9	1490	8	5	9	95	5	Clay-silt, tan to brn., med. soft to med. hard, V. little gray clay; some irreg. A med. blebs in top 0.4', 0.2' white A band at 1485.3'; interval slightly salty.
1490	8	1497	4	6	6	1	99	A, gray, mottled; few small brn. clay stringers about 0.1' above base.
1497	4	1498	1	0	7	100	-	Clay-silt, red-brn., med. hard, V. little gray.
1498	1							Top Of Salt.
1498	1	1502	1	4	0	20	-	H, F. to c.g., some small to large irreg. brn. clay incls., decreasing down from 40% at top to 5% at base.
1502	1	1508	5	6	4	3	1	H, med.; few irreg. med. to large soft brn. clay incls; few thin light gray A stringers.

ects 5-54

DUVAL SULPHUR & POTASH COMPANY

WELL NO. D.C. 5 — CORE LITHOLOGY — PAGE NO. 2

DEPTH (Feet) From		DEPTH (Feet) To		INTERVAL Feet		ESTIM. % Shale	ESTIM. % P	DESCRIPTION
1508	5	1512	9	4	4	3	1	H, med. to c.g., partly clr.; some small to med. brn. clay-silt incls. & stringers, decreasing down from 5% at top to 2% at base; occ. irreg. white A stringers.
1512	9	1513	0	0	1	-	80	A, gray; some med. H blebs.
1513	0	1514	7	1	7	80	5	Clay-silt, brn. to red, gray in top 0.3'; some irreg. zones of H, f.g.; top 0.3' A, indurated.
1514	7	1521	7	7	0	5	-	H, med., c.g., some small to large brn. clay incls.; occ. small white A bleb.
1521	7	1525	9	4	2	6	-	H, med. to c.g.; some irreg. small to lt. brn. clay incls. increasing down from 2% to 10%; occ. small A bleb.
1525	9	1526	4	0	5	50	-	Clay-silt, brn., med. hard; some H, med., irreg.
1526	4	1528	1	1	7	4	2	H, med.; few med. brn. clay incls., grading out down; few med. white A stringers in lower ½.
1528	1	1530	4	2	3	-	2	H, clr., med. to c.g.; few med. irreg. white A stringers.
1530	4	1532	0	1	6	-	4	H, V. clr., c.g.; 0.2' A band at 1531.3', few other irreg. stringers of A.
1532	0	1532	5	0	5	-	80	A, gray; some irreg. H.
1532	5	1534	8	2	3	-	1	H, V. clr., med.; few small white A stringers near top & base.
1534	8	1539	2	4	4	4	-	H, clr., med.; few small & occ. lt. brn. clay incl., decreasing down from 5% to 2%; occ. small white A stringer.
1539	2	1540	1	0	9	-	5	H, V. clr., c.g.; few V. thin gray A bands at 1539.3' & 1539.8'.
1540	1	1540	2	0	1	-	90	A, gray; irreg; few small H blebs.
1540	2	1545	6	5	4	60	2	Clay-silt, brown, med. soft; about 0.1' A, gray at top; some irreg. H, med. to f.g.
1545	6	1549	2	3	6	6	-	H, med.; few small med. brn. clay incls., decreasing down from 10% at top to 2% at base.

Form 3-A
3M Sheets 5-54

DUVAL SULPHUR & POTASH COMPANY

WELL NO. 5 — CORE LITHOLOGY — PAGE NO. 3

DEPTH (Feet) From		To		INTERVAL Feet		ESTIM. % Shale	P	DESCRIPTION
1549	2	1553	0	3	8	2	-	H, clr., c.g., few small irreg. brn. clay incls.; occ. white A bleb.
1553	0	1559	4	6	4	-	5	H, V. clr., med.; few irreg. large white A stringers in bottom half; occ. gray clay incl.
1559	4	1564	2	4	8	60	1	Clay-silt, dark brn., soft, occ. gray clay-silt, bands & many small to large incls. of the brn. clay; H, med. in V. irreg. zones; occ. small gray A.
1564	2	1568	2	4	0	8	2	H, med.; some V. irreg. med. brn. clay incls. & stringers; few small white A blebs in lower half.
1568	2	1576	4	8	2	2	2	H, clr., med. to c.g.; few med. brn. clay incls. grading out down; V. few irreg. white A blebs & stringers.
1576	4	1578	2	1	8	80	2	Clay-silt, brn., med. soft; some H, f.g.; grading out down; ⅓" irreg. gray A band at top.
1578	2	1584	7	6	5	5	1	H, med., clr.; irreg. small to med. brn. clay incls., decreasing down from 10% to 1%; occ. small white A blebs & stringers.
1584	7	1584	8	0	1	60	-	Clay-silt, brn., soft as irreg. stringer; H, f.g.
1584	8	1587	8	3	0	-	1	H, clr., med.; few med. white A stringers; occ. small brn. clay incl. in upper foot.
1587	8	1588	9	1	1	2	80	A, gray; some H, med. intergrowths; thin dark gray clay partings at 1588.7'.
1588	9	1590	1	1	2	90	-	Clay-silt, med. soft, dark brn., top 0.2' is dark gray; few thin irreg. H bands.
1590	1	1598	0	7	9	4	3	H, clr., med.; some small to med. brn. clay incls.; few irreg. white A blebs & stringers, ¼" band A, white 0.1' above base.
1598	0	1599	2	1	2	2	70	A, white, 0.2' A zone at top; H, some med. intergrowths 0.2' H at 1598.4'; thin brn. clay parting at base.
1599	2	1601	6	2	4	5	-	H, med.; few small to med. brn. clay incls.
1601	6	1605	1	3	5	4	1	H, clr., med. to c.g.; few irreg. small to med. brn. clay incls. & stringers; few med. white A stringers in lower half.

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m 3-A
3M Sheets 5-54

DUVAL SULPHUR & POTASH COMPANY

WELL NO. 5 — CORE LITHOLOGY — PAGE NO. 4

DEPTH (Feet) From	DEPTH (Feet) To	INTERVAL Feet	ESTIM. % Shale	ESTIM. % P	DESCRIPTION
1605 1	1608 2	3 1	1	5	H, clr., c.g. to V. c.g.; few med. brn. clay stringers grading out in top ft.; few V. irreg. small to large gray A incls. decreasing down from 10% at top to 0% at base.
1608 2	1609 0	0 8	-	50	A, gray; grades into H, clr., med., down; 0.2' A top.
1609 0	1609 2	0 2	15	-	H, f.g. to med.; some small brown & gray incls.
1609 2	1610 2	1 0	90	-	Clay-silt, brn., med. soft; some H bands & incls. in bottom third.
1610 2	1612 1	1 9	10	-	H, med.; some small to med. brn. clay incls.
1612 1	1614 0	1 9	60	-	Clay-silt, red-brown, med. hard; some irreg. zones of H, f.g.
1614 0	1616 1	2 1	7	-	H, med.; few small to V. large soft brn. clay incls.
1616 1	1616 8	0 7	85	-	Clay-silt, brn.-gray, med. hard; some med. H blebs.
1616 8	1617 8	1 0	12	-	H, med.; some tan med. to c.g. clay incls., increasing down from 2% at top to 25% at base.
1617 8	1618 7	0 9	75	-	Clay-silt, tan, med. hard; some med. H blebs in bottom 0.6'.
1618 7	1621 1	2 4	5	1	H, clr., med.; few med. brn. clay incls, 0.1' zone of 40% red-brn. clay at bottom; few small white A blebs.
1621 1	1622 2	1 1	5	-	H, med.; few small brn. clay-silt incls, grading out down.
1622 2	1622 3	0 1	-	100	A, gray.
1622 3	1624 7	2 4	80	1	Clay-silt, brn. to gray; some irreg. H blebs, occ. small white A bleb.
1624 7	1626 2	1 5	20	-	H, pink, f.g. partly shistose; some clay-silt, brn., med. soft, As few large V. irreg. stringers & bands.
1626 2	1627 1	0 9	80	-	Clay-silt, brn., med. soft, little gray; few irreg. med. H. blebs.
1627 1	1634 0	6 9	6	2	H, clr., med. to c.g.; some med. to L. irreg. brn. clay-silt incls.; few small white A stringers grading in down to 3%, at base.

Form 3-A
3M Sheets · 5-54

DUVAL SULPHUR & POTASH COMPANY

WELL NO. 5 — CORE LITHOLOGY — PAGE NO. 5

DEPTH (Feet) From		To		INTERVAL Feet		ESTIM. % Shale	P	DESCRIPTION
1634	0	1635	8	1	8	1	4	H, med.; some med. A stringers, grading out down; occ. V. small brn. clay incl. in upper foot.
1635	8	1642	6	6	8	7	2	H, med. to c.g.; some irreg. med. to large brown to gray clay-silt incls. & thin bands, 1" band at top; few small A blebs.
1642	6	1643	9	1	3	60	1	Clay-silt, brn., little gray; med. soft; many small H blebs; few small white A blebs.
1643	9	1650	9	7	0	8	2	H, med. to c.g., clr.; some small to large irreg. soft brn. clay incls., decreasing down from 15% at top to 2% at base; few small white A blebs.
1650	9	1653	6	2	7	3	-	H, clr., med. to c.g.; few small to med. brn. clay-silt incls.; occ. small white A stringers.
1653	6	1654	4	0	8	-	30	H, clr., c.g., in top half; mixture of A & H, f.g. in lower half, about 50% of sa.; ½" A at base.
1654	4	1655	5	1	1	9	-	H, med.; some med. to lt. brn. clay incls., decreasing down from 15% at top to 3% at base.
1655	5	1657	7	2	2	1	2	H, clr., med.; some irreg. med. white A stringers; few small brown clay incls., grading out down.
1657	7	1659	4	1	7	6	4	H, med.; small to med. brn. to gray clay incls., increasing down from 2% at top to 10% at base; few med. to L. irreg. A blebs & stringers.
1659	4	1659	8	0	4	70	-	Clay-silt, brn., med. hard, several H blebs.
1659	8	1660	9	1	1	4	-	H, f.g.; few small brn. clay incls.
1660	9	1662	7	1	8	60	-	Clay-silt, tan to brn., med. hard; some V. irreg. zones H, med.
1662	7	1666	3	3	6	17	2	H, med. to c.g.; some med. to V. lt. brown clay incls., decreasing down from 30% at top to 5% at base; some irreg. med. white A stringers; mostly in lower half.
1666	3	1669	2	2	9	1	10	H, clr, med. to c.g.; some irreg. med. to L. white A blebs & stringers, ¼" band at base; few med. brn. clay incls., grading out in top foot.

ets 5-54

DUVAL SULPHUR & POTASH COMPANY

WELL NO. 5 — CORE LITHOLOGY — PAGE NO. 6

DEPTH (Feet) From		DEPTH (Feet) To		INTERVAL Feet		ESTIM. % Shale	ESTIM. % P	DESCRIPTION
1669	2	1670	7	1	5	60	-	Clay-silt, tan to gray; some small to med. H blebs; occ. small white A bleb.
1670	7	1673	3	2	6	5	-	H, med.; few med. & V. few L. brown clay-silt incls.
1673	3	1678	5	5	2	2	-	H, clr., med.; few small to med. brn. clay incls., grading out down; occ. V. small red A/P bleb.
1678	5	1686	1	7	6	-	90	A, gray; some H, f.g. to med. intergrowths.
1686	1	1693	3	7	2	70	1	Clay-silt, brn., gray in top 0.3'; H, med., irreg., increasing down from 1% at top to 60% at base; V. few white A blebs.
1693	3	1694	7	1	4	5	1	H, clr., med. to c.g.; few med. brn. clay incls., V. few med. white A blebs in lower half.
1694	7	1695	8	1	1	1	1	H, clr., med.; V. few small white A blebs & brn. clay incls.
1695	8	1697	4	1	6	8	-	H, f.g. to med.; some med. brn. clay, occ. clay stringers; occ. small white A bleb.
1697	4	1703	4	6	0	3	-	H, clr., med.; few irreg. small to med. brn. clay incls.
1703	4	1706	1	2	7	-	2	H, clr., c.g.; V. few med. white A blebs & stringers.
1706	1	1706	6	0	5	5	2	H, f.g.; few med. brn. clay incls. & white A blebs.
1706	6	1710	4	3	8	35	1	H, med. to c.g.; upper 0.6' is 75% clay silt, then decreasing down from 50% to 5% at base; some irreg. white gypsum (?) blebs.
1710	4	1711	5	1	1	1	1	H, med., to c.g., clr.; few small white A blebs & brn. clay incls.
1711	5	1711	7	0	2	-	90	A, gray; some H, med. blebs.
1711	7	1713	9	2	2	-	6	H, V. clr., med. to c.g.; 0.1' white A band at base, occ. A stringer in upper foot.
1713	9	1715	6	1	7	4	1	H, med. to c.g.; few med. brn. clay incls; occ. small white A bleb; V. thin clay parting at top.
1715	6	1717	9	2	3	-	2	H, clr. to pink, f.g. to c.g.; few med. to L. white A stringers in upper half & lower 0.5'; occ. small brn. clay incl., grading out in top 0.4'.

A
Sheets 5-54

DUVAL SULPHUR & POTASH COMPANY

WELL NO. 5 — CORE LITHOLOGY — PAGE NO. 7

DEPTH (Feet) From		DEPTH (Feet) To		INTERVAL Feet		ESTIM. % Shale	ESTIM. % P	DESCRIPTION
1717	9	1722	3	4	4	4	-	H, f.g. to med.; few small to med. irreg. brn. clay incls.; occ. small white A bleb.
1722	3	1725	0	2	7	1	1	H, clr., med. to c.g.; V. few irreg. med. clay; occ. med. white A bleb.
1725	0	1727	3	2	3	1	2	H, clr., V. c.g. to med.; some small to med. pink to to red A blebs & stringers; 0.2' zone of minor black incls. at 1725.9', probably hematite.
1727	3	1729	8	2	5	-	3	H, clr., med. to c.g.; few irreg. med. to L. white A blebs& stringers.
1729	8	1735	2	5	7	3	2	H, med., clr.; few small brn. clay incls.; med. white A blebs & stringers, V. thin A parting at base.
1735	2	1739	1	3	9	-	3	H, clr., c.g. to med.; ½" A band at 1737.8', occ. thin bands & stringers of A increasing down.
1739	1	1739	6	0	5	-	90	A, gray; few small H blebs in upper ⅓.
1739	6	1741	2	1	6	5	10	H, f.g. to med.; ½" A band at 1740.2', 40% A, gray in lower 0.3', fibrous pink H within A clay zone; A grades into gray clay in bottom 0.1'.
1741	2	1743	2	2	0	70	-	Silt stone-clay(?), tan to brn., V. hard; some H, fibrous, pink, vertical vein-type occurrence, increasing down in lower 2/3.
1743	2	1748	6	5	4	14	-	H, med.; many M. hard brn. clay incls. at top to few small incls. at base, grading from 40% down to 20% in top 1.2', & from 6% to 3% on down to base.
1748	6	1752	0	3	4	2	-	H, clr., med.; few small irreg. brn. clay incls.; occ. small white A stringers in lower part.
1752	0	1755	5	3	5	96	1	Clay-silt, tan to brn., hard; few L. A blebs & bands in top 0.5'; H, f.g. blebs in top 0.5'.
1755	5	1757	4	1	9	60	-	Clay-silt, tan to brn., hard; some H, med.
1757	4	1761	8	4	4	85	1	Clay-silt, brn., med. hard to med. soft, bottom 1.4' is gray clay; some irreg. med. H blebs, grading out in top 2/3; V. few med. white A blebs & stringers.

A
Sheets 5-54

DUVAL SULPHUR & POTASH COMPANY

WELL NO. 5 — CORE LITHOLOGY — PAGE NO. 8

DEPTH (Feet) From	DEPTH (Feet) To	INTERVAL Feet	ESTIM. % Shale	ESTIM. % P	DESCRIPTION
1761 8	1777 4	15 6	94	1	A, lt. to dark gray, partly mottled; few irreg. med. to small H blebs & intergrowths; few minor V. dark gray shaley partings through the middle 1/3.
1777 4	1785 0	7 6	95	-	Clay, lt. to med. gray banded, med. hard, possibly A indurated; occ. irreg. med. H zone; occ. small white A bleb.
1785 0	1786 0	1 0	20	80	A, dark gray, partly clayey.
1785 0	1790 1	4 1	90	10	Clay, lt. to dark gray, banded, hard to med. soft; irreg. A indurated.
1790 1	1790 3	0 2	-	100	A, gray.
1790 3	1791 0	0 7	10	2	H, med.; ¼" hard brn. clay-silt band at top, some large incls., grading out down; few irreg. white A stringers.
1791 0	1795 6	4 6	-	2	H, clr., med.; occ. small brn. clay incl., few small white A blebs & Stringers.
1795 6	1796 0	0 4	-	95	A, gray; occ. H intergrowths.
1796 0	1796 2	0 2	5	2	H, f.g. to med.; few small brn. clay incls. & white A blebs.
1796 2	1804 1	7 9	75	2	Clay-silt, brn. to tan, little gray; H, f.g. to med., irreg., 50% from 1801.4' down; few irreg. small to large white A bleb.
1804 1	1816 4	12 3	10	2	H, med.; 0.1' brn. clay-silt band at 1807.0', some irreg. small to large soft brn. clay incls., increasing down from 5% at top to 15% at base; few small to med. white A blebs & Stringers.
1816 4	1818 1	1 7	50	-	H, f.g. & clay-silt, brn., as mixture.
1818 1	1818 5	0 4	90	-	Clay-silt, brn., banded; little H, f.g. as shistose veinlets.
1818 5	1819 3	0 8	30	-	H, med.; some irreg. small to large brn. clay incls.
1819 3	1823 2	3 9	80	-	Clay-silt, red-brn., med. soft at top, grading into H, indurated, about 40% H, f.g. at base.
1823 2	1824 1	0 9	-	95	A, gray; little H, f.g.

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WELL NO. 5 — CORE LITHOLOGY — PAGE NO. 9

DEPTH (Feet) From	DEPTH (Feet) To	INTERVAL Feet	ESTIM. % Shale	ESTIM. % P	DESCRIPTION
1824 1	1827 6	3 5	95	-	Clay-silt, red-brn., hard, occ. white A bleb; little H near base.
1827 6	1833 1	5 5	15	1	H, med.; V. irreg. small to large brn. clay incls. & stringers, 0.2' clay band at 1831.5'; occ. small white A bleb.
1833 1	1845 7	12 6	5	-	H, f.g. to c.g., few small to large irreg. brn. clay incls. & Stringers; few irreg. white A blebs.
1845 7	1851 9	6 2	2	1	H, clr., med. to c.g.; occ. small to med. brn. clay incl., grading out down; few med. gray A incls.
1851 9	1853 8	1 9	50	-	Clay-silt, tan to gray, med. soft to med. hard; some V. irreg. zones of H, med. to c.g.
1853 8	1863 2	9 4	3	-	H, clr., f.g. to c.g.; few small brn. clay incls. & occ. partings; occ. white A blebs.
1863 2	1863 5	0 3	20	15	H, med.; 0.05' A band at base; heavy brn. clay strin.ers at top, gradind out at middle.
1863 5	1877 7	14 2	3	1	H, clr., med.; few small & occ. large brn. clay incl., V. irreg.; occ. small to med. white A bleb.
1877 7	1881 1	3 4	10	2	H, med.; some small to med. soft brn. clay incls.; few small gray-white A incls.
1881 1	1882 2	1 1	80	10	Clay-silt, brn., med. hard; few small H & white A blebs in upper ½; lower half is H, f.g. & indurated.
1882 2	1883 2	1 0	45	-	H, med., some med. brn. clay incls., increasing down from 5% at top to 90% at base.
1883 2	1888 5	5 3	80	-	Clay-silt, red, med. soft at top, to gray, med. hard, at base; ½" irreg. fibrous white H in top ½; lower ½ is saline, although not visibly apparent.
1888 5	1889 2	0 7	-	90	A, gray (?); some H, f.g.
1889 2	1893 7	4 5	80	10	Clay-silt, brn., A indurated, hard; some irreg. thin H, f.g., shistose, fracture fillings, few blebs in lower half; A grades out in top half.

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WELL NO. 5 — CORE LITHOLOGY — PAGE NO. 10

DEPTH (Feet) From		DEPTH (Feet) To		INTERVAL Feet		ESTIM. % Shale	ESTIM. % P	DESCRIPTION
1893	7	1905	0	11	3	10	1	H, med. to c.g.; some irreg. small to large brn. clay incls., decreasing down, from 15% at top to 5% at base; 0.2' band of A indurated gray clay, little brn. at 1894.4', about 20% A, 60% clay, 20% H, f.g.; 0.2' band 70% brn. clay, few H blebs at 1895.7'; few white A blebs in lower half.

Logged By: B. F. McGuire
B. F. McGuire

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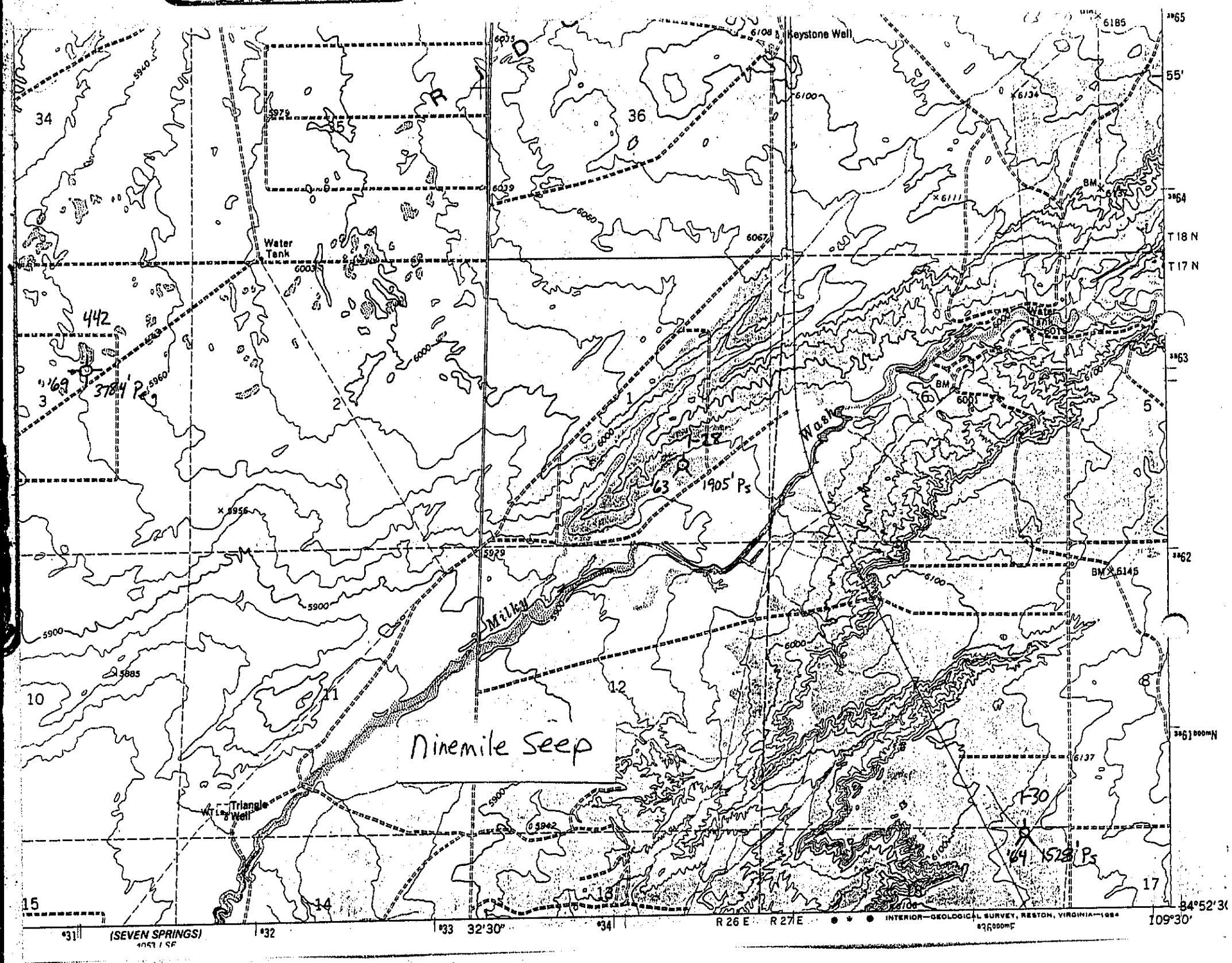

Keystone Well
Water Tank
Water Tank
Triangle Well
Milky Wash
Ninemile Seep
442
3784' Ps
1905' Ps
1528' Ps
T 18 N
T 17 N
R 26 E
R 27 E
32'30"
109°30'
(SEVEN SPRINGS)
INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1954