M-d

DUVAL CORPORATION #12 STATE NO PERMIT
SW SW Sec. 22-T19N-R26E APACHE COUNTY 1-65

1-65

County Apache

Area Holbrook Basin

Lease No. State

Well Name Duval Corporation #12 State

Location SW SW Sec 22 Twp 19N Range 26E Footage 950' FSL - 660' FWL

Elev 5670' Gr 5672 ~~KB~~ DF Spud Date 1-8-64 ~~Completed~~ Abandon 1-25-64 Total Depth 1582' 1583 from Duval Sheet

Contractor

Drilled by Rotary
Cable Tool

| Casing Size | Depth | Cement |
|---|---|---|
| 4-1/2" | 991' | |
| | | |

Production Horizon

Initial Production

REMARKS This hole drilled as a potash test.

See file for Core Lithology. (Footage 1300 - 1582.3')

Elec Logs Radioactivity Log; (other)

Applic. to Plug ___ Plugging Record x Completion Report x

Sample Log
Sample Descript.
Sample Set P-1329
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. 02-001-05111 ~~None~~ Loc. Plat ___ Dedication None (Strat)

Permit Number None Date Issued

1-65

13.

# 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 | Address |
|---|---|
| DUVAL CORPORATION | 4715 E Ft Lowell Rd. Tucson, Arizona |

| Lease Name | Well Number | Field & Reservoir |
|---|---|---|
| | 12 | |

Location: 990' North & 660' E of S.W. Cor. Sec. 22 — Sec.—TWP-Range or Block & Survey: T 19N, R 26E

| 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 |
|---|---|---|---|---|
| 1-8-64 | 1-25-64 | 1/25/64 | | |

| 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. |
|---|---|---|---|
| 1582 | | | |

| 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 |
|---|---|
| RADIOACTIVITY 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 | Address |
|---|---|
| DUVAL CORPORATION | 4715 E. FT. LOWELL Rd. TUCSON, ARIZ. |

| Name of Lease | Well No. | Field & Reservoir |
|---|---|---|
| | 12 | |

| Location of Well | Sec-Twp-Rge or Block & Survey | County |
|---|---|---|
| 950' NORTH & 660' E OF S.W. COR. | SEC. 22 T19N 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) |
|---|---|---|---|---|
| 1-25-64 | 1582 | | | |

| 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

| Hole No. | Interval (feet) | Formation or Member |
|---|---|---|
| 9 | Ground elevation 6515' | |
| | 0-182 | Dune Sand |
| | 182-745 | Bidahochi |
| | 745- | Upper Petrified Forest |
| | 1318- | Lower Petrified Forest |
| | 1495 | Top of greenish-grey unit |
| | 1785- | Shinarump |
| | 1820-1978 | Lower Wupatki |
| | 1978-2263 | Coconino |
| | 2263- | Supai |
| | 2341 | Top of 1st marker Anhydrite |
| 10 | Ground elevation 5790' | |
| | 0-10 | Dune Sand |
| | 10-97 | Upper Petrified Forest |
| | 97-119 | Sonsela |
| | 119- | Lower Petrified Forest |
| | 407 | Top of greenish-grey unit |
| | 658- | Shinarump |
| | 675-917 | Lower Wupatki |
| | 917-1262 | Coconio |
| | 1262- | Supai |
| | 1348 | Top of 1st marker Anhydrite |
| 11 | Ground elevation 6095' | |
| | 0-33 | Dune Sand |
| | 33-295 | Bidahochi |
| | 295- | Upper Petrified Forest |
| | 493- | Lower Petrified Forest |
| | 753 | Top greenish-grey unit |
| | 1125-1218 | Lower Wupatki |
| | 1218-1516 | Coconio |
| | 1613 | Top of 1st marker Anhydrite |
| 12 | Ground elevation 5670' | |
| | 0-45 | Dune Sand |
| | 45-175 | Upper Petrified Forest |
| | 175-181 | Sonsela |
| | 181- | Lower Petrified Forest |
| | 460 | Top greenish-grey unit |
| | 730 (gradational)- | Shinarump |
| | 802-951 | Lower Wupatki |
| | 951-1257 | Coconino |
| | 1257- | Supai |
| | 1347 | Top of 1st marker Anhydrite. |

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CONS. COMM.

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FORM 159

DUVAL CORPORATION

INTER-OFFICE MEMORANDUM

FROM Navajo

DATE 11/27/64

TO Esperanza

ATTENTION B. G. Messer

SUBJECT: Duval #12 T19N., R26E Section 22

Date Started 1/8/1964
" Completed 1/25/1964
G.L. El. 5670'
T.D. 1582'
Casing Pt. 991'
El. Top Coconino (955') 4715'
El. " Halite (1406) 4264'
El. Top Sylvite. [1518' ($K_2O$ Red.)] 4152'

5670
4264
1406

D.M.C.

Form 3
2M Sheets 5-54

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 ASSUME ANY RESPONSIBILITY FOR, THE CORRECTNESS THEREOF.
DUVAL CORPORATION

# CORE LITHOLOGY

WELL NO. 12 - 2' to G.L.

| DEPTH (Feet) From | | DEPTH (Feet) To | | INTERVAL Feet | | ESTIM. % Shale | ESTIM. % RA | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|
| | | | | 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 |
| 1300 | 0 | | | | | | | Start Coring. |
| 1300 | 0 | 1311 | 0 | 11 | 0 | 100 | - | Silt, brn. at top to maroon at base, occ. small gray zone. (2' of core lost) |
| 1311 | 0 | 1320 | 5 | 9 | 5 | 100 | - | S-C., dark brn., alternating hard & soft zones, occ. gray zone. (3.5' of core lost.) |
| 1320 | 5 | 1324 | 0 | 3 | 5 | 98 | 2 | C.-S., dark brn., med. soft; some irreg. gray Gyp. blebs & stringers. |
| 1324 | 0 | 1332 | 6 | 8 | 6 | 96 | 4 | S.-C., irreg., lt. to dark brn., few gray zones; few irreg. Gyp. stringers & blebs. |
| 1332 | 6 | 1346 | 3 | 13 | 7 | 96 | 4 | S.-C., lt. red-brn., V. hard; some V. long, nearly vertical 1/8" veinlets of Gyp., fibrous, few Gyp. stringers & partings in bottom 2'. |
| 1346 | 3 | 1349 | 8 | 3 | 5 | 75 | 25 | C.-S., hard lt. brn.; 0.3' lt. gray Gyp. at top, 0.1' band at 1346.8', & 0.3' at 1347.4', plus a few minor Gyp. stringers. |
| 1349 | 8 | 1351 | 7 | 1 | 9 | 5 | 95 | Gyp., dark to lt. gray; 0.1' 90% brn. C.-S. zone at 1351.3'. |
| 1351 | 7 | 1354 | 5 | 2 | 8 | 90 | 10 | C.-S., dark brn., hard at top to soft at base; 60° slickensides with Gyp. as fracture filling. |
| 1354 | 5 | 1365 | 4 | 10 | 9 | - | 100 | A, lt. to dark gray; occ. gyp. band. |
| 1365 | 4 | 1368 | 7 | 3 | 3 | 99 | 1 | S.-C., brn., med. hard; few V. small A blebs. |
| 1368 | 7 | 1369 | 7 | 1 | 0 | 20 | 80 | A, gray, 0.4' band A at top, 0.1' brn. C.-S., soft at 1369.1', bottom half is A, grading down from 90% to 10% at base; remainder is brn. C.-S. |

Form 3-A
3M Sheets 5-54

# DUVAL SULPHUR & POTASH COMPANY

WELL NO. 12 — CORE LITHOLOGY — PAGE NO. 2

| DEPTH (Feet) From | DEPTH (Feet) To | INTERVAL Feet | ESTIM. % Shale | ESTIM. % P | DESCRIPTION |
|---|---|---|---|---|---|
| 1369 7 | 1373 0 | 3 3 | 99 | 1 | C.-S., dark red, brn. at top & base, med. hard; occ. A bleb. |
| 1373 0 | 1376 8 | 3 8 | 4 | 96 | A/Gyp., dark gray to tan; 20% light brn. C.-S. in bottom 0.5'. |
| 1376 8 | 1382 1 | 5 3 | 96 | 4 | C.-S., light brn.; few med. white A/Gyp. blebs, 0.1' zone 30% A at 1379.4'. |
| 1382 1 | 1385 0 | 2 9 | 85 | 15 | C-S., dark brn., V. soft, irreg. efferescent coating; 0.2' zone friable, light gray Gyp. (?) at 1384.3'. |
| 1385 0 | 1388 6 | 3 6 | 100 | - | C-S., light red-brn, soft. |
| 1388 6 | 1390 2 | 1 6 | 15 | 85 | A/Gyp., light gray, little pink to tan; few small brn. clay stringers in bottom 0.6'. |
| 1390 2 | 1394 5 | 4 3 | 90 | 10 | C-S., brn., med. soft; V. few irreg. small to large white A blebs, 0.8' zone V. steeply dipping 1" wide gray A band along slickenside. |
| 1394 5 | 1395 2 | 0 7 | 2 | 98 | A/Gyp., tan to dark gray; some V. small clay stringers. |
| 1395 2 | 1402 2 | 7 0 | 100 | - | Clay, dark brn., soft to V. soft, V. minor silt. |
| 1402 2 | 1402 4 | 0 2 | 40 | 60 | A, gray, & V. large irreg. brn. clay zone. |
| 1402 4 | 1405 8 | 3 4 | 100 | - | Clay, brn., soft, little gray; some efferescence of H (?); some high to med. angle slickensides. |
| 1405 8 | | | | | Top Of Salt. |
| 1405 8 | 1410 7 | 4 9 | - | 5 | H, clr., f.g.; 0.1' pink to light gray 45° dipping A band at top, some V. irreg. A stringers. |
| 1410 7 | 1411 8 | 1 1 | - | 75 | A, gray; some H, med., intergrowths in upper half. |
| 1411 8 | 1414 4 | 2 6 | 85 | - | C-S., brn., soft, 0.2' shistose H at 1412.6', 0.1' shistose H, dipping 45°, at 1413.7', 60% H in top 0.2' |
| 1414 4 | 1421 0 | 6 6 | 1 | 2 | H, clr., c.g. to med.; 1/2" white A stringer at 1419.2 A parting at base; occ. small brn. clay incl. |
| 1421 0 | 1422 9 | 1 9 | - | 10 | H, clr., c.g.; few irreg. white A stringers, 1/2" band 0.4' above base; occ. small brn. clay incl. |
| 1422 9 | 1423 3 | 0 4 | - | 55 | A, white, & H, clr., c.g. |

orm 3-A
3M Sheets 5-54

# DUVAL SULPHUR & POTASH COMPANY

WELL NO. 12 — CORE LITHOLOGY — PAGE NO. 3

| DEPTH (Feet) From | DEPTH (Feet) To | INTERVAL Feet | ESTIM. % Shale | ESTIM. % P | DESCRIPTION |
|---|---|---|---|---|---|
| 1423 3 | 1423 8 | 0 5 | 25 | 5 | H, med.; some irreg. brn. C-S.; few large gary A blebs in bottom 0.1'. |
| 1423 8 | 1424 2 | 0 4 | - | 95 | A, gray to tan, V. little red; occ. small H bleb. |
| 1424 2 | 1425 5 | 1 3 | 2 | 50 | A, white; much H, med., 0.2' of 50% H at top, 0.3' of 80% H at 1424.8'; few clay partings in bottom half. |
| 1425 5 | 1431 0 | 5 5 | 3 | - | H, clr., f.g.; few irreg. small to med. brn. clay incls., grading out down. |
| 1431 0 | 1432 4 | 1 4 | - | 2 | H, clr., med.; few small to med. white A blebs; occ. small brn. clay stringer. |
| 1432 4 | 1434 3 | 0 9 | 5 | 1 | H, med. to c.g.; some irreg. small to large S-C. incls.; V. few small white blebs. |
| 1434 3 | 1436 5 | 2 2 | - | - | H, V. clr., c.g.; few irreg. brn. S-C. incls. in upper foot; occ. small white A bleb in top 0.2'. |
| 1436 5 | 1437 2 | 0 7 | 1 | 5 | H, med.; few small A blebs, 0.05' irreg. 45° dipping A stringer 0.2' above base; occ. small clay incl. |
| 1437 2 | 1439 9 | 2 7 | - | - | H, clr. to pink, med. |
| 1439 9 | 1440 8 | 0 9 | - | 15 | H, clr., med.; few small gray A blebs, 0.1' 80% zone at top 0.1' 50% zone at base; occ. small brn. clay incl. |
| 1440 8 | 1441 3 | 0 5 | 60 | - | C-S., brn., hard, 0.1' band in middle; 50% H, med., in remainder. |
| 1441 3 | 1443 0 | 1 7 | 8 | - | H, med.; some small-med. brn. C-S. incls. |
| 1443 0 | 1446 6 | 3 6 | 55 | 1 | C-S., brn., hard; much V. irreg. H, med.; clay increases down from 30% at top to 80% at base; occ. white A bleb. |
| 1446 6 | 1449 9 | 3 3 | 20 | - | H, med.; some V. irreg. large soft brn. clay incls. |
| 1449 9 | 1451 8 | 1 9 | 50 | 1 | C-S., red, med. hard, 0.5' of 80% at top, 0.2' band at 1451.4', remainder is 90% H, med.; few irreg. small to med. white A blebs. |
| 1451 8 | 1455 5 | 3 7 | 4 | - | H, clr., med. few small to med. red C-S. blebs, grading out down; occ. small white A stringer in lower ft. |

Form 3-A
Sheets 5-54

# DUVAL SULPHUR & POTASH COMPANY

WELL NO. 12 — CORE LITHOLOGY — PAGE NO. 4

| DEPTH (Feet) From | DEPTH (Feet) To | INTERVAL Feet | | ESTIM. % Shale | ESTIM. % P | DESCRIPTION |
|---|---|---|---|---|---|---|
| 1455 5 | 1455 8 | 0 | 3 | 90 | - | C.-S., brown; few large H blebs in upper third. |
| 1455 8 | 1456 9 | 1 | 1 | 20 | 2 | H, Med. to C.G.; some med. to C.G.; C.-S., brown incls., increasing down from 10% at top to 30% at base; ¼" gray A stringer at 1456.6'. |
| 1456 9 | 1462 2 | 5 | 3 | 90 | 1 | Clay, brown to red, V. little silt, med. soft some H, Irreg. zones; 0.1' zone 50% A at 1459.1', occ. med. white A bleb. |
| 1462 2 | 1462 6 | 0 | 4 | 8 | 90 | A, dark gray; some small C.-S., gray to brown; occ. H, F.G., incl. |
| 1462 6 | 1464 8 | 2 | 2 | 6 | 2 | H, Med., some small brown C.-S. incls., grading out down; ½" gray A band at 1462.7', occ. small white A Stringer. |
| 1464 8 | 1466 8 | 2 | 0 | - | - | H, clr., med. to C.-G.; occ. brown clay incl. in upper foot. |
| 1466 8 | 1468 4 | 1 | 6 | 15 | 1 | H, med.; some med. to large brown C.-S. incls., 0.2' zone of 80% clay at 1468.0'; V thin white A parting at top, occ. small white A bleb. |
| 1468 4 | 1470 0 | 1 | 6 | 5 | - | H, med.; some small to med. brown C.-S. blebs |
| 1470 0 | 1473 8 | 3 | 8 | 4 | 1 | H, med. to c. g.; few irreg. med. to large C.-S. blebs & stringers; few V. small white A blebs. |
| 1473 8 | 1474 2 | 0 | 4 | 80 | - | C.-S., brown; some H, med. in lower half. |
| 1474 2 | 1480 0 | 5 | 8 | 12 | - | H, med. G.; some large to small soft brown C.-S. incls. decreasingdown from 20% at top to 5% at base. |
| 1480 0 | 1484 0 | 4 | 0 | 3 | - | H, med.; few med. brown C.-S. incls. |
| 1484 0 | 1486 4 | 2 | 4 | - | 1 | H, clear, med.; occ. thin A stringer. |
| 1486 4 | 1486 8 | 0 | 4 | - | 25 | H, med.; many small A incls. |
| 1486 8 | 1487 1 | 0 | 3 | 80 | - | C.-S. brown; some H, med. |
| 1487 1 | 1488 8 | 1 | 7 | 5 | - | H, med; few irreg. brown C.-S. stringer incls. |
| 1488 8 | 1491 8 | 3 | 0 | 1 | 1 | H, clear, med; few brown C-S. stringers in lower foot; few small white A stringers |

Form 3-A
3M Sheets 5-54

# DUVAL SULPHUR & POTASH COMPANY

WELL NO. 12 — CORE LITHOLOGY — PAGE NO. 5

| DEPTH (Feet) From | DEPTH (Feet) To | INTERVAL Feet | ESTIM. % Shale | ESTIM. % KA | DESCRIPTION |
|---|---|---|---|---|---|
| 1491 8 | 1496 0 | 4 2 | 10 | - | H, med.; some small to med. brn. C-S. incls., decr. down from 15% at top to 5% at base. |
| 1496 0 | 1498 5 | 2 5 | 80 | - | C-S., tan-brn.; 30% H, med. in top & bottom thirds. |
| 1498 5 | 1502 4 | 3 9 | 6 | - | H, med.; some med. brn. C-S. incls. & stringers; occ. med. white A bleb in bottom 0.5'. |
| 1502 4 | 1505 1 | 2 7 | 40 | 2 | H, f.g. and irreg. brn. soft C-S. zones; 1/2" band at top. |
| 1505 1 | 1509 3 | 4 2 | 6 | - | H, med.; some small to large irreg. brn. C-S. stringers & blebs. decr. down from 10% at top to 2% at base. |
| 1509 3 | 1513 0 | 3 7 | 1 | 3 | H, clr., med. to c.g.; few med. white A blebs; few small brn. C-S. incls., grading out down. |
| 1513 0 | 1516 0 | 3 0 | - | 90 | A, med. gray, top 0.3' white; few irreg. med. H blebs. |
| 1516 0 | 1516 3 | 0 3 | - | - | H, clr.-pink, c.g. |
| 1516 3 | 1520 00 | 3 7 | - | 85 | A, med. gray; some med. H intergrowths, 0.1' band at 1516.4' & 0.2' band at 1516.7'. |
| 1520 00 | 1521 05 | 1 05 | 2 | 3 | H, c.g. to med. partly schistose; few irreg. gray A stringers, 0.01' parting at base; V. few irreg. tan C-S. stringers, grading out down from 4% at top to 0% at base; 0.2' zone f.g. red A/P (?) at base; little tan A in middle third; V. small milky S (?). Est. $K_2O/S$ = 3% |
| 1521 05 | 1521 80 | 0 75 | 1 | - | H, clr., c.g.; occ. small gray clay at base; occ. small milky S bleb. Est. $K_2O/S$ = 1% |
| 1521 80 | 1523 4 | 1 6 | 60 | - | C-S. lt. brn., hard & H, c.g. |
| 1523 4 | 1533 6 | 10 2 | 10 | - | H, c.g.; some irreg. large tomed. C-S., brn. incls. decr. down from 15% at top to 5% at base. |
| 1533 6 | 1537 6 | 4 2 | 1 | - | H, clr., med. to c.g. |
| 1537 6 | 1541 0 | 3 4 | 75 | - | C-S., brn., hard; 0.8' zone of H, 5% C-S. at 1539.2'. |
| 1541 0 | 1545 5 | 4 5 | 5 | - | H, clr., c.g.; some irreg. brn. C-S. stringers. |
| 1545 5 | 1551 0 | 6 5 | 2 | 2 | H, clr., c.g. to med.; few med. to large gray A blebs & stringers in upper half; some large to med. brn. C-S. incls. in bottom 1.5'. |

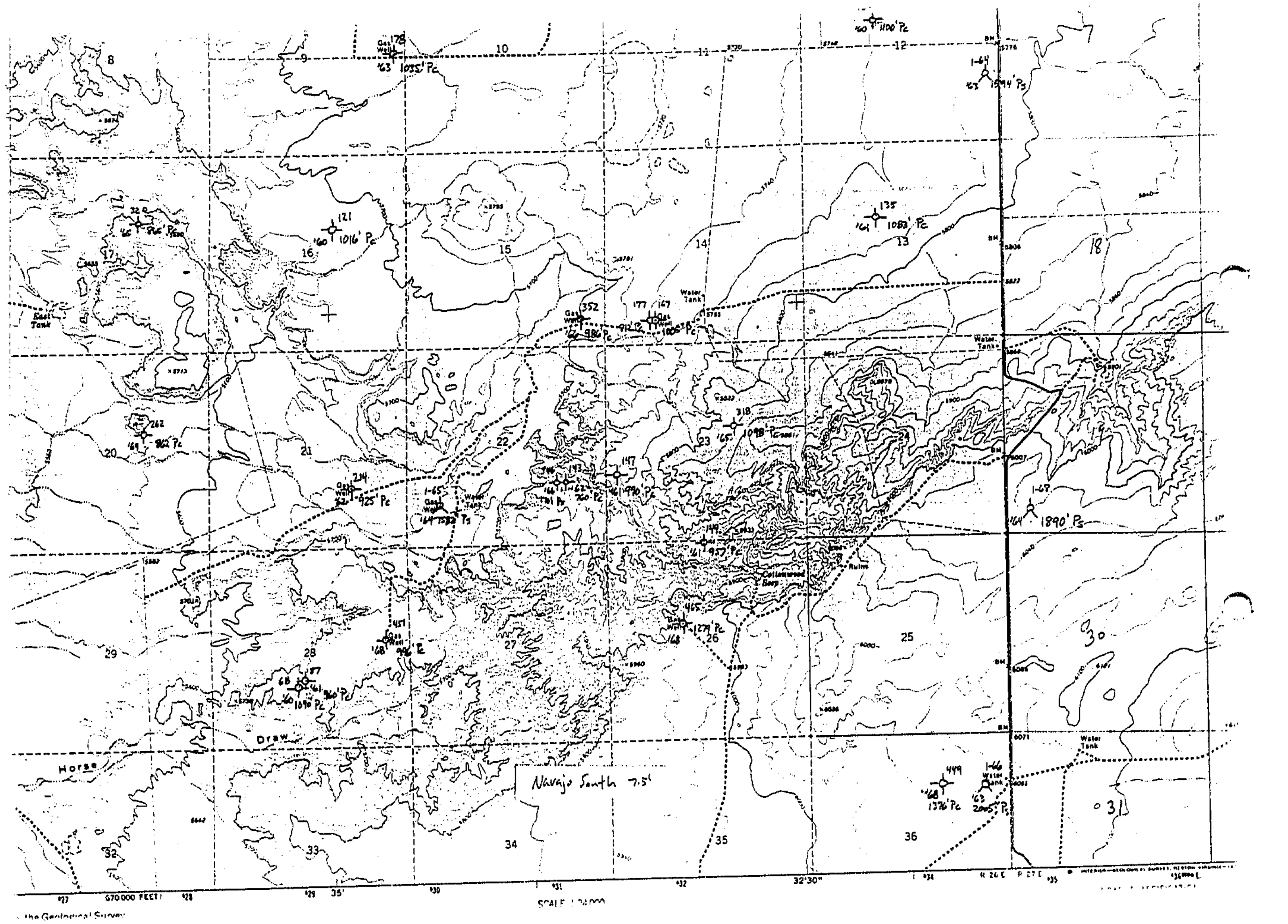
Form 3-A
Mt Sheets 5-54

# DUVAL SULPHUR & POTASH COMPANY

WELL NO. 12 — CORE LITHOLOGY — PAGE NO. 6

| DEPTH (Feet) From | DEPTH (Feet) To | INTERVAL Feet | ESTIM. % Shale | ESTIM. % Σ A | DESCRIPTION |
|---|---|---|---|---|---|
| 1551 0 | 1555 3 | 4 3 | 1 | - | H, clr., c.g.; few small irreg. brn. clay incls. |
| 1555 3 | 1563 5 | 8 2 | - | - | H, clr., med. to c.g.; occ. small brn. clay incl. |
| | | | | | (1.4' of core missing) |
| 1563 5 | 1570 0 | 6 5 | - | 10 | H, clr., med., core thinly broken; numerous V. thin |
| | | | | | A stringers; occ. small brn. clay incl. |
| 1570 0 | 1570 6 | 0 6 | 8 | 11 | H, c.g., not V. clr.; some white A stringers, incr. |
| | | | | | down from 2% at top to 20% at base; some V. small |
| | | | | | brn. C-S. incls. |
| 1570 6 | 1571 3 | 0 7 | - | 2 | H , clr., f.g.; few small white A blebs. |
| 1571 3 | 1572 0 | 0 7 | - | 65 | A, tan to gray; some H, f.g., intergrowths, 0.2' band |
| | | | | | H at base. |
| 1572 0 | 1576 6 | 4 6 | 93 | 5 | S-C., gray, V. hard; possible A indurated in upper |
| | | | | | 1.5' to light red-brn. below; occ. H zone. |
| 1576 6 | 1580 6 | 4 0 | 5 | - | H, c.g.; few irreg. med. to large brn. C-S. bands, |
| | | | | | grading out down; occ. small white A bleb. |
| 1580 6 | 1582 3 | 1 7 | - | 1 | H, clr., c.g.; few small white A blebs in lower 0.5'. |
| 1582.3 | | | | | Total Depth |

LOGGED BY B. F. McGuire
B. F. McGuire


Navajo South 7.5'
Horse
Draw
East Tank
Water Tank
Gas Well
Cottonwood Seep
Ruins
32'30"
35'
R 26 E
R 27 E
670 000 FEET
SCALE 1:24 000
the Geological Survey
1890' Ps
1016' Pc
1083' Pc
1100' Pc
1035' Pc