

DRILLING TIME AND SAMPLE LOG

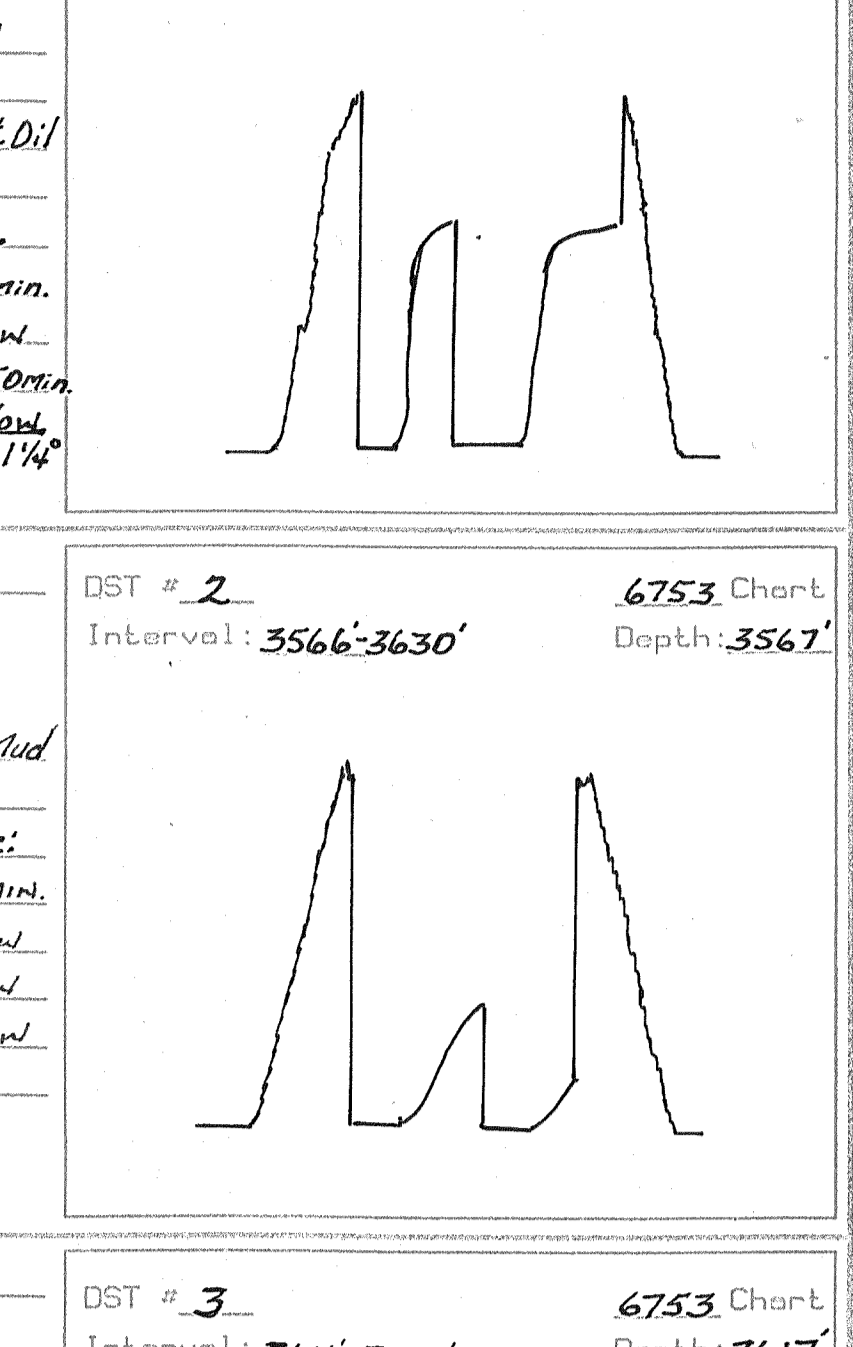
OPERATOR: **Niko Oil LLC**
 LEASE: **Bramble** WELL NO.: **428**
 FIELD: **Lincoln** CL: **2068**
 LOCATION: **45° 55' 15" N, 99° 05' 55" W**
 COUNTY: **Rock** TWP: **10S** RANGE: **17W**
 SECTION: **28** ROCKS STATE: **KS**
 AP# NO.: **15-163-24127-00-00**
 CONTRACTOR: **Discovery-Drilling, Inc.**
 DATE: **July 16, 2013**

| FORMATION | THICKNESS (ft) | LOG | REMARKS |
|------------------------|----------------|-----------|---------|
| Stone Corral Anhydrite | 1307 (1761) | 1303-1763 | 13' |
| Base of Anhydrite | 1344 (1724) | 1340-1723 | 42' |
| Topoka Fm. | 902 (953) | 3018-2951 | 73' |
| Helena Shale | 3248 (1177) | 3242-1174 | 73' |
| Lansing Group | 3288 (1220) | 3284-1216 | 73' |
| Stark Shale | 3482 (1414) | 3481-1420 | 71' |
| Base of Stark Shale | 3521 (1456) | 3521-1455 | 0' |
| Conglomerate | 3571 (1503) | 3570-1502 | 3' |
| Arbuckle Fm. | 3666 (1598) | 3665-1597 | 6' |
| Total Depth | 3750 | 3746 | |

DST # 1 ZONE: **LKC I, J & K Zones**
 INTERVAL: **3434'-3510'**

| Pressures: | Time | Press. | RECOVERY |
|-------------------------|------|----------|----------------------|
| 1. Initial Hydrostatic | | 1700 psi | 5' Gassy Oil |
| 2. Initial Flow: Start | 0 | 24 psi | (5% gas) |
| 3. Initial Flow: End | 30 | 33 psi | 70' Mud Cut Oil |
| 4. Initial Shut-in: End | 60 | 1082 psi | (45% Mud) |
| 5. Final Flow: Start | 0 | 32 psi | Blow Desc. |
| 6. Final Flow: End | 60 | 50 psi | I.F. - 3" - 30 min. |
| 7. Final Shut-in: End | 90 | 1065 psi | I.S.I. - Noblow |
| 8. Final Hydrostatic | | 1654 psi | F.F. - BOB - 50 min. |

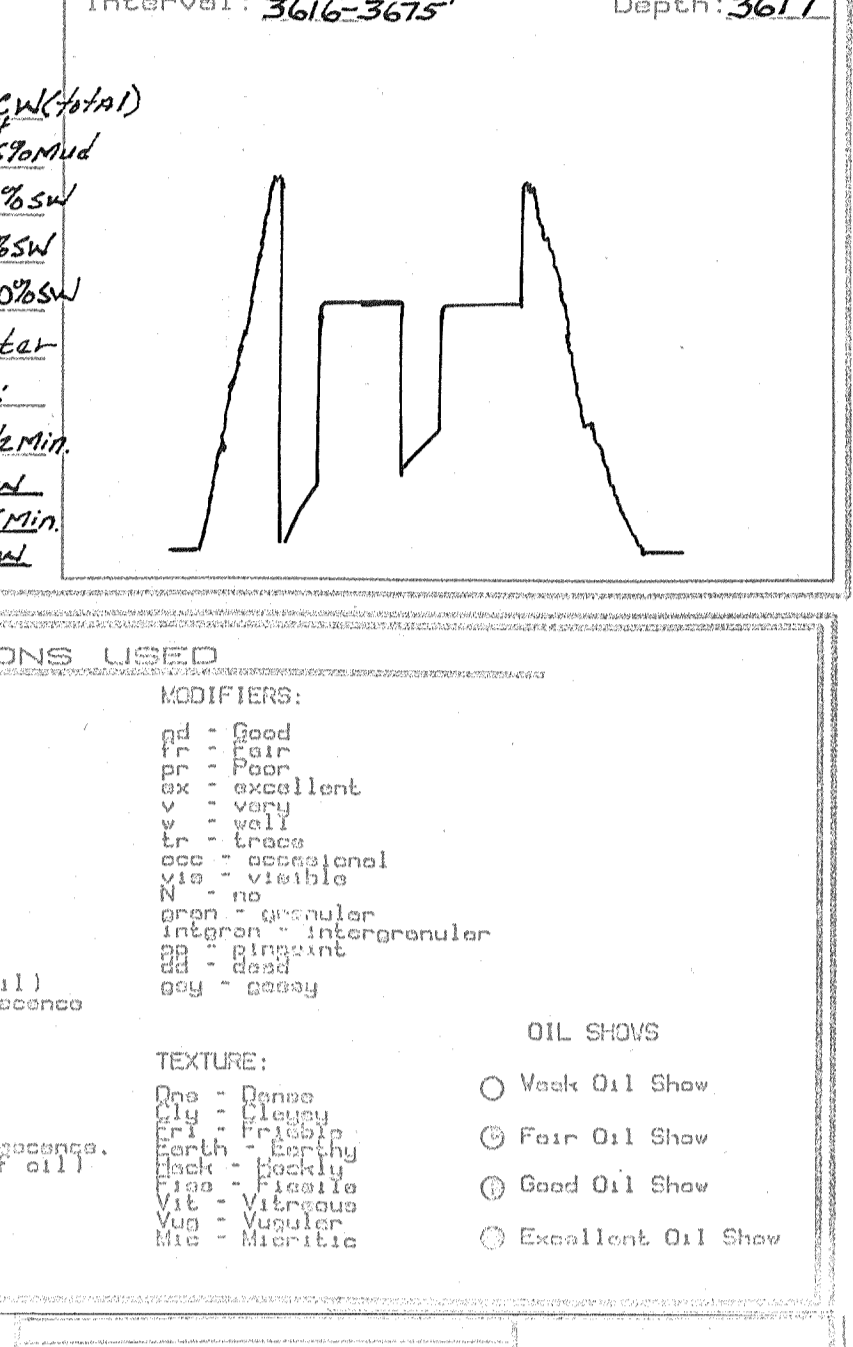
BHT: **102°F**
 Rv: **105' Gas in Pipe**



DST # 2 ZONE: **Conglomerate**
 INTERVAL: **3566'-3630'**

| Pressures: | Time | Press. | RECOVERY |
|-------------------------|------|----------|---------------------|
| 1. Initial Hydrostatic | | 1785 psi | 5' Drilling Mud |
| 2. Initial Flow: Start | 0 | 24 psi | Blow Desc. |
| 3. Initial Flow: End | 30 | 24 psi | I.F. - 1/4" 30 min. |
| 4. Initial Shut-in: End | 60 | 641 psi | I.S.I. - Noblow |
| 5. Final Flow: Start | 0 | 24 psi | F.F. - Noblow |
| 6. Final Flow: End | 30 | 24 psi | F.S.I. - Noblow |
| 7. Final Shut-in: End | 30 | 276 psi | |
| 8. Final Hydrostatic | | 1734 psi | |

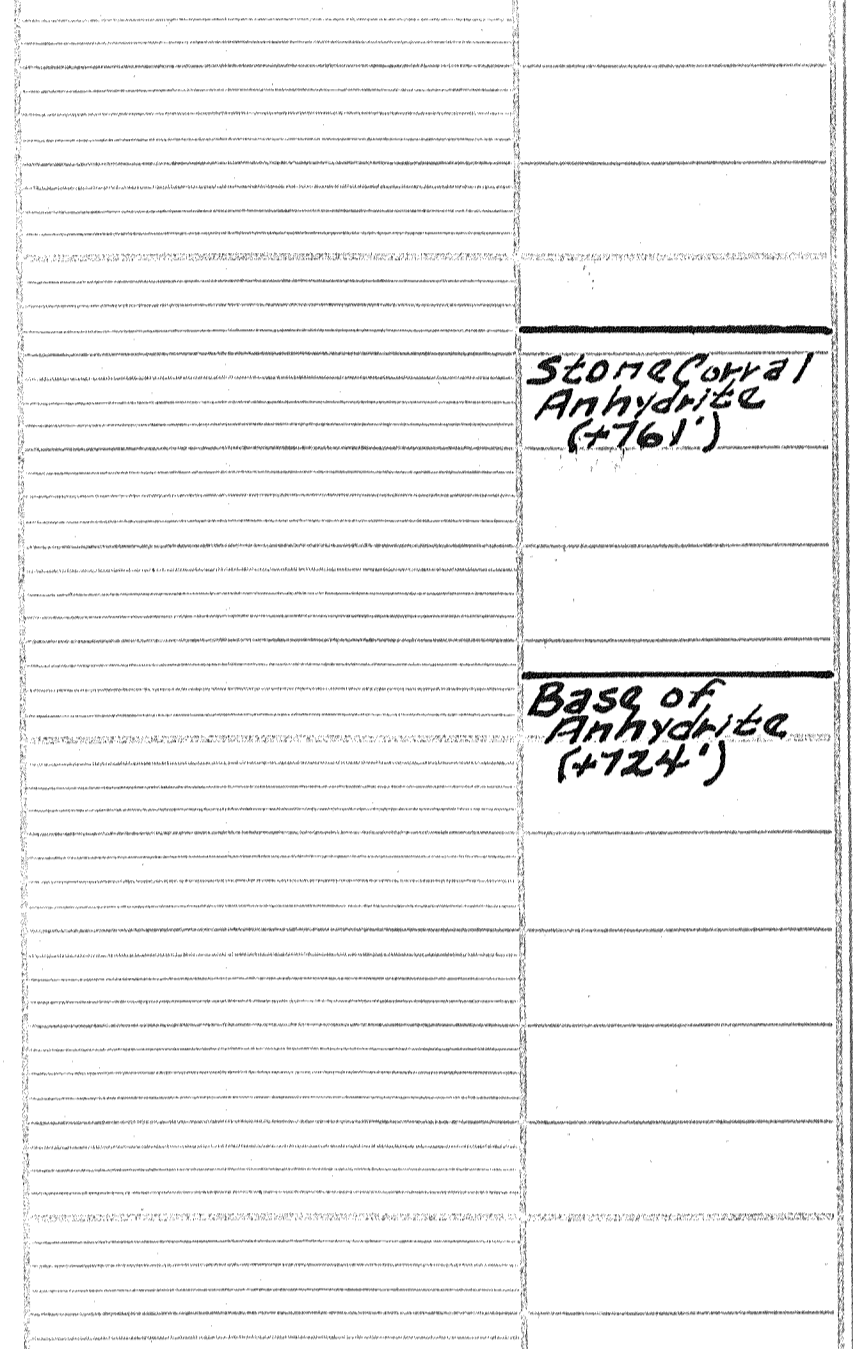
BHT: **102°F**
 Rv: _____



DST # 3 ZONE: **Arbuckle Fm.**
 INTERVAL: **3616'-3675'**

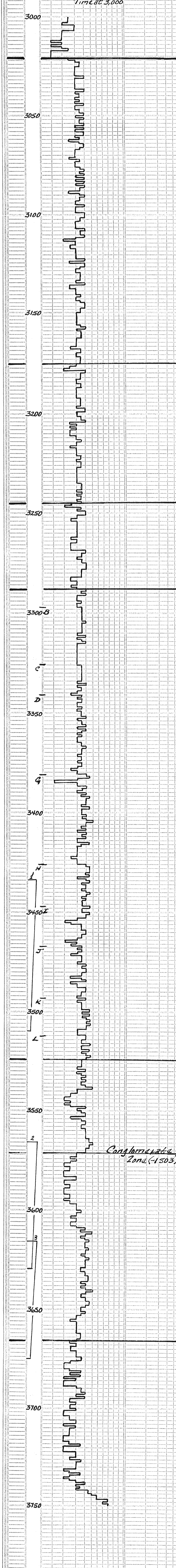
| Pressures: | Time | Press. | RECOVERY |
|-------------------------|------|----------|-----------------------|
| 1. Initial Hydrostatic | | 1819 psi | 1290' SW4 MCW (total) |
| 2. Initial Flow: Start | 0 | 46 psi | 210' WCM - 55% Mud |
| 3. Initial Flow: End | 30 | 341 psi | 120' MCW - 60% SW |
| 4. Initial Shut-in: End | 60 | 1168 psi | 120' MCW - 75% SW |
| 5. Final Flow: Start | 0 | 353 psi | 180' SW - 90% SW |
| 6. Final Flow: End | 30 | 579 psi | 660' Salt Water |
| 7. Final Shut-in: End | 60 | 1169 psi | Blow Desc. |
| 8. Final Hydrostatic | | 1753 psi | I.F. - BOB 3/4 min. |

BHT: **108**
 Rv: **.19 @ 80°F**
32,000 ppm chl.



ABBREVIATIONS USED

| ROCK TYPES: | FAUCIC: | MODIFIERS: |
|-------------------|-------------------------|---------------------|
| ls - Limestone | fn, grn - Fine grained | gd - Good |
| sh - Shale | vfg - Very fine grained | pr - Poor |
| sl - Siltstone | sd - Sandstone | ex - excellent |
| co - Conglomerate | ur - Urtinite | v - wall |
| ch - Chert | cp - Carbonaceous | cc - occasional |
| gn - Gneiss | pr - Porphyritic | vis - visible |
| qtz - Quartzite | ml - Microcrystalline | no - none |
| sl - Dolomite | ol - Olivitic | grn - granular |
| ch - Chalky | ol - Olivitic | int - intergranular |
| | mat - Matrix | pl - platy |
| | | ds - disconformity |
| | | gy - gassy |



Stone Corral Anhydrite (1761')

Base of Anhydrite (1724')

Topoka Fm. (953')

Start 10' Wet and dry samples at 3200'

Quant. Ill. Sh. (1108')

Haabner Shale (1177')

Lansing Group (1220')

Weak Show

Fair Show

Very Weak Show

Fair Show

Very Weak Show

Very Weak Show

Very Weak Show

DST #1 3434'-3510' Rec. 5' GCO 70' MCO deviation 1/4"

Very Weak Show

Fair Show

Base of Kansas (1456')

DST #2 3566'-3630' Rec. 5' GCO 70' MCO deviation 1/4"

Very Weak Show

DST #3 3616'-3675' Rec. 1290' SW MCW

Mud Check @ 3653 M.W. 9.2 V.S. 51 L.C.M. 1#

W.L. 6.8 CH. 1.650

Arbuckle Fm. (1598')

Weak Show

Fair Show

DST #3 3616'-3675' Rec. 1290' SW MCW

Mud Check @ 3750' M.W. 9.3 V.S. 50 W.L. 6.8 CH. 1.650 Solids 6.9% L.C.M. 1 1/2 #

D.T.D. 3750' L.T.D. 3746'

Robert Stolle 7/22/13

